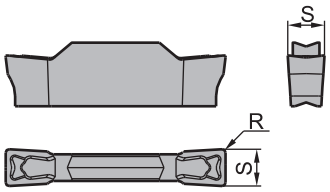
Ideal machining conditions
Normal machining conditions
Unfavourable machining conditions

## Parting inserts

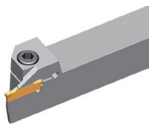
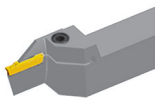
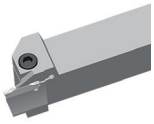
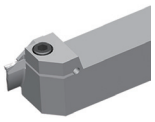
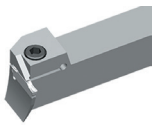
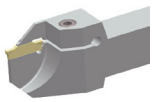


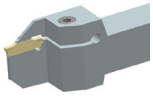
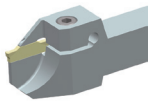

| Parting & grooving insert (double sided) | | | | | | HC[1] (CVD) | | | | HC[1] (PVD) | | | | | | HW | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | P | | | | | | | | | | | | |
| | | | | | M | | | | | | | | | | | | |
| | | | | | K | | | | | | | | | | | | |
| | | | | | N | | | | | | | | | | | | |
| | | | | | S | | | | | | | | | | | | |
| | | | | | H | | | | | | | | | | | | |
| ISO | | La *max* | S±0.025 | R±0.05 | f | YBC252 | YBC251 | | | YBG105 | YBG102 | YB9320 | YBG205 | YBG202 | YBG302 | YD101 | YD201 |
|  | **ZTKD06004-EG** | 22 | 6 | 0,4 | 0,12-0,29 | | | | | | | | | | ○ | | |
| | **ZTKD06504-EG** | 22 | 6,5 | 0,4 | 0,12-0,29 | | | | | | | | | | ○ | | |

● Ex stock ○ On demand

HC[1] Coated carbide
HW Uncoated carbide

### Tool holders

| QE*D*R/L | QF*D*R/L-H | QF*D*RR-H | QF*D*LL-H | QF*D*R/L-L | C***-Q*DR/L | QE*D*R/L-DGC |
|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |
| A425 | A434 | A436 | A436 | A439 | A444 | A446 |

| QE*D*R/L-DGSC | QE*D*R/L-SC |
|---|---|
|  |  |
| A448 | A449 |

# Parting & grooving Chip breaker overview

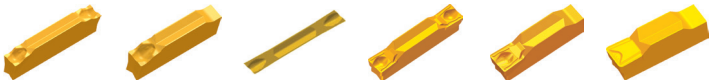
## Grooving

### MM P M K S




Sintered chip breaker with straight cutting edge for general machining of steel, stainless steel, cast iron and difficult-to-machine materials. Can be used for grooving, turning and parting off.

### MG P M K S

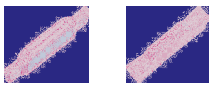
Sintered chip breaker for general machining of steel, stainless steel, cast iron and difficult-to-machine materials. Can be used for grooving, turning and parting off.

### MG P M K S



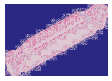

Universal chip breaker with round profile for general machining of steel, stainless steel and cast iron. Suitable for grooving and profiling.

### EG M P S

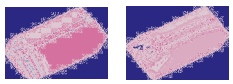
Ground precision chip breaker for grooving and turning applications. Suitable for machining of stainless steel. E-tolerance for high repeatability.

### EG M P S

Ground precision chip breaker with round profile for grooving and turning applications. Suitable for machining of stainless steel. E-tolerance for high repeatability.

