

**BLUE-MASTER<sup>®</sup>**  
by *CELESA*



REPARACIÓN  
DE ROSCAS



Fabricados en acero inoxidable al cromo níquel de alta calidad (AISI 304), los insertos para reparación de roscas Power Coil proporcionan una alta resistencia a la temperatura y a la corrosión. Su diseño único asegura roscas de superior calidad cuyo comportamiento no puede ser igualado por ningún otro método de seguridad. Se encuentran disponibles en dos presentaciones básicas, standard y autoblocante o de seguridad, son mucho más ligeros y menos costosos que cualquier otro tipo de inserto equivalente y dado su tamaño compacto pueden generalmente incorporarse a diseños existentes en donde no sea necesaria ningún tipo de reparación.

#### Insertos Standard

Fabricados a partir de un alambre de acero inoxidable austenítico, y perfilados de forma precisa en forma de espiral helicoidal, los insertos standard Power Coil tienen forma de muelle. Cuando se instalan utilizando cualquiera de las herramientas, ya sean manuales o automáticas, proporcionan roscas internas resistentes y permanentes que soportan el calor y la corrosión. Una vez instalados su posición se mantiene por la acción de presión radial entre los filetes y las ranuras del agujero roscado. Esta presión existe porque su diámetro libre es ligeramente superior al instalado en una pequeña proporción previamente calculada.

#### Insertos Autoblocantes (Seguridad)

El inserto autoblocante está especialmente indicado en aplicaciones sujetas a vibración cíclica o impactos. Además de las ventajas proporcionadas por los insertos standard, los insertos autoblocantes (de seguridad) Power Coil ofrecen una seguridad adicional por su auto freno interno que lo hace más efectivo. Esto se consigue gracias a la acción de una espira poligonal de la rosca del inserto posicionada a lo largo del mismo, que ejerce presión radial sobre los hilos del tornillo. En la medida en que la rosca pasa a través de estos hilos de seguridad, los dispositivos se expanden aplicando gradualmente presión radial o freno efectivo en la rosca del tornillo. Al retirar el tornillo roscado, los hilos de seguridad relajan su expansión a su forma original permitiendo repetir el roscado del tornillo y manteniendo su nivel de presión radial de seguridad.

#### Características y Beneficios

Durante muchos años, los insertos helicoidales han sido subestimados. El concepto popular de ser diseñados para reparar roscas dañadas ha dado a este sistema único, esta falsa imagen.

Son mucho más ligeros y menos costosos que cualquier otro tipo equivalente de inserto de rosca, y por su tamaño compacto, pueden generalmente introducirse en diseños preexistentes en donde no se requiera una reparación adicional. Además de otros beneficios económicos, su utilización incrementa la calidad y rendimiento mientras reduce el costo total del producto. Su utilización es efectiva al utilizar materiales más delgados o más ligeros sin sacrificar la resistencia de la rosca.

Los insertos protegen las roscas originales contra posibles fallos de pérdida de hilos, pérdida de medida, corrosión o desgaste. Los insertos Power Coil están fabricados con cable de acero inoxidable austenítico, que le permite trabajar con una fuerza a la tensión de 200,000 psi y una dureza de RC 43-50. Los insertos tienen un acabado superficial tan fino que prácticamente elimina la fricción que induce al posible desgaste.

#### Resistencia

Debido a su flexibilidad, los insertos conforman roscas internas que cuentan con una mucho mejor distribución de carga residuales comparados con agujeros roscados convencionales, en donde un porcentaje superior al 70% de las fuerzas cortantes son llevadas a cabo por los tres primeros hilos en el agujero roscado. La flexibilidad de los insertos ayudan a compensar los errores del paso y del ángulo de flancos inherentes a los agujeros normales roscados, y mejora significativamente la capacidad de carga por deflexión de fuerzas residuales dentro de la rosca en donde la presión se dispersa hacia las paredes del agujero roscado. Esto hace que el diseño sea muy fiable y de gran resistencia utilizando roscas más pequeñas y más cortas aun cuando los insertos sean usados en materiales menos resistentes.

Los insertos Power Coil de alta flexibilidad reducen su diámetro durante la instalación. La fuerza del inserto al expandirse en el agujero asegura el inserto en su lugar correcto. Cada filete puede flexionarse independientemente para ponerse en contacto con la mayor cantidad de material de la superficie de la rosca.

#### Normas de referencia

##### SBAC AS 6734 & 8456

Norma de la Sociedad Británica de Compañías Aeroespaciales. Referida específicamente a los insertos libres Rosca UNC, requisito obligatorio exigido por la Sociedad. En realidad, muy similar al Standard Militar.

##### SBAC AS 6733 & 8455

Mismo requisito que el anterior extensivo a todos los insertos libres con carácter general.

##### BS

Standard Británico para Insertos de diámetro reducido. Es la norma generalizada para todos los fabricantes de insertos, equivalente a DIN8140.

##### NASM3279, 3280 & 3281

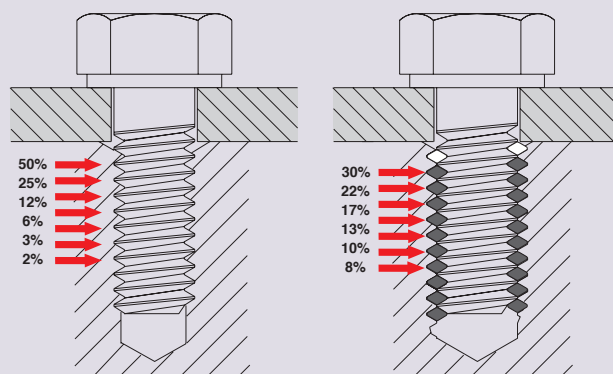
Standard militar para insertos libres. Los Insertos según Standard militar son mayores en diámetro en estado libre que los insertos comunes, por lo que son más difíciles de instalar, y de extraer. CELESA puede suministrar y certificar este tipo de insertos bajo demanda. La norma alemana DIN8140 para insertos de uso general tiene similares tolerancias que los Insertos de según Standard militar.

##### LN9499

Standard aerospacial alemán. En desuso, aunque CELESA puede suministrar y certificar este tipo de insertos bajo demanda.

##### DIN8140

Los insertos Powercoil distribuidos por CELESA cumplen con los requisitos recogidos en la Norma DIN8140





**powercoil**  
by *celesa*



# INSERTOS ROSCADOS

**Código** [35] [20] - [12.00] X [1.5D]

**35** PowerCoil en acero inoxidable  
**36** Loksert en acero al carbono  
**37** Loksert en acero inoxidable

**DIÁMETRO**  
**XX . XX** Métrica  
**XX / XX** Pulgadas

<b>20</b> Métrica	<b>32</b> UNC
<b>21</b> Métrica fina	<b>34</b> UNF
<b>22</b> Bujía	<b>44</b> BA
<b>23</b> Métrica fina	<b>46</b> BSP
<b>24</b> Métrica fina	<b>52</b> NPT
<b>28</b> BSW	<b>60</b> BSB
<b>30</b> BSF	<b>70</b> 8-UN
<b>00</b> Multifuncional	

<b>X.XD</b> Longitud del inserto	<b>INC</b> Inconel X-750
<b>IR</b> Carrete de alimentación de insertos	<b>NM</b> Nimonic 90
<b>SL</b> Insertos autoblocantes (de seguridad)	<b>NT</b> Nitronic 60
<b>K</b> Estuche de reparación de roscas	<b>Y</b> Acero Inoxidable 316
<b>P</b> Blister de insertos para colgar	<b>CD</b> Terminado en cadmio
<b>WK</b> Estuche completo para taller	<b>ZN</b> Terminado de zinc
<b>HIT</b> Herramienta de instalación manual Series Cortas	<b>AG</b> Terminado de plata
<b>HIP</b> Herramienta de instalación Series Medianas	<b>FL</b> Lubricado en seco
<b>MIT</b> Herramienta para insertar a máquina	<b>I</b> Macho 4-5 hilos
<b>HIM</b> Herramienta para insertar con mango hexagonal	<b>T</b> Macho 6-8 hilos
<b>MIP</b> Herramienta de instalación neumática	<b>B</b> Macho 2-3 hilos
<b>TB</b> Herramienta rompedora de cola Manual	<b>SF</b> Macho de máquina helicoidal
<b>STB</b> Herramienta rompedora de cola Automática	<b>SP</b> Macho de máquina con entrada corregida
<b>PTB</b> Herramienta rompedora de cola Neumática	<b>FT</b> Macho laminación
<b>RT</b> Herramienta extractora de insertos	<b>PD</b> Loksert de pared delgada
<b>LH</b> Giro izquierda	<b>PR</b> Loksert de pared reforzada
<b>GC</b> Comprobador de roscas en tolerancia 4H5H	<b>TT</b> Herramienta instalación de Loksert de pared delgada
<b>GM</b> Comprobador de roscas en tolerancia 6H	<b>HT</b> Herramienta instalación de Loksert de pared reforzada
<b>PB</b> Bronce con fósforo	<b>T</b> Herramienta de instalación universal para Loksert

## INSERTOS LIBRES

M  
MF

FREE

M/MF

AISI 304

BS7752  
DIN6140NASM3279 NASM3280  
NASM3281 LN9039

...D

L  
1.0DL  
1.5DL  
2.0D

D	L	Ø	€			€			€			Unit			
			L mm	<500	500-999	1000-...	L mm	<500	500-999	1000-...	L mm		<500	500-999	1000-...
M 2x0.40	3520-2.00	2.10	2.00	0,48	0,45	0,43	3.00	0,49	0,47	0,44	4.00	0,50	0,49	0,48	100
M 2.20x0.45	3520-2.20	2.30	2.20	0,48	0,45	0,43	3.30	0,49	0,47	0,44	4.40	0,50	0,49	0,48	100
M 2.50x0.45	3520-2.50	2.60	2.50	0,28	0,25	0,23	3.75	0,29	0,26	0,25	5.00	0,34	0,29	0,27	100
M 3x0.50	3520-3.00	3.20	3.00	0,28	0,25	0,24	4.50	0,29	0,26	0,25	6.00	0,34	0,27	0,26	100
M 3.50x0.60	3520-3.50	3.70	3.50	0,34	0,29	0,27	5.25	0,35	0,32	0,29	7.00	0,38	0,35	0,32	100
M 4x0.70	3520-4.00	4.20	4.00	0,27	0,23	0,22	6.00	0,28	0,25	0,24	8.00	0,34	0,27	0,26	100
M 5x0.80	3520-5.00	5.20	5.00	0,34	0,27	0,26	7.50	0,27	0,26	0,25	10.00	0,38	0,30	0,28	100
M 6x1.00	3520-6.00	6.30	6.00	0,35	0,28	0,26	9.00	0,28	0,26	0,25	12.00	0,42	0,38	0,36	100
M 7x1.00	3520-7.00	7.30	7.00	0,39	0,35	0,32	10.50	0,45	0,39	0,37	14.00	0,50	0,44	0,41	100
M 8x1.00	3521-8.00	8.30	8.00	0,40	0,38	0,36	12.00	0,42	0,40	0,36	16.00	0,53	0,45	0,42	100
M 8x1.25	3520-8.00	8.30	8.00	0,35	0,30	0,28	12.00	0,38	0,32	0,29	16.00	0,50	0,42	0,40	100
M 9x1.25	3520-9.00	9.40	9.00	0,50	0,45	0,43	13.50	0,64	0,60	0,54	18.00	0,67	0,61	0,56	100
M 10x1.00	3523-10.00	10.30	10.00	0,44	0,40	0,38	15.00	0,50	0,44	0,41	20.00	0,60	0,50	0,47	100
M 10x1.25	3521-10.00	10.30	10.00	0,44	0,39	0,37	15.00	0,50	0,44	0,41	20.00	0,60	0,54	0,49	100
M 10x1.50	3520-10.00	10.40	10.00	0,44	0,38	0,36	15.00	0,50	0,42	0,40	20.00	0,60	0,49	0,46	100
M 11x1.00	3523-11.00	11.30	11.00	0,60	0,51	0,48	16.50	0,88	0,80	0,74	22.00	1,22	1,09	1,02	100
M 11x1.25	3521-11.00	11.30	11.00	0,60	0,51	0,48	16.50	0,74	0,71	0,66	22.00	1,22	1,09	1,04	100
M 11x1.50	3520-11.00	11.40	11.00	0,76	0,62	0,58	16.50	0,86	0,72	0,67	22.00	0,89	0,80	0,74	100
M 12x1.00	3524-12.00	12.30	12.00	0,63	0,61	0,58	18.00	0,75	0,74	0,71	24.00	1,23	1,17	1,07	100
M 12x1.25	3523-12.00	12.30	12.00	0,63	0,53	0,49	18.00	0,75	0,61	0,56	24.00	0,87	0,80	0,74	100
M 12x1.50	3521-12.00	12.40	12.00	0,63	0,53	0,49	18.00	0,75	0,54	0,49	24.00	0,87	0,80	0,74	100
M 12x1.75	3520-12.00	12.50	12.00	0,63	0,51	0,48	18.00	0,75	0,65	0,61	24.00	0,87	0,75	0,69	100
M 13x1.25	3523-13.00	13.25	13.00	0,92	0,86	0,80	19.50	1,42	1,33	1,23	26.00	1,92	1,77	1,63	50
M 13x1.50	3521-13.00	13.25	13.00	0,92	0,86	0,80	19.50	1,42	1,33	1,23	26.00	1,92	1,77	1,63	50
M 13x1.75	3520-13.00	13.50	13.00	0,92	0,86	0,80	19.50	1,42	1,33	1,23	26.00	1,92	1,77	1,63	50
M 14x1.00	3524-14.00	14.25	14.00	1,16	1,12	1,09	21.00	1,20	1,16	1,10	28.00	1,38	1,33	1,25	50
M 14x1.25	3523-14.00	14.25	14.00	0,97	0,88	0,82	21.00	1,10	0,96	0,88	28.00	1,16	1,08	1,01	50
M 14x1.50	3521-14.00	14.50	14.00	0,97	0,84	0,79	21.00	1,10	0,90	0,84	28.00	1,16	1,12	1,05	50
M 14x2.00	3520-14.00	14.50	14.00	0,97	0,80	0,74	21.00	1,10	1,01	0,91	28.00	1,16	1,10	1,03	50

Nota Importante: La longitud total del inserto, se define para el inserto una vez montado en la pieza.

**INSERTOS LIBRES**



D	L	Ø	2.5D				3.0D				Unit
			L mm	<500	500-999	1000-...	L mm	<500	500-999	1000-...	
M 2x0.40	3520-2.00	2.10	5.00	0,58	0,53	0,50	6.00	0,63	0,61	0,58	100
M 2.20x0.45	3520-2.20	2.30	5.50	0,58	0,53	0,50	6.60	0,63	0,61	0,58	100
M 2.50x0.45	3520-2.50	2.60	6.25	0,39	0,35	0,32	7.50	0,45	0,40	0,38	100
M 3x0.50	3520-3.00	3.20	7.50	0,39	0,35	0,32	9.00	0,45	0,40	0,38	100
M 3.50x0.60	3520-3.50	3.70	8.75	0,42	0,39	0,37	10.50	0,50	0,47	0,44	100
M 4x0.70	3520-4.00	4.20	10.00	0,39	0,35	0,32	12.00	0,42	0,38	0,36	100
M 5x0.80	3520-5.00	5.20	12.50	0,44	0,38	0,36	15.00	0,51	0,44	0,41	100
M 6x1.00	3520-6.00	6.30	15.00	0,50	0,47	0,44	18.00	0,63	0,54	0,50	100
M 7x1.00	3520-7.00	7.30	17.50	0,62	0,54	0,50	21.00	0,72	0,70	0,66	100
M 8x1.00	3521-8.00	8.30	20.00	0,64	0,60	0,54	24.00	0,78	0,74	0,68	100
M 8x1.25	3520-8.00	8.30	20.00	0,62	0,54	0,50	24.00	0,72	0,65	0,61	100
M 9x1.25	3520-9.00	9.40	22.50	0,74	0,67	0,65	27.00	0,87	0,84	0,81	100
M 10x1.00	3523-10.00	10.30	25.00	0,70	0,64	0,60	30.00	0,85	0,78	0,71	100
M 10x1.25	3521-10.00	10.30	25.00	0,70	0,66	0,63	30.00	0,85	0,83	0,78	100
M 10x1.50	3520-10.00	10.40	25.00	0,70	0,63	0,59	30.00	0,85	0,75	0,69	100
M 11x1.00	3523-11.00	11.30	27.50	1,62	1,54	1,46	33.00	2,00	1,91	1,79	100
M 11x1.25	3521-11.00	11.30	27.50	1,62	1,54	1,46	33.00	2,00	1,91	1,79	100
M 11x1.50	3520-11.00	11.40	27.50	1,11	1,03	0,93	33.00	1,31	1,27	1,22	100
M 12x1.00	3524-12.00	12.30	30.00	1,54	1,50	1,44	36.00	1,89	1,81	1,67	100
M 12x1.25	3523-12.00	12.30	30.00	1,03	1,01	0,96	36.00	1,25	1,18	1,10	100
M 12x1.50	3521-12.00	12.40	30.00	1,03	1,01	0,96	36.00	1,44	1,18	1,10	100
M 12x1.75	3520-12.00	12.50	30.00	1,03	1,00	0,89	36.00	1,31	1,24	1,18	100
M 13x1.25	3523-13.00	13.25	32.50	2,59	2,38	2,21	39.00	2,98	2,74	2,54	50
M 13x1.50	3521-13.00	13.25	32.50	2,59	2,38	2,21	39.00	2,98	2,74	2,54	50
M 13x1.75	3520-13.00	13.50	32.50	2,59	2,38	2,21	39.00	2,98	2,74	2,54	50
M 14x1.00	3524-14.00	14.25	35.00	1,66	1,58	1,46	42.00	2,16	1,82	1,68	50
M 14x1.25	3523-14.00	14.25	35.00	1,37	1,29	1,19	42.00	1,67	1,47	1,35	50
M 14x1.50	3521-14.00	14.50	35.00	1,37	1,28	1,18	42.00	1,67	1,53	1,42	50
M 14x2.00	3520-14.00	14.50	35.00	1,37	1,31	1,28	42.00	1,67	1,59	1,47	50

Nota Importante: La longitud total del inserto, se define para el inserto una vez montado en la pieza.

## INSERTOS LIBRES

M  
MF

...D





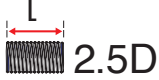
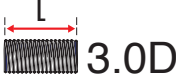
D	L	Ø	1.0D			1.5D			2.0D			Unit
			L mm	€		L mm	€		L mm	€		
				<100	100-500		<100	100-500		<100	100-500	
M 15 x 1.50	3521-15.00	15.25	15.00	1,54	1,28	22.50	1,98	1,63	30.00	2,50	2,10	50
M 15 x 2.00	3520-15.00	15.50	15.00	1,54	1,28	22.50	1,98	1,66	30.00	2,50	2,07	50
M 16 x 1.50	3521-16.00	16.50	16.00	1,29	0,87	24.00	1,35	0,98	32.00	1,67	1,28	50
M 16 x 2.00	3520-16.00	16.50	16.00	1,29	1,08	24.00	1,35	1,12	32.00	1,67	1,40	50
M 18 x 1.50	3523-18.00	18.50	18.00	1,89	1,61	27.00	2,21	1,88	36.00	2,98	2,54	50
M 18 x 2.00	3521-18.00	18.50	18.00	1,89	1,63	27.00	2,21	2,02	36.00	2,98	2,32	50
M 18 x 2.50	3520-18.00	19.00	18.00	1,89	1,56	27.00	2,21	1,84	36.00	2,98	2,48	50
M 20 x 1.50	3523-20.00	20.50	20.00	2,21	1,88	30.00	2,78	2,37	40.00	3,57	3,05	25
M 20 x 2.00	3521-20.00	20.50	20.00	2,21	1,56	30.00	2,78	2,22	40.00	3,57	3,05	25
M 20 x 2.50	3520-20.00	20.75	20.00	2,21	1,88	30.00	2,78	2,37	40.00	3,57	3,05	25
M 22 x 1.50	3523-22.00	22.50	22.00	2,38	2,03	33.00	2,98	2,54	44.00	3,77	3,21	25
M 22 x 2.00	3521-22.00	22.50	22.00	2,38	2,07	33.00	2,98	2,54	44.00	3,77	3,14	25
M 22 x 2.50	3520-22.00	22.75	22.00	2,38	2,02	33.00	2,98	2,54	44.00	3,77	3,21	25
M 24 x 1.50	3523-24.00	24.50	24.00	2,98	2,52	36.00	3,13	2,96	48.00	3,98	3,61	25
M 24 x 2.00	3521-24.00	24.50	24.00	2,98	2,66	36.00	3,13	2,96	48.00	3,98	3,70	25
M 24 x 3.00	3520-24.00	25.00	24.00	2,98	2,66	36.00	3,13	2,96	48.00	3,98	3,48	25
M 26 x 1.50	3523-26.00	26.50	26.00	4,53	3,84	39.00	5,15	4,39	52.00	6,69	5,69	10
M 27 x 1.50	3523-27.00	27.50	27.00	4,25	3,62	40.50	5,15	4,39	54.00	6,31	5,36	10
M 27 x 2.00	3521-27.00	27.50	27.00	4,38	3,73	40.50	5,15	4,42	54.00	6,31	5,30	10
M 27 x 3.00	3520-27.00	28.00	27.00	3,74	3,17	40.50	5,15	4,84	54.00	6,57	6,26	10
M 28 x 1.50	3523-28.00	28.50	28.00	4,34	3,70	42.00	5,15	4,39	56.00	6,69	5,69	10
M 30 x 1.50	3523-30.00	30.50	30.00	5,12	4,37	45.00	5,89	5,01	60.00	7,28	6,18	10
M 30 x 2.00	3521-30.00	30.50	30.00	4,83	4,12	45.00	5,89	5,01	60.00	7,56	6,44	10
M 30 x 3.50	3520-30.00	31.00	30.00	4,31	3,80	45.00	5,89	4,22	60.00	7,86	6,69	10
M 33 x 2.00	3521-33.00	33.50	33.00	7,26	6,17	49.50	7,54	6,56	66.00	8,82	7,54	10
M 33 x 3.50	3520-33.00	34.00	33.00	6,31	5,36	49.50	7,54	6,56	66.00	9,04	7,72	10
M 36 x 1.50	3524-36.00	36.50	36.00	6,21	5,28	54.00	7,54	6,56	72.00	9,08	8,58	10
M 36 x 2.00	3523-36.00	36.50	36.00	6,21	5,28	54.00	7,54	6,42	72.00	9,08	8,58	10
M 36 x 3.00	3521-36.00	37.00	36.00	6,21	5,28	54.00	7,54	7,23	72.00	9,21	8,58	10
M 36 x 4.00	3520-36.00	37.00	36.00	6,21	5,28	54.00	7,54	6,25	72.00	9,08	7,98	10
M 39 x 3,00	3521-39.00	40.00	39.00	-	-	58.50	30,30	-	78.00	-	-	1
M 39 x 4,00	3520-39.00	40.25	39.00	31,42	-	58.50	36,38	-	78.00	38,72	-	1
M 40 x 3,00	3523-40.00	41.00	40.00	-	-	60.00	42,79	-	80.00	-	-	1
M 42 x 3,00	3523-42.00	43.00	42.00	-	-	63.00	42,79	-	84.00	-	-	1
M 42 x 4,50	3520-42.00	43.50	42.00	-	-	63.00	43,15	-	84.00	-	-	1
M 45 x3 ,00	3523-45.00	46.00	45.00	-	-	67.50	51,48	-	90.00	-	-	1
M 45 x 4,50	3520-45.00	46.50	45.00	-	-	67.50	51,91	-	90.00	-	-	1
M 48 x 3,00	3523-48.00	49.00	48.00	-	-	72.00	51,48	-	96.00	-	-	1
M 48 x 5,00	3520-48.00	49.50	48.00	-	-	72.00	68,14	-	96.00	-	-	1
M 50 x 3,00	3523-50.00	51.00	50.00	-	-	75.00	67,57	-	100.00	-	-	1
M 52 x 3,00	3523-52.00	53.00	52.00	-	-	78.00	72,40	-	104.00	-	-	1
M 52 x 5,00	3520-52.00	53.50	52.00	-	-	78.00	73,01	-	104.00	-	-	1

Nota importante: La longitud total del inserto, se define para el inserto una vez montado en la pieza.

**INSERTOS LIBRES**

M MF FREE M/MF AISI 304 BS7752 DIN8140 NASM3278 NASM3280 NASM3261 LN9039 ...D



		L	 2.5D			 3.0D			Unit
			mm	€		mm	€		
				<100	100-500		<100	100-500	
M 15 x 1.50	3521-15.00	15.25	37.50	3,08	2,57	45.00	3,57	2,95	50
<b>M 15 x 2.00</b>	<b>3520-15.00</b>	15.50	37.50	3,08	2,57	45.00	3,57	2,95	50
M 16 x 1.50	3521-16.00	16.50	40.00	1,83	1,56	48.00	2,16	1,75	50
<b>M 16 x 2.00</b>	<b>3520-16.00</b>	16.50	40.00	1,83	1,62	48.00	2,16	1,85	50
M 18 x 1.50	3523-18.00	18.50	45.00	3,38	2,89	54.00	3,98	3,38	50
M 18 x 2.00	3521-18.00	18.50	45.00	3,38	2,71	54.00	3,98	3,12	50
<b>M 18 x 2.50</b>	<b>3520-18.00</b>	19.00	45.00	3,38	2,81	54.00	3,98	3,31	50
M 20 x 1.50	3523-20.00	20.50	50.00	3,98	3,38	60.00	4,57	3,89	25
M 20 x 2.00	3521-20.00	20.50	50.00	3,98	3,38	60.00	4,57	3,89	25
<b>M 20 x 2.50</b>	<b>3520-20.00</b>	20.75	50.00	3,98	3,38	60.00	4,57	3,89	25
M 22 x 1.50	3523-22.00	22.50	55.00	4,32	3,68	66.00	5,21	4,43	25
M 22 x 2.00	3521-22.00	22.50	55.00	4,32	3,68	66.00	5,21	4,43	25
<b>M 22 x 2.50</b>	<b>3520-22.00</b>	22.75	55.00	4,32	3,68	66.00	5,21	4,43	25
M 24 x 1.50	3523-24.00	24.50	60.00	5,22	4,34	72.00	5,57	5,09	25
M 24 x 2.00	3521-24.00	24.50	60.00	5,22	4,44	72.00	5,57	5,21	25
<b>M 24 x 3.00</b>	<b>3520-24.00</b>	25.00	60.00	5,22	4,44	72.00	6,37	5,60	25
M 26 x 1.50	3523-26.00	26.50	65.00	8,95	7,59	78.00	11,18	9,50	10
M 27 x 1.50	3523-27.00	27.50	67.50	8,19	6,96	81.00	9,67	8,22	10
M 27 x 2.00	3521-27.00	27.50	67.50	7,44	6,33	81.00	8,78	7,48	10
<b>M 27 x 3.00</b>	<b>3520-27.00</b>	28.00	67.50	7,74	6,58	81.00	9,14	7,78	10
M 28 x 1.50	3523-28.00	28.50	70.00	9,61	8,18	84.00	11,53	9,82	10
M 30 x 1.50	3523-30.00	30.50	75.00	9,79	8,33	90.00	11,73	9,98	10
M 30 x 2.00	3521-30.00	30.50	75.00	8,69	7,41	90.00	10,01	8,53	10
<b>M 30 x 3.50</b>	<b>3520-30.00</b>	31.00	75.00	8,65	7,35	90.00	9,52	8,11	10
M 33 x 2.00	3521-33.00	33.50	82.50	9,71	8,25	99.00	10,68	9,08	10
<b>M 33 x 3.50</b>	<b>3520-33.00</b>	34.00	82.50	11,32	9,63	99.00	12,77	10,86	10
M 36 x 1.50	3524-36.00	36.50	90.00	11,88	10,11	108.00	13,08	11,12	10
M 36 x 2.00	3523-36.00	36.50	90.00	11,20	9,52	108.00	12,27	10,44	10
M 36 x 3.00	3521-36.00	37.00	90.00	11,04	9,40	108.00	12,16	10,34	10
<b>M 36 x 4.00</b>	<b>3520-36.00</b>	37.00	90.00	12,79	10,88	108.00	16,49	14,02	10



Ejemplo de codificación:

M 15x1.50	 1.0D	 1.5D
	3520-15.00x1.0D	3520-15.00x1.5D

## INSERTOS LIBRES

M  
MF

...D-LH



## INSERTO A IZQUIERDAS






			 1.5D				
		Ø	L mm	€			€
M 3 x 0.50	3520-3.00x1.5D-LH	3.20	4.50	4,45	3520-3.00I-LH		26,58
M 4 x 0.70	3520-4.00x1.5D-LH	4.20	6.00	4,45	3520-4.00I-LH		26,58
M 5 x 0.80	3520-5.00x1.5D-LH	5.20	7.50	4,45	3520-5.00I-LH		26,58
M 6 x 1.00	3520-6.00x1.5D-LH	6.30	9.00	3,07	3520-6.00I-LH		26,58
M 8 x 1.25	3520-8.00x1.5D-LH	8.30	12.00	3,07	3520-8.00I-LH		33,10
M 10 x 1.50	3520-10.00x1.5D-LH	10.40	15.00	4,10	3520-10.00I-LH		40,56
M 12 x 1.75	3520-12.00x1.5D-LH	12.50	18.00	6,13	3520-12.00I-LH		45,91

M  
MF

...DY



## AISI 316

			 1.5D		
		Ø	L mm	€	
M 3 x 0.50	3520-3.00x1.5DY	3.20	4.50	2,29	
M 4 x 0.70	3520-4.00x1.5DY	4.20	6.00	2,40	
M 5 x 0.80	3520-5.00x1.5DY	5.20	7.50	2,49	
M 6 x 1.00	3520-6.00x1.5DY	6.30	9.00	2,54	
M 8 x 1.25	3520-8.00x1.5DY	8.30	12.00	3,06	
M 10 x 1.50	3520-10.00x1.5DY	10.40	15.00	3,15	
M 12 x 1.75	3520-12.00x1.5DY	12.50	18.00	3,43	



Ejemplo de codificación:

M 6 x 1.00



1.0D

3520-6.00X1.5DY

**INSERTOS SIN COLA**



D	L	Ø	1.0D			1.5D			2.0D			Unit			
			L mm	<500	500-999	1000-...	L mm	<500	500-999	1000-...	L mm		<500	500-999	1000-...
M 3 x 0.50	3520-3.00DTL	3.20	3.00	0,44	0,39	0,38	4.50	0,46	0,41	0,39	6.00	0,50	0,42	0,41	100
M 4 x 0.70	3520-4.00DTL	4.20	4.00	0,42	0,36	0,34	6.00	0,44	0,39	0,38	8.00	0,50	0,42	0,41	100
M 5 x 0.80	3520-5.00DTL	5.20	5.00	0,50	0,42	0,41	7.50	0,42	0,41	0,39	10.00	0,59	0,47	0,44	100
M 6 x 1.00	3520-6.00DTL	6.30	6.00	0,53	0,44	0,41	9.00	0,44	0,41	0,39	12.00	0,65	0,59	0,54	100
M 8 x 1.25	3520-8.00DTL	8.30	8.00	0,53	0,47	0,44	12.00	0,59	0,49	0,46	16.00	0,80	0,65	0,62	100
M 10 x 1.50	3520-10.00DTL	10.40	10.00	0,68	0,59	0,54	15.00	0,80	0,65	0,62	20.00	0,91	0,78	0,71	100
M 12 x 1.75	3520-12.00DTL	12.50	12.00	0,97	0,81	0,76	18.00	1,16	1,01	0,93	24.00	1,35	1,16	1,07	100



Ejemplo de codificación:

	1.0D	1.5D	2.0D
M 3 x 0.50	3520-3.00X1.0DTL	3520-3.00X1.5DTL	3520-3.00X2.0DTL

**HERRAMIENTAS DE INSTALACION PARA INSERTOS SIN COLA**

	€
3520-3MITTL	608,98
3520-4MITTL	608,98
3520-5MITTL	608,98
3520-6MITTL	608,98
3520-8MITTL	608,98
3520-10MITTL	608,98
3520-12MITTL	608,98



## INSERTOS LIBRES

UNC



...D



D	UNC	Nº	3532-DG	D1 mm	L mm	1.0D			1.5D			2.0D			Unit		
						L mm	€ <500	€ 500-999	€ 1000-...	L mm	€ <500	€ 500-999	€ 1000-...	L mm		€ <500	€ 500-999
UNC	Nº2-56	3532-2G	2.18	2.40	2.29	0,65	0,60	0,54	3.30	0,76	0,69	0,65	4.32	1,00	0,89	0,83	100
UNC	Nº3-48	3532-3G	2.51	2.70	2.54	0,66	0,62	0,58	3.81	0,71	0,65	0,61	5.08	0,75	0,70	0,66	100
UNC	Nº4-40	3532-4G	2.84	3.00	2.79	0,35	0,30	0,28	4.32	0,36	0,32	0,29	5.59	0,37	0,34	0,30	100
UNC	Nº5-40	3532-5G	3.17	3.40	3.30	0,38	0,34	0,30	4.83	0,39	0,35	0,32	6.35	0,41	0,38	0,36	100
UNC	Nº6-32	3532-6G	3.50	3.70	3.56	0,28	0,26	0,25	5.33	0,30	0,28	0,26	7.11	0,35	0,29	0,27	100
UNC	Nº8-32	3532-8G	4.17	4.40	4.06	0,29	0,27	0,26	6.35	0,34	0,29	0,27	8.38	0,37	0,30	0,28	100
UNC	Nº10-24	3532-10G	4.83	5.10	4.83	0,34	0,29	0,27	7.37	0,37	0,30	0,28	9.65	0,39	0,35	0,32	100
UNC	Nº12-24	3532-12G	5.49	5.70	5.59	0,38	0,34	0,30	8.13	0,41	0,38	0,36	10.92	0,44	0,40	0,38	100
UNC	1/4-20	3532-1/4	6.35	6.70	6.35	0,38	0,34	0,30	9.65	0,41	0,38	0,36	12.70	0,44	0,40	0,38	100
UNC	5/16-18	3532-5/16	7.94	8.30	7.87	0,49	0,42	0,40	11.94	0,61	0,51	0,48	15.75	0,63	0,54	0,50	100
UNC	3/8-16	3532-3/8	9.52	9.90	9.65	0,69	0,63	0,59	14.48	0,75	0,66	0,62	19.30	1,00	0,86	0,80	100
UNC	7/16-14	3532-7/16	11.11	11.60	11.18	0,84	0,74	0,68	16.76	1,01	0,88	0,82	22.35	1,13	1,01	0,91	100
UNC	1/2-13	3532-1/2	12.70	13.00	12.70	0,89	0,79	0,72	19.05	1,01	0,88	0,82	25.40	1,13	1,01	0,91	100
UNC	9/16-12	3532-9/16	14.28	15.00	14.22	1,74	1,53	1,42	21.34	2,03	1,80	1,66	28.45	2,59	2,28	2,11	50
UNC	5/8-11	3532-5/8	15.87	16.50	16.00	1,75	1,54	1,44	24.13	2,04	1,81	1,67	32.00	2,61	2,30	2,13	50
UNC	3/4-10	3532-3/4	19.05	20.00	19.05	1,93	1,71	1,56	28.70	2,40	2,13	1,96	38.10	2,88	2,54	2,34	50
UNC	7/8-9	3532-7/8	22.22	23.00	22.35	2,51	2,22	2,04	33.53	3,13	2,76	2,55	44.70	3,74	3,30	3,03	25
UNC	1-8	3532-1	25.40	26.25	25.40	3,66	3,57	3,30	38.10	5,47	5,34	4,92	50.80	6,95	6,80	6,27	25
UNC	1.1/8-7	3532-1.1/8	28.57	29.50	28.70	5,82	5,13	4,71	42.93	7,70	6,78	6,25	57.15	7,98	7,04	6,47	25
UNC	1.1/4-7	3532-1.1/4	31.75	32.50	31.75	6,35	5,59	5,15	47.75	8,06	7,10	6,53	63.50	9,09	8,00	7,36	10
UNC	1.3/8-6	3532-1.3/8	34.92	36.00	35.05	6,96	6,13	5,65	52.58	8,59	7,56	6,96	69.85	10,19	8,98	8,25	10
UNC	1.1/2-6	3532-1.1/2	38.10	39.50	38.10	8,06	7,10	6,53	57.15	11,08	9,75	8,99	76.20	12,81	11,28	10,37	10

Nota Importante: La longitud total del inserto, se define para el inserto una vez montado en la pieza.



Ejemplo de codificación:

UNC 1/4-20



 1.0D  
3532-1/4x1.0D

 1.5D  
3532-1/4x1.5D

 2.0D  
3532-1/4x2.0D

**INSERTOS LIBRES**



	D1 mm		L mm	€			L mm	€			Unit	
				<500	500-999	1000-...		<500	500-999	1000-...		
UNC N°2-56	3532-2G	2.18	2.40	5.59	1,11	1,02	0,92	6.60	1,39	1,25	1,16	100
UNC N°3-48	3532-3G	2.51	2.70	6.35	0,79	0,72	0,67	7.62	0,87	0,80	0,74	100
UNC N°4-40	3532-4G	2.84	3.00	9.65	0,41	0,38	0,36	8.64	0,49	0,42	0,40	100
UNC N°5-40	3532-5G	3.17	3.40	7.87	0,49	0,42	0,40	9.65	0,61	0,51	0,48	100
UNC N°6-32	3532-6G	3.50	3.70	8.89	0,38	0,34	0,30	10.41	0,44	0,39	0,37	100
UNC N°8-32	3532-8G	4.17	4.40	10.41	0,39	0,36	0,34	12.45	0,46	0,41	0,39	100
UNC N°10-24	3532-10G	4.83	5.10	12.19	0,47	0,41	0,39	14.48	0,58	0,49	0,46	100
UNC N°12-24	3532-12G	5.49	5.70	13.72	0,53	0,48	0,45	16.51	0,66	0,60	0,54	100
UNC 1/4-20	3532-1/4	6.35	6.70	16.00	0,53	0,48	0,45	19.05	0,66	0,60	0,54	100
UNC 5/16-18	3532-5/16	7.94	8.30	19.81	0,75	0,65	0,61	23.62	0,89	0,79	0,72	100
UNC 3/8-16	3532-3/8	9.52	9.90	24.13	1,12	1,00	0,91	28.96	1,34	1,18	1,09	100
UNC 7/16-14	3532-7/16	11.11	11.60	27.94	1,37	1,20	1,11	33.53	1,67	1,47	1,35	100
UNC 1/2-13	3532-1/2	12.70	13.00	31.75	1,37	1,20	1,11	38.10	1,67	1,47	1,35	100
UNC 9/16-12	3532-9/16	14.28	15.00	35.56	3,24	2,86	2,63	42.67	3,50	3,09	2,86	50
UNC 5/8-11	3532-5/8	15.87	16.50	40.13	3,29	2,90	2,67	48.01	3,54	3,12	2,88	50
UNC 3/4-10	3532-3/4	19.05	20.00	47.75	3,75	3,31	3,05	57.15	4,13	3,64	3,35	50
UNC 7/8-9	3532-7/8	22.22	23.00	55.88	4,87	4,28	3,95	67.06	5,36	4,71	4,35	25
UNC 1-8	3532-1	25.40	26.25	63.50	8,21	8,03	7,41	76.20	9,96	9,73	8,97	25
UNC 1.1/8-7	3532-1.1/8	28.57	29.50	71.37	9,95	8,77	8,07	85.85	11,08	9,75	8,99	25
UNC 1.1/4-7	3532-1.1/4	31.75	32.50	79.50	11,40	10,05	9,24	95.25	12,82	11,29	10,38	10
UNC 1.3/8-6	3532-1.3/8	34.92	36.00	87.38	12,87	11,33	10,44	104.90	14,04	12,36	11,37	10
UNC 1.1/2-6	3532-1.1/2	38.10	39.50	95.25	16,75	14,74	13,58	114.30	19,05	16,77	15,44	10

Nota Importante: La longitud total del inserto, se define para el inserto una vez montado en la pieza.

## INSERTOS LIBRES

UNF



FREE



UNF



AISI 304



SBAC AS 6734

NASM124651-124850  
NASM8846  
SBAC8455

...D



D	L	D1 mm	Ø	1.0D			1.5D			2.0D			Unit			
				L mm	€			L mm	€			L mm		€		
					<500	500-999	1000-...		<500	500-999	1000-...		<500	500-999	1000-...	
UNF Nº3 - 56	3534-3G	2.51	2.70	2.54	0,50	0,45	0,42	3.81	0,63	0,56	0,51	5.08	0,76	0,67	0,63	100
UNF Nº4 - 48	3534-4G	2.84	3.00	2.79	0,50	0,45	0,42	4.32	0,63	0,56	0,51	5.59	0,76	0,67	0,63	100
UNF Nº6 - 40	3534-6G	3.50	3.70	3.56	0,50	0,45	0,42	5.33	0,63	0,56	0,51	7.11	0,76	0,67	0,63	100
UNF Nº8 - 36	3534-8G	4.17	4.40	4.06	0,50	0,45	0,42	6.35	0,63	0,56	0,51	8.38	0,76	0,67	0,63	100
UNF Nº10 - 32	3534-10G	4.83	5.10	4.83	0,37	0,30	0,28	7.37	0,38	0,34	0,30	9.65	0,44	0,39	0,37	100
UNF Nº12 - 28	3534-12G	5.49	5.70	5.59	0,60	0,51	0,48	8.13	0,62	0,58	0,51	10.92	0,64	0,61	0,56	100
UNF 1/4 - 28	3534-1/4	6.35	6.60	6.35	0,37	0,30	0,28	9.65	0,38	0,34	0,30	12.70	0,44	0,39	0,37	100
UNF 5/16 - 24	3534-5/16	7.94	8.20	7.87	0,48	0,42	0,40	11.94	0,51	0,45	0,42	15.75	0,63	0,53	0,49	100
UNF 3/8 - 24	3534-3/8	9.52	9.80	9.65	0,72	0,63	0,59	14.48	0,75	0,65	0,61	19.30	0,89	0,79	0,72	100
UNF 7/16 - 20	3534-7/16	11.11	11.50	11.18	0,88	0,78	0,71	16.76	1,01	0,87	0,81	22.35	1,12	1,00	0,91	100
UNF 1/2 - 20	3534-1/2	12.70	13.00	12.70	0,88	0,78	0,71	19.05	1,01	0,87	0,81	25.40	1,12	1,00	0,91	100
UNF 9/16 - 18	3534-9/16	14.29	14.70	14.22	1,98	1,75	1,61	21.34	2,10	1,85	1,71	28.45	2,50	2,22	2,04	50
UNF 5/8 - 18	3534-5/8	15.87	16.30	16.00	2,03	1,80	1,66	24.13	2,21	1,94	1,80	32.00	2,50	2,22	2,04	50
UNF 3/4 - 16	3534-3/4	19.05	19.50	19.05	2,24	1,97	1,83	28.70	2,40	2,13	1,96	38.10	2,74	2,42	2,23	50
UNF 7/8 - 14	3534-7/8	22.22	22.50	22.35	4,66	4,11	3,78	33.53	6,87	6,05	5,58	44.70	8,75	7,70	7,09	25
UNF 1-12	3534-1	25.40	26.00	25.40	4,66	4,11	3,78	38.10	6,87	6,05	5,58	50.80	8,75	7,70	7,09	25
UNF 1-14	3535-1	25.40	26.00	25.40	4,85	4,25	3,92	38.10	7,15	6,30	5,79	50.80	9,09	7,99	7,35	25
UNF 1.1/8 - 12	3534-1.1/8	28.57	29.50	28.70	6,68	5,89	5,42	43.18	8,82	7,77	7,15	57.15	9,16	8,06	7,43	10
UNF 1.1/4 - 12	3534-1.1/4	31.75	32.50	31.75	7,26	6,39	5,89	47.75	9,60	8,44	7,78	63.50	10,42	9,17	8,43	10
UNF 1.3/8 - 12	3534-1.3/8	34.92	35.50	35.05	7,96	7,01	6,45	52.58	9,85	8,66	7,97	69.85	11,67	10,27	9,45	10
UNF 1.1/2 - 12	3534-1.1/2	38.10	38.50	38.10	9,22	8,12	7,48	57.15	11,99	11,64	10,71	76.20	14,67	12,92	11,89	10

Nota Importante: La longitud total del inserto, se define para el inserto una vez montado en la pieza.



Ejemplo de codificación:

UNF Nº3 - 56

3534-3Gx1.0D

3534-3Gx1.5D

3534-3Gx2.0D

**INSERTOS LIBRES**

UNF FREE UNF AISI 304 SBAC AS 6734 NASM124651-124850 NASM8846 SBAC8455 ...D



D	UNF	Part No	D1 mm	Ø	L mm	2.5D			3.0D			Unit	
						<500	500-999	1000-...	<500	500-999	1000-...		
UNF	Nº3 - 56	<b>3534-3G</b>	2.51	2.70	6.35	0,87	0,78	0,71	7.62	1,02	0,89	0,83	100
UNF	Nº4 - 48	<b>3534-4G</b>	2.84	3.00	7.11	0,87	0,78	0,71	8.64	1,02	0,89	0,83	100
UNF	Nº6 - 40	<b>3534-6G</b>	3.50	3.70	8.89	0,87	0,78	0,71	10.41	1,02	0,89	0,83	100
UNF	Nº8 - 36	<b>3534-8G</b>	4.17	4.40	10.41	0,87	0,78	0,71	12.45	1,02	0,89	0,83	100
UNF	Nº10 - 32	<b>3534-10G</b>	4.83	5.10	12.19	0,58	0,49	0,46	14.48	0,66	0,60	0,54	100
UNF	Nº12 - 28	<b>3534-12G</b>	5.49	5.70	13.72	0,67	0,63	0,59	16.51	0,75	0,70	0,66	100
UNF	1/4 - 28	<b>3534-1/4</b>	6.35	6.60	16.00	0,58	0,49	0,46	19.05	0,66	0,60	0,54	100
UNF	5/16 - 24	<b>3534-5/16</b>	7.94	8.20	19.81	0,76	0,67	0,63	23.62	0,89	0,79	0,72	100
UNF	3/8 - 24	<b>3534-3/8</b>	9.52	9.80	24.13	1,13	1,01	0,91	28.96	1,34	1,18	1,09	100
UNF	7/16 - 20	<b>3534-7/16</b>	11.11	11.50	27.94	1,40	1,23	1,13	33.53	1,67	1,47	1,35	100
UNF	1/2 - 20	<b>3534-1/2</b>	12.70	13.00	31.75	1,40	1,23	1,13	38.10	1,67	1,47	1,35	100
UNF	9/16 - 18	<b>3534-9/16</b>	14.29	14.70	35.56	3,17	2,79	2,58	42.67	3,56	3,13	2,89	50
UNF	5/8 - 18	<b>3534-5/8</b>	15.87	16.30	40.13	2,98	2,63	2,42	48.01	3,56	3,13	2,89	50
UNF	3/4 - 16	<b>3534-3/4</b>	19.05	19.50	47.75	3,75	3,31	3,05	57.15	4,13	3,64	3,35	50
UNF	7/8 - 14	<b>3534-7/8</b>	22.22	22.50	55.88	10,45	9,20	8,46	67.06	12,17	10,71	9,86	25
UNF	1 - 12	<b>3534-1</b>	25.40	26.00	63.50	10,45	9,20	8,46	76.20	12,17	10,71	9,86	25
UNF	1 - 14	<b>3535-1</b>	25.40	26.00	63.50	10,45	9,20	8,46	76.20	12,53	11,03	10,15	25
UNF	1.1/8 - 12	<b>3534-1.1/8</b>	28.57	29.50	71.37	11,40	10,05	9,24	85.85	12,71	11,18	10,29	10
UNF	1.1/4 - 12	<b>3534-1.1/4</b>	31.75	32.50	79.50	13,03	11,48	10,57	95.25	14,69	12,93	11,89	10
UNF	1.3/8 - 12	<b>3534-1.3/8</b>	34.92	35.50	87.38	14,74	12,98	11,95	104.90	16,07	14,14	13,02	10
UNF	1.1/2 - 12	<b>3534-1.1/2</b>	38.10	38.50	95.25	19,16	16,87	15,52	114.30	21,82	19,20	17,67	10



Organizadores disponibles bajo demanda

## INSERTOS LIBRES

BSW



...D



	D1 mm												Unit
			L mm	€	L mm	€	L mm	€	L mm	€	L mm	€	
BSW 1/8 - 40	3.17	3.40	3.30	0,44	5.08	0,48	6.60	0,58	8.38	0,74	9.91	0,96	100
BSW 3/16 - 24	4.76	5.00	4.83	0,44	7.37	0,48	9.65	0,58	12.19	0,74	14.48	0,96	100
BSW 1/4 - 20	6.35	6.70	6.35	0,40	9.65	0,44	12.70	0,50	16.00	0,66	19.05	0,71	100
BSW 5/16 - 18	7.94	8.30	7.87	0,46	11.94	0,53	15.75	0,59	19.81	0,69	23.62	0,85	100
BSW 3/8 - 16	9.52	10.00	9.65	0,83	14.48	0,88	19.30	1,05	24.13	1,23	28.96	1,47	100
BSW 7/16 - 14	11.11	11.60	11.18	1,01	16.76	1,10	22.35	1,27	27.94	1,50	33.53	1,84	100
BSW 1/2 - 12	12.70	13.00	12.70	1,01	19.05	1,10	25.40	1,27	31.75	1,50	38.10	1,84	100
BSW 9/16 - 12	14.29	14.75	14.22	2,50	21.34	3,50	28.45	4,11	35.56	4,88	42.67	5,97	50
BSW 5/8 - 11	15.87	16.50	16.00	2,50	24.13	3,50	32.00	4,11	40.13	4,88	48.01	5,97	50
BSW 3/4 - 10	19.05	20.00	19.05	3,24	28.70	4,16	38.10	5,06	47.75	6,08	57.15	7,28	50
BSW 7/8 - 9	22.22	23.25	22.35	4,16	33.53	5,80	44.70	7,26	55.88	8,74	67.06	10,48	25
BSW 1 - 8	25.40	26.50	25.40	4,48	38.10	6,65	50.80	7,26	63.50	8,74	76.20	10,48	25

BSF








...D

	D1 mm												Unit
			L mm	€	L mm	€	L mm	€	L mm	€	L mm	€	
BSF 3/16 - 32	4.76	5.00	4.83	0,44	7.37	0,48	9.65	0,59	12.19	0,68	14.48	0,81	100
BSF 1/4 - 26	6.35	6.60	6.35	0,42	9.65	0,44	12.70	0,51	16.00	0,63	19.05	0,72	100
BSF 5/16 - 22	7.94	8.30	7.87	0,44	11.94	0,54	15.75	0,60	19.81	0,72	23.62	0,87	100
BSF 3/8 - 20	9.52	9.80	9.65	0,84	14.48	0,90	19.30	1,07	24.13	1,25	28.96	1,50	100
BSF 7/16 - 18	11.11	11.60	11.18	1,03	16.76	1,12	22.35	1,29	27.94	1,53	33.53	1,88	100
BSF 1/2 - 16	12.70	13.25	12.70	1,03	19.05	1,12	25.40	1,29	31.75	1,53	38.10	1,88	100
BSF 9/16 - 16	14.29	14.75	14.22	2,56	21.34	3,39	28.45	4,19	35.56	4,99	42.67	6,78	50
BSF 5/8 - 14	15.88	16.50	16.00	2,56	24.13	3,39	32.00	4,19	40.13	4,99	48.01	6,11	50
BSF 3/4 - 12	19.05	19.50	19.05	3,31	28.70	4,24	38.10	5,19	47.75	6,21	57.15	7,46	50
BSF 7/8 - 11	22.23	22.75	22.35	4,24	33.53	5,94	44.70	7,42	55.88	8,94	67.06	10,70	25
BSF 1 - 10	25.40	26.25	25.40	4,24	38.10	5,94	50.80	7,42	63.50	8,94	76.20	10,70	25


**INSERTOS LIBRES**

**BSP (GAS)**
**FREE**
**BSP**
**AISI 304**
SBAC AS 4736  
SBAC AS 4947
**...D**



	D1 mm		 1.0D		 1.5D		 2.0D		Unit
			L mm	€	L mm	€	L mm	€	
BSP 1/8 - 28	9.73	10.00	3.30	0,62	4.83	0,87	6.35	0,97	100
BSP 1/4 - 19	13.16	13.75	6.35	0,83	9.65	1,19	12.70	1,34	100
BSP 3/8 - 19	16.66	17.00	9.65	0,74	14.22	1,35	19.05	1,53	100
BSP 1/2 - 14	20.95	21.50	12.70	1,92	19.05	1,94	25.40	3,08	50
BSP 5/8 - 14	22.91	23.50	16.00	2,94	23.88	4,34	31.75	4,53	50
BSP 3/4 - 14	26.44	27.00	19.05	2,94	28.70	4,34	38.10	4,53	50
BSP 7/8 - 14	30.20	30.50	22.35	7,55	33.53	13,27	44.45	16,55	25
BSP 1 - 11	33.25	33.75	25.40	8,46	38.10	14,86	50.80	17,02	25


**NPT**
**FREE**
**NPT**
60°  
p  
1.06
**AISI 304**
SBAC AS 4737-48  
SBAC AS 4948-59
**...D**


	L mm	€	Unit
NPT 1/8 - 27	4.78	1,24	100
NPT 1/4 - 18	9.53	1,79	100
NPT 3/8 - 18	14.30	2,25	100
NPT 1/2 - 14	19.05	3,69	50
NPT 3/4 - 14	28.58	5,29	50
NPT 1 - 11.1/2	38.10	7,10	25



Ejemplo de codificación:

BSP 1/8-28

 1.0D  
**3546-1/8x1.0D**

 1.5D  
**3546-1/8x1.5D**

## INSERTOS LIBRES

UNx8



FREE



8-UN



AISI 304

...D



		D1 mm		1.0D		1.5D		2.0D		Unit	
				L mm	€	L mm	€	L mm	€		
UN	1.1/8 - 8	3570-1.1/8	28.57	28.50	28.70	11,14	42.93	13,14	57.15	14,02	10
UN	1.1/4 - 8	3570-1.1/4	31.75	32.00	31.75	13,35	47.75	16,11	63.50	18,23	10
UN	1.3/8 - 8	3570-1.3/8	34.92	35.00	35.05	15,07	52.32	20,02	69.85	22,04	10
UN	1.1/2 - 8	3570-1.1/2	38.10	38.00	38.10	16,81	57.15	22,31	76.20	26,17	10
UN	1.5/8 - 8	3570-1.5/8	41.27	41.00	41.40	18,42	61.98	23,67	82.55	29,17	10
UN	1.3/4 - 8	3570-1.3/4	44.45	44.50	44.45	19,96	66.80	25,71	88.90	29,57	10
UN	1.7/8 - 8	3570-1.7/8	47.62	47.50	47.75	21,55	71.37	27,58	95.25	34,04	10
UN	2 - 8	3570-2	50.80	51.00	50.80	23,06	76.20	29,62	101.60	36,48	10

BA



FREE



BA



AISI 304

SBAC AS 4736  
SBAC AS 4947

...D

		D1 mm		1.0D		1.5D		2.0D		2.5D		3.0D		Unit	
				L mm	€	L mm	€	L mm	€	L mm	€	L mm	€		
BA 0		3544-0	6.00	6.20	6.10	2,76	8.89	3,65	11.94	4,38	14.99	5,03	18.03	5,79	100
BA 2		3544-2	4.70	4.90	4.83	1,44	7.11	1,60	9.40	1,76	11.68	2,07	14.22	2,24	100
BA 4		3544-4	3.60	3.80	3.56	1,44	5.33	1,60	7.11	1,76	8.89	2,07	10.92	2,24	100
BA 6		3544-6	2.80	2.90	2.79	1,44	4.32	1,60	5.59	1,76	7.11	2,07	8.38	2,24	100



