

**A**

Turning

**B**

Milling

**C**

Drilling

**D**

Technical Information

**E**

Index

- Ideal machining conditions
- ● Normal machining conditions
- ● ● Unfavourable machining conditions

| SNMG         | L      | I.C    | S    | d    |
|--------------|--------|--------|------|------|
| <b>09 03</b> | 9.525  | 9.525  | 3.18 | 3.81 |
| <b>12 04</b> | 12.7   | 12.7   | 4.76 | 5.16 |
| <b>15 06</b> | 15.875 | 15.875 | 6.35 | 6.35 |

## Turning inserts

| SN** negative insert |     |                      |                | HC <sup>1</sup> (CVD) |           |   |        |        |        |        |        | HC <sup>1</sup> (PVD) |        | HT     | HC <sup>2</sup> | HW     |        |         |        |        |        |        |        |        |        |        |        |         |       |       |  |  |
|----------------------|-----|----------------------|----------------|-----------------------|-----------|---|--------|--------|--------|--------|--------|-----------------------|--------|--------|-----------------|--------|--------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|-------|-------|--|--|
|                      | P   | M                    | K              | N                     | S         | H | YBC103 | YB6315 | YBC152 | YBC203 | YBC252 | YBC352                | YBM153 | YBM253 | YBD102          | YB7315 | YBD152 | YBD152C | YBG101 | YBG102 | YBG105 | YBG205 | YB9320 | YPD201 | YBS103 | YNG151 | YNT251 | YNG151C | YD101 | YD201 |  |  |
|                      | ISO | r                    | a <sub>p</sub> | f                     |           |   |        |        |        |        |        |                       |        |        |                 |        |        |         |        |        |        |        |        |        |        |        |        |         |       |       |  |  |
|                      |     | <b>SNMG090304-EF</b> | 0.4            | 0.5-2.0               | 0.05-0.30 |   |        |        |        |        |        |                       |        | ●      |                 |        |        |         |        |        |        |        | ●      |        |        |        |        |         |       |       |  |  |
|                      |     | <b>SNMG090308-EF</b> | 0.8            | 0.5-2.0               | 0.05-0.40 |   |        |        |        |        |        |                       |        | ●      |                 |        |        |         |        |        |        |        |        | ●      |        |        |        |         |       |       |  |  |
|                      |     | <b>SNMG090312-EF</b> | 1.2            | 0.5-2.0               | 0.05-0.45 |   |        |        |        |        |        |                       |        | ○      |                 |        |        |         |        |        |        |        |        |        |        |        |        |         |       |       |  |  |
|                      |     | <b>SNMG120404-EF</b> | 0.4            | 0.8-3.0               | 0.05-0.30 |   |        |        |        |        |        |                       |        |        |                 |        |        |         |        |        |        |        |        |        | ●      |        |        |         |       |       |  |  |
| <b>SNMG120408-EF</b> |     | 0.8                  | 0.8-3.0        | 0.1-0.4               |           |   |        |        |        |        |        |                       |        |        |                 |        |        |         |        |        |        |        |        | ●      |        |        |        |         |       |       |  |  |
| <b>SNMG120412-EF</b> |     | 1.2                  | 0.8-3.0        | 0.15-0.45             |           |   |        |        |        |        |        |                       |        | ○      |                 |        |        |         |        |        |        |        |        | ●      |        |        |        |         |       |       |  |  |
| <b>SNMG150608-EF</b> |     | 0.8                  | 1-4            | 0.1-0.4               |           |   |        |        |        |        |        |                       |        | ○      |                 |        |        |         |        |        |        |        |        |        |        |        |        |         |       |       |  |  |
| <b>SNMG150612-EF</b> |     | 1.2                  | 1-4            | 0.15-0.45             |           |   |        |        |        |        |        |                       |        | ○      |                 |        |        |         |        |        |        |        |        |        |        |        |        |         |       |       |  |  |

● Ex stock    ○ On demand  
 YBC152F, YBC252F, YBM153F, YBM253F available

HC<sup>1</sup> Coated carbide  
 HT Uncoated cermet  
 HC<sup>2</sup> Coated cermet  
 HW Uncoated carbide

| Tool holder |         |              |         |         |         |         |
|-------------|---------|--------------|---------|---------|---------|---------|
| DSBNR/L     | PSBNR/L | PSDNN        | PSKNR/L | PSSNR/L | MSBNR/L | MSRNR/L |
| Kr: 75°     | Kr: 75° | Kr: 45°      | Kr: 75° | Kr: 45° | Kr: 75° | Kr: 75° |
|             |         |              |         |         |         |         |
| A232        | A242    | A244         | A245    | A246    | A256    | A257    |
| MSKNR/L     | MSDNN   | S***-PSKNR/L |         |         |         |         |
| Kr: 75°     | Kr: 45° | Kr: 75°      |         |         |         |         |
|             |         |              |         |         |         |         |
| A258        | A259    | A329         |         |         |         |         |

System code > A48

Grade selection > A42

Technical info > A501

Cutting data > A366



## ISO standard

**T N M G 22 04 08 (N) – DM**

**1 2 3 4 5 6 7 8 9**

| Insert shape |           |   |
|--------------|-----------|---|
| A            | B         | C |
| D            | E         | H |
| K            | L         | M |
| O            | P         | R |
| S            | T         | V |
| W            | Z Special |   |

| Clearance angle |           |
|-----------------|-----------|
| A               | B         |
| C               | D         |
| E               | F         |
| G               | N         |
| P               | O Special |

| Tolerance class |            |            |        |
|-----------------|------------|------------|--------|
| Code            | I.C [mm]   | m [mm]     | S [mm] |
| A               | ±0,025     | ±0,005     | ±0,025 |
| C               | ±0,025     | ±0,013     | ±0,025 |
| E               | ±0,025     | ±0,025     | ±0,025 |
| F               | ±0,013     | ±0,005     | ±0,025 |
| G               | ±0,025     | ±0,025     | ±0,130 |
| H               | ±0,013     | ±0,013     | ±0,025 |
| J               | ±0,05–0,15 | ±0,005     | ±0,025 |
| K               | ±0,05–0,15 | ±0,013     | ±0,025 |
| L               | ±0,05–0,15 | ±0,025     | ±0,025 |
| M               | ±0,05–0,15 | ±0,08–0,20 | ±0,130 |
| N               | ±0,05–0,15 | ±0,08–0,20 | ±0,025 |
| U               | ±0,08–0,25 | ±0,13–0,38 | ±0,130 |

