



INNOVATIONS
2022 | 01 | SISTEMA
MÉTRICO

KCS10B™

Calidad de torneado para aleaciones de alta temperatura



El nuevo recubrimiento de PVD High-PIMS proporciona excelentes calidades superficiales y excelente precisión dimensional.

Alta resistencia de entalladura de profundidad de corte.

El nuevo recubrimiento de PVD High-PIMS reduce la fricción, proporcionando una mayor vida de la herramienta.

INNOVACIONES

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CAS — Soporte de aplicaciones para clientes

Obtenga respuestas rápidas y fiables a sus problemas más difíciles

Nuestro equipo CAS es el recurso de asistencia más importante del sector de trabajo de los metales para las soluciones de aplicación de herramientas y resolución de problemas.

¡Fácil acceso a una experiencia en mecanizado comprobada!

Los ingenieros de aplicaciones de Kennametal ayudan a los clientes y a los grupos de ingeniería de todo el mundo con recomendaciones sobre la selección y aplicación de toda la variedad de herramientas Kennametal.



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Información sobre recambios y accesorios

¿Ha perdido un tornillo? ¿Tiene que sustituir cuñas de fijación desgastadas?
¿Tiene que buscar y volver a pedir dichos recambios?

¿Necesita algunos accesorios como una llave dinamométrica o una placa de aplicación de refrigerante? ¡Estas herramientas están al alcance de su mano! Vaya a kennametal.com y encuentre lo que necesita en segundos. Introduzca el número de catálogo de la herramienta correspondiente y se mostrará.

1 PASO 1 Introduzca el número de catálogo de la herramienta aquí

KENNAMETAL

Search By Keyword, Part #, ANSI/ISO

PRODUCTS SOLUTIONS SERVICES RESOURCES SUPPORT ABOUT US

English / Products / Metalworking Tools / Milling / Indexable Milling / Milling Inch Tools / Face Mills / Mill 16 / Mill 16 • Shell Mills

Mill 16™

Shell Mills

Features and Benefits

- Productivity booster for machining cast iron materials.
- Insert with 16 cutting edges.

SPECIFICATIONS

Mill 16 • Shell Mills • Wedge Clamping

Show 10 entries

| order number | catalog number | D1 | D1 max | D | D6 | L | Ap1 max | Z | lbs | max RPM |
|------------------------------|--------------------|-------|--------|------|-------|-------|---------|---|------|---------|
| 6001979 > | MILL16E200Z35ON08W | 2.000 | 2.495 | .750 | 2.000 | 2.000 | .215 | 5 | 1.45 | 11100 |

2 PASO 2 Seleccione los recambios y accesorios

PRODUCT USAGE /

Insert Selection Inserts Tool Body Speeds & Feeds Grades **Spare Parts**

Spare Parts

| | | | | | | | |
|-------|-------|-------------|----------|-------------|-------------------------------------|--------------------------|--------------------------------------|
| | | | | | | | |
| D1 | wedge | wedge screw | in. lbs. | wrench | mounting screw with coolant grooves | adjustable torque wrench | bit SW3 for adjustable torque wrench |
| 2.000 | CW16 | 12748601000 | 62 | 12148044800 | KLSS0714C | DTQ50140 | BTQSW3L90 |



Acceda digitalmente a la información de recambios y de accesorios para garantizar que su operación continúa en marcha.

Visite kennametal.com/novo y descárguelo hoy.
¡Es gratis!



Catálogo en línea

¿No encuentra la copia en papel de nuestro catálogo?

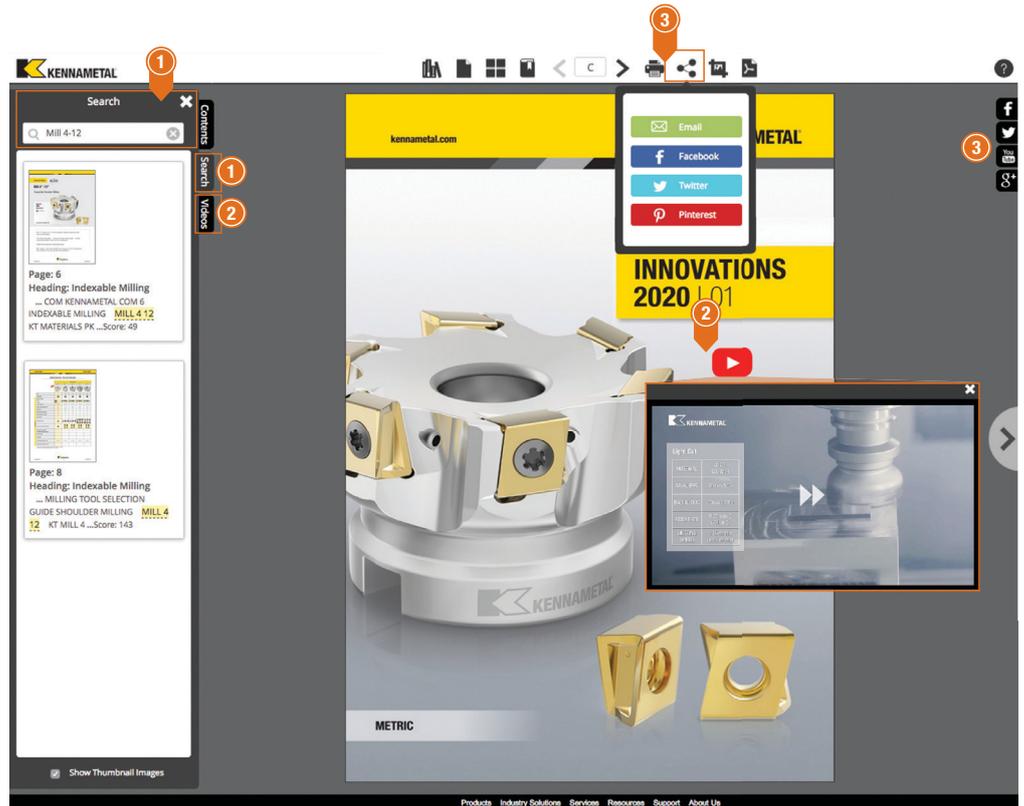
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Busque lo que necesita, vea un vídeo y comparta páginas con otros, ¡todo desde un único lugar! Vaya a catalogs.kennametal.com y si desea verlo desde el dispositivo móvil, simplemente descargue la aplicación GRATUITA para iOS o Android™.

1 Busque lo que necesita

2 Vea vídeos

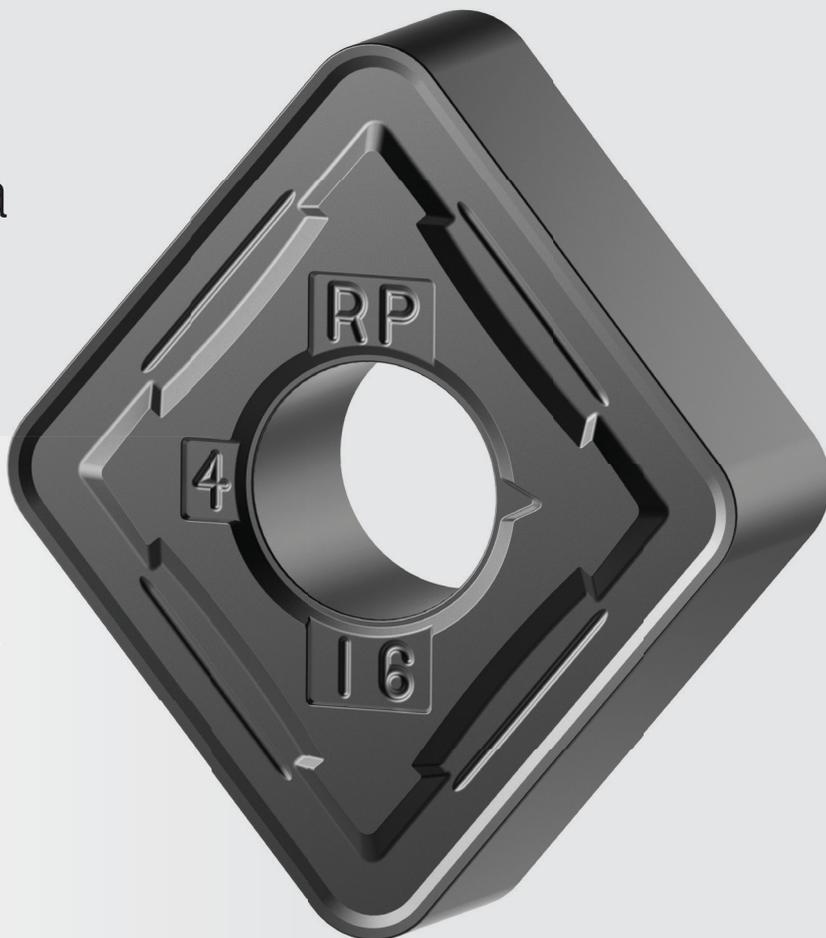
3 Comparta con otros



Eche un vistazo a nuestra nueva aplicación de catálogo. Disponible en Google Play™ Store o App Store®

KCS10B™

Calidad de torneado para aleaciones de alta temperatura



Materiales

S

Aplicaciones



Torneado



Mandrinado



Mandrinado en retroceso



Perfilado



Ranurado planeado



Planeado diámetro interior



Torneado de bisel



Ranurado profundo

kennametal.com/KCS10B

La nueva calidad de torneado KCS10B, con la nueva Pulverización catódica con magnetrón por impulso de alta potencia (High-Power Impulse Magnetron Sputtering, High-PIMS).

El recubrimiento de AlTiN PVD es ideal para aleaciones con base de hierro (S1), aleaciones con base de cobalto (S2) y aleaciones con base de níquel (S3).

La tecnología de recubrimiento High-PIMS se caracteriza por:

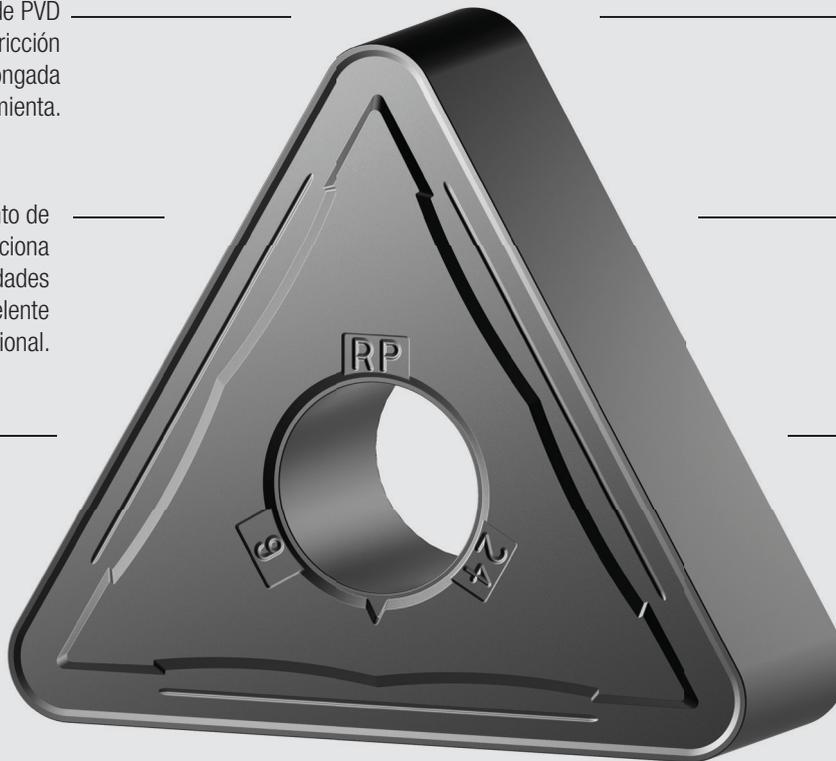
- Superficie de recubrimiento lisa.
- Adhesión óptima de la capa, especialmente en filos de corte afilados.
- Gran resistencia a las grietas de profundidad de corte.
- Larga vida de la herramienta y alta fiabilidad de los procesos.

Aplicado en un sustrato de metal duro de grano ultrafino extremadamente duro y resistente al desgaste, la calidad KCS10B es ideal para operaciones de mecanizado medio y de acabado.

El nuevo recubrimiento de PVD High-PIMS reduce la fricción para una vida más prolongada de la herramienta.

El nuevo recubrimiento de PVD High-PIMS proporciona excelentes cualidades superficiales y excelente precisión dimensional.

Menor recrecimiento del filo.



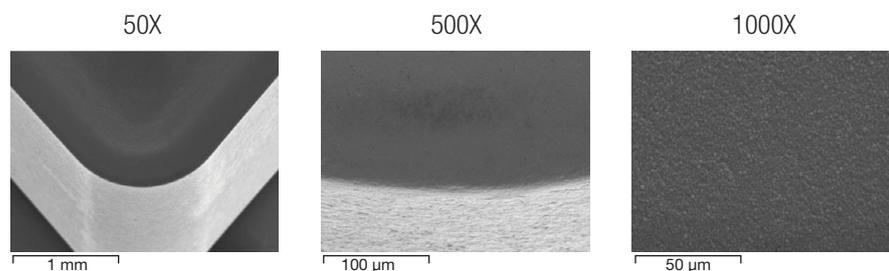
Una superficie de recubrimiento extremadamente suave reduce la fricción, proporcionando una vida más prolongada de la herramienta y una mayor fiabilidad del proceso.

¡NOVEDAD!
Geometría RP para desbaste.

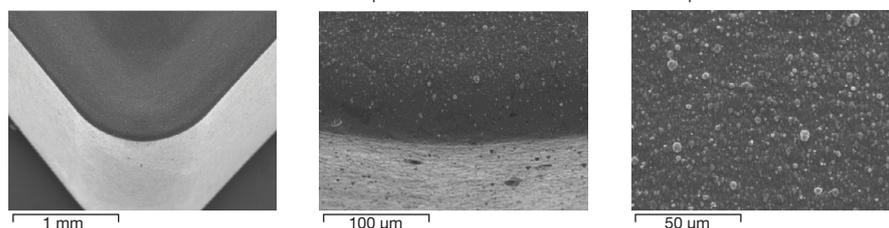
¡NOVEDAD!
Las plaquitas IC 19 mm y 33 mm ya están disponibles.

Recubrimiento de AlTiN PVD High-PIMS bajo el microscopio.

Recubrimiento de PVD High-PIMS en KCS10B



Recubrimiento de PVD convencional

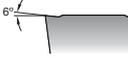
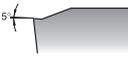
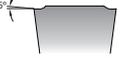


ALEACIONES DE ALTA TEMPERATURA • GUÍA DE SELECCIÓN DE HERRAMIENTAS

| | Plaquitas cerámicas | | Geometría de plaquitas negativas | | | | |
|--|---------------------|----|----------------------------------|----|----|----|----|
| | NG | GV | RP | MP | MS | FP | FS |
| Geometría | | | | | | | |
| Perfil | | | | | | | |
| Preparación del filo | | | | | | | |
| <i>Bisel T</i> | ✓ | | | | | | |
| <i>Rectificado</i> | | ✓ | ✓ | ✓ | | ✓ | |
| <i>Ligeramente afilado a afilado</i> | | | | | ✓ | | |
| <i>Afilado</i> | | | | | | | ✓ |
| Aplicación | | | | | | | |
| <i>Desbaste</i> | ✓ | ✓ | ✓ | | | | |
| <i>Desbaste ligero</i> | ✓ | ✓ | ✓ | ✓ | | | |
| <i>Mecanizado medio</i> | | | | ✓ | ✓ | | |
| <i>Semiacabado</i> | | | | | ✓ | ✓ | ✓ |
| <i>Acabado</i> | | | | | | ✓ | ✓ |
| Condición de corte | | | | | | | |
| <i>Corte muy interrumpido</i> | | • | • | | | | |
| <i>Corte ligeramente interrumpido</i> | | • | • | ○ | ○ | | |
| <i>Profundidad de corte variable, costras de fundición o forja</i> | | • | • | • | • | • | • |
| <i>Corte suave, superficie pretorneada</i> | | • | • | • | • | • | • |

- Principal
- Secundario

ALEACIONES DE ALTA TEMPERATURA • GUÍA DE SELECCIÓN DE HERRAMIENTAS

| | Geometría de plaquitas positivas | | | | | |
|--|---|---|---|---|---|---|
| | MP | MP Fondo en V | MS | LF | FP | Bloqueo K FS |
| Geometría |  |  |  |  |  |  |
| Perfil |  |  |  |  |  |  |
| Preparación del filo | | | | | | |
| <i>Bisel T</i> | | | | | | |
| <i>Rectificado</i> | ✓ | ✓ | | | | |
| <i>Ligeramente afilado a afilado</i> | | | ✓ | ✓ | ✓ | |
| <i>Afilado</i> | | | | | | ✓ |
| Aplicación | | | | | | |
| <i>Desbaste</i> | | | | | | |
| <i>Desbaste ligero</i> | ✓ | ✓ | | | | |
| <i>Mecanizado medio</i> | ✓ | ✓ | | | | |
| <i>Semiacabado</i> | | | ✓ | ✓ | ✓ | ✓ |
| <i>Acabado</i> | | | ✓ | ✓ | ✓ | ✓ |
| Condición de corte | | | | | | |
| <i>Corte muy interrumpido</i>  | | | | | | |
| <i>Corte ligeramente interrumpido</i>  | ● | ● | ○ | ○ | ○ | |
| <i>Profundidad de corte variable, costras de fundición o forja</i>  | ● | ● | ● | ● | ● | ● |
| <i>Corte suave, superficie pretorneada</i>  | ● | ● | ● | ● | ● | ● |