Ejemplo de codificación:

UN 1.1/8 - 8



3570-1.1/8x1.0D

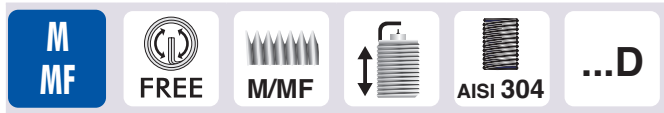


3570-1.1/8x1.5D

INSERTOS LIBRES



D	D1 mm	Ø	1.0D		1.5D		2.0D		Unit	
			L mm	€	L mm	€	L mm	€		
BSB 1/4 - 26	3560-1/4	6,35	6.60	6,35	1,69	9.53	2,33	12.70	2,55	100
BSB 5/16 - 26	3560-5/16	7,94	8.20	7,95	0,76	11.91	0,91	15.88	1,23	100
BSB 3/8 - 26	3560-3/8	9,52	9.80	9,53	0,88	14.30	1,06	19.05	1,44	100
BSB 7/16 - 26	3560-7/16	11,11	11.30	11,13	0,93	16.66	1,44	22.23	1,95	100
BSB 1/2 - 26	3560-1/2	12,70	12.70	12,70	1,91	19.05	2,42	25.40	3,08	50



D	D1	Ø	8.40mm	12.40mm	16.40mm	Unit
			€	€	€	
14x1.25	3522-14.00	14.25	1,03	1,03	1,03	50

D	D1	Ø	1/2"	3/4"	Unit
			€	€	
10x1.00	3522-10.00	10.30	0,51	-	100
12x1.25	3522-12.00	12.30	0,62	0,75	100
14x1.25	3522-14.00	14.25	0,89	1,38	50
18x1.50	3522-18.00	18.50	1,20	-	50



D	D1	Ø	0.339"	3/8"	7/16"	Unit
			€	€	€	
10x1.00	3522-10.00	10.30	0,43	-	-	100
14x1.25	3522-14.00	14.25	-	0,97	1,06	50

M  
MF

FREE



M/MF







AISI 304

BS7752  
DIN6140

...DP



## INSERTOS LIBRES EN BLISTER

		€	D1 mm	L mm					
						Accesorios			
M 3 x 0.50	3520-3.00X1.0DP		1.00	3.00	10	3.20	3520-3.00I	3500-HIT4	3500-TB4
<b>M 3 x 0.50</b>	<b>3520-3.00X1.5DP</b>		1.50	4.50	10	3.20	3520-3.00I	3500-HIT4	3500-TB4
M 3 x 0.50	3520-3.00X2.0DP		2.00	6.00	10	3.20	3520-3.00I	3500-HIT4	3500-TB4
M 4 x 0.70	3520-4.00X1.0DP		1.00	4.00	10	4.20	3520-4.00I	3500-HIT6	3500-TB6
<b>M 4 x 0.70</b>	<b>3520-4.00X1.5DP</b>		1.50	6.00	10	4.20	3520-4.00I	3500-HIT6	3500-TB6
M 4 x 0.70	3520-4.00X2.0DP		2.00	8.00	10	4.20	3520-4.00I	3500-HIT6	3500-TB6
M 5 x 0.80	3520-5.00X1.0DP		1.00	5.00	10	5.20	3520-5.00I	3500-HIT8	3500-TB8
<b>M 5 x 0.80</b>	<b>3520-5.00X1.5DP</b>		1.50	7.50	10	5.20	3520-5.00I	3500-HIT8	3500-TB8
M 5 x 0.80	3520-5.00X2.0DP		2.00	10.00	10	5.20	3520-5.00I	3500-HIT8	3500-TB8
M 6 x 1.00	3520-6.00X1.0DP		1.00	6.00	10	6.30	3520-6.00I	3500-HIT9	3500-TB9
<b>M 6 x 1.00</b>	<b>3520-6.00X1.5DP</b>		1.50	9.00	10	6.30	3520-6.00I	3500-HIT9	3500-TB9
M 6 x 1.00	3520-6.00X2.0DP		2.00	12.00	10	6.30	3520-6.00I	3500-HIT9	3500-TB9
M 6 x 1.00	3520-6.00X2.5DP		2.50	15.00	10	6.30	3520-6.00I	3500-HIT9	3500-TB9
M 8 x 1.00	3521-8.00X1.0DP		1.00	8.00	10	8.30	3521-8.00I	3500-HIT11	3500TB12
M 8 x 1.00	3521-8.00X1.5DP		1.50	12.00	10	8.30	3521-8.00I	3500-HIT11	3500TB12
M 8 x 1.00	3521-8.00X2.0DP		2.00	16.00	10	8.30	3521-8.00I	3500-HIT11	3500TB12
M 8 x 1.25	3520-8.00X1.0DP		1.00	8.00	10	8.30	3520-8.00I	3500-HIT11	3500-TB12
<b>M 8 x 1.25</b>	<b>3520-8.00X1.5DP</b>		1.50	12.00	10	8.30	3520-8.00I	3500-HIT11	3500-TB12
M 8 x 1.25	3520-8.00X2.0DP		2.00	16.00	10	8.30	3520-8.00I	3500-HIT11	3500-TB12
M 10 x 1.25	3521-10.00X1.5DP		1.50	15.00	10	10.30	3521-10.00I	3500-HIT13	3500-TB13
M 10 x 1.50	3520-10.00X1.0DP		1.00	10.00	10	10.40	3520-10.00I	3500-HIT13	3500-TB13
<b>M 10 x 1.50</b>	<b>3520-10.00X1.5DP</b>		1.50	15.00	10	10.40	3520-10.00I	3500-HIT13	3500-TB13
M 10 x 1.50	3520-10.00X2.0DP		2.00	20.00	10	10.40	3520-10.00I	3500-HIT13	3500-TB13
M 12 x 1.50	3521-12.00X1.5DP		1.50	18.00	10	12.40	3521-12.00I	3500-HIT15	3500-TB15
M 12 x 1.75	3520-12.00X1.0DP		1.00	12.00	10	12.50	3520-12.00I	3500-HIT15	3500-TB15
<b>M 12 x 1.75</b>	<b>3520-12.00X1.5DP</b>		1.50	18.00	10	12.50	3520-12.00I	3500-HIT15	3500-TB15
M 12 x 1.75	3520-12.00X2.0DP		2.00	24.00	10	12.50	3520-12.00I	3500-HIT15	3500-TB15
M 14 x 1.50	3521-14.00X1.5DP		1.50	21.00	5	14.40	3521-14.00I	3500-HIT16	-
M 14 x 2.00	3520-14.00X1.0DP		1.00	14.00	5	14.50	3520-14.00I	3500-HIT16	-
<b>M 14 x 2.00</b>	<b>3520-14.00X1.5DP</b>		1.50	21.00	5	14.50	3520-14.00I	3500-HIT16	-
M 14 x 2.00	3520-14.00X2.0DP		2.00	28.00	5	14.50	3520-14.00I	3500-HIT16	-
M 16 x 1.50	3521-16.00X1.5DP		1.50	24.00	5	16.50	3521-16.00I	3500-HIT18	-
M 16 x 2.00	3520-16.00X1.0DP		1.00	16.00	5	16.50	3520-16.00I	3500-HIT18	-
<b>M 16 x 2.00</b>	<b>3520-16.00X1.5DP</b>		1.50	24.00	5	16.50	3520-16.00I	3500-HIT18	-
M 16 x 2.00	3520-16.00X2.0DP		2.00	32.00	5	16.50	3520-16.00I	3500-HIT18	-
M 18 x 2.00	3521-18.00X1.5DP		1.50	27.00	5	18.50	3521-18.00I	3500-HIT20	-
M 18 x 2.50	3520-18.00X1.0DP		1.00	18.00	5	19.00	3520-18.00I	3500-HIT20	-
<b>M 18 x 2.50</b>	<b>3520-18.00X1.5DP</b>		1.50	27.00	5	19.00	3520-18.00I	3500-HIT20	-
M 18 x 2.50	3520-18.00X2.0DP		2.00	36.00	5	19.00	3520-18.00I	3500-HIT20	-
M 20 x 2.50	3520-20.00X1.0DP		1.00	20.00	5	20.75	3520-20.00I	3500-HIT21	-
<b>M 20 x 2.50</b>	<b>3520-20.00X1.5DP</b>		1.50	30.00	5	20.75	3520-20.00I	3500-HIT21	-
M 20 x 2.50	3520-20.00X2.0DP		2.00	40.00	5	20.75	3520-20.00I	3500-HIT21	-
<b>M 22 x 2.50</b>	<b>3520-22.00X1.5DP</b>		1.50	33.00	3	22.75	3520-22.00I	3500-HIT22	-
M 22 x 2.50	3520-22.00X2.0DP		2.00	44.00	3	22.75	3520-22.00I	3500-HIT22	-
<b>M 24 x 3.00</b>	<b>3520-24.00X1.5DP</b>		1.50	36.00	3	24.50	3520-24.00I	3500-HIT23	-

Accesorios no incluidos en el precio



		€	D1 mm	L					
						Accesorios			
M 12 x 1.25	3522-12.00X1/2P		-	1/2"	10	12.30	3522-12.00PN	3500-HIT15	3500-TB15
M 12 x 1.25	3522-12.00X3/4P		-	3/4"	10	12.30	3522-12.00PN	3500-HIT15	3500-TB15
M 14 x 1.25	3522-14.00X3/8P		-	3/8"	10	14.30	3522-14.00PN	3500-HIT17	3500-HIT17
M 14 x 1.25	3522-14.00X1/2P		-	1/2"	10	14.30	3522-14.00PN	3500-HIT17	3500-HIT17
M 14 x 1.25	3522-14.00X3/4P		-	3/4"	10	14.30	3522-14.00PN	3500-HIT17	3500-HIT17
M 14 x 1.25	3522-14.00X8.4P		-	8.4 mm	5	14.30	3522-14.00PN	3500-HIT17	3500-HIT17
M 14 x 1.25	3522-14.00X12.4P		-	12.4"	5	14.30	3522-14.00PN	3500-HIT17	3500-HIT17
M 14 x 1.25	3522-14.00X16.4P		-	16.4"	5	14.30	3522-14.00PN	3500-HIT17	3500-HIT17

Accesorios no incluidos en el precio



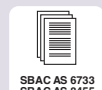
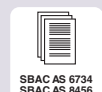
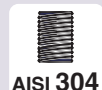
M14x1,25

M12x1,25

**INSERTOS LIBRES EN BLISTER**

Icono	D	L	€	D1 mm	L mm	Icono	mm			
							mm	<60° 4-5	+	+
							<b>Accesorios</b>			
UNC	Nº6 - 32	<b>3532-6GX1.5DP</b>		1.50	5.33	10	3.80	3532-6GI	3500-HIT5	3500-TB5
UNC	Nº8 - 32	<b>3532-8GX1.5DP</b>		1.50	6.35	10	4.40	3532-8GI	3500-HIT6	3500-TB6
UNC	Nº10 - 24	<b>3532-10GX1.5DP</b>		1.50	7.11	10	5.20	3532-10GI	3500-HIT7	3500-TB8
UNC	1/4 - 20	<b>3532-1/4X1.5DP</b>		1.50	9.65	10	6.70	3532-1/4I	3500-HIT9	3500-TB9
UNC	5/16 - 18	<b>3532-5/16X1.0DP</b>		1.00	7.87	10	8.30	3532-5/16I	3500-HIT10	3500-TB12
UNC	5/16 - 18	<b>3532-5/16X1.5DP</b>		1.50	11.94	10	8.30	3532-5/16I	3500-HIT10	3500-TB12
UNC	3/8 - 16	<b>3532-3/8X1.5DP</b>		1.50	14.22	10	9.90	3532-3/8I	3500-HIT13	3500-TB12
UNC	3/8 - 16	<b>3532-3/8X2.0DP</b>		2.00	19.05	10	9.90	3532-3/8I	3500-HIT13	3500-TB12
UNC	7/16 - 14	<b>3532-7/16X1.5DP</b>		1.50	16.76	10	11.60	3532-7/16I	3500-HIT14	3500-TB14
UNC	1/2 - 13	<b>3532-1/2X1.5DP</b>		1.50	19.05	10	13.00	3532-1/2I	3500-HIT15	3500-TB15
UNC	5/8 - 11	<b>3532-5/8X1.5DP</b>		1.50	23.88	5	16.50	3532-5/8I	3500-HIT18	-
UNC	3/4 - 10	<b>3532-3/4X1.5DP</b>		1.50	28.70	5	20.00	3532-3/4I	3500-HIT20	-
UNC	7/8 - 9	<b>3532-7/8X1.5DP</b>		1.50	33.27	3	23.00	3532-7/8I	3500-HIT22	-
UNC	1 - 8	<b>3532-1X1.5DP</b>		1.50	38.10	3	26.25	3532-1I	3500-HIT23	-

**UNC  
UNF**



**...DP**

Icono	D	L	€	D1 mm	L mm	Icono	mm			
							mm	<60° 4-5	+	+
							<b>Accesorios</b>			
UNF	Nº10 - 32	<b>3534-10GX1.5DP</b>		1.50	7.11	10	5.10	3534-10GI	3500-HIT8	3500-TB8
UNF	1/4 - 28	<b>3534-1/4X1.5DP</b>		1.50	9.65	10	6.70	3534-1/4I	3500-HIT9	3500-TB9
UNF	5/16 - 24	<b>3534-5/16X1.5DP</b>		1.50	11.94	10	8.30	3534-5/16I	3500-HIT11	3500-TB12
UNF	3/8 - 24	<b>3534-3/8X1.5DP</b>		1.50	14.22	10	9.80	3534-3/8I	3500-HIT13	3500-TB13
UNF	7/16 - 20	<b>3534-7/16X1.5DP</b>		1.50	16.76	10	11.50	3534-7/16I	3500-HIT14	3500-TB14
UNF	1/2 - 20	<b>3534-1/2X1.5DP</b>		1.50	19.05	10	13.00	3534-1/2I	3500-HIT15	3500-TB15
UNF	5/8 - 18	<b>3534-5/8X1.5DP</b>		1.50	24.13	5	16.50	3534-5/8I	3500-HIT18	-
UNF	3/4 - 16	<b>3534-3/4X1.5DP</b>		1.50	28.70	5	19.50	3534-3/4I	3500-HIT21	-

Accesorios no incluidos en el precio

**BSP (GAS)** **FREE** **BSP** **AISI 304** **BS84** **...DP**



Icono	D	L	€	D1 mm	L mm	Icono	mm			
							mm	<55° 4-5	+	+
							<b>Accesorios</b>			
BSP	1/8 - 28	<b>3546-1/8X1.5DP</b>		1.50	4.83	10	10.00	3546-1/8I	3500-HIT14	
BSP	1/4 - 19	<b>3546-1/4X1.5DP</b>		1.50	9.65	10	13.75	3546-1/4I	3500-HIT16	
BSP	3/8 - 19	<b>3546-3/8X1.5DP</b>		1.50	14.22	10	17.00	3546-3/8I	3500-HIT20	
BSP	1/2 - 14	<b>3546-1/2X1.5DP</b>		1.50	19.05	10	21.50	3546-1/2I	3500-HIT23	
BSP	3/4 - 14	<b>3546-3/4X1.5DP</b>		1.50	28.70	5	27.00	3546-3/4I	3500-HIT24	
BSP	1 - 11	<b>3546-1X1.5DP</b>		1.50	38.10	3	33.75	3546-1I	3500-HIT27	

Accesorios no incluidos en el precio



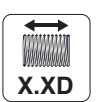
**INSERTOS AUTOBLOCANTES**



powercoil  
by CELESA

Rosa

D	L	L	1.0D			1.5D			2.0D			Unit			
			L mm	<500	500-999	1000-...	L mm	<500	500-999	1000-...	L mm		<500	500-999	1000-...
M 2 x 0.40	3520-2.00	2.10	2.00	0,66	0,60	0,54	3.00	0,86	0,76	0,70	4.00	1,01	0,88	0,82	100
M 2.20 x 0.45	3520-2.20	2.30	2.20	0,63	0,56	0,51	3.30	0,82	0,72	0,67	4.40	0,93	0,84	0,79	100
M 2.50 x 0.45	3520-2.50	2.60	2.50	0,42	0,37	0,35	3.75	0,43	0,40	0,38	5.00	0,44	0,41	0,39	100
M 3 x 0.50	3520-3.00	3.20	3.00	0,32	0,28	0,26	4.50	0,37	0,32	0,29	6.00	0,38	0,35	0,32	100
M 3.50 x 0.60	3520-3.50	3.70	3.50	0,38	0,35	0,32	5.25	0,40	0,38	0,36	7.00	0,42	0,40	0,38	100
M 4 x 0.70	3520-4.00	4.20	4.00	0,32	0,29	0,27	6.00	0,37	0,32	0,29	8.00	0,38	0,34	0,30	100
M 5 x 0.80	3520-5.00	5.20	5.00	0,38	0,34	0,30	7.50	0,39	0,35	0,32	10.00	0,42	0,38	0,36	100
M 6 x 1.00	3520-6.00	6.30	6.00	0,41	0,37	0,35	9.00	0,43	0,38	0,36	12.00	0,48	0,43	0,40	100
M 7 x 1.00	3520-7.00	7.30	7.00	0,48	0,43	0,40	10.50	0,58	0,50	0,47	14.00	0,64	0,58	0,51	100
M 8 x 1.00	3521-8.00	8.30	8.00	0,51	0,46	0,43	12.00	0,56	0,47	0,44	16.00	0,65	0,56	0,51	100
M 8 x 1.25	3520-8.00	8.30	8.00	0,42	0,38	0,36	12.00	0,48	0,43	0,40	16.00	0,58	0,48	0,45	100
M 9 x 1.25	3520-9.00	9.40	9.00	1,04	0,92	0,86	13.50	1,33	1,10	1,03	18.00	1,40	1,17	1,08	100
M 10 x 1.00	3523-10.00	10.30	10.00	0,56	0,48	0,45	15.00	0,68	0,59	0,53	20.00	0,70	0,63	0,58	100
M 10 x 1.25	3521-10.00	10.30	10.00	0,53	0,47	0,44	15.00	0,67	0,62	0,58	20.00	0,69	0,66	0,62	100
M 10 x 1.50	3520-10.00	10.40	10.00	0,56	0,47	0,44	15.00	0,67	0,58	0,51	20.00	0,70	0,63	0,59	100
M 11 x 1.50	3520-11.00	11.40	11.00	1,09	0,91	0,85	16.50	1,10	0,93	0,87	22.00	1,11	1,02	0,92	100
M 12 x 1.25	3523-12.00	12.30	12.00	0,89	0,74	0,68	18.00	0,97	0,81	0,75	24.00	1,05	0,93	0,86	100
M 12 x 1.50	3521-12.00	12.40	12.00	0,90	0,79	0,72	18.00	0,98	0,85	0,79	24.00	1,08	1,01	0,91	100
M 12 x 1.75	3520-12.00	12.50	12.00	0,81	0,68	0,64	18.00	0,97	0,82	0,76	24.00	1,05	0,91	0,85	100
M 14 x 1.50	3521-14.00	14.50	14.00	1,24	1,10	1,03	21.00	1,44	1,17	1,08	28.00	1,58	1,31	1,23	50
M 14 x 2.00	3520-14.00	14.50	14.00	1,13	1,01	0,91	21.00	1,30	1,22	1,12	28.00	1,60	1,52	1,41	50
M 16 x 1.50	3521-16.00	16.50	16.00	1,68	1,50	1,42	24.00	1,81	1,62	1,50	32.00	2,18	2,01	1,85	50
M 16 x 2.00	3520-16.00	16.50	16.00	1,56	1,40	1,29	24.00	1,63	1,51	1,40	32.00	2,02	1,88	1,73	50
M 18 x 1.50	3523-18.00	18.50	18.00	2,72	2,26	2,10	27.00	2,76	2,38	2,21	36.00	4,22	3,47	3,18	50
M 18 x 2.00	3521-18.00	18.50	18.00	2,32	2,07	1,92	27.00	2,59	2,42	2,30	36.00	3,53	3,09	2,86	50
M 18 x 2.50	3520-18.00	19.00	18.00	2,34	2,07	1,92	27.00	2,66	2,35	2,17	36.00	3,62	3,27	3,01	50
M 20 x 1.50	3523-20.00	20.50	20.00	3,08	2,68	2,48	30.00	3,64	3,29	3,02	40.00	4,25	3,70	3,39	25
M 20 x 2.00	3521-20.00	20.50	20.00	2,68	2,32	2,14	30.00	3,29	2,91	2,68	40.00	4,22	3,69	3,39	25
M 20 x 2.50	3520-20.00	20.75	20.00	2,81	2,48	2,28	30.00	3,39	3,02	2,78	40.00	4,38	3,87	3,56	25
M 22 x 1.50	3523-22.00	22.50	22.00	3,12	2,96	2,65	33.00	3,50	3,33	2,90	44.00	4,66	4,50	3,51	25
M 22 x 2.00	3521-22.00	22.50	22.00	2,82	2,57	2,36	33.00	3,53	3,18	2,90	44.00	4,47	4,14	3,90	25
M 22 x 2.50	3520-22.00	22.75	22.00	2,93	2,71	2,50	33.00	3,66	3,33	3,07	44.00	4,63	4,23	3,91	25
M 24 x 1.50	3523-24.00	24.50	24.00	3,58	3,39	2,86	36.00	4,10	3,58	3,43	48.00	4,87	4,23	3,99	25
M 24 x 2.00	3521-24.00	24.50	24.00	3,53	3,26	3,05	36.00	4,24	3,90	3,62	48.00	4,69	4,43	4,27	25
M 24 x 3.00	3520-24.00	25.00	24.00	3,70	3,45	3,17	36.00	4,43	4,14	3,80	48.00	4,90	4,60	4,23	25



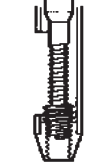
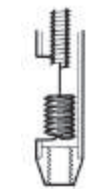
Ejemplo de codificación:

M 14 x 2.00	3520-14.00x1.0DSL	3520-14.00x1.5DSL
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**INSERTOS AUTOBLOCANTES**



D	D x H	3520-XXXX	Ø	2.5D			3.0D			Unit		
				L mm	€			L mm	€			
				<500	500-999	1000-...		<500	500-999	1000-...		
M	2 x 0.40	3520-2.00	2.10	5.00	1,13	1,01	0,91	6.00	1,42	1,25	1,16	100
M	2.20 x 0.45	3520-2.20	2.30	5.50	1,07	0,93	0,87	6.60	1,34	1,18	1,09	100
M	2.50 x 0.45	3520-2.50	2.60	6.25	0,46	0,43	0,40	9.00	0,56	0,53	0,49	100
M	3 x 0.50	3520-3.00	3.20	7.50	0,43	0,41	0,39	9.00	0,51	0,47	0,44	100
M	3.50 x 0.60	3520-3.50	3.70	8.75	0,48	0,46	0,43	10.50	0,60	0,54	0,50	100
M	4 x 0.70	3520-4.00	4.20	10.00	0,43	0,41	0,39	12.00	0,48	0,44	0,41	100
M	5 x 0.80	3520-5.00	5.20	12.50	0,50	0,47	0,44	15.00	0,62	0,56	0,51	100
M	6 x 1.00	3520-6.00	6.30	15.00	0,60	0,54	0,50	18.00	0,70	0,64	0,60	100
M	7 x 1.00	3520-7.00	7.30	17.50	0,69	0,66	0,62	21.00	0,83	0,79	0,72	100
M	8 x 1.00	3521-8.00	8.30	20.00	0,75	0,67	0,63	24.00	0,91	0,86	0,82	100
M	8 x 1.25	3520-8.00	8.30	20.00	0,69	0,64	0,60	24.00	0,83	0,75	0,69	100
M	9 x 1.25	3520-9.00	9.40	22.50	1,55	1,38	1,27	27.00	2,02	1,85	1,71	100
M	10 x 1.00	3523-10.00	10.30	25.00	0,83	0,71	0,66	30.00	1,13	1,02	0,92	100
M	10 x 1.25	3521-10.00	10.30	25.00	0,84	0,80	0,74	30.00	1,16	1,11	1,04	100
M	10 x 1.50	3520-10.00	10.40	25.00	0,83	0,74	0,68	30.00	1,13	1,04	0,96	100
M	11 x 1.50	3520-11.00	11.40	27.50	1,38	1,26	1,17	33.00	1,69	1,62	1,50	100
M	12 x 1.25	3523-12.00	12.30	30.00	1,35	1,30	1,20	36.00	1,69	1,61	1,58	100
M	12 x 1.50	3521-12.00	12.40	30.00	1,35	1,14	1,06	36.00	1,74	1,72	1,58	100
M	12 x 1.75	3520-12.00	12.50	30.00	1,35	1,29	1,19	36.00	1,69	1,66	1,53	100
M	14 x 1.50	3521-14.00	14.50	35.00	1,93	1,53	1,42	42.00	3,21	3,16	2,92	50
M	14 x 2.00	3520-14.00	14.50	35.00	1,93	1,83	1,69	42.00	2,32	2,25	2,07	50
M	16 x 1.50	3521-16.00	16.50	40.00	2,39	2,24	2,06	48.00	3,09	3,00	2,76	50
M	16 x 2.00	3520-16.00	16.50	40.00	2,43	2,34	2,16	48.00	3,01	2,95	2,72	50
M	18 x 1.50	3523-18.00	18.50	45.00	4,50	3,81	3,52	54.00	5,04	4,43	4,08	50
M	18 x 2.00	3521-18.00	18.50	45.00	4,01	3,54	3,28	54.00	4,69	4,43	4,08	50
M	18 x 2.50	3520-18.00	19.00	45.00	4,12	3,74	3,44	54.00	4,83	4,66	4,18	50
M	20 x 1.50	3523-20.00	20.50	50.00	4,68	4,31	3,96	60.00	5,97	5,46	5,03	25
M	20 x 2.00	3521-20.00	20.50	50.00	4,69	4,33	4,04	60.00	5,97	5,66	5,51	25
M	20 x 2.50	3520-20.00	20.75	50.00	4,86	4,56	4,19	60.00	6,08	5,89	5,42	25
M	22 x 1.50	3523-22.00	22.50	55.00	5,45	4,79	4,41	66.00	6,92	6,64	6,03	25
M	22 x 2.00	3521-22.00	22.50	55.00	5,47	5,20	5,05	66.00	7,86	7,32	7,01	25
M	22 x 2.50	3520-22.00	22.75	55.00	5,67	5,30	4,88	66.00	7,67	7,11	6,54	25
M	24 x 1.50	3523-24.00	24.50	60.00	6,70	5,63	5,19	72.00	8,45	7,15	6,58	25
M	24 x 2.00	3521-24.00	24.50	60.00	6,81	6,16	5,60	72.00	8,13	7,77	7,67	25
M	24 x 3.00	3520-24.00	25.00	60.00	7,11	6,39	5,89	72.00	7,69	7,48	6,88	25



Nota Importante: La longitud total del inserto, se define para el inserto una vez montado en la pieza.

## INSERTOS AUTOBLOCANTES

UNC



...DSL



D	Nº	Part Number	D1 mm	Ø	L mm	1.0D			1.5D			2.0D			Unit		
						€ <500	€ 500-999	€ 1000-...	L mm	€ <500	€ 500-999	€ 1000-...	L mm	€ <500		€ 500-999	€ 1000-...
UNC	Nº2 - 56	3532-2G	2.18	2.40	2.29	0,82	0,71	0,66	3.30	0,96	0,83	0,78	4.32	1,24	1,07	1,00	100
UNC	Nº4 - 40	3532-4G	2.84	3.00	2.79	0,37	0,32	0,29	4.32	0,40	0,35	0,32	5.59	0,42	0,37	0,35	100
UNC	Nº5 - 40	3532-5G	3.17	3.40	3.30	0,49	0,43	0,40	4.83	0,51	0,46	0,43	6.35	0,54	0,48	0,45	100
UNC	Nº6 - 32	3532-6G	3.50	3.70	3.56	0,32	0,28	0,26	5.33	0,38	0,34	0,30	7.11	0,40	0,36	0,34	100
UNC	Nº8 - 32	3532-8G	4.17	4.40	4.06	0,32	0,28	0,26	6.35	0,38	0,34	0,30	8.38	0,40	0,36	0,34	100
UNC	Nº10 - 24	3532-10G	4.83	5.10	4.83	0,39	0,35	0,32	7.37	0,42	0,37	0,35	9.65	0,46	0,40	0,38	100
UNC	Nº12 - 24	3532-12G	5.49	5.70	5.59	0,43	0,38	0,36	8.13	0,48	0,42	0,40	10.92	0,51	0,44	0,41	100
UNC	1/4 - 20	3532-1/4	6.35	6.70	6.35	0,43	0,38	0,36	9.65	0,48	0,42	0,40	12.70	0,51	0,44	0,41	100
UNC	5/16 - 18	3532-5/16	7.94	8.30	7.87	0,60	0,49	0,46	11.94	0,69	0,60	0,54	15.75	0,72	0,64	0,60	100
UNC	3/8 - 16	3532-3/8	9.52	9.90	9.65	0,84	0,72	0,67	14.48	0,88	0,78	0,71	19.05	1,16	1,02	0,92	100
UNC	7/16 - 14	3532-7/16	11.11	11.60	11.18	0,98	0,85	0,79	16.76	1,18	1,03	0,93	22.35	1,34	1,16	1,07	100
UNC	1/2 - 13	3532-1/2	12.70	13.00	12.70	1,06	0,91	0,85	19.05	1,18	1,03	0,93	25.40	1,34	1,16	1,07	100
UNC	9/16 - 12	3532-9/16	14.28	15.00	14.22	2,61	2,26	2,10	21.34	3,48	3,00	2,76	28.45	4,46	3,86	3,55	50
UNC	5/8 - 11	3532-5/8	15.87	16.50	16.00	2,37	2,04	1,89	23.88	3,16	2,73	2,52	31.75	3,93	3,40	3,13	50
UNC	3/4 - 10	3532-3/4	19.05	19.80	19.05	2,74	2,38	2,21	28.70	3,73	3,23	2,98	38.10	4,65	4,03	3,72	50
UNC	7/8 - 9	3532-7/8	22.22	23.00	22.35	3,81	3,31	3,05	33.53	5,71	4,92	4,55	44.45	7,25	6,27	5,76	25
UNC	1 - 8	3532-1	25.40	26.20	25.40	5,17	4,46	4,12	38.10	7,73	6,68	6,14	50.80	9,82	8,46	7,80	25

Nota Importante: La longitud total del inserto, se define para el inserto una vez montado en la pieza.



Ejemplo de codificación:

UNC 1/4 - 20



3532-1/4x1.0DSL



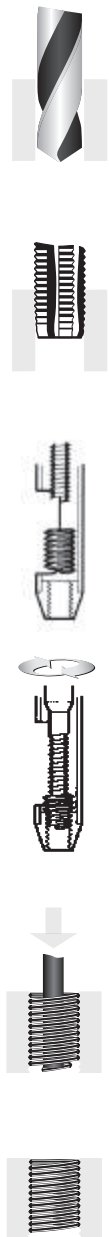
3532-1/4x1.5DSL

**INSERTOS AUTOBLOCANTES**



D	Nº	Part Number	D1 mm	Ø	2.5D				3.0D				Unit
					L mm	€			L mm	€			
					<500	500-999	1000-...		<500	500-999	1000-...		
UNC	Nº2 - 56	<b>3532-2G</b>	2.18	2.40	5.59	1,40	1,20	1,11	6.60	1,50	1,29	1,19	100
UNC	Nº4 - 40	<b>3532-4G</b>	2.84	3.00	7.11	0,48	0,42	0,40	8.64	0,60	0,49	0,46	100
UNC	Nº5 - 40	<b>3532-5G</b>	3.17	3.40	7.87	0,60	0,49	0,46	9.65	0,82	0,70	0,66	100
UNC	Nº6 - 32	<b>3532-6G</b>	3.50	3.70	8.89	0,43	0,38	0,36	10.41	0,50	0,44	0,41	100
UNC	Nº8 - 32	<b>3532-8G</b>	4.17	4.40	10.41	0,43	0,38	0,36	12.45	0,50	0,44	0,41	100
UNC	Nº10 - 24	<b>3532-10G</b>	4.83	5.10	12.19	0,54	0,47	0,44	14.48	0,66	0,59	0,53	100
UNC	Nº12 - 24	<b>3532-12G</b>	5.49	5.70	13.72	0,64	0,56	0,51	16.51	0,78	0,67	0,63	100
UNC	1/4 - 20	<b>3532-1/4</b>	6.35	6.70	16.00	0,64	0,56	0,51	19.05	0,78	0,67	0,63	100
UNC	5/16 - 18	<b>3532-5/16</b>	7.94	8.30	19.81	0,87	0,75	0,69	23.62	1,06	0,91	0,85	100
UNC	3/8 - 16	<b>3532-3/8</b>	9.52	9.90	23.88	1,33	1,14	1,06	28.70	1,56	1,35	1,25	100
UNC	7/16 - 14	<b>3532-7/16</b>	11.11	11.60	27.94	1,60	1,39	1,28	33.53	1,95	1,69	1,56	100
UNC	1/2 - 13	<b>3532-1/2</b>	12.70	13.00	31.75	1,60	1,39	1,28	38.10	1,95	1,69	1,56	100
UNC	9/16 - 12	<b>3532-9/16</b>	14.28	15.00	35.56	5,11	4,42	4,06	42.93	6,16	5,32	4,90	50
UNC	5/8 - 11	<b>3532-5/8</b>	15.87	16.50	39.62	4,69	4,06	3,75	47.75	5,61	4,85	4,46	50
UNC	3/4 - 10	<b>3532-3/4</b>	19.05	19.80	47.75	5,53	4,78	4,40	57.15	6,62	5,72	5,27	50
UNC	7/8 - 9	<b>3532-7/8</b>	22.22	23.00	55.63	8,59	7,41	6,81	66.80	10,42	9,00	8,28	25
UNC	1 - 8	<b>3532-1</b>	25.40	26.20	63.50	11,62	10,02	9,23	76.20	14,09	12,17	11,21	25

Nota Importante: La longitud total del inserto, se define para el inserto una vez montado en la pieza.



## INSERTOS AUTOBLOCANTES

UNF



LOCK



UNF



AISI 304

NASM21209  
NASM8846

...DSL



1.0D

1.5D

2.0D



	UNF	Nº	-	Threads	3534-XXG	D1 mm	Ø	L mm	1.0D			1.5D			2.0D			Unit		
									L mm	<500	500-999	1000-...	L mm	<500	500-999	1000-...	L mm		<500	500-999
	UNF	Nº4	-	48	3534-4G	2.84	3.00	2.79	0,74	0,66	0,62	4.32	0,85	0,75	0,69	5.59	1,00	0,87	0,81	100
	UNF	Nº6	-	40	3534-6G	3.50	3.70	3.56	0,74	0,66	0,62	5.33	0,85	0,75	0,69	7.11	1,00	0,87	0,81	100
	UNF	Nº8	-	36	3534-8G	4.17	4.40	4.06	0,74	0,66	0,62	6.35	0,85	0,75	0,69	8.38	1,00	0,87	0,81	100
	UNF	Nº10	-	32	3534-10G	4.83	5.10	4.83	0,42	0,37	0,35	7.37	0,43	0,38	0,36	9.65	0,51	0,44	0,41	100
	UNF	1/4	-	28	3534-1/4	6.35	6.60	6.35	0,42	0,37	0,35	9.65	0,43	0,38	0,36	12.70	0,51	0,44	0,41	100
	UNF	5/16	-	24	3534-5/16	7.94	8.20	7.87	0,60	0,49	0,46	11.94	0,63	0,51	0,48	16.00	0,72	0,64	0,60	100
	UNF	3/8	-	24	3534-3/8	9.52	9.80	9.65	0,85	0,72	0,67	14.48	0,88	0,78	0,71	19.05	1,06	0,91	0,85	100
	UNF	7/16	-	20	3534-7/16	11.11	11.50	11.18	1,06	0,91	0,85	16.76	1,18	1,03	0,93	22.35	1,34	1,16	1,07	100
	UNF	1/2	-	20	3534-1/2	12.70	13.00	12.70	1,06	0,91	0,85	19.05	1,18	1,03	0,93	25.40	1,34	1,16	1,07	100
	UNF	9/16	-	18	3534-9/16	14.29	14.75	14.22	2,33	2,00	1,84	21.34	2,48	2,06	1,91	28.70	2,98	2,56	2,35	50
	UNF	5/8	-	18	3534-5/8	15.87	16.50	16.00	2,37	2,01	1,85	23.88	2,48	2,14	1,96	31.75	2,98	2,56	2,35	50
	UNF	3/4	-	16	3534-3/4	19.05	19.50	19.05	3,12	2,69	2,49	28.70	4,35	3,75	3,45	38.10	5,26	4,53	4,17	50
	UNF	7/8	-	14	3534-7/8	22.22	22.50	22.35	5,31	4,58	4,21	33.27	7,84	6,76	6,22	44.45	9,96	8,59	7,91	25
	UNF	1	-	12	3534-1	25.40	26.00	25.40	5,31	4,58	4,21	38.10	7,84	6,76	6,22	50.80	9,96	8,59	7,91	25
	UNS	1	-	14	3535-1	25.40	26.00	25.40	5,31	4,63	4,26	38.10	7,84	6,84	6,30	50.80	9,96	8,69	8,00	25

Nota Importante: La longitud total del inserto, se define para el inserto una vez montado en la pieza.



Ejemplo de codificación:

UNF Nº4 - 48



3534-4Gx1.0DSL



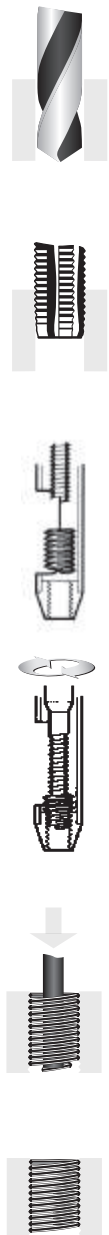
3534-4Gx1.5DSL

**INSERTOS AUTOBLOCANTES**



Icon	UNF	Part No.	D1 mm	Ø	2.5D				3.0D				Unit
					L mm	€			L mm	€			
					<500	500-999	1000-...		<500	500-999	1000-...		
	UNF	Nº4 - 48	2.84	3.00	7.11	1,12	1,01	0,91	8.64	1,58	1,40	1,29	100
	UNF	Nº6 - 40	3.50	3.70	8.89	1,12	1,01	0,91	10.41	1,58	1,40	1,29	100
	UNF	Nº8 - 36	4.17	4.40	10.41	1,12	1,01	0,91	12.45	1,58	1,40	1,29	100
	UNF	Nº10 - 32	4.83	5.10	12.19	0,64	0,56	0,51	14.48	0,78	0,67	0,63	100
	UNF	1/4 - 28	6.35	6.60	16.00	0,64	0,56	0,51	19.05	0,78	0,67	0,63	100
	UNF	5/16 - 24	7.94	8.20	19.81	0,87	0,78	0,71	23.88	1,06	0,91	0,85	100
	UNF	3/8 - 24	9.52	9.80	23.88	1,30	1,14	1,06	28.70	1,56	1,35	1,25	100
	UNF	7/16 - 20	11.11	11.50	27.69	1,60	1,40	1,29	33.27	1,95	1,69	1,56	100
	UNF	1/2 - 20	12.70	13.00	31.75	1,60	1,40	1,29	38.10	1,95	1,69	1,56	100
	UNF	9/16 - 18	14.29	14.75	35.81	3,62	3,16	2,92	42.93	4,18	3,61	3,33	50
	UNF	5/8 - 18	15.87	16.50	39.62	3,80	3,35	3,09	47.75	4,18	3,61	3,33	50
	UNF	3/4 - 16	19.05	19.50	47.75	6,36	5,55	5,11	57.15	7,62	6,58	6,07	50
	UNF	7/8 - 14	22.22	22.50	55.63	11,46	9,98	9,19	66.80	13,72	11,85	10,92	25
	UNF	1 - 12	25.40	26.00	63.50	13,66	11,91	10,97	76.20	16,44	14,21	13,07	25
	UNS	1 - 14	25.40	26.00	63.50	13,66	11,91	10,97	76.20	16,44	14,34	13,20	25

Nota Importante: La longitud total del inserto, se define para el inserto una vez montado en la pieza.



## KIT DE REPARACIÓN DE INSERTOS LIBRES

M  
MF

FREE

M/MF

1.5D

AISI 304

HSS

HSS

...K

D	L mm	€	D L mm	
			D	L mm
M 2 x 0.40	3520-2.00K	55,03	1.50	3.00
M 2.20 x 0.45	3520-2.20K	73,67	1.50	3.30
M 2.50 x 0.45	3520-2.50K	50,87	1.50	3.75
M 3 x 0.50	3520-3.00K	50,87	1.50	4.50
M 3.50 x 0.60	3520-3.50K	50,87	1.50	5.25
M 4 x 0.70	3520-4.00K	50,87	1.50	6.00
M 5 x 0.80	3520-5.00K	50,62	1.50	7.50
M 6 x 1.00	3520-6.00K	54,52	1.50	9.00
M 7 x 1.00	3520-7.00K	69,32	1.50	10.50
M 8 x 1.00	3521-8.00K	69,32	1.50	12.00
M 8 x 1.25	3520-8.00K	69,32	1.50	12.00
M 9 x 1.25	3520-9.00K	76,89	1.50	13.50
M 10 x 1.00	3523-10.00K	74,24	1.50	15.00
M 10 x 1.25	3521-10.00K	74,24	1.50	15.00
M 10 x 1.50	3520-10.00K	74,24	1.50	15.00
M 11 x 1.00	3523-11.00K	102,89	1.50	16.50
M 11 x 1.25	3521-11.00K	102,89	1.50	16.50
M 11 x 1.50	3520-11.00K	85,11	1.50	16.50
M 12 x 1.00	3524-12.00K	85,11	1.50	18.00
M 12 x 1.25	3523-12.00K	85,11	1.50	18.00
M 12 x 1.50	3521-12.00K	85,11	1.50	18.00
M 12 x 1.75	3520-12.00K	85,11	1.50	18.00
M 13 x 1.25	3523-13.00K	122,49	1.50	19.50
M 13 x 1.50	3521-13.00K	122,49	1.50	19.50
M 13 x 1.75	3520-13.00K	122,49	1.50	19.50
M 14 x 1.00	3524-14.00K	97,84	1.50	21.00
M 14 x 1.25	3523-14.00K	97,84	1.50	21.00
M 14 x 1.50	3521-14.00K	97,84	1.50	21.00
M 14 x 2.00	3520-14.00K	97,84	1.50	21.00
M 15 x 1.50	3521-15.00K	146,40	1.50	22.50
M 15 x 2.00	3520-15.00K	146,40	1.50	22.50
M 16 x 1.50	3521-16.00K	115,24	1.50	24.00
M 16 x 2.00	3520-16.00K	115,24	1.50	24.00
M 18 x 1.50	3523-18.00K	136,89	1.50	27.00

Contenido				
20	2.10	3520-2.00I	3500-HIT2	3500-TB2
20	2.30	3520-2.20I	3500-HIT2	3500-TB2
20	2.60	3520-2.50I	3500-HIT3	3500-TB3
20	3.20	3520-3.00I	3500-HIT4	3500-TB4
20	3.70	3520-3.50I	3500-HIT5	3500-TB5
20	4.20	3520-4.00I	3500-HIT6	3500-TB6
20	5.20	3520-5.00I	3500-HIT8	3500-TB8
20	6.30	3520-6.00I	3500-HIT9	3500-TB9
20	7.30	3520-7.00I	3500-HIT10	3500-TB11
20	8.30	3521-8.00I	3500-HIT11	3500-TB12
20	8.30	3520-8.00I	3500-HIT11	3500-TB12
15	9.40	3520-9.00I	3500-HIT13	3500-TB12
15	10.30	3523-10.00I	3500-HIT13	3500-TB13
15	10.30	3521-10.00I	3500-HIT13	3500-TB13
15	10.40	3520-10.00I	3500-HIT13	3500-TB13
10	11.30	3523-11.00I	3500-HIT14	3500-TB14
10	11.30	3521-11.00I	3500-HIT14	3500-TB14
10	11.40	3520-11.00I	3500-HIT14	3500-TB14
10	12.30	3524-12.00I	3500-HIT15	3500-TB15
10	12.30	3523-12.00I	3500-HIT15	3500-TB15
10	12.40	3521-12.00I	3500-HIT15	3500-TB15
10	12.50	3520-12.00I	3500-HIT15	3500-TB15
10	-	3523-13.00I	3500-HIT15	-
10	-	3521-13.00I	3500-HIT15	-
10	-	3520-13.00I	3500-HIT15	-
10	-	3524-14.00I	3500-HIT16	-
10	-	3523-14.00I	3500-HIT16	-
10	-	3521-14.00I	3500-HIT16	-
10	-	3520-14.00I	3500-HIT16	-
10	-	3521-15.00I	3500-HIT16	-
10	-	3520-15.00I	3500-HIT16	-
10	-	3521-16.00I	3500-HIT18	-
10	-	3520-16.00I	3500-HIT18	-
5	-	3523-18.00I	3500-HIT20	-

**KIT DE REPARACIÓN DE INSERTOS LIBRES**



**M  
MF**

**FREE**

**M/MF**

**1.5D**

**AIISI 304**

**HSS**

**HSS**

**...K**

		€	D	L mm
M 18 x 2.00	3521-18.00K	136,89	1.50	27.00
<b>M 18 x 2.50</b>	<b>3520-18.00K</b>	<b>139,55</b>	1.50	27.00
M 20 x 1.50	3523-20.00K	149,23	1.50	30.00
M 20 x 2.00	3521-20.00K	149,23	1.50	30.00
<b>M 20 x 2.50</b>	<b>3520-20.00K</b>	<b>149,23</b>	1.50	30.00
M 22 x 1.50	3523-22.00K	171,38	1.50	33.00
M 22 x 2.00	3521-22.00K	171,38	1.50	33.00
<b>M 22 x 2.50</b>	<b>3520-22.00K</b>	<b>171,38</b>	1.50	33.00
M 24 x 1.50	3523-24.00K	196,60	1.50	36.00
M 24 x 2.00	3521-24.00K	196,60	1.50	36.00
<b>M 24 x 3.00</b>	<b>3520-24.00K</b>	<b>196,60</b>	1.50	36.00

			Contenido	
5	3521-18.00I		3500-HIT20	
5	3520-18.00I		3500-HIT20	
5	3523-20.00I		3500-HIT21	
5	3521-20.00I		3500-HIT21	
5	3520-20.00I		3500-HIT21	
5	3523-22.00I		3500-HIT22	
5	3521-22.00I		3500-HIT22	
5	3520-22.00I		3500-HIT22	
5	3523-24.00I		3500-HIT23	
5	3521-24.00I		3500-HIT23	
5	3520-24.00I		3500-HIT23	

		€	D	L mm
M 26 x 1.50	3523-26.00K	397,85	1.50	39.00
M 27 x 1.50	3523-27.00K	397,85	1.50	40.50
M 27 x 2.00	3521-27.00K	397,85	1.50	40.50
<b>M 27 x 3.00</b>	<b>3520-27.00K</b>	<b>397,85</b>	1.50	40.50
M 28 x 1.50	3523-28.00K	461,01	1.50	42.00
M 30 x 1.50	3523-30.00K	482,33	1.50	45.00
M 30 x 2.00	3521-30.00K	507,60	1.50	45.00
<b>M 30 x 3.50</b>	<b>3520-30.00K</b>	<b>482,33</b>	1.50	45.00
M 33 x 2.00	3521-33.00K	503,66	1.50	49.50
<b>M 33 x 3.50</b>	<b>3520-33.00K</b>	<b>503,66</b>	1.50	49.50
M 36 x 1.50	3524-36.00K	558,94	1.50	54.00
M 36 x 2.00	3523-36.00K	558,94	1.50	54.00
M 36 x 3.00	3521-36.00K	558,94	1.50	54.00
<b>M 36 x 4.00</b>	<b>3520-36.00K</b>	<b>558,94</b>	1.50	54.00
M 39 x 3.00	3521-39.00K	563,25	1.50	58.50
<b>M 39 x 4.00</b>	<b>3520-39.00K</b>	<b>572,24</b>	1.50	58.50
M 40 x 3.00	3523-40.00K	607,94	1.50	60.00
M 42 x 3.00	3523-42.00K	629,81	1.50	63.00
<b>M 42 x 4.50</b>	<b>3520-42.00K</b>	<b>629,81</b>	1.50	63.00
M 45 x 3.00	3523-45.00K	812,23	1.50	67.50
<b>M 45 x 4.50</b>	<b>3520-45.00K</b>	<b>702,39</b>	1.50	67.50
M 48 x 3.00	3523-48.00K	799,71	1.50	72.00
<b>M 48 x 5.00</b>	<b>3520-48.00K</b>	<b>842,29</b>	1.50	72.00
M 50 x 3.00	3523-50.00K	891,84	1.50	75.00
M 52 x 3.00	3523-52.00K	934,44	1.50	78.00
<b>M 52 x 5.00</b>	<b>3520-52.00K</b>	<b>934,44</b>	1.50	78.00

			Contenido	
5	3523-26.00I		3500-HIT24	
5	3523-27.00I		3500-HIT24	
5	3521-27.00I		3500-HIT24	
5	3520-27.00I		3500-HIT24	
5	3523-28.00I		3500-HIT24	
5	3523-30.00I		3500-HIT26	
5	3521-30.00I		3500-HIT26	
5	3520-30.00I		3500-HIT25	
5	3521-33.00I		3500-HIT26	
5	3520-33.00I		3500-HIT26	
3	3524-36.00I		3500-HIT28	
3	3523-36.00I		3500-HIT28	
3	3521-36.00I		3500-HIT28	
5	3520-36.00I		3500-HIT28	
3	3521-39.00I		3521-39.00HIM	
3	3520-39.00I		3520-39.00HIM	
3	3523-40.00I		3523-40.00HIM	
3	3523-42.00I		3523-42.00HIM	
3	3520-42.00I		3520-42.00HIM	
3	3523-45.00I		3523-45.00HIM	
3	3520-45.00I		3520-45.00HIM	
3	3523-48.00I		3523-48.00HIM	
3	3520-48.00I		3520-48.00HIM	
3	3523-50.00I		3523-50.00HIM	
3	3523-52.00I		3523-52.00HIM	
3	3520-52.00I		3520-52.00HIM	



## KIT DE REPARACIÓN DE INSERTOS LIBRES

UNC

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UNC

1.5D




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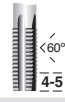

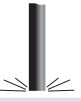
HSS




HSS






...K



			€		
				D	L mm
UNC N°2 - 56	3532-2GK	72,18	1.50	3.30	
UNC N°3 - 48	3532-3GK	69,13	1.50	3.81	
UNC N°4 - 40	3532-4GK	65,47	1.50	4.32	
UNC N°5 - 40	3532-5GK	65,47	1.50	4.83	
UNC N°6 - 32	3532-6GK	65,47	1.50	5.33	
UNC N°8 - 32	3532-8GK	65,47	1.50	6.35	
UNC N°10 - 24	3532-10GK	65,47	1.50	7.11	
UNC N°12 - 24	3532-12GK	65,47	1.50	8.38	
UNC 1/4 - 20	3532-1/4K	58,99	1.50	9.65	
UNC 5/16 - 18	3532-5/16K	72,18	1.50	11.94	
UNC 3/8 - 16	3532-3/8K	77,15	1.50	14.22	
UNC 7/16 - 14	3532-7/16K	86,63	1.50	16.76	
UNC 1/2 - 13	3532-1/2K	95,07	1.50	19.05	
UNC 9/16 - 12	3532-9/16K	126,92	1.50	21.34	
UNC 5/8 - 11	3532-5/8K	126,92	1.50	23.88	
UNC 3/4 - 10	3532-3/4K	161,77	1.50	28.70	
UNC 7/8 - 9	3532-7/8K	196,60	1.50	33.27	
UNC 1 - 8	3532-1K	195,33	1.50	38.10	

				
mm	mm	<math>\lt; 60^\circ</math> 4-5		
Contenido				
20	2.40	3532-2GI	3500-HIT2	3500-TB2
20	2.70	3532-3GI	3500-HIT3	3500-TB3
20	3.10	3532-4GI	3500-HIT4	3500-TB4
20	3.40	3532-5GI	3500-HIT4	3500-TB4
20	3.80	3532-6GI	3500-HIT5	3500-TB5
20	4.40	3532-8GI	3500-HIT6	3500-TB6
20	5.20	3532-10GI	3500-HIT7	3500-TB8
20	5.80	3532-12GI	3500-HIT8	3500-TB8
20	6.70	3532-1/4I	3500-HIT9	3500-TB9
20	8.30	3532-5/16I	3500-HIT10	3500-TB12
15	9.90	3532-3/8I	3500-HIT13	3500-TB12
10	11.60	3532-7/16I	3500-HIT14	3500-TB14
10	13.00	3532-1/2I	3500-HIT15	3500-TB15
10	—	3532-9/16I	3500-HIT16	—
10	—	3532-5/8I	3500-HIT18	—
5	—	3532-3/4I	3500-HIT20	—
5	—	3532-7/8I	3500-HIT22	—
5	—	3532-1I	3500-HIT23	—

			€		
				D	L mm
UNC 1.1/8 - 7	3532-1.1/8K	393,75	1.50	42.93	
UNC 1.1/4 - 7	3532-1.1/4K	438,04	1.50	47.75	
UNC 1.3/8 - 6	3532-1.3/8K	526,62	1.50	52.32	
UNC 1.1/2 - 6	3532-1.1/2K	613,58	1.50	57.15	

				
mm	mm	<math>\lt; 60^\circ</math> 4-5		
Contenido				
3	—	3532-1.1/8I	3500-HIT25	—
3	—	3532-1.1/4I	3500-HIT26	—
3	—	3532-1.3/8I	3500-HIT27	—
3	—	3532-1.1/2I	3500-HIT28	—