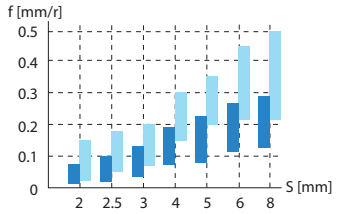
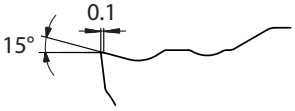
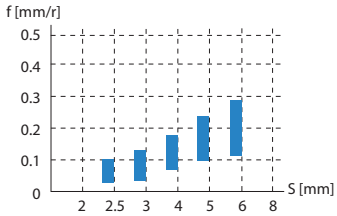
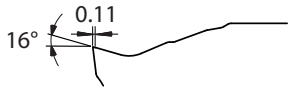
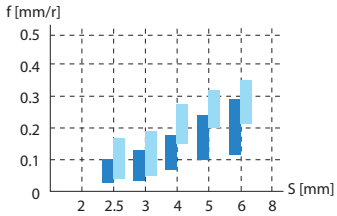
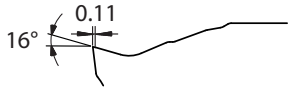
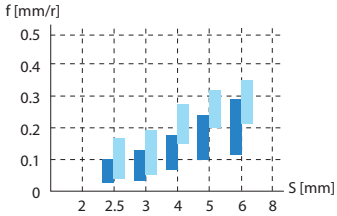
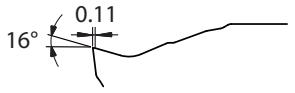
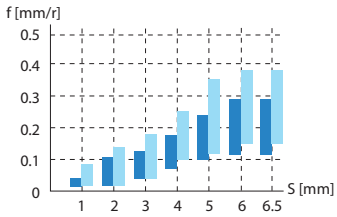
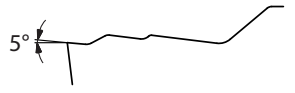
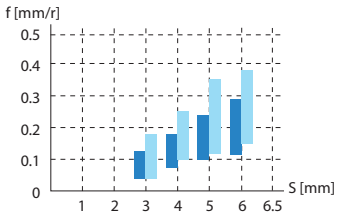
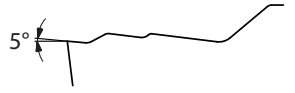
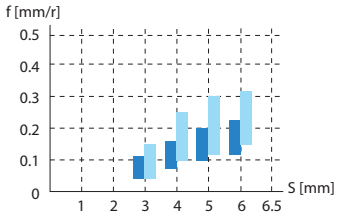
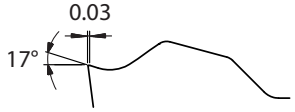
### NM S

Special chip breaker for machining of heat-resistant materials.

# Parting & grooving

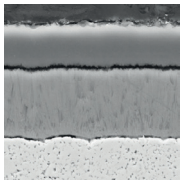
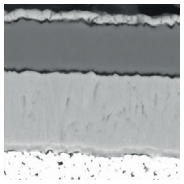
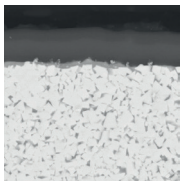
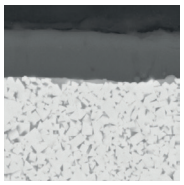
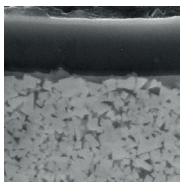
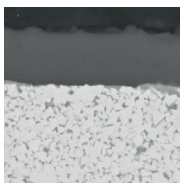
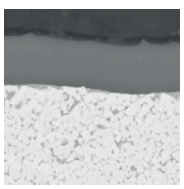
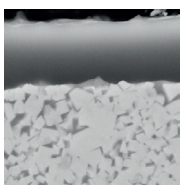
Application fields of chip breakers

| Chip breaker | Application | P | M | K | N | S | H | Feed | Cutting edge design |
|---|---|---|---|---|---|---|---|---|---|
| ZT****-MM | Parting & grooving ✔ | ✔ | ✔ | ✔ | | ✔ | |  |  |
| | Turning ✔ | | | | | | | | S = 4 mm |
| ZP****-MG | Parting & grooving ✔ | ✔ | ✔ | ✔ | | ✔ | |  |  |
| | Turning – | | | | | | | | S = 4 mm |
| ZT****-MG | Parting & grooving ✔ | ✔ | ✔ | ✔ | | ✔ | |  |  |
| | Turning ✔ | | | | | | | | S = 4 mm |
| ZR****-MG | Parting & grooving ✔ | ✔ | ✔ | ✔ | | ✔ | |  | Round profile  |
| | Turning ✔ | | | | | | | | S = 4 mm |
| ZT****-EG | Parting & grooving ✔ | ✔ | ✔ | ✔ | | ✔ | |  |  |
| | Turning ✔ | | | | | | | | |
| ZR****-EG | Parting & grooving ✔ | ✔ | ✔ | | ✔ | ✔ | |  | Round profile  |
| | Turning ✔ | | | | | | | | S = 4 mm |
| ZI****-NM | Parting & grooving ✔ | | ✔ | | ✔ | ✔ | |  | Round profile  |
| | Turning ✔ | | | | | | | | S = 4 mm |

