

CARBIDE, MULTI FLUTE LONG LENGTH ROUGHING - COARSE

 VOLLHARTMETALL, MEHRSCHEIDEN LANG SCHRUPPFÄßER - GROB

 FRAISE CARBURE, MULTI-DENTS, ÉBAUCHE, PAS GROSSIER, LONGUE

 3 - 4 - 5 TAGLIENTI, PER SGROSSATURA, SERIE LUNGA - BOMBATO GROSSO

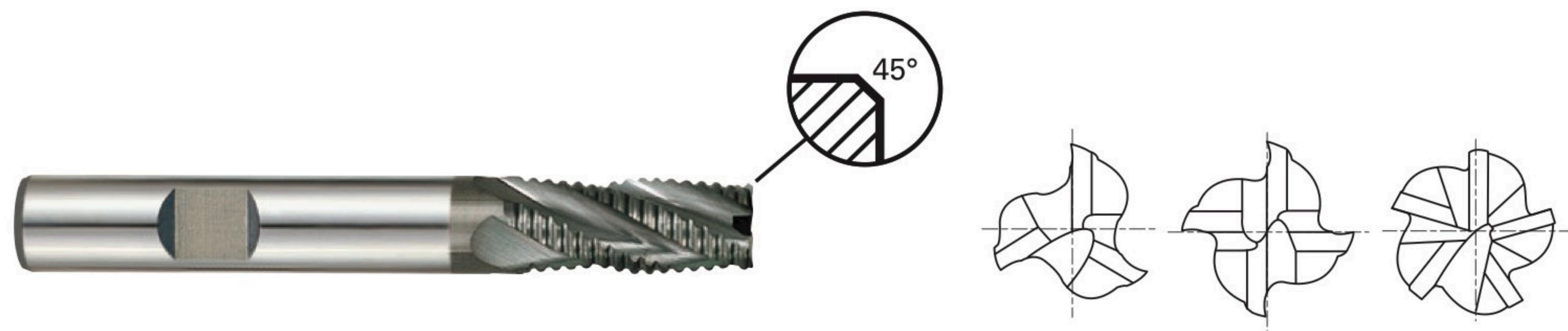
- Suitable for dry milling applications at high temperatures.

► Excellent high-performance end mills.

► Fast chip ejection.
- Für die Trockenbearbeitung.

► Hervorragendes Preis - Leistungsverhältnis.

► Guter Spanauswurf.



CARBIDE

NR

3-5

 30°

 DIN 6535HB



 C x 45°

X Coating

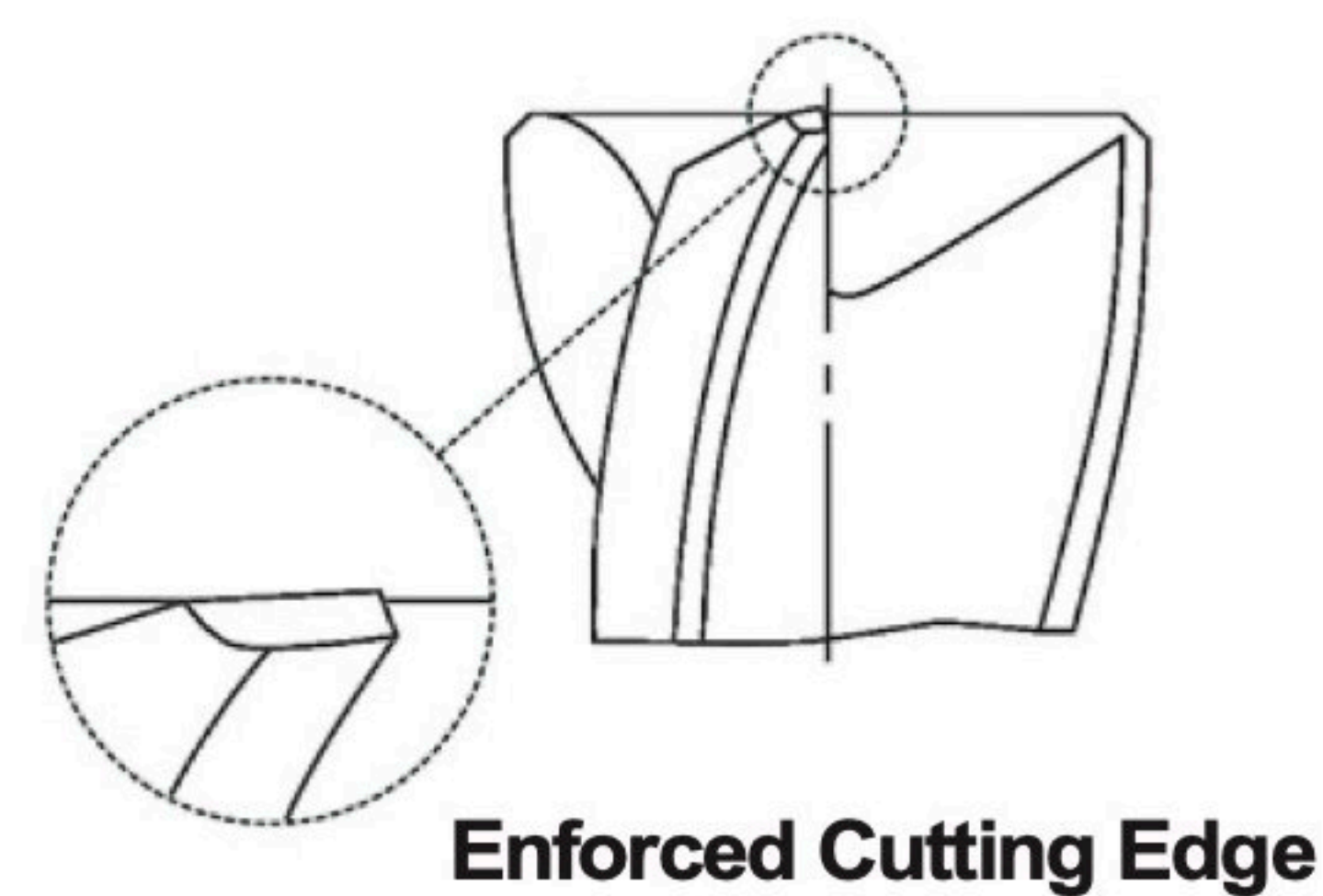
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Unit : mm