- Principal
- Secundario

ALEACIONES DE ALTA TEMPERATURA • DATOS DE APLICACIÓN • AVANCE

Plaquita con ángulo de desprendimiento positivo

| Condiciones | Geometría | | | | |
|--|-----------|-----------|-----------|-----------|-----------|
| | FS | FP | LF | MS | MP |
| Corte muy interrumpido  | | | | | |
| Corte ligeramente interrumpido  | | ○ | ○ | ● | ● |
| Profundidad de corte variable  | ● | ● | ● | ● | ● |
| Corte suave  | ● | ● | ● | ● | ● |
| Mín. - Máx. | FS | FP | LF | MS | MP |
| Profundidad de corte - ap (mm) | 0,1-5 | 0,1-2,5 | 0,1-2,5 | 0,5-5 | 0,4-5 |
| Avance - fn (mm/rev) | 0,04-0,4 | 0,05-0,3 | 0,06-0,4 | 0,15-0,8 | 0,1-0,6 |

Plaquita con ángulo de desprendimiento negativo

| Condiciones | Geometría | | | | |
|--|-----------|-----------|-----------|-----------|-----------|
| | FS | FP | MS | MP | RP |
| Corte muy interrumpido  | | | | | ○ |
| Corte ligeramente interrumpido  | | ○ | ○ | ● | ● |
| Profundidad de corte variable  | ● | ● | ● | ● | ● |
| Corte suave  | ● | ● | ● | ● | ● |
| Mín. - Máx. | FS | FP | MS | MP | RP |
| Profundidad de corte - ap (mm) | 0,1-2,5 | 0,2-3,5 | 0,3-5,5 | 0,6-6 | 1-13 |
| Avance - fn (mm/rev) | 0,04-0,25 | 0,08-0,35 | 0,08-0,45 | 0,12-0,6 | 0,2-0,9 |

ALEACIONES DE ALTA TEMPERATURA • DATOS DE APLICACIÓN • VELOCIDAD

Aleaciones resistentes al calor con base de hierro (135–320 HB) (<34 HRC)

| grupo de materiales | calidad | Velocidad – m/min | | | | | | | | Condiciones iniciales  |
|---------------------|---------|-------------------|----|----|-----|-----|-----|-----|-----|---|
| | | 15 | 45 | 75 | 105 | 140 | 170 | 200 | 230 | m/min |
| S1 | KCS10B | | | | | | | | | 80 |

Aleaciones resistentes al calor con base de cobalto (150–425 HB) (<45 HRC)

| grupo de materiales | calidad | Velocidad – m/min | | | | | | | | Condiciones iniciales  |
|---------------------|---------|-------------------|----|----|-----|-----|-----|-----|-----|---|
| | | 15 | 45 | 75 | 105 | 140 | 170 | 200 | 230 | m/min |
| S2 | KCS10B | | | | | | | | | 50 |

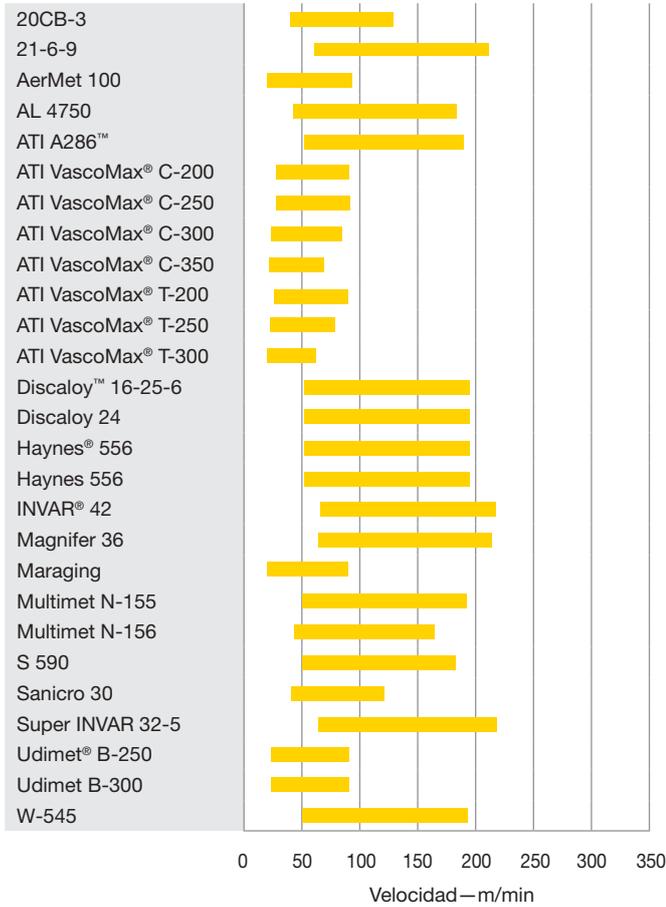
Aleaciones resistentes al calor con base de níquel (140–475 HB) (<48 HRC)

| grupo de materiales | calidad | Velocidad – m/min | | | | | | | | Condiciones iniciales  |
|---------------------|---------|-------------------|----|----|-----|-----|-----|-----|-----|---|
| | | 15 | 45 | 75 | 105 | 140 | 170 | 200 | 230 | m/min |
| S3 | KCS10B | | | | | | | | | 70 |

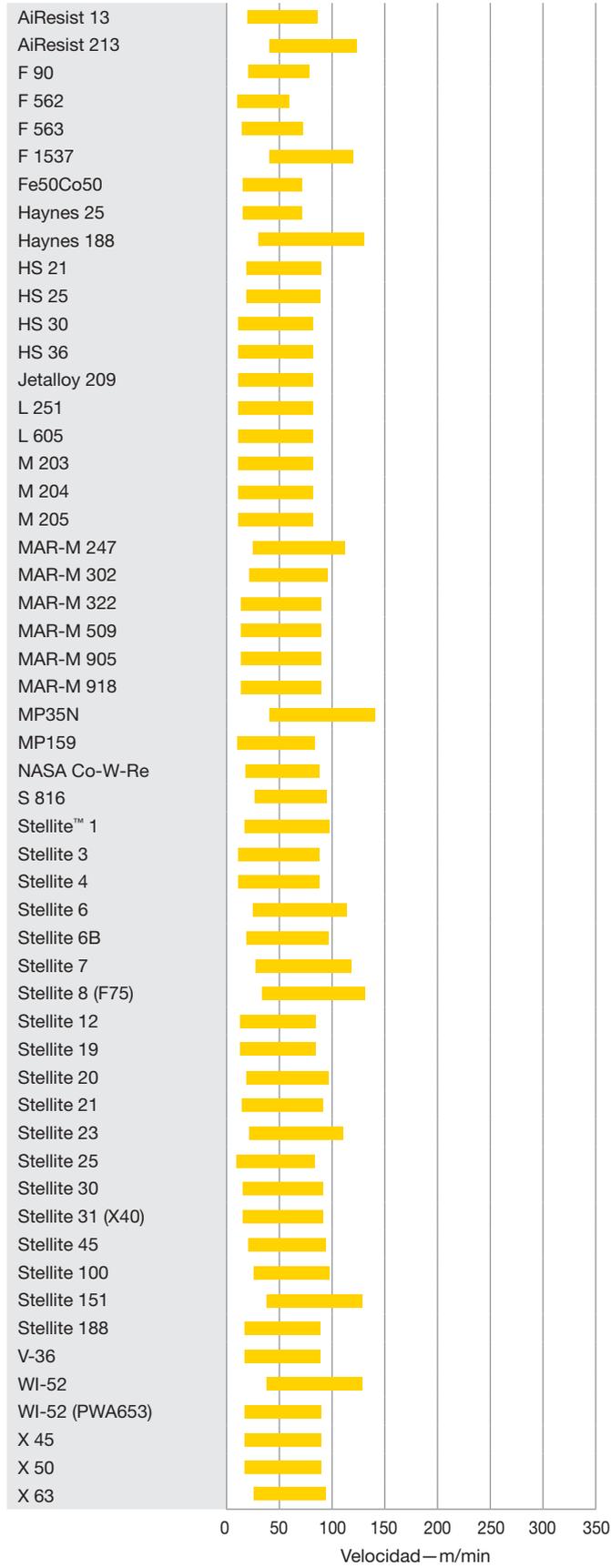
ALEACIONES A ALTA TEMPERATURA • DATOS DE APLICACIÓN

S1 Aleaciones base hierro resistentes al calor (135–320 HB) (≤34 HRC)

Las aleaciones HRSA más comunes



S2 Aleaciones base cobalto resistentes al calor (150–425 HB) (≤45 HRC)

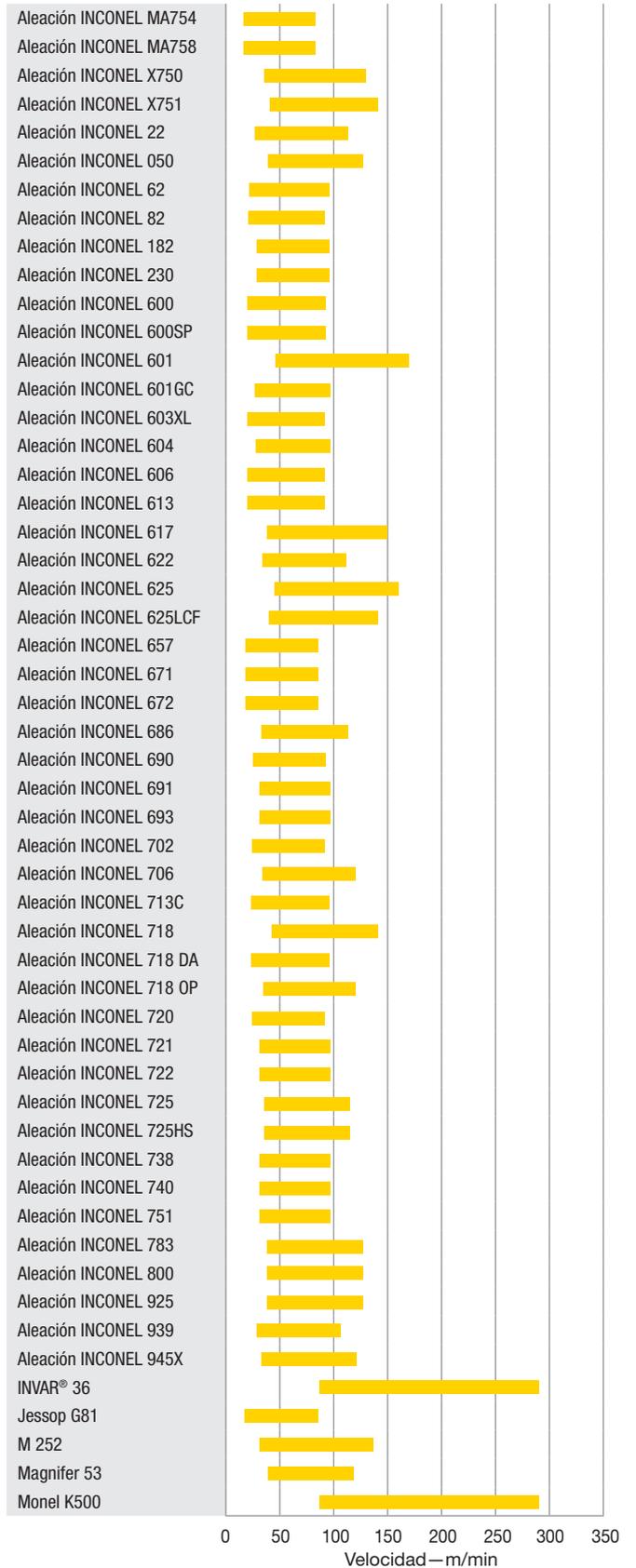
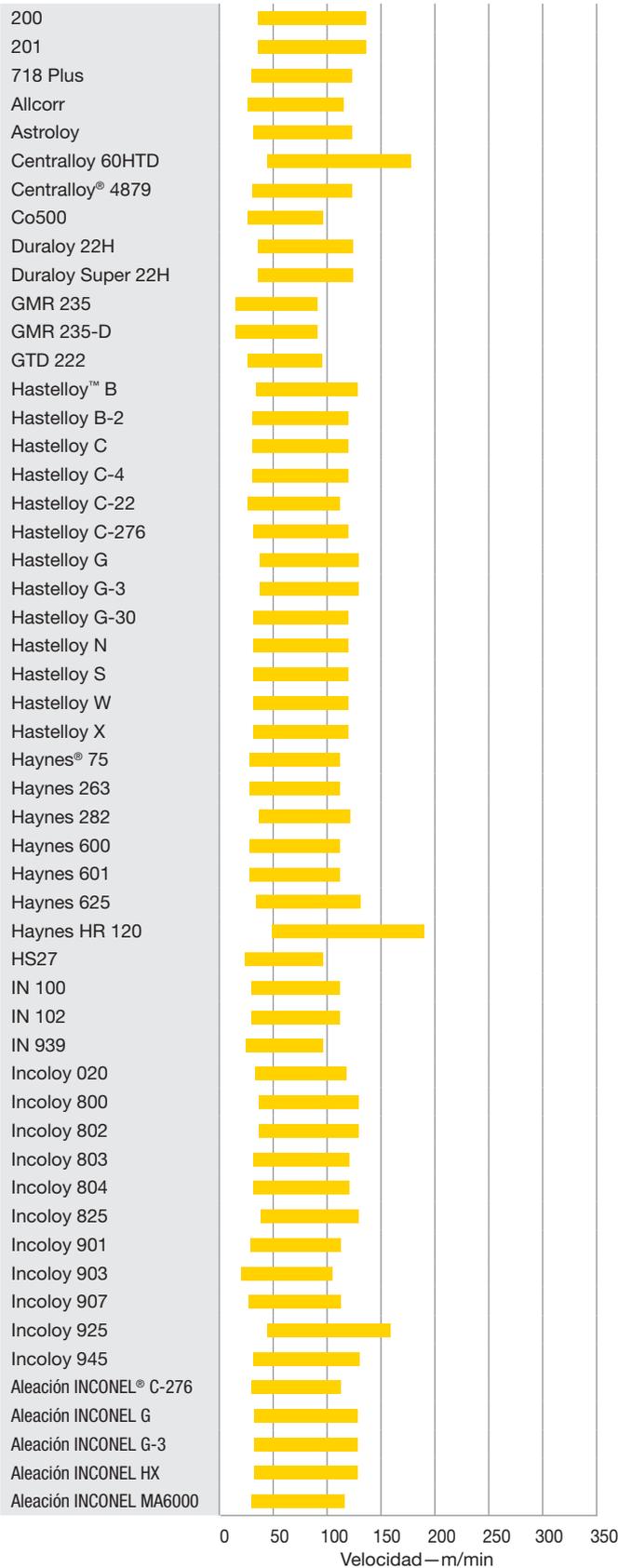


ALEACIONES A ALTA TEMPERATURA • DATOS DE APLICACIÓN

(continuación)

S3 Aleaciones base níquel resistentes al calor (140–475 HB) (≤ 48 HRC)

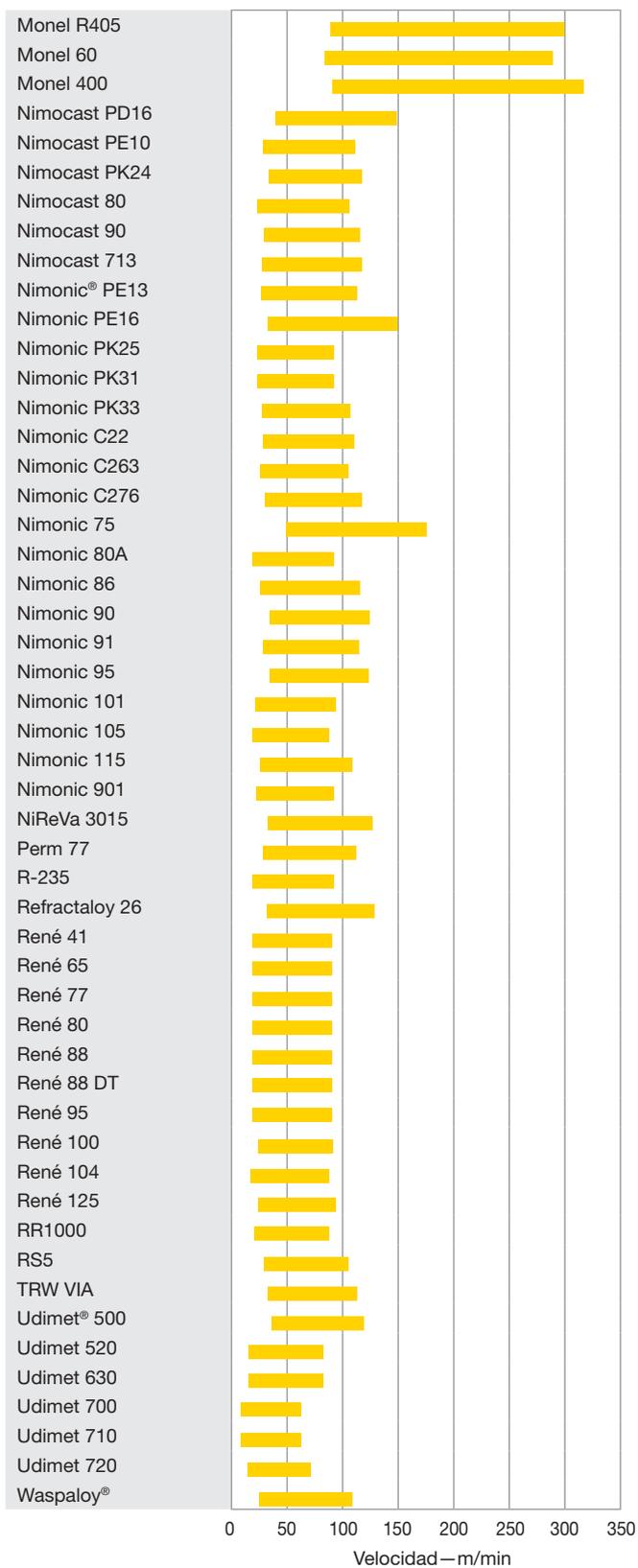
S3 Aleaciones base níquel resistentes al calor (140–475 HB) (≤ 48 HRC)



ALEACIONES A ALTA TEMPERATURA • DATOS DE APLICACIÓN

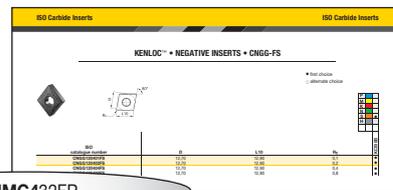
(continuación)

S3 Aleaciones base níquel resistentes al calor (140–475 HB)
(≤ 48 HRC)



PLAQUITAS ISO • SISTEMA DE NUMERACIÓN DEL CATÁLOGO

Cada carácter de nuestro número de catálogo hace referencia a un detalle específico de ese producto. Utilice las siguientes columnas de claves y las imágenes correspondientes para identificar con facilidad los atributos en cuestión.