**1**

**2**

**3**

| Fastening features (metric) |   |
|-----------------------------|---|
| Insert shape                |   |
| A                           | B |
| C                           | F |
| G                           | H |
| J                           | M |
| N                           | Q |
| R                           | T |
| U                           | W |
| X Special                   |   |

| Cutting edge length l [mm] |              |    |    |    |    |    |    |    |
|----------------------------|--------------|----|----|----|----|----|----|----|
| I.C [mm]                   | Insert shape |    |    |    |    |    |    |    |
|                            | C            | D  | R  | S  | T  | V  | W  | K  |
| 3,97                       | 06           |    |    |    |    |    |    |    |
| 5,0                        | 05           |    |    |    |    |    |    |    |
| 5,56                       | 09           |    |    |    |    |    |    |    |
| 6,0                        | 06           |    |    |    |    |    |    |    |
| 6,35                       | 06           | 07 |    |    | 11 | 11 |    |    |
| 8,0                        | 08           |    |    |    |    |    |    |    |
| 9,525                      | 09           | 11 | 09 | 09 | 16 | 16 | 06 | 16 |
| 10,0                       | 10           |    |    |    |    |    |    |    |
| 12,0                       | 12           |    |    |    |    |    |    |    |
| 12,7                       | 12           | 15 | 12 | 12 | 22 | 22 | 08 |    |
| 15,875                     | 16           |    | 15 | 15 | 27 |    |    |    |
| 16,0                       | 19           |    |    |    |    |    |    |    |
| 19,05                      | 19           |    | 19 | 19 | 33 |    |    |    |
| 20,0                       | 20           |    |    |    |    |    |    |    |
| 25,0                       | 25           | 25 | 25 |    |    |    |    |    |
| 25,4                       | 25 25        |    |    |    |    |    |    |    |
| 31,75                      | 31           |    |    |    |    |    |    |    |
| 32                         | 32           |    |    |    |    |    |    |    |

**4**

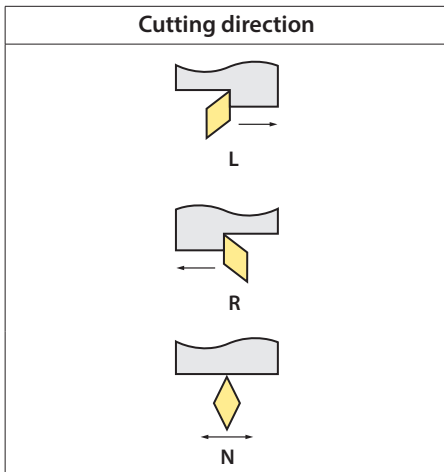
**5**

| Insert thickness S [mm] |      |      |       |
|-------------------------|------|------|-------|
|                         |      |      |       |
| Code                    | S    | Code | S     |
| 00                      | 0,79 | T5   | 5,95  |
| T0                      | 0,99 | 06   | 6,35  |
| 01                      | 1,59 | T6   | 6,75  |
| T1                      | 1,98 | 07   | 7,94  |
| 02                      | 2,38 | 09   | 9,52  |
| T2                      | 2,58 | T9   | 9,72  |
| 03                      | 3,18 | 11   | 11,11 |
| T3                      | 3,97 | 12   | 12,70 |
| 04                      | 4,76 |      |       |
| T4                      | 4,96 |      |       |
| 05                      | 5,56 |      |       |

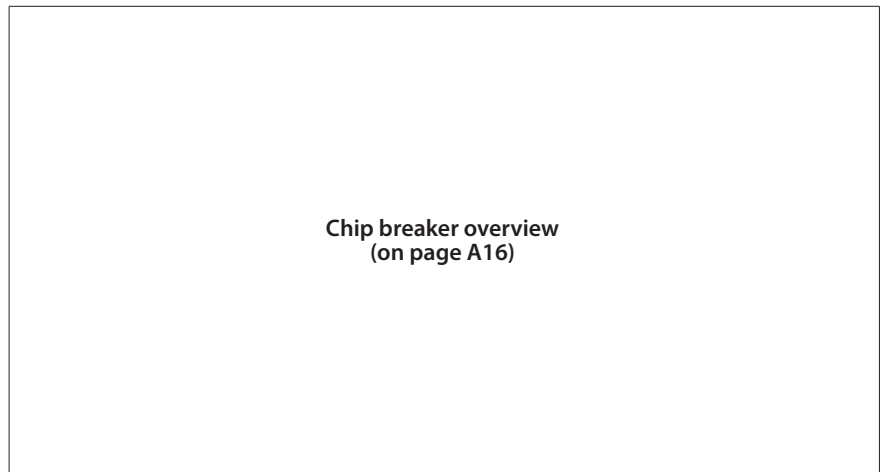
6

| Nose radius r [mm] |               |
|--------------------|---------------|
|                    |               |
| Code               | r             |
| 00                 | –             |
| 02                 | 0,2           |
| 04                 | 0,4           |
| 08                 | 0,8           |
| 12                 | 1,2           |
| 16                 | 1,6           |
| 20                 | 2,0           |
| 24                 | 2,4           |
| 32                 | 3,2           |
| X                  | Special       |
| MO                 | Round inserts |

7

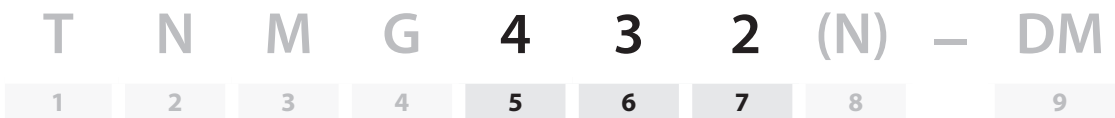


8



9

**ANSI standard**



| Inner circle |        |       |
|--------------|--------|-------|
| Code         | [mm]   | Pouce |
| 2            | 6.35   | 0.250 |
| 3            | 9.525  | 0.375 |
| 4            | 12.7   | 0.500 |
| 5            | 15.875 | 0.625 |
| 6            | 19.05  | 0.750 |
| 8            | 25.4   | 1.000 |

5

| Insert thickness |      |       |
|------------------|------|-------|
| Code             | [mm] | Pouce |
| 2                | 3.18 | 0.125 |
| 3                | 4.76 | 0.187 |
| 4                | 6.35 | 0.250 |
| 5                | 7.94 | 0.313 |
| 6                | 9.52 | 0.375 |

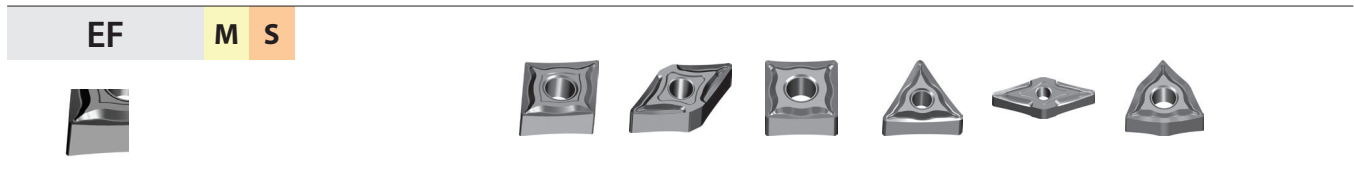
6

| Nose radius |      |       |
|-------------|------|-------|
| Code        | [mm] | Pouce |
| 0           | 0.2  | 0.008 |
| 1           | 0.4  | 0.016 |
| 2           | 0.8  | 0.031 |
| 3           | 1.2  | 0.047 |
| 4           | 1.6  | 0.063 |
| 5           | 2.0  | 0.079 |
| 6           | 2.4  | 0.094 |

