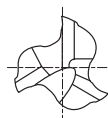


CARBIDE, 3 FLUTE SHORT LENGTH
VOLLHARTMETALL, 3 SCHNEIDEN KURZ



P.1115, 1116, 1117, 1118

Unit : mm

| EDP No. | ITEM No. | EDP No. | ITEM No. | Mill Diameter | Shank Diameter | Length of Cut | Overall Length |
|----------|------------|----------|-------------|---------------|----------------|---------------|----------------|
| PLAIN | PLAIN | FLAT | FLAT | h10 | h6 | | |
| E5425020 | T3GRC-020Z | — | — | 2.0 | 2 | 8 | 32 |
| E5425025 | T3GRC-025Z | — | — | 2.5 | 2.5 | 8 | 32 |
| E5425030 | T3GRC-030Z | — | — | 3.0 | 3 | 12 | 32 |
| E5425035 | T3GRC-035Z | — | — | 3.5 | 3.5 | 12 | 32 |
| E5425040 | T3GRC-040Z | — | — | 4.0 | 4 | 12 | 40 |
| E5425045 | T3GRC-045Z | — | — | 4.5 | 4.5 | 14 | 50 |
| E5425050 | T3GRC-050Z | — | — | 5.0 | 5 | 14 | 50 |
| E5425055 | T3GRC-055Z | — | — | 5.5 | 5.5 | 16 | 50 |
| E5425060 | T3GRC-060Z | E5417060 | T3GRC-060ZF | 6.0 | 6 | 16 | 50 |
| E5425070 | T3GRC-070Z | — | — | 7.0 | 7 | 20 | 60 |
| E5425080 | T3GRC-080Z | E5417080 | T3GRC-080ZF | 8.0 | 8 | 20 | 60 |
| E5425090 | T3GRC-090Z | — | — | 9.0 | 9 | 20 | 60 |
| E5425100 | T3GRC-100Z | E5417100 | T3GRC-100ZF | 10.0 | 10 | 22 | 70 |
| E5425120 | T3GRC-120Z | E5417120 | T3GRC-120ZF | 12.0 | 12 | 22 | 70 |
| E5425140 | T3GRC-140Z | E5417140 | T3GRC-140ZF | 14.0 | 14 | 25 | 75 |
| E5425160 | T3GRC-160Z | E5417160 | T3GRC-160ZF | 16.0 | 16 | 25 | 75 |
| E5425200 | T3GRC-200Z | E5417200 | T3GRC-200ZF | 20.0 | 20 | 32 | 100 |

► TIN, TiCN-COATING & TiAIN-COATING are available on your request.

Tolerances according to DIN 7160 & 7161
Toleranzen nach DIN 7160 & 7161

| Tolerance range in μm / Toleranzwerte in μm | | | | | |
|---|----------------------------|-----------------------------|-------------------------------|---------------------------------|---------------------------------|
| Nominal-Diameter in mm / Nennmaßbereich in mm | | | | | |
| | from 1 to 3 von 1 bis 3 | over 3 to 6 über 3 bis 6 | over 6 to 10 über 6 bis 10 | over 10 to 18 über 10 bis 18 | over 18 to 30 über 18 bis 30 |
| h10 | 0 - 40 | 0 - 48 | 0 - 58 | 0 - 70 | 0 - 84 |
| h6 | 0 - 6 | 0 - 8 | 0 - 9 | 0 - 11 | 0 - 13 |

◎ : Excellent ○ : Good

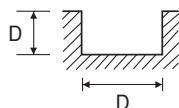
| Carbon Steels | Alloy Steels | Prehardened Steels | Hardened Steels | | High Hardened Steels | Copper | Graphite | Cast Iron | Aluminum | Stainless Steels | Titanium | Inconel | Acrylic | CFRP |
|---------------|--------------|--------------------|-----------------|----------|----------------------|--------|----------|-----------|----------|------------------|----------|---------|---------|------|
| ~HB225 | HB225~325 | HRC30~40 | HRC40~45 | HRc45~55 | HRc55~70 | | | | | | | | | |
| ◎ | ◎ | ◎ | | | | ○ | | ○ | ○ | ○ | | | | |