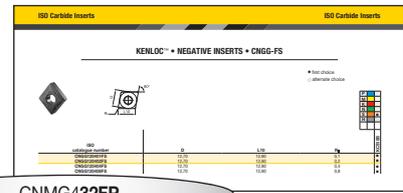
CNMG432FP

| C | | N | | M | | G | | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Forma de la plaquita | | Ángulo de holgura de la plaquita | | Clase de tolerancia | | Características de la plaquita | | Tamaño | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| H | Hexágono 120° | A | 3° | Las tolerancias se aplican antes de la preparación y el recubrimiento de los filos | N | | Código para longitud métrica del filo de corte "L10" <table border="1"> <thead> <tr> <th>"D"</th> <th>C</th> <th>D</th> <th>R</th> <th>S</th> <th>T</th> <th>V</th> <th>W</th> </tr> </thead> <tbody> <tr><td>3,97</td><td>S4</td><td>04</td><td>03</td><td>03</td><td>06</td><td>—</td><td>—</td></tr> <tr><td>4,76</td><td>04</td><td>05</td><td>04</td><td>04</td><td>08</td><td>08</td><td>S3</td></tr> <tr><td>5,56</td><td>05</td><td>06</td><td>05</td><td>05</td><td>09</td><td>09</td><td>03</td></tr> <tr><td>6,00</td><td>—</td><td>—</td><td>06</td><td>—</td><td>—</td><td>—</td><td>—</td></tr> <tr><td>6,35</td><td>06</td><td>07</td><td>06</td><td>06</td><td>11</td><td>11</td><td>04</td></tr> <tr><td>7,94</td><td>08</td><td>09</td><td>07</td><td>07</td><td>13</td><td>13</td><td>05</td></tr> <tr><td>8,00</td><td>—</td><td>—</td><td>08</td><td>—</td><td>—</td><td>—</td><td>—</td></tr> <tr><td>9,52</td><td>09</td><td>11</td><td>09</td><td>09</td><td>16</td><td>16</td><td>06</td></tr> <tr><td>10,00</td><td>—</td><td>—</td><td>10</td><td>—</td><td>—</td><td>—</td><td>—</td></tr> <tr><td>11,11</td><td>11</td><td>13</td><td>11</td><td>11</td><td>19</td><td>19</td><td>07</td></tr> <tr><td>12,00</td><td>—</td><td>—</td><td>12</td><td>—</td><td>—</td><td>—</td><td>—</td></tr> <tr><td>12,70</td><td>12</td><td>15</td><td>12</td><td>12</td><td>22</td><td>22</td><td>08</td></tr> <tr><td>14,29</td><td>14</td><td>17</td><td>14</td><td>14</td><td>24</td><td>24</td><td>09</td></tr> <tr><td>15,88</td><td>16</td><td>19</td><td>15</td><td>15</td><td>27</td><td>27</td><td>10</td></tr> <tr><td>16,00</td><td>—</td><td>—</td><td>16</td><td>—</td><td>—</td><td>—</td><td>—</td></tr> <tr><td>17,46</td><td>17</td><td>21</td><td>17</td><td>17</td><td>30</td><td>30</td><td>11</td></tr> <tr><td>19,05</td><td>19</td><td>23</td><td>19</td><td>19</td><td>33</td><td>33</td><td>13</td></tr> <tr><td>20,00</td><td>—</td><td>—</td><td>20</td><td>—</td><td>—</td><td>—</td><td>—</td></tr> <tr><td>22,22</td><td>22</td><td>27</td><td>22</td><td>22</td><td>38</td><td>38</td><td>15</td></tr> <tr><td>25,00</td><td>—</td><td>—</td><td>25</td><td>—</td><td>—</td><td>—</td><td>—</td></tr> <tr><td>25,40</td><td>25</td><td>31</td><td>25</td><td>25</td><td>44</td><td>44</td><td>17</td></tr> <tr><td>31,75</td><td>32</td><td>38</td><td>31</td><td>31</td><td>54</td><td>54</td><td>21</td></tr> <tr><td>32,00</td><td>—</td><td>—</td><td>32</td><td>—</td><td>—</td><td>—</td><td>—</td></tr> </tbody> </table> | "D" | C | D | R | S | T | V | W | 3,97 | S4 | 04 | 03 | 03 | 06 | — | — | 4,76 | 04 | 05 | 04 | 04 | 08 | 08 | S3 | 5,56 | 05 | 06 | 05 | 05 | 09 | 09 | 03 | 6,00 | — | — | 06 | — | — | — | — | 6,35 | 06 | 07 | 06 | 06 | 11 | 11 | 04 | 7,94 | 08 | 09 | 07 | 07 | 13 | 13 | 05 | 8,00 | — | — | 08 | — | — | — | — | 9,52 | 09 | 11 | 09 | 09 | 16 | 16 | 06 | 10,00 | — | — | 10 | — | — | — | — | 11,11 | 11 | 13 | 11 | 11 | 19 | 19 | 07 | 12,00 | — | — | 12 | — | — | — | — | 12,70 | 12 | 15 | 12 | 12 | 22 | 22 | 08 | 14,29 | 14 | 17 | 14 | 14 | 24 | 24 | 09 | 15,88 | 16 | 19 | 15 | 15 | 27 | 27 | 10 | 16,00 | — | — | 16 | — | — | — | — | 17,46 | 17 | 21 | 17 | 17 | 30 | 30 | 11 | 19,05 | 19 | 23 | 19 | 19 | 33 | 33 | 13 | 20,00 | — | — | 20 | — | — | — | — | 22,22 | 22 | 27 | 22 | 22 | 38 | 38 | 15 | 25,00 | — | — | 25 | — | — | — | — | 25,40 | 25 | 31 | 25 | 25 | 44 | 44 | 17 | 31,75 | 32 | 38 | 31 | 31 | 54 | 54 | 21 | 32,00 | — | — | 32 | — | — | — | — | R | |
| "D" | C | D | R | | S | T | | V | W | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 5,56 | 05 | 06 | 05 | | 05 | 09 | | 09 | 03 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 11,11 | 11 | 13 | 11 | 11 | 19 | 19 | 07 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 12,70 | 12 | 15 | 12 | 12 | 22 | 22 | 08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14,29 | 14 | 17 | 14 | 14 | 24 | 24 | 09 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15,88 | 16 | 19 | 15 | 15 | 27 | 27 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 17,46 | 17 | 21 | 17 | 17 | 30 | 30 | 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19,05 | 19 | 23 | 19 | 19 | 33 | 33 | 13 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 22,22 | 22 | 27 | 22 | 22 | 38 | 38 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 25,40 | 25 | 31 | 25 | 25 | 44 | 44 | 17 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31,75 | 32 | 38 | 31 | 31 | 54 | 54 | 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32,00 | — | — | 32 | — | — | — | — | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| O | Octágono 135° | B | 5° | F | | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| P | Pentágono 108° | C | 7° | M | | M | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R | Redonda — | D | 15° | G | | G | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| S | Cuadrada 90° | E | 20° | W | | W | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T | Triangular 60° | F | 25° | T | | T | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C | Romboide 80° 55° 75° 86° 35° | G | 30° | Q | | Q | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D | | N | 0° | U | | U | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| E | | P | 11° | B | | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M | | O | Indicado para otros ángulos de incidencia que requieran una descripción. | H | | H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| V | | A | Paralelogramo 85° | C | | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| W | B | 82° | J | | J | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| L | N/K | 55° | X | Diseño especial | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| clase de tolerancia | tolerancia en "D" | tolerancia en "B" | tolerancia en "S" |
|---------------------|--|-------------------|-------------------|
| C | ±0,025 | ±0,013 | ±0,025 |
| H | ±0,013 | ±0,013 | ±0,025 |
| E | ±0,025 | ±0,025 | ±0,025 |
| G | ±0,025 | ±0,025 | ±0,013 |
| M | Consulte las tablas de la página siguiente | | ±0,013 |
| U | Consulte las tablas de la página siguiente | | ±0,013 |

PLAQUITAS ISO • SISTEMA DE NUMERACIÓN DEL CATÁLOGO

(continuación)



CNMG432FP

3

Grosor
S

| símbolo | grosor |
|---------|--------|
| mm | mm |
| - | 0,79 |
| T0 | 1,00 |
| 01 | 1,59 |
| T1 | 1,98 |
| 02 | 2,38 |
| 03 | 3,18 |
| T3 | 3,97 |
| 04 | 4,76 |
| 05 | 5,56 |
| 06 | 6,35 |
| 07 | 7,94 |
| 9 | 9,52 |
| 11 | 11,11 |
| 12 | 12,70 |

2

Radio
de esquina "Re"

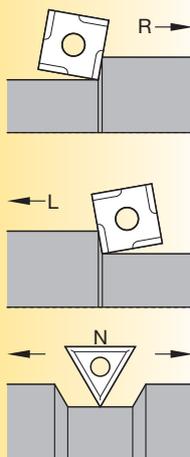
| símbolo | radio de esquina |
|---------|------------------|
| mm | mm |
| X0 | 0,04 |
| 01 | 0,1 |
| 02 | 0,2 |
| 04 | 0,4 |
| 08 | 0,8 |
| 12 | 1,2 |
| 16 | 1,6 |
| 20 | 2,0 |
| 24 | 2,4 |
| 28 | 2,8 |
| 32 | 3,2 |
| 00 | plaquita redonda |
| M0 | |
| - | |

Dirección de la
plaquita
(opcional)

R = A derechas

L = A izquierdas

N = Neutro



Filo de corte
(opcional)

- F** = Afilado
- E** = Redondeado
- T** = Biselado
- S** = Biselado y redondeado
- K** = Biselado doble
- P** = Biselado doble y redondeado

FP

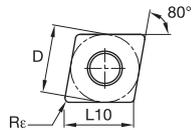
Rompevirutas
(opcional)

- F** = Afilado
- FF** = Acabado de precisión
- FN** = Acabado negativo
- MN** = Medio negativo
- MR** = Desbaste medio
- RN** = Desbaste negativo
- UN** = Medio universal
- FP** = Acabado positivo
- MP** = Medio positivo
- RP** = Desbaste positivo
- RM** = Desbaste medio
- RH** = Desbaste pesado
- FW** = Rascadora de acabado
- MW** = Rascadora media
- FS** = Acabado afilado
- MS** = Medio afilado
- RW** = Desbaste con rascadora
- HP** = Muy positiva
- UP** = Positivo universal
- K** = Control de virutas de avance ligero
- UF** = Acabado ultrafino
- LF** = Acabado ligero
- MF** = Acabado medio
- E** = Solo afilado
- T** = Bisel negativo
- S** = Bisel negativo más afilado
- MP-K** = Medio positivo
- MG-P** = Medio positivo

| "D" | ± Tolerancia en "D" | | | | "D" | ± Tolerancia en "B" | | | |
|-------|-----------------------|---------|---------|-----------------------|-------|-----------------------|---------|---------|-----------------------|
| | Tolerancia de clase M | | | Tolerancia de clase U | | Tolerancia de clase M | | | Tolerancia de clase U |
| | Formas S, T, C, R y W | Forma D | Forma V | Formas S, T y C | | Formas S, T, C, R y W | Forma D | Forma V | Formas S, T y C |
| mm | mm | mm | mm | mm | mm | mm | mm | mm | |
| 3,97 | 0,05 | - | - | - | 3,97 | 0,08 | - | - | - |
| 4,76 | 0,05 | - | - | 0,08 | 4,76 | 0,08 | - | - | 0,13 |
| 5,56 | 0,05 | 0,05 | 0,05 | 0,08 | 5,56 | 0,08 | 0,11 | - | 0,13 |
| 6,35 | 0,05 | 0,05 | 0,05 | 0,08 | 6,35 | 0,08 | 0,11 | - | 0,13 |
| 7,94 | 0,05 | 0,05 | 0,05 | 0,08 | 7,94 | 0,08 | 0,11 | - | 0,13 |
| 9,52 | 0,05 | 0,05 | 0,05 | 0,08 | 9,52 | 0,08 | 0,11 | 0,18 | 0,13 |
| 11,11 | 0,08 | 0,08 | 0,08 | 0,13 | 11,11 | 0,13 | 0,15 | - | - |
| 12,70 | 0,08 | 0,08 | 0,08 | 0,13 | 12,70 | 0,13 | 0,15 | 0,25 | 0,20 |
| 14,29 | 0,08 | 0,08 | 0,08 | 0,13 | 14,29 | 0,13 | 0,15 | - | - |
| 15,88 | 0,10 | 0,10 | 0,10 | 0,18 | 15,88 | 0,15 | 0,18 | - | 0,27 |
| 17,46 | 0,10 | 0,10 | 0,10 | 0,18 | 17,46 | 0,15 | 0,18 | - | 0,27 |
| 19,05 | 0,10 | 0,10 | 0,10 | 0,18 | 19,05 | 0,15 | 0,18 | - | 0,27 |
| 22,22 | 0,13 | - | - | 0,25 | 22,22 | 0,15 | - | - | 0,38 |
| 25,40 | 0,13 | - | - | 0,25 | 25,40 | 0,18 | - | - | 0,38 |
| 31,75 | 0,15 | - | - | 0,25 | 31,75 | 0,20 | - | - | 0,38 |

KENLOC™ • PLAQUITAS NEGATIVAS • CNGG-FS

- primera opción
- opción alternativa

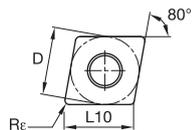


| | | |
|---|---|---|
| P | ■ | ■ |
| M | ■ | ■ |
| K | ■ | ■ |
| N | ■ | ■ |
| S | ■ | ● |
| H | ■ | ■ |

| número de catálogo ISO | D | L10 | Rε | KCS10B |
|------------------------|-------|-------|-----|--------|
| CNGG120401FS | 12,70 | 12,90 | 0,1 | ● |
| CNGG120402FS | 12,70 | 12,90 | 0,2 | ● |
| CNGG120404FS | 12,70 | 12,90 | 0,4 | ● |
| CNGG120408FS | 12,70 | 12,90 | 0,8 | ● |

KENLOC • PLAQUITAS NEGATIVAS • CNMG-FP

- primera opción
- opción alternativa

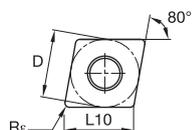


| | | |
|---|---|---|
| P | ■ | ■ |
| M | ■ | ■ |
| K | ■ | ■ |
| N | ■ | ■ |
| S | ■ | ● |
| H | ■ | ■ |

| número de catálogo ISO | D | L10 | Rε | KCS10B |
|------------------------|-------|-------|-----|--------|
| CNMG120404FP | 12,70 | 12,90 | 0,4 | ● |
| CNMG120408FP | 12,70 | 12,90 | 0,8 | ● |
| CNMG120412FP | 12,70 | 12,90 | 1,2 | ● |

KENLOC • PLAQUITAS NEGATIVAS • CNMG-MP

- primera opción
- opción alternativa



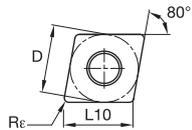
| | | |
|---|---|---|
| P | ■ | ■ |
| M | ■ | ■ |
| K | ■ | ■ |
| N | ■ | ■ |
| S | ■ | ● |
| H | ■ | ■ |

| número de catálogo ISO | D | L10 | Rε | KCS10B |
|------------------------|-------|-------|-----|--------|
| CNMG120404MP | 12,70 | 12,90 | 0,4 | ● |
| CNMG120408MP | 12,70 | 12,90 | 0,8 | ● |
| CNMG120412MP | 12,70 | 12,90 | 1,2 | ● |
| CNMG120416MP | 12,70 | 12,90 | 1,6 | ● |
| CNMG160612MP | 15,88 | 16,12 | 1,2 | ● |
| CNMG160616MP | 15,88 | 16,12 | 1,6 | ● |

| | | | |
|----|----|-------|----|
| | | | |
| 44 | 45 | 14-15 | 48 |

KENLOC™ • PLAQUITAS NEGATIVAS • CNMG-MS

- primera opción
- opción alternativa

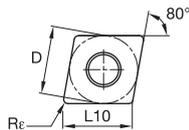


| | | |
|---|---|---|
| P | ■ | ■ |
| M | ■ | ■ |
| K | ■ | ■ |
| N | ■ | ■ |
| S | ■ | ● |
| H | ■ | ■ |
| | | |

| número de catálogo ISO | D | L10 | Rε | KCS10B |
|------------------------|-------|-------|-----|--------|
| CNMG120404MS | 12,70 | 12,90 | 0,4 | ● |
| CNMG120408MS | 12,70 | 12,90 | 0,8 | ● |
| CNMG120412MS | 12,70 | 12,90 | 1,2 | ● |

KENLOC • PLAQUITAS NEGATIVAS • CNMG-RP

- primera opción
- opción alternativa

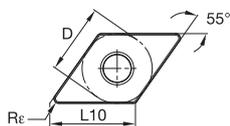


| | | |
|---|---|---|
| P | ■ | ■ |
| M | ■ | ■ |
| K | ■ | ■ |
| N | ■ | ■ |
| S | ■ | ● |
| H | ■ | ■ |
| | | |

| número de catálogo ISO | D | L10 | Rε | KCS10B |
|------------------------|-------|-------|-----|--------|
| CNMG120408RP | 12,70 | 12,90 | 0,8 | ● |
| CNMG120412RP | 12,70 | 12,90 | 1,2 | ● |
| CNMG120416RP | 12,70 | 12,90 | 1,6 | ● |
| CNMG160608RP | 15,88 | 16,12 | 0,8 | ● |
| CNMG160612RP | 15,88 | 16,12 | 1,2 | ● |
| CNMG160616RP | 15,88 | 16,12 | 1,6 | ● |
| CNMG190612RP | 19,05 | 19,34 | 1,2 | ● |
| CNMG190616RP | 19,05 | 19,34 | 1,6 | ● |