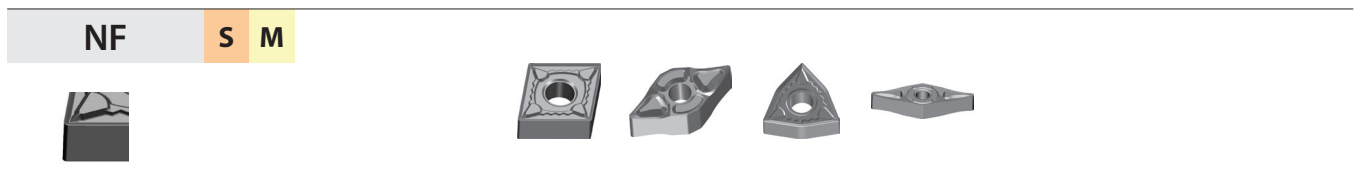
7

Negative inserts

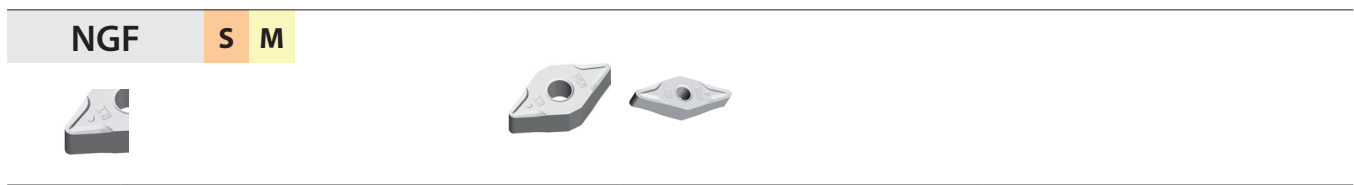
Finishing



Double sided chip breaker with sharp cutting edge and large rake angle for finishing of stainless steel.



Double sided chip breaker with ground cutting edge and large rake angle for finishing. E-tolerance for high repeatability.



Double sided chip breaker with ground cutting edge and large rake angle for finishing. E-tolerance for high repeatability.

Wiper



Double sided chip breaker with wiper geometry. Allows to double the feed rate and improves the surface quality.

Medium machining



Double-sided chip breaker for medium machining operations in the P application field. Superb chip control at high and low feed rates.

A

Turning

B

Milling

C

Drilling

D

Technical Information

E

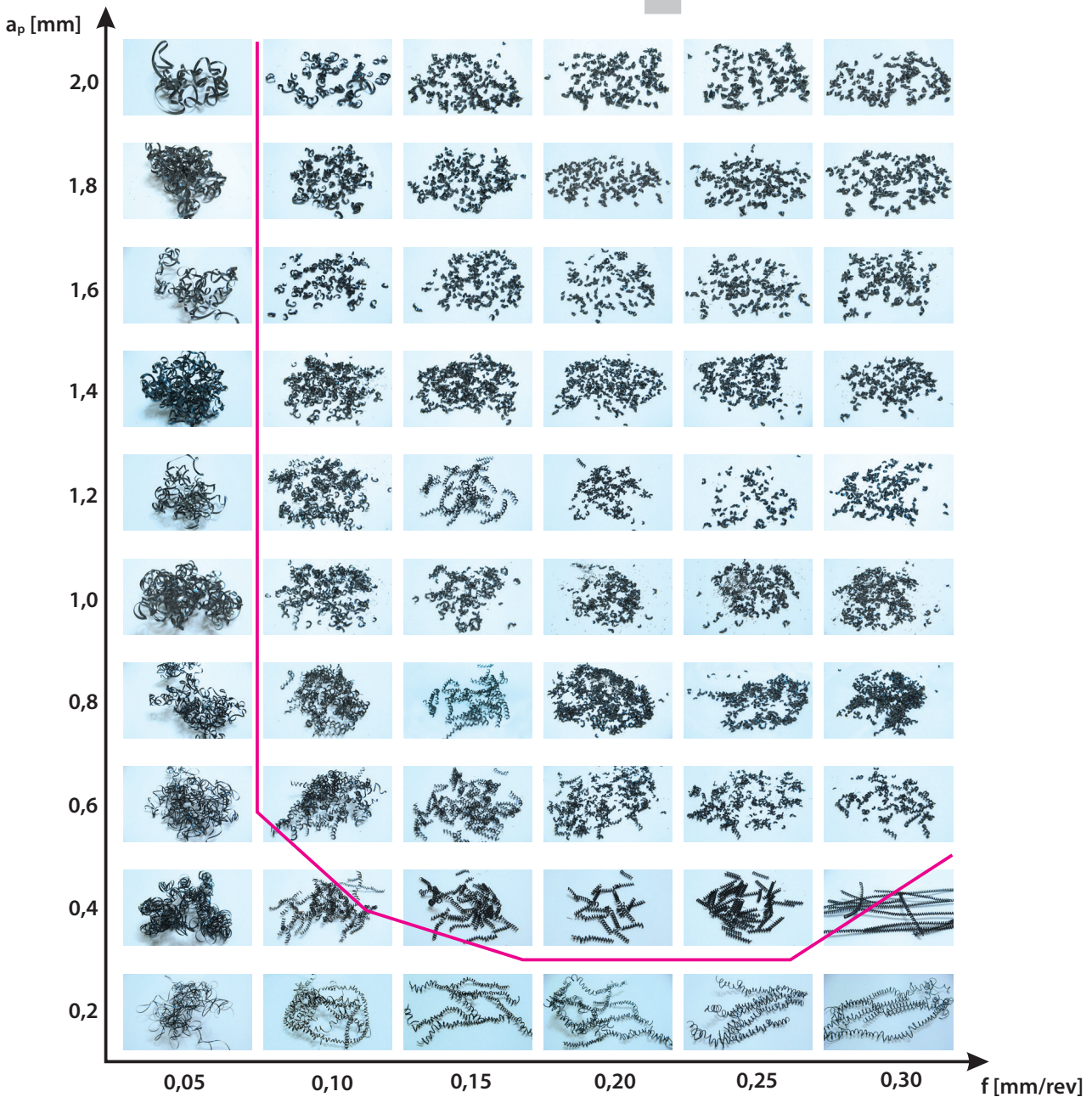
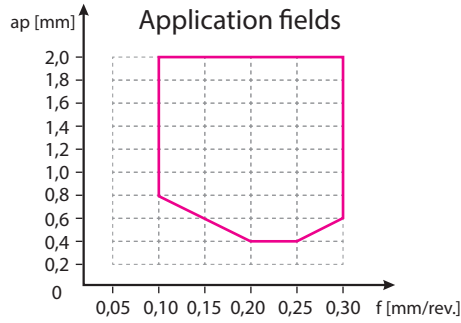
Index