CARBIDE, 3 FLUTE - SLOTTING
VOLLHARTMETALL, 3 SCHNEIDEN - NUTENFRÄSEN

E5553, E5410, E5425, E5417, E5439, E5433, E5528 SERIES

| MATERIAL | CARBON STEELS ALLOY STEELS TOOL STEELS | | | | CARBON STEELS ALLOY STEELS TOOL STEELS | | | | CARBON STEELS ALLOY STEELS TOOL STEELS | | | | STAINLESS STEELS TITANIUM ALLOYS | | | |
|----------|--|------|----|-------|--|------|----|-------|--|------|----|-------|-------------------------------------|------|----|-------|
| | ~ HRc 20 | | | | HRc 20 ~ HRc 30 | | | | HRc 30 ~ HRc 40 | | | | | | | |
| STRENGTH | 500 ~ 800N/mm ² | | | | 800 ~ 1000N/mm ² | | | | 1000 ~ 1300N/mm ² | | | | | | | |
| DIAMETER | RPM | FEED | Vc | fz | RPM | FEED | Vc | fz | RPM | FEED | Vc | fz | RPM | FEED | Vc | fz |
| 2.0 | 5500 | 70 | 35 | 0.004 | 4800 | 60 | 30 | 0.004 | 4000 | 50 | 25 | 0.004 | 8000 | 55 | 50 | 0.002 |
| 3.0 | 3700 | 80 | 35 | 0.007 | 3200 | 75 | 30 | 0.008 | 2600 | 55 | 25 | 0.007 | 5300 | 55 | 50 | 0.003 |
| 4.0 | 2800 | 80 | 35 | 0.010 | 2400 | 75 | 30 | 0.010 | 2000 | 55 | 25 | 0.009 | 4000 | 55 | 50 | 0.005 |
| 5.0 | 2200 | 80 | 35 | 0.012 | 1900 | 70 | 30 | 0.012 | 1600 | 55 | 25 | 0.011 | 3200 | 55 | 50 | 0.006 |
| 6.0 | 1800 | 80 | 35 | 0.015 | 1600 | 70 | 30 | 0.015 | 1300 | 55 | 25 | 0.014 | 2600 | 60 | 50 | 0.008 |
| 8.0 | 1400 | 80 | 35 | 0.019 | 1200 | 70 | 30 | 0.019 | 1000 | 55 | 25 | 0.018 | 2000 | 60 | 50 | 0.010 |
| 10.0 | 1100 | 80 | 35 | 0.024 | 950 | 70 | 30 | 0.025 | 800 | 55 | 25 | 0.023 | 1600 | 60 | 50 | 0.013 |
| 12.0 | 900 | 80 | 35 | 0.030 | 800 | 70 | 30 | 0.029 | 660 | 55 | 25 | 0.028 | 1300 | 60 | 50 | 0.015 |
| 14.0 | 800 | 80 | 35 | 0.033 | 700 | 70 | 30 | 0.033 | 570 | 55 | 25 | 0.032 | 1100 | 60 | 50 | 0.018 |
| 16.0 | 700 | 90 | 35 | 0.043 | 600 | 75 | 30 | 0.042 | 500 | 65 | 25 | 0.043 | 1000 | 70 | 50 | 0.023 |
| 20.0 | 550 | 90 | 35 | 0.055 | 480 | 75 | 30 | 0.052 | 400 | 65 | 25 | 0.054 | 800 | 70 | 50 | 0.029 |