**KIT DE REPARACIÓN DE INSERTOS LIBRES**



UNF

FREE

UNF



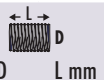

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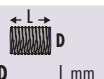
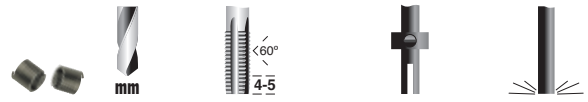
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		€							
			D	L mm	Contenido				
UNF N°3 - 56	<b>3534-3GK</b>	<b>72,05</b>	1.50	3.30	20	2.70	3534-3GI	3500-HIT3	3500-TB3
UNF N°4 - 48	<b>3534-4GK</b>	<b>65,47</b>	1.50	3.81	20	3.00	3534-4GI	3500-HIT4	3500-TB4
UNF N°6 - 40	<b>3534-6GK</b>	<b>65,47</b>	1.50	4.32	20	3.80	3534-6GI	3500-HIT5	3500-TB5
UNF N°8 - 36	<b>3534-8GK</b>	<b>65,47</b>	1.50	4.83	20	4.40	3534-8GI	3500-HIT6	3500-TB6
UNF N°10 - 32	<b>3534-10GK</b>	<b>65,47</b>	1.50	5.33	20	5.10	3534-10GI	3500-HIT8	3500-TB8
UNF N°12 - 28	<b>3534-12GK</b>	<b>71,72</b>	1.50	6.35	20	5.60	3534-12GI	3500-HIT8	3500-TB8
UNF 1/4 - 28	<b>3534-1/4K</b>	<b>58,99</b>	1.50	7.11	20	6.70	3534-1/4I	3500-HIT9	3500-TB9
UNF 5/16 - 24	<b>3534-5/16K</b>	<b>72,18</b>	1.50	8.38	20	8.30	3534-5/16I	3500-HIT11	3500-TB12
UNF 3/8 - 24	<b>3534-3/8K</b>	<b>77,15</b>	1.50	9.65	15	9.80	3534-3/8I	3500-HIT13	3500-TB13
UNF 7/16 - 16	<b>3534-7/16-16K</b>	<b>104,96</b>	1.50	11.94	10	11.50	3534-7/16-16I	3500-HIT14	3500-TB14
UNF 7/16 - 20	<b>3534-7/16K</b>	<b>86,63</b>	1.50	14.22	10	11.50	3534-7/16I	3500-HIT14	3500-TB14
UNF 1/2 - 20	<b>3534-1/2K</b>	<b>95,07</b>	1.50	16.76	10	13.00	3534-1/2I	3500-HIT15	3500-TB15
UNF 9/16 - 18	<b>3534-9/16K</b>	<b>126,92</b>	1.50	19.05	10	—	3534-9/16I	3500-HIT16	—
UNF 5/8 - 18	<b>3534-5/8K</b>	<b>126,92</b>	1.50	21.34	10	—	3534-5/8I	3500-HIT18	—
UNF 3/4 - 16	<b>3534-3/4K</b>	<b>161,77</b>	1.50	23.88	5	—	3534-3/4I	3500-HIT21	—
UNF 7/8 - 14	<b>3534-7/8K</b>	<b>196,60</b>	1.50	28.70	5	—	3534-7/8I	3500-HIT22	—
UNF 1 - 12	<b>3534-1K</b>	<b>192,65</b>	1.50	33.27	5	—	3534-1I	3500-HIT23	—
UNF 1 - 14	<b>3535-1K</b>	<b>215,66</b>	1.50	38.10	5	—	3535-1I	3500-HIT23	—

		€							
			D	L mm	Contenido				
UNF 1.1/8 - 12	<b>3534-1.1/8K</b>	<b>393,75</b>	1.50	42.93	3	—	3534-1.1/8I	3500-HIT25	—
UNF 1.1/4 - 12	<b>3534-1.1/4K</b>	<b>438,04</b>	1.50	47.75	3	—	3534-1.1/4I	3500-HIT26	—
UNF 1.3/8 - 12	<b>3534-1.3/8K</b>	<b>526,62</b>	1.50	52.32	3	—	3534-1.3/8I	3500-HIT27	—
UNF 1.1/2 - 12	<b>3534-1.1/2K</b>	<b>613,58</b>	1.50	57.15	3	—	3534-1.1/2I	3500-HIT28	—

## KIT DE REPARACIÓN DE INSERTOS LIBRES

BSW

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BSW

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

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...K



		€							
			D	L mm	Contenido				
BSW 1/8 - 40	3528-1/8K	67,22	1.50	4.83	20	3.40	3528-1/8I	3500-HIT4	3500-TB4
BSW 3/16 - 24	3528-3/16K	65,47	1.50	7.11	20	5.00	3528-3/16I	3500-HIT7	3500-TB8
BSW 1/4 - 20	3528-1/4K	60,56	1.50	9.65	20	6.70	3528-1/4I	3500-HIT9	3500-TB9
BSW 5/16 - 18	3528-5/16K	72,18	1.50	11.94	20	8.30	3528-5/16I	3500-HIT10	3500-TB11
BSW 3/8 - 16	3528-3/8K	77,15	1.50	14.22	15	9.90	3528-3/8I	3500-HIT11	3500-TB12
BSW 7/16 - 14	3528-7/16K	86,63	1.50	16.76	10	11.50	3528-7/16I	3500-HIT14	3500-TB14
BSW 1/2 - 12	3528-1/2K	95,07	1.50	19.05	10	13.00	3528-1/2I	3500-HIT15	3500-TB15
BSW 9/16 - 12	3528-9/16K	126,92	1.50	21.34	10	–	3528-9/16I	3500-HIT16	–
BSW 5/8 - 11	3528-5/8K	126,92	1.50	23.88	10	–	3528-5/8I	3500-HIT18	–
BSW 3/4 - 10	3528-3/4K	161,77	1.50	28.70	5	–	3528-3/4I	3500-HIT20	–
BSW 7/8 - 9	3528-7/8K	196,60	1.50	33.27	5	–	3528-7/8I	3500-HIT22	–
BSW 1 - 8	3528-1K	195,33	1.50	38.10	5	–	3528-1I	3500-HIT23	–

BSF

FREE

BSF





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AISI 304

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		€							
			D	L mm	Contenido				
BSF 3/16 - 32	3530-3/16K	65,47	1.50	7.11	20	5.0	3530-3/16I	3500-HIT8	3500-TB6
BSF 1/4 - 26	3530-1/4K	58,99	1.50	9.65	20	6.6	3530-1/4I	3500-HIT9	3500-TB9
BSF 5/16 - 22	3530-5/16K	72,18	1.50	11.94	20	8.3	3530-5/16I	3500-HIT11	3500-TB11
BSF 3/8 - 20	3530-3/8K	77,15	1.50	14.22	15	9.9	3530-3/8I	3500-HIT13	3500-TB12
BSF 7/16 - 18	3530-7/16K	86,63	1.50	16.76	10	11.5	3530-7/16I	3500-HIT14	3500-TB14
BSF 1/2 - 16	3530-1/2K	95,07	1.50	19.05	10	13.0	3530-1/2I	3500-HIT15	3500-TB15
BSF 9/16 - 16	3530-9/16K	126,92	1.50	21.34	10	–	3530-9/16I	3500-HIT16	–
BSF 5/8 - 14	3530-5/8K	126,92	1.50	23.88	10	–	3530-5/8I	3500-HIT18	–
BSF 3/4 - 12	3530-3/4K	161,77	1.50	28.70	5	–	3530-3/4I	3500-HIT20	–
BSF 7/8 - 11	3530-7/8K	196,60	1.50	33.27	5	–	3530-7/8I	3500-HIT22	–
BSF 1 - 10	3530-1K	198,40	1.50	38.10	5	–	3530-1I	3500-HIT23	–



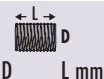
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




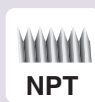




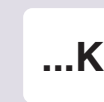
**BSP (GAS)**



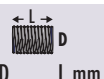


**...K**

		€	
D	L mm		
BSP 1/8 - 28	<b>3546-1/8K</b>	<b>105,01</b>	1.50 4.83
BSP 1/4 - 19	<b>3546-1/4K</b>	<b>110,89</b>	1.50 9.65
BSP 3/8 - 19	<b>3546-3/8K</b>	<b>127,45</b>	1.50 14.22
BSP 1/2 - 14	<b>3546-1/2K</b>	<b>167,53</b>	1.50 19.05
BSP 5/8 - 14	<b>3546-5/8K</b>	<b>343,92</b>	1.50 23.88
BSP 3/4 - 14	<b>3546-3/4K</b>	<b>360,35</b>	1.50 28.70
BSP 7/8 - 14	<b>3546-7/8K</b>	<b>482,33</b>	1.50 33.27
BSP 1 - 11	<b>3546-1K</b>	<b>482,33</b>	1.50 38.10

 $<55^\circ$ 4-5		
Contenido		
10	3546-1/8I	3500-HIT14
10	3546-1/4I	3500-HIT16
10	3546-3/8I	3500-HIT20
10	3546-1/2I	3500-HIT23
10	3546-5/8I	3500-HIT23
10	3546-3/4I	3500-HIT24
5	3546-7/8I	3500-HIT27
5	3546-1I	3500-HIT27

		€	
D	L mm		
NPT 1/8 - 27	<b>3552-1/8K</b>	<b>255,34</b>	1.50 4,78
NPT 1/4 - 18	<b>3552-1/4K</b>	<b>288,63</b>	1.50 9,53
NPT 3/8 - 18	<b>3552-3/8K</b>	<b>366,37</b>	1.50 14,30
NPT 1/2 - 14	<b>3552-1/2K</b>	<b>478,93</b>	1.50 19,05
NPT 3/4 - 14	<b>3552-3/4K</b>	<b>585,35</b>	1.50 28,58
NPT 1 - 11.1/2	<b>3552-1K</b>	<b>776,90</b>	1.50 38,10

 $<60^\circ$ 4-5		
Contenido		
10	3552-1/8I	3500-HIT13
10	3552-1/4I	3500-HIT16
10	3552-3/8I	3500-HIT18
10	3552-1/2I	3500-HIT22
10	3552-3/4I	3500-HIT24
10	3552-1I	3500-HIT27

## KIT DE REPARACIÓN DE INSERTOS LIBRES

UNx8



FREE



8-UN



1.5D



AISI 304



HSS



HSS

...K



D	L mm	€	D L mm	
			D	L mm
UN 1.1/8 - 8	3570-1.1/8K	585,35	1.50	42.88
UN 1.1/4 - 8	3570-1.1/4K	713,07	1.50	47.63
UN 1.3/8 - 8	3570-1.3/8K	883,34	1.50	52.37
UN 1.1/2 - 8	3570-1.1/2K	776,90	1.50	57.15
UN 1.5/8 - 8	3570-1.5/8K	1.096,19	1.50	61.93
UN 1.3/4 - 8	3570-1.3/4K	1.138,76	1.50	66.68
UN 1.7/8 - 8	3570-1.7/8K	1.287,75	1.50	71.42
UN 2 - 8	3570-2K	1.436,77	1.50	76.20

Contenido		
3	3570-1.1/8I	3500-HIT25
3	3570-1.1/4I	3500-HIT26
3	3570-1.3/8I	3500-HIT27
3	3570-1.1/2I	3500-HIT28
3	3570-1.5/8I	3500-HIT28
3	3570-1.3/4I	3500-HIT28
3	3570-1.7/8I	3500-HIT30
3	3570-2I	3500-HIT30



BA



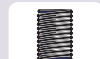
FREE



BA



1.5D



AISI 304



HSS



HSS

...K

D	L mm	€	D L mm		Contenido				
			D	L mm	mm	mm			
BA 0	3544-0K	124,99	1.50	8.99	20	6.20	3544-0I	3500-HIT9	3500-TB11
BA 2	3544-2K	124,99	1.50	7.06	20	4.90	3544-2I	3500-HIT7	3500-TB8
BA 4	3544-4K	124,99	1.50	5.41	20	3.80	3544-4I	3500-HIT5	3500-TB5
BA 6	3544-6K	137,34	1.50	4.19	20	2.90	3544-6I	3500-HIT3	3500-TB3

**KIT DE REPARACIÓN DE INSERTOS LIBRES**



**BSB**



**...K**

		€							
			D	L mm	Contenido				
BSB 1/4/26	<b>3560-1/4K</b>	<b>152,97</b>	1.50	9,53	20	6.6	3560-1/4I	3500-HIT10	3500-TB9
BSB 5/16 - 26	<b>3560-5/16K</b>	<b>121,56</b>	1.50	11,91	20	8.0	3560-5/16I	3500-HIT11	3500-TB12
BSB 3/8/26	<b>3560-3/8K</b>	<b>131,69</b>	1.50	14,30	15	9.8	3560-3/8I	3500-HIT13	3500-TB13
BSB 7/16 - 26	<b>3560-7/16K</b>	<b>141,83</b>	1.50	16,66	10	11.1	3560-7/16I	3500-HIT14	3500-TB14
BSB 1/2/26	<b>3560-1/2K</b>	<b>151,97</b>	1.50	19,05	10	12.7	3560-1/2I	3500-HIT15	3500-TB15

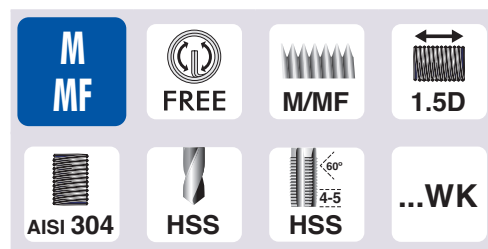
		€						
			D	L mm	Contenido			
M 10 x 1.00	<b>3522-10.00K</b>	<b>110,95</b>	-	1/2"	5	3522-10.00PN	3500-HIT13	3500-TB13
			-	0.339 mm	5	-	-	-
M 12 x 1.25	<b>3522-12.00K</b>	<b>135,23</b>	-	1/2"	5	3522-12.00PN	3500-HIT15	3500-TB15
			-	3/4"	5	-	-	-
M 14 x 1.25	<b>3522-14.00K</b>	<b>121,25</b>	-	3/8"	5	3522-14.00PN	3500-HIT17	-
			-	1/2"	5	-	-	-
			-	3/4"	5	-	-	-
M 18 x 1.50	<b>3522-18.00K</b>	<b>219,53</b>	-	1/2"	5	3522-18.00PN	3500-HIT20	-
M 14 x 1.25	<b>3522-14.00K1</b>	<b>116,98</b>	8.40	-	5	3522-14.00PN	3500-HIT17	-
			12.40	-	5	-	-	-
			16.40	-	5	-	-	-



M14x1,25

M12x1,25

## KIT DE REPARACIÓN DE INSERTOS LIBRES



	D	L mm	SET M5 - M12				
			mm	<math>\lt; 60^\circ</math> 4-5			
M 5 x 0.80	1.50	7.50	25	5.20	3520-5.001	3500-HIT8	3500-TB8
M 6 x 1.00	1.50	9.00	25	6.30	3520-6.001	3500-HIT9	3500-TB9
M 8 x 1.25	1.50	12.00	25	8.30	3520-8.001	3500-HIT11	3500-TB12
3520-WK1	M 10 x 1.50	1.50	25	10.40	3520-10.001	3500-HIT13	3500-TB13
358,47 €	M 12 x 1.75	1.50	10	12.50	3520-12.001	3500-HIT15	3500-TB15



M14x1,25

	D	L mm	SET BUJÍAS				M6 - M12 + M14 X 1.25	
			mm	<math>\lt; 55^\circ</math> 4-5	<math>\lt; 60^\circ</math>			
M 6 x 1.00	1.50	9.00	25	6.30	3520-6.001	-	3500-HIT9	3500-TB9
M 8 x 1.25	1.50	12.00	25	8.30	3520-8.001	-	3500-HIT11	3500-TB12
M 10 x 1.50	1.50	15.00	25	10.40	3520-10.001	-	3500-HIT13	3500-TB13
M 12 x 1.75	1.50	18.00	10	12.50	3520-12.001	-	3500-HIT15	3500-TB15
3522-WK4	M 14 x 1.25	-	5	14.25	-	3522-14.00PN	3500-HIT17	-
413,08 €		-	5	-	-	-	-	-
		-	5	-	-	-	-	-

**KIT DE REPARACIÓN DE INSERTOS LIBRES**



<b>UNC UNF</b>	<b>FREE</b>	<b>UNC/UNF</b>	<b>1.5D</b>
<b>AISI 304</b>	<b>HSS</b>	<b>HSS</b>	<b>...WK</b>

	D	L mm	SET UNC 1/4" - 1/2"				
			mm				
UNC 1/4 - 20	1.50	9.65	25	6.70	3532-1/4I	3500-HIT9	3500-TB9
UNC 5/16 - 18	1.50	11.94	25	8.30	3532-5/16I	3500-HIT10	3500-TB12
UNC 3/8 - 16	1.50	14.48	25	9.90	3532-3/8I	3500-HIT13	3500-TB12
<b>3532-WK1</b>	UNC 7/16 - 14	1.50	10	11.60	3532-7/16I	3500-HIT14	3500-TB14
<b>447,97 €</b>	UNC 1/2 - 13	1.50	10	13.00	3532-1/2I	3500-HIT15	3500-TB15
			SET UNF 1/4" - 1/2"				
UNF 1/4 - 28	1.50	9.65	25	6.70	3534-1/4I	3500-HIT9	3500-TB9
UNF 5/16 - 24	1.50	11.94	25	8.30	3534-5/16I	3500-HIT11	3500-TB12
UNF 3/8 - 24	1.50	14.48	25	9.80	3534-3/8I	3500-HIT13	3500-TB12
<b>3534-WK1</b>	UNF 7/16 - 20	1.50	10	11.50	3534-7/16I	3500-HIT14	3500-TB14
<b>447,97 €</b>	UNF 1/2 - 20	1.50	10	13.00	3534-1/2I	3500-HIT15	3500-TB15

<b>BSW BSF</b>	<b>FREE</b>	<b>BSW/BSF</b>	<b>1.5D</b>	<b>AISI 304</b>	<b>HSS</b>	<b>HSS</b>	<b>...WK</b>
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	D	L mm	SET BSW 1/4" - 1/2"				
			mm				
BSW 1/4 - 20	1.50	9.65	25	6.70	3528-1/4I	3500-HIT9	3500-TB9
BSW 5/16 - 18	1.50	11.94	25	8.30	3528-5/16I	3500-HIT10	3500-TB11
BSW 3/8 - 16	1.50	14.48	25	10.00	3528-3/8I	3500-HIT11	3500-TB12
<b>3528-WK1</b>	BSW 7/16 - 14	1.50	10	11.60	3528-7/16I	3500-HIT14	3500-TB14
<b>447,97 €</b>	BSW 1/2 - 12	1.50	10	13.00	3528-1/2I	3500-HIT15	3500-TB15
			SET BSF 1/4" - 1/2"				
BSF 1/4 - 26	1.50	9.65	25	6.60	3530-1/4I	3500-HIT9	3500-TB9
BSF 5/16 - 22	1.50	11.94	25	8.30	3530-5/16I	3500-HIT11	3500-TB11
BSF 3/8 - 20	1.50	14.48	25	9.80	3530-3/8I	3500-HIT13	3500-TB12
<b>3530-WK1</b>	BSF 7/16 - 18	1.50	10	11.60	3530-7/16I	3500-HIT14	3500-TB14
<b>447,97 €</b>	BSF 1/2 - 16	1.50	10	13.25	3530-1/2I	3500-HIT15	3500-TB15

## EXPOSITORES DE INSERTOS LIBRES

M  
MF

FREE

AISI 304



330 x 360 x 515 mm

## CONTENIDO DEL EXPOSITOR

## ESTUCHES

			
4	M 3x0.5		3520-3.00K
4	M 4x0.7		3520-4.00K
4	M 5x0.8		3520-5.00K
3	M 6x1.0		3520-6.00K
3	M 8x1.25		3520-8.00K
3	M 10x1.5		3520-10.00K
2	M 12x1.75		3520-12.00K
2	M 14x2.0		3520-14.00K
<b>BUJÍA</b>			
2	M 14x1.25		3522-14.00K







1-87

1.859,70 €

## CONTENIDO DEL EXPOSITOR

## ESTUCHES

## BLISTERS

					
4	M 3x0.5	3520-3.00K	5	M 4x0.7-1.5D	3520-4.00x1.5DP
4	M 4x0.7	3520-4.00K	5	M 5x0.8-1.5D	3520-5.00x1.5DP
4	M 5x0.8	3520-5.00K	5	M 6x1.0-1.5D	3520-6.00x1.5DP
4	M 6x1.0	3520-6.00K	5	M 8x1.25-1.5D	3520-8.00x1.5DP
3	M 8x1.25	3520-8.00K	5	M 10x1.50-1.5D	3521-10.00x1.5DP
3	M 10x1.5	3520-10.00K	5	M 12x1.75-1.5D	3520-12.00x1.5DP

1-88

1.431,60 €



330 x 360 x 515 mm

**EXPOSITORES DE INSERTOS LIBRES**



330 x 360 x 515 mm

**CONTENIDO DEL EXPOSITOR**

ESTUCHES			BLISTERS		
			5	M 3x0.5-1.5D	3520-3.00x1.5DP
			5	M 4x0.7-1.5D	3520-4.00x1.5DP
4	M5x0.8	3520-5.00K	5	M 5x0.8-1.5D	3520-5.00x1.5DP
			5	M 6x1.0-1.0D	3520-6.00x1.0DP
4	M6x1.0	3520-6.00K	5	M 6x1.0-1.5D	3520-6.00x1.5DP
3	M8x1.25	3520-8.00K	3	M 8x1.25-1.0D	3520-8.00x1.0DP
			5	M 8x1.25-2.0D	3520-8.00x2.0DP
			5	M 10x1.5-1.5D	3520-10.00x1.5DP
			5	M 10x1.5-2.0D	3521-10.00x2.0DP
			5	M 12x1.75-1.5D	3520-12.00x1.5DP
			3	M 16x2.0-1.5D	3520-16.00x1.5DP
<b>BUJÍA</b>					
			5	M 14x1.25-1/2"	M14x1.25-1/2P

1-89

1.014,07 €

## INSERTOS LIBRES EN CARRETE

M  
MF

FREE

M/MF

AISI 304

BS7752  
DIN6140NASM3279  
NASM3280  
NASM3281 LNS039

...DIR



1.0D

1.5D

2.0D

				1.0D		1.5D		2.0D	
				L mm	€	L mm	€	L mm	€
M 2.20 x 0.45	3520-2.20	1000	2.20	433,63	3.30	439,91	4.40	474,47	
M 2.50 x 0.45	3520-2.50	1000	2.50	207,70	3.75	223,10	5.00	251,38	
M 3 x 0.50	3520-3.00	1000	3.00	194,83	4.50	223,10	6.00	241,94	
M 4 x 0.70	3520-4.00	1000	4.00	191,68	6.00	204,24	8.00	226,23	
M 5 x 0.80	3520-5.00	1000	5.00	191,68	7.50	226,55	10.00	245,57	
M 6 x 1.00	3520-6.00	500	6.00	118,68	9.00	127,41	12.00	165,60	
M 8 x 1.00	3521-8.00	250	8.00	89,17	12.00	95,17	16.00	120,89	
M 8 x 1.25	3520-8.00	250	8.00	75,01	12.00	82,31	16.00	113,17	
M 10 x 1.50	3520-10.00	250	10.00	99,78	15.00	113,17	20.00	131,19	
M 12 x 1.75	3520-12.00	125	12.00	70,77	18.00	83,86	24.00	99,02	



Ejemplo de codificación:

M 6 x 1.00

1.0D

3520-6.00x1.0DIR

1.5D

3520-6.00x1.5DIR






2.0D

3520-6.00x2.0DIR






**INSERTOS LIBRES EN CARRETE**

UNC FREE UNC AISI 304 SBAC AS 6733 NASM122076 - NASM122275 NASM8846 ...DIR



			 1.0D	 1.5D	 2.0D			
			L mm	€	L mm	€	L mm	€
UNC	Nº2 - 56	<b>3532-2G</b>	1000	2.29 574,14	3.30 672,16	4.32 868,19		
UNC	Nº4 - 40	<b>3532-4G</b>	1000	2.79 210,09	4.32 219,26	5.59 224,05		
UNC	Nº5 - 40	<b>3532-5G</b>	1000	3.30 231,05	4.83 245,05	6.35 259,07		
UNC	Nº6 - 32	<b>3532-6G</b>	1000	3.56 208,18	5.33 233,15	7.11 249,82		
UNC	Nº8 - 32	<b>3532-8G</b>	1000	4.06 208,18	6.35 233,15	8.38 249,82		
UNC	Nº10 - 24	<b>3532-10G</b>	1000	4.83 224,05	7.37 235,20	9.65 245,05		
UNC	1/4 - 20	<b>3532-1/4</b>	500	6.35 145,25	9.65 162,84	12.70 176,04		
UNC	5/16 - 18	<b>3532-5/16</b>	250	7.87 110,03	11.94 132,53	15.75 140,03		
UNC	3/8 - 16	<b>3532-3/8</b>	250	9.65 170,04	14.48 194,65	19.30 222,56		

UNF FREE UNF AISI 304 SBAC AS 6733 NASM124551-124850 NASM8945 SBAC8455 ...DIR

			 1.0D	 1.5D	 2.0D			
			L mm	€	L mm	€	L mm	€
UNF	Nº4 - 48	<b>3534-4G</b>	1000	2.79 512,69	4.32 581,97	5.59 775,97		
UNF	Nº6 - 40	<b>3534-6G</b>	1000	3.56 512,69	5.33 581,97	7.11 775,97		
UNF	Nº8 - 36	<b>3534-8G</b>	1000	4.06 512,69	6.35 581,97	8.38 775,97		
UNF	Nº10 - 32	<b>3534-10G</b>	1000	4.83 221,70	7.37 228,64	9.65 277,14		
UNF	1/4 - 28	<b>3534-1/4</b>	500	6.35 143,69	9.65 154,57	12.70 174,20		
UNF	5/16 - 24	<b>3534-5/16</b>	250	7.87 108,87	11.94 116,29	15.75 138,56		
UNF	3/8 - 24	<b>3534-3/8</b>	250	9.65 160,84	14.48 168,26	19.30 202,90		



Ejemplo de codificación:

UNC 1/4 - 20



3532-1/4x1.0DIR



3532-1/4x1.5DIR



3532-1/4x2.0DIR

## INSERTOS AUTOBLOCANTES EN CARRETE

M  
MF

LOCK

M/MF

AISI 304

NASM3329 NASM3330  
NASM3331  
LN9499 NASM8846BS7751  
DIN8140

...DIRSL



1.0D

1.5D

2.0D

			1.0D		1.5D		2.0D	
			L mm	€	L mm	€	L mm	€
M 2.20 x 0.45	3520-2.20	1000	2.20	537,35	3.30	628,43	4.40	659,86
M 2.50 x 0.45	3520-2.50	1000	2.50	277,35	3.75	284,31	5.00	377,07
M 3 x 0.50	3520-3.00	1000	3.00	238,83	4.50	274,56	6.00	314,21
M 4 x 0.70	3520-4.00	1000	4.00	268,70	6.00	282,80	8.00	289,11
M 5 x 0.80	3520-5.00	1000	5.00	268,70	7.50	298,52	10.00	345,64
M 6 x 1.00	3520-6.00	500	6.00	159,38	9.00	166,34	12.00	202,31
M 8 x 1.00	3521-8.00	250	8.00	114,30	12.00	127,39	16.00	145,07
M 8 x 1.25	3520-8.00	250	8.00	95,30	12.00	113,17	16.00	132,33
M 10 x 1.50	3520-10.00	250	10.00	119,74	15.00	155,68	20.00	157,41
M 12 x 1.75	3520-12.00	125	12.00	87,98	18.00	109,68	24.00	119,60



Ejemplo de codificación:

M 3 x 0.50

1.0D

3520-3.00x1.0DIRSL

1.5D

3520-3.00x1.5DIRSL




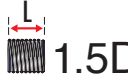
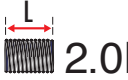
2.0D

3520-3.00x2.0DIRSL




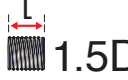
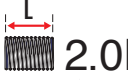
**INSERTOS AUTOBLOCANTES EN CARRETE**

UNC LOCK UNC AISI 304 NASN2120B NASM8846 ...DIRSL



			 1.0D		 1.5D		 2.0D	
			L mm	€	L mm	€	L mm	€
UNC N°2 - 56	<b>3532-2G</b>	1000	2.29	<b>688,97</b>	3.30	<b>806,59</b>	4.32	<b>1.041,85</b>
UNC N°4 - 40	<b>3532-4G</b>	1000	2.79	<b>268,85</b>	4.32	<b>282,85</b>	5.59	<b>307,11</b>
UNC N°5 - 40	<b>3532-5G</b>	1000	3.30	<b>310,88</b>	4.83	<b>328,05</b>	6.35	<b>339,94</b>
UNC N°6 - 32	<b>3532-6G</b>	1000	3.56	<b>249,82</b>	5.33	<b>279,78</b>	7.11	<b>299,79</b>
UNC N°8 - 32	<b>3532-8G</b>	1000	4.06	<b>249,82</b>	6.35	<b>279,78</b>	8.38	<b>299,79</b>
UNC N°10 - 24	<b>3532-10G</b>	1000	4.83	<b>268,85</b>	7.37	<b>278,21</b>	9.65	<b>294,07</b>
UNC 1/4 - 20	<b>3532-1/4</b>	500	6.35	<b>176,02</b>	9.65	<b>197,35</b>	12.70	<b>213,35</b>
UNC 5/16 - 18	<b>3532-5/16</b>	250	7.87	<b>135,81</b>	11.94	<b>163,59</b>	15.75	<b>172,84</b>
UNC 3/8 - 16	<b>3532-3/8</b>	250	9.65	<b>209,88</b>	14.48	<b>217,81</b>	19.30	<b>274,70</b>

UNF LOCK UNF AISI 304 NASN2120B NASM8846 ...DIRSL

			 1.0D		 1.5D		 2.0D	
			L mm	€	L mm	€	L mm	€
UNF N°4 - 48	<b>3534-4G</b>	1000	2.79	<b>615,24</b>	4.32	<b>698,38</b>	5.59	<b>931,17</b>
UNF N°6 - 40	<b>3534-6G</b>	1000	3.56	<b>615,24</b>	5.33	<b>698,38</b>	7.11	<b>931,17</b>
UNF N°8 - 36	<b>3534-8G</b>	1000	4.06	<b>615,24</b>	6.35	<b>698,38</b>	8.38	<b>931,17</b>
UNF N°10 - 32	<b>3534-10G</b>	1000	4.83	<b>266,05</b>	7.37	<b>274,37</b>	9.65	<b>332,56</b>
UNF 1/4 - 28	<b>3534-1/4</b>	500	6.35	<b>176,15</b>	9.65	<b>188,91</b>	12.70	<b>212,60</b>
UNF 5/16 - 24	<b>3534-5/16</b>	250	7.87	<b>135,81</b>	11.94	<b>145,07</b>	15.75	<b>172,84</b>
UNF 3/8 - 24	<b>3534-3/8</b>	250	9.65	<b>200,62</b>	14.48	<b>209,88</b>	19.30	<b>253,09</b>



Ejemplo de codificación:

UNF 1/4 - 28

 1.0D

3534-1/4x1.0DIRSL

 1.5D

3534-1/4x1.5DIRSL

 2.0D

3534-1/4x2.0DIRSL

## HERRAMIENTA DE INSERCIÓN NEUMÁTICA


M  
MF

FREE



LOCK




		€		€		€		€		€
M 2.20 x 0.45	3520-2.20MIP	453,58	3520-2.20MIPM	165,55	3520-2.20MIPN	289,15	3500-MIP1	1.778,53	-	
M 2.50 x 0.45	3520-2.50MIP	289,15	3520-2.50MIPM	104,33	3520-2.50MIPN	185,96	3500-MIP1	1.778,53	-	
M 3 x 0.50	3520-3.00MIP	289,15	3520-3.00MIPM	104,33	3520-3.00MIPN	185,96	3500-MIP1	1.778,53	-	
M 3.50 x 0.60	3520-3.50MIP	453,58	3520-3.50MIPM	165,55	3520-3.50MIPN	289,15	3500-MIP1	1.778,53	-	
M 4 x 0.70	3520-4.00MIP	289,15	3520-4.00MIPM	104,33	3520-4.00MIPN	185,96	3500-MIP1	1.778,53	-	
M 5 x 0.80	3520-5.00MIP	289,15	3520-5.00MIPM	104,33	3520-5.00MIPN	185,96	3500-MIP1	1.778,53	-	
M 6 x 1.00	3520-6.00MIP	289,15	3520-6.00MIPM	104,33	3520-6.00MIPN	185,96	3500-MIP1	1.778,53	-	
M 8 x 1.00	3521-8.00MIP	617,99	3521-8.00MIPM	226,79	3521-8.00MIPN	392,34	-		3500-MIP2	2.122,25
M 8 x 1.25	3520-8.00MIP	617,99	3520-8.00MIPM	226,79	3520-8.00MIPN	392,34	-		3500-MIP2	2.122,25
M 10 x 1.00	3523-10.00MIP	617,99	3523-10.00MIPM	226,79	3523-10.00MIPN	392,34	-		3500-MIP2	2.122,25
M 10 x 1.25	3521-10.00MIP	617,99	3521-10.00MIPM	226,79	3521-10.00MIPN	392,34	-		3500-MIP2	2.122,25
M 10 x 1.50	3520-10.00MIP	617,99	3520-10.00MIPM	226,79	3520-10.00MIPN	392,34	-		3500-MIP2	2.122,25
M 12 x 1.25	3523-12.00MIP	700,77	3523-12.00MIPM	268,75	3523-12.00MIPN	433,16	-		3500-MIP2	2.122,25
M 12 x 1.50	3521-12.00MIP	700,77	3521-12.00MIPM	268,75	3521-12.00MIPN	433,16	-		3500-MIP2	2.122,25
M 12 x 1.75	3520-12.00MIP	700,77	3520-12.00MIPM	268,75	3520-12.00MIPN	433,16	-		3500-MIP2	2.122,25

**HERRAMIENTA DE INSERCIÓN NEUMÁTICA**

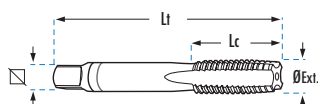




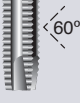

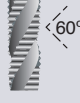





		€		€		€		€		€
UNC Nº2 - 56	3532-2GMIP	426,36	3532-2GMIPM	165,55	3532-2GMIPN	261,93	3500-MIP1	1.778,53	-	-
UNC Nº4 - 40	3532-4GMIP	289,15	3532-4GMIPM	104,33	3532-4GMIPN	185,96	3500-MIP1	1.778,53	-	-
UNC Nº5 - 40	3532-5GMIP	453,58	3532-5GMIPM	165,55	3532-5GMIPN	289,15	3500-MIP1	1.778,53	-	-
UNC Nº6 - 32	3532-6GMIP	289,15	3532-6GMIPM	104,33	3532-6GMIPN	185,96	3500-MIP1	1.778,53	-	-
UNC Nº8 - 32	3532-8GMIP	289,15	3532-8GMIPM	104,33	3532-8GMIPN	185,96	3500-MIP1	1.778,53	-	-
UNC Nº10 - 24	3532-10GMIP	289,15	3532-10GMIPM	104,33	3532-10GMIPN	185,96	3500-MIP1	1.778,53	-	-
UNC Nº12 - 24	3532-12GMIP	289,15	3532-12GMIPM	104,33	3532-12GMIPN	185,96	3500-MIP1	1.778,53	-	-
UNC 1/4 - 20	3532-1/4MIP	289,15	3532-1/4MIPM	104,33	3532-1/4MIPN	185,96	3500-MIP1	1.778,53	-	-
UNC 5/16 - 18	3532-5/16MIP	617,99	3532-5/16MIPM	226,79	3532-5/16MIPN	392,34	-	-	3500-MIP2	2.122,25
UNC 3/8 - 16	3532-3/8MIP	617,99	3532-3/8MIPM	226,79	3532-3/8MIPN	392,34	-	-	3500-MIP2	2.122,25
UNC 7/16 - 14	3532-7/16MIP	700,77	3532-7/16MIPM	268,75	3532-7/16MIPN	433,16	-	-	3500-MIP2	2.122,25
UNC 1/2 - 13	3532-1/2MIP	700,77	3532-1/2MIPM	268,75	3532-1/2MIPN	433,16	-	-	3500-MIP2	2.122,25



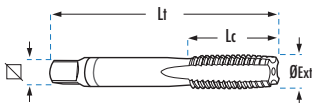
		€		€		€		€		€
UNF Nº6 - 40	3534-6GMIPM	453,58	3534-6GMIPM	165,55	3534-6GMIPN	289,15	3500-MIP1	1.778,53	-	-
UNF Nº8 - 36	3534-8GMIPM	453,58	3534-8GMIPM	165,55	3534-8GMIPN	289,15	3500-MIP1	1.778,53	-	-
UNF Nº10 - 32	3534-10GMIPM	289,15	3534-10GMIPM	104,33	3534-10GMIPN	185,96	3500-MIP1	1.778,53	-	-
UNF 1/4 - 28	3534-1/4MIPM	289,15	3534-1/4MIPM	104,33	3534-1/4MIPN	185,96	3500-MIP1	1.778,53	-	-
UNF 5/16 - 24	3534-5/16MIPM	617,99	3534-5/16MIPM	226,79	3534-5/16MIPN	392,34	-	-	3500-MIP2	2.122,25
UNF 3/8 - 24	3534-3/8MIPM	617,99	3534-3/8MIPM	226,79	3534-3/8MIPN	392,34	-	-	3500-MIP2	2.122,25
UNF 7/16 - 20	3534-7/16MIPM	700,77	3534-7/16MIPM	268,75	3534-7/16MIPN	433,16	-	-	3500-MIP2	2.122,25
UNF 1/2 - 20	3534-1/2MIPM	700,77	3534-1/2MIPM	268,75	3534-1/2MIPN	433,16	-	-	3500-MIP2	2.122,25

## MACHO MANO, MÁQUINA Y CALIBRES PASA/NO PASA



TOLERANCIA				TOL 5H-6H		TOL 5H-6H		TOL 5H-6H		TOL 5H-6H	
MATERIAL				HSS		HSS-V3		HSS-V3		Calibre	
FORMA				  4-5		 FORMA B		 			
					€		€		€		€
M 2 x 0.40	2.10	2.52	44x9.5x2.2	3520-2.00I	15,23	3520-2.00SP	20,09	3520-2.00SF	20,09	3520-2.00GC	223,97
M 2.20 x 0.45	2.30	2.78	48x11x2.5	3520-2.20I	18,08	3520-2.20SP	20,09	3520-2.20SF	20,09	3520-2.20GC	250,40
M 2.50 x 0.45	2.60	3.08	48x11x2.5	3520-2.50I	15,23	3520-2.50SP	20,09	3520-2.50SF	20,09	3520-2.50GC	250,40
M 3 x 0.50	3.20	3.65	53x13x3.15	3520-3.00I	13,28	3520-3.00SP	15,23	3520-3.00SF	15,23	3520-3.00GC	181,30
M 3.50 x 0.60	3.70	4.27	53x13x3.55	3520-3.50I	13,28	3520-3.50SP	15,23	3520-3.50SF	15,23	3520-3.50GC	175,96
M 4 x 0.70	4.20	4.90	58x16x4	3520-4.00I	13,28	3520-4.00SP	15,23	3520-4.00SF	15,23	3520-4.00GC	170,65
M 5 x 0.80	5.20	6.03	66x19x5	3520-5.00I	13,28	3520-5.00SP	15,23	3520-5.00SF	15,23	3520-5.00GC	165,32
M 6 x 1.00	6.30	7.29	72x22x6.3	3520-6.00I	13,28	3520-6.00SP	15,23	3520-6.00SF	15,23	3520-6.00GC	159,98
M 7 x 1.00	7.30	8.29	72x22x7.1	3520-7.00I	16,56	3520-7.00SP	19,09	3520-7.00SF	19,09	3520-7.00GC	183,96
M 8 x 1.00	8.30	9.29	80x24x8	3521-8.00I	16,56	3521-8.00SP	19,09	3521-8.00SF	19,09	3521-8.00GC	196,90
M 8 x 1.25	8.30	9.62	80x24x8	3520-8.00I	16,56	3520-8.00SP	19,09	3520-8.00SF	19,09	3520-8.00GC	165,32
M 9 x 1.25	9.40	10.62	85x25x6.3	3520-9.00I	20,29	3520-9.00SP	29,42	3520-9.00SF	29,42	3520-9.00GC	170,65
M 10 x 1.00	10.30	11.29	85x25x6.3	3523-10.00I	20,29	3523-10.00SP	22,96	3523-10.00SF	22,96	3523-10.00GC	223,97
M 10 x 1.25	10.30	11.62	85x25x6.3	3521-10.00I	20,29	3521-10.00SP	28,36	3521-10.00SF	28,36	3521-10.00GC	229,30
M 10 x 1.50	10.40	11.94	89x29x7.1	3520-10.00I	20,29	3520-10.00SP	22,96	3520-10.00SF	22,96	3520-10.00GC	175,96
M 11 x 1.00	11.30	12.29	89x29x7.1	3523-11.00I	27,48	3523-11.00SP	30,59	3523-11.00SF	30,59	3523-11.00GC	234,62
M 11 x 1.25	11.30	12.62	89x29x7.1	3521-11.00I	27,58	3521-11.00SP	30,59	3521-11.00SF	30,59	3521-11.00GC	228,68
M 11 x 1.50	11.40	12.94	89x29x7.1	3520-11.00I	22,96	3520-11.00SP	30,59	3520-11.00SF	30,59	3520-11.00GC	181,30
M 12 x 1.00	12.30	13.29	95x30x9	3524-12.00I	28,04	3524-12.00SP	34,88	3524-12.00SF	34,88	3524-12.00GC	238,37
M 12 x 1.25	12.30	13.62	95x30x9	3523-12.00I	28,04	3523-12.00SP	30,44	3523-12.00SF	30,44	3523-12.00GC	238,37
M 12 x 1.50	12.40	14.13	95x30x9	3521-12.00I	28,04	3521-12.00SP	34,29	3521-12.00SF	34,29	3521-12.00GC	213,29
M 12 x 1.75	12.50	14.27	95x30x9	3520-12.00I	22,96	3520-12.00SP	30,06	3520-12.00SF	30,06	3520-12.00GC	186,64
M 13 x 1.25	13.25	14.62	95x30x9	3521-13.00I	32,16	3521-13.00SP	43,46	3521-13.00SF	43,46	3521-13.00GC	229,30
M 13 x 1.75	13.50	15.27	102x32x10	3520-13.00I	32,16	3520-13.00SP	43,46	3520-13.00SF	43,46	3520-13.00GC	213,53
M 14 x 1.00	14.25	15.29	102x32x10	3524-14.00I	31,89	3524-14.00SP	53,46	3524-14.00SF	53,46	3524-14.00GC	255,97
M 14 x 1.25	14.25	15.62	102x32x10	3523-14.00I	31,89	3523-14.00SP	42,05	3523-14.00SF	42,05	3523-14.00GC	255,97
M 14 x 1.50	14.50	15.94	102x32x10	3521-14.00I	31,89	3521-14.00SP	42,05	3521-14.00SF	42,05	3521-14.00GC	234,62
M 14 x 2.00	14.50	16.59	102x32x10	3520-14.00I	31,89	3520-14.00SP	42,05	3520-14.00SF	42,05	3520-14.00GC	197,32
M 15 x 1.50	15.25	16.94	102x32x10	3521-15.00I	38,08	3521-15.00SP	59,96	3521-15.00SF	59,96	3521-15.00GC	245,31
M 15 x 2.00	15.50	17.59	112x37x11.2	3520-15.00I	38,08	3520-15.00SP	59,96	3520-15.00SF	59,96	3520-15.00GC	230,39
M 16 x 1.50	16.50	17.94	112x37x11.2	3521-16.00I	38,18	3521-16.00SP	53,08	3521-16.00SF	53,08	3521-16.00GC	250,64
M 16 x 2.00	16.50	18.59	112x37x11.2	3520-16.00I	38,18	3520-16.00SP	44,46	3520-16.00SF	44,46	3520-16.00GC	218,64

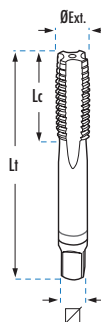
**MACHO MANO, MÁQUINA Y CALIBRES PASA/NO PASA**



TOLERANCIA					TOL 5H-6H		TOL 5H-6H		TOL 5H-6H		TOL 5H-6H	
MATERIAL					HSS		HSS-V3		HSS-V3		Calibre	
FORMA					FORMA A		FORMA B		FORMA C		FORMA D	
Ø	Ø Ext.	Li x Lc x Ø	Li	Lc	€	€	€	€	€	€	€	
M 18 x 1.50	18.50	19.94	112x37x11.2		3523-18.00I	48,33	3523-18.00SP	66,96	3523-18.00SF	66,96	3523-18.00GC	254,96
M 18 x 2.00	18.50	20.59	112x37x11.2		3521-18.00I	48,33	3521-18.00SP	66,96	3521-18.00SF	66,96	3521-18.00GC	261,28
<b>M 18 x 2.50</b>	19.00	21.24	118x38x12.5		3520-18.00I	48,33	3520-18.00SP	66,96	3520-18.00SF	66,96	3520-18.00GC	234,62
M 20 x 1.50	20.50	21.94	118x38x12.5		3523-20.00I	53,15	3523-20.00SP	78,88	3523-20.00SF	78,88	3523-20.00GC	303,98
M 20 x 2.00	20.50	22.59	118x38x12.5		3521-20.00I	53,15	3521-20.00SP	78,88	3521-20.00SF	78,88	3521-20.00GC	277,31
<b>M 20 x 2.50</b>	20.75	23.24	118x38x12.5		3520-20.00I	53,15	3520-20.00SP	78,88	3520-20.00SF	78,88	3520-20.00GC	250,64
M 22 x 1.50	22.50	23.94	130x45x14		3523-22.00I	61,14	3523-22.00SP	111,56	3523-22.00SF	111,56	3523-22.00GC	325,03
M 22 x 2.00	22.50	24.59	130x45x14		3521-22.00I	61,14	3521-22.00SP	111,56	3521-22.00SF	111,56	3521-22.00GC	314,61
<b>M 22 x 2.50</b>	22.75	25.24	130x45x14		3520-22.00I	61,14	3520-22.00SP	111,56	3520-22.00SF	111,56	3520-22.00GC	266,61
M 24 x 1.50	24.50	25.94	130x45x14		3523-24.00I	77,31	3523-24.00SP	133,88	3523-24.00SF	133,88	3523-24.00GC	346,02
M 24 x 2.00	24.50	26.59	127x37x16		3521-24.00I	77,31	3521-24.00SP	133,88	3521-24.00SF	133,88	3521-24.00GC	314,87
<b>M 24 x 3.00</b>	25.00	27.89	135x45x16		3520-24.00I	77,31	3520-24.00SP	133,88	3520-24.00SF	133,88	3520-24.00GC	298,62
M 26 x 1.50	26.50	27.94	127x37x16		3523-26.00I	145,26	-	-	-	-	-	-
M 27 x 1.50	27.50	28.97	127x37x16		3523-27.00I	171,27	-	-	-	-	-	-
M 27 x 2.00	27.50	29.59	127x37x16		3521-27.00I	171,27	-	-	-	-	-	-
<b>M 27 x 3.00</b>	28.00	30.89	151x51x18		3520-27.00I	171,27	-	-	-	-	-	-
M 28 x 1.50	28.50	29.99	137x37x18		3523-28.00I	190,92	-	-	-	-	-	-
M 30 x 1.50	30.50	31.96	137x37x18		3523-30.00I	203,73	-	-	-	-	-	-
M 30 x 2.00	30.50	32.59	137x37x18		3521-30.00I	203,73	-	-	-	-	-	-
<b>M 30 x 3.50</b>	31.00	34.54	162x57x20		3520-30.00I	203,73	-	-	-	-	-	-
M 33 x 2.00	33.50	35.59	144x39x20		3521-33.00I	247,38	-	-	-	-	-	-
<b>M 33 x 3.50</b>	34.00	37.54	170x60x22.4		3520-33.00I	247,38	-	-	-	-	-	-
M 36 x 1.50	36.50	37.92	149x39x22.4		3524-36.00I	284,42	-	-	-	-	-	-
M 36 x 2.00	36.50	38.55	149x39x22.4		3523-36.00I	284,42	-	-	-	-	-	-
M 36 x 3.00	37.00	39.89	170x60x22.4		3521-36.00I	284,42	-	-	-	-	-	-
<b>M 36 x 4.00</b>	37.00	41.19	170x60x22.4		3520-36.00I	284,42	-	-	-	-	-	-
M 39x3,00	40.00	42.90	149x39x26		3521-39.00I	392,06	-	-	-	-	-	-
<b>M 39x4,00</b>	40.25	44.20	187x67x28		3520-39.00I	392,06	-	-	-	-	-	-
M 40x3,00	41.00	43.90	149x39x26		3523-40.00I	414,77	-	-	-	-	-	-
M 42x3,00	43.00	45.90	165x45x28		3523-42.00I	426,25	-	-	-	-	-	-
<b>M 42x4,50</b>	43.50	47.90	187x67x28		3520-42.00I	426,25	-	-	-	-	-	-
M 45x3,00	46.00	48.90	175x45x31		3523-45.00I	453,84	-	-	-	-	-	-
<b>M 45x4,50</b>	46.50	50.90	200x70x31		3520-45.00I	453,84	-	-	-	-	-	-
M 48x3,00	49.00	51.90	175x45x31		3523-48.00I	551,17	-	-	-	-	-	-
<b>M 48x5,00</b>	49.50	54.50	200x70x31		3520-48.00I	551,17	-	-	-	-	-	-
M 50x3,00	51.00	53.90	175x45x31		3523-50.00I	596,35	-	-	-	-	-	-
M 52x3,00	53.00	55.90	193x48x34		3523-52.00I	630,54	-	-	-	-	-	-
<b>M 52x5,00</b>	53.50	58.50	221x76x34		3520-52.00I	630,54	-	-	-	-	-	-

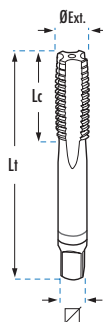
## MACHO MANO, MÁQUINA Y CALIBRES PASA/NO PASA

UNC

STH-ISO629  
4H5H, BS4377

TOLERANCIA				TOL 2B-3B		TOL 2B-3B		TOL 2B-3B		TOL 2B-3B		
MATERIAL				HSS		HSS-V3		HSS-V3		Calibre		
FORMA												
		Ø Ext.	Lt x Lc x $\varnothing$		€		€		€		€	
UNC N°2 - 56		2.40	2.77	44x9.5x2.2	3532-2GI	20,29	3532-2GSP	27,70	3532-2GSF	27,70	3532-2GGC	318,54
UNC N°3 - 48		2.70	3.02	44x9.5x2.2	3532-3GI	20,29	3532-3GSP	29,31	3532-3GSF	29,31	3532-3GGC	318,54
UNC N°4 - 40		3.00	3.67	53x13x3.15	3532-4GI	20,29	3532-4GSP	27,70	3532-4GSF	27,70	3532-4GGC	319,95
UNC N°5 - 40		3.40	4.00	53x13x3.15	3532-5GI	20,29	3532-5GSP	27,70	3532-5GSF	27,70	3532-5GGC	318,57
UNC N°6 - 32		3.70	4.53	58x16x4	3532-6GI	20,29	3532-6GSP	27,70	3532-6GSF	27,70	3532-6GGC	193,90
UNC N°8 - 32		4.40	5.19	62x17x4.5	3532-8GI	20,29	3532-8GSP	27,70	3532-8GSF	27,70	3532-8GGC	189,05
UNC N°10 - 24		5.10	6.20	66x19x5	3532-10GI	20,29	3532-10GSP	25,39	3532-10GSF	25,39	3532-10GGC	184,20
UNC N°12 - 24		5.70	6.86	66x19x5.6	3532-12GI	20,29	3532-12GSP	25,39	3532-12GSF	25,39	3532-12GGC	184,20
UNC 1/4 - 20		6.70	8.00	72x22x6.3	3532-1/4I	13,28	3532-1/4SP	18,48	3532-1/4SF	18,48	3532-1/4GC	174,53
UNC 5/16 - 18		8.30	9.77	80x24x8	3532-5/16I	16,47	3532-5/16SP	21,92	3532-5/16SF	21,92	3532-5/16GC	184,20
UNC 3/8 - 16		9.90	11.58	85x25x6.3	3532-3/8I	15,23	3532-3/8SP	27,70	3532-3/8SF	27,70	3532-3/8GC	184,20
UNC 7/16 - 14		11.60	13.47	95x30x9	3532-7/16I	20,29	3532-7/16SP	31,50	3532-7/16SF	31,50	3532-7/16GC	193,90
UNC 1/2 - 13		13.00	15.23	102x32x10	3532-1/2I	22,96	3532-1/2SP	34,62	3532-1/2SF	34,62	3532-1/2GC	208,45
UNC 9/16 - 12		15.00	17.03	112x37x11.2	3532-9/16I	38,18	3532-9/16SP	57,70	3532-9/16SF	57,70	3532-9/16GC	222,99
UNC 5/8 - 11		16.50	18.87	112x37x11.2	3532-5/8I	47,13	3532-5/8SP	80,42	3532-5/8SF	80,42	3532-5/8GC	232,70
UNC 3/4 - 10		20.00	22.34	118x38x12.5	3532-3/4I	57,27	3532-3/4SP	81,56	3532-3/4SF	81,56	3532-3/4GC	266,61
UNC 7/8 - 9		23.00	25.89	130x45x14	3532-7/8I	66,83	3532-7/8SP	118,27	3532-7/8SF	118,27	3532-7/8GC	300,56
UNC 1 - 8		26.25	29.52	138x48x16	3532-1I	66,83	3532-1SP	138,47	3532-1SF	138,47	3532-1GC	339,34
UNC 1.1/8 - 7		29.50	33.28	151x51x18	3532-1.1/8I	202,36	-	-	-	-	-	-
UNC 1.1/4 - 7		32.50	36.46	162x57x20	3532-1.1/4I	242,78	-	-	-	-	-	-
UNC 1.3/8 - 6		36.00	40.42	170x60x22.4	3532-1.3/8I	303,50	-	-	-	-	-	-
UNC 1.1/2 - 6		39.50	43.59	187x67x25	3532-1.1/2I	393,36	-	-	-	-	-	-

**MACHO MANO, MÁQUINA Y CALIBRES PASA/NO PASA**



TOLERANCIA				TOL 2B-3B		TOL 2B-3B		TOL 2B-3B		TOL 2B-3B	
MATERIAL				HSS		HSS-V3		HSS-V3		Calibre	
FORMA				FORMA A		FORMA B		FORMA C		FORMA D	
Ø	Ø Ext.	Lt	Lc x Lc x Ø	€	€	€	€	€	€	€	€
UNF N°3 - 56	2.70	3.09	44x9.5x2.2	3534-3GI	21,23	3534-3GSP	29,31	3534-3GSF	29,31	3534-3GGC	319,95
UNF N°4 - 48	3.00	3.53	50x13x2.80	3534-4GI	20,29	3534-4GSP	27,70	3534-4GSF	27,70	3534-4GGC	319,95
UNF N°6 - 40	3.70	4.33	53x13x3.55	3534-6GI	20,29	3534-6GSP	27,70	3534-6GSF	27,70	3534-6GGC	193,90
UNF N°8 - 36	4.40	5.08	62x17x4.50	3534-8GI	20,29	3534-8GSP	27,70	3534-8GSF	27,70	3534-8GGC	189,05
UNF N°10 - 32	5.10	5.85	66x19x5.00	3534-10GI	20,29	3534-10GSP	25,39	3534-10GSF	25,39	3534-10GGC	184,20
UNF N°12 - 28	5.80	6.75	66x19x5.60	3534-12GI	23,25	3534-12GSP	25,42	3534-12GSF	25,42	3534-12GGC	310,24
UNF 1/4 - 28	6.60	7.52	72x22x6.30	3534-1/4I	13,28	3534-1/4SP	18,48	3534-1/4SF	18,48	3534-1/4GC	174,53
UNF 5/16 - 24	8.20	9.31	80x24x8.00	3534-5/16I	14,63	3534-5/16SP	21,92	3534-5/16SF	21,92	3534-5/16GC	184,20
UNF 3/8 - 24	9.80	10.89	85x25x6.30	3534-3/8I	15,23	3534-3/8SP	27,70	3534-3/8SF	27,70	3534-3/8GC	184,20
UNF 7/16 - 20	11.50	12.76	89x29x7.10	3534-7/16I	20,29	3534-7/16SP	31,50	3534-7/16SF	31,50	3534-7/16GC	193,90
UNF 1/2 - 20	13.00	14.35	95x30x9.00	3534-1/2I	20,87	3534-1/2SP	34,62	3534-1/2SF	34,62	3534-1/2GC	208,45
UNF 9/16 - 18	14.75	16.12	102x32x10	3534-9/16I	38,18	3534-9/16SP	57,70	3534-9/16SF	57,70	3534-9/16GC	222,99
UNF 5/8 - 18	16.50	17.00	112x37x11.2	3534-5/8I	47,13	3534-5/8SP	80,42	3534-5/8SF	80,42	3534-5/8GC	227,84
UNF 3/4 - 16	19.50	21.11	112x37x11.2	3534-3/4I	57,27	3534-3/4SP	81,56	3534-3/4SF	81,56	3534-3/4GC	184,20
UNF 7/8 - 14	22.50	24.58	130x45x14	3534-7/8I	74,83	3534-7/8SP	118,27	3534-7/8SF	118,27	3534-7/8GC	276,34
UNF 1 - 12	26.00	28.15	127x37x16	3534-1I	66,45	3534-1SP	138,47	3534-1SF	138,47	3534-1GC	252,08
UNS 1 - 14	26.00	27.76	127x37x16	3535-1I	66,45	3535-1SP	138,47	3535-1SF	138,47	3535-1GC	252,08
UNF 1.1/8 - 12	29.50	31.32	137x37x18	3534-1.1/8I	202,36	-	-	-	-	-	-
UNF 1.1/4 - 12	32.50	34.50	144x39x20	3534-1.1/4I	242,78	-	-	-	-	-	-
UNF 1.3/8 - 12	35.50	37.67	149x39x22.4	3534-1.3/8I	303,50	-	-	-	-	-	-
UNF 1.1/2 - 12	38.50	40.85	149x39x22.4	3534-1.1/2I	393,36	-	-	-	-	-	-