## General turning

### Application fields of chip breakers

**Example**

Insert: CNMG120408-DF  
 Holder: PCLNL2525M12  
 Material: C45 steel  
 $V_C$ : 200 m/min



**A**

Turning

**B**

Milling

**C**

Drilling


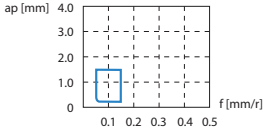



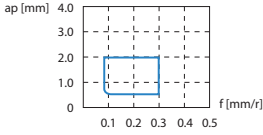




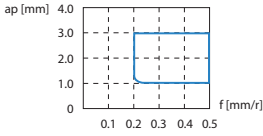
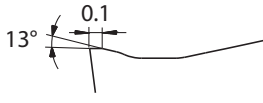
**D**

Technical Information


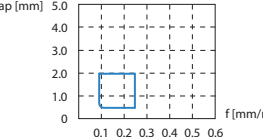
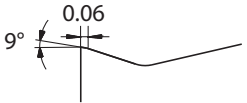


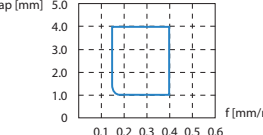
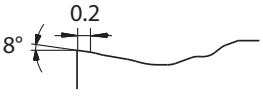


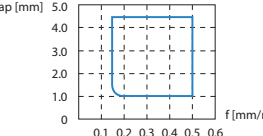
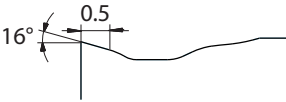



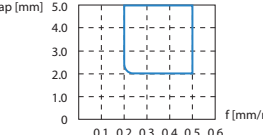
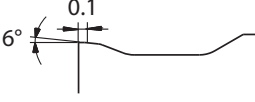



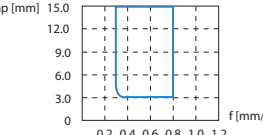
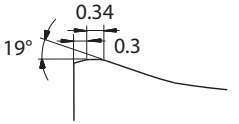
**E**

Index

## M Positive inserts

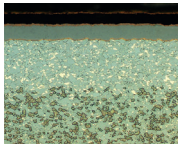
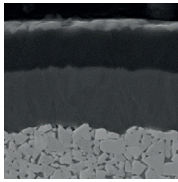
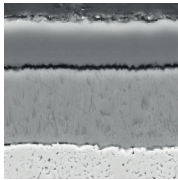
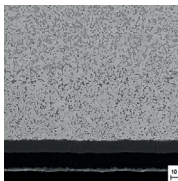
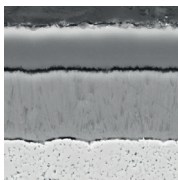
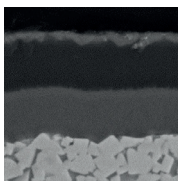
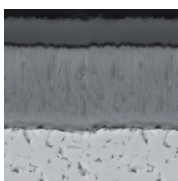
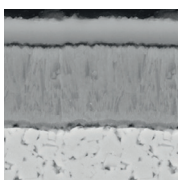
| Chip breaker | Application      |   | Application fields   | Cutting edge design   |
|--------------|------------------|---|--|---|
| USF          | Fine-finishing   |    |  |  |
| EF           | Finishing        |     |  |  |
| EM           | Medium machining |    |  |  |

## M Negative inserts

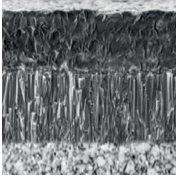
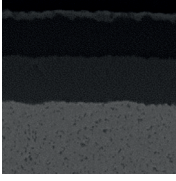
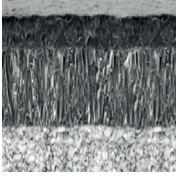
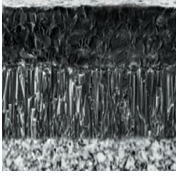
| Chip breaker      | Application      |   | Application fields   | Cutting edge design   |
|-------------------|------------------|---|--|---|
| EF                | Finishing        |    |   |   |
| EM                | Medium machining |     |  |  |
| EG                | Medium machining |     |  |  |
| ER                | Roughing         |    |  |  |
| ER (single sided) | Roughing         |    |  |  |



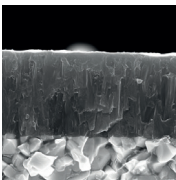
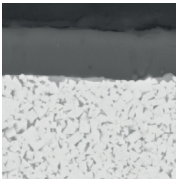
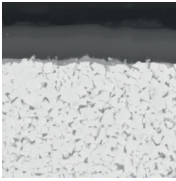
## Coated cemented carbide CVD

| Grade                             | ISO           | Micro structure  | Grade description   |
|-----------------------------------|---------------|--|---|
| <b>A</b><br>Turning               | <b>YBC103</b> | P05 – P15<br>   | P10 grade with excellent wear resistance at higher cutting speeds. Latest sinter processes and CVD coating technologies enable a wide range of applications in the P material range.                                      |
|                                   | <b>YB6315</b> | P05 – P20<br>   | CVD coated P10–P20 carbide grade for finishing to medium operation of steel, casting steel and high chrome material. Outstanding performance under high cutting speed and temperature with excellent wear resistance.     |
| <b>B</b><br>Milling               | <b>YBC152</b> | P10 – P20<br>   | CVD coated P10–P20 carbide grade for finishing to medium operation of steel and casting steel. Outstanding performance under higher cutting speed and temperature with excellent wear resistance.                         |
|                                   | <b>YBC203</b> | P15 – P25<br>  | P20 grade with exceptional wear resistance and toughness for reliable machining operations. Ultra-modern sintering technique and CVD coating technologies allow for a wide range of applications in the P material range. |
| <b>C</b><br>Drilling              | <b>YBC252</b> | P20 - P35<br> | CVD coated P20–P35 carbide grade for medium operation to roughing of steel and casting steel. Optimal performance of wear resistance and toughness for a wide application field.  |
|                                   | <b>YBC352</b> | P20 - P40<br> | CVD coated P20–P40 carbide grade for roughing operation of steel and casting steel. Optimal performance of wear resistance and toughness for a wide application field.  |
| <b>D</b><br>Technical Information | <b>YBM153</b> | M10 - M25<br> | CVD coated M10–M25 carbide grade for finishing to medium application in stainless steel. High wear resistance and capability against plastic deformation at higher cutting speed.   |
|                                   | <b>YBM253</b> | M15 - M35<br> | CVD coated M15–M35 carbide grade for medium to roughing operation in stainless steel with wide application field. High wear resistance and capability against plastic deformation at higher cutting speed.                |
| <b>E</b><br>Index                 |               |  |   |