| MATERIAL | CAST IRON | | | | ALUMINUM ALLOYS | | | | COPPER. BRASS NON-FERROUS METALS | | | |
|----------|-----------|------|----|-------|-----------------|------|-----|-------|-------------------------------------|------|----|-------|
| | RPM | FEED | Vc | fz | RPM | FEED | Vc | fz | RPM | FEED | Vc | fz |
| 2.0 | 6500 | 140 | 40 | 0.007 | 16000 | 290 | 100 | 0.006 | 12000 | 220 | 75 | 0.006 |
| 3.0 | 4200 | 140 | 40 | 0.011 | 11000 | 300 | 105 | 0.009 | 8000 | 220 | 75 | 0.009 |
| 4.0 | 3200 | 130 | 40 | 0.014 | 8000 | 290 | 100 | 0.012 | 6000 | 220 | 75 | 0.012 |
| 5.0 | 2500 | 135 | 40 | 0.018 | 6400 | 290 | 100 | 0.015 | 4800 | 220 | 75 | 0.015 |
| 6.0 | 2100 | 160 | 40 | 0.025 | 5300 | 305 | 100 | 0.019 | 4000 | 240 | 75 | 0.020 |
| 8.0 | 1600 | 170 | 40 | 0.035 | 4000 | 310 | 100 | 0.026 | 3000 | 230 | 75 | 0.026 |
| 10.0 | 1300 | 180 | 40 | 0.046 | 3200 | 305 | 100 | 0.032 | 2400 | 230 | 75 | 0.032 |
| 12.0 | 1000 | 190 | 40 | 0.063 | 2600 | 300 | 100 | 0.038 | 2000 | 230 | 75 | 0.038 |
| 14.0 | 900 | 200 | 40 | 0.074 | 2300 | 300 | 100 | 0.043 | 1700 | 230 | 75 | 0.045 |
| 16.0 | 800 | 200 | 40 | 0.083 | 2000 | 300 | 100 | 0.050 | 1500 | 230 | 75 | 0.051 |
| 20.0 | 640 | 215 | 40 | 0.112 | 1600 | 300 | 100 | 0.063 | 1200 | 230 | 75 | 0.064 |



※ The FEED, in long & extra long types, should be reduced by around 50%

RPM = rev./min.
FEED = mm/min.
Vc = m/min.
fz = mm/t



**CARBIDE
END MILLS**

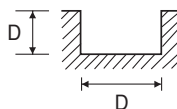
**RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN**