KENLOC • PLAQUITAS NEGATIVAS • DNGG-FS

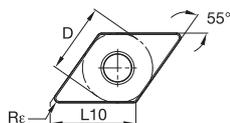
- primera opción
- opción alternativa



| | | |
|---|---|---|
| P | ■ | ■ |
| M | ■ | ■ |
| K | ■ | ■ |
| N | ■ | ■ |
| S | ■ | ● |
| H | ■ | ■ |
| | | |

| número de catálogo ISO | D | L10 | Rε | KCS10B |
|------------------------|-------|-------|-----|--------|
| DNGG150401FS | 12,70 | 15,50 | 0,1 | ● |
| DNGG150601FS | 12,70 | 15,50 | 0,1 | ● |
| DNGG150402FS | 12,70 | 15,50 | 0,2 | ● |
| DNGG150602FS | 12,70 | 15,50 | 0,2 | ● |
| DNGG150404FS | 12,70 | 15,50 | 0,4 | ● |
| DNGG150604FS | 12,70 | 15,50 | 0,4 | ● |
| DNGG150408FS | 12,70 | 15,50 | 0,8 | ● |
| DNGG150608FS | 12,70 | 15,50 | 0,8 | ● |

KENLOC™ • PLAQUITAS NEGATIVAS • DNMG-FP

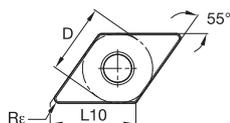


- primera opción
- opción alternativa

| | | |
|---|---|---|
| P | ■ | ■ |
| M | ■ | ■ |
| K | ■ | ■ |
| N | ■ | ■ |
| S | ■ | ● |
| H | ■ | ■ |
| | | |

| número de catálogo ISO | D | L10 | Re | KCS10B |
|------------------------|-------|-------|-----|--------|
| DNMG110404FP | 9,53 | 11,63 | 0,4 | ● |
| DNMG110408FP | 9,53 | 11,63 | 0,8 | ● |
| DNMG150404FP | 12,70 | 15,50 | 0,4 | ● |
| DNMG150604FP | 12,70 | 15,50 | 0,4 | ● |
| DNMG150408FP | 12,70 | 15,50 | 0,8 | ● |
| DNMG150608FP | 12,70 | 15,50 | 0,8 | ● |
| DNMG150412FP | 12,70 | 15,50 | 1,2 | ● |
| DNMG150612FP | 12,70 | 15,50 | 1,2 | ● |

KENLOC • PLAQUITAS NEGATIVAS • DNMG-MP

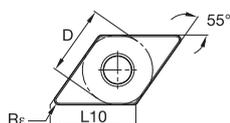


- primera opción
- opción alternativa

| | | |
|---|---|---|
| P | ■ | ■ |
| M | ■ | ■ |
| K | ■ | ■ |
| N | ■ | ■ |
| S | ■ | ● |
| H | ■ | ■ |
| | | |

| número de catálogo ISO | D | L10 | Re | KCS10B |
|------------------------|-------|-------|-----|--------|
| DNMG150404MP | 12,70 | 15,50 | 0,4 | ● |
| DNMG150604MP | 12,70 | 15,50 | 0,4 | ● |
| DNMG150408MP | 12,70 | 15,50 | 0,8 | ● |
| DNMG150608MP | 12,70 | 15,50 | 0,8 | ● |
| DNMG150412MP | 12,70 | 15,50 | 1,2 | ● |
| DNMG150612MP | 12,70 | 15,50 | 1,2 | ● |

KENLOC • PLAQUITAS NEGATIVAS • DNMG-MS



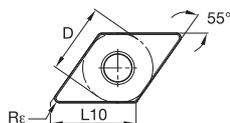
- primera opción
- opción alternativa

| | | |
|---|---|---|
| P | ■ | ■ |
| M | ■ | ■ |
| K | ■ | ■ |
| N | ■ | ■ |
| S | ■ | ● |
| H | ■ | ■ |
| | | |

| número de catálogo ISO | D | L10 | Re | KCS10B |
|------------------------|-------|-------|-----|--------|
| DNMG150404MS | 12,70 | 15,50 | 0,4 | ● |
| DNMG150604MS | 12,70 | 15,50 | 0,4 | ● |
| DNMG150408MS | 12,70 | 15,50 | 0,8 | ● |
| DNMG150608MS | 12,70 | 15,50 | 0,8 | ● |
| DNMG150412MS | 12,70 | 15,50 | 1,2 | ● |
| DNMG150612MS | 12,70 | 15,50 | 1,2 | ● |

KENLOC™ • PLAQUITAS NEGATIVAS • DNMG-RP

- primera opción
- opción alternativa

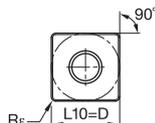


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|---|---|
| P | ■ |
| M | ■ |
| K | ■ |
| N | ■ |
| S | ● |
| H | ■ |
| | |

| número de catálogo ISO | D | L10 | Rr | KCS10B |
|------------------------|-------|-------|-----|--------|
| DNMG150408RP | 12,70 | 15,50 | 0,8 | ● |
| DNMG150608RP | 12,70 | 15,50 | 0,8 | ● |
| DNMG150412RP | 12,70 | 15,50 | 1,2 | ● |
| DNMG150612RP | 12,70 | 15,50 | 1,2 | ● |

KENLOC • PLAQUITAS NEGATIVAS • SNMG-MP

- primera opción
- opción alternativa

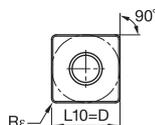


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| P | ■ |
| M | ■ |
| K | ■ |
| N | ■ |
| S | ● |
| H | ■ |
| | |

| número de catálogo ISO | D | L10 | Rr | KCS10B |
|------------------------|-------|-------|-----|--------|
| SNMG120408MP | 12,70 | 12,70 | 0,8 | ● |
| SNMG120412MP | 12,70 | 12,70 | 1,2 | ● |
| SNMG150608MP | 15,88 | 15,88 | 0,8 | ● |
| SNMG150612MP | 15,88 | 15,88 | 1,2 | ● |

KENLOC • PLAQUITAS NEGATIVAS • SNMG-RP

- primera opción
- opción alternativa

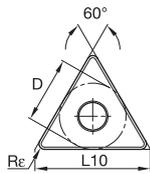


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|---|---|
| P | ■ |
| M | ■ |
| K | ■ |
| N | ■ |
| S | ● |
| H | ■ |
| | |

| número de catálogo ISO | D | L10 | Rr | KCS10B |
|------------------------|-------|-------|-----|--------|
| SNMG120408RP | 12,70 | 12,70 | 0,8 | ● |
| SNMG120412RP | 12,70 | 12,70 | 1,2 | ● |
| SNMG190612RP | 19,05 | 19,05 | 1,2 | ● |
| SNMG190616RP | 19,05 | 19,05 | 1,6 | ● |

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|----|----|-------|----|
| | | | |
| 44 | 45 | 14-15 | 48 |

KENLOC™ • PLAQUITAS NEGATIVAS • TNMG-RP



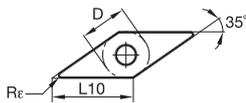
- primera opción
- opción alternativa

| | | |
|---|---|---|
| P | ■ | ■ |
| M | ■ | ■ |
| K | ■ | ■ |
| N | ■ | ■ |
| S | ■ | ● |
| H | ■ | ■ |
| | | |

KCS10B

| número de catálogo ISO | D | L10 | Re | |
|------------------------|-------|-------|-----|---|
| TNMG270616RP | 15,88 | 27,50 | 1,6 | ● |
| TNMG330924RP | 19,05 | 33,00 | 2,4 | ● |

KENLOC • PLAQUITAS NEGATIVAS • VNGG-FS



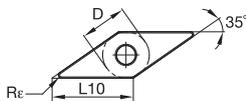
- primera opción
- opción alternativa

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|---|---|---|
| P | ■ | ■ |
| M | ■ | ■ |
| K | ■ | ■ |
| N | ■ | ■ |
| S | ■ | ● |
| H | ■ | ■ |
| | | |

KCS10B

| número de catálogo ISO | D | L10 | Re | |
|------------------------|------|-------|-----|---|
| VNGG160401FS | 9,53 | 16,61 | 0,1 | ● |
| VNGG160402FS | 9,53 | 16,61 | 0,2 | ● |
| VNGG160404FS | 9,53 | 16,61 | 0,4 | ● |
| VNGG160408FS | 9,53 | 16,61 | 0,8 | ● |

KENLOC • PLAQUITAS NEGATIVAS • VNMG-FP

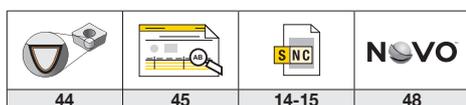


- primera opción
- opción alternativa

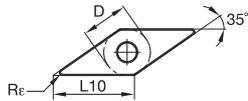
| | | |
|---|---|---|
| P | ■ | ■ |
| M | ■ | ■ |
| K | ■ | ■ |
| N | ■ | ■ |
| S | ■ | ● |
| H | ■ | ■ |
| | | |

KCS10B

| número de catálogo ISO | D | L10 | Re | |
|------------------------|------|-------|-----|---|
| VNMG160404FP | 9,53 | 16,61 | 0,4 | ● |
| VNMG160408FP | 9,53 | 16,61 | 0,8 | ● |



KENLOC™ • PLAQUITAS NEGATIVAS • VNMG-MP

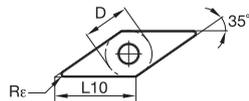


- primera opción
- opción alternativa

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| P | ■ | ■ |
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| K | ■ | ■ |
| N | ■ | ■ |
| S | ■ | ● |
| H | ■ | ■ |

| número de catálogo ISO | D | L10 | Rε | KCS10B |
|------------------------|------|-------|-----|--------|
| VNMG160404MP | 9,53 | 16,61 | 0,4 | ● |
| VNMG160408MP | 9,53 | 16,61 | 0,8 | ● |
| VNMG160412MP | 9,53 | 16,61 | 1,2 | ● |

KENLOC • PLAQUITAS NEGATIVAS • VNMG-MS

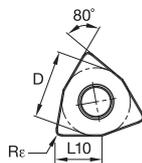


- primera opción
- opción alternativa

| | | |
|---|---|---|
| P | ■ | ■ |
| M | ■ | ■ |
| K | ■ | ■ |
| N | ■ | ■ |
| S | ■ | ● |
| H | ■ | ■ |

| número de catálogo ISO | D | L10 | Rε | KCS10B |
|------------------------|-------|-------|-----|--------|
| VNMG160402MS | 9,53 | 16,61 | 0,2 | ● |
| VNMG160404MS | 9,53 | 16,61 | 0,4 | ● |
| VNMG160408MS | 9,53 | 16,61 | 0,8 | ● |
| VNMG220404MS | 12,70 | 22,14 | 0,4 | ● |
| VNMG220408MS | 12,70 | 22,14 | 0,8 | ● |

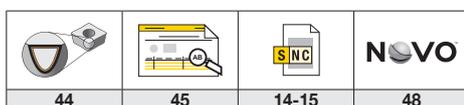
KENLOC • PLAQUITAS NEGATIVAS • WNMG-RP



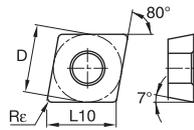
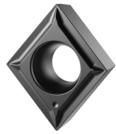
- primera opción
- opción alternativa

| | | |
|---|---|---|
| P | ■ | ■ |
| M | ■ | ■ |
| K | ■ | ■ |
| N | ■ | ■ |
| S | ■ | ● |
| H | ■ | ■ |

| número de catálogo ISO | D | L10 | Rε | KCS10B |
|------------------------|-------|------|-----|--------|
| WNMG080408RP | 12,70 | 8,69 | 0,8 | ● |
| WNMG080412RP | 12,70 | 8,69 | 1,2 | ● |



SCREW-ON • PLAQUITAS POSITIVAS • CCGT-LF

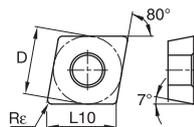


- primera opción
- opción alternativa

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|---|-----|
| P | ■ |
| M | ■ |
| K | ■ |
| N | ■ |
| S | ■ ● |
| H | ■ |
| | |

| número de catálogo ISO | D | L10 | Rε | KCS10B |
|------------------------|------|------|-----|--------|
| CCGT060202LF | 6,35 | 6,45 | 0,2 | ● |
| CCGT060204LF | 6,35 | 6,45 | 0,4 | ● |
| CCGT060208LF | 6,35 | 6,45 | 0,8 | ● |
| CCGT09T302LF | 9,53 | 9,67 | 0,2 | ● |
| CCGT09T304LF | 9,53 | 9,67 | 0,4 | ● |
| CCGT09T308LF | 9,53 | 9,67 | 0,8 | ● |

SCREW-ON • PLAQUITAS POSITIVAS • CCMT-MP

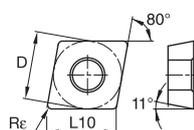


- primera opción
- opción alternativa

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|---|-----|
| P | ■ |
| M | ■ |
| K | ■ |
| N | ■ |
| S | ■ ● |
| H | ■ |
| | |

| número de catálogo ISO | D | L10 | Rε | KCS10B |
|------------------------|-------|-------|-----|--------|
| CCMT060204MP | 6,35 | 6,45 | 0,4 | ● |
| CCMT060208MP | 6,35 | 6,45 | 0,8 | ● |
| CCMT09T304MP | 9,53 | 9,67 | 0,4 | ● |
| CCMT09T308MP | 9,53 | 9,67 | 0,8 | ● |
| CCMT120404MP | 12,70 | 12,90 | 0,4 | ● |
| CCMT120408MP | 12,70 | 12,90 | 0,8 | ● |

SCREW-ON • PLAQUITAS POSITIVAS • CPGT-LF

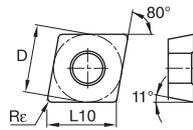


- primera opción
- opción alternativa

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|---|-----|
| P | ■ |
| M | ■ |
| K | ■ |
| N | ■ |
| S | ■ ● |
| H | ■ |
| | |

| número de catálogo ISO | D | L10 | Rε | KCS10B |
|------------------------|------|------|-----|--------|
| CPGT060202LF | 6,35 | 6,45 | 0,2 | ● |
| CPGT060204LF | 6,35 | 6,45 | 0,4 | ● |
| CPGT060208LF | 6,35 | 6,45 | 0,8 | ● |
| CPGT09T302LF | 9,53 | 9,67 | 0,2 | ● |
| CPGT09T304LF | 9,53 | 9,67 | 0,4 | ● |
| CPGT09T308LF | 9,53 | 9,67 | 0,8 | ● |

SCREW-ON • PLAQUITAS POSITIVAS • CPMT-MP

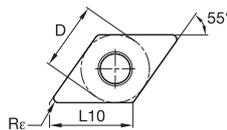


- primera opción
- opción alternativa

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|---|---|---|
| P | ■ | ■ |
| M | ■ | ■ |
| K | ■ | ■ |
| N | ■ | ■ |
| S | ■ | ● |
| H | ■ | ■ |

| número de catálogo ISO | D | L10 | R _ε | KCS10B |
|------------------------|------|------|----------------|--------|
| CPMT060204MP | 6,35 | 6,45 | 0,4 | ● |
| CPMT060208MP | 6,35 | 6,45 | 0,8 | ● |
| CPMT09T304MP | 9,53 | 9,67 | 0,4 | ● |
| CPMT09T308MP | 9,53 | 9,67 | 0,8 | ● |

SCREW-ON • PLAQUITAS POSITIVAS • DCGT-LF

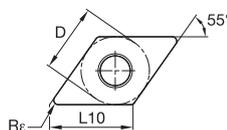


- primera opción
- opción alternativa

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|---|---|---|
| P | ■ | ■ |
| M | ■ | ■ |
| K | ■ | ■ |
| N | ■ | ■ |
| S | ■ | ● |
| H | ■ | ■ |

| número de catálogo ISO | D | L10 | R _ε | KCS10B |
|------------------------|------|-------|----------------|--------|
| DCGT070202LF | 6,35 | 7,75 | 0,2 | ● |
| DCGT070204LF | 6,35 | 7,75 | 0,4 | ● |
| DCGT070208LF | 6,35 | 7,75 | 0,8 | ● |
| DCGT11T302LF | 9,53 | 11,63 | 0,2 | ● |
| DCGT11T304LF | 9,53 | 11,63 | 0,4 | ● |
| DCGT11T308LF | 9,53 | 11,63 | 0,8 | ● |

SCREW-ON • PLAQUITAS POSITIVAS • DCMT-MP



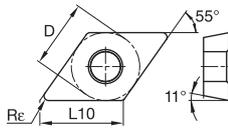
- primera opción
- opción alternativa

| | | |
|---|---|---|
| P | ■ | ■ |
| M | ■ | ■ |
| K | ■ | ■ |
| N | ■ | ■ |
| S | ■ | ● |
| H | ■ | ■ |

| número de catálogo ISO | D | L10 | R _ε | KCS10B |
|------------------------|------|-------|----------------|--------|
| DCMT11T304MP | 9,53 | 11,63 | 0,4 | ● |
| DCMT11T308MP | 9,53 | 11,63 | 0,8 | ● |
| DCMT11T312MP | 9,53 | 11,63 | 1,2 | ● |

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|---|---|---|---|
|  |  |  |  |
| 44 | 45 | 14-15 | 48 |

SCREW-ON • PLAQUITAS POSITIVAS • DPGT-LF

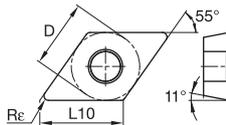


- primera opción
- opción alternativa

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|---|---|
| P | ■ |
| M | ■ |
| K | ■ |
| N | ■ |
| S | ● |
| H | ■ |
| | ■ |

| número de catálogo ISO | D | L10 | Re | KCS10B |
|------------------------|------|-------|-----|--------|
| DPGT070202LF | 6,35 | 7,75 | 0,2 | ● |
| DPGT070204LF | 6,35 | 7,75 | 0,4 | ● |
| DPGT070208LF | 6,35 | 7,75 | 0,8 | ● |
| DPGT11T302LF | 9,53 | 11,63 | 0,2 | ● |
| DPGT11T304LF | 9,53 | 11,63 | 0,4 | ● |
| DPGT11T308LF | 9,53 | 11,63 | 0,8 | ● |