## MACHOS DE MANO

BSW



BSW



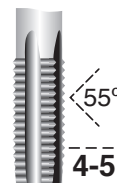
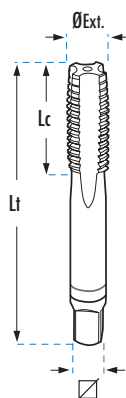
TOL (3B)



HSS



STI-ISO529



			Ø Ext.	Lt x Lc x $\varnothing$		€	
BSW 1/8 - 40			3.40	3.93	53x13x3.15	3528-1/8I	13,28
BSW 3/16 - 24			5.00	6.00	66x19x5	3528-3/16I	13,28
BSW 1/4 - 20			6.70	7.84	72x22x6.3	3528-1/4I	13,28
BSW 5/16 - 18			8.30	9.59	80x24x8	3528-5/16I	14,63
BSW 3/8 - 16			10.00	11.38	85x25x6.3	3528-3/8I	15,23
BSW 7/16 - 14			11.60	13.23	95x30x9	3528-7/16I	20,29
BSW 1/2 - 12			13.00	15.17	102x32x10	3528-1/2I	23,53
BSW 9/16 - 12			14.75	16.76	102x32x10	3528-9/16I	38,18
BSW 5/8 - 11			16.50	18.57	112x37x11.2	3528-5/8I	47,13
BSW 11/16 - 11			17.50	19.60	112x37x11.2	3528-11/16I	57,27
BSW 3/4 - 10			20.00	22.01	118x38x12.5	3528-3/4I	57,27
BSW 7/8 - 9			23.25	25.52	130x45x14	3528-7/8I	66,45
BSW 1 - 8			26.50	29.10	138x48x16	3528-1I	66,45

BSF



BSF



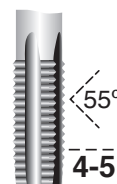
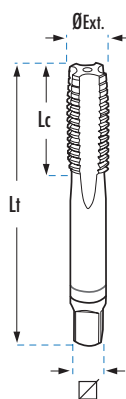
TOL (3B)



HSS



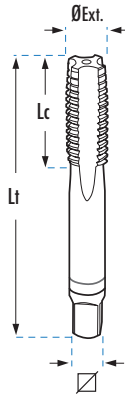
STI-ISO529



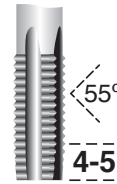
			Ø Ext.	Lt x Lc x $\varnothing$		€	
BSF 3/16 - 32			5.00	5.70	66x19x5	3530-3/16I	13,28
BSF 1/4 - 26			6.60	7.51	72x22x6.3	3530-1/4I	13,28
BSF 5/16 - 22			8.30	9.30	80x24x8	3530-5/16I	14,63
BSF 3/8 - 20			9.80	11.02	85x25x6.3	3530-3/8I	15,23
BSF 7/16 - 18			11.60	12.77	89x29x7.1	3530-7/16I	20,29
BSF 1/2 - 16			13.25	14.56	95x30x9	3530-1/2I	23,53
BSF 9/16 - 16			14.75	16.15	102x32x10	3530-9/16I	38,18
BSF 5/8 - 14			16.50	18.01	112x37x11.2	3530-5/8I	47,13
BSF 11/16 - 14			17.50	19.60	112x37x11.2	3530-11/16I	57,27
BSF 3/4 - 12			19.50	21.53	118x38x12.5	3530-3/4I	57,27
BSF 7/8 - 11			22.75	24.93	130x45x14	3530-7/8I	66,45
BSF 1 - 10			26.25	28.37	138x48x16	3530-1I	66,45

**MACHOS DE MANO**

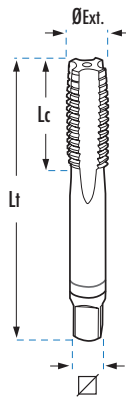
**BSP (GAS)**    **BSP**    **TOL (3B)**    **HSS**



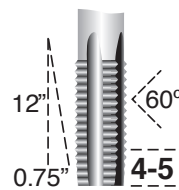
			Ø Ext.	Lt x Lc x ∅		€
BSP	1/8 - 28	10.00	10.81	85x25x6.3	3546-1/8I	20,13
BSP	1/4 - 19	13.75	14.73	95x30x9	3546-1/4I	22,85
BSP	3/8 - 19	17.00	18.24	112x37x11.2	3546-3/8I	30,06
BSP	1/2 - 14	21.50	23.09	118x38x12.5	3546-1/2I	48,71
BSP	5/8 - 14	23.50	25.05	130x45x14	3546-5/8I	71,58
BSP	3/4 - 14	27.00	28.58	127x37x16	3546-3/4I	71,58
BSP	1 - 11	33.75	35.96	162x57x20	3546-1I	111,84



**NPT**    **NPT**    **TOL (3B)**    **HSS**



		Ø Ext.	Lt x Lc x ∅		€
NPT	1/8 - 27	10.43	54x19x8.3	3552-1/8I	97,64
NPT	1/4 - 18	13.95	62x27x10.7	3552-1/4I	109,84
NPT	3/8 - 18	17.37	65x27x13.5	3552-3/8I	146,45
NPT	1/2 - 14	21.65	80x35x13.1	3552-1/2I	176,98
NPT	3/4 - 14	26.96	83x35x17.2	3552-3/4I	231,89
NPT	1 - 11.1/2	33.75	95x44x22.7	3552-1I	317,30



## MACHOS DE MANO

UNx8



8-UN



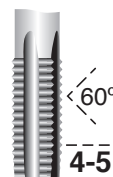
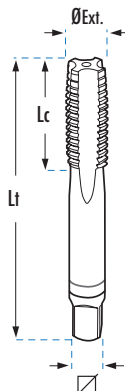
TOL (3B)



HSS



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			Ø Ext.	Lt x Lc x $\varnothing$		€	
UN 1.1/8 - 8			28.50	1.26	5.9x2.0x0.7	3570-1.1/8I	347,93
UN 1.1/4 - 8			32.00	1.38	6.3x2.2x0.7	3570-1.1/4I	400,79
UN 1.3/8 - 8			35.00	1.51	6.6x2.3x0.8	3570-1.3/8I	454,85
UN 1.1/2 - 8			38.00	1.63	6.6x2.3x0.8	3570-1.1/2I	499,63
UN 1.5/8 - 8			41.00	1.76	7.3x2.6x0.9	3570-1.5/8I	584,46
UN 1.3/4 - 8			44.50	1.88	7.3x2.6x0.9	3570-1.3/4I	633,01
UN 1.7/8 - 8			47.50	2.01	7.8x2.7x1.1	3570-1.7/8I	735,90
UN 2 - 8			51.00	2.13	7.8x2.7x1.1	3570-2I	764,43

BA



BA



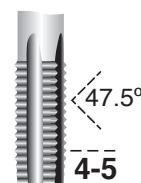
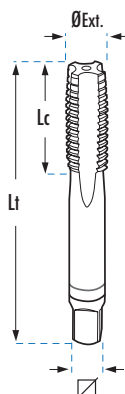
TOL (3B)



HSS

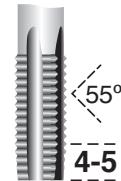
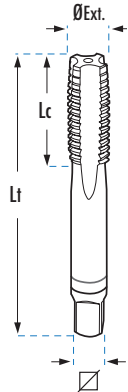


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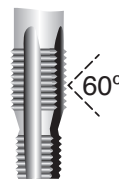
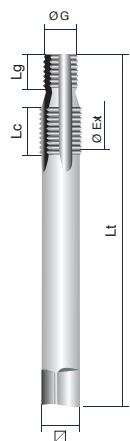


		Ø Ext.	Lt x Lc x $\varnothing$		€
BA 0	6.20	7.12	66x19x5.6	3544-0I	13,51
BA 2	4.90	5.60	62x17x4.5	3544-2I	13,51
BA 4	3.80	4.34	53x13x3.5	3544-4I	13,51
BA 6	2.90	3.40	50x13x2.8	3544-6I	13,51

**MACHOS DE MANO**



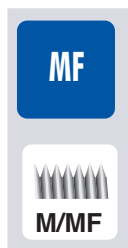
			Ø Ext.	Lt x Lc x $\varnothing$		€
BSB	1/4 - 26	6.60	7.72	72x22x6.3	3560-1/4I	14,97
BSB	5/16 - 26	8.00	9.30	72x22x7.1	3560-5/16I	16,47
BSB	3/8 - 26	9.80	10.89	85x25x6.3	3560-3/8I	17,15
BSB	7/16 - 26	11.10	12.48	89x29x7.1	3560-7/16I	22,85
BSB	1/2 - 26	12.70	14.07	95x30x9	3560-1/2I	25,85



			Ø Ext.	Lg	Ø G	Lt x Lc x $\varnothing$		€
M	6 x 1.00	6.30	7.29	7	6	70x28x6.3	3520-6.00PN	25,83
M	8 x 1.25	8.30	9.62	9	8	75x32x6.3	3520-8.00PN	25,83
M	10 x 1.00	10.30	11.29	8	10	74x30x6.3	3522-10.00PN	32,31
M	10 x 1.50	10.40	11.94	9	10	89x29x7.1	3520-10.00PN	32,31
M	12 x 1.25	12.30	13.62	9	12	75x32x7.1	3522-12.00PN	45,90
M	14 x 1.25	14.25	15.62	10	14	90x45x9.2	3522-14.00PN	53,41
M	18 x 1.50	18.50	19.94	10	18	116x47x12.5	3522-18.00PN	76,37

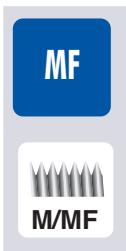


## HERRAMIENTAS DE INSERCIÓN



		€		€		€		€
M 2 x 0.40	3500-HIT2	13,28	3520-2.00HIP	128,17	3520-2.00MIT	127,25	-	-
M 2.20 x 0.45	3500-HIT2	13,28	3520-2.20HIP	128,17	3520-2.20MIT	127,25	-	-
M 2.50 x 0.45	3500-HIT3	13,28	3520-2.50HIP	128,17	3520-2.50MIT	127,25	-	-
M 3 x 0.50	3500-HIT4	13,28	3520-3.00HIP	95,55	3520-3.00MIT	117,08	-	-
M 3.50 x 0.60	3500-HIT5	13,28	3520-3.50HIP	95,55	3520-3.50MIT	117,08	-	-
M 4 x 0.70	3500-HIT6	13,28	3520-4.00HIP	95,55	3520-4.00MIT	117,08	-	-
M 5 x 0.80	3500-HIT8	13,28	3520-5.00HIP	95,55	3520-5.00MIT	117,08	-	-
M 6 x 1.00	3500-HIT9	13,28	3520-6.00HIP	99,37	3520-6.00MIT	117,08	-	-
M 7 x 1.00	3500-HIT10	15,23	3520-7.00HIP	99,37	3520-7.00MIT	117,08	-	-
M 8 x 1.00	3500-HIT11	15,23	3521-8.00HIP	95,09	3521-8.00MIT	117,08	-	-
M 8 x 1.25	3500-HIT11	15,23	3520-8.00HIP	80,88	3520-8.00MIT	117,08	-	-
M 9 x 1.25	3500-HIT13	15,23	3520-9.00HIP	80,29	3520-9.00MIT	117,07	-	-
M 10 x 1.00	3500-HIT13	15,23	3523-10.00HIP	108,60	3523-10.00MIT	127,25	-	-
M 10 x 1.25	3500-HIT13	15,23	3521-10.00HIP	118,64	3521-10.00MIT	127,25	-	-
M 10 x 1.50	3500-HIT13	15,23	3520-10.00HIP	107,76	3520-10.00MIT	127,25	-	-
M 11 x 1.00	3500-HIT14	19,09	-	-	-	-	-	-
M 11 x 1.25	3500-HIT14	19,09	-	-	-	-	-	-
M 11 x 1.50	3500-HIT14	19,09	3520-11.00HIP	120,57	3520-11.00MIT	135,75	-	-
M 12 x 1.00	3500-HIT15	19,09	-	-	-	-	-	-
M 12 x 1.25	3500-HIT15	19,09	3523-12.00HIP	112,37	3523-12.00MIT	135,75	-	-
M 12 x 1.50	3500-HIT15	19,09	3521-12.00HIP	105,46	3521-12.00MIT	135,75	-	-
M 12 x 1.75	3500-HIT15	19,09	3520-12.00HIP	103,73	3520-12.00MIT	135,75	-	-
M 13 x 1.25	3500-HIT16	22,96	-	-	-	-	-	-
M 13 x 1.50	3500-HIT15	19,09	-	-	-	-	-	-
M 13 x 1.75	3500-HIT15	19,09	-	-	3520-13.00MIT	135,73	-	-
M 14 x 1.00	3500-HIT16	22,96	-	-	-	-	-	-
M 14 x 1.25	3500-HIT16	22,96	3523-14.00HIP	218,95	3523-14.00MIT	144,21	-	-
M 14 x 1.50	3500-HIT16	22,96	3521-14.00HIP	120,52	3521-14.00MIT	144,21	-	-
M 14 x 2.00	3500-HIT16	22,96	3520-14.00HIP	92,28	3520-14.00MIT	144,21	-	-
M 15 x 1.50	3500-HIT16	22,96	-	-	-	-	-	-
M 15 x 2.00	3500-HIT16	22,96	-	-	-	-	-	-
M 16 x 1.50	3500-HIT18	25,37	3521-16.00HIP	112,37	3521-16.00MIT	144,21	-	-
M 16 x 2.00	3500-HIT18	25,37	-	-	3520-16.00MIT	144,21	-	-
M 18 x 1.50	3500-HIT20	25,37	-	-	-	-	3523-18.00HIP	210,99
M 18 x 2.00	3500-HIT20	25,37	-	-	-	-	3521-18.00HIP	210,99
M 18 x 2.50	3500-HIT20	25,37	-	-	-	-	3520-18.00HIP	101,56

HERRAMIENTAS DE INSERCIÓN



		€		€		€
M 20 x 1.50	3500-HIT21	25,37	-	-	3523-20.00HIP	262,91
M 20 x 2.00	3500-HIT21	25,37	-	-	3521-20.00HIP	262,91
<b>M 20 x 2.50</b>	3500-HIT21	25,37	-	-	3520-20.00HIP	119,01
M 22 x 1.50	3500-HIT22	31,89	-	-	3523-22.00HIP	321,57
M 22 x 2.00	3500-HIT22	31,89	-	-	3521-22.00HIP	321,57
<b>M 22 x 2.50</b>	3500-HIT22	31,89	-	-	3520-22.00HIP	125,05
M 24 x 1.50	3500-HIT23	31,89	-	-	3523-24.00HIP	375,15
M 24 x 2.00	3500-HIT23	31,89	-	-	3521-24.00HIP	375,15
<b>M 24 x 3.00</b>	3500-HIT23	31,89	-	-	3520-24.00HIP	132,65
M 26 x 1.50	3500-HIT24	57,26	3523-26.00HIM	31,94	-	-
M 27 x 1.50	3500-HIT24	57,26	3523-27.00HIM	31,94	-	-
M 27 x 2.00	3500-HIT24	57,26	3521-27.00HIM	31,94	-	-
<b>M 27 x 3.00</b>	3500-HIT24	57,26	3520-27.00HIM	31,94	-	-
M 28 x 1.50	3500-HIT24	57,26	3523-28.00HIM	31,94	-	-
M 30 x 1.50	3500-HIT26	90,15	3523-30.00HIM	38,34	-	-
M 30 x 2.00	3500-HIT26	90,15	3521-30.00HIM	38,34	-	-
<b>M 30 x 3.50</b>	3500-HIT25	57,26	3520-30.00HIM	38,34	-	-
M 33 x 2.00	3500-HIT26	90,15	3521-33.00HIM	44,73	-	-
<b>M 33 x 3.50</b>	3500-HIT26	90,15	3520-33.00HIM	44,73	-	-
M 36 x 1.50	3500-HIT28	90,30	3524-36.00HIM	44,73	-	-
M 36 x 2.00	3500-HIT28	90,30	3523-36.00HIM	44,73	-	-
M 36 x 3.00	3500-HIT28	90,30	3521-36.00HIM	44,73	-	-
<b>M 36 x 4.00</b>	3500-HIT28	90,30	3520-36.00HIM	44,73	-	-
M 39x3,00	3500-HIT28	90,30	3521-39.00HIM	83,48	-	-
<b>M 39x4,00</b>	3500-HIT28	90,30	3520-39.00HIM	83,48	-	-
M 40 x 3,00	3500-HIT28	90,30	3523-40.00HIM	83,48	-	-
M 42 x 3,00	3500-HIT28	90,30	3523-42.00HIM	97,50	-	-
<b>M 42 x 4,50</b>	3500-HIT28	90,30	3520-42.00HIM	97,50	-	-
M 45 x 3,00	3500-HIT30	112,28	3523-45.00HIM	97,50	-	-
<b>M 45 x 4,50</b>	3500-HIT30	112,28	3520-45.00HIM	97,50	-	-
M 48 x 3,00	3500-HIT30	112,28	3523-48.00HIM	103,34	-	-
<b>M 48 x 5,00</b>	3500-HIT30	112,28	3520-48.00HIM	103,34	-	-
M 50 x 3,00	3500-HIT30	112,28	3523-50.00HIM	117,92	-	-
M 52 x 3,00	3500-HIT30	112,28	3523-52.00HIM	117,92	-	-
<b>M 52 x 5,00</b>	3500-HIT30	112,28	3520-52.00HIM	117,92	-	-

## HERRAMIENTAS DE INSERCIÓN

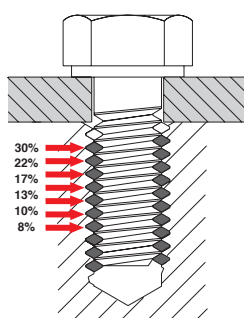
UNC

UNC



	FREE	FREE	LOCK	FREE	FREE	LOCK	FREE	LOCK

		€		€		€		€		€
UNC N°2 - 56	3500-HIT2	13,28	3532-2GHIP	133,64	-	-	3532-2GMIT	127,25	-	-
UNC N°3 - 48	3500-HIT3	13,28	-	-	-	-	3532-3GMIT	127,25	-	-
UNC N°4 - 40	3500-HIT4	13,28	3532-4GHIP	133,64	-	-	3532-4GMIT	127,25	-	-
UNC N°5 - 40	3500-HIT4	13,28	3532-5GHIP	133,64	-	-	3532-5GMIT	127,25	-	-
UNC N°6 - 32	3500-HIT5	13,28	3532-6GHIP	130,00	-	-	3532-6GMIT	117,08	-	-
UNC N°8 - 32	3500-HIT6	13,28	3532-8GHIP	130,00	-	-	3532-8GMIT	117,08	-	-
UNC N°10 - 24	3500-HIT7	13,28	3532-10GHIP	130,00	-	-	3532-10GMIT	117,08	-	-
UNC N°12 - 24	3500-HIT8	13,28	3532-12GHIP	130,00	-	-	3532-12GMIT	117,07	-	-
UNC 1/4 - 20	3500-HIT9	13,28	3532-1/4HIP	88,37	-	-	3532-1/4MIT	117,08	-	-
UNC 5/16 - 18	3500-HIT10	15,23	3532-5/16HIP	88,43	-	-	3532-5/16MIT	117,08	-	-
UNC 3/8 - 16	3500-HIT13	15,23	3532-3/8HIP	102,67	-	-	3532-3/8MIT	127,25	-	-
UNC 7/16 - 14	3500-HIT14	19,09	3532-7/16HIP	102,67	-	-	3532-7/16MIT	127,25	-	-
UNC 1/2 - 13	3500-HIT15	19,09	3532-1/2HIP	118,70	-	-	3532-1/2MIT	135,75	-	-
UNC 9/16 - 12	3500-HIT16	22,96	-	-	-	-	-	-	3532-9/16HIP	107,30
UNC 5/8 - 11	3500-HIT18	25,37	-	-	-	-	-	-	3532-5/8HIP	112,74
UNC 3/4 - 10	3500-HIT20	25,37	-	-	-	-	-	-	3532-3/4HIP	126,80
UNC 7/8 - 9	3500-HIT22	31,89	-	-	-	-	-	-	3532-7/8HIP	136,55
UNC 1 - 8	3500-HIT23	31,89	-	-	-	-	-	-	3532-1HIP	156,06
UNC 1.1/8 - 7	3500-HIT24	57,26	-	-	3532-1.1/8HIM	38,34	-	-	3532-1.1/8HIP	178,19
UNC 1.1/4 - 7	3500-HIT25	57,26	-	-	3532-1.1/4HIM	38,34	-	-	3532-1.1/4HIP	186,67
UNC 1.3/8 - 6	3500-HIT26	90,15	-	-	3532-1.3/8HIM	44,73	-	-	3532-1.3/8HIP	189,98
UNC 1.1/2 - 6	3500-HIT27	90,30	-	-	3532-1.1/2HIM	44,73	-	-	3532-1.1/2HIP	192,62

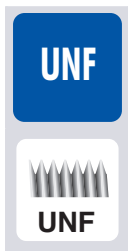


## RECOMENDACIÓN TÉCNICA:

Instale el inserto hilo y medio por debajo del ras de la pieza.



**HERRAMIENTAS DE INSERCIÓN**



		€		€		€		€		€
UNF Nº3 - 56	3500-HIT3	13,28	3534-3GHIP	118,98	-	-	-	-	-	-
UNF Nº4 - 48	3500-HIT4	13,28	3534-4GHIP	121,40	-	-	3534-4GMIT	127,25	-	-
UNF Nº6 - 40	3500-HIT5	13,28	3534-6GHIP	106,37	-	-	3534-6GMIT	117,08	-	-
UNF Nº8 - 36	3500-HIT6	13,28	3534-8GHIP	106,37	-	-	3534-8GMIT	117,08	-	-
UNF Nº10 - 32	3500-HIT8	13,28	3534-10GHIP	106,37	-	-	3534-10GMIT	117,08	-	-
UNF Nº12 - 28	3500-HIT8	13,28	3534-12GHIP	106,37	-	-	3534-12GMIT	117,07	-	-
UNF 1/4 - 28	3500-HIT9	13,28	3534-1/4HIP	72,30	-	-	3534-1/4MIT	117,08	-	-
UNF 5/16 - 24	3500-HIT11	15,23	3534-5/16HIP	72,36	-	-	3534-5/16MIT	117,08	-	-
UNF 3/8 - 24	3500-HIT13	15,23	3534-3/8HIP	84,01	-	-	3534-3/8MIT	127,25	-	-
UNF 7/16 - 20	3500-HIT14	19,09	3534-7/16HIP	84,01	-	-	3534-7/16MIT	127,25	-	-
UNF 1/2 - 20	3500-HIT15	19,09	3534-1/2HIP	97,14	-	-	3534-1/2MIT	135,75	-	-
UNF 9/16 - 18	3500-HIT16	22,96	-	-	-	-	-	-	3534-9/16HIP	87,79
UNF 5/8 - 8	3500-HIT18	25,37	-	-	-	-	-	-	3534-5/8HIP	92,23
UNF 3/4 - 16	3500-HIT21	25,37	-	-	-	-	-	-	3534-3/4HIP	103,76
UNF 7/8 - 14	3500-HIT22	31,89	-	-	-	-	-	-	3534-7/8HIP	111,74
UNF 1-12	3500-HIT23	31,89	-	-	-	-	-	-	3534-1HIP	127,68
UNS 1-14	3500-HIT23	31,89	-	-	-	-	-	-	3535-1HIP	127,68
UNF 1.1/8 - 12	3500-HIT25	57,26	-	-	3534-1.1/8HIM	38,34	-	-	3534-1.1/8HIP	478,82
UNF 1.1/4 - 12	3500-HIT26	90,15	-	-	3534-1.1/4HIM	38,34	-	-	3534-1.1/4HIP	558,62
UNF 1.3/8 - 12	3500-HIT27	90,30	-	-	3534-1.3/8HIM	44,73	-	-	3534-1.3/8HIP	638,43
UNF 1.1/2 - 12	3500-HIT28	90,30	-	-	3534-1.1/2HIM	44,73	-	-	3534-1.1/2HIP	718,22



## HERRAMIENTAS DE INSERCIÓN

BSW



€

BSW 1/8 - 40	<b>3500-HIT4</b>	<b>13,28</b>
BSW 3/16 - 24	<b>3500-HIT7</b>	<b>13,28</b>
BSW 1/4 - 20	<b>3500-HIT9</b>	<b>13,28</b>
BSW 5/16 - 18	<b>3500-HIT10</b>	<b>15,23</b>
BSW 3/8 - 16	<b>3500-HIT11</b>	<b>15,23</b>
BSW 7/16 - 14	<b>3500-HIT14</b>	<b>19,09</b>
BSW 1/2 - 12	<b>3500-HIT15</b>	<b>19,09</b>
BSW 9/16 - 12	<b>3500-HIT16</b>	<b>22,96</b>
BSW 5/8 - 11	<b>3500-HIT18</b>	<b>25,37</b>
BSW 3/4 - 10	<b>3500-HIT20</b>	<b>25,37</b>
BSW 7/8 - 9	<b>3500-HIT22</b>	<b>31,89</b>
BSW 1 - 8	<b>3500-HIT23</b>	<b>31,89</b>

BSP  
(GAS)

€

€

BSP 1/8 - 28	<b>3500-HIT14</b>	<b>19,09</b>	<b>3546-1/8HIM</b>	<b>19,17</b>
BSP 1/4 - 19	<b>3500-HIT16</b>	<b>22,96</b>	<b>3546-1/4HIM</b>	<b>19,17</b>
BSP 3/8 - 19	<b>3500-HIT20</b>	<b>25,37</b>	<b>3546-3/8HIM</b>	<b>22,37</b>
BSP 1/2 - 14	<b>3500-HIT23</b>	<b>31,89</b>	<b>3546-1/2HIM</b>	<b>25,58</b>
BSP 5/8 - 14	<b>3500-HIT23</b>	<b>31,89</b>	<b>3546-5/8HIM</b>	<b>31,94</b>
BSP 3/4 - 14	<b>3500-HIT24</b>	<b>57,26</b>	<b>3546-3/4HIM</b>	<b>31,94</b>
BSP 7/8 - 14	<b>3500-HIT27</b>	<b>90,30</b>	<b>3546-7/8HIM</b>	<b>44,73</b>
BSP 1 - 11	<b>3500-HIT27</b>	<b>90,30</b>	<b>3546-1HIM</b>	<b>44,73</b>

BSF



€

BSF 3/16 - 32	<b>3500-HIT8</b>	<b>13,28</b>
BSF 1/4 - 26	<b>3500-HIT9</b>	<b>13,28</b>
BSF 5/16 - 22	<b>3500-HIT11</b>	<b>15,23</b>
BSF 3/8 - 20	<b>3500-HIT13</b>	<b>15,23</b>
BSF 7/16 - 18	<b>3500-HIT14</b>	<b>19,09</b>
BSF 1/2 - 16	<b>3500-HIT15</b>	<b>19,09</b>
BSF 9/16 - 16	<b>3500-HIT16</b>	<b>22,96</b>
BSF 5/8 - 14	<b>3500-HIT18</b>	<b>25,37</b>
BSF 3/4 - 12	<b>3500-HIT20</b>	<b>25,37</b>
BSF 7/8 - 11	<b>3500-HIT22</b>	<b>31,89</b>
BSF 1 - 10	<b>3500-HIT23</b>	<b>31,89</b>

NPT

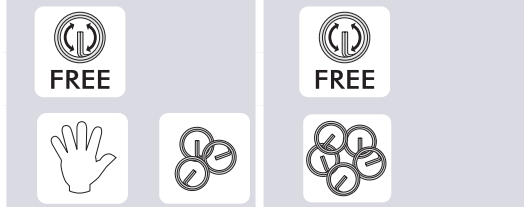


€

NPT 1/8 - 27	<b>3500-HIT13</b>	<b>15,23</b>
NPT 1/4 - 18	<b>3500-HIT16</b>	<b>22,96</b>
NPT 3/8 - 18	<b>3500-HIT18</b>	<b>25,37</b>
NPT 1/2 - 14	<b>3500-HIT22</b>	<b>31,89</b>
NPT 3/4 - 14	<b>3500-HIT24</b>	<b>57,26</b>
NPT 1 - 11.1/2	<b>3500-HIT27</b>	<b>90,30</b>



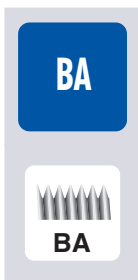
**HERRAMIENTAS DE INSERCIÓN**



		€		€
UN 1.1/8 - 8	3500-HIT24	57,26	3570-1.1/8HIM	74,59
UN 1.1/4 - 8	3500-HIT25	57,26	3570-1.1/4HIM	74,59
UN 1.3/8 - 8	3500-HIT26	90,15	3570-1.3/8HIM	86,56
UN 1.1/2 - 8	3500-HIT27	90,30	3570-1.1/2HIM	86,56
UN 1.5/8 - 8	3500-HIT27	90,30	3570-1.5/8HIM	89,53
UN 1.3/4 - 8	3500-HIT28	90,30	3570-1.3/4HIM	95,50
UN 1.7/8 - 8	3500-HIT30	112,28	3570-1.7/8HIM	110,42
UN 2 - 8	3500-HIT30	112,28	3570-2HIM	110,42



		€
BSB 1/4 - 26	3500-HIT9	13,28
BSB 5/16 - 26	3500-HIT11	15,23
BSB 3/8 - 26	3500-HIT13	15,23
BSB 7/16 - 26	3500-HIT14	19,09
BSB 1/2 - 26	3500-HIT15	19,09



		€
BA 0	3500-HIT9	13,28
BA 2	3500-HIT7	13,28
BA 4	3500-HIT5	13,28
BA 6	3500-HIT3	13,28



		€
10x1.00	3500-HIT13	15,23
12x1.25	3500-HIT15	19,09
14x1.25	3500-HIT17	22,96
18x1.50	3500-HIT20	25,37



M14x1,25

M12x1,25





## HERRAMIENTAS DE INSERCIÓN Y EXTRACCIÓN

UNC

UNC

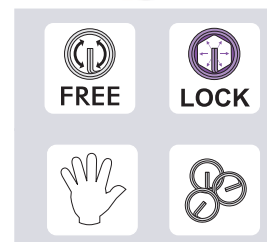
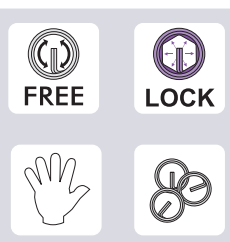
Rosa




HIT



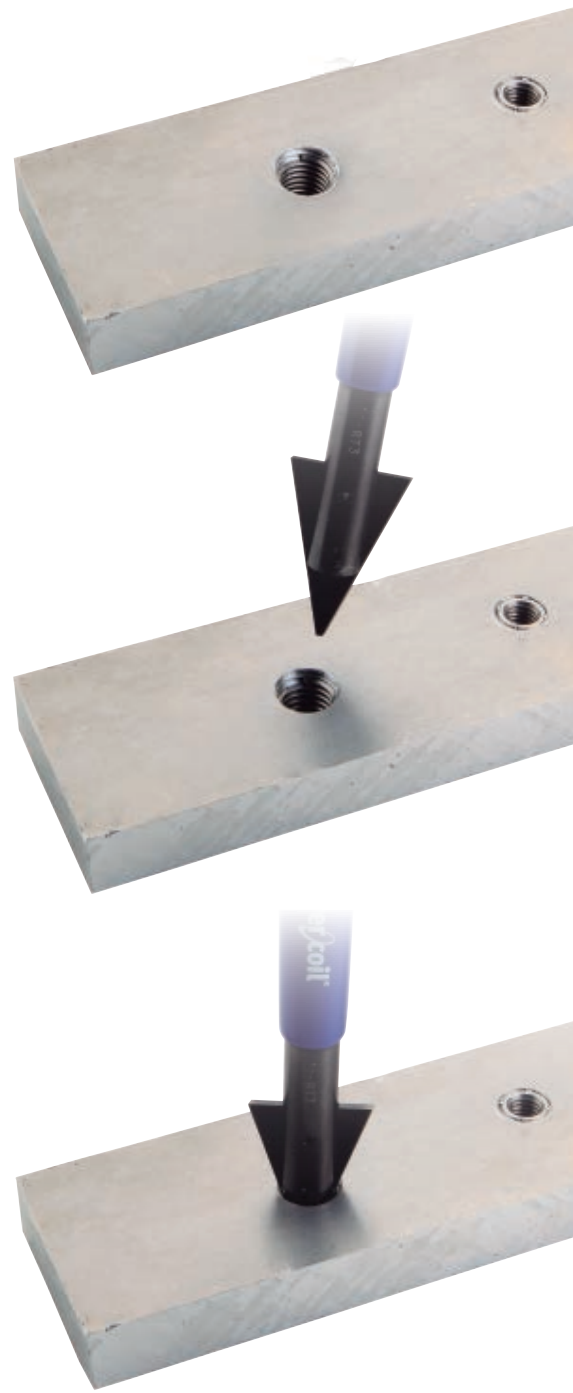
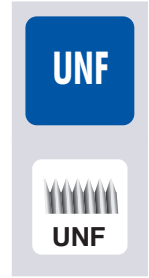
TB




		€
UNC Nº2 - 56	3500-TB2	5,70
UNC Nº3 - 48	3500-TB3	5,70
UNC Nº4 - 40	3500-TB4	5,70
UNC Nº5 - 40	3500-TB4	5,70
UNC Nº6 - 32	3500-TB5	5,70
UNC Nº8 - 32	3500-TB6	5,70
UNC Nº10 - 24	3500-TB8	5,70
UNC Nº12 - 24	3500-TB8	5,70
UNC 1/4 - 20	3500-TB9	5,70
UNC 5/16 - 18	3500-TB12	6,31
UNC 3/8 - 16	3500-TB12	6,31
UNC 7/16 - 14	3500-TB14	7,64
UNC 1/2 - 13	3500-TB15	7,64
UNC 9/16 - 12	3500-HIT16	22,96
UNC 5/8 - 11	3500-HIT18	25,37
UNC 3/4 - 10	3500-HIT20	25,37
UNC 7/8 - 9	3500-HIT22	31,89
UNC 1 - 8	3500-HIT23	31,89
UNC 1.1/8 - 7	-	-
UNC 1.1/4 - 7	-	-
UNC 1.3/8 - 6	-	-
UNC 1.1/2 - 6	-	-

	€
3500-RT1	26,07
3500-RT1	26,07
3500-RT1	26,07
3500-RT1	26,07
3500-RT1	26,07
3500-RT1	26,07
3500-RT1	26,07
3500-RT2	28,15
3500-RT2	28,15
3500-RT2	28,15
3500-RT2	28,15
3500-RT3	34,45
3500-RT3	34,45
3500-RT3	34,45
3500-RT3	34,45
3500-RT3	34,45
3500-RT3	34,45
3500-RT3	34,45
3500-RT4	63,05
3500-RT4	63,05
3500-RT4	63,05
3500-RT4	63,05

**HERRAMIENTAS DE INSERCIÓN Y EXTRACCIÓN**



		€
UNF N°3 - 56	<b>3500-TB3</b>	<b>5,70</b>
UNF N°4 - 48	<b>3500-TB4</b>	<b>5,70</b>
UNF N°6 - 40	<b>3500-TB5</b>	<b>5,70</b>
UNF N°8 - 36	<b>3500-TB6</b>	<b>5,70</b>
UNF N°10 - 32	<b>3500-TB8</b>	<b>5,70</b>
UNF N°12 - 28	<b>3500-TB8</b>	<b>5,70</b>
UNF 1/4 - 28	<b>3500-TB9</b>	<b>5,70</b>
UNF 5/16 - 24	<b>3500-TB12</b>	<b>6,31</b>
UNF 3/8 - 24	<b>3500-TB13</b>	<b>6,31</b>
UNF 7/16 - 20	<b>3500-TB14</b>	<b>7,64</b>
UNF 1/2 - 20	<b>3500-TB15</b>	<b>7,64</b>
UNF 9/16 - 18	<b>3500-HIT16</b>	<b>22,96</b>
UNF 5/8 - 18	<b>3500-HIT18</b>	<b>25,37</b>
UNF 3/4 - 16	<b>3500-HIT21</b>	<b>25,37</b>
UNF 7/8 - 14	<b>3500-HIT22</b>	<b>31,89</b>
UNF 1 - 12	<b>3500-HIT23</b>	<b>31,89</b>
UNF 1 - 14	<b>3500-HIT23</b>	<b>31,89</b>
UNF 1.1/8 - 12	-	-
UNF 1.1/4 - 12	-	-
UNF 1.3/8 - 12	-	-
UNF 1.1/2 - 12	-	-

	€
<b>3500-RT1</b>	<b>26,07</b>
<b>3500-RT1</b>	<b>26,07</b>
<b>3500-RT1</b>	<b>26,07</b>
<b>3500-RT1</b>	<b>26,07</b>
<b>3500-RT2</b>	<b>28,15</b>
<b>3500-RT2</b>	<b>28,15</b>
<b>3500-RT2</b>	<b>28,15</b>
<b>3500-RT3</b>	<b>34,45</b>
<b>3500-RT3</b>	<b>34,45</b>
<b>3500-RT3</b>	<b>34,45</b>
<b>3500-RT3</b>	<b>34,45</b>
<b>3500-RT3</b>	<b>34,45</b>
<b>3500-RT3</b>	<b>34,45</b>
<b>3500-RT3</b>	<b>34,45</b>
<b>3500-RT3</b>	<b>34,45</b>
<b>3500-RT3</b>	<b>34,45</b>
<b>3500-RT3</b>	<b>34,45</b>
<b>3500-RT4</b>	<b>63,05</b>
<b>3500-RT4</b>	<b>63,05</b>
<b>3500-RT4</b>	<b>63,05</b>
<b>3500-RT4</b>	<b>63,05</b>

## HERRAMIENTAS DE INSERCIÓN Y EXTRACCIÓN

BSW



BSW



FREE



LOCK



FREE



LOCK



BSW 1/8 - 40

3500-TB4

5,70

3500-RT1

26,07

BSW 3/16 - 24

3500-TB8

5,70

3500-RT2

28,15

BSW 1/4 - 20

3500-TB9

5,70

3500-RT2

28,15

BSW 5/16 - 18

3500-TB11

6,31

3500-RT2

28,15

BSW 3/8 - 16

3500-TB12

6,31

3500-RT3

34,45

BSW 7/16 - 14

3500-TB14

7,64

3500-RT3

34,45

BSW 1/2 - 12

3500-TB15

7,64

3500-RT3

34,45

BSW 9/16 - 12

3500-HIT16

22,96

3500-RT3

34,45

BSW 5/8 - 11

3500-HIT18

25,37

3500-RT3

34,45

BSW 3/4 - 10

3500-HIT20

25,37

3500-RT3

34,45

BSW 7/8 - 9

3500-HIT22

31,89

3500-RT3

34,45

BSW 1 - 8

3500-HIT23

31,89

3500-RT3

34,45

BSF



BSF



FREE



LOCK



FREE



LOCK



BSF 3/16 - 32

3500-TB6

5,70

3500-RT2

28,15

BSF 1/4 - 26

3500-TB9

5,70

3500-RT2

28,15

BSF 5/16 - 22

3500-TB11

6,31

3500-RT2

28,15

BSF 3/8 - 20

3500-TB12

6,31

3500-RT3

34,45

BSF 7/16 - 18

3500-TB14

7,64

3500-RT3

34,45

BSF 1/2 - 16

3500-TB15

7,64

3500-RT3

34,45

BSF 9/16 - 16

3500-HIT16

22,96

3500-RT3

34,45

BSF 5/8 - 14

3500-HIT18

25,37

3500-RT3

34,45

BSF 3/4 - 12

3500-HIT20

25,37

3500-RT3

34,45

BSF 7/8 - 11

3500-HIT22

31,89

3500-RT3

34,45

BSF 1 - 10

3500-HIT23

31,89

3500-RT3

34,45

BA



BA



FREE



LOCK



FREE



LOCK



BSB



BSB



FREE



LOCK



FREE



LOCK



BSB 1/4 - 26

3500-TB9

5,70

3500-RT2

28,15

BSB 5/16 - 26

3500-TB12

6,31

3500-RT2

28,15

BSB 3/8 - 26

3500-TB13

6,31

3500-RT3

34,45

BSB 7/16 - 26

3500-TB14

7,64

3500-RT3

34,45

BSB 1/2 - 26

3500-TB15

7,64

3500-RT3

34,45

**BROCA DE METAL DURO PARA ACEROS TEMPLADOS Y BLINDADOS DE ALTA RESISTENCIA**

Ref. BC85

**70 HRC**

MD

TOL D1  
h7

TOL D2  
h6

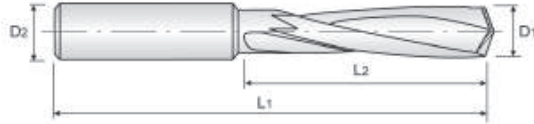


TiAIN

**HARDOX 600**



Broca especial para HARDOX 600



BC85						
	D1 mm	D2 mm	L1 mm	L2 mm		
BC850300	3,0	3	46	16		49,79
BC850330	3,3	4	48	18	M4	57,14
BC850340	3,4	4	50	20		57,14
BC850350	3,5	4	50	20		57,14
BC850400	4,0	4	52	22		58,30
BC850420	4,2	6	65	25	M5	82,78
BC850430	4,3	6	68	28		82,78
BC850440	4,4	6	68	28		82,78
BC850450	4,5	6	68	28		82,78
BC850500	5,0	6	72	32	M6	82,78
BC850510	5,1	6	72	32		82,78
BC850520	5,2	6	72	32		82,78
BC850550	5,5	6	75	35		82,78
BC850600	6,0	6	75	35		82,78
BC850650	6,5	8	80	40		102,69
BC850680	6,8	8	85	45	M8	102,69
BC850690	6,9	8	85	45		102,69
BC850700	7,0	8	85	45		102,69
BC850750	7,5	8	85	45		102,69
BC850800	8,0	8	98	50		102,69
BC850850	8,5	10	98	50	M10	156,94
BC850860	8,6	10	105	57		156,94
BC850880	8,8	10	105	57		156,94
BC850900	9,0	10	105	57		156,94
BC850950	9,5	10	105	57		156,94
BC851000	10,0	10	111	63		156,94
BC851020	10,2	12	111	63	M12	203,26
BC851030	10,3	12	111	63		238,49
BC851050	10,5	12	111	63		238,49
BC851080	10,8	12	119	71		238,49
BC851100	11,0	12	119	71		238,49
BC851150	11,5	12	119	71		238,49
BC851200	12,0	12	119	71	M14	238,49
BC851400	14,0	14	125	77	M16	271,01

**TALADRADO DE TORNILLOS Y MACHOS ROTOS**

**Tornillo roto**

**PASO 1**  
Limpiar la superficie

**PASO 2**  
Taladrado con la broca BC85

**PASO 3**  
Retirar los restos

**PASO 4 (Opcional)**  
Reparar la rosca con insertos

HRC	50-55		55-60		60-70	
	VC	14-22 m/min	VC	10-16 m/min	VC	8-13 m/min
Ø	(R.P.M.)	(mm/min)	(R.P.M.)	(mm/min)	(R.P.M.)	(mm/min)
3	1900	0.04	1330	0.04	1000	0.04
4	1430	0.04	1000	0.04	750	0.04
5	1150	0.04	800	0.04	600	0.04
6	960	0.04	670	0.04	500	0.04
8	720	0.04	500	0.04	370	0.04
10	570	0.04	400	0.04	300	0.04
12	480	0.04	330	0.04	250	0.04
14	438	0.04	282	0.04	210	0.04

## BROCAS HELICOIDALES CON MANGO CILÍNDRICO

HSSCo  
5%DIN  
338

GOLD



	Ø mm.	Ø "	L1 x L2 mm	€
3520-0210	2.10	-	49x24	2,80
3520-0230	2.30	3/32	53x27	2,80
3520-0240	2.40	-	57x30	2,80
3520-0260	2.60	-	57x30	2,69
3520-0270	2.70	-	61x33	2,69
3520-0290	2.90	-	61x33	2,69
3520-0300	3.00	-	61x33	2,14
3520-0320	3.20	1/8	65x36	2,58
3520-0340	3.40	-	70x39	2,69
3520-0370	3.70	-	70x39	3,24
3520-0380	3.80	-	75x43	3,24
3520-0420	4.20	-	75x43	3,06
3520-0430	4.30	-	80x47	3,24
3520-0440	4.40	11/64	80x47	3,24
3520-0480	4.80	-	86x52	3,60
3520-0490	4.90	-	86x52	3,60
3520-0500	5.00	-	86x52	3,28
3520-0510	5.10	-	86x52	3,94
3520-0520	5.20	13/64	86x52	3,94
3520-0550	5.50	7/32	93x57	4,16
3520-0570	5.70	15/64	93x57	4,92
3520-0620	6.20	-	101x63	5,48
3520-0630	6.30	1/4	101x63	5,48
3520-0660	6.60	-	101x63	6,58
3520-0670	6.70	17/64	101x63	6,58
3520-0690	6.90	-	109x69	6,58
3520-0730	7.30	9/32	109x69	8,38
3520-0760	7.60	-	117x75	10,08
3520-0800	8.00	5/16	117x75	7,25
3520-0820	8.20	-	117x75	9,67
3520-0830	8.30	21/64	117x75	9,67

	Ø mm.	Ø "	L1 x L2 mm	€
3520-0840	8.40	-	117x75	9,67
3520-0880	8.80	-	125x81	12,29
3520-0930	9.30	23/64	125x81	13,61
3520-0940	9.40	3/8	125x81	13,57
3520-0980	9.80	-	133x87	15,95
3520-0990	9.90	25/64	133x87	15,95
3520-1000	10.00	-	133x87	10,96
3520-1010	10.10	-	133x87	18,34
3520-1030	10.30	13/32	133x87	18,38
3520-1040	10.40	-	133x87	18,34
3520-1080	10.80	-	142x94	21,33
3520-1110	11.10	7/16	142x94	24,33
3520-1130	11.30	-	142x94	24,33
3520-1140	11.40	-	142x94	24,33
3520-1150	11.50	29/64	142x94	20,48
3520-1160	11.60	-	142x94	25,14
3520-1230	12.30	-	151x101	29,18
3520-1240	12.40	31/64	151x101	29,18
3520-1250	12.50	-	151x101	26,65
3520-1270	12.70	1/2	151x101	30,37
3520-1280	12.80	-	151x101	30,37
3520-1300	13.00	33/64	151x101	27,24
3520-1325	13.25	-	160x108	37,71
3520-1350	13.50	-	160x108	30,03
3520-1375	13.75	-	160x108	37,71
3520-1425	14.25	9/16	169x114	49,55
3520-1450	14.50	-	169x114	42,12
3520-1475	14.75	-	169x114	49,55
3520-1500	15.00	19/32	169x114	42,75
3520-1525	15.25	-	178x120	68,36

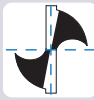
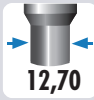


**BROCAS HELICOIDALES CON MANGO REDUCIDO**

**BROCAS HELICOIDALES CON MANGO CÓNICO**

**HSSCo**  
5%

**DIN**  
338



**GOLD**



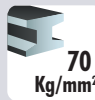
	Ø mm.	Ø "	L1 x L2 mm	€
3520-1550	15.50	39/64	178x120	63,88
3520-1650	16.50	-	184x125	75,04
3520-1675	16.75	-	184x125	100,58
3520-1700	17.00	-	184x125	75,53
3520-1750	17.50	-	191x130	83,13
3520-1850	18.50	23/32	198x135	101,65
3520-1875	18.75	-	198x135	127,45
3520-1900	19.00	3/4	198x135	100,77
3520-1950	19.50	49/64	205x140	111,65
3520-2000	20.00	-	205x240	119,63
3520-2050	20.50	13/16	205x140	142,41

**HSS**

**DIN**  
345



**OX**



	Ø mm.	Ø "	L1 x L2 mm	€
3520-2075	20.75	-	243x145	77,14
3520-2100	21.00	-	243x145	73,72
3520-2150	21.50	27/32	248x150	73,72
3520-2250	22.50	57/64	253x155	80,82
3520-2275	22.75	-	253x155	93,17
3520-2300	23.00	29/32	253x155	80,64
3520-2325	23.25	-	276x155	102,72
3520-2350	23.50	-	276x155	89,49
3520-2450	24.50	31/32	281x160	97,46
3520-2500	25.00	-	281x160	97,06
3520-2575	25.75	1.1/64	286x165	121,91
3520-2600	26.00	-	286x165	105,62
3520-2625	26.25	-	286x165	132,02
3520-2650	26.50	-	286x165	114,33
3520-2700	27.00	1.1/16	291x170	114,44
3520-2750	27.50	1.5/64	291x170	122,42
3520-2800	28.00	1.3/32	291x170	122,79
3520-2850	28.50	1.1/8	296x175	131,24
3520-2950	29.50	1.5/32	296x175	144,50
3520-3000	30.00	1.11/64	296x175	144,62
3520-3050	30.50	1.3/16	301x180	161,34
3520-3100	31.00	1.7/32	301x180	161,48
3520-3200	32.00	1.1/4	334x185	170,12
3520-3250	32.50	1.9/32	334x185	195,41
3520-3300	33.00	1.19/64	334x185	194,23
3520-3325	33.25	-	334x185	239,58
3520-3350	33.50	1.5/16	334x185	211,90
3520-3375	33.75	-	339x190	240,86
3520-3400	34.00	1.21/64	339x190	211,24
3520-3500	35.00	1.3/8	339x190	231,86
3520-3550	35.50	1.13/32	339x190	247,52
3520-3600	36.00	-	344x195	248,14
3520-3650	36.50	-	344x195	262,44
3520-3700	37.00	1.29/64	344x195	262,07
3520-3800	38.00	1.1/2	349x200	275,26
3520-3850	38.50	-	349x200	292,90
3520-3900	39.00	1.17/32	349x200	293,16
3520-3950	39.50	1.35/64	349x200	310,46
3520-3975	39.75	-	349x200	344,90
3520-4000	40.00	1.9/16	349x200	310,07
3520-4100	41.00	1.5/8	354x205	325,43
3520-4250	42.50	1.43/64	354x205	362,76
3520-4300	43.00	1.11/16	359x210	362,80
3520-4450	44.50	1.3/8	359x210	397,50
3520-4600	46.00	-	364x215	411,61
3520-4750	47.50	1.7/8	364x215	444,64
3520-4850	48.50	1.29/32	369x220	462,28
3520-5100	51.00	2	412x225	562,76

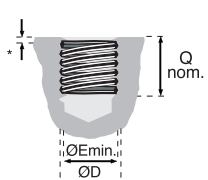
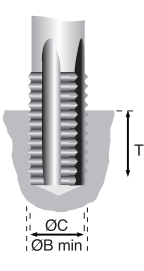
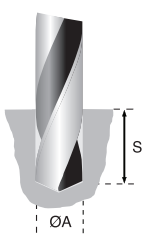
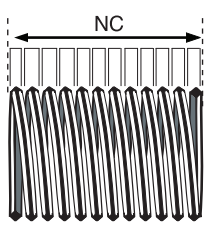
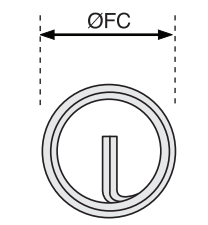




**INFORMACIÓN TÉCNICA PARA INSERTOS LIBRES**

M/MF	
<b>A</b>	Ø de taladrado o interior de rosca previa.
<b>B</b>	Ø mayor de rosca previa (Mínima).
<b>C</b>	Ø de flancos de rosca previa.
<b>D</b>	Ø de flancos de inserto instalado.
<b>E</b>	Ø interior del inserto instalado (Mínimo).
<b>FC</b>	Ø exterior del inserto en estado libre.
<b>S</b>	Profundidad del taladrado (Mínima).
<b>T</b>	Profundidad "útil" de roscado (Mínima).
<b>Q</b>	Rosca "útil" del inserto.
<b>NC</b>	Número de filetes o hilos.