**CARBIDE, 3 FLUTE TiAlN-COATED - SLOTTING
VOLLHARTMETALL, 3 SCHNEIDEN TiAlN-BESCHICHTET - NUTENFRÄSEN**

E5553, E5410, E5425, E5417, E5439, E5433, E5528 SERIES

| MATERIAL | CARBON STEELS ALLOY STEELS TOOL STEELS | | | | CARBON STEELS ALLOY STEELS TOOL STEELS | | | | CARBON STEELS ALLOY STEELS TOOL STEELS | | | | STAINLESS STEELS TITANIUM ALLOYS | | | |
|----------|--|------|----|-------|--|------|----|-------|--|------|----|-------|-------------------------------------|------|----|-------|
| | ~ HRc 20 | | | | HRc 20 ~ HRc 30 | | | | HRc 30 ~ HRc 40 | | | | | | | |
| STRENGTH | 500 ~ 800N/mm ² | | | | 800 ~ 1000N/mm ² | | | | 1000 ~ 1300N/mm ² | | | | | | | |
| DIAMETER | RPM | FEED | Vc | fz | RPM | FEED | Vc | fz | RPM | FEED | Vc | fz | RPM | FEED | Vc | fz |
| 2.0 | 7700 | 100 | 50 | 0.004 | 6720 | 85 | 40 | 0.004 | 5600 | 70 | 35 | 0.004 | 11200 | 75 | 70 | 0.002 |
| 3.0 | 5180 | 110 | 50 | 0.007 | 4480 | 105 | 40 | 0.008 | 3640 | 75 | 35 | 0.007 | 7420 | 75 | 70 | 0.003 |
| 4.0 | 3920 | 110 | 50 | 0.009 | 3360 | 105 | 40 | 0.010 | 2800 | 75 | 35 | 0.009 | 5600 | 75 | 70 | 0.004 |
| 5.0 | 3080 | 110 | 50 | 0.012 | 2660 | 100 | 40 | 0.013 | 2240 | 75 | 35 | 0.011 | 4480 | 75 | 70 | 0.006 |
| 6.0 | 2520 | 110 | 50 | 0.015 | 2240 | 100 | 40 | 0.015 | 1820 | 75 | 35 | 0.014 | 3640 | 85 | 70 | 0.008 |
| 8.0 | 1960 | 110 | 50 | 0.019 | 1680 | 100 | 40 | 0.020 | 1400 | 75 | 35 | 0.018 | 2800 | 85 | 70 | 0.010 |
| 10.0 | 1540 | 110 | 50 | 0.024 | 1330 | 100 | 40 | 0.025 | 1120 | 75 | 35 | 0.022 | 2240 | 85 | 70 | 0.013 |
| 12.0 | 1260 | 110 | 50 | 0.029 | 1120 | 100 | 40 | 0.030 | 920 | 75 | 35 | 0.027 | 1820 | 85 | 70 | 0.016 |
| 14.0 | 1120 | 110 | 50 | 0.033 | 980 | 100 | 45 | 0.034 | 800 | 75 | 35 | 0.031 | 1540 | 85 | 70 | 0.018 |
| 16.0 | 980 | 125 | 50 | 0.043 | 840 | 105 | 40 | 0.042 | 700 | 90 | 35 | 0.043 | 1400 | 100 | 70 | 0.024 |
| 20.0 | 770 | 125 | 50 | 0.054 | 670 | 105 | 40 | 0.052 | 560 | 90 | 35 | 0.054 | 1120 | 100 | 70 | 0.030 |

| MATERIAL | CAST IRON | | | | ALUMINUM ALLOYS | | | | COPPER. BRASS NON-FERROUS METALS | | | |
|----------|-----------|------|----|-------|-----------------|------|-----|-------|-------------------------------------|------|-----|-------|
| | | | | | | | | | | | | |
| STRENGTH | | | | | | | | | | | | |
| DIAMETER | RPM | FEED | Vc | fz | RPM | FEED | Vc | fz | RPM | FEED | Vc | fz |
| 2.0 | 9100 | 195 | 55 | 0.007 | 22400 | 405 | 140 | 0.006 | 16800 | 310 | 105 | 0.006 |
| 3.0 | 5880 | 195 | 55 | 0.011 | 15400 | 420 | 145 | 0.009 | 11200 | 310 | 105 | 0.009 |
| 4.0 | 4480 | 180 | 55 | 0.013 | 11200 | 405 | 140 | 0.012 | 8400 | 310 | 105 | 0.012 |
| 5.0 | 3500 | 190 | 55 | 0.018 | 8960 | 405 | 140 | 0.015 | 6720 | 310 | 105 | 0.015 |
| 6.0 | 2940 | 225 | 55 | 0.026 | 7420 | 425 | 140 | 0.019 | 5600 | 335 | 105 | 0.020 |
| 8.0 | 2240 | 240 | 55 | 0.036 | 5600 | 435 | 140 | 0.026 | 4200 | 320 | 105 | 0.025 |
| 10.0 | 1820 | 250 | 55 | 0.046 | 4480 | 425 | 140 | 0.032 | 3360 | 320 | 105 | 0.032 |
| 12.0 | 1400 | 265 | 55 | 0.063 | 3640 | 420 | 135 | 0.038 | 2800 | 320 | 105 | 0.038 |
| 14.0 | 1260 | 280 | 55 | 0.074 | 3220 | 420 | 140 | 0.043 | 2380 | 320 | 105 | 0.045 |
| 16.0 | 1120 | 280 | 55 | 0.083 | 2800 | 420 | 140 | 0.050 | 2100 | 320 | 105 | 0.051 |
| 20.0 | 900 | 300 | 55 | 0.111 | 2240 | 420 | 140 | 0.063 | 1680 | 320 | 105 | 0.063 |



