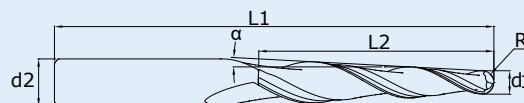
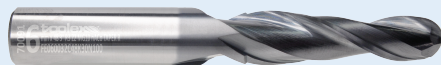


Solid carbide conical ball nose end mills Taper  
VHM - Konischer Radiusfräser - Taper  
Fraises Cônica a rayon carbure - Taper  
Karbür Konik Küre Freze - Taper



| F        | E       | 1000     | 2      | 2      | C          | 45           | K       | 50     | N      | 100         |
|----------|---------|----------|--------|--------|------------|--------------|---------|--------|--------|-------------|
| END MILL | MG-10   |          | TOOLEX |        |            |              |         |        |        |             |
| TYPE     | QUALITY | DIAMETER | TAPER  | FLUTES | SHAFT TYPE | FLUTE LENGTH | HELICAL | RADIUS | COATED | FULL LENGTH |

| d1(ø8) | L2 | L1  | d2(h6) | Z | R   | α  | d3    | Uncoated Code      | Price (Euro) | Coated Code        | Price (Euro) |
|--------|----|-----|--------|---|-----|----|-------|--------------------|--------------|--------------------|--------------|
| 2      | 20 | 65  | 4      | 2 | 1   | 2° | 3,32  | FE020022C20K10B065 |              | FE020022C20K10N065 |              |
| 3      | 28 | 65  | 5      | 2 | 1,5 | 2° | 5,00  | FE030022C28K15B065 |              | FE030022C28K15N065 |              |
| 4      | 28 | 68  | 6      | 2 | 2   | 2° | 6,00  | FE040022C28K20B068 |              | FE040022C28K20N068 |              |
| 5      | 42 | 88  | 8      | 2 | 2,5 | 2° | 8,00  | FE050022C42K25B088 |              | FE050022C42K25N088 |              |
| 6      | 45 | 100 | 10     | 2 | 3   | 2° | 9,14  | FE060022C45K30B100 |              | FE060022C45K30N100 |              |
| 8      | 45 | 100 | 12     | 2 | 4   | 2° | 11,14 | FE080022C45K40B100 |              | FE080022C45K40N100 |              |
| 10     | 45 | 100 | 14     | 2 | 5   | 2° | 13,14 | FE100022C45K50B100 |              | FE100022C45K50N100 |              |
| 12     | 45 | 100 | 16     | 2 | 6   | 2° | 15,14 | FE120022C45K60B100 |              | FE120022C45K60N100 |              |

|    |    |     |    |   |     |    |       |                    |  |                    |  |
|----|----|-----|----|---|-----|----|-------|--------------------|--|--------------------|--|
| 2  | 19 | 65  | 4  | 2 | 1   | 3° | 4,00  | FE020032C19K10B065 |  | FE020032C19K10N065 |  |
| 3  | 28 | 68  | 6  | 2 | 1,5 | 3° | 6,00  | FE030032C28K15B068 |  | FE030032C28K15N068 |  |
| 4  | 38 | 88  | 8  | 2 | 2   | 3° | 8,00  | FE040032C38K20B088 |  | FE040032C38K20N088 |  |
| 5  | 48 | 100 | 10 | 2 | 2,5 | 3° | 10,00 | FE050032C48K25B100 |  | FE050032C48K25N100 |  |
| 6  | 48 | 100 | 12 | 2 | 3   | 3° | 11,00 | FE060032C48K30B100 |  | FE060032C48K30N100 |  |
| 8  | 48 | 100 | 14 | 2 | 4   | 3° | 13,00 | FE080032C48K40B100 |  | FE080032C48K40N100 |  |
| 10 | 48 | 100 | 16 | 2 | 5   | 3° | 15,00 | FE100032C48K50B100 |  | FE100032C48K50N100 |  |
| 12 | 48 | 100 | 18 | 2 | 6   | 3° | 17,00 | FE120032C48K60B100 |  | FE120032C48K60N100 |  |

|    |    |     |    |   |     |    |       |                    |  |                    |  |
|----|----|-----|----|---|-----|----|-------|--------------------|--|--------------------|--|
| 2  | 20 | 65  | 6  | 2 | 1   | 5° | 5,32  | FE020052C20K10B065 |  | FE020052C20K10N065 |  |
| 3  | 28 | 88  | 8  | 2 | 1,5 | 5° | 8,00  | FE030052C28K15B088 |  | FE030052C28K15N088 |  |
| 4  | 34 | 100 | 10 | 2 | 2   | 5° | 10,00 | FE040052C34K20B100 |  | FE040052C34K20N100 |  |
| 5  | 40 | 100 | 12 | 2 | 2,5 | 5° | 12,00 | FE050052C40K25B100 |  | FE050052C40K25N100 |  |
| 6  | 45 | 100 | 14 | 2 | 3   | 5° | 14,00 | FE060052C45K30B100 |  | FE060052C45K30N100 |  |
| 8  | 45 | 100 | 16 | 2 | 4   | 5° | 16,00 | FE080052C45K40B100 |  | FE080052C45K40N100 |  |
| 10 | 45 | 100 | 18 | 2 | 5   | 5° | 18,00 | FE100052C45K50B100 |  | FE100052C45K50N100 |  |
| 12 | 45 | 100 | 20 | 2 | 6   | 5° | 20,00 | FE120052C45K60B100 |  | FE120052C45K60N100 |  |