MEDIDA M/MF	Broca		A max/min mm	FC min/max mm	NC max/min				
	mm	"			1.0D	1.5D	2.0D	2.5D	3.0D
M2 X 0.40	2.10	#45	2.177/2.087	2.49/2.70	3.30/3.00	5.70/5.20	8.10/7.40	10.50/9.60	13.00/11.80
M2.2 X 0.45	2.30	3/32	2.397/2.297	2.76/3.00	3.20/2.90	5.50/5.00	7.90/7.10	10.30/9.30	12.60/11.40
M2.5 X 0.45	2.60	#37	2.697/2.597	3.05/3.70	3.80/3.10	6.50/5.20	9.20/7.40	11.90/9.50	14.60/11.70
M3 X 0.50	3.20	1/8	3.220/3.108	3.61/4.35	4.30/3.40	7.20/5.80	10.10/8.20	13.10/10.50	16.00/12.90
M3.5 X 0.60	3.70	#27	3.755/3.630	4.24/4.95	4.10/3.40	7.00/5.80	9.80/8.20	12.60/10.50	15.50/12.90
M4 x 0.70	4.20	-	4.292/4.152	4.86/5.60	4.00/3.40	6.80/5.70	9.60/8.10	12.30/10.50	15.10/12.80
M5 X 0.80	5.20	13/64	5.333/5.173	5.98/6.80	4.50/3.90	7.60/6.50	10.60/9.20	13.70/11.80	16.70/14.40
M6 X 1.00	6.30	1/4	6.406/6.216	7.23/7.95	4.30/3.80	7.20/6.40	10.10/9.10	13.10/11.70	16.00/14.30
M7 X 1.00	7.30	9/32	7.406/7.216	8.22/9.20	5.30/4.60	8.70/7.70	12.10/10.70	15.60/13.70	19.00/16.70
M8 X 1.25	8.30	21/64	8.483/8.271	9.53/10.35	4.70/4.20	7.80/7.10	10.90/9.90	14.10/12.80	17.20/15.60
M8 X 1.00	8.30	21/64	8.406/8.216	9.39/10.25	6.10/5.60	10.00/9.10	13.80/12.50	17.70/16.00	21.50/19.50
M9 X 1.25	9.40	3/8	9.483/9.271	10.52/11.16	5.50/5.10	9.00/8.40	12.50/11.70	16.10/15.00	19.60/18.30
M9 x 1.00	9.30	23/64	9.406/9.216	10.40/11.23	7.10/6.50	11.50/10.50	15.80/14.50	20.20/18.50	24.50/22.50
M10 X 1.50	10.40	-	10.561/10.325	11.83/12.50	4.90/4.60	8.20/7.70	11.50/10.80	14.70/13.80	18.00/16.90
M10 X 1.25	10.30	13/32	10.483/10.271	11.74/12.65	6.10/5.60	10.00/9.20	13.80/12.70	17.70/16.30	21.50/19.80
M10 x 1.00	10.30	13/32	10.406/10.216	11.41/12.50	8.10/7.30	12.90/11.70	17.80/16.10	22.60/20.50	27.50/24.90
M11 X 1.50	11.40	-	11.561/11.325	12.82/13.59	5.60/5.20	9.20/8.60	12.80/12.00	16.40/15.40	20.00/18.70
M11 X 1.25	11.30	-	11.483/11.271	12.75/13.76	6.90/6.40	11.20/10.30	15.40/14.20	19.70/18.10	23.90/22.00
M11 X 1.00	11.30	-	11.406/11.216	12.42/13.41	9.10/8.40	14.40/13.30	19.80/18.20	25.10/23.10	30.40/28.00
M12 X 1.75	12.50	-	12.644/12.379	14.13/15.00	5.10/4.80	8.50/7.90	11.90/11.10	15.20/14.20	18.60/17.30
M12 X 1.50	12.40	31/64	12.561/12.325	14.09/15.20	6.10/5.60	10.00/9.20	13.80/12.70	17.70/16.20	21.50/19.80
M12 X 1.25	12.30	-	12.483/12.271	13.76/15.00	7.70/7.00	12.40/11.20	17.00/15.50	21.60/19.70	26.30/23.90
M12 X 1.00	12.30	-	12.406/12.216	13.43/14.49	10.10/9.30	15.90/14.70	21.70/20.00	27.60/25.40	33.40/30.80
M13 X 1.75	13.50	-	13.644/13.379	15.12/16.04	5.70/5.30	9.40/8.70	13.00/12.20	16.70/15.60	20.30/19.00
M13 X 1.50	13.25	-	13.561/13.325	15.10/16.29	6.80/6.20	11.00/10.10	15.20/13.90	19.30/17.80	23.50/21.60
M13 X 1.25	13.25	-	13.483/13.271	14.77/15.94	8.50/7.80	13.50/12.50	18.60/17.10	23.60/21.70	28.70/26.40
M14 X 2.00	14.50	-	14.733/14.433	16.43/17.35	5.30/5.00	8.70/8.20	12.10/11.40	15.60/14.60	19.00/17.90
M14 X 1.50	14.50	-	14.561/14.325	16.11/17.25	7.50/6.90	12.00/11.10	16.50/15.30	21.00/19.40	25.50/23.60
M14 X 1.25	14.25	9/16	14.483/14.271	15.78/17.03	9.30/8.60	14.70/13.60	20.20/18.60	25.60/23.60	31.00/28.60
M14 X 1.00	14.25	9/16	14.406/14.216	15.45/16.68	12.10/11.10	18.90/17.40	25.70/23.70	32.50/30.00	39.30/36.20
M15 X 2.00	15.50	39/64	15.733/15.433	17.42/18.48	5.80/5.40	9.50/8.80	13.10/12.30	16.80/15.70	20.50/19.20
M15 X 1.50	15.25	-	15.561/15.325	17.12/18.47	8.10/7.50	12.90/11.90	17.80/16.40	22.60/20.80	27.50/25.30
M16 X 2.00	16.50	-	16.733/16.433	18.41/19.60	6.30/5.90	10.20/9.50	14.20/13.20	18.10/16.90	22.00/20.50
M16 X 1.50	16.50	-	16.561/16.325	18.13/19.60	8.80/8.00	13.90/12.80	19.10/17.50	24.30/22.30	29.40/27.00
M18 X 2.50	19.00	3/4	18.896/18.541	21.04/22.00	5.50/5.20	9.00/8.60	12.50/11.90	16.10/15.30	19.60/18.60
M18 X 2.00	18.50	23/32	18.733/18.433	20.80/21.85	7.10/6.70	11.50/10.90	15.80/15.00	20.20/19.10	24.50/23.20
M18 X 1.50	18.50	23/32	18.561/18.325	20.15/21.75	10.10/9.30	15.90/14.60	21.70/20.00	27.60/25.40	33.40/30.70
M20 X 2.50	20.75	-	20.896/20.541	23.02/24.40	6.30/5.90	10.20/9.60	14.20/13.30	18.10/16.90	22.00/20.60
M20 X 2.00	20.50	13/16	20.733/20.433	22.82/24.05	8.10/7.70	12.90/12.20	17.80/16.80	22.60/21.40	27.50/25.90
M20 X 1.50	20.50	13/16	20.561/20.325	22.17/24.00	11.40/10.50	17.90/16.40	24.40/22.40	30.90/28.30	37.40/34.30
M22 X 2.50	22.75	-	22.896/22.541	25.00/26.90	7.10/6.50	11.40/10.50	15.80/14.50	20.10/18.50	24.50/22.50
M22 X 2.00	22.50	57/64	22.733/22.433	24.84/26.50	9.10/8.50	14.40/13.40	19.80/18.40	25.10/23.40	30.40/28.40
M22 X 1.50	22.50	57/64	22.561/22.325	24.19/26.45	12.70/11.60	19.90/18.10	27.00/24.60	34.20/31.10	41.30/37.60
M24 X 3.00	25.00	-	25.050/24.650	27.62/29.00	6.30/5.90	10.20/9.70	14.20/13.40	18.10/17.10	22.00/20.90
M24 X 2.00	24.50	31/32	24.733/24.433	26.86/29.10	10.10/9.20	15.90/14.60	21.70/19.90	27.60/25.30	33.40/30.60
M24 X 1.50	24.50	31/32	24.561/24.325	26.21/28.28	14.00/12.90	21.80/20.10	29.70/27.30	37.50/34.50	45.30/41.70
M26 X 1.50	26.50	-	26.561/26.325	28.23/30.46	15.40/14.20	23.80/22.00	32.30/29.80	40.80/37.60	49.20/45.40
M27 X 3.00	28.00	1.3/32	28.050/27.650	30.59/32.40	7.30/6.80	11.70/11.00	16.20/15.20	20.60/19.30	25.10/23.50
M27 X 2.00	27.50	1.5/64	27.733/27.433	29.89/32.30	11.60/10.60	18.10/16.70	24.70/22.70	31.30/28.80	37.90/34.80
M30 X 3.50	31.00	1.7/32	31.208/30.758	34.20/35.81	6.90/6.50	11.10/10.50	15.30/14.50	19.50/18.60	23.80/22.60
M30 X 3.00	31.00	1.7/32	31.050/30.650	34.24/36.10	8.10/7.60	12.90/12.20	17.80/16.80	22.60/21.30	27.50/25.90
M30 X 2.00	30.50	1.3/16	30.733/30.433	32.92/35.70	13.00/12.00	20.40/18.70	27.70/25.40	35.00/32.10	42.30/38.80
M33 X 3.50	34.00	1.21/64	34.208/33.758	37.17/38.80	7.70/7.40	12.40/11.80	17.00/16.20	21.70/20.70	26.40/25.10
M33 X 3.00	33.50	1.5/16	34.050/33.650	37.27/39.50	9.10/8.50	14.40/13.50	19.80/18.50	25.10/23.60	30.40/28.60
M33 X 2.00	33.50	1.5/16	33.733/33.433	35.95/39.20	14.50/13.30	22.60/20.60	30.60/28.00	38.70/35.30	46.80/42.70
M36 X 4.00	37.00	1.29/64	37.341/36.866	40.78/42.67	7.30/6.90	11.70/11.20	16.20/15.40	20.60/19.60	25.10/23.80
M36 X 3.00	37.00	1.29/64	37.050/36.650	40.30/42.70	10.10/9.50	15.90/14.90	21.70/20.40	27.60/25.90	33.40/31.40
M39 X 4.00	40.00	1.9/16	40.341/39.866	43.75/45.75	8.00/7.70	12.90/12.20	17.70/16.80	22.50/21.40	27.30/26.00
M42 X 4.50	43.00	1.11/16	43.505/42.975	47.37/49.00	7.60/7.30	12.20/11.80	16.80/16.20	21.50/20.70	26.10/25.10
M42 X 3.00	42.50	1.43/64	43.050/42.650	46.36/49.00	12.10/11.40	18.90/17.80	25.70/24.20	32.50/30.60	39.30/37.10





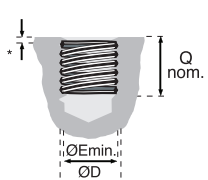
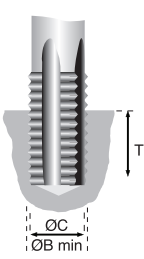
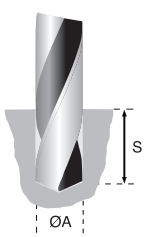
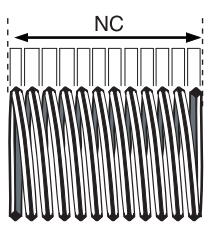
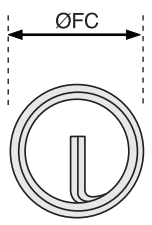
**INFORMACIÓN TÉCNICA PARA INSERTOS LIBRES**

B mm	C (5H) mm	D (4H) mm	C (6H) mm	D (5H) mm	E mm	S					T					Q				
						1.0D	1.5D	2.0D	2.5D	3.0D	1.0D	1.5D	2.0D	2.5D	3.0D	1.0D	1.5D	2.0D	2.5D	3.0D
2.520	2.296/2.260	1.796/1.740	2.311/2.260	1.811/1.740	1.567	3.80	4.80	5.80	6.80	7.80	3.40	4.40	5.40	6.40	7.40	2.00	3.00	4.00	5.00	6.00
2.785	2.532/2.492	1.968/1.908	2.547/2.492	1.983/1.908	1.713	4.23	5.33	6.43	7.53	8.63	3.78	4.88	5.98	7.08	8.18	2.20	3.30	4.40	5.50	6.60
3.085	2.832/2.792	2.268/2.208	2.847/2.792	2.283/2.208	2.013	4.53	5.78	7.03	8.28	9.53	4.08	5.33	6.58	7.83	9.08	2.50	3.75	5.00	6.25	7.50
3.650	3.367/3.325	2.738/2.675	3.384/3.325	2.755/2.675	2.459	5.25	6.75	8.25	9.75	11.25	4.75	6.25	7.75	9.25	10.75	3.00	4.50	6.00	7.50	9.00
4.279	3.940/3.890	3.181/3.110	3.959/3.890	3.200/3.110	2.850	6.20	7.95	9.70	11.45	13.20	5.60	7.35	9.10	10.85	12.60	3.50	5.25	7.00	8.75	10.50
4.909	4.509/4.455	3.620/3.545	4.529/4.455	3.640/3.545	3.242	7.15	9.15	11.15	13.15	15.15	6.45	8.45	10.45	12.45	14.45	4.00	6.00	8.00	10.00	12.00
6.039	5.577/5.520	4.560/4.480	5.597/5.520	4.580/4.480	4.134	8.60	11.10	13.60	16.10	18.60	7.80	10.30	12.80	15.30	17.80	5.00	7.50	10.00	12.50	15.00
7.299	6.719/6.650	5.445/5.350	6.742/6.650	5.468/5.350	4.917	10.50	13.50	16.50	19.50	22.50	9.50	12.50	15.50	18.50	21.50	6.00	9.00	12.00	15.00	18.00
8.299	7.719/7.650	6.445/6.350	7.742/7.650	6.468/6.350	5.917	11.50	15.00	18.50	22.00	25.50	10.50	14.00	17.50	21.00	24.50	7.00	10.50	14.00	17.50	21.00
9.624	8.886/8.812	7.288/7.188	8.912/8.812	7.313/7.188	6.647	13.63	17.63	21.63	25.63	29.63	12.38	16.38	20.38	24.38	28.38	8.00	12.00	16.00	20.00	24.00
9.299	8.719/8.650	7.445/7.350	8.742/8.650	7.468/7.350	6.917	12.50	16.50	20.50	24.50	28.50	11.50	15.50	19.50	23.50	27.50	8.00	12.00	16.00	20.00	24.00
10.624	9.886/9.812	8.288/8.188	9.912/9.812	8.313/8.188	7.647	14.63	19.13	23.63	28.13	32.63	13.38	17.88	22.38	26.88	31.38	9.00	13.50	18.00	22.50	27.00
10.299	9.719/9.650	8.445/8.350	9.742/9.650	8.468/8.350	7.917	13.50	18.00	22.50	27.00	31.50	12.50	17.00	21.50	26.00	30.50	9.00	13.50	18.00	22.50	27.00
11.949	11.061/10.974	9.138/9.026	11.089/10.974	9.166/9.026	8.376	16.75	21.75	26.75	31.75	36.75	15.25	20.25	25.25	30.25	35.25	10.00	15.00	20.00	25.00	30.00
11.624	10.886/10.812	9.288/9.188	10.912/10.812	9.313/9.188	8.647	15.63	20.63	25.63	30.63	35.63	14.38	19.38	24.38	29.38	34.38	10.00	15.00	20.00	25.00	30.00
11.299	10.724/10.650	9.445/9.350	10.742/10.650	9.468/9.350	8.917	14.50	19.50	24.50	29.50	34.50	13.50	18.50	23.50	28.50	33.50	10.00	15.00	20.00	25.00	30.00
12.949	12.061/11.974	10.138/10.026	12.089/11.974	10.166/10.026	9.376	17.75	23.25	28.75	34.25	39.75	16.25	21.75	27.25	32.75	38.25	11.00	16.50	22.00	27.50	33.00
12.624	11.898/11.812	10.300/10.188	11.926/11.812	10.328/10.188	9.647	16.63	22.13	27.63	33.13	38.63	15.38	20.88	26.38	31.88	37.38	11.00	16.50	22.00	27.50	33.00
12.299	11.724/11.650	10.445/10.350	11.742/11.650	10.468/10.350	9.917	15.50	21.00	26.50	32.00	37.50	14.50	20.00	25.50	31.00	36.50	11.00	16.50	22.00	27.50	33.00
14.273	13.236/13.137	10.988/10.863	13.271/13.137	11.023/10.863	10.106	19.88	25.88	31.88	37.88	43.88	18.13	24.13	30.13	36.13	42.13	12.00	18.00	24.00	30.00	36.00
13.949	13.067/12.974	11.144/11.026	13.099/12.974	11.176/11.026	10.376	18.75	24.75	30.75	36.75	42.75	17.25	23.25	29.25	35.25	41.25	12.00	18.00	24.00	30.00	36.00
13.624	12.898/12.812	11.300/11.188	12.926/12.812	11.328/11.188	10.647	17.63	23.63	29.63	35.63	41.63	16.38	22.38	28.38	34.38	40.38	12.00	18.00	24.00	30.00	36.00
13.299	12.724/12.649	11.450/11.350	12.749 /12.649	11.475/11.350	10.917	16.50	22.50	28.50	34.50	40.50	15.50	21.50	27.50	33.50	39.50	12.00	18.00	24.00	30.00	36.00
15.273	14.236/14.137	11.988/11.863	14.271/14.137	12.023/11.863	11.106	20.88	27.38	33.88	40.38	46.88	19.13	25.63	32.13	38.63	45.13	13.00	19.50	26.00	32.50	39.00
14.949	14.067/13.974	12.144/12.026	14.099/13.974	12.176/12.026	11.376	19.75	26.25	32.75	39.25	45.75	18.25	24.75	31.25	37.75	44.25	13.00	19.50	26.00	32.50	39.00
14.624	13.898/13.812	12.300/12.188	13.926/13.812	12.328/12.188	11.647	18.63	25.13	31.63	38.13	44.63	17.38	23.88	30.38	36.88	43.38	13.00	19.50	26.00	32.50	39.00
16.598	15.406/15.299	12.833/12.701	15.444/15.299	12.871/12.701	11.835	23.00	30.00	37.00	44.00	51.00	21.00	28.00	35.00	42.00	49.00	14.00	21.00	28.00	35.00	42.00
15.949	15.067/14.974	13.144/13.026	15.099/14.974	13.176/13.026	12.376	20.75	27.75	34.75	41.75	48.75	19.25	26.25	33.25	40.25	47.25	14.00	21.00	28.00	35.00	42.00
15.624	14.898/14.812	13.300/13.188	14.926/14.812	13.328/13.188	12.674	19.63	26.63	33.63	40.63	47.63	18.38	25.38	32.38	39.38	46.38	14.00	21.00	28.00	35.00	42.00
15.299	14.724/14.649	13.450/13.350	14.749 /14.649	13.475/13.350	12.917	18.50	25.50	32.50	39.50	46.50	17.50	24.50	31.50	38.50	45.50	14.00	21.00	28.00	35.00	42.00
17.598	16.406/16.299	13.833/13.701	16.444/16.299	13.871/13.701	12.835	24.00	31.50	39.00	46.50	54.00	22.00	29.50	37.00	44.50	52.00	15.00	22.50	30.00	37.50	45.00
16.949	16.067/15.974	14.144/14.026	16.099/15.974	14.176/14.026	13.376	21.75	29.25	36.75	44.25	51.75	20.25	27.75	35.25	42.75	50.25	15.00	22.50	30.00	37.50	45.00
18.598	17.406/17.299	14.833/14.701	17.444/17.299	14.871/14.701	13.835	25.00	33.00	41.00	49.00	57.00	23.00	31.00	39.00	47.00	55.00	16.00	24.00	32.00	40.00	48.00
17.949	17.067/16.974	15.144/15.026	17.099/16.974	15.176/15.026	14.376	22.75	30.75	38.75	46.75	54.75	21.25	29.25	37.25	45.25	53.25	16.00	24.00	32.00	40.00	48.00
21.248	19.738/19.624	16.516/16.376	19.778/19.624	16.556/16.376	15.294	29.25	38.25	47.25	56.25	65.25	26.75	35.75	44.75	53.75	62.75	18.00	27.00	36.00	45.00	54.00
20.598	19.406/19.299	16.833/16.701	19.444/19.299	16.871/16.701	15.835	27.00	36.00	45.00	54.00	63.00	25.00	34.00	43.00	52.00	61.00	18.00	27.00	36.00	45.00	54.00
19.949	19.067/18.974	17.144/17.026	19.099/18.974	17.176/17.026	16.376	24.75	33.75	42.75	51.75	60.75	23.25	32.25	41.25	50.25	59.25	18.00	27.00	36.00	45.00	54.00
23.248	21.738/21.624	18.516/18.376	21.778/21.624	18.556/18.376	17.294	31.25	41.25	51.25	61.25	71.25	28.75	38.75	48.75	58.75	68.75	20.00	30.00	40.00	50.00	60.00
22.598	21.406/21.299	18.833/18.701	21.444/21.299	18.871/18.701	17.835	29.00	39.00	49.00	59.00	69.00	27.00	37.00	47.00	57.00	67.00	20.00	30.00	40.00	50.00	60.00
21.949	21.067/20.974	19.144/19.026	21.099/20.974	19.176/19.026	18.376	26.75	36.75	46.75	56.75	66.75	25.25	35.25	45.25	55.25	65.25	20.00	30.00	40.00	50.00	60.00
25.248	23.738/23.624	20.516/20.376	23.778/23.624	20.556/20.376	19.294	33.25	44.25	55.25	66.25	77.25	30.75	41.75	52.75	63.75	74.75	22.00	33.00	44.00	55.00	66.00
24.598	23.406/23.299	20.833/20.701	23.444/23.299	20.871/20.701	19.835	31.00	42.00	53.00	64.00	75.00	29.00	40.00	51.00	62.00	73.00	22.00	33.00	44.00	55.00	66.00
23.949	23.067/22.974	21.144/21.026	23.099/22.974	21.176/21.026	20.376	28.75	39.75	50.75	61.75	72.75	27.25	38.25	49.25	60.25	71.25	22.00	33.00	44.00	55.00	66.00
27.897	26.093/25.948	22.221/22.051	26.135/25.948	22.263/22.051	20.752	37.50	49.50	61.50	73.50	85.50	34.50	46.50	58.50	70.50	82.50	24.00	36.00	48.00	60.00	72.00
26.598	25.414/25.299	22.841/22.701	25.454/25.299	22.881/22.701	21.835	33.00	45.00	57.00	69.00	81.00	31.00	43.00	55.00	67.00	79.00	24.00	36.00	48.00	60.00	72.00
25.949	25.044/24.975	23.121/23.026	25.135/24.975	23.186/23.026	22.376	30.75	42.75	54.75	66.75	78.75	29.25	41.25	53.25	65.25	77.25	24.00	36.00	48.00	60.00	72.00
27.949	27.044/26.975	25.121/25.026	27.135/26.975	25.186/25.026	24.376	32.75	45.75	58.75	71.75	84.75	31.25	44.25	57.25	70.25	83.25	26.00	39.00	52.00	65.00	78.00
30.897	29.093/28.948	25.221/25.051	29.135/28.948	25.263/25.051	23.752	40.50	54.00	67.50	81.00	94.50	37.50	51.00	64.50	78.00	91.50	27.00	40.50	54.00	67.50	81.00
29.598	28.414/28.299	25.841/25.70																		



**INFORMACIÓN TÉCNICA PARA INSERTOS LIBRES**

UNF/UNC	BSF
<b>A</b>	Ø de taladrado o interior de rosca previa.
<b>B</b>	Ø mayor de rosca previa (Mínima).
<b>C</b>	Ø de flancos de rosca previa.
<b>D</b>	Ø de flancos de inserto instalado.
<b>E</b>	Ø interior del inserto instalado (Mínimo).
<b>FC</b>	Ø exterior del inserto en estado libre.
<b>S</b>	Profundidad del taladrado (Mínima).
<b>T</b>	Profundidad "útil" de roscado (Mínima).
<b>Q</b>	Rosca "útil" del inserto.
<b>NC</b>	Número de filetes o hilos.



MEDIDA UNF	Broca		A max/min mm	FC min/max mm	NC max/min					
	mm	"			1.0D	1.5D	2.0D	2.5D	3.0D	
No 2 - 64	2.30	3/32	2.36/2.27	2.79/3.05	3.70/3.40	6.30/5.80	8.90/8.20	11.60/10.50	14.20/12.90	
No 3 - 56	2.70	#37	2.71/2.61	3.05/3.81	3.70/3.10	6.40/5.20	9.00/7.40	11.60/9.60	14.30/11.80	
No 4 - 48	3.00	#31	3.07/2.96	3.56/4.06	3.70/3.20	6.40/5.40	9.00/7.60	11.60/9.80	14.20/12.10	
No 5 - 44	3.40	#30	3.41/3.3	4.06/4.32	3.70/3.40	6.30/5.80	8.90/8.20	11.50/10.60	14.20/13.00	
No 6 - 40	3.70	#27	3.75/3.64	4.32/4.83	3.70/3.20	6.30/5.50	9.00/7.80	11.60/10.10	14.20/12.40	
No 8 - 36	4.40	11/64	4.43/4.32	5.08/5.59	4.10/3.60	6.90/6.10	9.70/8.60	12.50/11.10	15.30/13.60	
No 10 - 32	5.10	-	5.12/5	5.84/6.6	4.30/3.80	7.20/6.40	10.10/9.00	13.00/11.60	15.90/14.20	
1/4 X 28	6.60	-	6.72/6.55	7.62/8.38	5.20/4.70	8.50/7.70	11.90/10.80	15.20/13.80	18.60/16.90	
5/16 X 24	8.20	-	8.35/8.17	9.4/10.16	5.60/5.10	9.20/8.50	12.80/11.70	16.40/15.00	20.00/18.30	
3/8 X 24	9.80	-	9.93/9.75	10.92/11.94	7.10/6.50	11.40/10.50	15.80/14.50	20.10/18.50	24.50/22.50	
7/16 X 20	11.50	29/64	11.58/11.39	12.95/13.97	6.90/6.30	11.10/10.20	15.30/14.00	19.50/17.90	23.70/21.70	
1/2 X 20	13.00	33/64	13.16/12.97	14.48/15.75	8.10/7.40	12.90/11.90	17.80/16.30	22.60/20.80	27.50/25.20	
9/16 X 18	14.75	-	14.79/14.59	16.26/17.53	8.30/7.60	13.30/12.20	18.20/16.80	23.10/21.30	28.10/25.90	
5/8 X 18	16.50	-	16.38/16.18	17.78/19.3	9.40/8.70	14.90/13.80	20.50/18.90	26.00/24.00	31.50/29.10	
3/4 X 16	19.50	49/64	19.6/19.39	21.34/22.86	10.10/9.30	15.90/14.70	21.70/20.10	27.60/25.50	33.40/30.90	
7/8 X 14	22.50	57/64	22.84/22.62	24.89/26.67	10.30/9.60	16.30/15.10	22.20/20.60	28.20/26.10	34.20/31.60	
1 X 12	26.00	-	26.11/25.86	28.45/30.48	10.10/9.40	16.00/14.80	21.80/20.30	27.70/25.70	33.50/31.10	
1 X 14	26.00	-	26.02/25.79	27.94/30.23	12.10/11.20	18.90/17.50	25.70/23.80	32.50/30.10	39.40/36.40	
1-1/8 X 12	29.50	1.5/32	29.32/29.03	31.75/33.78	11.60/10.80	18.20/16.90	24.80/23.00	31.40/29.20	38.00/35.30	
1-1/4 X 12	32.50	1.9/32	32.49/32.21	34.8/37.34	13.10/12.20	20.40/19.00	27.80/25.80	35.10/32.70	42.50/39.50	
1-3/8 X 12	35.50	1.13/32	35.67/35.38	38.1/40.89	14.60/13.50	22.70/21.00	30.80/28.50	38.80/36.00	46.90/43.50	
1-1/2 X 12	38.50	-	38.84/38.56	41.15/44.45	16.10/14.90	24.90/23.10	33.70/31.30	42.60/39.50	51.40/47.70	
<b>UNC</b>										
No 2 - 56	2.40	#41	2.39/2.28	2.79/3.05	3.10/2.80	5.40/4.80	7.80/6.90	10.10/9.00	12.50/11.10	
No 3 - 48	2.70	#37	2.74/2.63	3.05/3.56	3.20/2.80	5.50/4.90	7.90/7.00	10.30/9.00	12.70/11.20	
No 4 - 40	3.00	#31	3.11/2.98	3.56/4.06	2.80/2.40	4.90/4.30	7.10/6.20	9.20/8.10	11.40/10.00	
No 5 - 40	3.40	#30	3.44/3.31	4.06/4.32	3.30/2.90	5.70/5.00	8.10/7.20	10.50/9.30	13.00/11.50	
No 6 - 32	3.70	#27	3.82/3.68	4.57/4.83	2.70/2.40	4.80/4.30	7.00/6.20	9.10/8.20	11.20/10.10	
No 8 - 32	4.40	11/64	4.47/4.34	5.08/5.59	3.50/3.20	6.10/5.50	8.60/7.80	11.20/10.10	13.70/12.40	
No 10 - 24	5.10	-	5.21/5.05	6.1/6.6	2.80/2.60	5.00/4.60	7.20/6.70	9.40/8.70	11.60/10.70	
No 12 - 24	5.70	15/64	5.86/5.72	6.86/7.11	3.50/3.20	6.00/5.60	8.50/7.90	11.00/10.30	13.50/12.60	
1/4 X 20	6.70	17/64	6.87/6.62	7.87/8.38	3.30/3.10	5.70/5.30	8.10/7.60	10.50/9.90	13.00/12.10	
5/16 X 18	8.30	21/64	8.49/8.24	9.65/10.16	3.90/3.70	6.70/6.30	9.50/8.90	12.20/11.50	15.00/14.10	
3/8 X 16	9.90	25/64	10.12/9.87	11.43/11.94	4.30/4.10	7.20/6.80	10.10/9.60	13.10/12.40	16.00/15.20	
7/16 X 14	11.60	-	11.78/11.51	13.21/13.97	4.40/4.10	7.40/7.00	10.40/9.80	13.40/12.60	16.30/15.50	
1/2 X 13	13.00	33/64	13.4/13.12	14.99/15.75	4.80/4.50	8.00/7.50	11.10/10.60	14.30/13.60	17.50/16.60	
9/16 X 12	15.00	19/32	15.03/14.74	16.76/17.53	5.00/4.80	8.40/7.90	11.70/11.10	15.00/14.20	18.30/17.40	
5/8 X 11	16.50	-	16.68/16.38	18.8/19.56	5.10/4.90	8.50/8.10	11.90/11.30	15.20/14.50	18.60/17.70	
3/4 X 10	20.00	-	19.91/19.6	22.1/23.11	5.80/5.50	9.50/9.00	13.10/12.60	16.80/16.10	20.50/19.60	
7/8 X 9	23.00	29/32	23.17/22.84	25.65/26.67	6.20/5.90	10.00/9.60	13.90/13.30	17.80/17.00	21.70/20.70	
1 X 8	26.25	-	26.47/26.09	29.21/30.48	6.30/6.00	10.20/9.80	14.20/13.60	18.10/17.30	22.00/21.10	
1-1/8 X 7	29.50	1.5/32	29.74/29.36	33.02/34.54	6.20/5.90	10.10/9.60	14.00/13.30	17.90/17.00	21.80/20.70	
1-1/4 X 7	32.50	1.9/32	32.92/32.53	36.07/37.59	7.10/6.70	11.40/10.90	15.80/15.00	20.10/19.20	24.40/23.30	
1-3/8 X 6	36.00	-	36.35/35.84	40.13/41.66	6.50/6.20	10.60/10.10	14.60/14.00	18.70/17.80	22.70/21.70	
1-1/2 X 6	39.50	1.35/64	39.52/39.02	43.18/44.96	7.30/6.90	11.70/11.20	16.10/15.40	20.60/19.60	25.00/23.90	
<b>BSF</b>										
3/16 X 32	5.00	-	5.03/4.88	5.84/6.35	4.30/3.90	7.20/6.50	10.20/9.20	13.10/11.90	16.00/14.50	
1/4 X 26	6.60	-	6.71/6.53	7.62/8.38	4.80/4.30	7.90/7.10	11.20/9.90	14.40/12.70	17.50/15.60	
5/16 X 22	8.30	21/64	8.38/8.2	9.4/10.16	5.20/4.70	8.50/7.70	11.90/10.70	15.30/13.80	18.70/16.80	
3/8 X 20	9.80	-	9.96/9.78	11.18/12.19	5.80/5.30	9.40/8.60	13.20/12.00	16.90/15.30	20.50/18.70	
7/16 X 18	11.60	-	11.63/11.43	12.95/14.22	6.20/5.60	10.00/9.10	13.90/12.60	17.80/16.10	21.60/19.60	
1/2 X 16	13.25	-	13.26/13.03	14.73/16	6.30/5.70	10.20/9.30	14.20/12.90	18.10/16.50	22.00/20.00	
9/16 X 16	14.75	-	14.88/14.66	16.26/17.78	7.30/6.60	11.70/10.60	16.10/14.70	20.60/18.70	25.00/22.70	
5/8 X 14	16.30	41/64	16.48/16.26	18.29/19.56	7.10/6.50	11.30/10.40	15.70/14.30	20.00/18.30	24.30/22.20	
3/4 X 12	19.50	49/64	19.69/19.43	21.84/23.37	7.30/6.70	11.70/10.80	16.20/14.90	20.70/19.00	25.10/23.00	
7/8 X 11	22.75	-	22.86/22.61	25.15/27.18	7.90/7.20	12.60/11.60	17.40/15.90	22.10/20.30	26.90/24.60	
1 X 10	26.25	-	26.52/26.19	28.7/30.99	8.30/7.60	13.20/12.10	18.10/16.60	23.10/21.20	28.00/25.70	
1-1/8 X 9	29.50	1.5/32	29.72/29.36	32.26/34.8	8.40/7.80	13.30/12.30	18.40/17.00	23.40/21.50	28.40/26.10	
1-1/4 X 9	32.50	1.9/32	32.89/32.54	35.31/38.1	9.50/8.80	15.00/13.90	20.60/19.00	26.20/24.20	31.70/29.30	
1-3/8 X 8	36.00	-	36.07/35.71	39.12/42.16	9.30/8.50	14.60/13.50	20.10/18.50	25.50/23.50	31.00/28.50	
1-1/2 X 8	39.00	1.17/32	39.24/38.89	42.16/45.97	10.30/9.40	16.10/14.80	22.10/20.10	28.00/25.50	33.90/30.90	



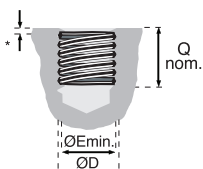
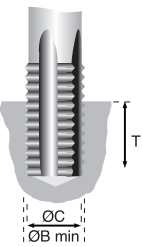
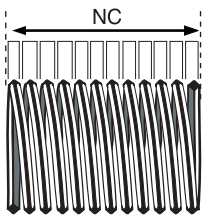
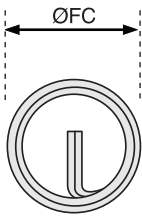
INFORMACIÓN TÉCNICA PARA INSERTOS LIBRES

B mm	C (5H) mm	D (4H) mm	C (6H) mm	D (5H) mm	E mm	S					T					Q				
						1.0D	1.5D	2.0D	2.5D	3.0D	1.0D	1.5D	2.0D	2.5D	3.0D	1.0D	1.5D	2.0D	2.5D	3.0D
0.106	0.0974/0.0962	0.0779/0.0759	0.0980/0.0962	0.0786/0.0759	0.0691	0.156	0.199	0.242	0.285	0.328	0.141	0.184	0.227	0.270	0.313	0.086	0.129	0.172	0.215	0.258
0.122	0.1119/0.1106	0.0895/0.0874	0.1126/0.1106	0.0902/0.0874	0.0797	0.179	0.229	0.278	0.328	0.377	0.161	0.210	0.260	0.310	0.359	0.099	0.148	0.198	0.247	0.297
0.139	0.1270/0.1255	0.1008/0.0985	0.1278/0.1255	0.1016/0.0985	0.0894	0.206	0.262	0.318	0.374	0.430	0.185	0.241	0.297	0.353	0.409	0.112	0.168	0.224	0.280	0.336
0.155	0.1414/0.1398	0.1126/0.1102	0.1422/0.1398	0.1134/0.1102	0.1004	0.227	0.290	0.352	0.414	0.477	0.204	0.267	0.329	0.391	0.454	0.125	0.187	0.250	0.312	0.375
0.171	0.1559/0.1542	0.1243/0.1218	0.1568/0.1542	0.1252/0.1218	0.111	0.250	0.319	0.388	0.457	0.526	0.225	0.294	0.363	0.432	0.501	0.138	0.207	0.276	0.345	0.414
0.200	0.1839/0.1820	0.1487/0.1460	0.1848/0.1820	0.1496/0.1460	0.134	0.289	0.371	0.453	0.535	0.617	0.261	0.343	0.425	0.507	0.589	0.164	0.246	0.328	0.410	0.492
0.231	0.2123/0.2103	0.1726/0.1697	0.2133/0.2103	0.1736/0.1697	0.156	0.331	0.426	0.521	0.616	0.711	0.299	0.394	0.489	0.584	0.679	0.190	0.285	0.380	0.475	0.570
0.296	0.2754/0.2732	0.2300/0.2268	0.2765/0.2732	0.2311/0.2268	0.2113	0.411	0.536	0.661	0.786	0.911	0.375	0.500	0.625	0.750	0.875	0.250	0.375	0.500	0.625	0.750
0.367	0.3421/0.3395	0.2890/0.2854	0.3433/0.3395	0.2902/0.2854	0.2674	0.500	0.656	0.812	0.969	1.125	0.458	0.614	0.771	0.927	1.083	0.312	0.469	0.625	0.781	0.937
0.429	0.4047/0.4020	0.3516/0.3479	0.4059/0.4020	0.3528/0.3479	0.3299	0.562	0.750	0.937	1.124	1.312	0.521	0.708	0.896	1.083	1.271	0.375	0.562	0.750	0.937	1.125
0.503	0.4731/0.4700	0.4091/0.4050	0.4744/0.4700	0.4104/0.4050	0.3834	0.662	0.881	1.100	1.319	1.537	0.612	0.831	1.050	1.269	1.487	0.437	0.656	0.875	1.094	1.312
0.565	0.5357/0.5325	0.4717/0.4675	0.5371/0.5325	0.4731/0.4675	0.4459	0.725	0.975	1.225	1.475	1.725	0.675	0.925	1.175	1.425	1.675	0.500	0.750	1.000	1.250	1.500
0.635	0.6020/0.5986	0.5308/0.5264	0.6035/0.5986	0.5323/0.5264	0.5024	0.811	1.093	1.374	1.655	1.936	0.756	1.038	1.319	1.600	1.881	0.562	0.844	1.125	1.406	1.687
0.697	0.6646/0.6611	0.5934/0.5889	0.6661/0.6611	0.5949/0.5889	0.5649	0.874	1.187	1.500	1.812	2.124	0.819	1.132	1.444	1.757	2.069	0.625	0.937	1.250	1.562	1.875
0.831	0.7945/0.7906	0.7143/0.7094	0.7961/0.7906	0.7159/0.7094	0.6823	1.031	1.406	1.781	2.156	2.531	0.969	1.344	1.719	2.094	2.469	0.750	1.125	1.500	1.875	2.250
0.968	0.9257/0.9214	0.8339/0.8286	0.9274/0.9214	0.8356/0.8286	0.7977	1.196	1.634	2.071	2.509	2.946	1.125	1.562	2.000	2.437	2.875	0.875	1.312	1.750	2.187	2.625
1.108	1.0589/1.0542	0.9516/0.9459	1.0608/1.0542	0.9535/0.9459	0.9098	1.375	1.875	2.375	2.875	3.375	1.292	1.792	2.292	2.792	3.292	1.000	1.500	2.000	2.500	3.000
1.093	1.0508/1.0464	0.9590/0.9536	1.0527/1.0464	0.9609/0.9536	0.9277	1.32	1.82	2.32	2.82	3.32	1.25	1.75	2.25	2.75	3.25	1.000	1.500	2.000	2.500	3.000
1.233	1.1841/1.1792	1.0768/1.0709	1.1860/1.1792	1.0787/1.0709	1.0348	1.500	2.062	2.625	3.187	3.750	1.417	1.979	2.542	3.104	3.667	1.125	1.687	2.250	2.812	3.375
1.358	1.3092/1.3042	1.2019/1.1959	1.3112/1.3042	1.2039/1.1959	1.1598	1.625	2.250	2.875	3.500	4.125	1.542	2.167	2.792	3.417	4.042	1.250	1.875	2.500	3.125	3.750
1.483	1.4343/1.4292	1.3270/1.3209	1.4364/1.4292	1.3291/1.3209	1.2848	1.750	2.438	3.125	3.813	4.500	1.667	2.354	3.042	3.729	4.417	1.375	2.062	2.750	3.437	4.125
1.608	1.5595/1.5542	1.4522/1.4459	1.5615/1.5542	1.4542/1.4459	1.4098	1.875	2.625	3.375	4.125	4.875	1.792	2.542	3.292	4.042	4.792	1.500	2.250	3.000	3.750	4.500
0.109	0.0989/0.0976	0.0765/0.0744	0.0996/0.0976	0.0772/0.0744	0.0667	0.166	0.209	0.252	0.295	0.338	0.148	0.191	0.234	0.277	0.320	0.086	0.129	0.172	0.215	0.258
0.126	0.1139/0.1125	0.0877/0.0855	0.1147/0.1125	0.0885/0.0855	0.0764	0.193	0.242	0.292	0.341	0.391	0.172	0.221	0.271	0.320	0.370	0.099	0.148	0.198	0.247	0.297
0.145	0.1298/0.1282	0.0982/0.0958	0.1307/0.1282	0.0991/0.0958	0.0849	0.224	0.280	0.336	0.392	0.448	0.199	0.255	0.311	0.367	0.423	0.112	0.168	0.224	0.280	0.336
0.158	0.1429/0.1412	0.1113/0.1088	0.1437/0.1412	0.1121/0.1088	0.0979	0.237	0.300	0.362	0.425	0.487	0.212	0.275	0.337	0.400	0.462	0.125	0.187	0.250	0.312	0.375
0.179	0.1601/0.1583	0.1204/0.1177	0.1611/0.1583	0.1214/0.1177	0.1040	0.279	0.348	0.417	0.486	0.555	0.247	0.316	0.385	0.454	0.523	0.138	0.207	0.276	0.345	0.414
0.205	0.1862/0.1843	0.1465/0.1437	0.1872/0.1843	0.1475/0.1437	0.1300	0.305	0.387	0.469	0.551	0.633	0.273	0.355	0.437	0.519	0.601	0.164	0.246	0.328	0.410	0.492
0.244	0.2193/0.2171	0.1661/0.1629	0.2204/0.2171	0.1672/0.1629	0.1450	0.377	0.472	0.567	0.662	0.757	0.336	0.431	0.526	0.621	0.716	0.190	0.285	0.380	0.475	0.570
0.270	0.2454/0.2431	0.1922/0.1889	0.2465/0.2431	0.1933/0.1889	0.1710	0.403	0.511	0.619	0.727	0.835	0.362	0.470	0.578	0.686	0.794	0.216	0.324	0.432	0.540	0.648
0.315	0.2851/0.2825	0.2211/0.2175	0.2863/0.2825	0.2223/0.2175	0.1959	0.475	0.600	0.725	0.850	0.975	0.425	0.550	0.675	0.800	0.925	0.250	0.375	0.500	0.625	0.750
0.385	0.3515/0.3486	0.2803/0.2764	0.3529/0.3486	0.2817/0.2764	0.2524	0.562	0.718	0.875	1.031	1.187	0.507	0.663	0.819	0.975	1.132	0.312	0.469	0.625	0.781	0.937
0.456	0.4189/0.4156	0.3387/0.3344	0.4203/0.4156	0.3401/0.3344	0.3073	0.656	0.844	1.031	1.219	1.406	0.594	0.781	0.969	1.156	1.344	0.375	0.562	0.750	0.937	1.125
0.530	0.4875/0.4839	0.3957/0.3911	0.4890/0.4839	0.3972/0.3911	0.3602	0.758	0.977	1.196	1.415	1.633	0.687	0.906	1.125	1.344	1.562	0.437	0.656	0.875	1.094	1.312
0.600	0.5537/0.5499	0.4548/0.4500	0.5554/0.5499	0.4565/0.4500	0.4167	0.846	1.096	1.346	1.596	1.846	0.769	1.019	1.269	1.519	1.769	0.500	0.750	1.000	1.250	1.500
0.671	0.6208/0.6167	0.5135/0.5084	0.6225/0.6167	0.5152/0.5084	0.4723	0.937	1.219	1.500	1.781	2.062	0.854	1.135	1.417	1.698	1.979	0.562	0.844	1.125	1.406	1.687
0.743	0.6885/0.6841	0.5714/0.5660	0.6903/0.6841	0.5732/0.5660	0.5266	1.034	1.347	1.659	1.972	2.284	0.943	1.256	1.568	1.881	2.193	0.625	0.937	1.250	1.562	1.875
0.880	0.8196/0.8149	0.6907/0.6850	0.8216/0.8149	0.6927/0.6850	0.6417	1.200	1.575	1.950	2.325	2.700	1.100	1.475	1.850	2.225	2.600	0.750	1.125	1.500	1.875	2.250
1.019	0.9522/0.9471	0.8089/0.8028	0.9543/0.9471	0.8110/0.8028	0.7547	1.375	1.812	2.250	2.687	3.125	1.264	1.701	2.139	2.576	3.014	0.875	1.312	1.750	2.187	2.625
1.162	1.0868/1.0812	0.9254/0.9188	1.0890/1.0812	0.9276/0.9188	0.8647	1.562	2.062	2.562	3.062	3.562	1.437	1.937	2.437	2.937	3.437	1.000	1.500	2.000	2.500	3.000
1.311	1.2239/1.2178	1.0393/1.0322	1.2262/1.2178	1.0416/1.0322	0.9704	1.768	2.330	2.893	3.455	4.018	1.625	2.187	2.750	3.312	3.875	1.125	1.687	2.250	2.812	3.375
1.436	1.3490/1.3428	1.1644/1.1572	1.3514/1.3428	1.1668/1.1572	1.0954	1.893	2.518	3.143	3.768	4.393	1.750	2.375	3.000	3.625	4.250	1.250	1.875	2.500	3.125	3.750
1.591	1.4900/1.4832	1.2745/1.2667	1.4926/1.4832	1.2771/1.2667	1.1946	2.125	2.812	3.500	4.187	4.875	1.958	2.646	3.333	4.021	4.708	1.375	2.062	2.750	3.437	4.125
1.716	1.6151/1.6082	1.3996/1.3917	1.6177/1.6082	1.4022/1.3917	1.3196	2.250	3.000	3.750	4.500	5.250	2.083	2.833	3.583	4.333	5.083	1.500	2.250	3.000	3.750	4.500
0.225	0.2087/0.2075	0.1697/0.1675	0.2098/0.2075	0.1708/0.1675	0.1475	0.328	0.422	0.515	0.609	0.703	0.297	0.390	0.484	0.578	0.672	0.187	0.281	0.375	0.469	0.562
0.296	0.2762/0.2747	0.2279/0.2254	0.2774/0.2747	0.2291/0.2254	0.2008	0.423	0.548	0.673	0.798	0.923	0.385	0.510	0.635	0.760	0.885	0.250	0.375	0.500	0.625	0.750
0.366	0.3433/0.3416	0.2861/0.2834	0.3447/0.3416	0.2875/0.2834	0.2543	0.517	0.673	0.829	0.986	1.142	0.472	0.628	0.784	0.940	1.096	0.312	0.469	0.625	0.781	0.937
0.434	0.4089/0.4070	0.3459/0.3430	0.4104/0.4070	0.3474/0.3430	0.3110	0.600	0.787	0.												



**INFORMACIÓN TÉCNICA PARA INSERTOS LIBRES**

BSW/BSP BA/BSB/UN-8 PITCH	
<b>A</b>	Ø de taladrado o interior de rosca previa.
<b>B</b>	Ø mayor de rosca previa (Mínima).
<b>C</b>	Ø de flancos de rosca previa.
<b>D</b>	Ø de flancos de inserto instalado.
<b>E</b>	Ø interior del inserto instalado (Mínimo).
<b>FC</b>	Ø exterior del inserto en estado libre.
<b>S</b>	Profundidad del taladrado (Mínima).
<b>T</b>	Profundidad "útil" de roscado (Mínima).
<b>Q</b>	Rosca "útil" del inserto.
<b>NC</b>	Número de filetes o hilos.



BSW	mm	"	A max/min mm	FC min/max mm	1.0D	1.5D	NC max/min 2.0D	2.5D	3.0D
1/8 X 40	3.40	#30	3.43/3.28	3.81/4.32	3.40/3.00	5.80/5.10	8.40/7.30	10.90/9.40	13.40/11.60
3/16 X 24	2.70	#37	2.71/2.61	3.05/3.81	3.70/3.10	6.40/5.20	9.00/7.40	11.60/9.60	14.30/11.80
1/4 X 20	6.70	17/64	6.78/6.63	7.87/8.38	3.40/3.10	5.90/5.40	8.50/7.70	11.00/9.90	13.50/12.20
5/16 X 18	8.30	21/64	8.48/8.33	9.4/10.16	4.10/3.80	6.90/6.40	9.80/9.00	12.60/11.60	15.50/14.20
3/8 X 16	10.00	-	10.11/9.91	11.18/11.94	4.40/4.10	7.40/6.90	10.50/9.70	13.50/12.50	16.50/15.30
7/16 X 14	11.60	-	11.76/11.51	13.21/13.97	4.60/4.20	7.60/7.10	10.70/9.90	13.80/12.80	16.90/15.60
1/2 X 12	13.00	33/64	13.34/13.08	14.99/16	4.50/4.10	7.40/7.00	10.50/9.80	13.60/12.60	16.60/15.40
9/16 X 12	14.75	-	14.94/14.68	16.51/17.53	5.20/4.90	8.60/8.00	12.00/11.20	15.40/14.40	18.80/17.60
5/8 X 11	16.50	-	16.84/16.59	18.29/19.56	5.30/5.00	8.70/8.20	12.20/11.50	15.70/14.70	19.20/17.90
3/4 X 10	20.00	-	20.09/19.84	21.84/22.86	6.00/5.60	9.70/9.20	13.50/12.70	17.30/16.30	21.10/19.80
7/8 X 9	23.25	-	23.27/23.01	25.15/26.67	6.30/6.00	10.20/9.70	14.30/13.40	18.20/17.10	22.20/20.90
1 X 8	26.50	-	26.52/26.187.4	28.7/30.48	6.50/6.10	10.40/9.90	14.50/13.70	18.60/17.50	22.60/21.20
1-1/8 X 7	30.00	1.11/64	30.12/29.743.4	32.51/34.29	6.30/5.90	10.20/9.60	14.30/13.40	18.20/17.10	22.20/20.80
1-1/4 X 7	33.00	1.19/64	33.3/32.918.4	35.56/37.59	7.20/6.80	11.60/10.90	16.00/15.00	20.40/19.20	24.90/23.30
1-1/2 X 6	39.50	1.35/64	39.9/39.268.4	42.67/45.21	7.50/7.00	11.90/11.30	16.50/15.50	21.10/19.80	25.60/24.00
<b>BSP</b>									
1/8 X 28	10.00	-	10.16/9.91	10.92/11.94	1.90/1.70	3.60/3.20	5.30/4.80	7.00/6.40	8.80/7.90
1/4 X 19	13.75	-	13.72/13.46	14.99/16.26	3.10/2.80	5.40/5.00	7.80/7.10	10.10/9.20	12.50/11.40
3/8 X 19	17.00	-	17.27/17.02	18.54/20.07	5.50/5.00	8.90/8.20	12.50/11.40	16.00/14.60	19.50/17.90
1/2 X 14	21.50	27/32	21.59/21.34	23.37/25.15	5.30/4.90	8.80/8.10	12.20/11.20	15.70/14.40	19.10/17.60
5/8 X 14	23.50	-	23.55/23.24	25.4/27.43	7.10/6.50	11.30/10.40	15.70/14.40	20.00/18.40	24.30/22.30
3/4 X 14	27.00	1.1/16	27.08/26.75	28.96/31.24	8.80/8.10	13.90/12.90	19.20/17.60	24.30/22.40	29.50/27.20
7/8 X 14	30.50	1.13/16	30.81/30.48	32.77/35.31	10.50/9.70	16.50/15.30	22.60/20.80	28.70/26.40	34.70/32.00
1 X 11	33.75	-	33.91/33.53	36.32/39.12	9.30/8.60	14.70/13.60	20.10/18.60	25.60/23.60	31.00/28.60
1-1/4 X 11	42.50	1.43/64	42.67/42.29	44.96/48.51	12.00/11.10	18.70/17.40	25.60/23.70	32.40/30.00	39.20/36.20
1-1/2 X 11	48.50	1.29/32	48.79/48.41	51.05/54.86	14.70/13.60	22.80/21.20	31.00/28.70	39.20/36.30	47.30/43.80
<b>BA</b>									
BA 6	2.90	#33	2.95/2.87	3.56/3.81	3.60/3.30	6.20/5.60	8.70/7.90	11.20/10.20	13.80/12.50
BA 5	3.40	#30	3.43/3.28	3.81/4.32	3.80/3.40	6.40/5.80	9.00/8.10	11.60/10.50	14.20/12.90
BA 4	3.80	#25	3.86/3.73	4.32/4.83	3.80/3.50	6.40/5.80	9.10/8.20	11.70/10.60	14.40/13.00
BA 3	4.30	-	4.34/4.22	5.08/5.33	3.90/3.60	6.70/6.00	9.40/8.50	12.10/10.90	14.80/13.40
BA 2	4.90	#10	4.98/4.85	5.59/6.1	4.20/3.80	6.90/6.30	9.80/8.80	12.60/11.40	15.40/13.90
BA 1	5.50	7/32	5.59/5.41	6.35/6.86	4.20/3.80	7.10/6.40	9.90/9.00	12.80/11.60	15.60/14.10
BA 0	6.20	C	6.25/6.12	7.11/7.87	4.30/3.90	7.20/6.60	10.10/9.20	13.00/11.80	16.00/14.50
<b>BSB</b>									
3/16 X 32	5.10	-	5.21/4.95	5.84/6.6	4.10/3.70	6.90/6.20	9.70/8.70	12.50/11.20	15.30/13.70
1/4 X 26	6.60	-	6.86/6.55	7.87/8.64	4.60/4.10	7.60/6.90	10.70/9.60	13.80/12.30	16.80/15.10
5/16 X 26	8.00	5/16	8.43/8.13	9.4/10.41	6.20/5.50	10.00/9.00	13.90/12.50	17.80/16.00	21.60/19.40
3/8 X 26	9.80	-	10.03/9.73	10.92/12.19	7.80/7.00	12.40/11.20	17.10/15.40	21.70/19.60	26.40/23.80
7/16 X 26	11.10	7/16	11.61/11.33	12.7/13.97	9.40/8.40	14.80/13.40	20.30/18.30	25.80/23.30	31.20/28.20
1/2 X 26	12.70	1/2	13.21/12.9	14.22/15.49	11.00/9.90	17.20/15.60	23.50/21.20	29.80/26.90	36.00/32.60
9/16 X 26	14.75	-	14.78/14.5	15.75/17.27	12.60/11.40	19.70/17.80	26.70/24.20	33.80/30.50	40.90/36.90
5/8 X 26	16.50	-	16.38/16.08	17.53/19.05	14.20/12.80	22.00/19.90	29.90/27.10	37.80/34.20	45.70/41.30
3/4 X 26	19.50	49/64	19.53/19.25	20.57/22.61	17.40/15.70	26.90/24.30	36.30/32.90	45.80/41.50	55.30/50.10
1 X 24	25.75	1.1/64	25.91/25.63	27.18/29.72	21.80/19.80	33.50/30.40	45.30/41.00	57.00/51.60	68.70/62.20
<b>UN-8 PITCH</b>									
1.1/8 X 8	28.50	1.1/8	29.34/28.7	31.75/33.02	7.50/7.10	12.00/11.50	16.60/15.80	21.10/20.10	25.60/24.50
1.1/4 X 8	32.00	1.1/4	32.51/31.88	35.31/36.32	8.30/8.10	13.30/12.90	18.30/17.70	23.30/22.60	28.20/27.40
1.3/8 X 8	35.00	1.3/8	35.69/35.05	38.61/39.88	9.30/9.00	14.80/14.30	20.20/19.60	25.70/24.90	31.20/30.20
1.1/2 X 8	38.00	1.1/2	38.86/38.23	41.91/42.93	10.30/10.00	16.20/15.80	22.20/21.50	28.10/27.30	34.10/33.10
1.5/8 X 8	41.00	1.5/8	42.04/41.4	45.21/48.26	11.20/10.50	17.70/16.40	24.10/22.40	30.50/28.40	37.00/34.30
1.3/4 X 8	44.50	1.3/4	45.21/44.58	48.26/51.82	12.20/11.40	19.20/17.80	26.10/24.20	33.00/30.70	39.90/37.10
1.7/8 X 8	47.50	1.7/8	48.39/47.75	51.56/54.86	13.20/12.40	20.60/19.30	28.10/26.20	35.50/33.20	42.90/40.10
2 X 8	51.00	2	51.56/50.93	54.86/57.91	14.20/13.40	22.10/20.90	30.00/28.40	38.00/35.90	45.90/43.30