**Coated cemented carbide CVD**

| Grade          | ISO       | Micro structure  | Grade description   |
|----------------|-----------|--|---|
| <b>YBD102</b>  | K05 - K20 |   | CVD coated K05-K20 carbide substrate. Optimized for medium operation of cast iron, special nodular cast iron and hard steel at high cutting speed.  |
| <b>YB7315</b>  | K10 - K25 |   | CVD coated K10-K25 carbide substrate. Optimized for medium to roughing operation of cast iron. Improved wear resistance and toughness at high cutting speed.  |
| <b>YBD152</b>  | K10 - K25 |   | CVD coated K10-K25 carbide substrate. Optimized for medium to roughing operation of cast iron. Good wear resistance and toughness at higher cutting speed.  |
| <b>YBD152C</b> | K10 - K25 |  | Thick Al <sub>2</sub> O <sub>3</sub> CVD coated K05-K25 carbide substrate. Optimized for medium to roughing operation of cast iron. Higher wear resistance and toughness at higher cutting speed in combination with TC chip breaker. |

**Coated cemented carbide PVD**

| Grade         | ISO       | Micro structure   | Grade description   |
|---------------|-----------|---|---|
| <b>YBG101</b> | N05 - N20 |  | PVD coated N05-N20 carbide substrate for finishing to semi-finishing in aluminium materials. Coating only on the top face, in combination with the aluminium chip breakers, prevents built-up edges and gives a smooth cut. |
| <b>YBG102</b> | S05 - S15 |  | PVD coated S05-S15 carbide substrate for finishing to medium application of super alloy material, stainless steel and aluminum. Good wear resistance in a wide application field.   |
| <b>YBG105</b> | S05 - S20 |  | PVD multilayer coated S05-S20 carbide substrate for finishing to medium application of super alloy material but also stainless steel. Good wear resistance and thermal stability in a wide application field.               |

**A**

Turning

**B**

Milling

**C**

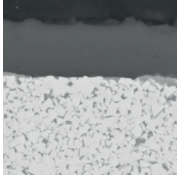
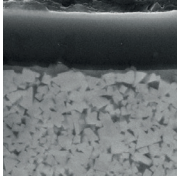
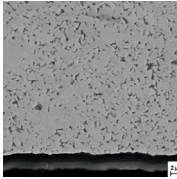
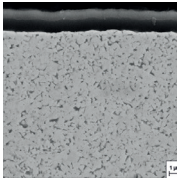
Drilling

**D**Technical  
Information**E**

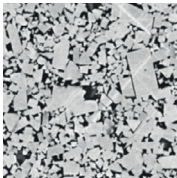
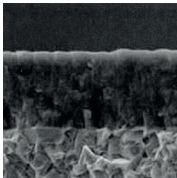
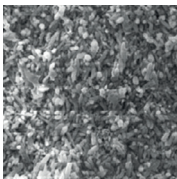
Index



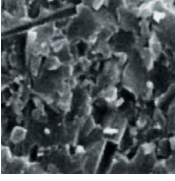
## Coated cemented carbide PVD

| Grade         | ISO                               | Micro structure  | Grade description  |
|---------------|-----------------------------------|--|--|
| <b>YBG205</b> | P10 - P30<br>M20 - M40<br>S15-S25 |   | PVD multilayer coated P10–P30/M20–M40/S15–S25 carbide substrate for finishing to medium machining of stainless steel, super alloys and steel (milling). Excellent wear resistance and thermal stability in a wide range of applications.                               |
| <b>YB9320</b> | P10 - P30<br>M10 - M25            |   | PVD multilayer coated P10–P30/M10–M25 carbide substrate for finishing to medium machining of stainless steel, super alloys and steel (grooving/milling). Optimised coating stability for higher wear resistance and thermal stability in a wide range of applications. |
| <b>YPD201</b> | S20 - S30                         |   | Carbide grade for semi-roughing to chip breaking of high-strength and high-alloy materials. High-performance grade with high wear resistance. Balanced hardness and internal stress ratio provide a wide range of applications.  |
| <b>YBS103</b> | S10 - S20                         |  | Turning grade for processing nickel-base materials. A special carbide substrate and the latest PVD coating technology enable a very good wear behaviour and high thermal stability.  |

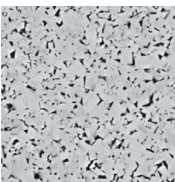
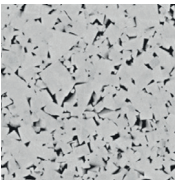
## Ceramic

| Grade         | ISO                    | Micro structure   | Grade description   |
|---------------|------------------------|---|---|
| <b>CA1000</b> | K10 - K25<br>H10 - H25 |  | Uncoated H10–H25/K10–K25 mixed ceramic grade for finishing to medium operation in hardened steel and nodular cast iron. Good wear resistance and toughness.                         |
| <b>CM1000</b> | K10 - K25<br>H10 - H25 |  | Coated H1–H25/K10–K25 mixed ceramic grade for finishing to medium operations in hardened steel, tool steel, HSS material and nodular cast iron. Good wear resistance and toughness. |
| <b>CN1000</b> | K05 - K15              |  | Uncoated K05–K15 Si <sub>3</sub> N <sub>4</sub> ceramic grade for finishing to medium operation in grey cast iron. Good wear resistance and thermal stability.                      |

**Ceramic**

| Grade         | ISO                  | Micro structure   | Grade description   |
|---------------|----------------------|---|---|
| <b>CS1000</b> | S05 – S20            |   | Uncoated SiAlON ceramic grade for medium machining to roughing of nickel- and cobalt-based alloys at medium to low cutting speeds.  |
| <b>CW1400</b> | S10 – S20<br>H10-H20 |  | Uncoated whisker ceramic grade for medium and low speed cutting in HSS steel, high chrome steel and cobalt-base alloy also with interrupted cut. Good wear resistance, notch wear resistance and thermal stability. |
| <b>CW1800</b> | S10 – S25            |   | Uncoated whisker ceramic grade for finishing to rough operations in Ni-base alloy material like Inconel, Nimonic or Hastelloy. Good wear resistance, notch wear resistance and thermal stability.                   |

**Uncoated cemented carbide**

| Grade        | ISO                    | Micro structure   | Grade description   |
|--------------|------------------------|---|---|
| <b>YD101</b> | N05 - N20<br>K05 - K20 |  | Uncoated N05–N20/K05–K20 carbide substrate for fine to medium application in aluminum and other material. |
| <b>YD201</b> | N10 - N30<br>K10 - K30 |  | Uncoated N10–N30/K10–K30 carbide substrate for medium application in aluminum and other material.         |

**CBN**

| Grade         | ISO       | Micro structure | Grade description   |
|---------------|-----------|-----------------|---|
| <b>YCB112</b> | S10 – S20 |                 | Uncoated, brazed S10–S20 CBN grade for fine finishing operations on hardened steel and super alloys. Excellent wear resistance and thermal stability. |

**A**

Turning

**B**

Milling

**C**

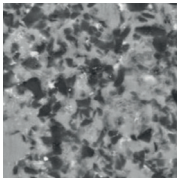
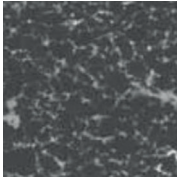
Drilling

**D**Technical  
Information**E**

Index

|   |                       |
|---|-----------------------|
| A | Turning               |
| B | Milling               |
| C | Drilling              |
| D | Technical Information |
| E | Index                 |