SCREW-ON • PLAQUITAS POSITIVAS • DPMT-MP

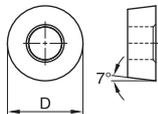


- primera opción
- opción alternativa

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|---|---|
| P | ■ |
| M | ■ |
| K | ■ |
| N | ■ |
| S | ● |
| H | ■ |
| | ■ |

| número de catálogo ISO | D | L10 | Re | KCS10B |
|------------------------|------|-------|-----|--------|
| DPMT11T304MP | 9,53 | 11,63 | 0,4 | ● |
| DPMT11T308MP | 9,53 | 11,63 | 0,8 | ● |
| DPMT11T312MP | 9,53 | 11,63 | 1,2 | ● |

SCREW-ON • PLAQUITAS POSITIVAS • RCGT-MS



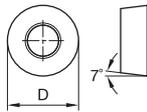
- primera opción
- opción alternativa

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|---|---|
| P | ■ |
| M | ■ |
| K | ■ |
| N | ■ |
| S | ● |
| H | ■ |
| | ■ |

| número de catálogo ISO | D | L10 | Re | KCS10B |
|------------------------|-------|-----|----|--------|
| RCGT0803M0MS | 8,00 | — | — | ● |
| RCGT1204M0MS | 12,00 | — | — | ● |

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| | | | |
| 44 | 45 | 14-15 | 48 |

SCREW-ON • PLAQUITAS POSITIVAS • RCMT-MP

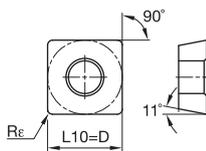


- primera opción
- opción alternativa

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|---|---|---|
| P | ■ | ■ |
| M | ■ | ■ |
| K | ■ | ■ |
| N | ■ | ■ |
| S | ■ | ● |
| H | ■ | ■ |

| número de catálogo ISO | D | L10 | R _ε | KCS10B |
|------------------------|-------|-----|----------------|--------|
| RCMT0803M0MP | 8,00 | — | — | ● |
| RCMT10T3M0MP | 10,00 | — | — | ● |
| RCMT1204M0MP | 12,00 | — | — | ● |
| RCMT120400MP | 12,70 | — | — | ● |
| RCMT1606M0MP | 16,00 | — | — | ● |

SCREW-ON • PLAQUITAS POSITIVAS • SCGT-LF

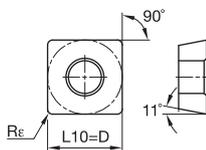
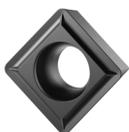


- primera opción
- opción alternativa

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|---|---|---|
| P | ■ | ■ |
| M | ■ | ■ |
| K | ■ | ■ |
| N | ■ | ■ |
| S | ■ | ● |
| H | ■ | ■ |

| número de catálogo ISO | D | L10 | R _ε | KCS10B |
|------------------------|-------|-------|----------------|--------|
| SCGT09T304LF | 9,53 | 9,53 | 0,4 | ● |
| SCGT09T308LF | 9,53 | 9,53 | 0,8 | ● |
| SCGT120404LF | 12,70 | 12,70 | 0,4 | ● |
| SCGT120408LF | 12,70 | 12,70 | 0,8 | ● |
| SCGT120412LF | 12,70 | 12,70 | 1,2 | ● |

SCREW-ON • PLAQUITAS POSITIVAS • SPGT-LF



- primera opción
- opción alternativa

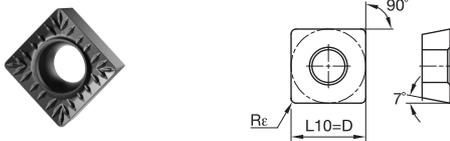
| | | |
|---|---|---|
| P | ■ | ■ |
| M | ■ | ■ |
| K | ■ | ■ |
| N | ■ | ■ |
| S | ■ | ● |
| H | ■ | ■ |

| número de catálogo ISO | D | L10 | R _ε | KCS10B |
|------------------------|------|------|----------------|--------|
| SPGT09T304LF | 9,53 | 9,53 | 0,4 | ● |
| SPGT09T308LF | 9,53 | 9,53 | 0,8 | ● |

| | | | |
|----|----|-------|----|
| | | | |
| 44 | 45 | 14-15 | 48 |

SCREW-ON • PLAQUITAS POSITIVAS • SCMT-MP

- primera opción
- opción alternativa

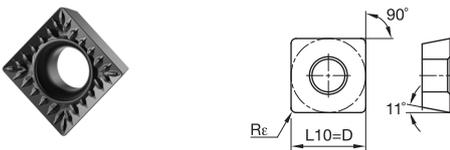


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|---|---|
| P | ■ |
| M | ■ |
| K | ■ |
| N | ■ |
| S | ■ |
| H | ■ |

| número de catálogo ISO | D | L10 | Re | KCS10B |
|------------------------|-------|-------|-----|--------|
| SCMT09T304MP | 9,53 | 9,53 | 0,4 | ● |
| SCMT09T308MP | 9,53 | 9,53 | 0,8 | ● |
| SCMT120404MP | 12,70 | 12,70 | 0,4 | ● |
| SCMT120408MP | 12,70 | 12,70 | 0,8 | ● |

SCREW-ON • PLAQUITAS POSITIVAS • SPMT-MP

- primera opción
- opción alternativa

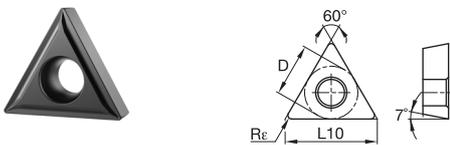


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|---|---|
| P | ■ |
| M | ■ |
| K | ■ |
| N | ■ |
| S | ■ |
| H | ■ |

| número de catálogo ISO | D | L10 | Re | KCS10B |
|------------------------|-------|-------|-----|--------|
| SPMT09T304MP | 9,53 | 9,53 | 0,4 | ● |
| SPMT09T308MP | 9,53 | 9,53 | 0,8 | ● |
| SPMT120404MP | 12,70 | 12,70 | 0,4 | ● |
| SPMT120408MP | 12,70 | 12,70 | 0,8 | ● |

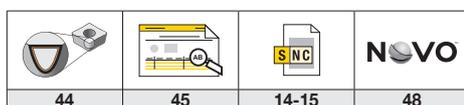
SCREW-ON • PLAQUITAS POSITIVAS • TCGT-LF

- primera opción
- opción alternativa



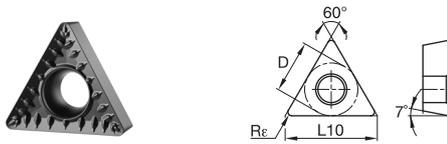
| | |
|---|---|
| P | ■ |
| M | ■ |
| K | ■ |
| N | ■ |
| S | ■ |
| H | ■ |

| número de catálogo ISO | D | L10 | Re | KCS10B |
|------------------------|------|-------|-----|--------|
| TCGT110204LF | 6,35 | 11,00 | 0,4 | ● |
| TCGT110208LF | 6,35 | 11,00 | 0,8 | ● |
| TCGT16T302LF | 9,53 | 16,50 | 0,2 | ● |
| TCGT16T304LF | 9,53 | 16,50 | 0,4 | ● |
| TCGT16T308LF | 9,53 | 16,50 | 0,8 | ● |



SCREW-ON • PLAQUITAS POSITIVAS • TCMT-MP

- primera opción
- opción alternativa

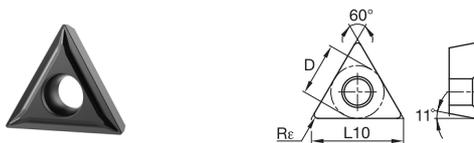


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|---|---|
| P | ■ |
| M | ■ |
| K | ■ |
| N | ■ |
| S | ■ |
| H | ■ |
| | ● |

| número de catálogo ISO | D | L10 | Re | KCS10B |
|------------------------|------|-------|-----|--------|
| TCMT110204MP | 6,35 | 11,00 | 0,4 | ● |
| TCMT110208MP | 6,35 | 11,00 | 0,8 | ● |
| TCMT16T304MP | 9,53 | 16,50 | 0,4 | ● |
| TCMT16T308MP | 9,53 | 16,50 | 0,8 | ● |

SCREW-ON • PLAQUITAS POSITIVAS • TPGT-LF

- primera opción
- opción alternativa

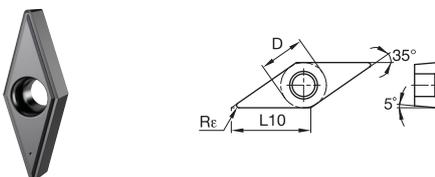


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|---|---|
| P | ■ |
| M | ■ |
| K | ■ |
| N | ■ |
| S | ■ |
| H | ■ |
| | ● |

| número de catálogo ISO | D | L10 | Re | KCS10B |
|------------------------|------|-------|-----|--------|
| TPGT090202LF | 5,56 | 9,62 | 0,2 | ● |
| TPGT090204LF | 5,56 | 9,62 | 0,4 | ● |
| TPGT110202LF | 6,35 | 11,00 | 0,2 | ● |
| TPGT110204LF | 6,35 | 11,00 | 0,4 | ● |
| TPGT110208LF | 6,35 | 11,00 | 0,8 | ● |

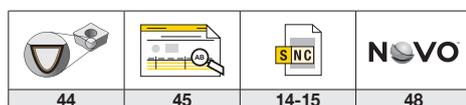
SCREW-ON • PLAQUITAS POSITIVAS • VBGT-LF

- primera opción
- opción alternativa

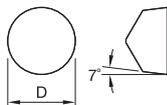


| | |
|---|---|
| P | ■ |
| M | ■ |
| K | ■ |
| N | ■ |
| S | ■ |
| H | ■ |
| | ● |

| número de catálogo ISO | D | L10 | Re | KCS10B |
|------------------------|------|-------|-----|--------|
| VBGT110302LF | 6,35 | 11,07 | 0,2 | ● |
| VBGT110304LF | 6,35 | 11,07 | 0,4 | ● |
| VBGT110308LF | 6,35 | 11,07 | 0,8 | ● |
| VBGT160402LF | 9,53 | 16,61 | 0,2 | ● |
| VBGT160404LF | 9,53 | 16,61 | 0,4 | ● |
| VBGT160408LF | 9,53 | 16,61 | 0,8 | ● |



KENDEX™ • PLAQUITAS POSITIVAS • RCGX-MP

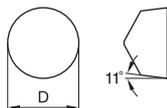


- primera opción
- opción alternativa

| | | |
|---|---|--|
| P | | |
| M | | |
| K | | |
| N | | |
| S | ● | |
| H | | |

| número de catálogo ISO | D | L10 | Re | KCS10B |
|------------------------|-------|-----|----|--------|
| RCGX060400MP | 6,35 | — | — | ● |
| RCGX090700MP | 9,53 | — | — | ● |
| RCGX120700MP | 12,70 | — | — | ● |

KENDEX • PLAQUITAS POSITIVAS • RPGX-MP



- primera opción
- opción alternativa

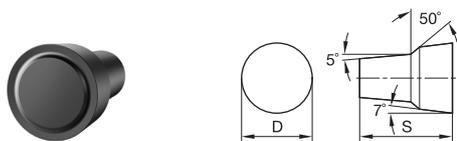
| | | |
|---|---|--|
| P | | |
| M | | |
| K | | |
| N | | |
| S | ● | |
| H | | |

| número de catálogo ISO | D | L10 | Re | KCS10B |
|------------------------|-------|-----|----|--------|
| RPGX060400MP | 6,35 | — | — | ● |
| RPGX090700MP | 9,53 | — | — | ● |
| RPGX120700MP | 12,70 | — | — | ● |

| | | | |
|----|----|-------|----|
| | | | |
| 44 | 45 | 14-15 | 48 |

K-LOCK™ • PLAQUITAS POSITIVAS • RCGK-FS

- primera opción
- opción alternativa

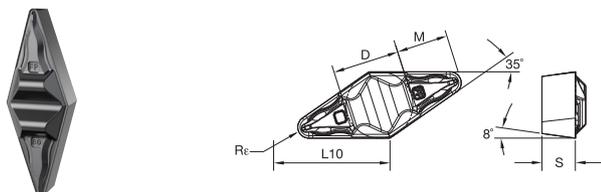


| | | |
|---|---|---|
| P | ■ | ■ |
| M | ■ | ■ |
| K | ■ | ■ |
| N | ■ | ■ |
| S | ■ | ● |
| H | ■ | ■ |

| número de catálogo ISO | D | S | KCS10B |
|------------------------|-------|-------|--------|
| RCGK040300FS | 4,75 | 6,59 | ● |
| RCGK060400FS | 6,35 | 9,30 | ● |
| RCGK090700FS | 9,53 | 13,23 | ● |
| RCGK120800FS | 12,70 | 16,92 | ● |

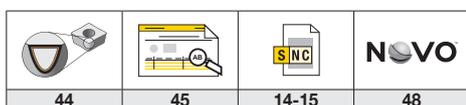
PERFILADO TOP NOTCH™ • PLAQUITAS POSITIVAS • VCGR-FP

- primera opción
- opción alternativa



| | | |
|---|---|---|
| P | ■ | ■ |
| M | ■ | ■ |
| K | ■ | ■ |
| N | ■ | ■ |
| S | ■ | ● |
| H | ■ | ■ |

| número de catálogo ISO | D | L10 | S | M | Rε | KCS10B |
|------------------------|------|-------|------|-------|-----|--------|
| VCGR160402FP | 9,52 | 16,61 | 4,76 | 10,60 | 0,2 | ● |
| VCGR160404FP | 9,52 | 16,61 | 4,76 | 10,15 | 0,4 | ● |
| VCGR160408FP | 9,52 | 16,61 | 4,76 | 9,23 | 0,8 | ● |
| VCGR160412FP | 9,52 | 16,61 | 4,76 | 8,31 | 1,2 | ● |



KCS10B™ • IDENTIFICACIÓN DE DESGASTE

PROGRESIÓN DEL DESGASTE

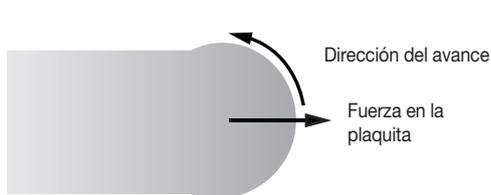


El nuevo recubrimiento KCS10B proporciona una fácil identificación del desgaste. El patrón de desgaste mostrado indica que el fin de la vida de la herramienta está cerca.

Una superficie de recubrimiento extremadamente suave, que reduce la fricción, lo que proporciona una vida más prolongada de la herramienta y aumenta la fiabilidad del proceso.

La nueva calidad de torneado KCS10B, con la nueva tecnología de Pulverización catódica con magnetrón por impulso de alta potencia (High-Power Impulse Magnetron Sputtering, High-PIMS) es ideal para aleaciones con base de hierro (S1), aleaciones con base de cobalto (S2) y aleaciones con base de níquel (S3).

KCS10B • PERFILADO CON TOP NOTCH™



—— Forma deseada = Forma programada.

—— Diseño de plaquita resistente.

—— Cambio preciso.

—— Fuerzas de sujeción superiores.

—— Segundo filo de corte protegido frente a los atascos de virutas.

Perfilado de dirección de avance múltiple con la máxima precisión y excelentes acabados superficiales.

El mecanismo de sujeción rígido mantiene la plaquita con precisión en su sitio y elimina el movimiento de la plaquita.

ALEACIONES DE ALTA TEMPERATURA • SOLUCIÓN DE PROBLEMAS

Características del material

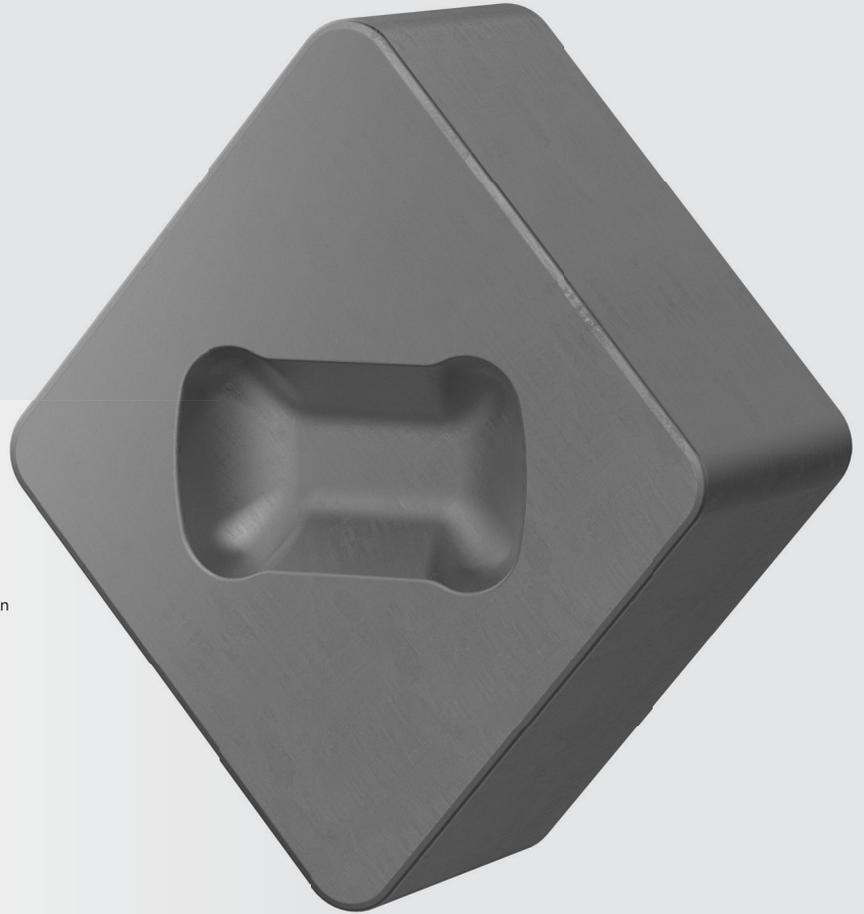
- Fuerzas altas en el filo de corte.
- Alta concentración de calor en el área de corte.
- Una alta velocidad de corte puede provocar un fallo de la plaquita por deformación plástica.
- Vida de la herramienta relativamente baja.
- Las profundidades de corte pequeñas son difíciles.
- Endurecimiento rápido.
- Normalmente abrasivo en lugar de duro.