※ The FEED, in long & extra long types, should be reduced by around 50%

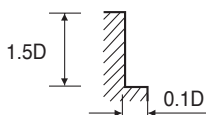
RPM = rev./min.
FEED = mm/min.
Vc = m/min.
fz = mm/t

CARBIDE, 3 FLUTE - SIDE CUTTING
VOLLHARTMETALL, 3 SCHNEIDEN - SEITENFRÄSEN

E5553, E5410, E5425, E5417, E5439, E5433, E5528 SERIES

| MATERIAL | CARBON STEELS ALLOY STEELS TOOL STEELS | | | | CARBON STEELS ALLOY STEELS TOOL STEELS | | | | CARBON STEELS ALLOY STEELS TOOL STEELS | | | | STAINLESS STEELS TITANIUM ALLOYS | | | |
|----------|--|------|----|-------|--|------|----|-------|--|------|----|-------|-------------------------------------|------|----|-------|
| | ~ HRc 20 | | | | HRc 20 ~ HRc 30 | | | | HRc 30 ~ HRc 40 | | | | | | | |
| STRENGTH | 500 ~ 800N/mm ² | | | | 800 ~ 1000N/mm ² | | | | 1000 ~ 1300N/mm ² | | | | | | | |
| DIAMETER | RPM | FEED | Vc | fz | RPM | FEED | Vc | fz | RPM | FEED | Vc | fz | RPM | FEED | Vc | fz |
| 2.0 | 5500 | 180 | 35 | 0.011 | 4800 | 160 | 30 | 0.011 | 4000 | 120 | 25 | 0.010 | 8000 | 140 | 50 | 0.006 |
| 3.0 | 3700 | 200 | 35 | 0.018 | 3200 | 170 | 30 | 0.018 | 2600 | 130 | 25 | 0.017 | 5300 | 140 | 50 | 0.009 |
| 4.0 | 2800 | 200 | 35 | 0.024 | 2400 | 180 | 30 | 0.025 | 2000 | 130 | 25 | 0.022 | 4000 | 140 | 50 | 0.012 |
| 5.0 | 2200 | 200 | 35 | 0.030 | 1900 | 180 | 30 | 0.032 | 1600 | 130 | 25 | 0.027 | 3200 | 140 | 50 | 0.015 |
| 6.0 | 1800 | 200 | 35 | 0.037 | 1600 | 180 | 30 | 0.038 | 1300 | 130 | 25 | 0.033 | 2600 | 150 | 50 | 0.019 |
| 8.0 | 1400 | 200 | 35 | 0.048 | 1200 | 180 | 30 | 0.050 | 1000 | 130 | 25 | 0.043 | 2000 | 150 | 50 | 0.025 |
| 10.0 | 1100 | 200 | 35 | 0.061 | 950 | 180 | 30 | 0.063 | 800 | 130 | 25 | 0.054 | 1600 | 150 | 50 | 0.031 |
| 12.0 | 900 | 200 | 35 | 0.074 | 800 | 180 | 30 | 0.075 | 660 | 130 | 25 | 0.066 | 1300 | 150 | 50 | 0.038 |
| 14.0 | 800 | 200 | 35 | 0.083 | 700 | 180 | 30 | 0.086 | 570 | 130 | 25 | 0.076 | 1100 | 150 | 50 | 0.045 |
| 16.0 | 700 | 220 | 35 | 0.105 | 600 | 190 | 30 | 0.106 | 500 | 160 | 25 | 0.107 | 1000 | 170 | 50 | 0.057 |
| 20.0 | 550 | 220 | 35 | 0.133 | 480 | 190 | 30 | 0.132 | 400 | 160 | 25 | 0.133 | 800 | 180 | 50 | 0.075 |