## CBN

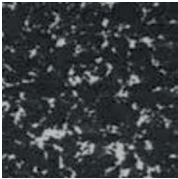
| Grade          | ISO       | Micro structure   | Grade description  |
|----------------|-----------|---|--|
| <b>YCB113</b>  | H01 - H10 |   | Uncoated, brazed H01–H10 CBN grade for fine finishing operation in hardened steel with continuous cut. High wear resistance and productivity at higher cutting speed.                                    |
| <b>YCB121</b>  | H10 - H25 |  | Uncoated, brazed H10–H25 CBN grade for fine to medium application in hardened steel from continuous to light interrupted cut. Good wear resistance and toughness for universal use.                      |
| <b>YCB131</b>  | H20 - H35 |  | Uncoated, brazed H20–H35 CBN grade for fine to medium application in hardened steel with interrupted cut. Good wear resistance and optimized toughness for safe process.                                 |
| <b>YCB113C</b> | H01 - H10 |   | Coated, brazed H01–H10 CBN grade for fine finishing operations on hardened steel with a continuous cut. High wear resistance and productivity at higher cutting speeds                                   |
| <b>YCB121C</b> | H10 - H25 |   | Coated, brazed H10–H25 CBN grade for fine to medium machining operations on hardened steel with a continuous to partially interrupted cut. Good wear resistance and toughness for universal application. |
| <b>YCB131C</b> | H20 - H25 |   | Coated, brazed H20–H35 CBN grade for fine to medium machining operations on hardened steel with an interrupted cut. Good wear resistance and optimum toughness for reliable operations.                  |
| <b>YCB215</b>  | K10 - K20 |   | Uncoated, brazed K10–K20 CBN grade for fine to medium machining operations on cast iron. Excellent wear resistance and thermal conductivity.   |
| <b>YZB630</b>  | H20 - H30 |   | Uncoated H20–H30 solid CBN grade for medium machining operations on hardened steel with a slight to medium interrupted cut. Excellent combination of wear resistance and thermal stability.              |

**CBN**

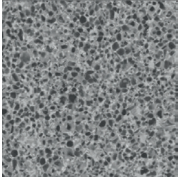
| Grade          | ISO       | Micro structure | Grade description   |
|----------------|-----------|-----------------|---|
| <b>YZB630C</b> | H20 - H30 |                 | Coated H20–H30 solid CBN grade for medium machining operations on hardened steel with a slight to medium interrupted cut. Excellent combination of wear resistance and thermal stability. |

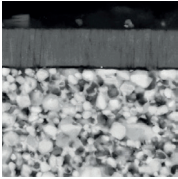
|               |           |  |   |
|---------------|-----------|--|---|
| <b>YZB223</b> | K10 - K25 |  | Uncoated H10–H25/K10–K25 mixed ceramic grade for finishing to medium operation in hardened steel and nodular cast iron. Good wear resistance and toughness. |
|---------------|-----------|--|---|

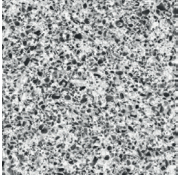
**PCD**

| Grade         | ISO       | Micro structure  | Grade description  |
|---------------|-----------|--|--|
| <b>YCD421</b> | N01 - N10 |  | Uncoated, brazed N01–N10 PCD grade for fine finishing operation of aluminum alloys less than 12 % Si, composites, copper/magnesium and other alloys. Medium grain size grade with good wear resistance for a wide application field. |

**Cermet**

| Grade         | ISO       | Micro structure   | Grade description  |
|---------------|-----------|---|--|
| <b>YNG151</b> | P05 - P15 |  | Uncoated P05–P15 cermet grade for fine finishing operation of steel and stainless steel. Good resistance against plastic deformation for good surface finishing. |

|                |           |   |  |
|----------------|-----------|---|--|
| <b>YNG151C</b> | P05 - P15 |  | PVD coated P05–P15 cermet grade for fine finishing operation of steel and stainless steel. Good wear resistance and capability against plastic deformation for good surface roughness. |
|----------------|-----------|---|--|

|               |           |   |  |
|---------------|-----------|---|--|
| <b>YNT251</b> | P10 - P25 |  | Uncoated P10–P25 cermet grade for fine finishing to medium operation of steel and stainless steel. Good wear resistance and toughness. Suitable also in light interrupted cut. |
|---------------|-----------|---|--|

**A**

Turning

**B**

Milling

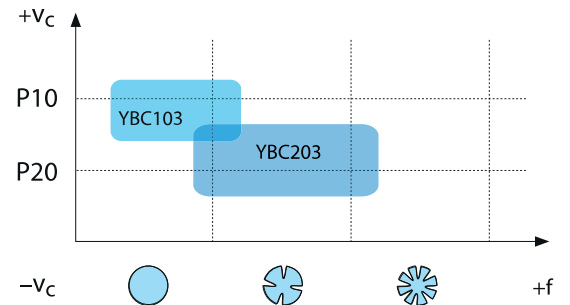
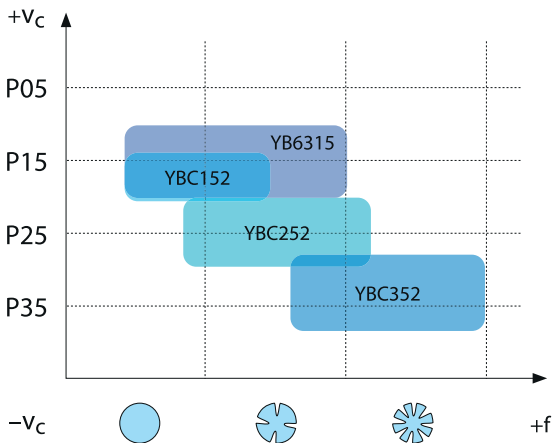
**C**