INFORMACIÓN TÉCNICA PARA INSERTOS LIBRES

B mm	C (5H) mm	D (4H) mm	C (6H) mm	D (5H) mm	E mm	S					T					Q				
						1.0D	1.5D	2.0D	2.5D	3.0D	1.0D	1.5D	2.0D	2.5D	3.0D	1.0D	1.5D	2.0D	2.5D	3.0D
0.155	0.1420/0.1410	0.1109/0.1090	0.1430/0.1410	0.1119/0.1090	0.0930	0.237	0.300	0.362	0.425	0.487	0.212	0.275	0.337	0.400	0.462	0.125	0.187	0.250	0.312	0.375
0.237	0.2154/0.2142	0.1631/0.1608	0.2166/0.2142	0.1643/0.1608	0.1341	0.375	0.469	0.562	0.656	0.750	0.333	0.427	0.521	0.614	0.708	0.187	0.281	0.375	0.469	0.562
0.309	0.2836/0.2820	0.2206/0.2180	0.2849/0.2820	0.2219/0.2180	0.1860	0.475	0.600	0.725	0.850	0.975	0.425	0.550	0.675	0.800	0.925	0.250	0.375	0.500	0.625	0.750
0.378	0.3498/0.3480	0.2797/0.2769	0.3512/0.3480	0.2811/0.2769	0.2413	0.562	0.718	0.875	1.031	1.187	0.507	0.663	0.819	0.975	1.132	0.312	0.469	0.625	0.781	0.937
0.448	0.4170/0.4150	0.3380/0.3350	0.4185/0.4150	0.3395/0.3350	0.2950	0.656	0.844	1.031	1.219	1.406	0.594	0.781	0.969	1.156	1.344	0.375	0.562	0.750	0.937	1.125
0.521	0.4855/0.4833	0.3950/0.3918	0.4871/0.4833	0.3966/0.3918	0.3461	0.758	0.977	1.196	1.415	1.633	0.687	0.906	1.125	1.344	1.562	0.437	0.656	0.875	1.094	1.312
0.597	0.5557/0.5533	0.4500/0.4466	0.5575/0.5533	0.4518/0.4466	0.3932	0.875	1.125	1.375	1.625	1.875	0.792	1.042	1.292	1.542	1.792	0.500	0.750	1.000	1.250	1.500
0.660	0.6184/0.6158	0.5127/0.5091	0.6201/0.6158	0.5144/0.5091	0.4557	0.937	1.219	1.500	1.781	2.062	0.854	1.135	1.417	1.698	1.979	0.562	0.844	1.125	1.406	1.687
0.731	0.6859/0.6832	0.5705/0.5668	0.6878/0.6832	0.5724/0.5668	0.5086	1.034	1.347	1.659	1.972	2.284	0.943	1.256	1.568	1.881	2.193	0.625	0.937	1.250	1.562	1.875
0.867	0.8171/0.8141	0.6900/0.6860	0.8191/0.8141	0.6920/0.6860	0.6220	1.200	1.575	1.950	2.325	2.700	1.100	1.475	1.850	2.225	2.600	0.750	1.125	1.500	1.875	2.250
1.005	0.9495/0.9462	0.8082/0.8039	0.9516/0.9462	0.8103/0.8039	0.7328	1.375	1.812	2.250	2.687	3.125	1.264	1.701	2.139	2.576	3.014	0.875	1.312	1.750	2.187	2.625
1.146	1.0836/1.0801	0.9245/0.9200	1.0859/1.0801	0.9268/0.9200	0.8400	1.562	2.062	2.562	3.062	3.562	1.437	1.937	2.437	2.937	3.437	1.000	1.500	2.000	2.500	3.000
1.291	1.2203/1.2165	1.0383/1.0335	1.2227/1.2165	1.0407/1.0335	0.9420	1.768	2.330	2.893	3.455	4.018	1.625	2.187	2.750	3.312	3.875	1.125	1.687	2.250	2.812	3.375
1.416	1.3454/1.3415	1.1634/1.1585	1.3479/1.3415	1.1659/1.1585	1.0670	1.893	2.518	3.143	3.768	4.393	1.750	2.375	3.000	3.625	4.250	1.250	1.875	2.500	3.125	3.750
1.694	1.6110/1.6067	1.3986/1.3933	1.6137/1.6067	1.4013/1.3933	1.2866	2.250	3.000	3.750	4.500	5.250	2.083	2.833	3.583	4.333	5.083	1.500	2.250	3.000	3.750	4.500
0.426	0.4076/0.4058	0.3629/0.3601	0.4090/0.4058	0.3643/0.3601	0.3372	0.286	0.348	0.411	0.437	0.536	0.250	0.312	0.375	0.437	0.500	0.125	0.187	0.250	0.312	0.375
0.580	0.5539/0.5517	0.4875/0.4843	0.5556/0.5517	0.4892/0.4843	0.4506	0.487	0.612	0.737	0.862	0.987	0.434	0.559	0.684	0.809	0.934	0.250	0.375	0.500	0.625	0.750
0.718	0.6920/0.6897	0.6256/0.6223	0.6937/0.6897	0.6273/0.6223	0.5886	0.612	0.799	0.987	1.174	1.362	0.559	0.747	0.934	1.122	1.309	0.375	0.562	0.750	0.937	1.125
0.909	0.8735/0.8708	0.7830/0.7793	0.8754/0.8708	0.7849/0.7793	0.7336	0.821	1.071	1.321	1.571	1.821	0.750	1.000	1.250	1.500	1.750	0.500	0.750	1.000	1.250	1.500
0.986	0.9506/0.9478	0.8601/0.8563	0.9524/0.9478	0.8619/0.8563	0.8106	0.946	1.258	1.571	1.883	2.196	0.875	1.187	1.500	1.812	2.125	0.625	0.937	1.250	1.562	1.875
1.126	1.0898/1.0868	0.9993/0.9953	1.0918/1.0868	1.0013/0.9953	0.9496	1.071	1.446	1.821	2.196	2.571	1.000	1.375	1.750	2.125	2.500	0.750	1.125	1.500	1.875	2.250
1.274	1.2378/1.2348	1.1473/1.1433	1.2399/1.2348	1.1494/1.1433	1.0976	1.196	1.634	2.071	2.509	2.946	1.125	1.562	2.000	2.437	2.875	0.875	1.312	1.750	2.187	2.625
1.416	1.3705/1.3673	1.2551/1.2508	1.3727/1.3673	1.2573/1.2508	1.1926	1.409	1.909	2.409	2.909	3.409	1.318	1.818	2.318	2.818	3.318	1.000	1.500	2.000	2.500	3.000
1.757	1.7118/1.7083	1.5964/1.5918	1.7141/1.7083	1.5987/1.5918	1.5336	1.660	2.284	2.909	3.534	4.159	1.568	2.193	2.818	3.443	4.068	1.250	1.875	2.500	3.125	3.750
1.989	1.9440/1.9403	1.8286/1.8238	1.9464/1.9403	1.8310/1.8238	1.7656	1.909	2.659	3.409	4.159	4.909	1.818	2.568	3.318	4.068	4.818	1.500	2.250	3.000	3.750	4.500
0.134	0.1252/0.1226	0.1014/0.0976			0.0850	0.204	0.259	0.314	0.369	0.424	0.183	0.238	0.293	0.348	0.404	0.110	0.165	0.220	0.275	0.331
0.152	0.1426/0.1399	0.1159/0.1120			0.0980	0.230	0.293	0.356	0.419	0.482	0.207	0.270	0.333	0.396	0.459	0.126	0.189	0.252	0.315	0.378
0.171	0.1605/0.1574	0.1305/0.1262			0.1106	0.259	0.329	0.400	0.471	0.542	0.233	0.303	0.374	0.445	0.516	0.142	0.212	0.283	0.354	0.425
0.194	0.1821/0.1786	0.1488/0.1441			0.1268	0.291	0.371	0.452	0.533	0.613	0.262	0.343	0.423	0.504	0.585	0.161	0.242	0.323	0.403	0.484
0.221	0.2079/0.2042	0.1709/0.1659			0.1468	0.328	0.421	0.513	0.606	0.698	0.297	0.389	0.482	0.574	0.667	0.185	0.277	0.370	0.462	0.555
0.249	0.2342/0.2299	0.1929/0.1874			0.1661	0.368	0.472	0.576	0.681	0.785	0.333	0.437	0.541	0.646	0.750	0.209	0.313	0.417	0.522	0.626
0.281	0.2645/0.2598	0.2185/0.2126			0.1890	0.413	0.531	0.649	0.768	0.886	0.374	0.492	0.610	0.728	0.846	0.236	0.354	0.472	0.590	0.709
0.232	0.2112/0.2136	0.1738/0.1709			0.1543	0.33	0.42	0.52	0.61	0.70	0.30	0.39	0.48	0.58	0.67	0.187	0.281	0.375	0.469	0.562
0.304	0.2790/0.2817	0.2328/0.2295			0.2090	0.42	0.55	0.67	0.80	0.92	0.38	0.51	0.63	0.76	0.88	0.250	0.375	0.500	0.625	0.750
0.367	0.3415/0.3444	0.2965/0.2920			0.2715	0.49	0.64	0.80	0.95	1.11	0.45	0.60	0.76	0.92	1.07	0.312	0.469	0.625	0.781	0.937
0.429	0.4040/0.4070	0.3583/0.3545			0.3340	0.55	0.74	0.92	1.11	1.30	0.51	0.70	0.88	1.07	1.26	0.375	0.562	0.750	0.937	1.125
0.492	0.4665/0.4697	0.4210/0.4170			0.3965	0.61	0.83	1.05	1.27	1.49	0.57	0.79	1.01	1.23	1.45	0.437	0.656	0.875	1.094	1.312
0.554	0.5290/0.5323	0.4837/0.4795			0.4590	0.67	0.92	1.17	1.42	1.67	0.63	0.88	1.13	1.38	1.63	0.500	0.750	1.000	1.250	1.500
0.617	0.5915/0.5945	0.5464/0.5420			0.5215	0.74	1.02	1.30	1.58	1.86	0.70	0.98	1.26	1.54	1.82	0.562	0.844	1.125	1.406	1.687
0.679	0.6540/0.6575	0.6090/0.6045			0.5840	0.80	1.11	1.42	1.74	2.05	0.76	1.07	1.38	1.70	2.01	0.625	0.937	1.250	1.562	1.875
0.804	0.7790/0.7827	0.7343/0.7295			0.7090	0.92	1.30	1.67	2.05	2.42	0.88	1.26	1.63	2.01	2.38	0.750	1.125	1.500	1.875	2.250
1.059	1.0314/1.0355	0.9828/0.9778			0.9556	1.19	1.69	2.19	2.69	3.19	1.15	1.65	2.15	2.65	3.15	1.000	1.500	2.000	2.500	3.000
1.261	1.1757/1.1688	1.1/4	1.0528/1.0438			1.69	2.25	2.81	3.38	3.94	1.56	2.13	2.69	3.25	3.81	1.125	1.688	2.250	2.81	3.38
1.386	1.3008/1.2938	1.3/8	1.1780/1.1688			1.81	2.44	3.06	3.69	4.31	1.69	2.31	2.94	3.56	4.19	1.250	1.875	2.500	3.13	3.75
1.511	1.4259/1.4188	1.1/2	1.3031/1.2938			1.94	2.62	3.31	4.00	4.69	1.81	2.50	3.19	3.88	4.56	1.375	2.062	2.750	3.44	4.13
1.636	1.5510/1.5438	1.5/8	1.4283/1.4188			2.06	2.81	3.56	4.31	5.06	1.94	2.69	3.44	4.19	4.94	1.500	2.250	3.000	3.75	4.50
1.761	1.6762/1.6688	1.3/4	1.5535/1.5438			2.19	3.00	3.81	4.63	5.44	2.06	2.88	3.69	4.50	5.31	1.625	2.438	3.250	4.06	4.88
1.886	1.8013/1.7938	1.7/8	1.6786/1.6688			2.31	3.19	4.06	4.94	5.81	2.19	3.06	3.94	4.81	5.69	1.750	2.625	3.500	4.38	5.25
2.011	1.9264/1.9188	2	1.8038/1.7938			2.44	3.37	4.31	5.25	6.19	2.31	3.25	4.19	5.13	6.06	1.875	2.812	3.750	4.69	5.63
2.136	2.0515/2.0438	2.1/8	1.9289/1.9188			2.56	3.56	4.56	5.56	6.56	2.44	3.44	4.44	5.44	6.44	2.000	3.000	4.000	5.00	6.00


**TABLA PARA LA CONSULTA DE HERRAMIENTAS DE INSTALACION DE INSERTOS**


MC	MF	SPARK	UNC	UNF	BSW	BSF	BA	BSC	NPT	BSP	UN-8	Ref.	Ref.	Ref.
2X0.40	-	-	-	-	-	-	-	-	-	-	-	3500-HIT2	3500-TB1	3500-RT1
2.20X0.45	-	-	2GX56	-	-	-	-	-	-	-	-	3500-HIT2	3500-TB2	3500-RT1
2.50X0.45	-	-	3GX48	3GX56	-	-	#6	-	-	-	-	3500-HIT3	3500-TB3	3500-RT1
-	-	-	4GX40	4GX48	1/8X40	-	-	-	-	-	-	3500-HIT4	3500-TB4	3500-RT1
3X0.50	-	-	4GX40	4GX48	1/8X40	-	-	-	-	-	-	3500-HIT4	3500-TB4	3500-RT2
-	-	-	5GX40	-	-	-	-	-	-	-	-	3500-HIT4	3500-TB4	3500-RT1
3.50X0.60	-	-	-	-	-	-	-	-	-	-	-	3500-HIT5	3500-TB5	3500-RT2
-	-	-	6GX32	6GX40	-	-	#4	-	-	-	-	3500-HIT5	3500-TB5	3500-RT1
4X0.70	-	-	8GX32	8GX36	-	3/16X32	-	-	-	-	-	3500-HIT6	3500-TB6	3500-RT2
-	-	-	8GX32	8GX36	-	-	-	-	-	-	-	3500-HIT6	3500-TB6	3500-RT1
5X0.80	-	-	12GX24	10GX32	3/16X24	3/16X32	#1	-	-	-	-	3500-HIT8	3500-TB8	3500-RT2
-	-	-	12GX24	12GX28	-	-	-	-	-	-	-	3500-HIT8	3500-TB8	3500-RT2
6X1.00	-	-	1/4X20	1/4X28	1/4X20	1/4X26	#0	1/4X26	-	-	-	3500-HIT9	3500-TB9	3500-RT2
7X1.00	-	-	5/16X18	-	5/16X18	5/16X22	#0	-	1/16X27	-	-	3500-HIT10	3500-TB11	3500-RT2
8X1.25	8X1.00	-	5/16X18	5/16X24	3/8X16	5/16X22	-	5/16X26	-	-	-	3500-HIT11	3500-TB12	3500-RT2
9X1.25	9X1.00	10X1.00	3/8X16	3/8X24	-	3/8X20	-	3/8X26	-	-	-	3500-HIT13	3500-TB12	3500-RT2
-	10X1.00	-	3/8X16	-	3/8X16	3/8X20	-	-	-	-	-	3500-HIT13	3500-TB12	3500-RT3
10X1.50	10X1.25	-	-	-	-	-	-	-	1/8X27	-	-	3500-HIT13	3500-TB13	3500-RT2
-	-	-	-	3/8X24	-	-	-	3/8X26	-	-	-	3500-HIT13	3500-TB13	3500-RT3
-	10X1.00	-	-	-	-	-	-	-	-	-	-	3500-HIT13	3500-TB13	3500-RT2
11X1.50	11X1.25	-	7/16X14	7/16X20	7/16X14	7/16X18	-	7/16X26	-	1/8X28	-	3500-HIT14	3500-TB14	3500-RT3
-	11X1.00	-	-	-	-	-	-	-	-	-	-	3500-HIT14	3500-TB14	3500-RT3
12X1.75	12X1.50	10X1.25	1/2X13	1/2X20	1/2X12	1/2X16	-	1/2X26	-	-	-	3500-HIT15	3500-TB15	3500-RT3
-	12X1.25	-	-	-	-	-	-	-	-	-	-	3500-HIT15	-	-
-	12X1.00	12X1.25	-	-	-	-	-	-	-	-	-	3500-HIT15	3500-TB15	3500-RT3
13X1.75	13X1.50	-	-	-	-	-	-	-	-	-	-	3500-HIT15	3500-TB15	3500-RT3
-	13X1.25	-	-	-	-	-	-	-	-	-	-	3500-HIT16	-	3500-RT3
14X2.00	14X1.50	14X1.25	9/16X12	9/16X18	9/16X12	9/16X16	-	-	-	1/4X18	-	3500-HIT16	-	3500-RT3
-	14X1.00	-	-	-	-	-	-	-	-	-	-	3500-HIT16	-	3500-RT3
15X2.00	15X1.50	-	-	-	-	-	-	-	1/4X18	-	-	3500-HIT16	-	3500-RT3
-	-	14X1.25	-	-	-	-	-	-	-	-	-	3500-HIT17	-	-
16X2.00	16X1.50	-	5/8X11	5/8X18	5/8X11	5/8X14	-	-	3/8X18	-	-	3500-HIT18	-	3500-RT3
18X2.50	18X2.00	18X1.50	3/4X10	-	3/4X10	3/4X12	-	-	-	3/8X19	-	3500-HIT20	-	3500-RT3
-	18X1.50	-	-	-	-	-	-	-	-	-	-	3500-HIT20	-	-
20X2.50	20X2.00	-	-	3/4X16	-	-	-	-	-	-	-	3500-HIT21	-	3500-RT3
-	20X1.50	-	-	-	-	-	-	-	-	-	-	3500-HIT21	-	3500-RT3
22X2.50	22X2.00	-	7/8X9	7/8X14	7/8X9	7/8X11	-	-	1/2X14	-	-	3500-HIT22	-	3500-RT3
-	22X1.50	-	-	-	-	-	-	-	-	-	-	3500-HIT22	-	3500-RT3
24X3.00	24X2.00	-	1X8	1X12	1X8	1X10	-	-	-	1/2X14	-	3500-HIT23	-	3500-RT3
-	24X1.50	-	-	1X14	-	-	-	-	-	5/8X14	-	3500-HIT23	-	3500-RT3
-	26X1.50	-	-	-	-	-	-	-	-	-	-	3500-HIT24	-	3500-RT4
27X3.00	27X2.00	-	-	-	-	-	-	-	-	-	-	3500-HIT24	-	3500-RT4
-	27X1.50	-	-	-	-	-	-	-	-	-	-	3500-HIT24	-	3500-RT4
-	28X1.50	-	-	-	-	-	-	-	-	-	-	3500-HIT24	-	3500-RT4
30X3.50	30X2.00	-	1.1/8X7	1.1/8X12	-	-	-	-	-	-	-	3500-HIT25	-	3500-RT4
-	30X3.00	-	1.1/8-7	1.1/8-12	-	-	-	-	-	-	1.1/8X8	3500-HIT25	-	-
-	30X1.50	-	1.1/4X7	1.1/4X12	-	-	-	-	-	-	-	3500-HIT26	-	3500-RT4
33X3.50	33X2.00	-	1.3/8X6	1.3/8X12	-	-	-	-	-	3/4X14	1.1/4X8	3500-HIT26	-	3500-RT4
-	-	-	1.3/8-6	1.3/8-12	-	-	-	-	1X11.5	7/8X14	1.3/8X8	3500-HIT27	-	-
-	-	-	-	-	-	-	-	-	-	1X11	-	3500-HIT27	-	-
36X4.00	36X3.00	-	1.1/2X6	1.1/2X12	-	-	-	-	-	-	1.1/2X8	3500-HIT28	-	3500-RT4
39X4.00	36X2.00	-	-	-	-	-	-	-	-	-	-	3500-HIT28	-	3500-RT4
-	36X1.50	-	-	-	-	-	-	-	-	-	-	3500-HIT28	-	3500-RT4
42X4.50	-	-	-	-	-	-	-	-	-	-	1.5/8X8	3500-HIT28	-	-
-	44X3.00	-	-	-	-	-	-	-	-	-	1.3/4X8	3500-HIT28	-	-
48X5.00	-	-	-	-	-	-	-	-	-	-	1.7/8X8	3500-HIT30	-	-
-	50X2.00	-	-	-	-	-	-	-	-	-	2X8	3500-HIT30	-	-



# INSERTOS DE SEGURIDAD CON BLOQUEO

## MS51831F, MILITARY SPECIFICATION

Los insertos de seguridad Loksert son de fácil instalación, y su ensamblaje es ideal para reemplazar roscas dañadas o gastadas en, esencialmente, cualquier material – ferroso, no ferroso y no metálico. Están fabricados con la más alta calidad de acero al carbono o de acero inoxidable. Un inserto loksert se suministra con los arrastres pre-ensamblados. Los filetes de apriete posicionados estratégicamente colocan al inserto en la profundidad correcta de la superficie del material de alojamiento. Los lokserts están recomendados para reparación y creación de roscas en un amplio rango de aplicaciones incluyendo herrerías y fundiciones y se recomiendan especialmente para casos de gran desgaste de uso y vibración, tales como minería, construcción y equipo de gran movimiento.

### Características y Ventajas

- Se instalan usando machos y brocas standard.
- Sólidos, constan de pestañas de apriete que proporcionan una alta seguridad mecánica contra la rotación. Instalación sencilla. Introduzca el inserto de manera manual en el agujero y una vez instalado, golpee las pestañas introduciéndolas en las ranuras del inserto.
- Recomendados para su uso en un amplio rango de materiales de alojamiento.
- Imposible de confundir las roscas durante la instalación.
- En caso de ser necesario, sencillo proceso de extracción.
- Sin arrastre que cortar y quitar.
- Disponibles en medidas métricas, pulgadas y para bujías.
- Disponibles en pared delgada y pared reforzada.



Métrica y métrica fina



Rosca Americana UNC



Rosca American fina UNF



Inserto de seguridad



Inserto de pared delgada



Inserto de pared reforzada



Inserto de acero al carbono



Inserto de acero inoxidable



Código de familia



Rosca interna del inserto



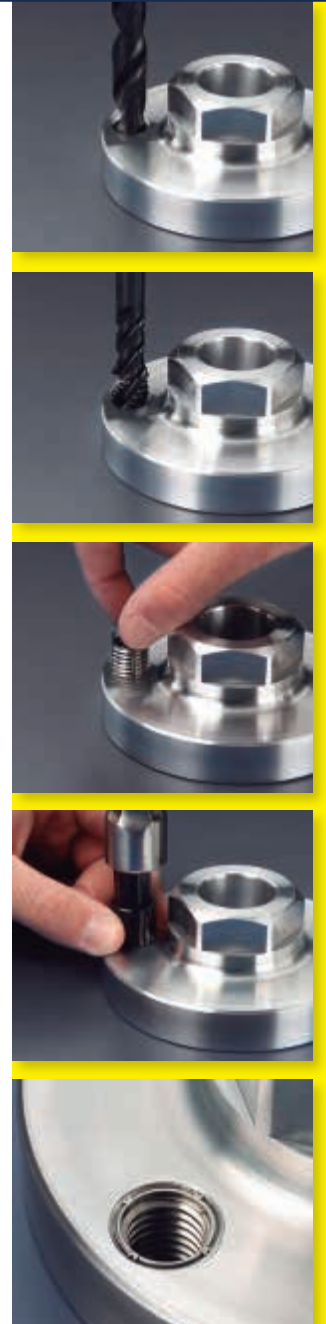
Rosca externa del inserto



Paso en mm.



Longitud del inserto



## INSERTOS DE SEGURIDAD

M  
MF

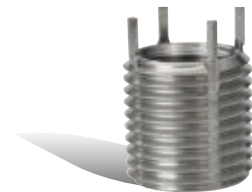
M/MF

UNC/UNF

AC

PD

...TW



				AC	INOX	
				€	€	€
M 5 x 0.80	8 x 1.25	8.00	6.90	3620-5.00TW	6,17	3720-5.00TW 13,46
M 6 x 1.00	10 x 1.25	10.00	8.80	3620-6.00TW	6,57	3720-6.00TW 13,73
M 8 x 1.00	12 x 1.25	12.00	10.80	3621-8.00TW	8,79	3721-8.00TW 14,63
M 8 x 1.25	12 x 1.25	12.00	10.80	3620-8.00TW	7,40	3720-8.00TW 14,26
M 10 x 1.25	14 x 1.50	14.00	12.80	3621-10.00TW	10,97	3721-10.00TW 16,79
M 10 x 1.50	14 x 1.50	14.00	12.80	3620-10.00TW	10,87	3720-10.00TW 16,63
M 12 x 1.25	16 x 1.50	16.00	14.75	3621-12.00TW	13,58	3721-12.00TW 21,44
M 12 x 1.75	16 x 1.50	16.00	14.75	3620-12.00TW	13,35	3720-12.00TW 20,93

UNC

UNC

				€	€	€
UNC (J) N°10 - 24	5/16 x 18	7.87	6.90	3632-10GTW	4,63	3732-10GTW 11,64
UNC (J) 1/4 - 20	3/8 x 16	9.40	8.40	3632-1/4TW	4,95	3732-1/4TW 12,78
UNC (J) 5/16 - 18	7/16 x 14	10.92	10.10	3632-5/16TW	5,28	3732-5/16TW 14,23
UNC (J) 3/8 - 16	1/2 x 13	12.70	11.50	3632-3/8TW	5,92	3732-3/8TW 14,63
UNC (J) 7/16 - 14	9/16 x 12	14.22	13.00	3632-7/16TW	7,68	3732-7/16TW 17,79
UNC (J) 1/2 - 13	5/8 x 11	15.75	14.75	3632-1/2TW	8,96	3732-1/2TW 20,52

UNF

UNF

				€	€	€
UNF (J) N°10 - 32	5/16 x 18	7.87	6.90	3634-10GTW	4,63	3734-10GTW 11,64
UNF (J) 1/4 - 28	3/8 x 16	9.40	8.40	3634-1/4TW	4,95	3734-1/4TW 12,78
UNF (J) 5/16 - 24	7/16 x 14	10.92	10.10	3634-5/16TW	5,28	3734-5/16TW 14,23
UNF (J) 3/8 - 24	1/2 x 13	12.70	11.50	3634-3/8TW	5,92	3734-3/8TW 14,63
UNF (J) 7/16 - 20	9/16 x 12	14.22	13.00	3634-7/16TW	7,68	3734-7/16TW 17,79
UNF (J) 1/2 - 20	5/8 x 11	15.75	14.75	3634-1/2TW	8,96	3734-1/2TW 20,52

1

Taladrar



2

Roscar



3

Instalar



4

Ocultar Pestañas



**INSERTOS DE SEGURIDAD**



				AC	INOX		
				€	€	€	
M	4 x 0.70	8 x 1.25	8.00	3620-4.00HD	11,68	3720-4.00HD	15,29
M	5 x 0.80	10 x 1.25	10.00	3620-5.00HD	6,80	3720-5.00HD	16,47
M	6 x 1.00	12 x 1.25	12.00	3620-6.00HD	7,10	3720-6.00HD	16,61
M	8 x 1.00	14 x 1.50	14.00	3621-8.00HD	8,97	3721-8.00HD	17,41
M	8 x 1.25	14 x 1.50	14.00	3620-8.00HD	7,54	3720-8.00HD	17,41
M	10 x 1.25	16 x 1.50	16.00	3621-10.00HD	11,07	3721-10.00HD	20,15
M	10 x 1.50	16 x 1.50	16.00	3620-10.00HD	11,07	3720-10.00HD	19,80
M	12 x 1.25	18 x 1.50	18.00	3621-12.00HD	13,85	3721-12.00HD	21,86
M	12 x 1.75	18 x 1.50	18.00	3620-12.00HD	13,80	3720-12.00HD	21,86
M	14 x 1.50	20 x 1.50	20.00	3621-14.00HD	16,61	3721-14.00HD	25,00
M	14 x 2.00	20 x 1.50	20.00	3620-14.00HD	21,36	3720-14.00HD	30,71
M	16 x 1.50	22 x 1.50	22.00	3621-16.00HD	19,81	3721-16.00HD	28,23
M	16 x 2.00	22 x 1.50	22.00	3620-16.00HD	22,45	3720-16.00HD	33,86
M	18 x 1.50	24 x 1.50	24.00	3621-18.00HD	29,07	3721-18.00HD	43,61
M	20 x 1.50	30 x 2.00	30.00	3621-20.00HD	35,08	3721-20.00HD	51,73
M	20 x 2.50	30 x 2.00	30.00	3620-20.00HD	41,93	3720-20.00HD	62,40
M	22 x 1.50	32 x 2.00	32.00	3621-22.00HD	41,20	3721-22.00HD	61,79
M	24 x 2.00	33 x 2.00	33.00	3621-24.00HD	62,75	3721-24.00HD	94,12
M	24 x 3.00	33 x 2.00	33.00	3620-24.00HD	76,32	3720-24.00HD	113,58



## INSERTOS DE SEGURIDAD

UNC

UNF



...HD








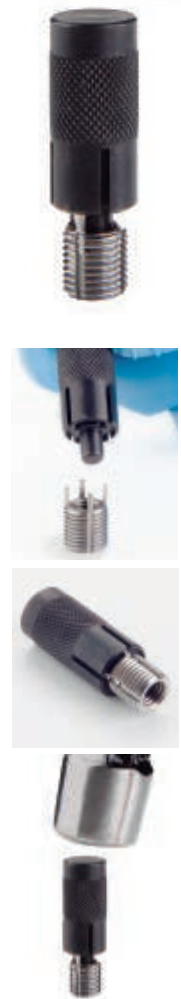
				AC	€	INOX	€
UNC (J) N°8 - 32	5/16x18	7.87	6.90	3632-8GHD	6,39	3732-8GHD	12,78
UNC (J) N°10 - 24	3/8x16	7.87	8.40	3632-10GHD	4,63	3732-10GHD	11,64
UNC (J) 1/4 - 20	7/16x14	9.40	10.10	3632-1/4HD	4,95	3732-1/4HD	12,78
UNC (J) 5/16 - 18	1/2x13	10.92	11.50	3632-5/16HD	5,27	3732-5/16HD	14,31
UNC (J) 3/8 - 16	9/16x12	12.70	13.00	3632-3/8HD	5,91	3732-3/8HD	15,17
UNC (J) 7/16 - 14	5/8x11	15.75	14.75	3632-7/16HD	7,67	3732-7/16HD	22,04
UNC (J) 1/2 - 13	3/4x16	15.75	17.75	3632-1/2HD	8,96	3732-1/2HD	22,68
UNC (J) 9/16 - 12	3/4x16	20.57	17.75	3632-9/16HD	12,30	3732-9/16HD	24,02
UNC (J) 5/8 - 11	7/8x14	22.10	21.00	3632-5/8HD	14,23	3732-5/8HD	27,31
UNC (J) 3/4 - 10	1-1/8x12	28.45	27.00	3632-3/4HD	20,29	3732-3/4HD	35,55
UNC (J) 7/8 - 9	1-1/4x12	31.75	30.00	3632-7/8HD	26,36	3732-7/8HD	55,57
UNC (J) 1 - 8	1-3/8x12	34.80	33.25	3632-1HD	53,34	3732-1HD	112,01
UNC (J) 1.1/8 - 7	1-1/2x12	41.15	36.50	3632-1.1/8HD	255,80	3732-1.1/8HD	-
UNC (J) 1.1/4 - 7	1-5/8x12	45.97	39.50	3632-1.1/4HD	318,24	3732-1.1/4HD	-
UNC (J) 1.1/2 - 6	1-7/8x12	50.80	46.00	3632-1.1/2HD	552,27	3732-1.1/2HD	-


					€		€
UNF (J) N°10 - 32	3/8x16	7.87	8.40	3634-10GHD	4,63	3734-10GHD	11,64
UNF (J) 1/4 - 28	7/16x14	7.87	10.10	3634-1/4HD	4,95	3734-1/4HD	12,78
UNF (J) 5/16 - 24	1/2x13	9.40	11.50	3634-5/16HD	5,27	3734-5/16HD	14,31
UNF (J) 3/8 - 24	9/16x12	10.92	13.00	3634-3/8HD	5,91	3734-3/8HD	15,17
UNF (J) 7/16 - 20	5/8x11	12.70	14.75	3634-7/16HD	7,67	3734-7/16HD	22,04
UNF (J) 1/2 - 20	3/4x16	15.75	17.75	3634-1/2HD	8,96	3734-1/2HD	22,68
UNF (J) 9/16 - 18	3/4x16	15.75	17.75	3634-9/16HD	12,30	3734-9/16HD	24,02
UNF (J) 5/8 - 18	7/8x14	20.57	21.00	3634-5/8HD	14,23	3734-5/8HD	27,31
UNF (J) 3/4 - 16	1-1/8x12	22.10	27.00	3634-3/4HD	20,29	3734-3/4HD	35,55
UNF (J) 7/8 - 14	1-1/4x12	28.45	30.00	3634-7/8HD	26,36	3734-7/8HD	55,57
UNF (J) 1 - 12	1-3/8x12	31.75	33.25	3634-1HD	53,34	3734-1HD	112,01
UNF (J) 1 - 14	1-3/8x12	34.80	33.25	3635-1HD	96,81	3735-1HD	-
UNF (J) 1.1/8 - 12	1-1/2x12	41.15	36.50	3634-1.1/8HD	255,80	3734-1.1/8HD	-
UNF (J) 1.1/4 - 12	1-5/8x12	45.97	39.50	3634-1.1/4HD	318,24	3734-1.1/4HD	-
UNF (J) 1.1/2 - 12	1-7/8x12	45.97	46.00	3634-1.1/2HD	552,27	3734-1.1/2HD	-

**HERRAMIENTA DE COLOCACIÓN PARA INSERTOS DE SEGURIDAD**



	 PD	...TT	 PR	...HT	 PD	 PR	...T
		€		€			€
M 4	-	-	3600-4.00HT	98,32	-	-	-
M 5	3600-5.00TT	99,89	3600-5.00HT	99,89	3600-190T	-	55,81
M 6	3600-6.00TT	102,75	3600-6.00HT	102,75	3600-250T	-	51,12
M 8	3600-8.00TT	106,68	3600-8.00HT	106,68	3600-312T	-	61,30
M 10	3600-10.00TT	115,29	3600-10.00HT	115,29	3600-375T	-	61,30
M 12	3600-12.00TT	123,63	3600-12.00HT	123,63	3600-500T	-	67,02
M 14	-	-	3600-14.00HT	134,58	-	-	-
M 16	-	-	3600-16.00HT	139,27	3600-625T	-	67,02
M 18	-	-	3600-18.00HT	142,92	-	-	-
M 20	-	-	3600-20.00HT	148,40	3600-875T	-	79,02
M 22	-	-	3600-22.00HT	153,08	3600-875T	-	79,02
M 24	-	-	3600-24.00HT	169,27	3600-875T	-	79,02



		€		€		€
8G	-	-	3600-8GHT	117,39	-	-
10G	3600-10GTT	106,63	3600-10GHT	117,39	3600-190T	55,81
1/4	3600-1/4TT	110,41	3600-1/4HT	122,33	3600-250T	51,12
5/16	3600-5/16TT	122,33	3600-5/16HT	122,33	3600-312T	61,30
3/8	3600-3/8TT	139,35	3600-3/8HT	129,87	3600-375T	61,30
7/16	3600-7/16TT	128,72	3600-7/16HT	133,00	3600-375T	61,30
1/2	3600-1/2TT	133,00	3600-1/2HT	145,27	3600-500T	67,02
9/16	-	-	3600-9/16HT	145,27	3600-500T	67,02
5/8	-	-	3600-5/8HT	167,71	3600-625T	67,02
3/4	-	-	3600-3/4HT	194,04	3600-875T	79,02
7/8	-	-	3600-7/8HT	205,51	3600-875T	79,02
1	-	-	3600-1HT	203,96	3600-100T	79,02
1-1/8	-	-	3600-1.1/8HT	571,68	-	-
1-1/4	-	-	3600-1.1/4HT	618,10	-	-
1-1/2	-	-	3600-1.1/2HT	727,13	-	-



## KIT DE INSERTOS DE SEGURIDAD



M 5 x 0.80	8.00 x 1.25	8.00	3620-5.00TWK	AC	INOX	5	6.9	M03M08X1,25	3600-190T	
				€	€					
M 6 x 1.00	10.00 x 1.25	10.00	3620-6.00TWK	194,76	3720-6.00TWK	226,30	5	8.8	M03M10X1,25	3600-250T
M 8 x 1.25	12.00 x 1.25	12.00	3620-8.00TWK	246,73	3720-8.00TWK	276,09	5	10.8	M03M12X1,25	3600-312T
M 10 x 1.50	14.00 x 1.50	14.00	3620-10.00TWK	306,75	3720-10.00TWK	327,25	5	12.8	M03M14X1,50	3600-375T
M 12 x 1.75	16.00 x 1.50	16.00	3620-12.00TWK	326,61	3720-12.00TWK	351,17	5	14.75	M03M16X1,50	3600-500T

MF 8 x 1.00	12.00 x 1.25	12.00	3621-8.00TWK <th>AC</th> <th>INOX</th> <th rowspan="2">5</th> <th rowspan="2">10.8</th> <th rowspan="2">M03M12X1,25</th> <th rowspan="2">3600-312T</th>	AC	INOX	5	10.8	M03M12X1,25	3600-312T	
				€	€					
MF 10 x 1.25	14.00 x 1.50	14.00	3621-10.00TWK	306,75	3721-10.00TWK	327,25	5	12.8	M03M14X1,50	3600-375T
MF 12 x 1.25	16.00 x 1.50	16.00	3621-12.00TWK	333,40	3721-12.00TWK	357,95	5	14.75	M03M16X1,50	3600-500T

UNC Nº10 x 24	UNC 5/16 x 18	7,87	3632-10GTWK <th>AC</th> <th>INOX</th> <th rowspan="2">5</th> <th rowspan="2">6.90</th> <th rowspan="2">M03NC5/16X18</th> <th rowspan="2">3600-190T</th>	AC	INOX	5	6.90	M03NC5/16X18	3600-190T	
				€	€					
UNC 1/4 x 20	UNC 3/8 x 16	9,40	3632-1/4TWK	182,36	3732-1/4TWK	230,60	5	8.40	M03NC3/8X16	3600-250T
UNC 5/16 x 18	UNC 7/16 x 14	10,92	3632-5/16TWK	240,74	3732-5/16TWK	290,15	5	10.10	M03NC7/16X14	3600-312T
UNC 3/8 x 16	UNC 1/2 x 13	12,70	3632-3/8TWK	209,37	3732-3/8TWK	258,28	5	11.50	M03NC1/2X13	3600-375T
UNC 7/16 x 14	UNC 9/16 x 12	14,22	3632-7/16TWK	271,85	3732-7/16TWK	318,71	5	13.00	M03NC9/16X12	3600-375T
UNC 1/2 x 13	UNC 5/8 x 11	15,75	3632-1/2TWK	301,94	3732-1/2TWK	353,21	5	14.75	M03NC5/8X11	3600-500T

UNF Nº10 x 32	UNC 5/16 x 18	7,87	3634-10GTWK <th>AC</th> <th>INOX</th> <th rowspan="2">5</th> <th rowspan="2">6.90</th> <th rowspan="2">M03NC5/16X18</th> <th rowspan="2">3600-190T</th>	AC	INOX	5	6.90	M03NC5/16X18	3600-190T	
				€	€					
UNF 1/4 x 28	UNC 3/8 x 16	9,40	3634-1/4TWK	182,36	3734-1/4TWK	230,60	5	8.40	M03NC3/8X16	3600-250T
UNF 5/16 x 24	UNC 7/16 x 14	10,92	3634-5/16TWK	244,27	3734-5/16TWK	293,67	5	10.10	M03NC7/16X14	3600-312T
UNF 3/8 x 24	UNC 1/2 x 13	12,70	3634-3/8TWK	209,37	3734-3/8TWK	258,28	5	11.50	M03NC1/2X13	3600-375T
UNF 7/16 x 20	UNC 9/16 x 12	14,22	3634-7/16TWK	271,85	3734-7/16TWK	318,71	5	13.00	M03NC9/16X12	3600-375T
UNF 1/2 x 20	UNC 5/8 x 11	15,75	3634-1/2TWK	301,94	3734-1/2TWK	353,21	5	14.75	M03NC5/8X11	3600-500T

**KIT DE INSERTOS DE SEGURIDAD**

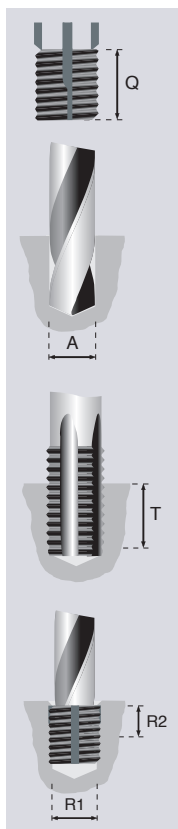


M/MF			AC	INOX	mm			
M	Ø	L	AC	INOX	mm	mm	mm	mm
M 5 x 0.80	10.00 x 1.25	10.00	3620-5.00HDK 202,47	3720-5.00HDK 249,34	5	8.80	M03M10X1,25	3600-190T
M 6 x 1.00	12.00 x 1.25	12.00	3620-6.00HDK 239,51	3720-6.00HDK 289,17	5	10.80	M03M12X1,25	3600-250T
M 8 x 1.25	14.00 x 1.50	14.00	3620-8.00HDK 301,70	3720-8.00HDK 352,50	5	12.80	M03M14X1,25	3600-312T
M 10 x 1.50	16.00 x 1.50	16.00	3620-10.00HDK 329,94	3720-10.00HDK 375,12	5	14.75	M03M16X1,50	3600-375T
M 12 x 1.75	18.00 x 1.50	18.00	3620-12.00HDK 487,18	3720-12.00HDK 522,74	5	16.75	M03M18X1,50	3600-500T
M 16 x 2.00	22.00 x 1.50	22.00	3620-16.00HDK 654,47	3720-16.00HDK 684,03	5	20.50	M03M22X1,50	3600-625T

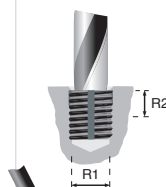
M/MF			AC	INOX	mm			
M	Ø	L	AC	INOX	mm	mm	mm	mm
M 8 x 1.00	14.00 x 1.50	14.00	3621-8.00HDK 301,70	3721-8.00HDK 352,50	5	12.80	M03M14X1,50	3600-312T
M 10 x 1.25	16.00 x 1.50	16.00	3621-10.00HDK 329,94	3721-10.00HDK 375,12	5	14.75	M03M16X1,50	3600-375T
M 12 x 1.25	18.00 x 1.50	18.00	3621-12.00HDK 487,18	3721-12.00HDK 522,74	5	16.75	M03M18X1,50	3600-500T
M 16 x 1.50	22.00 x 1.50	22.00	3621-16.00HDK 654,47	3721-16.00HDK 684,03	5	20.50	M03M22X1,50	3600-625T

UNC/UNF			AC	INOX	mm			
UNC/UNF	UNC/UNF	L	AC	INOX	mm	mm	mm	mm
UNC Nº10 x 24	UNC 3/8 x 16	7.87	3632-10GHDK 191,71	3732-10GHDK 253,63	5	8.40	M03NC3/8X16	3600-190T
UNC 1/4 x 20	UNC 7/16 x 14	9.40	3632-1/4HDK 236,82	3732-1/4HDK 303,18	5	10.10	M03NC7/16X14	3600-250T
UNC 5/16 x 18	UNC 1/2 x 13	10.92	3632-5/16HDK 212,71	3732-5/16HDK 283,52	5	11.50	M03NC1/2X13	3600-312T
UNC 3/8 x 16	UNC 9/16 x 12	12.70	3632-3/8HDK 275,05	3732-3/8HDK 348,64	5	13.00	M03NC9/16X12	3600-375T
UNC 7/16x14	UNC 5/8 x 11	14.22	3632-7/16HDK 263,42	3732-7/16HDK 283,29	5	14.75	M03NC5/8X11	3600-375T
UNC 1/2x13	UNF 3/4 x 16	15.75	3632-1/2HDK 400,76	3732-1/2HDK 431,01	5	17.75	M03NF3/4X16	3600-500T
UNC 9/16x12	UNF 3/4 x 16	20.57	3632-9/16HDK 400,76	3732-9/16HDK 431,01	5	17.75	M03NF3/4X16	3600-500T
UNC 5/8x11	UNF 7/8 x 14	22.10	3632-5/8HDK 541,96	3732-5/8HDK 601,61	5	21.00	M03NF7/8X14	3600-625T

UNC/UNF			AC	INOX	mm			
UNC/UNF	UNC/UNF	L	AC	INOX	mm	mm	mm	mm
UNF Nº10 x 32	UNC 3/8 x 16	7.87	3634-10GHDK 191,71	3734-10GHDK 253,63	5	8.40	M03NC3/8X16	3600-190T
UNF 1/4 x 28	UNC 7/16 x 14	9.40	3634-1/4HDK 236,82	3734-1/4HDK 303,18	5	10.10	M03NC7/16X14	3600-250T
UNF 5/16 x 24	UNC 1/2 x 13	10.92	3634-5/16HDK 212,71	3734-5/16HDK 283,52	5	11.50	M03NC1/2X13	3600-312T
UNF 3/8 x 24	UNC 9/16 x 12	12.70	3634-3/8HDK 275,05	3734-3/8HDK 348,64	5	13.00	M03NC9/16X12	3600-375T
UNF 7/16 x 20	UNC 5/8 x 11	14.22	3634-7/16HDK 306,84	3734-7/16HDK 374,44	5	14.75	M03NC5/8X11	3600-375T
UNF 1/2 x 20	UNF 3/4 x 16	15.75	3634-1/2HDK 452,51	3734-1/2HDK 514,84	5	17.75	M03NF3/4X16	3600-500T
UNF 9/16 x 18	UNF 3/4 x 16	20.57	3634-9/16HDK 470,90	3734-9/16HDK 529,07	5	17.75	M03NF3/4X16	3600-500T
UNF 5/8 x 18	UNF 7/8 x 14	22.10	3634-5/8HDK 541,96	3734-5/8HDK 601,61	5	21.00	M03NF7/8X14	3600-625T

Loksert  
by CELESA

## EXTRACCIÓN



1

## Taladrar

Taladre el material entre las pestañas y la rosca interior en la profundidad especificada. Consulte información técnica.

2

## Doblar

Doble las pestañas hacia dentro y rómpalas.

3

## Extraer

Saque el inserto mediante un extractor de tornillos.

4

## Instalar

Mediante el procedimiento habitual, coloque un nuevo inserto Loksert



	Rosca Interna		Rosca Externa		Macho					
	Tol 6H mm	Tol 6G mm	Q mm	Hta de Instalación	A mm	Tol 6H mm	T Min. mm	R1 mm	R2 mm	
PARED DELGADA	M 5 X 0.8	M8 X 1.25	8.0	3600-190T	6.9	M8 X 1.25	9.5	5.50	4.00	
	M 6 X 1.0	M10 X 1.25	10.0	3600-250T	8.8	M10 x 1.25	11.5	7.50	4.75	
	M 8 X 1.25	M12 x 1.25	12.0	3600-312T	10.8	M12 x 1.25	13.5	9.50	4.75	
	M 8 X 1.0	M12 x 1.25	12.0	3600-312T	10.8	M12 x 1.25	13.5	9.50	4.75	
	M 10 X 1.5	M14 x 1.5	14.0	3600-375T	12.8	M14 x 1.5	15.5	11.50	4.75	
	M 10 X 1.25	M14 x 1.5	14.0	3600-375T	12.8	M14 x 1.5	15.5	11.50	4.75	
	M 12 X 1.75	M16 x 1.5	16.0	3600-500T	14.75	M16 x 1.5	17.5	13.50	4.75	
	M 12 X 1.25	M16 x 1.5	16.0	3600-500T	14.75	M16 x 1.5	17.5	13.50	4.75	
PARED REFORZADA	M 4 X 0.7	M8 X 1.25	8.0	3600-4.00HT	6.9	M8 X 1.25	9.5	5.50	4.00	
	M 5 X 0.8	M10 X 1.25	10.0	3600-190T	8.8	M10 x 1.25	12.5	7.50	4.75	
	M 6 X 1.0	M12 x 1.25	12.0	3600-250T	10.8	M12 x 1.25	14.5	9.50	4.75	
	M 8 X 1.25	M14 x 1.5	14.0	3600-312T	12.8	M14 x 1.5	16.5	11.50	4.75	
	M 8 X 1.0	M14 x 1.5	14.0	3600-312T	12.8	M14 x 1.5	16.5	11.50	4.75	
	M 10 X 1.5	M16 x 1.5	16.0	3600-375T	14.75	M16 x 1.5	18.5	13.50	4.75	
	M 10 X 1.25	M16 x 1.5	16.0	3600-375T	14.75	M16 x 1.5	18.5	13.50	4.75	
	M 12 X 1.75	M18 X 1.5	18.0	3600-500T	16.75	M18 X 1.5	20.5	15.50	4.75	
	M 12 X 1.25	M18 X 1.5	18.0	3600-500T	16.75	M18 X 1.5	20.5	15.50	4.75	
	M 14 X 2.0	M20 X 1.5	20.0	3600-14.00HT	18.75	M20 X 1.5	22.5	17.50	4.75	
	M 14 X 1.5	M20 X 1.5	20.0	3600-14.00HT	18.75	M20 X 1.5	22.5	17.50	4.75	
	M 16 X 2.0	M22 X 1.5	22.0	3600-625T	20.5	M22 X 1.5	24.5	17.75	6.35	
	M 16 X 1.5	M22 X 1.5	22.0	3600-625T	20.5	M22 X 1.5	24.5	17.75	6.35	
	M 18 X 1.5	M24 X 1.5	24.0	3600-18.00HT	22.5	M24 X 1.5	26.5	19.75	6.35	
	M 20 X 2.5	M30 X 2.0	30.0	3600-875T	28.0	M30 X 2.0	34.5	25.75	6.35	
	M 20 X 1.5	M30 X 2.0	30.0	3600-875T	28.0	M30 X 2.0	34.5	25.75	6.35	
	M 22 X 1.5	M32 X 2.0	32.0	3600-22.00HT	30.0	M32 X 2.0	36.5	27.75	6.35	
	M 24 X 3.0	M33 X 2.0	33.0	3600-24.00HT	31.0	M33 X 2.0	37.5	28.75	6.35	
	M 24 X 2.0	M33 X 2.0	33.0	3600-24.00HT	31.0	M33 X 2.0	37.5	28.75	6.35	
	PARED DELGADA	Tol 6H mm	Tol 6G mm	Q mm	Hta de Instalación	A mm	Tol 2B "	T Min. mm	R1 mm	R2 mm
Nº10 X 24		5/16 X 18	7.87	3600-190T	6.90	UNC 5/16X18	9.40	5.56	3.20	
Nº10 X 32		5/16 X 18	7.87	3600-190T	6.90	UNC 5/16X18	9.40	5.56	3.20	
1/4 X 20		3/8 X 16	9.40	3600-250T	8.40	UNC 3/8X16	10.92	7.14	4.75	
1/4 X 28		3/8 X 16	9.40	3600-250T	8.40	UNC 3/8X16	10.92	7.14	4.75	
5/16 X 18		7/16 X 14	10.92	3600-312T	10.10	UNC 7/16X14	12.70	8.73	4.75	
5/16 X 24		7/16 X 14	10.92	3600-312T	10.10	UNC 7/16X14	12.70	8.73	4.75	
3/8 X 16		1/2 X 13	12.70	3600-375T	11.50	UNC 1/2X13	14.22	10.32	4.75	
3/8 X 24		1/2 X 13	12.70	3600-375T	11.50	UNC 1/2X13	14.22	10.32	4.75	
7/16 X 14		9/16 X 12	14.22	3600-375T	13.10	UNC 9/16X12	15.75	11.91	4.75	
7/16 X 20		9/16 X 12	14.22	3600-375T	13.10	UNC 9/16X12	15.75	11.91	4.75	
1/2 X 13		5/8 X 11	15.75	3600-500T	14.75	UNC 5/8X11	17.27	13.49	4.75	
1/2 X 20		5/8 X 11	15.75	3600-500T	14.75	UNC 5/8X11	17.27	13.49	4.75	
PARED REFORZADA		Nº8 X 32	5/16 X 18	7.87	3600-86HT	6.90	UNC 5/16X18	9.40	5.56	3.20
		Nº10 X 24	3/8 X 16	7.87	3600-190T	8.40	UNC 3/8X16	9.40	7.14	3.20
		Nº10 X 32	3/8 X 16	7.87	3600-190T	8.40	UNC 3/8X16	9.40	7.14	3.20
		1/4 X 20	7/16 X 14	9.40	3600-250T	10.10	UNC 7/16X14	10.92	8.73	4.75
		1/4 X 28	7/16 X 14	9.40	3600-250T	10.10	UNC 7/16X14	10.92	8.73	4.75
		5/16 X 18	1/2 X 13	10.92	3600-312T	11.50	UNC 1/2X13	12.70	10.32	4.75
		5/16 X 24	1/2 X 13	10.92	3600-312T	11.50	UNC 1/2X13	12.70	10.32	4.75
	3/8 X 16	9/16 X 12	12.70	3600-375T	13.10	UNC 9/16X12	14.22	11.91	4.75	
	3/8 X 24	9/16 X 12	12.70	3600-375T	13.10	UNC 9/16X12	14.22	11.91	4.75	
	7/16 X 14	5/8 X 11	15.75	3600-375T	14.75	UNC 5/8X11	17.27	13.49	4.75	
	7/16 X 20	5/8 X 11	15.75	3600-375T	14.75	UNC 5/8X11	17.27	13.49	4.75	
	1/2 X 13	3/4 X 16	15.75	3600-500T	17.50	UNF 3/4X16	17.27	16.67	4.75	
	1/2 X 20	3/4 X 16	15.75	3600-500T	17.50	UNF 3/4X16	17.27	16.67	4.75	
	9/16 X 12	3/4 X 16	20.57	3600-500T	17.50	UNF 3/4X16	23.88	16.67	4.75	
	9/16 X 18	3/4 X 16	20.57	3600-500T	17.50	UNF 3/4X16	23.88	16.67	4.75	
	5/8 X 11	7/8 X 14	22.10	3600-625T	21.00	UNF 7/8X14	25.40	19.84	7.90	
	5/8 X 18	7/8 X 14	22.10	3600-625T	21.00	UNF 7/8X14	25.40	19.84	7.90	
	3/4 X 10	1-1/8 X 12	28.45	3600-875T	27.00	UNF 1-1/8X12	33.27	24.61	7.90	
	3/4 X 16	1-1/8 X 12	28.45	3600-875T	27.00	UNF 1-1/8X12	33.27	24.61	7.90	
	7/8 X 9	1-1/4 X 12	31.75	3600-875T	30.00	UNF 1-1/4X12	36.58	27.75	7.90	
7/8 X 14	1-1/4 X 12	31.75	3600-875T	30.00	UNF 1-1/4X12	36.58	27.75	7.90		
1 X 8	1-3/8 X 12	34.80	3600-100T	33.25	UNF 1-3/8X12	39.62	31	7.90		
1 X 12	1-3/8 X 12	34.80	3600-100T	33.25	UNF 1-3/8X12	39.62	31	7.90		
1 X 14	1-3/8 X 12	34.80	3600-100T	33.25	UNF 1-3/8X12	39.62	31	7.90		
1-1/8 X 7	1-1/2 X 12	41.15	3600-1.1/8HT	36.50	UNF 1-1/2X12	46.74	34	7.90		
1-1/8 X 12	1-1/2 X 12	41.15	3600-1.1/8HT	36.50	UNF 1-1/2X12	46.74	34	7.90		
1-1/4 X 7	1-5/8 X 12	45.97	3600-1.1/4HT	39.75	UNF 1-5/8X12	52.32	37.25	7.90		
1-1/4 X 12	1-5/8 X 12	45.97	3600-1.1/4HT	39.75	UNF 1-5/8X12	52.32	37.25	7.90		
1-1/2 X 6	1-7/8 X 12	50.80	3600-1.1/2HT	46.00	UNF 1-7/8X12	57.91	43.50	7.90		
1-1/2 X 12	1-7/8 X 12	50.80	3600-1.1/2HT	46.00	UNF 1-7/8X12	57.91	43.50	7.90		

## PARED DELGADA Y PARED REFORZADA

Material del inserto	Acero al carbono - C1215. Acero inoxidable - AISI 303	Nº pestañas	4 pestañas en insertos con rosca interna M7 o mayores 2 pestañas en insertos con rosca interna inferior a M7
Pestañas	AISI 302	Tolerancia del agujero previo	6.90 - 10.80 = +0.100 / -0.025      +12.80 = +0.130 / -0.025
Tolerancias	Acero al carbono - Zincado fosfatado; Acero inoxidable - Pasivizado		



**tapsert**<sup>®</sup>  
by *celesa*



# INSERTOS AUTORROSCANTES

Los insertos TAPSERT son insertos autorroscantes con rosca tanto interna como externa. Deben ser instalados en un agujero previamente practicado a la medida indicada en el catálogo. La parte frontal del inserto TAPSERT consta de un cono de entrada que hace de macho y rosca el agujero previo. La ranura del inserto permite alojar la viruta generada en la operación. Los insertos TAPSERT son perfectos para generar roscas muy fuertes en materiales de baja capacidad de resistencia donde las roscas se deterioran fácilmente.