| MATERIAL | CAST IRON | | | | ALUMINUM ALLOYS | | | | COPPER. BRASS NON-FERROUS METALS | | | |
|----------|-----------|------|----|-------|-----------------|------|-----|-------|-------------------------------------|------|----|-------|
| | RPM | FEED | Vc | fz | RPM | FEED | Vc | fz | RPM | FEED | Vc | fz |
| 2.0 | 6500 | 330 | 40 | 0.017 | 16000 | 720 | 100 | 0.015 | 12000 | 540 | 75 | 0.015 |
| 3.0 | 4200 | 330 | 40 | 0.026 | 11000 | 690 | 105 | 0.021 | 8000 | 530 | 75 | 0.022 |
| 4.0 | 3200 | 340 | 40 | 0.035 | 8000 | 720 | 100 | 0.030 | 6000 | 540 | 75 | 0.030 |
| 5.0 | 2500 | 340 | 40 | 0.045 | 6400 | 710 | 100 | 0.037 | 4800 | 530 | 75 | 0.037 |
| 6.0 | 2100 | 400 | 40 | 0.063 | 5300 | 760 | 100 | 0.048 | 4000 | 580 | 75 | 0.048 |
| 8.0 | 1600 | 430 | 40 | 0.090 | 4000 | 760 | 100 | 0.063 | 3000 | 580 | 75 | 0.064 |
| 10.0 | 1300 | 450 | 40 | 0.115 | 3200 | 760 | 100 | 0.079 | 2400 | 580 | 75 | 0.081 |
| 12.0 | 1000 | 470 | 40 | 0.157 | 2600 | 760 | 100 | 0.097 | 2000 | 580 | 75 | 0.097 |
| 14.0 | 900 | 490 | 40 | 0.181 | 2300 | 760 | 100 | 0.110 | 1700 | 580 | 75 | 0.114 |
| 16.0 | 800 | 510 | 40 | 0.213 | 2000 | 760 | 100 | 0.127 | 1500 | 580 | 75 | 0.129 |
| 20.0 | 640 | 540 | 40 | 0.281 | 1600 | 760 | 100 | 0.158 | 1200 | 580 | 75 | 0.161 |