Drilling

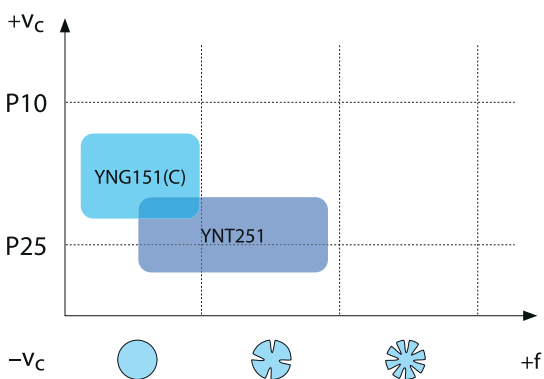
**D**Technical  
Information**E**

Index

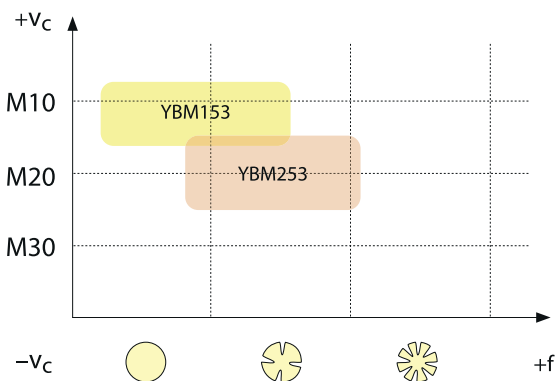
## CVD coated carbide grades for steel



## Cermet grades for steel



## CVD coated carbide grades for stainless steel



A

Turning

B

Milling

C

Drilling

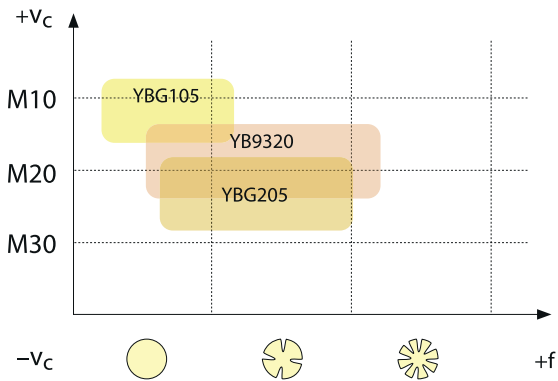
D

Technical Information

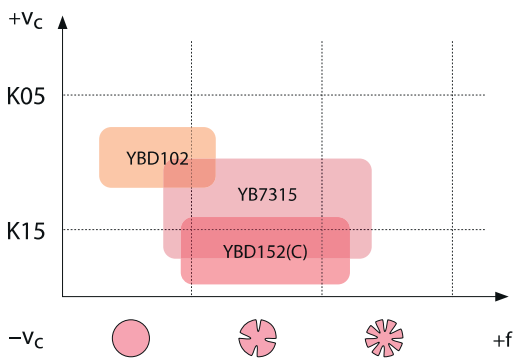
E

Index

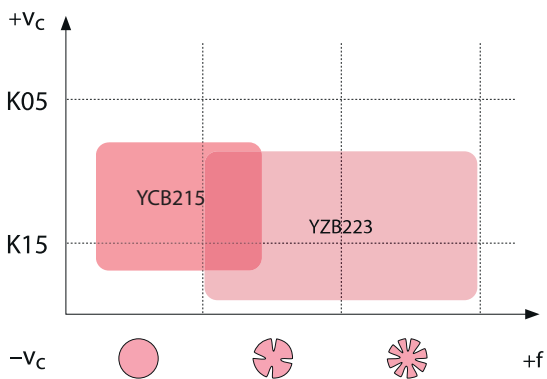
**PVD coated carbide grades for stainless steel**



**CVD coated carbide grades for cast iron**



**CBN grades for cast iron**



**A**

Turning

**B**

Milling

**C**

Drilling

**D**

Technical Information

**E**

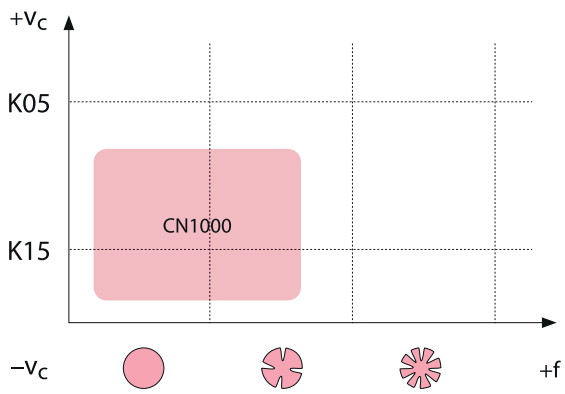
Index



**A**

Turning

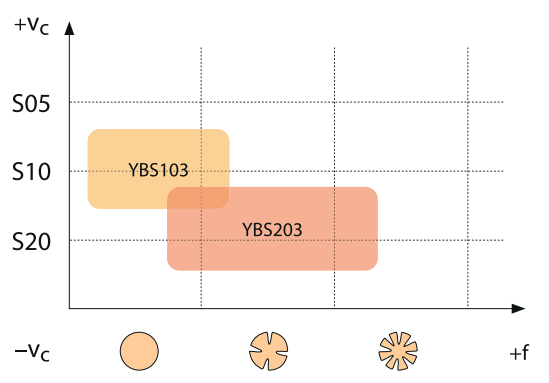
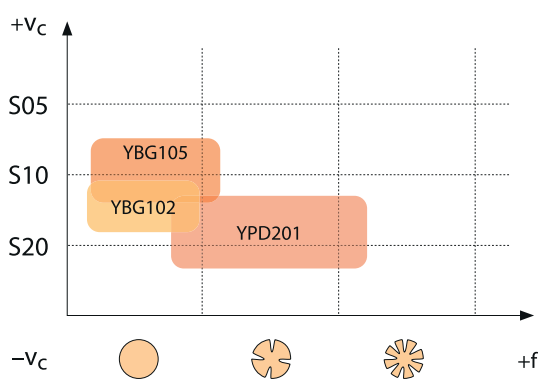
## Ceramic grades for cast iron



**B**

Milling

## PVD coated carbide grades for superalloys



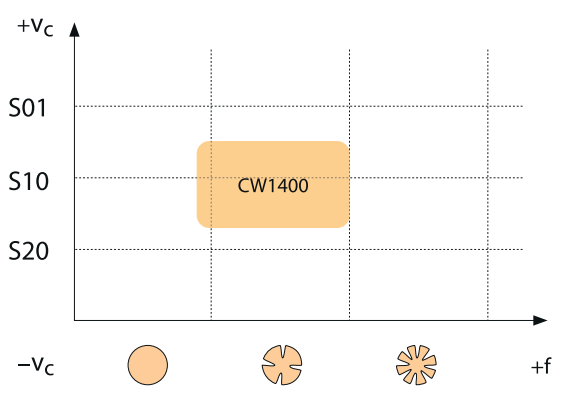
**C**

Drilling

**D**

Technical Information

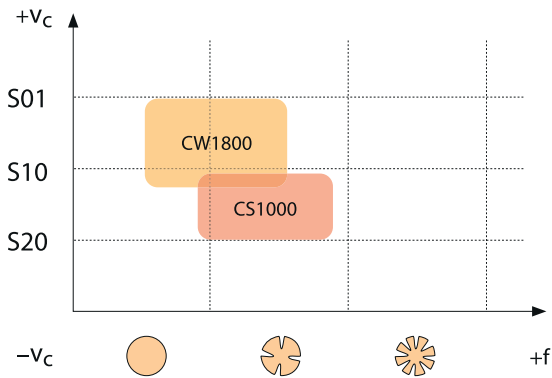
## Ceramic grades for cobalt base alloys/HSS