| EDP No.  | Mill Diameter | Shank Diameter | Length of Cut | Overall Length | No. of Flute | Chamfer |
|----------|---------------|----------------|---------------|----------------|--------------|---------|
|          | h10           | h5             |               |                |              |         |
| G9A42060 | 6.0           | 6              | 16            | 57             | 3.00         | 0.60    |
| G9A42080 | 8.0           | 8              | 16            | 63             | 3.00         | 0.60    |
| G9A42100 | 10.0          | 10             | 22            | 72             | 4.00         | 0.60    |
| G9A42120 | 12.0          | 12             | 26            | 83             | 4.00         | 0.74    |
| G9A42140 | 14.0          | 14             | 26            | 83             | 4.00         | 0.94    |
| G9A42160 | 16.0          | 16             | 32            | 92             | 4.00         | 0.94    |
| G9A42180 | 18.0          | 18             | 32            | 92             | 4.00         | 0.94    |
| G9A42200 | 20.0          | 20             | 38            | 104            | 4.00         | 0.94    |
| G9A42250 | 25.0          | 25             | 45            | 121            | 5.00         | 0.94    |

Tolerances according to DIN 7160 & 7161

| Tolerance range in $\mu\text{m}$ |             |             |              |               |               |
|----------------------------------|-------------|-------------|--------------|---------------|---------------|
| Nominal-Diameter in mm           |             |             |              |               |               |
|                                  | from 1 to 3 | over 3 to 6 | over 6 to 10 | over 10 to 18 | over 18 to 30 |
| h10                              | 0<br>- 40   | 0<br>- 48   | 0<br>- 58    | 0<br>- 70     | 0<br>- 84     |
| h5                               | 0<br>- 4    | 0<br>- 5    | 0<br>- 6     | 0<br>- 8      | 0<br>- 9      |



◎ : Excellent ○ : Good

| ISO                  | P                      |     |                        |     |     |                                           |     |     |                        |                                    |                             | M               |     |     | K              |                 |                   |                |                     |                   |                    |
|----------------------|------------------------|-----|------------------------|-----|-----|-------------------------------------------|-----|-----|------------------------|------------------------------------|-----------------------------|-----------------|-----|-----|----------------|-----------------|-------------------|----------------|---------------------|-------------------|--------------------|
| Material Description | Non-alloy steel        |     |                        |     |     | Low alloy steel                           |     |     |                        | High alloyed steel, and tool steel |                             | Stainless steel |     |     | Grey cast iron |                 | Nodular cast iron |                | Malleable cast iron |                   |                    |
| VDI 3323             | 1                      | 2   | 3                      | 4   | 5   | 6                                         | 7   | 8   | 9                      | 10                                 | 11                          | 12              | 13  | 14  | 15             | 16              | 17                | 18             | 19                  | 20                |                    |
| HRc                  |                        | 13  | 25                     | 28  | 32  | 10                                        | 29  | 32  | 38                     | 15                                 | 35                          | 15              | 23  | 10  | 10             | 26              | 3                 | 25             |                     | 21                |                    |
| HB                   | 125                    | 190 | 250                    | 270 | 300 | 180                                       | 275 | 300 | 350                    | 200                                | 325                         | 200             | 240 | 180 | 180            | 260             | 160               | 250            | 130                 | 230               |                    |
| Recommend            | ◎                      | ◎   | ◎                      | ◎   | ◎   | ◎                                         | ◎   | ◎   | ◎                      | ◎                                  | ◎                           | ○               | ○   | ○   | ○              | ○               | ○                 | ○              | ○                   | ○                 |                    |
| ISO                  | N                      |     |                        |     |     |                                           |     |     |                        |                                    | S                           |                 |     |     |                |                 |                   | H              |                     |                   |                    |
| Material Description | Aluminum-wrought alloy |     | Aluminum-cast, alloyed |     |     | Copper and Copper Alloys (Bronze / Brass) |     |     | Non Metallic Materials |                                    | Heat Resistant Super Alloys |                 |     |     |                | Titanium Alloys |                   | Hardened steel |                     | Chilled Cast Iron | Hardened Cast Iron |
| VDI 3323             | 21                     | 22  | 23                     | 24  | 25  | 26                                        | 27  | 28  | 29                     | 30                                 | 31                          | 32              | 33  | 34  | 35             | 36              | 37                | 38             | 39                  | 40                | 41                 |
| HRc                  |                        |     |                        |     |     |                                           |     |     |                        |                                    | 15                          | 30              | 25  | 38  | 34             |                 |                   | 55             | 60                  | 42                | 55                 |
| HB                   | 60                     | 100 | 75                     | 90  | 130 | 110                                       | 90  | 100 |                        |                                    | 200                         | 280             | 250 | 350 | 320            | 400 Rm          | 1050 Rm           | 550            | 630                 | 400               | 550                |
| Recommend            | ○                      | ○   | ○                      | ○   | ○   | ○                                         | ○   | ○   |                        |                                    | ○                           | ○               | ○   | ○   | ○              | ○               | ○                 |                |                     | ○                 |                    |