Solución de problemas

| Problema | Solución | |
|---------------------------------------|--|---|
| Ranura de profundidad de corte | <ol style="list-style-type: none"> 1. Aumentar el ángulo de ataque del portaherramientas. 2. Utilizar calidades más duras como KC5025™ y KY4300™ en geometrías -MS, -MP y -RP o la calidad cerámica KYS30™/KYS25™. 3. Usar una profundidad de corte de 0,63 mm/0.025" o mayor. 4. La profundidad de corte debería ser superior a la capa endurecida que haya resultado del corte anterior (>0,12 mm/0.005"). 5. Programar una rampa para variar la profundidad de corte. 6. Avance superior a 0,12 mm/0.005 IPR. 7. Usar la forma de plaquita más resistente que sea posible. 8. Cuando sea posible, utilice plaquitas redondas en calidad de metal duro KCS10B™ o calidad cerámica KYS30/KYS25. 9. Reducir la profundidad a 1/7 del diámetro de la plaquita para plaquitas redondas (es decir, una profundidad de 1,90 mm/0.075" máx. para IC de 12,7 mm/1/2" RNG45). |  <p>Ranura de profundidad de corte</p> |
| Recrecimiento del filo | <ol style="list-style-type: none"> 1. Aumentar la velocidad. 2. Utilizar calidades KYS30 o KY4300. 3. Usar un desprendimiento positivo, calidad KCS10B con recubrimiento de PVD afilado. 4. Utilizar refrigerante para caudal. |  <p>Recrecimiento del filo</p> |
| Astillamiento | <ol style="list-style-type: none"> 1. Usar la geometría MG-MS en lugar de las geometrías MG-FS. 2. Para un corte con interrupciones, mantener la velocidad y reducir el avance. 3. Usar una calidad más resistente como KC5025. |  <p>Astillamiento</p> |

KYK10

Calidad de torneado de
cerámica para fundición



Materiales



Aplicaciones



Torneado de
diámetro exterior



Torneado de chafán



Planeado



Mandrinado



Dirección múltiple



Planeado de
diámetro interior

kennametal.com/KYK10

La calidad de torneado de cerámica KYK10 es una solución de alto rendimiento para materiales de fundición. Ideal para cortes continuos y ligeramente interrumpidos.

Al mecanizar componentes de fundición gris como discos de freno o volantes, KYK10 ofrece una gran resistencia al desgaste, tenacidad y resistencia a la fractura mejorada.

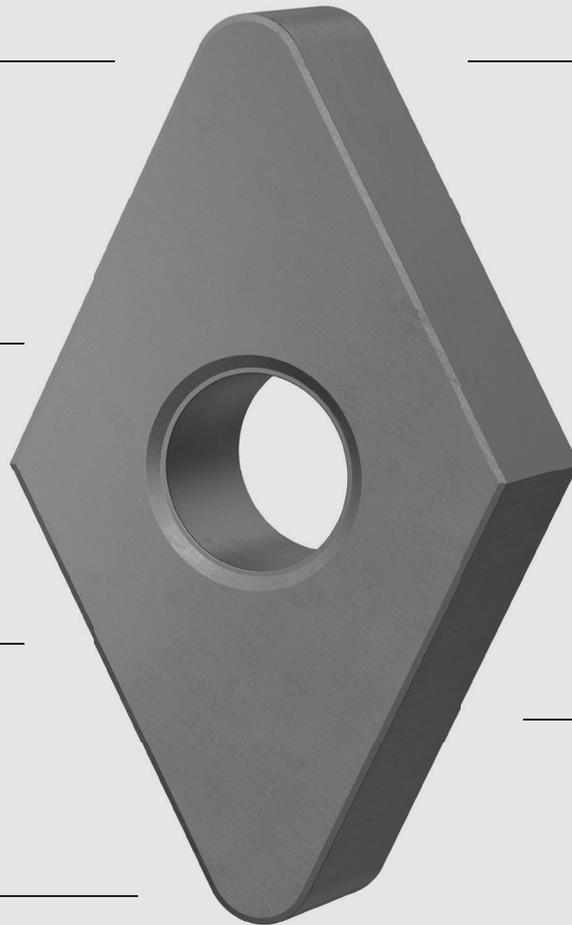
La nueva calidad de torneado de cerámica SiAlON ofrece una capacidad de velocidad un 30% mayor.

Mayor productividad gracias a las velocidades de corte máximas.

Excelente para operaciones de desbaste a acabado.

Plaquitas prensadas a medida con tolerancia M para desbaste y mecanizado medio.

Adecuado para mecanizado húmedo o seco.

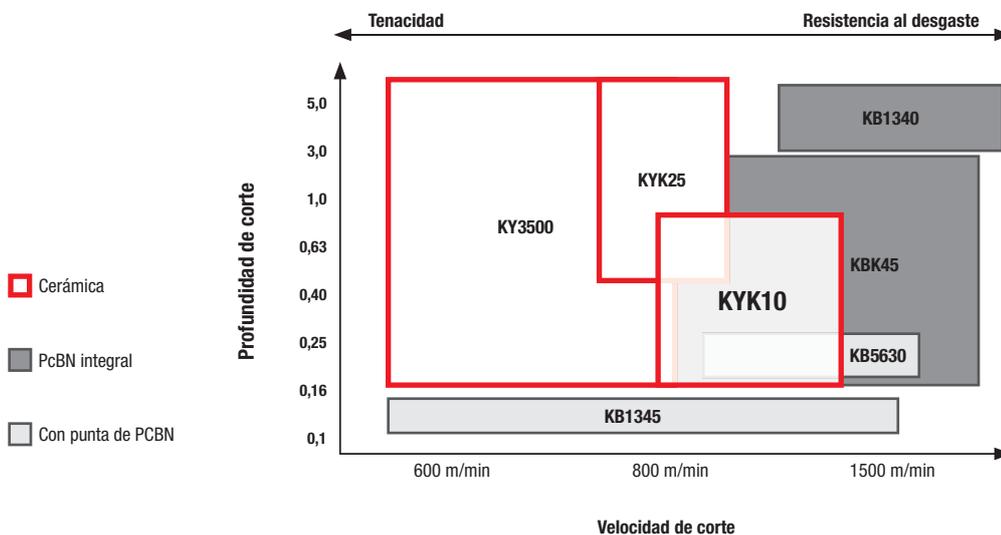


El amarre con hendidura proporciona una rigidez excepcional.

Plaquitas de rectificado de precisión con tolerancia G para aplicaciones de acabado.

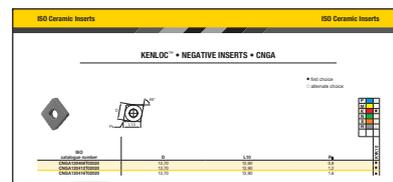
La calidad de torneado KYK10 muestra una alta resistencia química. También soporta altas temperaturas y mayores velocidades para proporcionar una mayor vida de la herramienta.

Descripción general de las calidades de fundición



PLAQUITAS ISO • SISTEMA DE NUMERACIÓN DEL CATÁLOGO

Cada carácter de nuestro número de catálogo hace referencia a un detalle específico de ese producto. Utilice las siguientes columnas de claves y las imágenes correspondientes para identificar con facilidad los atributos en cuestión.



CNGN00408T02020

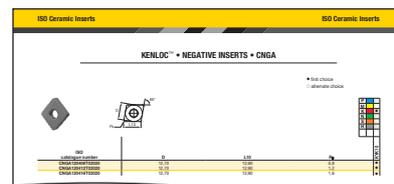
| C | N | G | N | O | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|---|---|--|-----|----|----|---|---|---|---|---|------|----|----|----|----|----|---|---|------|----|----|----|----|----|----|----|------|----|----|----|----|----|----|----|------|---|---|----|---|---|---|---|------|----|----|----|----|----|----|----|------|----|----|----|----|----|----|----|------|---|---|----|---|---|---|---|------|----|----|----|----|----|----|----|-------|---|---|----|---|---|---|---|-------|----|----|----|----|----|----|----|-------|---|---|----|---|---|---|---|-------|----|----|----|----|----|----|----|-------|----|----|----|----|----|----|----|-------|----|----|----|----|----|----|----|-------|---|---|----|---|---|---|---|-------|----|----|----|----|----|----|----|-------|----|----|----|----|----|----|----|-------|---|---|----|---|---|---|---|-------|----|----|----|----|----|----|----|-------|---|---|----|---|---|---|---|-------|----|----|----|----|----|----|----|-------|----|----|----|----|----|----|----|-------|---|---|----|---|---|---|---|
| Forma de la plaquita | Ángulo de holgura de la plaquita | Clase de tolerancia | Características de la plaquita | Tamaño | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>H Hexágono 120°</p> <p>O Octágono 135°</p> <p>P Pentágono 108°</p> <p>R Redonda—</p> <p>S Cuadrada 90°</p> <p>T Triangular 60°</p> <p>C Romboide 80°</p> <p>D 55°</p> <p>E 75°</p> <p>M 86°</p> <p>V 35°</p> <p>W Trígona 80° con mayores ángulos de esquina</p> <p>L Rectangular 90°</p> <p>A Paralelogramo 85°</p> <p>B 82°</p> <p>N/K 55°</p> | <p>A 3°</p> <p>B 5°</p> <p>C 7°</p> <p>D 15°</p> <p>E 20°</p> <p>F 25°</p> <p>G 30°</p> <p>N 0°</p> <p>P 11°</p> <p>O Para otros ángulos de holgura que requieran una descripción.</p> | <p>Las tolerancias se aplican antes de la preparación y el recubrimiento de los filos</p> <p>$R\epsilon$</p> <p>D</p> <p>B</p> <p>S</p> <p>D = diámetro teórico del círculo inscrito en la plaquita</p> <p>S = Grosor</p> <p>B = Vea las figuras que aparecen a continuación</p> | <p>N</p> <p>R</p> <p>F</p> <p>A</p> <p>M</p> <p>G</p> <p>W</p> <p>T</p> <p>Q</p> <p>U</p> <p>B</p> <p>H</p> <p>C</p> <p>J</p> <p>X Diseño especial</p> <p>V</p> | <p>Código para longitud métrica del filo de corte "L10"</p> <table border="1"> <thead> <tr> <th>"D"</th> <th>C</th> <th>D</th> <th>R</th> <th>S</th> <th>T</th> <th>V</th> <th>W</th> </tr> </thead> <tbody> <tr><td>3,97</td><td>S4</td><td>04</td><td>03</td><td>03</td><td>06</td><td>—</td><td>—</td></tr> <tr><td>4,76</td><td>04</td><td>05</td><td>04</td><td>04</td><td>08</td><td>08</td><td>S3</td></tr> <tr><td>5,56</td><td>05</td><td>06</td><td>05</td><td>05</td><td>09</td><td>09</td><td>03</td></tr> <tr><td>6,00</td><td>—</td><td>—</td><td>06</td><td>—</td><td>—</td><td>—</td><td>—</td></tr> <tr><td>6,35</td><td>06</td><td>07</td><td>06</td><td>06</td><td>11</td><td>11</td><td>04</td></tr> <tr><td>7,94</td><td>08</td><td>09</td><td>07</td><td>07</td><td>13</td><td>13</td><td>05</td></tr> <tr><td>8,00</td><td>—</td><td>—</td><td>08</td><td>—</td><td>—</td><td>—</td><td>—</td></tr> <tr><td>9,52</td><td>09</td><td>11</td><td>09</td><td>09</td><td>16</td><td>16</td><td>06</td></tr> <tr><td>10,00</td><td>—</td><td>—</td><td>10</td><td>—</td><td>—</td><td>—</td><td>—</td></tr> <tr><td>11,11</td><td>11</td><td>13</td><td>11</td><td>11</td><td>19</td><td>19</td><td>07</td></tr> <tr><td>12,00</td><td>—</td><td>—</td><td>12</td><td>—</td><td>—</td><td>—</td><td>—</td></tr> <tr><td>12,70</td><td>12</td><td>15</td><td>12</td><td>12</td><td>22</td><td>22</td><td>08</td></tr> <tr><td>14,29</td><td>14</td><td>17</td><td>14</td><td>14</td><td>24</td><td>24</td><td>09</td></tr> <tr><td>15,88</td><td>16</td><td>19</td><td>15</td><td>15</td><td>27</td><td>27</td><td>10</td></tr> <tr><td>16,00</td><td>—</td><td>—</td><td>16</td><td>—</td><td>—</td><td>—</td><td>—</td></tr> <tr><td>17,46</td><td>17</td><td>21</td><td>17</td><td>17</td><td>30</td><td>30</td><td>11</td></tr> <tr><td>19,05</td><td>19</td><td>23</td><td>19</td><td>19</td><td>33</td><td>33</td><td>13</td></tr> <tr><td>20,00</td><td>—</td><td>—</td><td>20</td><td>—</td><td>—</td><td>—</td><td>—</td></tr> <tr><td>22,22</td><td>22</td><td>27</td><td>22</td><td>22</td><td>38</td><td>38</td><td>15</td></tr> <tr><td>25,00</td><td>—</td><td>—</td><td>25</td><td>—</td><td>—</td><td>—</td><td>—</td></tr> <tr><td>25,40</td><td>25</td><td>31</td><td>25</td><td>25</td><td>44</td><td>44</td><td>17</td></tr> <tr><td>31,75</td><td>32</td><td>38</td><td>31</td><td>31</td><td>54</td><td>54</td><td>21</td></tr> <tr><td>32,00</td><td>—</td><td>—</td><td>32</td><td>—</td><td>—</td><td>—</td><td>—</td></tr> </tbody> </table> | "D" | C | D | R | S | T | V | W | 3,97 | S4 | 04 | 03 | 03 | 06 | — | — | 4,76 | 04 | 05 | 04 | 04 | 08 | 08 | S3 | 5,56 | 05 | 06 | 05 | 05 | 09 | 09 | 03 | 6,00 | — | — | 06 | — | — | — | — | 6,35 | 06 | 07 | 06 | 06 | 11 | 11 | 04 | 7,94 | 08 | 09 | 07 | 07 | 13 | 13 | 05 | 8,00 | — | — | 08 | — | — | — | — | 9,52 | 09 | 11 | 09 | 09 | 16 | 16 | 06 | 10,00 | — | — | 10 | — | — | — | — | 11,11 | 11 | 13 | 11 | 11 | 19 | 19 | 07 | 12,00 | — | — | 12 | — | — | — | — | 12,70 | 12 | 15 | 12 | 12 | 22 | 22 | 08 | 14,29 | 14 | 17 | 14 | 14 | 24 | 24 | 09 | 15,88 | 16 | 19 | 15 | 15 | 27 | 27 | 10 | 16,00 | — | — | 16 | — | — | — | — | 17,46 | 17 | 21 | 17 | 17 | 30 | 30 | 11 | 19,05 | 19 | 23 | 19 | 19 | 33 | 33 | 13 | 20,00 | — | — | 20 | — | — | — | — | 22,22 | 22 | 27 | 22 | 22 | 38 | 38 | 15 | 25,00 | — | — | 25 | — | — | — | — | 25,40 | 25 | 31 | 25 | 25 | 44 | 44 | 17 | 31,75 | 32 | 38 | 31 | 31 | 54 | 54 | 21 | 32,00 | — | — | 32 | — | — | — | — |
| "D" | C | D | R | S | T | V | W | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 12,70 | 12 | 15 | 12 | 12 | 22 | 22 | 08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14,29 | 14 | 17 | 14 | 14 | 24 | 24 | 09 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15,88 | 16 | 19 | 15 | 15 | 27 | 27 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 17,46 | 17 | 21 | 17 | 17 | 30 | 30 | 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19,05 | 19 | 23 | 19 | 19 | 33 | 33 | 13 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 22,22 | 22 | 27 | 22 | 22 | 38 | 38 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 25,40 | 25 | 31 | 25 | 25 | 44 | 44 | 17 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31,75 | 32 | 38 | 31 | 31 | 54 | 54 | 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| clase de tolerancia* | tolerancia en "D" | tolerancia en "B" | tolerancia en "S" |
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| C | ±0,025 | ±0,013 | ±0,025 |
| H | ±0,013 | ±0,013 | ±0,025 |
| E | ±0,025 | ±0,025 | ±0,025 |
| G | ±0,025 | ±0,025 | ±0,013 |
| M | Consulte las tablas de la página siguiente | | ±0,013 |
| U | Consulte las tablas de la página siguiente | | ±0,013 |

* Las tolerancias se aplican antes de la preparación y el recubrimiento de los filos.