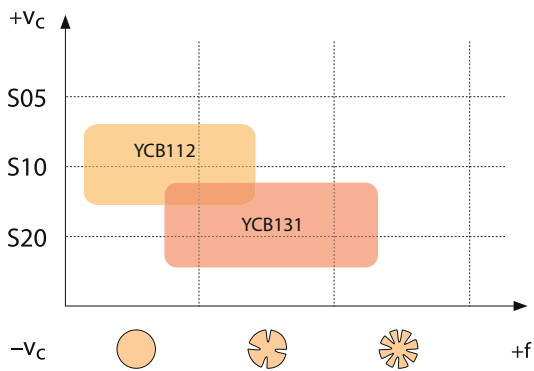
**E**

Index

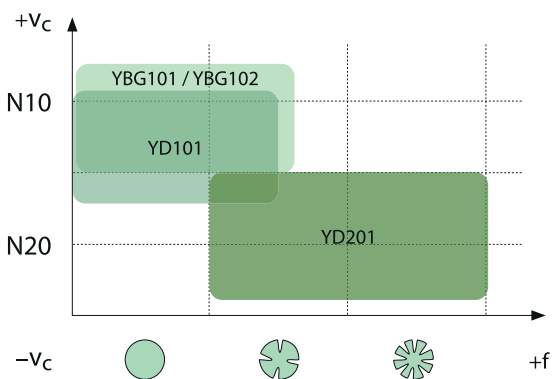
**Ceramic grades for nickel base alloys**



**CBN grades for superalloys**



**Carbide grades for non-ferrous metals**



**A**

Turning

**B**

Milling

**C**

Drilling

**D**

Technical  
Information

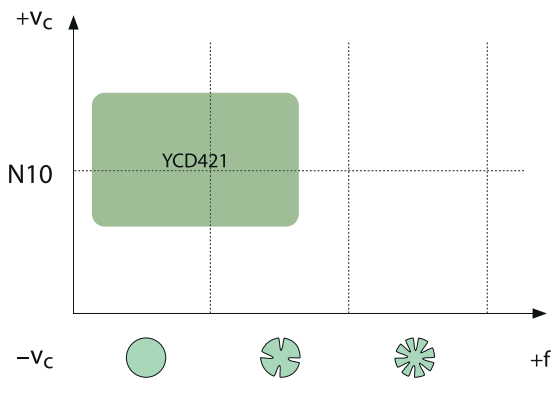
**E**

Index

**A**

Turning

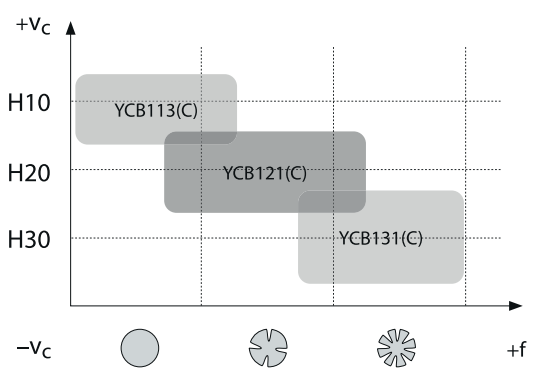
## PCD grades for non-ferrous metals



**B**

Milling

## CBN grades for hardened steel



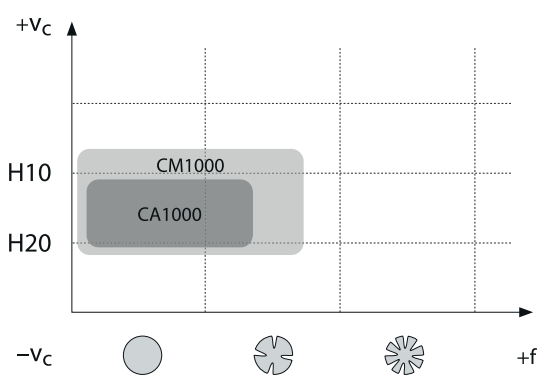
**C**

Drilling

**D**

Technical Information

## Ceramic grades for hardened steel



**E**

Index

Application fields of grades – general turning

|          | ISO | HC <sup>1</sup> (CVD) | HC <sup>1</sup> (PVD) | HT     | HC <sup>2</sup> | Ceramic          | HW    | CBN                    | PCD    |
|----------|-----|-----------------------|-----------------------|--------|-----------------|------------------|-------|------------------------|--------|
| <b>P</b> | P01 |                       |                       |        |                 |                  |       |                        |        |
|          | P10 | YBC103<br>YB6315      |                       | YNG151 | YNG151C         |                  |       |                        |        |
|          | P20 | YBC152<br>YBC203      |                       | YNT251 |                 |                  |       |                        |        |
|          | P30 | YBC252                |                       |        |                 |                  |       |                        |        |
|          | P40 | YBC352                |                       |        |                 |                  |       |                        |        |
| <b>M</b> | M01 |                       | YBG105                | YNG151 | YNG151C         |                  |       |                        |        |
|          | M10 | YBM153                | YB9320                |        |                 |                  |       |                        |        |
|          | M20 | YBM253                | YBG205                |        |                 |                  |       |                        |        |
|          | M30 |                       |                       |        |                 |                  |       |                        |        |
|          | M40 |                       |                       |        |                 |                  |       |                        |        |
| <b>K</b> | K01 |                       |                       |        |                 | CN1000           |       | YCB215<br>YZB223       |        |
|          | K10 | YBD102                |                       |        |                 |                  | YD201 |                        |        |
|          | K20 | YBD152                |                       |        |                 |                  |       |                        |        |
|          | K30 | YB7315<br>YBD152C     |                       |        |                 |                  |       |                        |        |
| <b>N</b> | N01 |                       |                       |        |                 |                  |       |                        |        |
|          | N10 |                       | YBG101                |        |                 |                  | YD101 |                        | YCD421 |
|          | N20 |                       | YBG102                |        |                 |                  | YD201 |                        |        |
|          | N30 |                       |                       |        |                 |                  |       |                        |        |
| <b>S</b> | S01 |                       | YBS103                |        |                 | C51000           |       | YCB112                 |        |
|          | S10 |                       | YBG102                |        |                 | CW1400<br>CW1800 |       | YCB131                 |        |
|          | S20 |                       | YBG105                |        |                 |                  |       |                        |        |
|          | S30 |                       | YB9320<br>YPD201      |        |                 |                  |       |                        |        |
| <b>H</b> | H01 |                       |                       |        |                 |                  |       |                        |        |
|          | H10 |                       |                       |        |                 |                  |       | YCB113(C)<br>YCB121(C) |        |
|          | H20 |                       |                       |        |                 |                  |       |                        |        |
|          | H30 |                       |                       |        |                 |                  |       | YCB131(C)              |        |

|          |                 |
|----------|-----------------|
| <b>P</b> | Steel           |
| <b>M</b> | Stainless steel |
| <b>K</b> | Cast iron       |

|          |                       |
|----------|-----------------------|
| <b>N</b> | Non-ferrous metals    |
| <b>S</b> | Heat-resistant alloys |
| <b>H</b> | Hardened materials    |

HC<sup>1</sup> Coated carbide  
 HT Uncoated cermet  
 HC<sup>2</sup> Coated cermet  
 HW Uncoated carbide

**A**

Turning

**B**

Milling

**C**

Drilling

**D**

Technical Information

**E**

Index