|  |    |  |        | HRC 20-30  |       |         | HRC 30-40  |       |         | INOX       |      |         | GG           |       |         | AL          |       |          | CU          |       |          | TITAN       |      |         | < 52 HRC    |      |         |
|------------------------------------------------------------------------------------|----|-------------------------------------------------------------------------------------|--------|------------|-------|---------|------------|-------|---------|------------|------|---------|--------------|-------|---------|-------------|-------|----------|-------------|-------|----------|-------------|------|---------|-------------|------|---------|
|                                                                                    |    |                                                                                     |        | 1.0050-2   |       |         | 1.5864     |       |         | 1.4405     |      |         | 0.6035       |       |         | 3.2151      |       |          | 2.1247      |       |          | 3.7035      |      |         | 1.3255      |      |         |
|                                                                                    |    |                                                                                     |        | 1.0060-2   |       |         | 1.6580     |       |         | 1.4460     |      |         | 0.7080       |       |         | 3.2373      |       |          | 2.0580      |       |          | 3.7055      |      |         | 1.3265      |      |         |
|                                                                                    |    |                                                                                     |        | 1.0070-2   |       |         | 1.7225     |       |         | 1.4505     |      |         | 0.8055       |       |         | 3.2382      |       |          | 2.0598      |       |          | 3.7065      |      |         | 1.3333      |      |         |
|                                                                                    |    |                                                                                     |        | Vc=80m/dk. |       |         | Vc=70m/dk. |       |         | Vc=50m/dk. |      |         | Vc=100 m/dk. |       |         | Vc=300m/dk. |       |          | Vc=240m/dk. |       |          | Vc=60 m/dk. |      |         | Vc=50 m/dk. |      |         |
| d1                                                                                 | α  | ap                                                                                  | ae     | fz         | n     | Vf      | fz         | n     | Vf      | fz         | n    | Vf      | fz           | n     | Vf      | fz          | n     | Vf       | fz          | n     | Vf       | fz          | n    | Vf      | fz          | n    | Vf      |
| 2                                                                                  | 1° | 1                                                                                   | 2.035  | 0.025      | 12520 | 310 x Z | 0.025      | 10955 | 270 x Z | 0.018      | 7825 | 140 x Z | 0.040        | 15650 | 625 x Z | 0.050       | 46948 | 2350 x Z | 0.040       | 37559 | 1500 x Z | 0.018       | 7825 | 140 x Z | 0.015       | 7825 | 115 x Z |
| 3                                                                                  | 1° | 1,5                                                                                 | 3.052  | 0.037      | 8348  | 310 x Z | 0.037      | 7304  | 270 x Z | 0.027      | 5218 | 140 x Z | 0.060        | 10435 | 625 x Z | 0.075       | 31304 | 2350 x Z | 0.060       | 25044 | 1500 x Z | 0.027       | 5218 | 140 x Z | 0.022       | 5218 | 115 x Z |
| 4                                                                                  | 1° | 2                                                                                   | 4.070  | 0.050      | 6260  | 310 x Z | 0.049      | 5477  | 270 x Z | 0.036      | 3912 | 140 x Z | 0.080        | 7825  | 625 x Z | 0.100       | 23474 | 2350 x Z | 0.080       | 18780 | 1500 x Z | 0.036       | 3912 | 140 x Z | 0.029       | 3912 | 115 x Z |
| 5                                                                                  | 1° | 2,5                                                                                 | 5.087  | 0.062      | 5008  | 310 x Z | 0.061      | 4451  | 270 x Z | 0.045      | 3130 | 140 x Z | 0.100        | 6260  | 625 x Z | 0.125       | 18781 | 2350 x Z | 0.100       | 15025 | 1500 x Z | 0.045       | 3130 | 140 x Z | 0.037       | 3130 | 115 x Z |
| 6                                                                                  | 1° | 3                                                                                   | 6.105  | 0.074      | 4173  | 310 x Z | 0.074      | 3652  | 270 x Z | 0.054      | 2608 | 140 x Z | 0.120        | 5216  | 625 x Z | 0.150       | 15650 | 2350 x Z | 0.120       | 12520 | 1500 x Z | 0.054       | 2608 | 140 x Z | 0.044       | 2608 | 115 x Z |
| 8                                                                                  | 1° | 4                                                                                   | 8.140  | 0.099      | 3130  | 310 x Z | 0.098      | 2739  | 270 x Z | 0.072      | 1956 | 140 x Z | 0.160        | 3912  | 625 x Z | 0.200       | 11737 | 2350 x Z | 0.160       | 7390  | 1500 x Z | 0.072       | 1956 | 140 x Z | 0.059       | 1956 | 115 x Z |
| 10                                                                                 | 1° | 5                                                                                   | 10.175 | 0.124      | 2504  | 310 x Z | 0.123      | 2191  | 270 x Z | 0.089      | 1565 | 140 x Z | 0.200        | 3130  | 625 x Z | 0.250       | 9390  | 2350 x Z | 0.200       | 7512  | 1500 x Z | 0.089       | 1565 | 140 x Z | 0.073       | 1565 | 115 x Z |
| 12                                                                                 | 1° | 6                                                                                   | 12.209 | 0.148      | 2087  | 310 x Z | 0.148      | 1826  | 270 x Z | 0.107      | 1304 | 140 x Z | 0.240        | 2608  | 625 x Z | 0.300       | 7825  | 2350 x Z | 0.240       | 6260  | 1500 x Z | 0.107       | 1304 | 140 x Z | 0.088       | 1304 | 115 x Z |