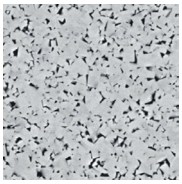
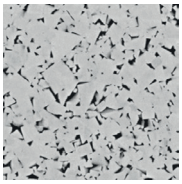
✔ Very suitable ✔ Suitable

Parting & grooving
Turning

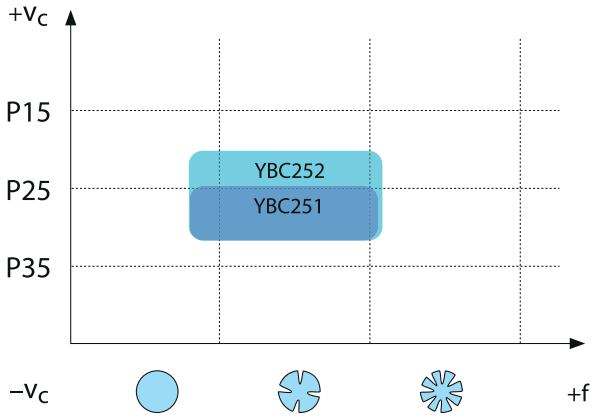
## Parting & grooving

| Grade | ISO | Micro structure | Grade description |
|---|---|---|---|
| **YBC252** | P20 - P35 |  | 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. |
| **YBC251** | P20 - P35 |  | CVD coated P20–P35 carbide grade for medium operation to roughing of steel and casting steel in lower cutting speed. |
| **YBG105** | 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. |
| **YBG102** | 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. |
| **YB9320** | 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. |
| **YBG205** | 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. |
| **YBG202** | P10 - P30<br>M10 - M25 |  | PVD coated P10–P30/M10–M25 carbide substrate for finishing to medium application of stainless steel and steel (milling). Good wear resistance in a wide application field. |
| **YBG302** | P15 - P30<br>M25 - M40 |  | PVD coated P15–P30/M25–M40 carbide substrate for medium roughing application of stainless steel and steel (milling). Good wear resistance and toughness. |

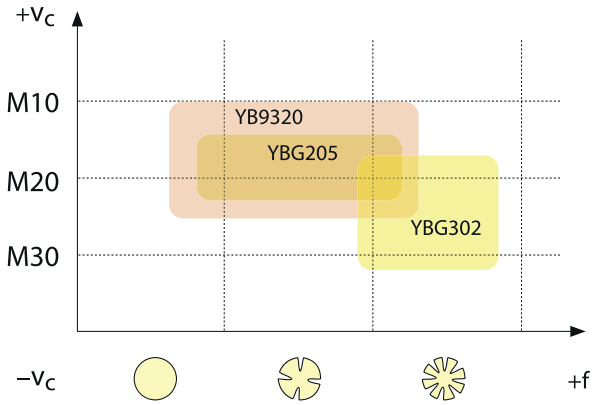
## Parting & grooving

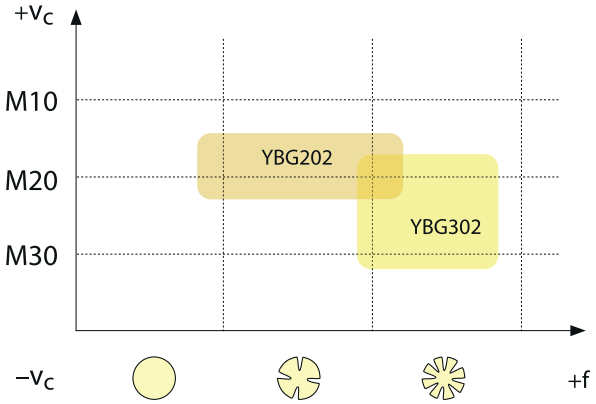
| Grade | ISO | Micro structure | Grade description |
|---|---|---|---|
| **YD101** | K05 - K20<br>N05 - N20 |  | Uncoated K05–K20/N05–N20 carbide substrate for fine to medium application in aluminum and other material. |
| **YD201** | K10 - K30<br>N10 - N30 |  | Uncoated K10–K30/N10–N30 carbide substrate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