PLAQUITAS ISO • SISTEMA DE NUMERACIÓN DEL CATÁLOGO

(continuación)



CNGN00408T020

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|--|--|---|-----------------------------|--------------------------------------|---------------------------------------|--|----------------------------|------|----|----------------|----|-----------|----|------------|----|-------------|----|------|----|------|----|------|----|------|----|------|----|------|----|-------|----|-------|---|---------|---------------------|----|----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|---------------------|----|--|--|--|--|---------|--------|-----|----|-----|------|-----|-----|--|---------|--------|----|-----|----|-----|----|-----|----|-----|----|-----|--|
| Grosor "S" | Radio de esquina "R _e " | Dirección de la plaquita (opcional) | Filo de corte (opcional) | Ancho de bisel en T (opcional) | Ángulo de bisel en T (opcional) | Estilo de punta (opcional) | Rompevirutas (opcional) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>simbolo</th> <th>grosor</th> </tr> <tr> <th>mm</th> <th>mm</th> </tr> </thead> <tbody> <tr><td>—</td><td>0,79</td></tr> <tr><td>T0</td><td>1,00</td></tr> <tr><td>01</td><td>11,59</td></tr> <tr><td>T1</td><td>1,98</td></tr> <tr><td>02</td><td>2,38</td></tr> <tr><td>03</td><td>3,18</td></tr> <tr><td>T3</td><td>3,97</td></tr> <tr><td>04</td><td>4,76</td></tr> <tr><td>05</td><td>5,56</td></tr> <tr><td>06</td><td>6,35</td></tr> <tr><td>07</td><td>7,94</td></tr> <tr><td>09</td><td>9,52</td></tr> <tr><td>11</td><td>11,11</td></tr> <tr><td>12</td><td>12,70</td></tr> </tbody> </table> | simbolo | grosor | mm | mm | — | 0,79 | T0 | 1,00 | 01 | 11,59 | T1 | 1,98 | 02 | 2,38 | 03 | 3,18 | T3 | 3,97 | 04 | 4,76 | 05 | 5,56 | 06 | 6,35 | 07 | 7,94 | 09 | 9,52 | 11 | 11,11 | 12 | 12,70 | <table border="1"> <thead> <tr> <th>simbolo</th> <th>radio de esquina</th> </tr> <tr> <th>mm</th> <th>mm</th> </tr> </thead> <tbody> <tr><td>X0</td><td>0,4</td></tr> <tr><td>01</td><td>0,1</td></tr> <tr><td>02</td><td>0,2</td></tr> <tr><td>04</td><td>0,4</td></tr> <tr><td>08</td><td>0,8</td></tr> <tr><td>12</td><td>1,2</td></tr> <tr><td>16</td><td>1,6</td></tr> <tr><td>20</td><td>2,0</td></tr> <tr><td>24</td><td>2,4</td></tr> <tr><td>28</td><td>2,8</td></tr> <tr><td>32</td><td>3,2</td></tr> <tr><td>00</td><td>plaquita redonda</td></tr> <tr><td>M0</td><td></td></tr> </tbody> </table> | simbolo | radio de esquina | mm | mm | X0 | 0,4 | 01 | 0,1 | 02 | 0,2 | 04 | 0,4 | 08 | 0,8 | 12 | 1,2 | 16 | 1,6 | 20 | 2,0 | 24 | 2,4 | 28 | 2,8 | 32 | 3,2 | 00 | plaquita redonda | M0 | | <p>R = A derechas</p> <p>L = A izquierdas</p> <p>N = Neutro</p> | <p>F*</p> <p>Afilado</p> <p>E</p> <p>Redondeado</p> <p>T*</p> <p>Biselado</p> <p>S*</p> <p>Biselado y redondeado</p> <p>K</p> <p>Biselado doble</p> <p>P</p> <p>Biselado doble y redondeado</p> <p>* También disponible en estilo rascadora.</p> | <table border="1"> <thead> <tr> <th>simbolo</th> <th>tamaño</th> </tr> <tr> <th>ISO</th> <th>mm</th> </tr> </thead> <tbody> <tr><td>010</td><td>0,01</td></tr> <tr><td>020</td><td>0,2</td></tr> </tbody> </table> | simbolo | tamaño | ISO | mm | 010 | 0,01 | 020 | 0,2 | <table border="1"> <thead> <tr> <th>simbolo</th> <th>tamaño</th> </tr> </thead> <tbody> <tr><td>10</td><td>10°</td></tr> <tr><td>15</td><td>15°</td></tr> <tr><td>20</td><td>20°</td></tr> <tr><td>25</td><td>25°</td></tr> <tr><td>30</td><td>30°</td></tr> </tbody> </table> | simbolo | tamaño | 10 | 10° | 15 | 15° | 20 | 20° | 25 | 25° | 30 | 30° | <p>FW = Rascadora de acabado</p> <p>MW = Rascadora media</p> |
| simbolo | grosor | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| mm | mm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| — | 0,79 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T0 | 1,00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 01 | 11,59 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T1 | 1,98 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 02 | 2,38 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 03 | 3,18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T3 | 3,97 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 04 | 4,76 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 05 | 5,56 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 06 | 6,35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 07 | 7,94 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 09 | 9,52 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | 11,11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | 12,70 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| simbolo | radio de esquina | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| mm | mm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| X0 | 0,4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 01 | 0,1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 02 | 0,2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 04 | 0,4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 08 | 0,8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | 1,2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | 1,6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 2,0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | 2,4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | 2,8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32 | 3,2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 00 | plaquita redonda | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| simbolo | tamaño | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ISO | mm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 010 | 0,01 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 020 | 0,2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| simbolo | tamaño | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 10° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 15° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 20° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | 25° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | 30° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | <table border="1"> <thead> <tr> <th>simbolo</th> <th>uso</th> </tr> </thead> <tbody> <tr><td>C</td><td>punta completa</td></tr> <tr><td>M</td><td>minipunta</td></tr> <tr><td>MT</td><td>multipunta</td></tr> <tr><td>ST</td><td>punta única</td></tr> </tbody> </table> | simbolo | uso | C | punta completa | M | minipunta | MT | multipunta | ST | punta única | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| simbolo | uso | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C | punta completa | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M | minipunta | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MT | multipunta | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ST | punta única | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

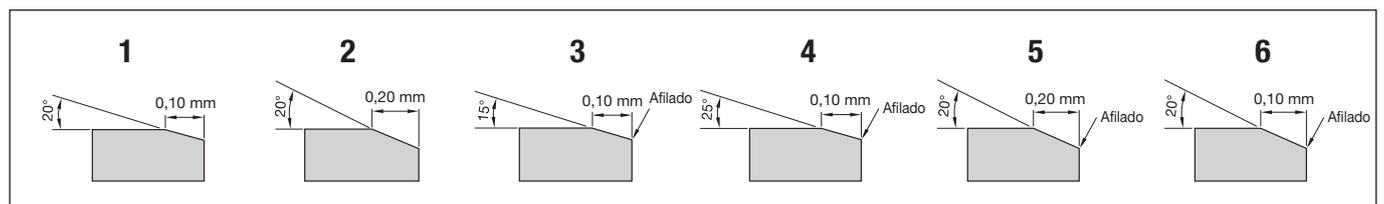
| "D" | ± Tolerancia en "D" | | | | "D" | ± Tolerancia en "B" | | | |
|-------|-----------------------|---------|---------|-----------------------|-------|-----------------------|---------|---------|-----------------------|
| | Tolerancia de clase M | | | Tolerancia de clase U | | Tolerancia de clase M | | | Tolerancia de clase U |
| | Formas S, T, C, R y W | Forma D | Forma V | Formas S, T y C | | Formas S, T, C, R y W | Forma D | Forma V | Formas S, T y C |
| mm | mm | mm | mm | mm | mm | mm | mm | mm | |
| 3,97 | 0,05 | — | — | — | 3,97 | 0,08 | — | — | — |
| 4,76 | 0,05 | — | — | 0,08 | 4,76 | 0,08 | — | — | 0,13 |
| 5,56 | 0,05 | 0,05 | 0,05 | 0,08 | 5,56 | 0,08 | 0,11 | — | 0,13 |
| 6,35 | 0,05 | 0,05 | 0,05 | 0,08 | 6,35 | 0,08 | 0,11 | — | 0,13 |
| 7,94 | 0,05 | 0,05 | 0,05 | 0,08 | 7,94 | 0,08 | 0,11 | — | 0,13 |
| 9,52 | 0,05 | 0,05 | 0,05 | 0,08 | 9,52 | 0,08 | 0,11 | 0,18 | 0,13 |
| 11,11 | 0,08 | 0,08 | 0,08 | 0,13 | 11,11 | 0,13 | 0,15 | — | — |
| 12,70 | 0,08 | 0,08 | 0,08 | 0,13 | 12,70 | 0,13 | 0,15 | 0,25 | 0,20 |
| 14,29 | 0,08 | 0,08 | 0,08 | 0,13 | 14,29 | 0,13 | 0,15 | — | — |
| 15,88 | 0,10 | 0,10 | 0,10 | 0,18 | 15,88 | 0,15 | 0,18 | — | 0,27 |
| 17,46 | 0,10 | 0,10 | 0,10 | 0,18 | 17,46 | 0,15 | 0,18 | — | 0,27 |
| 19,05 | 0,10 | 0,10 | 0,10 | 0,18 | 19,05 | 0,15 | 0,18 | — | 0,27 |
| 22,22 | 0,13 | — | — | 0,25 | 22,22 | 0,15 | — | — | 0,38 |
| 25,40 | 0,13 | — | — | 0,25 | 25,40 | 0,18 | — | — | 0,38 |
| 31,75 | 0,15 | — | — | 0,25 | 31,75 | 0,20 | — | — | 0,38 |

FUNDICIÓN • GUÍA DE SELECCIÓN DE HERRAMIENTAS

← Tenacidad Resistencia al desgaste →

| Geometría | Plaquitas cerámicas | | | | | | | | | | | | |
|--|---------------------|----------|--------|--------|----------|--------|--------|--------|----------|--------|--------|--------|----------|
| | KY3500 | | | | | KYK25 | | | | KYK10 | | | |
| | GX | | GN | GA | | GX | GN | GA | | GX | GN | GA | |
| Perfil <i>*Consulte la parte inferior de la página</i> | 2 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 1 |
| Rigidez de sujeción | ■■■■ | ■■■ | ■■ | ■ | ■ | ■■■■ | ■■■ | ■■ | ■ | ■■■■ | ■■■ | ■■ | ■ |
| Preparación del filo | T02020 | T01020FW | T02020 | T02020 | T01020FW | T02020 | T02020 | T02020 | T01020FW | T02020 | T02020 | T02020 | T01020FW |
| Bisel T | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Rectificado | | | | | | | | | | | | | |
| Rascador | | ✓ | | | ✓ | | | | ✓ | | | | ✓ |
| Aplicación | | | | | | | | | | | | | |
| Desbaste intensivo | ● | | ● | | | ● | ● | | | ○ | ○ | | |
| Desbaste | ● | ○ | ● | ● | | ● | ● | ● | | ● | ● | ● | |
| Mecanizado medio | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Acabado | | ○ | ○ | ○ | ● | ○ | ○ | ○ | ● | ○ | ○ | ○ | ● |
| Acabado fino | | | | | | | | | | | | | |
| Condición de corte | | | | | | | | | | | | | |
| Corte muy interrumpido | ● | | ● | | | ● | ● | | | ○ | ○ | | |
| Corte ligeramente interrumpido | ● | ○ | ● | ● | ○ | ● | ● | ● | ○ | ● | ● | ● | ○ |
| Profundidad de corte variable, costras de función o forja | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Corte suave, superficie pretorneada | ○ | ● | ○ | ○ | ● | ○ | ○ | ○ | ● | ● | ● | ● | ● |

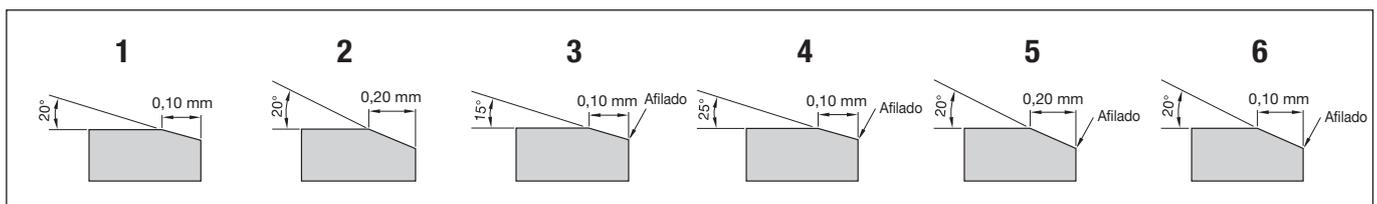
- primera opción
- opción alternativa



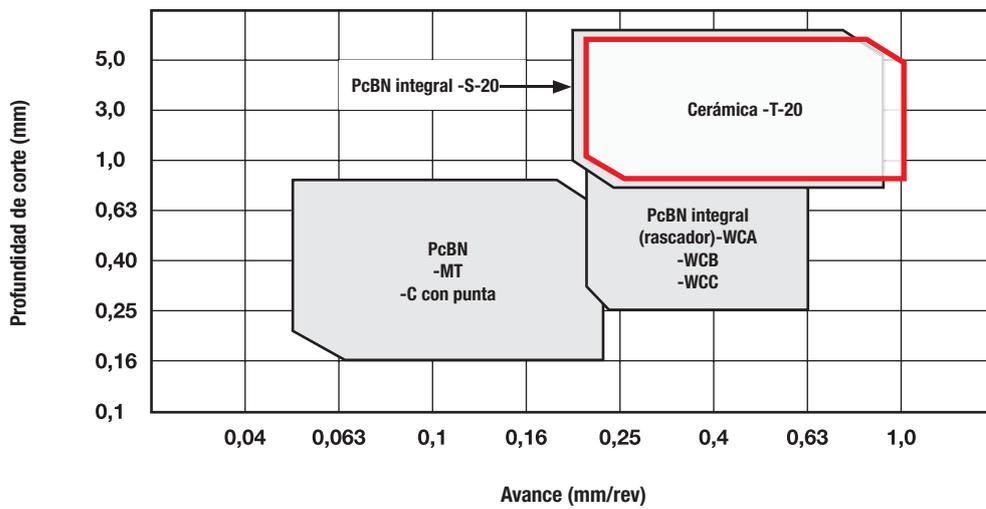
FUNDICIÓN • GUÍA DE SELECCIÓN DE HERRAMIENTAS

| | ← Tenacidad | | | | | | Resistencia al desgaste → | | |
|--|------------------------------|--------|-----------|--------|--------|----------|---------------------------|----------|--------|
| | Plaquitas de PCBN integrales | | | | | | Plaquitas PcBN con punta | | |
| | KBK45 | | | KB1340 | | | KB5630 | KB1345 | |
| Geometría | GX | GN | | GX | | | GA | | GA |
| Perfil *Consulte la parte inferior de la página | 5 | 5 | 3 | 5 | 3 | 3 | 4 | 3 | 6 |
| Rigidez de sujeción | ■■■■ | ■■■ | ■■■ | ■■■■ | ■■■■ | ■■■■ | ■ | ■ | ■ |
| Preparación del filo | S02020 | S02020 | S01015W.. | S02020 | S01015 | S01015FW | S01025 | S01025FW | S01020 |
| Bisel T | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Rectificado | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Rascador | | | ✓ | | | ✓ | | ✓ | |
| Aplicación | | | | | | | | | |
| Desbaste intensivo | ● | ● | | ● | | | | | |
| Desbaste | ● | ● | ○ | ● | ○ | | ○ | | |
| Mecanizado medio | ● | ● | ● | ● | ● | ● | ● | ○ | ○ |
| Acabado | ○ | ○ | ● | ○ | ○ | ● | ● | ● | ● |
| Acabado fino | | | ○ | | | ○ | ○ | ● | ● |
| Condición de corte | | | | | | | | | |
| Corte muy interrumpido | ● | ● | ○ | ● | ● | ○ | ○ | | |
| Corte ligeramente interrumpido | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Profundidad de corte variable, costras de función o forja | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Corte suave, superficie pretorneada | ● | ● | ● | ● | ● | ● | ● | ● | ● |

- primera opción
- opción alternativa



FUNDICIÓN • DATOS DE APLICACIÓN • AVANCE

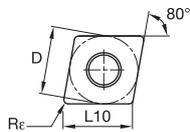
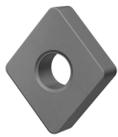


FUNDICIÓN • DATOS DE APLICACIÓN • VELOCIDAD

| grupo de mate- riales | calidad | Velocidad – m/min | | | | | | | | | | | | Condiciones iniciales | |
|--------------------------|---------|-------------------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|-----------------------|-------|
| | | 60 | 180 | 305 | 430 | 550 | 675 | 800 | 920 | 1040 | 1160 | 1290 | 1400 | 1530 | m/min |
| K1 | KY3500 | | | | | | | | | | | | | | 700 |
| | KYK25 | | | | | | | | | | | | | | 700 |
| | KYK10 | | | | | | | | | | | | | | 800 |
| | KBK45 | | | | | | | | | | | | | | 1000 |
| | KB1340 | | | | | | | | | | | | | | 1000 |
| | KB5630 | | | | | | | | | | | | | | 800 |
| | KB1345 | | | | | | | | | | | | | | 800 |

KENLOC™ • PLAQUITAS NEGATIVAS • CNGA

- primera opción
- opción alternativa

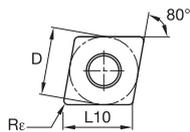
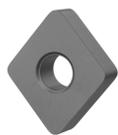


| | |
|---|-----|
| P | ■ |
| M | ■ |
| K | ■ ● |
| N | ■ |
| S | ■ |
| H | ■ |

| número de catálogo ISO | D | L10 | Re | |
|------------------------|-------|-------|-----|---|
| CNGA120408T02020 | 12,70 | 12,90 | 0,8 | ● |
| CNGA120412T02020 | 12,70 | 12,90 | 1,2 | ● |
| CNGA120416T02020 | 12,70 | 12,90 | 1,6 | ● |

KENLOC • PLAQUITAS NEGATIVAS • CNGA-FW

- primera opción
- opción alternativa

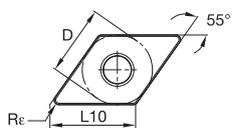


| | |
|---|-----|
| P | ■ |
| M | ■ |
| K | ■ ● |
| N | ■ |
| S | ■ |
| H | ■ |

| número de catálogo ISO | D | L10 | Re | |
|------------------------|-------|-------|-----|---|
| CNGA120412T01020FW | 12,70 | 12,90 | 1,2 | ● |