## Características y Ventajas

- Fácil de instalar sobre agujeros previos practicados con brocas de medida estándar. Como colocador, se usa un tornillo de medida igual a la rosca interior.
- No es necesario usar machos en su instalación. El propio inserto hace la rosca.
- El inserto soporta cargas de compresión y tracción muy elevadas
- Permite apretar a pares extremadamente altos en materiales blandos como plástico, aluminio, madera, etc...
- La tolerancia de la rosca se conserva a pesar de múltiples usos de la rosca. Bajo desgaste.



Rosque el Tapsert en el tornillo con la ranuras en la parte inferior.  
Ajuste la tuerca a la longitud del inserto hasta que el tornillo se encuentre a ras de inserto.

## INSERTOS AUTORROSCANTES CON RANURA

M  
MF

M/MF

AC

AC

INOX



AC 302



INOX 302



Diagrama	Diagrama	mm	Ø	L	AC	€			INOX	€		
						100-499	500-1999	2000-...		AISI 303	25-499	500-1999
M 2.50 x 0.45	M 4.50 x 0.50	6.00	4.30	8.00	3920-2.5X6	0,48	0,44	0,40	3920-2.5X6SS	0,83	0,79	0,70
M 3 x 0.50	M 5 x 0.50	6.00	4.80	8.00	3920-3X6	0,49	0,45	0,42	3920-3X6SS	0,84	0,80	0,71
M 4 x 0.70	M 6.50 x 0.75	8.00	6.20	10.00	3920-4X8	0,51	0,49	0,46	3920-4X8SS	1,12	1,07	0,96
M 5 x 0.80	M 8 x 1.00	10.00	7.60	13.00	3920-5X10	0,64	0,61	0,57	3920-5X10SS	1,46	1,39	1,25
M 6 x 1.00	M 10 x 1.50	14.00	9.40	17.00	3920-6X14	0,82	0,78	0,70	3920-6X14SS	1,81	1,71	1,54
M 8 x 1.25	M 12 x 1.50	15.00	11.40	18.00	3920-8X15	1,00	0,95	0,86	3920-8X15SS	2,28	2,14	1,94
M 10 x 1.50	M 14 x 1.50	18.00	13.50	22.00	3920-10X18	1,45	1,38	1,25	3920-10X18SS	3,33	3,14	2,84
						25-499	500-1999	2000-...		1-499	500-1999	2000-...
M 12 x 1.75	M 16 x 1.50	22.00	15.50	26.00	3920-12X22	2,28	2,14	1,96	3920-12X22SS	4,49	4,22	3,81
M 14 x 2.00	M 18 x 1.50	24.00	17.50	28.00	3920-14X24	3,10	2,92	2,67	3920-14X24SS	5,90	5,55	5,00
M 16 x 2.00	M 20 x 1.50	22.00	19.50	26.00	3920-16X22	4,16	3,79	3,44	3920-16X22SS	7,23	6,59	5,94
						5-499	500-1999	2000-...		1-499	500-1999	2000-...
M 18 x 2.50	M 22 x 1.50	24.00	21.50	29.00	3920-18X24	6,25	5,68	5,19	3920-18X24SS	7,93	7,22	6,51
M 20 x 2.50	M 26 x 1.50	27.00	25.50	32.00	3920-20X26	7,02	6,41	5,83	3920-20X26SS	9,15	8,34	7,51
M 22 x 2.50	M 26 x 1.50	30.00	25.50	36.00	3920-22X30	8,37	7,61	6,93	3920-22X30SS	10,16	9,26	8,34
M 24 x 3.00	M 30 x 1.50	30.00	29.50	36.00	3920-24X30	10,34	9,44	8,59	3920-24X30SS	11,62	10,58	9,53



3920-6X14P

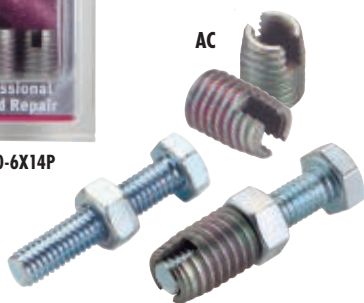


Diagrama	Diagrama	mm	Ø	L	AC	€	AC
M 2.50 x 0.45	M 4.50 x 0.50	6.00	4.30*	8.00	3920-2.5X6P	11,72	2
M 3 x 0.50	M 5 x 0.50	6.00	4.80*	8.00	3920-3X6P	11,72	2
M 4 x 0.70	M 6.50 x 0.75	8.00	6.20*	10.00	3920-4X8P	10,65	2
M 5 x 0.80	M 8 x 1.00	10.00	7.60*	13.00	3920-5X10P	10,65	2
M 6 x 1.00	M 10 x 1.50	14.00	9.40*	17.00	3920-6X14P	10,65	2
M 8 x 1.25	M 12 x 1.50	15.00	11.40*	18.00	3920-8X15P	11,72	2
M 10 x 1.50	M 14 x 1.50	18.00	13.50*	22.00	3920-10X18P	12,78	2
M 12 x 1.75	M 16 x 1.50	22.00	15.50*	26.00	3920-12X22P	14,90	2
M 14 x 2.00	M 18 x 1.50	24.00	17.50*	28.00	3920-14X24P	15,58	2
M 16 x 2.00	M 20 x 1.50	22.00	19.50*	26.00	3920-16X22P	22,35	2

\* Broca previa no incluida

**INSERTOS AUTORROSCANTES CON RANURA**



BRASS 302



INOX AISI 316L



Diagram	Diagram	mm	Ø	L	BRASS	€			INOX AISI 316L	€		
						100-499	500-1999	2000-...		25-499	500-1999	2000-...
M 3 x 0.50	M 5 x 0.50	6.00	4.80	8.00	3920-3X6LAT	0,48	0,46	0,42	-			
M 4 x 0.70	M 6.5 x 0.75	8.00	6.20	10.00	3920-4X8LAT	0,55	0,51	0,48	3920-4X8DY	1,46	1,39	1,25
M 5 x 0.80	M 8 x 1.00	10.00	7.60	13.00	3920-5X10LAT	0,68	0,64	0,59	3920-5X10DY	1,90	1,79	1,62
M 6 x 1.00	M 10 x 1.50	14.00	9.40	17.00	3920-6X14LAT	0,86	0,82	0,76	3920-6X14DY	2,35	2,22	2,00
M 8 x 1.25	M 12 x 1.50	15.00	11.40	18.00	3920-8X15LAT	1,17	1,09	1,00	3920-8X15DY	3,23	3,05	2,75
M 10 x 1.50	M 14 x 1.50	18.00	13.50	22.00	3920-10X18LAT	2,06	1,94	1,77	-			
						25-499	500-1999	2000-...		1-499	500-1999	2000-...
M 12 x 1.75	M 16 x 1.50	22.00	15.50	26.00	3920-12X22LAT	2,64	2,49	2,27				

**APLICACIONES**

- Maderas duras
- Maderas blandas
- Termoplásticos blandos
- Materiales aglomerados



BRASS 309

Diagram	Diagram	mm	SOFT Ø	HARD Ø	L	BRASS	€		
							100-499	500-1999	2000-...
M 3 x 0.50	M 5.5 x 1.60	6.00	4.10	4.20-4.30	9.00	3925-3X6	0,88	0,83	0,79
M 4 x 0.70	M 7 x 2.50	10.00	5.10	5.20-5.30	13.00	3925-4X10	1,19	1,13	1,07
M 5 x 0.80	M 9 x 3.00	12.00	6.60	6.70-6.90	15.00	3925-5X12	1,37	1,30	1,24
M 6 x 1.00	M 10 x 4.00	14.00	7.60	7.70-7.90	17.00	3925-6X14	1,52	1,45	1,38
M 8 x 1.25	M 13 x 4.00	20.00	9.90	10.10-10.30	23.00	3925-8X20	2,08	1,97	1,88
M 10 x 1.50	M 16 x 5.00	23.00	12.40	12.60-12.80	26.00	3925-10X23	3,11	2,95	2,80
							25-499	500-1999	2000-...
M 12 x 1.75	M 19 x 5.00	26.00	15.40	15.60-15.80	30.00	3925-12X26	5,20	4,94	4,68

**Materiales Duros**



**Materiales Blandos**



## INSERTOS AUTORROSCANTES CON RANURA

UNC



UNC



AC



INOX



AC 302



INOX 302



UNC		M		mm	Ø	L	AC	€	INOX AISI 303	€
UNC	Nº4 x 40	M 5 x 0.50	6.00	4.80	8.00		3932-4GX6	1,34	3932-4GX6SS	2,47
UNC	Nº6 x 32	M 6 x 0.75	8.00	5.70	10.00		3932-6GX8	1,72	3932-6GX8SS	3,22
UNC	Nº8 x 32	M 6.50 x 0.75	8.00	6.20	10.00		3932-8GX8	2,32	3932-8GX8SS	4,19
UNC	Nº10 x 24	M 8 x 1.00	10.00	7.60	13.00		3932-10GX10	2,63	3932-10GX10SS	4,87
UNC	1/4 x 20	M 10 x 1.50	14.00	9.40	17.00		3932-1/4X14	3,22	3932-1/4X14SS	6,22
UNC	5/16 x 18	M 12 x 1.50	15.00	11.40	18.00		3932-5/16X15	4,19	3932-5/16X15SS	8,24
UNC	3/8 x 16	M 14 x 1.50	18.00	13.50	22.00		3932-3/8X18	5,92	3932-3/8X18SS	11,76
UNC	7/16 x 14	M 16 x 1.50	22.00	15.50	26.00		3932-7/16X22	8,68	3932-7/16X22SS	17,16
UNC	1/2 x 13	M 18 x 1.50	22.00	17.50	26.00		3932-1/2X22	10,93	3932-1/2X22SS	22,85
UNC	5/8 x 11	M 20 x 1.50	22.00	19.50	26.00		3932-5/8X22	12,51	3932-5/8X22SS	22,85

UNF



UNF



AC



INOX



AC 302

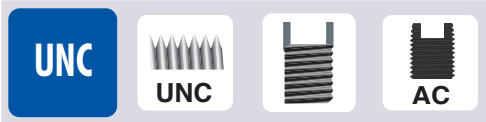


INOX 302



UNF		M		mm	Ø	L	AC	€	INOX AISI 303	€
UNF	Nº10 x 32	M 8 x 1.00	10.00	7.60	13.00		3934-10GX10	2,63	3934-10GX10SS	4,87
UNF	1/4 x 28	M 10 x 1.50	14.00	9.40	17.00		3934-1/4X14	3,22	3934-1/4X14SS	6,22
UNF	5/16 x 24	M 12 x 1.50	15.00	11.40	18.00		3934-5/16X15	4,19	3934-5/16X15SS	8,24
UNF	3/8 x 24	M 14 x 1.50	18.00	13.50	22.00		3934-3/8X18	5,92	3934-3/8X18SS	11,76
UNF	7/16 x 20	M 16 x 1.50	22.00	15.50	26.00		3934-7/16X22	8,68	3934-7/16X22SS	17,16
UNF	1/2 x 20	M 18 x 1.50	22.00	17.50	26.00		3934-1/2X22	10,93	3934-1/2X22SS	22,85
UNF	5/8 x 18	M 20 x 1.50	22.00	19.50	26.00		3934-5/8X22	12,51	3934-5/8X22SS	22,85

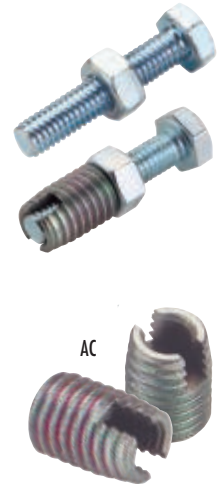
**INSERTOS AUTORROSCANTES CON RANURA EN BLISTER**



						€	
UNC Nº4 x 40	M 5 x 0.50	6.00	4.80*	8.00	3932-4GX6P	22,85	2
UNC Nº6 x 32	M 6 x 0.75	8.00	5.70*	10.00	3932-6GX8P	22,85	2
UNC Nº8 x 32	M 6.50 x 0.75	8.00	6.20*	10.00	3932-8GX8P	22,85	2
UNC Nº10 x 24	M 8 x 1.00	10.00	7.60*	13.00	3932-10GX10P	22,85	2
UNC 1/4 x 20	M 10 x 1.50	14.00	9.40*	17.00	3932-1/4X14P	25,85	2
UNC 5/16 x 18	M 12 x 1.50	15.00	11.40*	18.00	3932-5/16X15P	28,42	2
UNC 3/8 x 16	M 14 x 1.50	18.00	13.50*	22.00	3932-3/8X18P	31,00	2
UNC 7/16 x 14	M 16 x 1.50	22.00	15.50*	26.00	3932-7/16X22P	33,57	2
UNC 1/2 x 13	M 18 x 1.50	24.00	17.50*	26.00	3932-1/2X22P	36,14	2
UNC 5/8 x 11	M 20 x 1.50	22.00	19.50*	26.00	3932-5/8X22P	40,30	2

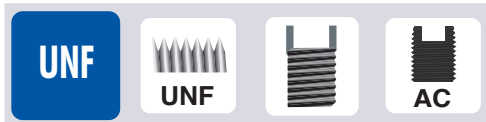


3932-4GX6P



tapsert by celesa

Rosa



						€	
UNF Nº10 x 32	M 8 x 1.00	10.00	7.60*	13.00	3934-10GX10P	22,85	2
UNF 1/4 x 28	M 10 x 1.50	14.00	9.40*	17.00	3934-1/4X14P	25,85	2
UNF 5/16 x 24	M 12 x 1.50	15.00	11.40*	18.00	3934-5/16X15P	28,42	2
UNF 3/8 x 24	M 14 x 1.50	18.00	13.50*	22.00	3934-3/8X18P	31,00	2
UNF 7/16 x 20	M 16 x 1.50	22.00	15.50*	26.00	3934-7/16X22P	33,57	2
UNF 1/2 x 20	M 18 x 1.50	22.00	17.50*	26.00	3934-1/2X22P	36,14	2
UNF 5/8 x 18	M 20 x 1.50	22.00	19.50*	26.00	3934-5/8X22P	40,30	2



3934-1/4X14P

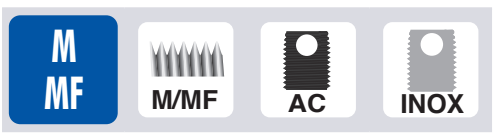


\* Broca previa no incluida.

EXTRACCIÓN



**INSERTOS AUTORROSCANTES CON 3 AGUJEROS**

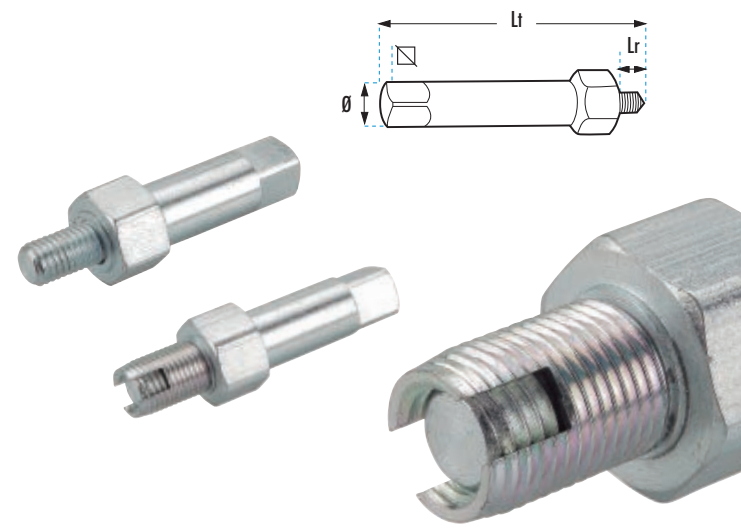


		307			AC	€			INOX	€		
						100-499	500-1999	2000-...	AISI 303	25-499	500-1999	2000-...
M 4 x 0.70	M 6.50 x 0.80	6.00	6.00-6.10	8.00	3333-M4X6	0,76	0,72	0,66	3333-M4X6SS	1,26	1,19	1,09
M 5 x 0.80	M 8 x 1.00	7.00	7.40-7.50	9.00	3333-M5X7	0,89	0,85	0,78	3333-M5X7SS	1,55	1,47	1,34
M 6 x 1.00	M 10 x 1.25	8.00	9.30-9.40	10.00	3333-M6X8	1,03	0,97	0,89	3333-M6X8SS	1,94	1,83	1,67
M 8 x 1.25	M 12 x 1.50	9.00	11.10-11.20	11.00	3333-M8X9	1,23	1,16	1,07	3333-M8X9SS	2,47	2,34	2,12
M 10 x 1.50	M 14 x 1.50	10.00	13.10-13.20	13.00	3333-M10X10	1,82	1,72	1,56	3333-M10X10SS	3,72	3,50	3,19
						25-499	500-1999	2000-...				
M 12 x 1.75	M 16 x 1.75	12.00	15.00-15.10	15.00	3333-M12X12	2,87	2,70	2,46	3333-M12X12SS	5,95	5,61	5,10
M 14 x 2.00	M 18 x 2.00	14.00	17.00-17.10	17.00	3333-M14X14	3,74	3,52	3,20	3333-M14X14SS	6,84	6,43	5,85
M 16 x 2.00	M 20 x 2.00	14.00	19.00-19.10	17.00	3333-M16X14	5,08	4,78	4,36	3333-M16X14SS	9,22	8,67	7,90

		308			AC	€			INOX	€		
						100-499	500-1999	2000-...	AISI 303	25-499	500-1999	2000-...
M 4 x 0.70	M 6.50 x 0.80	8.00	6.10-6.20	10.00	3333-M4X8	0,84	0,79	0,72	3333-M4X8SS	1,42	1,33	1,22
M 5 x 0.80	M 8 x 1.00	10.00	7.60-7.70	13.00	3333-M5X10	1,06	1,01	0,92	3333-M5X10SS	1,79	1,69	1,54
M 6 x 1.00	M 10 x 1.25	12.00	9.50-9.60	15.00	3333-M6X12	1,34	1,27	1,17	3333-M6X12SS	2,13	2,03	1,84
M 8 x 1.25	M 12 x 1.50	14.00	11.30-11.15	17.00	3333-M8X14	1,73	1,64	1,50	3333-M8X14SS	2,79	2,63	2,39
M 10 x 1.50	M 14 x 1.50	18.00	13.30-13.50	22.00	3333-M10X18	2,50	2,34	2,15	3333-M10X18SS	4,24	4,00	3,64
						25-499	500-1999	2000-...				
M 12 x 1.75	M 16 x 1.75	22.00	15.20-15.40	26.00	3333-M12X22	3,78	3,56	3,24	3333-M12X22SS	9,12	8,58	7,82
M 14 x 2.00	M 18 x 2.00	24.00	17.20-17.40	28.00	3333-M14X24	5,43	5,11	4,65	3333-M14X24SS	10,80	10,16	9,26
M 16 x 2.00	M 20 x 2.00	24.00	19.20-19.10	28.00	3333-M16X24	6,33	5,95	5,43	3333-M16X24SS	12,80	12,03	10,96

**HERRAMIENTA INSTALADORA PARA INSERTOS AUTORROSCANTES**

	L mm	Lr mm	Ø mm	∇ mm		€
M 3 x 0.50	73.00	6.00	12.00	12.00	3920-M3	60,86
M 4 x 0.70	75.00	7.00	12.00	12.00	3920-M4	60,86
M 5 x 0.80	77.00	9.00	12.00	12.00	3920-M5	60,86
M 6 x 1.00	78.00	11.00	12.00	12.00	3920-M6	60,86
M 8 x 1.25	80.00	12.00	12.00	12.00	3920-M8	60,86
M 10 x 1.50	80.00	16.00	18.00	14.00	3920-M10	60,86
M 12 x 1.75	83.50	20.00	18.00	14.00	3920-M12	68,80
M 14 x 2.00	83.50	20.00	22.00	22.00	3920-M14	76,07
M 16 x 2.00	83.50	20.00	22.00	22.00	3920-M16	91,29
M 18 x 2.50	85.50	21.50	26.00	26.00	3920-M18	114,44
M 20 x 2.50	85.50	21.50	26.00	26.00	3920-M20	114,44
M 22 x 2.50	85.50	21.50	30.00	30.00	3920-M22	121,72
M 24 x 3.00	87.50	23.50	30.00	30.00	3920-M24	136,93

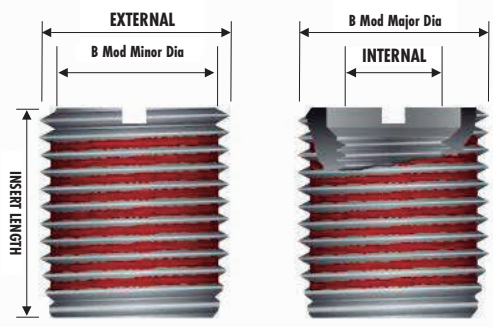




# INSERTOS SÓLIDOS CON SELLADOR ANAERÓBICO

## Características y Ventajas

- Fácil instalación del inserto EZ Sert mediante tornillo de rosca igual a la interna o, también mediante un destornillador o herramienta eléctrica.
- Se instalan usando machos y brocas Standard.
- El adhesivo microencapsulado reacciona en 3-5 minutos y evita que el inserto se salga de su alojamiento por vibraciones externas. El inserto queda adherido generando una rosca estanca ante líquidos y gases con resistencia hasta 400 bares de presión cuando se estabiliza la reacción (72 horas).



## EXTRACCIÓN







- **NOTA:** El inserto EZ SERT requiere una rosca exterior algo diferente a la marcada por la DIN 13. El diámetro externo es estándar pero el diámetro interior es algo superior al normal por lo que hay que añadir una décima a la medida de broca habitual. Ejemplo: inserto de rosca Externa M6X1, se usará una broca de 5.1mm en lugar de 5mm, que sería lo habitual.

## INSERTOS SÓLIDOS CON SELLADOR ANAERÓBICO

M  
MF

PD

## PARED DELGADA





		L mm				€
M 4 x 0.70	UNC 5/16 x 18h	7.92	6,90	9.52	3320-4.00TWF	5,11
M 5 x 0.80	UNC 5/16 x 18h	7.92	6,90	9.52	3320-5.00TWF	5,11
M 6 x 1.00	UNC 3/8 x 16h	9.52	8,40	11.10	3320-6.00TWF	6,44
M 8 x 1.25	UNC 7/16 x 14h	11.10	10,10	12.70	3320-8.00TWF	7,32
M 10 x 1.50	UNC 1/2 x 13h	12.70	11,50	14.22	3320-10.00TWF	10,34
M 12 x 1.75	UNC 5/8 x 11h	15.75	14,50	17.27	3320-12.00TWF	11,61



AISI 303

AC



## PARED REFORZADA

		L mm			AC	€	AISI 303	€
M 3 x 0.50	M6 x 1.00	6.50	5.10	7.80	3320-3.00HWM	3,15	3320-3.00HWSS	6,93
M 4 x 0.70	M8 x 1.25	7.50	6.90	9.00	3320-4.00HWM	3,36	3320-4.00HWSS	8,42
M 5 x 0.80	M8 x 1.25	7.50	6.90	9.00	3320-5.00HWM	3,79	3320-5.00HWSS	9,19
M 6 x 1.00	M10 x 1.50	10.50	8.60	12.00	3320-6.00HWM	4,26	3320-6.00HWSS	7,17
M 8 x 1.25	M12 x 1.75	12.50	10.40	14.50	3320-8.00HWM	4,81	3320-8.00HWSS	11,39
M 10 x 1.50	M16 x 2.00	17.00	14.00	19.00	3320-10.00HWM	7,41	3320-10.00HWSS	11,36
M 12 x 1.75	M16 x 2.00	17.00	14.00	19.00	3320-12.00HWM	8,33	3320-12.00HWSS	12,96
M 16 x 2.00	M24 x 3.00	20.00	21.00	24.00	3320-16.00HWM	10,04	3320-16.00HWSS	21,67
M 20 x 2.50	M36 x 4.00	30.00	33.00	35.00	3320-20.00HWM	29,59		

## PARED REFORZADA

M 6 x 1.00	UNC 3/8 x 16h	10.31	8.00	11.90	3320-6.00HWF	2,40	3320-6.00HWSSF	9,95
M 8 x 1.25	UNC 1/2 x 13h	12.29	10.70	14.29	3320-8.00HWF	2,94	3320-8.00HWSSF	11,45
M 10 x 1.50	UNC 9/16 x 12h	13.08	12.30	15.08	3320-10.00HWF	3,36	3320-10.00HWSSF	13,08
M 10 x 1.25	UNC 9/16 x 12h	13.08	12.30	15.08	3321-10.00HWF	4,95	3321-10.00HWSSF	-
M 12 x 1.75	UNC 3/4 x 10h	16.66	16.60	19.05	3320-12.00HWF	4,33	3320-12.00HWSSF	18,65
M 14 x 2.00	UNC 7/8 x 9h	17.45	19.50	20.64	3320-14.00HWF	8,69	3320-14.00HWSSF	22,98
M 16 x 2.00	UNC 1 x 8h	19.84	22.00	22.25	3320-16.00HWF	8,66	3320-16.00HWSSF	-

\* Ficha de datos de seguridad disponible.

	
M3 x 0.50	M6 x 1.00
M4 x 0.70	M8 x 1.25
M5 x 0.80	M8 x 1.25
M6 x 1.00	M10 x 1.50
M8 x 1.25	M12 x 1.75

SET 50 Unit M3-M8	AC
10 3320-3.00HW	3320-WK0
10 3320-4.00HW	
10 3320-5.00HW	
10 3320-6.00HW	
10 3320-8.00HW	
	304,41 €

SET 50 Unit M3-M8	AISI 303
10 3320-3.00HWSS	3320-SSWK0
10 3320-4.00HWSS	
10 3320-5.00HWSS	
10 3320-6.00HWSS	
10 3320-8.00HWSS	
	569,54 €

M8 x 1.25	M12 x 1.75
M10 x 1.50	M16 x 2.00
M12 x 1.75	M16 x 2.00
M16 x 2.00	M 24 x 3.00

SET 33 Unit M8-M16	AC
10 3320-8.00HW	3320-WK1
10 3320-10.00HW	
8 3320-12.00HW	
5 3320-16.00HW	
	348,61 €

SET 33 Unit M8-M16	AISI 303
10 3320-8.00HWSS	3320-SSWK1
10 3320-10.00HWSS	
8 3320-12.00HWSS	
5 3320-16.00HWSS	
	602,08 €

M5 x 0.80	M8 x 1.25
M6 x 1.00	M10 x 1.50
M8 x 1.25	M12 x 1.75
M10 x 1.50	M16 x 2.00
M12 x 1.75	M16 x 2.00

SET 46 Unit M5-M12	AISI 303
10 3320-5.00HWSS	3320-SSWK2
10 3320-6.00HWSS	
10 3320-8.00HWSS	
10 3320-10.00HWSS	
6 3320-12.00HWSS	
	585,82 €



EXTRACCIÓN





**t-sert**  
by *celesa*



## INSERTOS T-SERT CON CABEZA AVELLANADA

### Características y Ventajas

- **T-SERT** es un Inserto sólido de aplicación universal en todo tipo de materiales. Fácil instalación.
- **T-SERT** tiene una pared muy delgada debido al sincronismo entre rosca externa e interna. Permite la instalación del inserto en espacios reducidos.
- Genera estanqueidad en la rosca: agua, aceite,...
- **T-SERT** es un Inserto AUTOBLOCADO, queda instalado automáticamente al pasar la herramienta instaladora que, por laminación, deforma ciertos hilos internos hacia el exterior, bloqueando el inserto en su orificio.
- El asiento avellanado garantiza un posicionamiento preciso sobre la pieza, por lo que no es necesario aplicar ningún sellador adicional. No se desenrosca, ni en ambientes de vibración extrema.
- Apropiado para procesos que deban soportar cargas extremas, sin desenroscarse.
- El macho, avellanador e instalador son exclusivos para los casquillos T-SERT.



## INSERTOS T-SERT CON CABEZA AVELLANADA

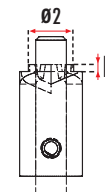
t-  
sert  
by CELESA

## INSERTOS

Diagram		Ø	h	Ø	h	Part No.	€	QTY	
M 3 x 0.50	M5 x 0.50	4.30	6.00	0.50	4.50	3.80	3910-3.00x4.3	4,04	5
M 4 x 0.70	M6 x 0.70	6.00	7.00	0.50	5.30	5.50	3910-4.00x6.0	4,04	5
M 5 x 0.80	M7 x 0.80	7.60	8.00	0.50	6.20	7.20	3910-5.00x7.6	4,04	5
M 6 x 1.00	M8 x 1.00	9.40	9.00	0.70	7.00	8.90	3910-6.00x9.4	4,36	5
M 8 x 1.25	M10 x 1.25	11.70	12.00	0.80	8.70	11.20	3910-8.00x11.7	4,50	5
M 10 x 1.50	M12 x 1.50	14.00	14.00	1.00	10.50	13.50	3910-10.00x14.0	5,51	5
M 12 x 1.75	M14 x 1.75	16.00	16.00	1.00	12.70	15.50	3910-12.00x16.2	6,08	5

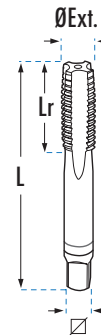
## AVELLANADOR

	Ø mm	L mm	Ø mm	Ø2 mm	h mm	Part No.	€
M 3 x 0.50	6.50	60.00	3.50	6.50	1.00	3910-3.00AVELL	72,83
M 4 x 0.70	7.50	65.00	3.80	7.50	1.00	3910-4.00AVELL	73,76
M 5 x 0.80	8.50	70.00	5.00	8.50	1.00	3910-5.00AVELL	77,96
M 6 x 1.00	9.50	70.00	5.00	9.50	1.20	3910-6.00AVELL	80,06
M 8 x 1.25	12.50	79.00	7.00	12.50	1.30	3910-8.00AVELL	81,82
M 10 x 1.50	14.50	89.00	8.00	14.50	1.50	3910-10.00AVELL	87,50
M 12 x 1.75	16.50	80.00	9.00	16.50	1.50	3910-12.00AVELL	92,66



## MACHOS DE ROSCAR

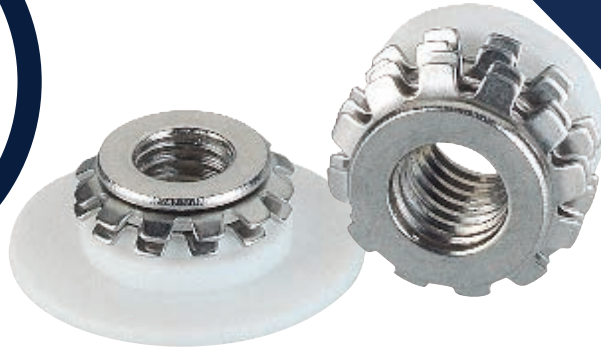
	Ø Ext.	L mm	Lr mm	Ø mm	Ø mm	Part No.	€
M 3 x 0.50	M5 x 0.50	60.00	20.00	5.08	4.00	3910-3.00I	68,13
M 4 x 0.70	M6 x 0.70	70.00	22.00	6.09	4.90	3910-4.00I	68,13
M 5 x 0.80	M7 x 0.80	68.00	22.00	7.10	4.50	3910-5.00I	72,80
M 6 x 1.00	M8 x 1.00	72.00	22.00	8.12	4.90	3910-6.00I	76,06
M 8 x 1.25	M10 x 1.25	80.00	24.00	10,12	6.00	3910-8.00I	82,60
M 10 x 1.50	M12 x 1.50	88.00	29.00	12,14	7.10	3910-10.00I	102,67
M 12 x 1.75	M14 x 1.75	90.00	30.00	14,15	8.70	3910-12.00I	113,86



## HERRAMIENTA FIJADORA

	L mm	Lr mm	Ø mm	Ø mm	Part No.	€
M 3 x 0.50	54.00	15.00	3.50	3.80	3910-3.00HIP	61,16
M 4 x 0.70	62.00	18.00	5.00	3.80	3910-4.00HIP	62,67
M 5 x 0.80	71.00	30.00	5.80	5.00	3910-5.00HIP	63,00
M 6 x 1.00	72.00	22.00	7.60	5.00	3910-6.00HIP	68,51
M 8 x 1.25	79.00	25.00	10.00	6.00	3910-8.00HIP	71,40
M 10 x 1.50	90.00	30.00	12.00	7.00	3910-10.00HIP	75,60
M 12 x 1.75	95.00	30.00	15.00	9.00	3910-12.00HIP	88,20

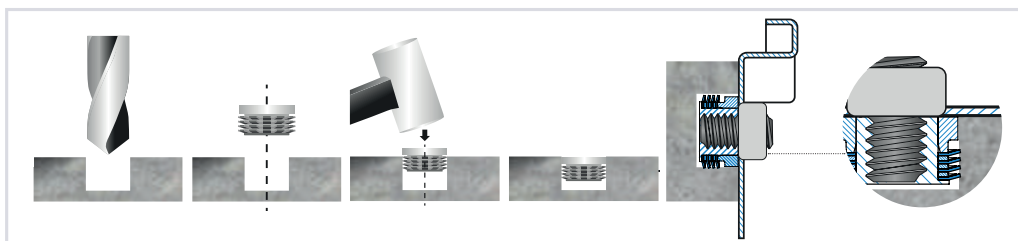




## INSERTOS ROSCADOS PARA ANCLAJES EN SUPERFICIES SÓLIDAS

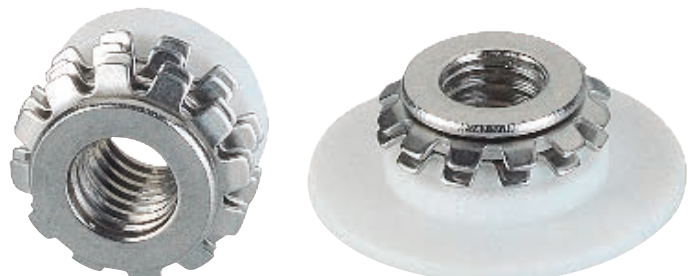
### Características y ventajas

- El inserto **WALLSERT**, permite el anclaje de casquillos roscados en materiales como marmol, granito, piedra natural, porcelánico, piedra sinterizada, materiales compuestos como el corian, panel compacto fenólico, superficies sólidas en general y un amplio abanico de materiales. Apto para utilizar tanto en interiores como en exteriores.
- Es una excelente solución para introducir de manera sencilla anclajes roscados en paneles de fachada ventilada, revestimientos de exterior y diseños de interior como, cocinas, baños, muebles....
- El novedoso diseño **WALLSERT**, permite de manera sencilla el anclaje de elementos roscados, soportando grandes esfuerzos. Su instalación es muy sencilla, simplemente se realiza el agujero recomendado sobre el material a la profundidad recomendada, y se introduce ejerciendo una pequeña presión sobre el anclaje, o un suave golpe con un martillo de nylon. Siempre en materiales sólidos o de alta densidad.



- Disponibles 2 modelos **WALLSERT**, cabeza recta y cabeza plana.

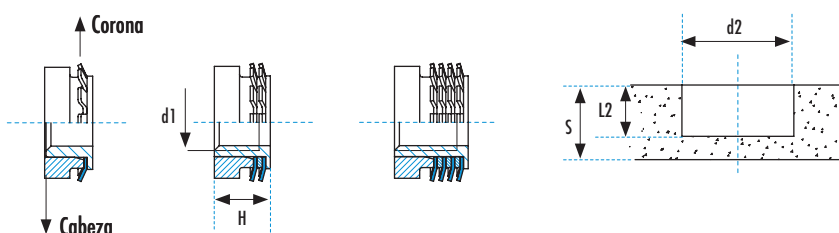
El inserto **WALLSERT** se compone de 3 partes,  
Casquillo roscado, Acero Inoxidable AISI 303  
Coronas, Acero Inoxidable AISI 303  
Cabeza, Nylon PA6



M

INOX  
AISI303wallsert  
by CELESA

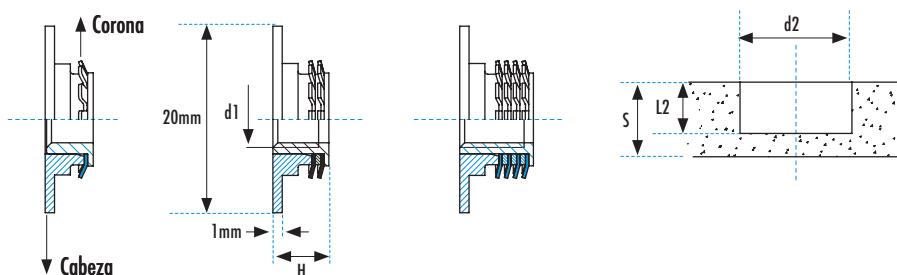
## INSERTOS WALLSERT CON CABEZA RECTA



d1	H mm	d2 mm	L2 mm	S mm	Nº Coronas	kN x wallsert		€	
M 4 x 0.70	5.00	12.00	5.50	8.00	1	1.1	3820-M4X5SS	2,44	50
M 5 x 0.80							3820-M5X5SS	2,44	50
M 6 x 1.00							3820-M6X5SS	2,44	50
M 4 x 0.70	6.00	12.00	6.50	8.50	2	2.1	3820-M4X6SS	2,67	50
M 5 x 0.80							3820-M5X6SS	2,67	50
M 6 x 1.00							3820-M6X6SS	2,67	50
M 4 x 0.70	8.50	12.00	9.00	11.00	4	3.4	3820-M4X8,5SS	2,89	50
M 5 x 0.80							3820-M5X8,5SS	2,89	50
M 6 x 1.00							3820-M6X8,5SS	2,89	50



## INSERTOS WALLSERT CON CABEZA PLANA



d1	H mm	d2 mm	L2 mm	S mm	Nº Coronas	kN x wallsert		€	
M 4 x 0.70	5.00	12.00	4.50	7.00	1	0.7	3825-M4X5SS	2,67	50
M 5 x 0.80							3825-M5X5SS	2,67	50
M 6 x 1.00							3825-M6X5SS	2,67	50
M 4 x 0.70	6.00	12.00	5.50	7.50	2	1.9	3825-M4X6SS	2,89	50
M 5 x 0.80							3825-M5X6SS	2,89	50
M 6 x 1.00							3825-M6X6SS	2,89	50
M 4 x 0.70	8.00	12.00	8.05	10.00	4	3.0	3825-M4X8SS	3,11	50
M 5 x 0.80							3825-M5X8SS	3,11	50
M 6 x 1.00							3825-M6X8SS	3,11	50





**rivetsert**  
by *celesa*



# TUERCAS REMACHABLES

## Características y Ventajas

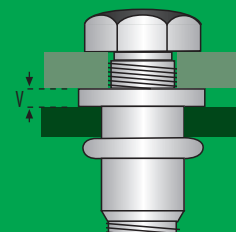
La tuerca remachable RIVETSERT es un elemento de fijación mecánica que garantiza una rosca fuerte, resistente y fiable que puede ser usada en infinidad de materiales como Metal, Plásticos, Fibra de Vidrio y Fibra de Carbono. Es particularmente útil en la industria de la automoción, así como en la Industria pesada que tiende a aligerar todos sus componentes, facilitando los procesos productivos, pero garantizando uniones roscadas fuertes.

Siendo la Cabeza Plana la más universal, las tuercas remachables RIVETSERT han sido especialmente diseñadas para resistir altos pares de apriete en montaje de todo tipo de componentes mecánicos:

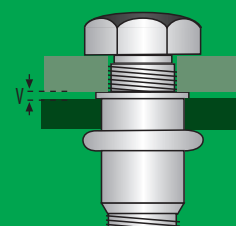
- Excelente solución para obtener una rosca fiable y resistente en piezas de espesor reducido (0,5 mm).
- Doble función: Remacha la unión generando una rosca.
- Disponible en tres tipos distintos de cabezas; plana, reducida y avellanada.
- Uso de herramientas ergonómicas y sencillas, que pueden ser neumáticas, manuales o automáticas.

## TIPOS DE CABEZA: PLANA, REDUCIDA Y AVELLANADA

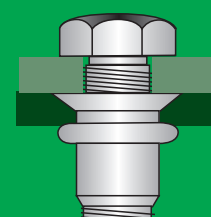
- **PLANA:** Es el tipo de cabeza más versátil y universal. Proporciona suficiente superficie de soporte para retener todo tipo de materiales, excepto los extremadamente suaves y los quebradizos ofreciendo un par de apriete alto. El espacio "V" es considerable.
- **REDUCIDA:** Están diseñadas para las aplicaciones en las que un material suave o quebradizo debe ensamblarse a un material de soporte rígido. El espacio "V" es casi despreciable pero ofrecen pares de apriete más bajos que los remaches de Cabeza Plana.
- **AVELLANADA:** Este tipo de cabeza permite un remachado de piezas de mayor espesor y está diseñada para obtener una superficie plana y sin resaltes, con gran par de apriete. El espacio "V" es inexistente pero es necesario un avellanado previo.



**PLANA**



**REDUCIDA**



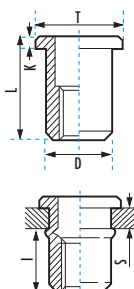
**AVELLANADA**

## TUERCAS REMACHABLES CILINDRICAS

rivetsert  
by CELESAM  
MF

HCS

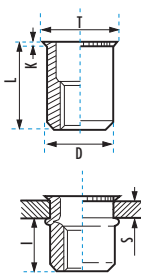
## CABEZA PLANA - CORTO



	S mm	D mm +0,07/-0,1	 Ø mm +0,1/-0	T mm +/-0,3	K mm +/-0,15	L mm +/-0,3	I mm	 Nm		€/100 Unit	
M 3x0.50	0.50 - 1.50	4.90	5.00	7.20	0.80	8.50	4.70	2.00	3850-M3	6,95	100
M 4x0.70	0.50 - 2.00	5.90	6.00	8.50	0.80	10.50	6.00	5.00	3850-M4	7,10	100
M 5x0.80	0.50 - 2.50	6.90	7.00	10.00	1.00	13.00	7.50	8.50	3850-M5	7,25	100
M 6x1.00	0.50 - 3.00	8.90	9.00	12.30	1.30	15.50	9.20	15.00	3850-M6	8,76	100
M 8x1.25	1.00 - 3.50	10.90	11.00	15.00	1.50	18.50	11.50	26.00	3850-M8	14,68	50
M 10x1.50	1.00 - 3.50	11.90	12.00	16.00	1.50	19.00	11.00	50.00	3850-M10	24,00	50
M 10x1.50	1.00 - 2.50	12.90	13.00	16.30	1.60	17.00	11.50	50.00	3850-M10E1	24,20	50
M 12x1.75	1.00 - 4.00	14.90	15.00	18.00	1.70	22.00	13.50	80.00	3850-M12	43,88	50
M 12x1.75	1.00 - 4.00	15.90	16.00	22.00	2.00	25.00	16.00	80.00	3850-M12E1	45,09	50

\* Todos los precios tarifados se refieren a packs de 100 piezas

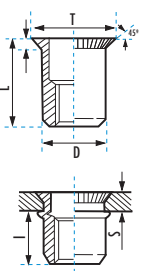
## CABEZA REDUCIDA - CORTO



	S mm	D mm +0,07/-0,1	 Ø mm +0,1/-0	T mm +/-0,3	K mm +/-0,15	L mm +/-0,3	I mm	 Nm		€/100 Unit	
M 3x0.50	0.50 - 2.00	4.90	5.00	6.00	0.50	9.00	6.20	1.00	3851-M3	6,95	100
M 4x0.70	0.50 - 2.00	5.90	6.00	7.00	0.50	10.50	6.50	3.00	3851-M4	7,10	100
M 5x0.80	0.50 - 2.00	6.90	7.00	8.00	0.50	11.50	7.00	6.00	3851-M5	7,25	100
M 6x1.00	0.50 - 2.50	8.90	9.00	10.00	0.60	14.00	8.50	11.00	3851-M6	8,76	100
M 8x1.25	1.00 - 3.00	10.90	11.00	12.00	0.60	16.50	10.00	20.00	3851-M8	14,68	100
M 10x1.50	0.50 - 3.50	11.90	12.00	13.00	0.85	18.00	13.00	32.00	3851-M10	24,00	50
M 10x1.50	1.00 - 3.00	12.90	13.00	14.00	0.70	17.70	12.00	32.00	3851-M10E1	24,20	50
M 12x1.75	0.50 - 3.50	14.90	15.00	16.50	0.85	22.50	16.00	50.00	3851-M12	43,88	50

\* Todos los precios tarifados se refieren a packs de 100 piezas

## CABEZA AVELLANADA - CORTO



	S mm	D mm +0,07/-0,1	 Ø mm +0,1/-0	T mm +/-0,3	K mm +/-0,15	L mm +/-0,3	I mm	 Nm		€/100 Unit	
M 3x0.50	1.60 - 3.50	4.90	5.00	7.20	1.50	9.50	4.50	1.00	3852-M3	6,95	100
M 4x0.70	1.50 - 3.00	5.90	6.00	9.00	1.50	12.00	6.50	4.00	3852-M4	7,10	100
M 5x0.80	1.50 - 3.50	6.90	7.00	10.00	1.50	13.00	7.50	8.00	3852-M5	7,25	100
M 6x1.00	1.50 - 4.00	8.90	9.00	12.00	1.50	15.50	9.00	15.00	3852-M6	8,76	100
M 8x1.25	2.00 - 4.50	10.90	11.00	14.00	1.50	18.50	10.00	26.00	3852-M8	14,68	100
M 10x1.50	1.60 - 5.00	11.90	12.00	15.00	1.50	21.00	11.50	45.00	3852-M10	24,00	50
M 10x1.50	1.60 - 5.00	12.90	13.00	16.00	1.50	21.00	11.50	45.00	3852-M10E1	24,20	50

\* Todos los precios tarifados se refieren a packs de 100 piezas



**rivetsert**  
by *celes*

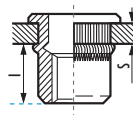
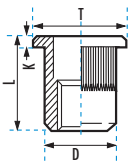
**TUERCAS REMACHABLES CILINDRICAS ESTRIADAS**



rivetsert  
by *celes*

Rosa

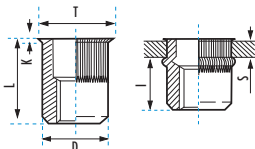
**CABEZA PLANA**



	S mm	D mm +0,07/-0,1	 Ø +0,1/-0	T mm +/-0,3	K mm +/-0,15	L mm +/-0,3	I mm	 Nm		€/100 Unit	
M 3x0.50	0.50 - 1.50	4.90	5.00	8.00	0.80	10.00	6.00	2.00	3853-M3	6,95	100
M 3x0.50	1.50 - 3.00	4.90	5.00	7.00	0.80	11.50	8.00	2.00	3853-M3E1	7,50	100
M 4x0.70	0.50 - 2.00	5.90	6.00	9.00	0.80	10.50	6.00	5.00	3853-M4	7,10	100
M 4x0.70	2.00 - 3.50	5.90	6.00	9.00	0.80	12.00	6.00	5.00	3853-M4E1	8,29	100
M 5x0.80	0.50 - 2.50	6.90	7.00	10.00	1.00	13.00	7.50	8.50	3853-M5	7,25	100
M 5x0.80	2.50 - 5.00	6.90	7.00	10.00	1.00	16.50	8.50	8.50	3853-M5E1	8,46	100
M 6x1.00	0.50 - 3.00	8.90	9.00	12.30	1.30	15.50	9.20	15.00	3853-M6	8,76	100
M 6x1.00	3.00 - 5.50	8.90	9.00	12.30	1.30	19.50	10.50	15.00	3853-M6E1	11,42	100
M 8x1.25	1.00 - 3.50	10.90	11.00	14.50	1.50	18.50	11.50	26.00	3853-M8	14,68	100
M 8x1.25	3.50 - 6.00	10.90	11.00	14.50	1.50	21.00	11.50	26.00	3853-M8E1	17,76	100
M 10x1.50	1.00 - 3.50	11.90	12.00	16.00	1.70	19.00	12.50	50.00	3853-M10	24,00	50
M 10x1.50	3.00 - 6.00	11.90	12.00	16.00	1.60	24.00	18.50	50.00	3853-M10E1	25,38	50
M 10x1.50	1.00 - 4.00	12.90	13.00	17.00	1.70	21.50	13.50	50.00	3853-M10E2	24,20	50
M 10x1.50	4.00 - 6.50	12.90	13.00	17.00	1.70	24.00	13.50	50.00	3853-M10E3	28,47	50
M 12x1.75	1.00 - 4.00	14.90	15.00	18.00	1.70	22.00	13.50	80.00	3853-M12	43,88	50
M 12x1.75	4.00 - 6.50	14.90	15.00	18.00	1.70	25.00	14.00	80.00	3853-M12E1	56,21	50
M 12x1.75	1.00 - 3.50	15.90	16.00	22.00	2.00	25.00	15.00	80.00	3853-M12E2	57,73	50
M 12x1.75	3.50 - 6.00	15.90	16.00	22.00	2.00	28.00	16.50	80.00	3853-M12E3	59,84	50

\* Todos los precios tarifados se refieren a packs de 100 piezas

**CABEZA REDUCIDA**



	S mm	D mm +0,07/-0,1	 Ø +0,1/-0	T mm +/-0,3	K mm +/-0,15	L mm +/-0,3	I mm	 Nm		€/100 Unit	
M 3x0.50	0.50 - 2.00	4.90	5.00	6.00	0.50	9.00	6.50	1.00	3854-M3	6,95	100
M 3x0.50	2.00 - 3.50	4.90	5.00	6.00	0.50	11.50	5.50	1.00	3854-M3E1	7,50	100
M 4x0.70	0.50 - 2.00	5.90	6.00	7.00	0.50	11.20	7.00	3.00	3854-M4	7,10	100
M 4x0.70	2.00 - 4.00	5.90	6.00	7.00	0.50	13.00	7.00	3.00	3854-M4E1	8,29	100
M 5x0.80	0.50 - 2.50	6.90	7.00	8.00	0.50	11.50	7.00	6.00	3854-M5	7,25	100
M 5x0.80	2.00 - 4.00	6.90	7.00	8.00	0.50	13.00	7.00	6.00	3854-M5E1	8,46	100
M 6x1.00	0.50 - 2.50	8.90	9.00	10.00	0.60	14.00	8.50	11.00	3854-M6	8,76	100
M 6x1.00	2.50 - 4.50	8.90	9.00	10.00	0.60	16.00	8.50	11.00	3854-M6E1	11,42	100
M 8x1.25	1.00 - 3.00	10.90	11.00	12.00	0.60	16.50	10.00	20.00	3854-M8	14,68	100
M 8x1.25	3.00 - 5.00	10.90	11.00	12.00	0.60	18.50	10.00	20.00	3854-M8E1	17,76	100
M 10x1.50	1.00 - 3.50	11.90	12.00	13.00	0.70	19.50	13.00	32.00	3854-M10	24,00	50
M 10x1.50	3.50 - 6.00	11.90	12.00	13.00	0.70	22.00	17.00	32.00	3854-M10E1	25,38	50
M 10x1.50	1.00 - 3.50	12.90	13.00	14.00	0.70	19.50	12.50	32.00	3854-M10E2	26,58	50
M 10x1.50	3.50 - 6.00	12.90	13.00	14.00	0.70	22.00	12.50	32.00	3854-M10E3	28,47	50
M 12x1.75	0.50 - 3.50	14.90	15.00	16.50	0.85	22.50	16.00	50.00	3854-M12	43,88	50
M 12x1.75	1.00 - 4.00	15.90	16.00	17.60	0.75	24.20	16.00	50.00	3854-M12E1	45,09	50
M 12x1.75	4.00 - 6.00	15.90	16.00	17.15	0.60	27.00	16.00	50.00	3854-M12E2	59,84	50

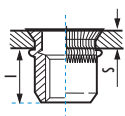
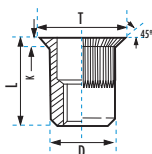
\* Todos los precios tarifados se refieren a packs de 100 piezas

## TUERCAS REMACHABLES CILÍNDRICAS ESTRIADAS

rivetsert  
by CELESAM  
MF

HCS

## CABEZA AVELLANADA



	S mm	D mm +0,07/-0,1	 T mm +0,1/-0	T mm +/-0,3	K mm +/-0,15	L mm +/-0,3	I mm	 Nm		€/100 Unit	
M 3x0.50	1.60 - 2.50	4.90	5.00	6.60	1.05	9.50	4.50	1.00	3855-M3	8,88	100
M 3x0.50	2.50 - 4.00	4.90	5.00	6.60	1.50	10.50	4.50	1.00	3855-M3E1	10,58	100
M 4x0.70	1.50 - 3.00	5.90	6.00	9.00	1.50	12.00	6.50	4.00	3855-M4	9,10	100
M 4x0.70	3.00 - 5.00	5.90	6.00	9.00	1.50	14.00	6.00	4.00	3855-M4E1	11,60	100
M 5x0.80	1.50 - 3.50	6.90	7.00	10.00	1.50	13.00	7.50	8.00	3855-M5	9,13	100
M 5x0.80	3.50 - 6.00	6.90	7.00	10.00	1.50	16.50	8.50	8.00	3855-M5E1	12,75	100
M 6x1.00	1.50 - 4.00	8.90	9.00	12.00	1.50	15.50	9.00	15.00	3855-M6	10,09	100
M 6x1.00	4.00 - 6.00	8.90	9.00	12.00	1.50	18.00	9.00	15.00	3855-M6E1	18,92	100
M 8x1.25	2.00 - 4.50	10.90	11.00	14.00	1.50	18.50	10.00	26.00	3855-M8	19,13	100
M 8x1.25	4.00 - 6.50	10.90	11.00	14.00	1.50	21.00	10.00	26.00	3855-M8E1	19,22	100
M 10x1.50	1.60 - 5.00	11.90	12.00	15.00	1.50	19.00	11.50	45.00	3855-M10	25,38	50
M 10x1.50	5.00 - 7.50	11.90	12.00	15.00	1.50	24.00	11.50	45.00	3855-M10E1	38,98	50
M 10x1.50	2.00 - 5.00	12.90	13.00	16.00	1.50	21.00	11.50	45.00	3855-M10E2	38,97	50
M 10x1.50	5.00 - 7.50	12.90	13.00	16.00	1.50	24.00	11.50	45.00	3855-M10E3	38,98	50
M 12x1.75	1.60 - 5.00	14.90	15.00	18.00	1.50	22.50	14.50	70.00	3855-M12	48,05	50
M 12x1.75	1.70 - 4.50	15.90	16.00	19.00	1.90	24.00	17.50	70.00	3855-M12E1	56,21	50
M 12x1.75	4.00 - 7.50	15.90	16.00	19.00	1.90	29.00	17.50	70.00	3855-M12E2	101,99	50