## CVD coated carbide grades for steel

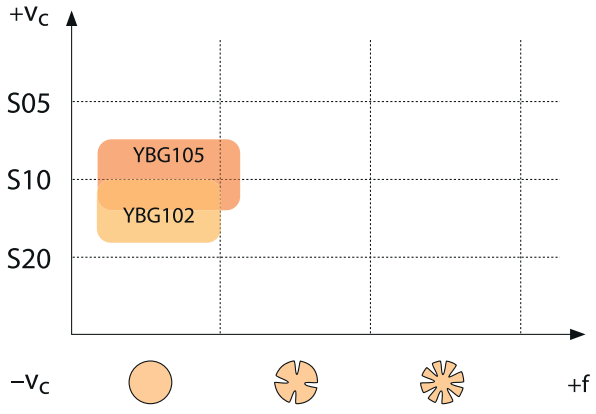



## PVD coated carbide grades for stainless steel

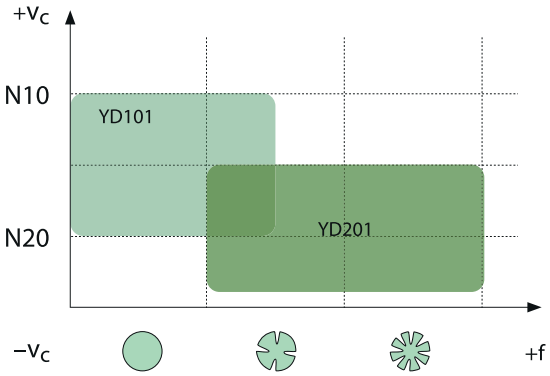



## PVD coated carbide grades for superalloys



## Carbide grades for non-ferrous metals



## Application fields of grades – parting & grooving

| | ISO | HC[1] (CVD) | HC[1] (PVD) | HT | HC[2] | Ceramic | HW | CBN | PCD |
|---|---|---|---|---|---|---|---|---|---|
| P | P01 | | | | | | | | |
| | P10 | YBC251, YBC252 | | | | | | | |
| | P20 | | | | | | | | |
| | P30 | | | | | | | | |
| | P40 | | | | | | | | |
| M | M01 | | | | | | | | |
| | M10 | | YBG202, YBG205, YB9320, YBG302 | | | | | | |
| | M20 | | | | | | | | |
| | M30 | | | | | | | | |
| | M40 | | | | | | | | |
| K | K01 | | | | | | | | |
| | K10 | | | | | | | | |
| | K20 | | | | | | | | |
| | K30 | | | | | | | | |
| N | N01 | | | | | | | | |
| | N10 | | | | | | YD101, YD102 | | |
| | N20 | | | | | | | | |
| | N30 | | | | | | | | |
| S | S01 | | | | | | | | |
| | S10 | | YBG102, YBG105 | | | | | | |
| | S20 | | | | | | | | |
| | S30 | | | | | | | | |
| H | H01 | | | | | | | | |
| | H10 | | | | | | | | |
| | H20 | | | | | | | | |
| | H30 | | | | | | | | |

| | | | |
|---|---|---|---|
| P | Steel | N | Non-ferrous metals |
| M | Stainless steel | S | Heat-resistant alloys |
| K | Cast iron | H | Hardened materials |

HC[1] Coated carbide
HT Uncoated cermet
HC[2] Coated cermet
HW Uncoated carbide

# ZP G D 04 04 – M G

| 1 | 2 | 3 | 4 | 5 | | 6 | 7 |
|---|---|---|---|---|---|---|---|

| Application | |
|---|---|
| Code | Description |
| ZP | Parting |
| ZT | Grooving & turning |
| ZR | Form turning |

**1**

| Insert seat size [mm] | |
|---|---|
| Groove width | |
| Code | Description |
| B | 2,0 |
| E | 2,5 |
| F | 3,0 |
| G | 4,0 |
| H | 5,0 |
| K | 6,0 |
| L | 8,0 |

**2**

| No. of cutting edges | |
|---|---|
| Code | Description |
| S | Single |
| D | Double |

**3**

| Insert thickness S [mm] | |
|---|---|
|   | |
| Code | S |
| 02 | 2,0 |
| 025 | 2,5 |
| 03 | 3,0 |
| 04 | 4,0 |
| 05 | 5,0 |
| 06 | 6,0 |
| 08 | 8,0 |

**4**

| Nose radius r [mm] | |
|---|---|
|   | |
| Code | r |
| 02 | 0,2 |
| 03 | 0,3 |
| 04 | 0,4 |
| 08 | 0,8 |

**5**

| Tolerance class [mm] | |
|---|---|
| Code | Description |
| M | ±0,13 |
| E | ±0,025 |

**6**

| Chip breaker | |
|---|---|
| Code | Description |
| G | General chip breaker |
| F | Special chip breaker |
| M | Straight edge |

**7**