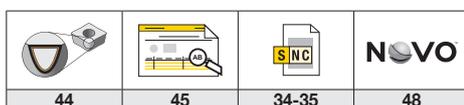
KENLOC • PLAQUITAS NEGATIVAS • DNGA

- primera opción
- opción alternativa



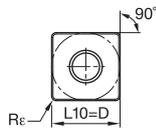
| | |
|---|-----|
| P | ■ |
| M | ■ |
| K | ■ ● |
| N | ■ |
| S | ■ |
| H | ■ |

| número de catálogo ISO | D | L10 | Re | |
|------------------------|-------|-------|-----|---|
| DNGA150416T02020 | 12,70 | 15,50 | 1,6 | ● |



KENLOC™ • PLAQUITAS NEGATIVAS • SNGA

- primera opción
- opción alternativa

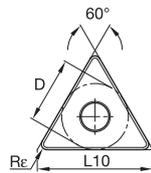


| | | |
|---|---|---|
| P | ■ | |
| M | ■ | |
| K | ■ | ● |
| N | ■ | |
| S | ■ | |
| H | ■ | |
| | ■ | |

| | | | | |
|--|------------|--------------|-----------|---------|
| número de catálogo ISO SNGA120408T02020 | D 12,70 | L10 12,70 | Rε 0,8 | ● KYK10 |
|--|------------|--------------|-----------|---------|

KENLOC • PLAQUITAS NEGATIVAS • TNGA

- primera opción
- opción alternativa



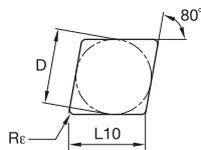
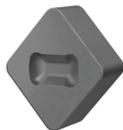
| | | |
|---|---|---|
| P | ■ | |
| M | ■ | |
| K | ■ | ● |
| N | ■ | |
| S | ■ | |
| H | ■ | |
| | ■ | |

| | | | | |
|--|-----------|--------------|-----------|---------|
| número de catálogo ISO TNGA160408T02020 | D 9,53 | L10 16,50 | Rε 0,8 | ● KYK10 |
|--|-----------|--------------|-----------|---------|

| | | | |
|----|----|-------|----|
| | | | |
| 44 | 45 | 34-35 | 48 |

KENDEX™ • PLAQUITAS NEGATIVAS • CNGX

- primera opción
- opción alternativa

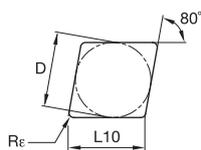


| | |
|---|---|
| P | ■ |
| M | ■ |
| K | ● |
| N | ■ |
| S | ■ |
| H | ■ |
| | ■ |

| número de catálogo ISO | D | L10 | Rε | |
|------------------------|-------|-------|-----|---|
| CNGX120712T02020 | 12,70 | 12,90 | 1,2 | ● |
| CNGX120716T02020 | 12,70 | 12,90 | 1,6 | ● |

KENDEX • PLAQUITAS NEGATIVAS • CNMN

- primera opción
- opción alternativa

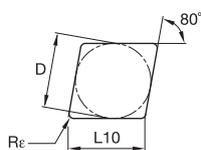
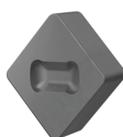


| | |
|---|---|
| P | ■ |
| M | ■ |
| K | ● |
| N | ■ |
| S | ■ |
| H | ■ |
| | ■ |

| número de catálogo ISO | D | L10 | Rε | |
|------------------------|-------|-------|-----|---|
| CNMN120412T02020 | 12,70 | 12,90 | 1,2 | ● |
| CNMN120416T02020 | 12,70 | 12,90 | 1,6 | ● |

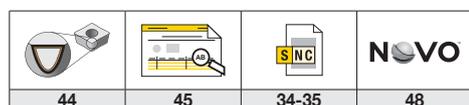
KENDEX • PLAQUITAS NEGATIVAS • CNMX

- primera opción
- opción alternativa



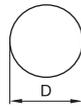
| | |
|---|---|
| P | ■ |
| M | ■ |
| K | ● |
| N | ■ |
| S | ■ |
| H | ■ |
| | ■ |

| número de catálogo ISO | D | L10 | Rε | |
|------------------------|-------|-------|-----|---|
| CNMX120712T02020 | 12,70 | 12,90 | 1,2 | ● |
| CNMX120716T02020 | 12,70 | 12,90 | 1,6 | ● |



KENDEX™ • PLAQUITAS NEGATIVAS • RNGN

- primera opción
- opción alternativa

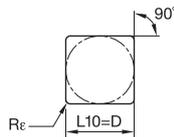


| | | |
|---|---|---|
| P | ■ | |
| M | ■ | |
| K | ■ | ● |
| N | ■ | |
| S | ■ | |
| H | ■ | |

| número de catálogo ISO | D | L10 | Re | KYK10 |
|------------------------|-------|-----|----|-------|
| RNGN120400T02020 | 12,70 | — | — | ● |

KENDEX • PLAQUITAS NEGATIVAS • SNGX

- primera opción
- opción alternativa

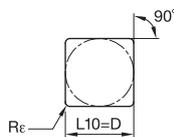


| | | |
|---|---|---|
| P | ■ | |
| M | ■ | |
| K | ■ | ● |
| N | ■ | |
| S | ■ | |
| H | ■ | |

| número de catálogo ISO | D | L10 | Re | KYK10 |
|------------------------|-------|-------|-----|-------|
| SNGX120712T02020 | 12,70 | 12,70 | 1,2 | ● |
| SNGX120716T02020 | 12,70 | 12,70 | 1,6 | ● |
| SNGX150724T02020 | 15,88 | 15,88 | 2,4 | ● |

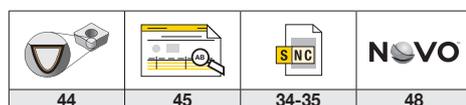
KENDEX • PLAQUITAS NEGATIVAS • SNMN

- primera opción
- opción alternativa



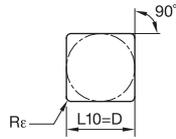
| | | |
|---|---|---|
| P | ■ | |
| M | ■ | |
| K | ■ | ● |
| N | ■ | |
| S | ■ | |
| H | ■ | |

| número de catálogo ISO | D | L10 | Re | KYK10 |
|------------------------|-------|-------|-----|-------|
| SNMN120412T02020 | 12,70 | 12,70 | 1,2 | ● |
| SNMN120416T02020 | 12,70 | 12,70 | 1,6 | ● |



KENDEX™ • PLAQUITAS NEGATIVAS • SNMX

- primera opción
- opción alternativa



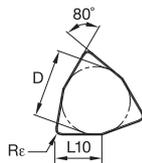
| | | |
|---|---|---|
| P | ■ | |
| M | ■ | |
| K | ■ | ● |
| N | ■ | |
| S | ■ | |
| H | ■ | |
| | | |

KYK10

| número de catálogo ISO | D | L10 | Re | |
|------------------------|-------|-------|-----|---|
| SNMX120712T02020 | 12,70 | 12,70 | 1,2 | ● |
| SNMX120716T02020 | 12,70 | 12,70 | 1,6 | ● |

KENDEX • PLAQUITAS NEGATIVAS • WNGX

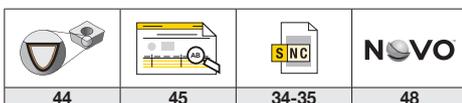
- primera opción
- opción alternativa



| | | |
|---|---|---|
| P | ■ | |
| M | ■ | |
| K | ■ | ● |
| N | ■ | |
| S | ■ | |
| H | ■ | |
| | | |

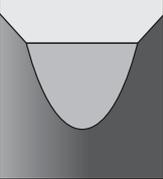
KYK10

| número de catálogo ISO | D | L10 | Re | |
|------------------------|-------|------|-----|---|
| WNGX080712T02020 | 12,70 | 8,69 | 1,2 | ● |

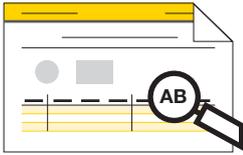


TORNEADO

resistencia al desgaste ← → tenacidad

| Recubrimiento | | Descripción de la calidad | | 05 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | | |
|---------------|---|---|---|----|----|----|----|----|----|----|----|----|--|--|
| KYK10 |  | Composición: Una calidad cerámica SiAlON avanzada. Aplicación: Proporciona la máxima resistencia al desgaste. Se usa para el torneado continuo de alta velocidad de fundición gris, incluyendo el descascarillado. Para utilizar con maquinabilidad de fundición variable. | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | K | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| KCS10B |  | Composición: Recubrimiento de PVD-AlTiN con una superficie de recubrimiento muy suave y sustrato de metal duro de grano ultrafino extremadamente duro y resistente al desgaste. Aplicación: La calidad KCS10B™ es ideal para operaciones de mecanizado medio y acabado de aleaciones de alta temperatura con base de níquel, cobalto y hierro. El sustrato de metal duro extremadamente duro y resistente al desgaste permite una vida más prolongada de la herramienta, mientras que el sustrato de metal duro de grano ultrafino y el recubrimiento más suave reducen la fricción. | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | S | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

CLAVE PARA ENCABEZADOS DE COLUMNA DE TABLA DE PRODUCTOS



Es posible que note un ligero cambio en el aspecto de nuestras tablas de productos y tablas de especificaciones. En este catálogo, Kennametal presenta un conjunto de códigos de nombre corto para mejorar la legibilidad de tablas y dibujos. Estos códigos sustituyen a las descripciones de texto completo. La lista completa de códigos y sus definiciones se puede encontrar a continuación.

| Código abreviado | Descripción completa |
|------------------|------------------------------------|
| D | Plaquita: Tamaño IC plaquita |
| L10 | Longitud filo de corte de plaquita |
| M | Dimensión calibre plaquita |
| Re | Radio esquina |
| S | Grosor de plaquita |

| | |
|----------|------------------|
| P | Acero |
| M | Acero inoxidable |
| K | Fundición |

| | |
|----------|--------------------------------|
| N | Materiales no ferrosos |
| S | Aleaciones de alta temperatura |

| | |
|----------|------------------------|
| H | Materiales endurecidos |
| C | Materiales CFRP |

| grupo de material | descripción | contenido | resistencia a la tensión RM (MPa)* | dureza (HB) | dureza (HRC) | número de material |
|-------------------|--|-----------|------------------------------------|-------------|--------------|---|
| P0 | Aceros con bajo contenido de carbono, virutas largas | C <0,25% | <530 | <125 | – | – |
| P1 | Aceros con bajo contenido de carbono, virutas cortas, mecanizado libre | C <0,25% | <530 | <125 | – | C15, Ck22, ST37-2, S235JR, 9SMnPb28, GS38 |
| P2 | Aceros al carbono medios y altos | C >0,25% | >530 | <220 | <25 | ST52, S355JR, C35, GS60, Cf53 |
| P3 | Aceros aleados y aceros para herramientas | C >0,25% | 600–850 | <330 | <35 | 16MnCr5, Ck45, 21CrMoV5-7, 38SMn28 |
| P4 | Aceros aleados y aceros para herramientas | C >0,25% | 850–1400 | 340–450 | 35–48 | 100Cr6, 30CrNiMo8, 42CrMo4, C70W2, S6525, X120Mn12 |
| P5 | Aceros ferríticos, martensíticos e inoxidables PH | – | 600–900 | <330 | <35 | 100Cr6, 30CrNiMo8, 42CrMo4, C70W2, S6525, X120Mn12 |
| P6 | Aceros ferríticos, martensíticos e inoxidables PH de alta resistencia | – | 900–1350 | 350–450 | 35–48 | X102CrMo17, G-X120Cr29 |
| M1 | Acero inoxidable austenítico | – | <600 | 130–200 | – | X5CrNi 18 10, X2CrNiMo 17 13 2, G-X25CrNiSi18 9, X15CrNiSi 20 12 |
| M2 | Aceros inoxidables austeníticos y fundidos de alta resistencia | – | 600–800 | 150–230 | <25 | X2CrNiMo 13 4, X5NiCr 32 21, X5CrNiNb 18 10, G-X15CrNi 25-20 |
| M3 | Acero inoxidable dúplex | – | <800 | 135–275 | <30 | X8CrNiMo27 5, X2CrNiMoN22 5 3, X20CrNiSi25 4, G-X40CrNiSi27 4 |
| K1 | Fundición gris | – | 125–500 | 120–290 | <32 | GG15, GG25, GG30, GG40, GTW40 |
| K2 | Hierros dúctiles de resistencia media y baja (hierros nodulares) y hierros de grafito compactado (CGI) | – | <600 | 130–260 | <28 | GGG40, GTS35 |
| K3 | Hierros dúctiles de alta resistencia y hierro dúctil templado (ADI) | – | >600 | 180–350 | <43 | GGG60, GTW55, GTS65 |
| N1 | Aluminio forjado | – | – | – | – | AlMg1, Al99.5, AlCuMg1, AlCuBiPb, AlMgSi1, AlMgSiPb |
| N2 | Aleaciones de aluminio bajo en silicio y aleaciones de magnesio | Si <12,2% | – | – | – | GAISIcU4, GDAISI10Mg |
| N3 | Aleaciones de aluminio con alto contenido en silicio y aleaciones de magnesio | Si >12,2% | – | – | – | G-ALSI12, G-ALSI17Cu4, G-ALSI21CuNiMg |
| N4 | Base de cobre, latón, zinc en un rango de índice de maquinabilidad de 70–100 | – | – | – | – | CuZn40, Ms60, G-CuSn5ZnPb, CuZn37, CuSi3Mn |
| N5 | Nylon, plásticos, gomas, fenólicos, resinas y fibra de vidrio | – | – | – | – | Lexan®, Hostalen™, Polystyrol, Makrolon |
| N6 | Carbono, compuestos de grafito, CFRP | – | – | – | – | CFK, GFK |
| N7 | Compuestos de matriz metálica (MMC) | – | – | – | – | – |
| S1 | Aleaciones basadas en hierro, resistentes al calor | – | 500–1200 | 160–260 | 25–48 | X1NiCrMoCu32 28 7, X12NiCrSi36 16, X5NiCrAlTi31 20, X40CoCrNi20 20 |
| S2 | Aleaciones basadas en cobalto, resistentes al calor | – | 1000–1450 | 250–450 | 25–48 | Haynes® 188, Stellite® 6,21,31 |
| S3 | Aleaciones basadas en níquel, resistentes al calor | – | 600–1700 | 160–450 | <48 | INCONEL® 690, INCONEL 625, Hastelloy®, NIMONIC® 75 |
| S4 | Titanio y aleaciones de titanio | – | 900–1600 | 300–400 | 33–48 | Ti1, TiAl5Sn2, TiAl6V4, TiAl4Mo4Sn2 |
| H1 | Materiales endurecidos | – | – | – | 44–48 | GX260NiCr42, GX330NiCr42, GX300CrNiSi952, GX300CrMo153, Hardox® 400 |
| H2 | Materiales endurecidos | – | – | – | 48–55 | – |
| H3 | Materiales endurecidos | – | – | – | 56–60 | – |
| H4 | Materiales endurecidos | – | – | – | >60 | – |
| C1 | CFRP, CFRP/CFRP | – | – | – | – | – |
| C2 | CFRP/materiales no ferrosos | – | – | – | – | – |
| C3 | CFRP/alta temperatura | – | – | – | – | – |
| C4 | CFRP/Acero inoxidable | – | – | – | – | – |
| C5 | CFRP/materiales no ferrosos/alta temperatura | – | – | – | – | – |

NOVO™



**Acceda digitalmente y saque provecho de la información
y los datos de los productos para conectar sistemas y procesos
durante todo el ciclo de fabricación.**

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SEGURIDAD PARA EL CORTE DEL METAL

INSTRUCCIONES DE SEGURIDAD IMPORTANTES

Léalas antes de utilizar las herramientas de este catálogo.

Peligros de partículas expulsadas y fragmentación:

Las operaciones modernas de corte de metal implican velocidades de fresa y husillo elevadas y temperaturas y fuerzas de corte altas. Durante las operaciones de corte de metal, es posible que se desprendan virutas metálicas calientes de la pieza de trabajo. Aunque las herramientas de corte se han diseñado y fabricado para aguantar altas fuerzas y temperaturas de corte, en ocasiones se pueden fragmentar, especialmente si están sometidas a una tensión excesiva, golpes fuertes o cualquier otro abuso.

Para evitar daños personales:

- Use siempre un equipo de protección personal adecuado, incluidas gafas de seguridad, cuando utilice máquinas de corte de metal o trabaje cerca de ellas.
- Asegúrese siempre de que estén instaladas todas las protecciones de la máquina.

Peligro de inhalación y de contacto con la piel:

El rectificado del metal duro u otros materiales avanzados de herramientas de corte producen polvo o neblinas que contienen partículas metálicas. Si se respira este polvo o neblina, especialmente durante un período prolongado, pueden desarrollarse enfermedades pulmonares permanentes o temporales o empeorar el estado de salud existente. El contacto con este polvo o neblina puede irritar los ojos, la piel y las membranas mucosas y puede hacer que las enfermedades de la piel empeoren.

Para evitar daños personales:

- Utilice siempre mascarillas de protección para respirar y gafas de seguridad durante el rectificado.
- Controle la ventilación y recoja y elimine adecuadamente el polvo, neblina o sedimentos derivados del rectificado.
- Evite el contacto de la piel con polvo o neblina.

Para obtener más información, lea la Hoja de Datos de Seguridad de Materiales, suministrada por Kennametal y consulte la Normativa de salud e higiene general del sector, parte 1910, título 29 del Código de normativa federal.

Estas instrucciones de seguridad son indicaciones generales. Existe una gran cantidad de variables que afectan a las operaciones de mecanizado. Es imposible cubrir todas las situaciones específicas. Es posible que la información técnica incluida en este catálogo y las recomendaciones sobre las prácticas de mecanizado no sean válidas para su operación concreta. Para obtener más información, consulte el folleto Seguridad en corte de metal de Kennametal, disponible de forma gratuita llamando a Kennametal al 724 539 5747 o por fax al 724 539 5439. Si tiene preguntas específicas sobre la seguridad del producto y política medioambiental, póngase en contacto con la Oficina corporativa de seguridad y salud medioambiental llamando al 724 539 5066 o enviando un fax al 724 539 5372.

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