\* Todos los precios tarifados se refieren a packs de 100 piezas





**rivetsert**  
by *celes*

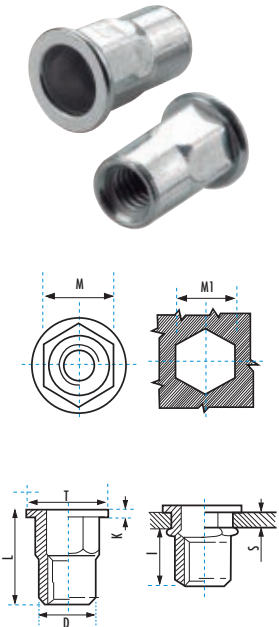
**TUERCAS REMACHABLES SEMI-HEXAGONALES**



**rivetsert**  
by *celes*

Rosa

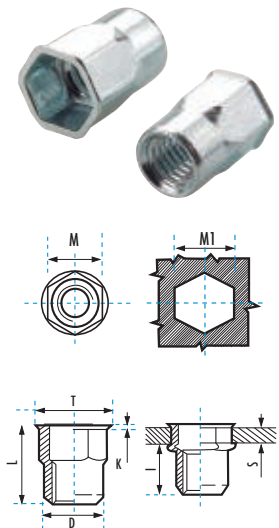
**CABEZA PLANA**



	S mm	D mm +0,07/-0,1	 ø +0,1/-0	T mm +/-0,3	K mm +/-0,15	L mm +/-0,3	I mm	 Nm		€/100 Unit	
M 3x0.50	0.50 - 1.50	4.90	5.00	7.20	0.80	8.50	5.50	2.00	<b>3856-M3</b>	<b>9,67</b>	100
M 4x0.70	0.50 - 2.00	5.90	6.00	9.00	0.80	11.00	6.50	5.00	<b>3856-M4</b>	<b>9,79</b>	100
M 4x0.70	2.50 - 4.00	5.90	6.00	9.00	0.80	13.50	6.50	5.00	<b>3856-M4E1</b>	<b>17,54</b>	100
M 5x0.80	0.50 - 3.00	6.90	7.00	10.00	1.00	13.00	8.00	8.50	<b>3856-M5</b>	<b>10,58</b>	100
M 5x0.80	3.00 - 5.50	6.90	7.00	10.00	0.80	16.00	11.00	8.50	<b>3856-M5E1</b>	<b>17,54</b>	100
M 6x1.00	0.50 - 4.00	8.90	9.00	12.00	1.50	16.50	8.50	15.00	<b>3856-M6</b>	<b>11,96</b>	100
M 6x1.00	3.00 - 5.50	8.90	9.00	13.00	1.50	18.50	10.50	15.00	<b>3856-M6E1</b>	<b>29,62</b>	100
M 8x1.25	1.00 - 4.00	10.90	11.00	15.90	1.50	18.20	10.50	20.00	<b>3856-M8</b>	<b>16,97</b>	100
M 8x1.25	4.00 - 6.00	10.90	11.00	15.00	1.50	20.50	12.50	26.00	<b>3856-M8E1</b>	<b>31,79</b>	100
M 10x1.50	1.00 - 3.50	11.90	12.00	17.00	1.60	19.00	12.00	50.00	<b>3856-M10</b>	<b>27,13</b>	50
M 10x1.50	0.50 - 3.50	12.90	13.00	17.00	1.80	21.00	12.00	50.00	<b>3856-M10E1</b>	<b>27,75</b>	50
M 12x1.75	2.00 - 5.00	15.90	16.00	23.00	2.20	27.50	16.50	80.00	<b>3856-M12</b>	<b>59,84</b>	50

\* Todos los precios tarifados se refieren a packs de 100 piezas

**CABEZA REDUCIDA**



	S mm	D mm +0,07/-0,1	 ø +0,1/-0	T mm +/-0,3	K mm +/-0,15	L mm +/-0,3	I mm	 Nm		€/100 Unit	
M 3x0.50	0.30 - 1.50	4.90	5.00	6.00	0.50	9.00	5.50	1.00	<b>3857-M3</b>	<b>14,63</b>	100
M 3x0.50	1.50 - 2.50	4.90	5.00	6.00	0.50	10.00	5.50	1.00	<b>3857-M3E1</b>	<b>16,80</b>	100
M 4x0.70	0.50 - 2.00	5.90	6.00	7.00	0.50	12.00	8.30	3.00	<b>3857-M4</b>	<b>8,46</b>	100
M 5x0.80	0.50 - 2.50	6.90	7.00	8.00	0.50	13.00	8.70	6.00	<b>3857-M5</b>	<b>9,49</b>	100
M 6x1.00	1.00 - 3.50	8.90	9.00	10.00	0.60	16.00	10.50	11.00	<b>3857-M6</b>	<b>10,70</b>	100
M 8x1.25	1.00 - 3.50	10.90	11.00	12.00	0.65	17.50	11.30	20.00	<b>3857-M8</b>	<b>14,50</b>	100
M 10x1.50	1.00 - 4.00	11.90	12.00	13.25	0.70	18.30	12.80	32.00	<b>3857-M10</b>	<b>23,26</b>	50
M 10x1.50	1.00 - 4.00	12.90	13.00	14.50	0.75	21.00	12.80	32.00	<b>3857-M10E1</b>	<b>23,58</b>	50
M 12x1.75	1.50 - 4.00	15.90	16.00	17.50	0.80	24.00	16.00	50.00	<b>3857-M12</b>	<b>59,28</b>	50

\* Todos los precios tarifados se refieren a packs de 100 piezas

**CABEZA REDUCIDA - TALADRO ESPECIAL**



	S mm	D mm +0,07/-0,1	 ø +0,1/-0	T mm +/-0,3	K mm +/-0,15	L mm +/-0,3	I mm	 Nm		€/100 Unit	
M 4x0.70	0.50 - 2.00	6.30	6.40	7.40	0.50	10.50	6.50	3.00	<b>3858-M4</b>	<b>9,67</b>	100
M 5x0.80	0.50 - 2.50	7.10	7.20	8.20	0.50	12.00	7.50	6.00	<b>3858-M5</b>	<b>11,49</b>	100
M 6x1.00	1.00 - 3.00	9.50	9.60	10.60	0.60	15.00	9.20	11.00	<b>3858-M6</b>	<b>12,38</b>	100
M 8x1.25	1.00 - 3.50	10.50	10.60	11.60	0.60	16.50	10.50	20.00	<b>3858-M8</b>	<b>17,10</b>	100

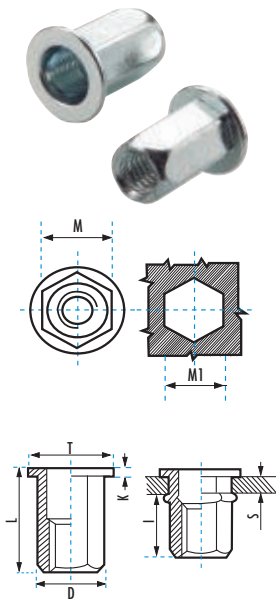
\* Todos los precios tarifados se refieren a packs de 100 piezas


## TUERCAS REMACHABLES HEXAGONALES

rivetsert  
by CELESAM  
MF

HCS

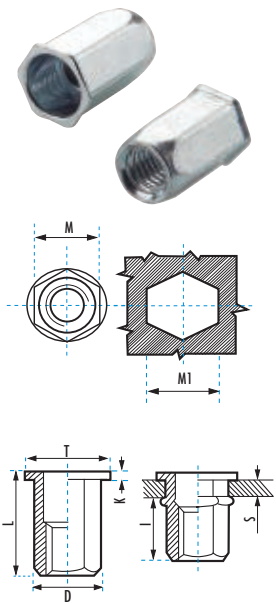
## CABEZA PLANA




	S mm	M mm	M1 mm	T mm	K mm	L mm	I mm			€/100 Unit	
M 4x0.70	0.50 - 2.00	5.90	6.00	9.00	0.80	11.00	6.50	5.00	3859-M4	9,67	100
M 4x0.70	2.00 - 5.00	5.90	6.00	9.00	0.80	13.50	6.50	5.00	3859-M4E1	15,71	100
M 5x0.80	0.50 - 3.00	6.90	7.00	10.00	1.00	14.00	8.00	8.50	3859-M5	10,58	100
M 5x0.80	3.00 - 6.00	6.90	7.00	10.00	1.00	16.50	8.00	8.50	3859-M5E1	16,62	100
M 6x1.00	0.50 - 3.00	8.90	9.00	13.00	1.20	16.00	9.50	15.00	3859-M6	11,96	100
M 6x1.00	3.00 - 5.00	8.90	9.00	13.00	1.50	19.50	8.50	15.00	3859-M6E1	17,54	100
M 8x1.25	1.00 - 3.50	10.90	11.00	16.00	1.50	17.00	9.50	26.00	3859-M8	16,97	100
M 8x1.25	3.50 - 6.00	10.90	11.00	15.00	1.50	21.50	10.50	26.00	3859-M8E1	22,97	100
M 10x1.50	1.00 - 3.50	11.90	12.00	18.00	1.70	21.00	13.50	50.00	3859-M10	27,13	50
M 10x1.50	1.00 - 3.50	12.90	13.00	18.00	1.70	21.00	13.50	50.00	3859-M10E1	27,75	50
M 10x1.50	3.50 - 6.50	12.90	13.00	17.00	1.50	24.00	14.50	50.00	3859-M10E2	42,67	50
M 12x1.75	1.00 - 3.50	14.90	15.00	19.00	2.00	24.30	16.00	80.00	3859-M12	69,51	50
M 12x1.75	2.00 - 5.00	15.90	16.00	23.00	2.00	27.00	16.50	80.00	3859-M12E1	59,84	50

\* Todos los precios tarifados se refieren a packs de 100 piezas

## CABEZA REDUCIDA



	S mm	M mm	M1 mm	T mm	K mm	L mm	I mm			€/100 Unit	
M 3x0.50	0.50 - 1.50	4.90	5.00	6.00	0.45	8.50	5.00	1.00	3860-M3	14,63	100
M 4x0.70	0.50 - 2.50	5.90	6.00	7.00	0.50	11.00	6.70	3.00	3860-M4	8,46	100
M 4x0.70	2.50 - 5.00	5.90	6.00	7.00	0.50	13.50	6.70	3.00	3860-M4E1	12,70	100
M 5x0.80	0.50 - 3.00	6.90	7.00	8.00	0.50	14.50	9.00	6.00	3860-M5	9,49	100
M 5x0.80	3.00 - 5.00	6.90	7.00	8.00	0.50	16.00	9.00	6.00	3860-M5E1	13,59	100
M 6x1.00	1.00 - 3.50	8.90	9.00	10.00	0.60	16.00	10.00	11.00	3860-M6	10,70	100
M 6x1.00	3.50 - 6.00	8.90	9.00	10.00	0.60	18.00	10.00	11.00	3860-M6E1	14,50	100
M 8x1.25	1.00 - 4.00	10.90	11.00	12.00	0.65	18.00	11.50	20.00	3860-M8	14,50	100
M 8x1.25	4.00 - 6.00	10.90	11.00	12.00	0.65	20.00	11.50	20.00	3860-M8E1	21,27	100
M 10x1.50	0.50 - 3.50	11.90	12.00	14.50	1.00	19.00	12.50	32.00	3860-M10	23,26	50
M 10x1.50	1.00 - 3.50	12.90	13.00	14.50	0.75	19.00	12.50	32.00	3860-M10E1	23,58	50
M 10x1.50	3.50 - 6.00	12.90	13.00	14.50	0.75	23.50	14.50	32.00	3860-M10E2	37,47	50
M 12x1.75	1.00 - 4.00	14.90	15.00	17.50	1.10	22.50	-	50.00	3860-M12	75,55	50
M 12x1.75	1.00 - 5.00	15.90	16.00	17.80	1.10	25.00	-	50.00	3860-M12E1	74,94	50
M 12x1.75	5.00 - 7.50	15.90	16.00	17.80	1.10	28.00	-	50.00	3860-M12E2	74,94	50

\* Todos los precios tarifados se refieren a packs de 100 piezas



**rivetsert**  
by *celes*

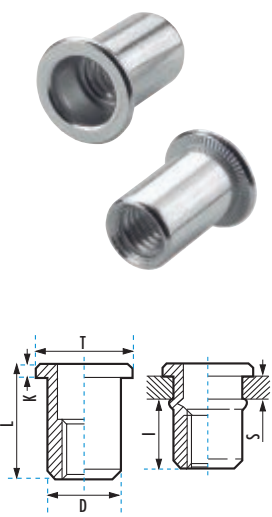
**TUERCAS REMACHABLES CILINDRICAS**



**rivetsert**  
by *celes*

Rosa

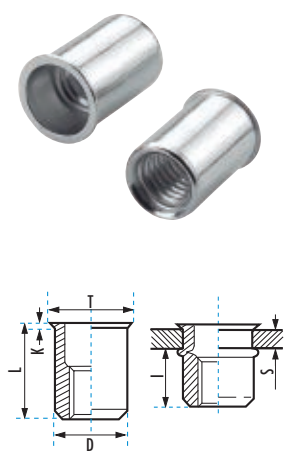
**CABEZA PLANA**



	S mm	D mm +0,07/-0,1	 T mm +/-0,3	K mm +/-0,15	L mm +/-0,3	I mm	 Nm		€/Unit		
M 3x0.50	0.30 - 1.80	4.90	5.00	8.00	0.75	9.00	5.50	2.00	3950-M3	-	25
M 4x0.70	0.50 - 2.00	5.90	6.00	8.50	0.80	10.50	6.00	5.00	3950-M4	0,29	25
M 5x0.80	0.50 - 2.50	6.90	7.00	10.00	1.00	13.00	7.50	8.50	3950-M5	0,32	25
M 6x1.00	0.50 - 3.00	8.90	9.00	12.30	1.30	15.50	9.20	15.00	3950-M6	0,54	25
M 8x1.25	1.00 - 3.50	10.90	11.00	15.00	1.50	18.50	11.50	26.00	3950-M8	0,80	25
M 10x1.50	0.80 - 3.50	11.90	12.00	16.00	1.70	19.00	10.50	50.00	3950-M10	-	1
M 10x1.50	1.00 - 4.00	12.90	13.00	17.00	1.60	21.00	12.50	50.00	3950-M10E1	1,25	1
M 12x1.75	1.00 - 4.00	14.90	15.00	18.00	1.70	22.00	13.50	80.00	3950-M12	-	1
M 12x1.75	1.00 - 4.00	15.90	16.00	23.00	2.00	26.00	16.50	80.00	3950-M12E1	-	1

- Consulte precio y disponibilidad

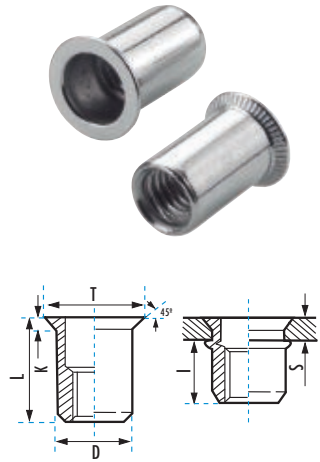
**CABEZA REDUCIDA**



	S mm	D mm +0,07/-0,1	 T mm +/-0,3	K mm +/-0,15	L mm +/-0,3	I mm	 Nm		€/Unit		
M 3x0.50	0.30 - 1.50	4.90	5.00	5.60	0.35	8.50	5.50	1.00	3951-M3	-	25
M 4x0.70	0.50 - 2.00	5.90	6.00	7.00	0.50	10.50	6.50	3.00	3951-M4	0,26	25
M 5x0.80	0.50 - 2.00	6.90	7.00	8.00	0.50	11.50	7.00	6.00	3951-M5	0,30	25
M 6x1.00	0.50 - 2.50	8.90	9.00	10.00	0.60	14.00	8.50	11.00	3951-M6	0,50	25
M 8x1.25	0.50 - 3.00	10.90	11.00	12.00	0.50	16.50	10.50	20.00	3951-M8	0,73	25
M 10x1.50	0.80 - 3.00	11.90	12.00	13.50	0.80	18.00	10.20	32.00	3951-M10	-	1
M 10x1.50	1.00 - 3.50	12.90	13.00	14.10	0.60	19.50	11.50	32.00	3951-M10E1	1,22	1
M 12x1.75	0.5 - 3.5	14.90	15.00	16.50	0.85	22.50	16.00	49.00	3951-M12	-	1

- Consulte precio y disponibilidad

**CABEZA AVELLANADA**



	S mm	D mm +0,07/-0,1	 T mm +/-0,3	K mm +/-0,15	L mm +/-0,3	I mm	 Nm		€/Unit		
M 3x0.50	1.70 - 3.00	4.90	5.00	8.00	1.50	11.50	5.50	1.00	3952-M3	-	25
M 4x0.70	1.50 - 3.00	5.90	6.00	9.00	1.50	12.00	7.50	4.00	3952-M4	0,35	25
M 5x0.80	1.50 - 3.50	6.90	7.00	10.00	1.50	13.00	7.80	8.00	3952-M5	0,39	25
M 6x1.00	1.50 - 4.00	8.90	9.00	12.00	1.50	15.50	9.00	15.00	3952-M6	0,56	25
M 8x1.25	2.00 - 4.50	10.90	11.00	14.00	1.50	18.50	12.00	26.00	3952-M8	0,84	25
M 10x1.50	1.00 - 4.00	11.90	12.00	15.00	1.50	18.00	10.50	45.00	3952-M10	-	1
M 10x1.50	2.00 - 5.00	12.90	13.00	16.00	1.50	21.00	13.00	45.00	3952-M10E1	1,25	1




- Consulte precio y disponibilidad

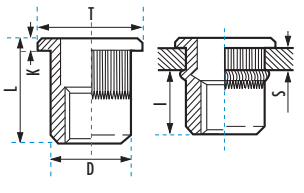
**INOX**

**TUERCAS REMACHABLES CILINDRICAS ESTRIADAS**




rivetsert  
by CELESA  
Rosca

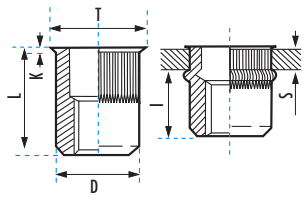
**CABEZA PLANA**

	S mm	D mm +0,07/-0,1	$\frac{T}{\phi}$ +0,1/-0	T mm +/-0,3	K mm +/-0,15	L mm +/-0,3	I mm			€/Unit	
M 3x0.50	0.50 - 1.50	4.90	5.00	7.00	0.80	10.00	5.00	2.00	3953-M3	-	25
M 3x0.50	1.50 - 3.00	4.90	5.00	8.00	0.75	10.00	5.50	2.00	3953-M3E1	-	25
M 4x0.70	0.50 - 2.00	5.90	6.00	9.00	0.80	10.50	6.50	5.00	3953-M4	0,29	25
M 4x0.70	2.50 - 4.00	5.90	6.00	9.00	0.75	12.50	6.50	5.00	3953-M4E1	-	25
M 5x0.80	0.50 - 2.50	6.90	7.00	10.00	1.00	13.00	8.00	8.50	3953-M5	0,32	25
M 5x0.80	2.00 - 4.00	6.90	7.00	10.00	1.00	16.00	8.00	8.50	3953-M5E1	-	25
M 6x1.00	0.50 - 3.00	8.90	9.00	12.30	1.30	15.50	9.20	15.00	3953-M6	0,54	25
M 6x1.00	3.50 - 6.00	8.90	9.00	13.00	1.50	19.00	9.00	15.00	3953-M6E1	0,74	25
M 8x1.25	1.00 - 3.50	10.90	11.00	14.50	1.50	18.50	11.50	26.00	3953-M8	0,80	25
M 8x1.25	3.00 - 6.00	10.90	11.00	14.50	1.50	21.00	11.50	26.00	3953-M8E1	1,02	25
M 10x1.50	0.80 - 3.50	11.90	12.00	16.00	1.70	19.00	10.50	50.00	3953-M10	1,48	1
M 10x1.50	3.50 - 6.00	11.90	12.00	16.00	1.70	22.00	10.50	50.00	3953-M10E1	-	1
M 10x1.50	1.00 - 4.00	12.90	13.00	17.00	1.60	21.00	13.50	50.00	3953-M10E2	1,25	1
M 10x1.50	3.00 - 6.00	12.90	13.00	19.00	2.00	26.00	14.50	50.00	3953-M10E3	1,77	1
M 12x1.75	1.00 - 4.00	14.90	15.00	18.00	1.70	22.00	13.50	80.00	3953-M12	-	1
M 12x1.75	4.00 - 6.50	14.90	15.00	18.00	1.70	25.00	14.00	80.00	3953-M12E1	-	1
M 12x1.75	1.00 - 4.00	15.90	16.00	23.00	2.00	25.00	16.50	80.00	3953-M12E2	2,11	1
M 12x1.75	3.50 - 7.00	15.90	16.00	23.00	1.60	29.00	16.50	80.00	3953-M12E3	-	1






**CABEZA REDUCIDA**

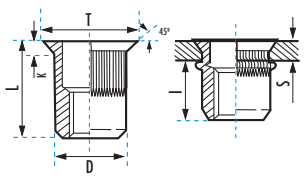
	S mm	D mm +0,07/-0,1	$\frac{T}{\phi}$ +0,1/-0	T mm +/-0,3	K mm +/-0,15	L mm +/-0,3	I mm			€/Unit	
M 3x0.50	0.50 - 2.00	4.90	5.00	6.00	0.40	9.00	5.50	1.00	3954-M3	-	25
M 3x0.50	1.50 - 2.50	4.90	5.00	5.80	0.50	10.00	5.50	1.00	3954-M3E1	-	25
M 4x0.70	0.50 - 2.00	5.90	6.00	7.00	0.50	10.50	6.50	3.00	3954-M4	0,26	25
M 4x0.70	2.50 - 4.00	5.90	6.00	7.00	0.50	12.50	6.50	3.00	3954-M4E1	0,51	25
M 5x0.80	0.50 - 2.00	6.90	7.00	8.00	0.50	11.50	7.20	6.00	3954-M5	0,30	25
M 5x0.80	2.50 - 4.50	6.90	7.00	8.00	0.50	13.00	6.80	6.00	3954-M5E1	0,62	25
M 6x1.00	0.50 - 3.00	8.90	9.00	10.00	0.60	14.00	9.00	11.00	3954-M6	0,50	25
M 6x1.00	3.00 - 6.00	8.90	9.00	10.00	0.50	17.50	8.60	11.00	3954-M6E1	0,77	25
M 8x1.25	1.00 - 3.50	10.90	11.00	12.00	0.50	16.50	10.50	20.00	3954-M8	0,73	25
M 8x1.25	3.50 - 6.00	10.90	11.00	12.00	0.65	19.50	10.00	20.00	3954-M8E1	1,08	25
M 10x1.50	0.80 - 3.00	11.90	12.00	13.50	0.80	18.00	11.20	32.00	3954-M10	1,48	1
M 10x1.50	2.00 - 4.50	11.90	12.00	13.50	0.80	19.50	11.20	32.00	3954-M10E1	-	1
M 10x1.50	1.00 - 3.50	12.90	13.00	14.00	0.70	17.70	10.70	32.00	3954-M10E2	1,48	1
M 10x1.50	3.00 - 6.00	12.90	13.00	14.00	0.50	23.00	13.30	32.00	3954-M10E3	-	1
M 12x1.75	0.50 - 3.50	14.90	15.00	16.50	0.85	22.50	16.00	50.00	3954-M12	-	1
M 12x1.75	1.00 - 4.00	15.90	16.00	17.60	0.75	24.20	14.00	50.00	3954-M12E1	2,11	1
M 12x1.75	4.00 - 6.00	15.90	16.00	17.50	0.60	27.00	16.00	50.00	3954-M12E2	-	1



**3952**

**CABEZA AVELLANADA**

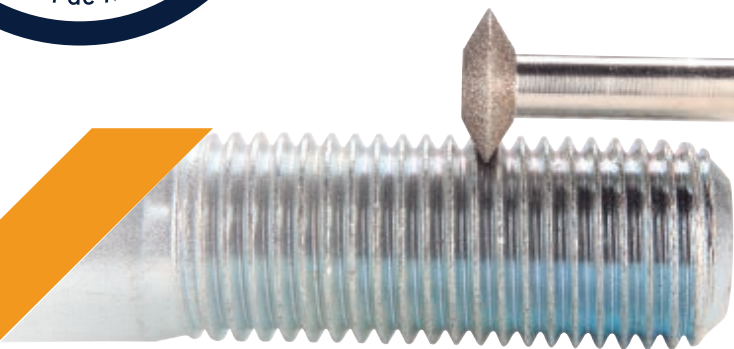
	S mm	D mm +0,07/-0,1	$\frac{T}{\phi}$ +0,1/-0	T mm +/-0,3	K mm +/-0,15	L mm +/-0,3	I mm			€/Unit	
M 3x0.50	1.70 - 3.00	4.90	5.00	8.00	1.50	11.50	11.50	1.00	3955-M3	0,35	25
M 3x0.50	3.00 - 4.00	4.90	5.00	8.00	1.50	12.50	11.50	1.00	3955-M3E1	-	25
M 4x0.70	1.50 - 3.00	5.90	6.00	9.00	1.50	12.00	7.50	4.00	3955-M4	0,37	25
M 4x0.70	3.50 - 5.00	5.90	6.00	9.00	1.50	13.00	7.50	4.00	3955-M4E1	0,49	25
M 5x0.80	1.50 - 3.50	6.90	7.00	10.00	1.50	13.00	7.00	8.00	3955-M5	0,39	25
M 5x0.80	4.00 - 6.00	6.90	7.00	10.00	1.50	15.00	7.00	8.00	3955-M5E1	0,61	25
M 6x1.00	1.50 - 4.00	8.90	9.00	12.00	1.50	15.50	9.00	15.00	3955-M6	0,56	25
M 6x1.00	4.50 - 6.50	8.90	9.00	12.00	1.50	19.00	9.00	15.00	3955-M6E1	0,95	25
M 8x1.25	2.00 - 4.50	10.90	11.00	14.00	1.50	18.50	12.00	26.00	3955-M8	0,84	25
M 8x1.25	3.50 - 6.50	10.90	11.00	13.70	1.50	21.00	12.00	26.00	3955-M8E1	1,15	25
M 10x1.50	1.50 - 4.00	11.90	12.00	15.00	1.50	18.00	10.50	45.00	3955-M10	-	1
M 10x1.50	3.00 - 6.00	11.90	12.00	15.00	1.50	20.00	10.50	45.00	3955-M10E1	-	1
M 10x1.50	2.00 - 5.00	12.90	13.00	16.00	1.50	21.00	13.00	45.00	3955-M10E2	1,25	1
M 10x1.50	3.50 - 6.50	12.90	13.00	15.70	1.60	25.00	14.50	45.00	3955-M10E3	2,02	1
M 12x1.75	1.60 - 5.00	14.90	15.00	18.00	1.50	22.50	14.50	50.00	3955-M12	-	1
M 12x1.75	1.50 - 4.50	15.90	16.00	19.00	1.70	24.00	14.00	50.00	3955-M12E1	2,11	1
M 12x1.75	4.00 - 7.50	15.90	16.00	19.00	1.90	29.00	17.50	50.00	3955-M12E2	-	1



- Consulte precio y disponibilidad.

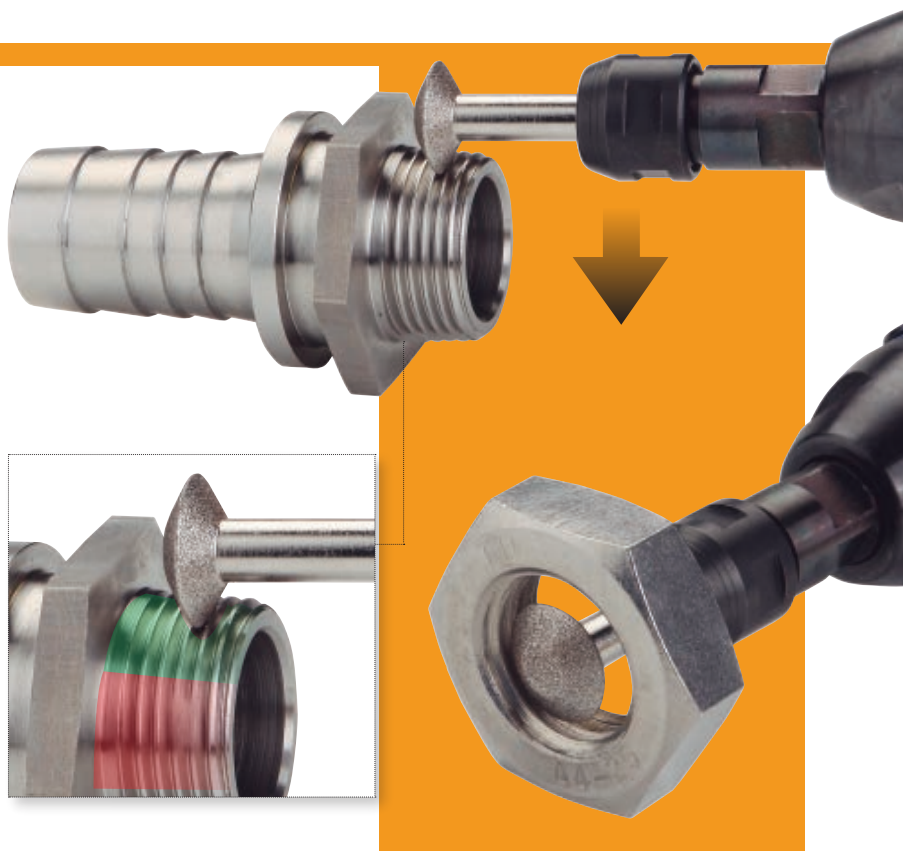


**ROTA  
HREAD®**  
by *celesa*



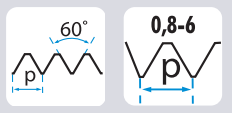
## FRESAS ROTATIVAS CBN PARA REPARACIÓN DE ROSCAS

- Comience en los hilos en buen estado (Zona verde) y trabaje en la zona dañada (Zona Roja). Oscile la herramienta sin presionar en exceso a lo largo del perfil de rosca para reparar los hilos dañados. Deje que la herramienta haga el trabajo.
- Mantenga la herramienta limpia y utilice aceite de corte para incrementar la vida y rendimiento de la herramienta.
- Repita el paso uno en todas las zonas dañadas.

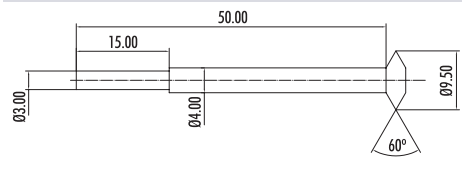


### FRESAS ROTATIVAS CBN PARA REPARACIÓN DE ROSCAS

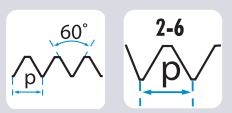
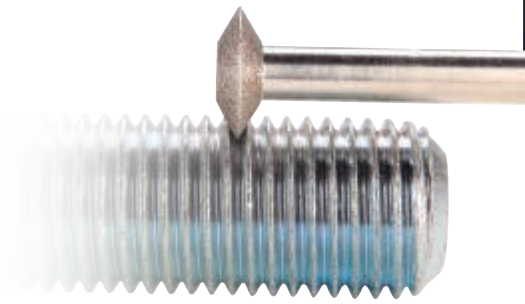
ROTA  
THREAD<sup>®</sup>  
by CELESA  
Rosa



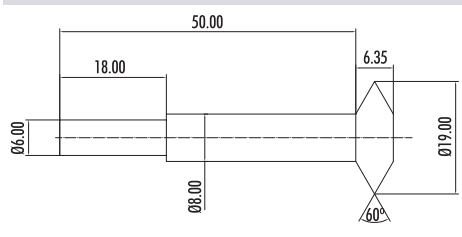
- Repara roscas tanto internas como externas de manera precisa.
- Limitaciones: Paso mínimo de 0.80mm ó 28tpi. En las roscas internas, la medida mínima es M12 ó 1/2".



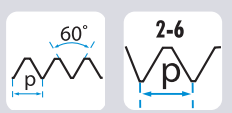
Ref. LRR1  
55,86 €



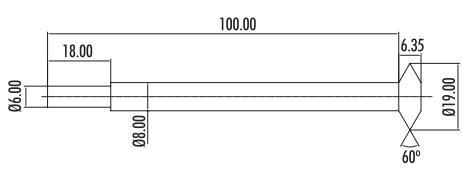
- Repara roscas tanto internas como externas de manera precisa, en especial pasos gruesos.
- Limitaciones: Paso mínimo de 2 mm ó 12 hilos. En las roscas internas, la medida mínima es M22 ó 7/8.



Ref. LRR2  
70,76 €



- Repara roscas tanto internas como externas de manera precisa, en especial pasos gruesos. SERIE LARGA.
- Limitaciones: Paso mínimo de 2mm ó 12hilos. En las roscas internas, la medida mínima es M22 ó 7/8.



Ref. LRR3  
80,07 €

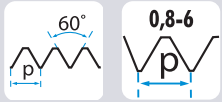
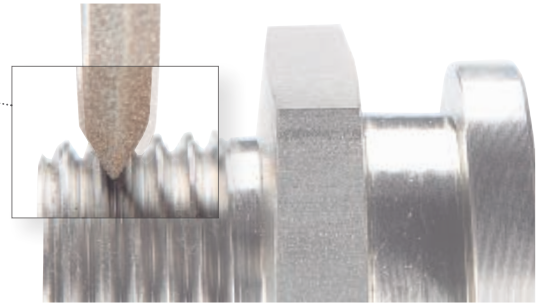


# ROTA HREAD®

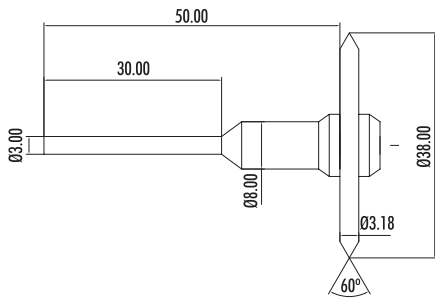
by *CE/ESA*

ROTA  
HREAD®  
by *CE/ESA*

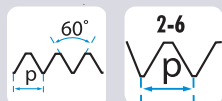
Rosa



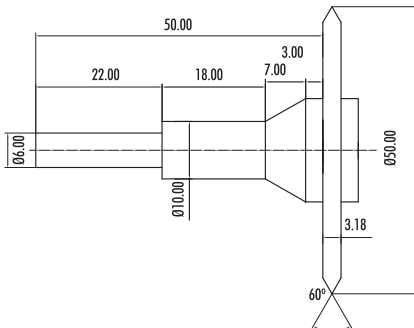
- Repara roscas externas de manera precisa. Diámetro de 38mm para actuar en zonas de difícil acceso, como hilos cercanos a la cabeza del tornillo.
- Limitaciones: Paso mínimo de 0.80mm ó 28hilos.



Ref. LRR4  
85,65 €



- Repara roscas externas de manera precisa. Diámetro de 50mm para actuar en zonas de difícil acceso, como hilos cercanos a la cabeza del tornillo.
- Limitaciones: Paso mínimo de 2mm ó 12 hilos



Ref. LRR5  
102,41 €



## AVELLANADOR EXTERNO PARA REPARACIÓN DE HILOS DE ENTRADA



## Avellanador externo

Los avellanadores externos sirven para corregir los hilos iniciales de un tornillo o varilla roscada. Estos hilos han podido ser golpeados o cortados mediante radial, por lo que la rebaba generada no permite introducir una tuerca en el mismo. El avellanador limpia esos hilos y genera un chaflán 60° que facilita el embocamiento de la tuerca.

- No genera calor ni chispas.
- El avellanador debe ser usado a vueltas bajas (Máx 500RPM).
- El aceite de corte CUT MAGIC facilita la operación.
- Se usa habitualmente con taladros de mano, y especialmente, de batería.

HSS



AVEXT

MIN.-MAX.		L <sub>1</sub> mm		€
M8-M18	1/4"	75	AVEXT	

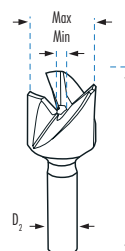
AVMDEXT

MIN.-MAX.			€
5-25 mm	1/4"	AVMDEXT	

INOX

MD

HSS



AV

MIN.-MAX.	D <sub>1</sub> mm	D <sub>2</sub> mm	L <sub>1</sub> mm		€
M3-M8	3,0	8,0	55	AVX1-60	
M6-M14	6,0	10,0	60	AVX2-60	
M10-M27	10,0	13,0	75	AVX3-60	

## LIMAS PARA REPARACIÓN DE ROSCAS

Fácil  
de Usar

## No compre, repare.

**Identificación de paso:** Si ignora el paso de la rosca que hay que reparar, introduzca la lima en los hilos sanos de la rosca hasta comprobar que las crestas y valles casen perfectamente, cubriendo todo el perfil mirando a contraluz. Es importante dar con el paso exacto dado que hay pasos que parecen similares y pueden llevar a error. Si nos confundimos, estropearíamos la pieza definitivamente.

**Reparación:** Una vez identificado el paso, lime la rosca dañada con suavidad, haciendo coincidir el perfil de la lima con el de la rosca dañada. Sin brusquedad pero haciendo que la lima trabaje. No se preocupe por profundizar demasiado, la propia lima limita la profundidad de hilo. Conviene empezar por los hilos sanos para guiar la lima correctamente. Use aceite de corte CUT MAGIC, que facilitará el rebabado. Compruebe la bondad de la rosca con una tuerca y si no entra con holgura, no la fuerce y repase la rosca nuevamente.

Para roscas externas

Pasos métricos:

0,75 - 1,00 - 1,25 - 1,50 - 1,75 - 2,00 - 2,50 - 3,00



Ref. LR1

€

Para roscas externas e internas

Pasos métricos:

0,80 - 1,00 - 1,25 - 1,50 - 1,75 - 2,00 - 2,50 - 3,00



Ref. LR2

€



silbertool®  
by celesa

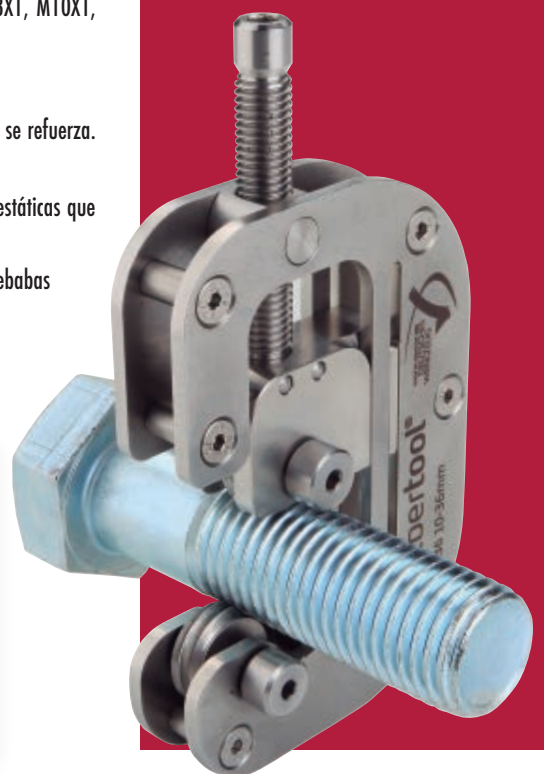
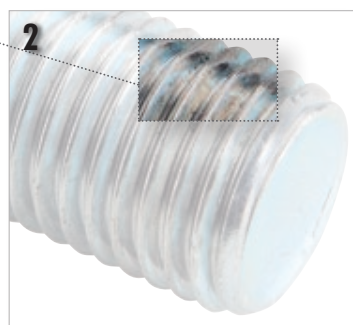
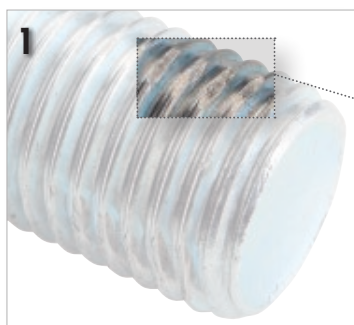


# REPARADOR DE ROSCAS EXTERNAS POR LAMINACIÓN

Los reparadores de roscas silbertool son la solución perfecta para roscas dañadas en extremo, que no pueden ser repasadas por cojinetes ni otros reparadores de roscas externas dado que una extracción de material de los hilos de rosca supondría debilitarla de manera irreparable, e inutilizar el perno o tornillo. La amplia gama de rodillos con diferentes pasos ofrece versatilidad ya que cambiando únicamente los rodillos, se pueden reparar roscas de pasos muy dispares. Una vez fijado el paso, es posible reparar pernos de igual paso, por ejemplo: M6X1, M8X1, M10X1, M12X1, M14X1, etc... versátil, fácil... muy útil.

## Ventajas

- La rosca se repara mediante conformado en frío por lo que no se debilita la rosca reparada, sino que se refuerza.
- Se reparan todos los pasos con una misma herramienta. Cada rodillo tiene su paso.
- Ha sido probado que una rosca reparada con Silbertool®, soporta las mismas cargas dinámicas y estáticas que la rosca original. Además, se prueba que ofrece una mayor resistencia a la fatiga.
- Durante el proceso de reparación, la superficie de la rosca queda perfectamente limpia; libre de rebabas
- Use el fluido de corte Cut Magic para reducir el esfuerzo en la reparación.



REPARACIÓN NO INVASIVA

## REPARADOR DE ROSCAS EXTERNAS POR LAMINACIÓN



Ref. R16



M / MF			R16
M5 - M16	0,50 - 2,00	R16	€ / Unit 394,18

No incluye rodillos.



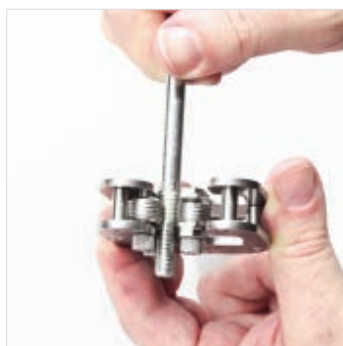
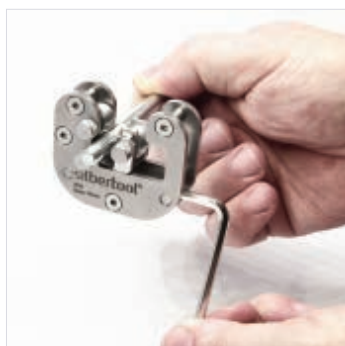
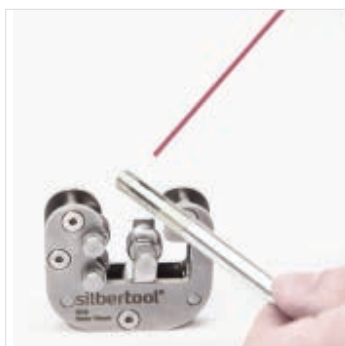
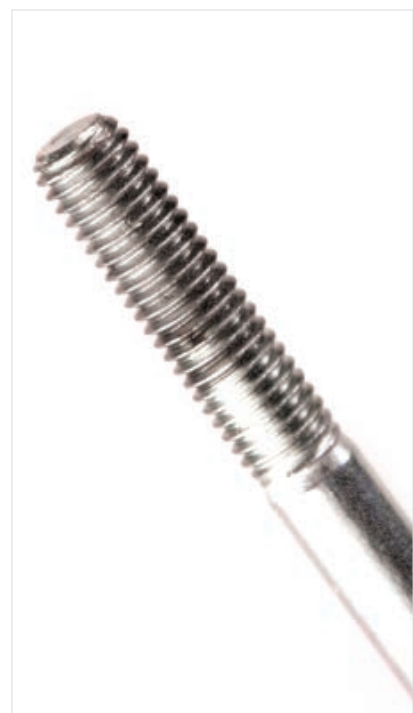
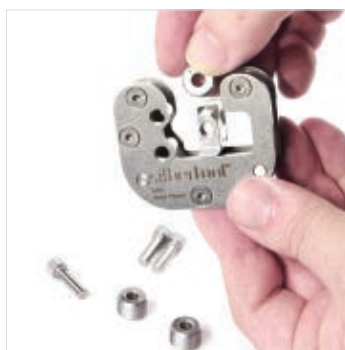
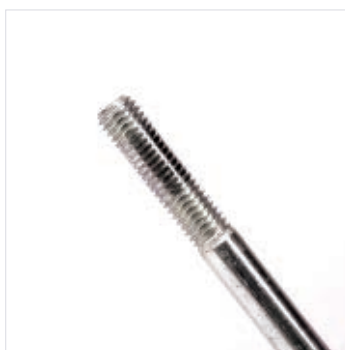
Ref. R160175



Ref. R160125

## JUEGOS DE RODILLOS

M / MF			€ / Unit		€ / Unit
M5 - M16	0.50	R160050	84,25	R1610050	112,42
M5 - M16	0.75	R160075	84,25	R1610075	112,42
M5 - M16	0.80	R160080	84,25	R1610080	112,42
M5 - M16	1.00	R160100	84,25	R1610100	112,42
M5 - M16	1.25	R160125	84,25	R1610125	112,42
M5 - M16	1.50	R160150	84,25	R1610150	112,42
M5 - M16	1.75	R160175	84,25	R1610175	112,42
M5 - M16	2.00	R160200	84,25	R1610200	112,42



REPARADOR DE ROSCAS EXTERNAS POR LAMINACIÓN

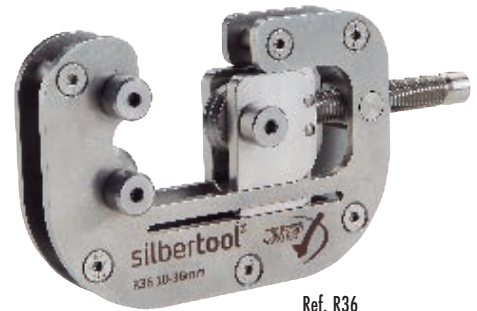


Ref. R360250



JUEGOS DE RODILLOS

M / MF			€/ Unit		€/ Unit
M10 - M36	0.50	R360050	128,37	R36I0050	154,10
M10 - M36	0.75	R360075	128,37	R36I0075	154,10
M10 - M36	1.00	R360100	128,37	R36I0100	154,10
M10 - M36	1.25	R360125	128,37	R36I0125	154,10
M10 - M36	1.50	R360150	128,37	R36I0150	154,10
M10 - M36	1.75	R360175	128,37	R36I0175	154,10
M10 - M36	2.00	R360200	128,37	R36I0200	154,10
M10 - M36	2.50	R360250	128,37	R36I0250	154,10
M10 - M36	3.00	R360300	128,37	R36I0300	154,10
M10 - M36	3.50	R360350	128,37	R36I0350	154,10
M10 - M36	4.00	R360400	128,37	R36I0400	154,10



Ref. R36

M / MF			€/ Unit
M10 - M36	0.50 - 4.00	R36	900,12

No incluye rodillos.



Ref. R600050



JUEGOS DE RODILLOS

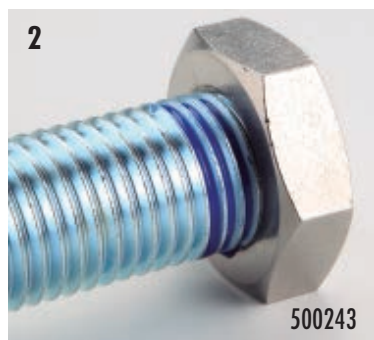
M / MF			€/ Unit		€/ Unit
M10 - M60 - M110	0.50	R600050	231,27	R60I0050	257,00
M10 - M60 - M110	0.80	R600080	231,27	R60I0080	257,00
M10 - M60 - M110	1.00	R600100	231,27	R60I0100	257,00
M10 - M60 - M110	1.25	R600125	231,27	R60I0125	257,00
M10 - M60 - M110	1.50	R600150	231,27	R60I0150	257,00
M10 - M60 - M110	1.75	R600175	231,27	R60I0175	257,00
M10 - M60 - M110	2.00	R600200	231,27	R60I0200	257,00
M10 - M60 - M110	2.50	R600250	231,27	R60I0250	257,00
M10 - M60 - M110	3.00	R600300	231,27	R60I0300	257,00



Ref. R60

M / MF			€/ Unit
M10 - M60	0.50 - 3.00	R60	1.157,37
M50 - M110	0.50 - 3.00	R110	1.800,50

No incluye rodillos.



## Adhesivos anaeróbicos para roscas

Este producto ha sido concebido para fijar y sellar uniones roscadas en el ámbito industrial obteniendo una mayor resistencia mecánica en la misma.

### Ventajas

- La característica destacada de los adhesivos anaeróbicos es el endurecimiento de la unión tras el contacto de metal con metal bajo ausencia de aire.
- Así se obtiene una unión mecánica resistente a la vibración, a los impactos y extremadamente resistente a productos químicos y disolventes.
- Gracias al estado líquido de POWERLOCK es posible rellenar completamente los huecos de la unión, sellar fugas y proteger contra la corrosión ocasionada por agentes externos permitiendo una mayor durabilidad de la unión roscada. Además, POWERLOCK se aplica muy a menudo en el campo de sellado de bridas.
- La aplicación de POWERLOCK es simple y rápida; el adhesivo alcanza su endurecimiento inicial en pocos minutos y su endurecimiento final en pocas horas a temperatura ambiente.
- POWERLOCK es apto especialmente para todos los metales y para determinados plásticos.

### Principales aplicaciones

- Uniones atornilladas de M5 hasta M36
- Permite fijar fuertemente cojinetes, casquillos, pernos, ejes y otras piezas ensambladas.
- Sellan uniones hidráulicas y neumáticas.

### Materiales activos y pasivos

#### Materiales Activos (Endurecimiento rápido)

- Bronce
- Hierro
- Cobre
- Latón
- Acero

#### Materiales Pasivos (Endurecimiento lento)

- Acero de alta aleación
- Aluminio, níquel, cinc, oro
- Capas de óxido

500222



	Color	Rango Aplicación	Viscosidad a +25°	Holgura máx.	Resistencia a la rotura	Fuerza residual	Resistencia al cizallamiento	Tiempo de cura inicial T° ambiente	Tiempo de cura Total T° ambiente	T° de trabajo	€
500222 *		M1-M36	1.000 mPa-s	0,20 mm	4-8 Nm	2-4 Nm	3-5 N/mm <sup>2</sup> (435-725 psi)	10-20 min.	3-6 h.	-60 - +150°C (-76 - +302°F)	42,99
500243 **		M1-M36	2.000 - 7.000 mPa-s	0,25 mm	17-22 Nm	8-12 Nm	9-13 N/mm <sup>2</sup> (1.305-1.885 psi)	10-20 min.	1-3 h.	-60 - +150°C (-76 - +302°F)	42,99
500270 ***		M1-M20	500 mPa-s	0,15 mm	28-35 Nm	50-65 Nm	15-20 N/mm <sup>2</sup> (2.175-2.900 psi)	10-20 min.	3-6 h.	-60 - +150°C (-76 - +302°F)	42,99

\* Fuerza baja (desmontaje fácil)

\*\* Fuerza media (desmontaje con herramienta)

\*\*\* Fuerza alta (desmontaje con calor)



### Limpieza previa al uso de adhesivos y selladores

El Limpiador de Superficies se utiliza para limpiar y desengrasar las superficies que deben pegarse o sellarse con adhesivos y selladores POWERLOCK. Limpia y se evapora sin dejar rastro.



500001

16,01 €



500572

PTFE



500572

## Selladores de roscas para tuberías en sistemas hidráulicos y neumáticos

Los selladores de tuberías roscadas POWERLOCK evitan fugas de cualquier fluido gaseoso y líquido usado en la industria, que sean conducidos a muy altas presiones.

### Ventajas

- Son resistentes a la mayoría de los fluidos aplicados en la industria y evitan obstrucciones de piezas de conexión (Codos, etc.) en sistemas hidráulicos y neumáticos (como pasaría empleando cáñamo o cintas de teflón).
- La unión roscada queda protegida frente a la corrosión de tales fluidos y las diferentes resistencias disponibles permiten un desmontaje incluso después de varios años de unión estable.
- Los selladores POWERLOCK son la mejor opción para crear una unión roscada ESTANCA y evitar el riesgo de fugas.



### Recomendaciones de Uso

#### Aplicación directa

POWERLOCK se aplica directamente con su punta dosificadora evitando el contacto directo de la punta dosificadora con el metal. Si se trata de uniones prensadas y de elementos de unión de medida grande, aplicar sobre ambas superficies formando una capa fina y uniforme. Si se trata de roscas en agujeros ciegos, aplicar una cantidad suficiente de POWERLOCK en el agujero. Si se trata de tornillos y pernos, aplicar el adhesivo en forma anular. No verter de retorno a la botella el líquido POWERLOCK que ya ha estado en contacto con el metal. Hasta las partículas más finas conducen al endurecimiento en la botella.



500542

	Color	Rango de aplicación	Viscosidad a +25°C	Holgura máx.	Resistencia a la rotura	Fuerza residual	Resistencia al cizallamiento (N/mm <sup>2</sup> )	Tiempo de solidificación a T° ambiente	Tiempo de cura Total T° ambiente	T° de trabajo	€
500542 		G 1/8"-3/4"	500 mPa-s	0,15 mm	12-15 Nm	18-22 Nm	8-12 N/mm <sup>2</sup> (1.160-1.740 psi)	10-20 min.	2-4 h.	-60 - +150°C (-76 - +302°F)	42,99
500572 ** 		G 1/8"-3"	17.000-50.000 mPa-s	0,40 mm	7-10 Nm	2-4 Nm	4-6 N/mm <sup>2</sup> (580-870 psi)	20-40 min.	5-10 h.	-60 - +150°C (-76 - +302°F)	25,84

\*\* PTFE líquido

\* Ficha de datos de seguridad disponible



	Inserto standard (free)		Código de Familia		Macho de mano HSS
	Inserto Autobloqueante		Longitud del inserto instalado = Ø x 1.0		Macho de mano M/MF, UNC, UNF, 8 UN, NPT
	Métrica y métrica fina		Longitud del inserto instalado = Ø x 1.5		Macho de mano BSW, BSF, BSP, BSB
	Rosca Americana UNC		Longitud del inserto instalado = Ø x 2.0		Macho de mano BA
	Rosca American fina UNF		Longitud del inserto instalado = Ø x 2.5		Macho con doble entrada para bujías
	Rosca Inglesa Whitworth		Longitud del inserto instalado = Ø x 3.0		Macho Helicoidal 35° HSS - V3 (3%V)
	Rosca Inglesa Whitworth fina		Longitud del inserto instalado = Ø x 3.5		Macho con entrada corregida F/B HSS-V3 3%V)
	Rosca Inglesa BSP / GAS		Codificación de la long. del inserto instalado=Øx"D"		Macho en tolerancia 5H/6H
	Rosca cónica Americana NPT		Inserto de acero inoxidable 304		Macho en tolerancia 2B-3B
	Rosca Americana UN-8hilos		Longitud de rosca de la bujía		Carretes de insertos
	Rosca Inglesa BA		Conformidad en pedido especial		Series cortas
	Rosca Inglesa BSB (Latón)		Conformidad de inserto		Series medianas
			Broca de HSS		Series largas
			Comprobador pasa, no pasa		Herramienta de instalación manual



Diámetro del inserto Paso en mm y pulgada Longitud instalada Unidades de embalaje Nº de Insertos Diámetro de la broca Macho de rosca Herramienta de instalación Nº Rompedor de cola