※ The FEED, in long & extra long types, should be reduced by around 50%

RPM = rev./min.
FEED = mm/min.
Vc = m/min.
fz = mm/t



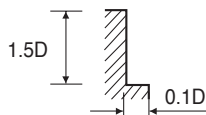
RECOMMENDED CUTTING CONDITIONS
EMPFOLGENE SCHNEIDKONDITIONEN

CARBIDE, 3 FLUTE TiAlN-COATED - SIDE CUTTING
VOLLHARTMETALL, 3 SCHNEIDEN TiAlN-BESCHICHTET - SEITENFRÄSEN

E5553, E5410, E5425, E5417, E5439, E5433, E5528 SERIES

| MATERIAL | CARBON STEELS ALLOY STEELS TOOL STEELS | | | | CARBON STEELS ALLOY STEELS TOOL STEELS | | | | CARBON STEELS ALLOY STEELS TOOL STEELS | | | | STAINLESS STEELS TITANIUM ALLOYS | | | |
|----------|--|------|----|-------|--|------|----|-------|--|------|----|-------|-------------------------------------|------|----|-------|
| | ~ HRc 20 | | | | HRc 20 ~ HRc 30 | | | | HRc 30 ~ HRc 40 | | | | | | | |
| STRENGTH | 500 ~ 800N/mm ² | | | | 800 ~ 1000N/mm ² | | | | 1000 ~ 1300N/mm ² | | | | | | | |
| DIAMETER | RPM | FEED | Vc | fz | RPM | FEED | Vc | fz | RPM | FEED | Vc | fz | RPM | FEED | Vc | fz |
| 2.0 | 7700 | 250 | 50 | 0.016 | 6720 | 225 | 40 | 0.011 | 5600 | 170 | 35 | 0.010 | 11200 | 195 | 70 | 0.006 |
| 3.0 | 5180 | 280 | 50 | 0.027 | 4480 | 240 | 40 | 0.018 | 3640 | 180 | 35 | 0.016 | 7420 | 195 | 70 | 0.009 |
| 4.0 | 3920 | 280 | 50 | 0.036 | 3360 | 250 | 40 | 0.025 | 2800 | 180 | 35 | 0.021 | 5600 | 195 | 70 | 0.012 |
| 5.0 | 3080 | 280 | 50 | 0.045 | 2660 | 250 | 40 | 0.031 | 2240 | 180 | 35 | 0.027 | 4480 | 195 | 70 | 0.015 |
| 6.0 | 2520 | 280 | 50 | 0.056 | 2240 | 250 | 40 | 0.037 | 1820 | 180 | 35 | 0.033 | 3640 | 210 | 70 | 0.019 |
| 8.0 | 1960 | 280 | 50 | 0.071 | 1680 | 250 | 40 | 0.050 | 1400 | 180 | 35 | 0.043 | 2800 | 210 | 70 | 0.025 |
| 10.0 | 1540 | 280 | 50 | 0.091 | 1330 | 250 | 40 | 0.063 | 1120 | 180 | 35 | 0.054 | 2240 | 210 | 70 | 0.031 |
| 12.0 | 1260 | 280 | 50 | 0.111 | 1120 | 250 | 40 | 0.074 | 920 | 180 | 35 | 0.065 | 1820 | 210 | 70 | 0.038 |
| 14.0 | 1120 | 280 | 50 | 0.125 | 980 | 250 | 45 | 0.085 | 800 | 180 | 35 | 0.075 | 1540 | 210 | 70 | 0.045 |
| 16.0 | 980 | 310 | 50 | 0.158 | 840 | 265 | 40 | 0.105 | 700 | 225 | 35 | 0.107 | 1400 | 240 | 70 | 0.057 |
| 20.0 | 770 | 310 | 50 | 0.201 | 670 | 265 | 40 | 0.132 | 560 | 225 | 35 | 0.134 | 1120 | 250 | 70 | 0.074 |

| MATERIAL | CAST IRON | | | | ALUMINUM ALLOYS | | | | COPPER. BRASS NON-FERROUS METALS | | | |
|----------|-----------|------|----|-------|-----------------|------|-----|-------|-------------------------------------|------|-----|-------|
| | RPM | FEED | Vc | fz | RPM | FEED | Vc | fz | RPM | FEED | Vc | fz |
| 2.0 | 9100 | 460 | 55 | 0.017 | 22400 | 1010 | 140 | 0.015 | 16800 | 755 | 105 | 0.015 |
| 3.0 | 5880 | 460 | 55 | 0.026 | 15400 | 965 | 145 | 0.021 | 11200 | 740 | 105 | 0.022 |
| 4.0 | 4480 | 475 | 55 | 0.035 | 11200 | 1010 | 140 | 0.030 | 8400 | 755 | 105 | 0.030 |
| 5.0 | 3500 | 475 | 55 | 0.045 | 8960 | 995 | 140 | 0.037 | 6720 | 740 | 105 | 0.037 |
| 6.0 | 2940 | 560 | 55 | 0.063 | 7420 | 1065 | 140 | 0.048 | 5600 | 810 | 105 | 0.048 |
| 8.0 | 2240 | 600 | 55 | 0.089 | 5600 | 1065 | 140 | 0.063 | 4200 | 810 | 105 | 0.064 |
| 10.0 | 1820 | 630 | 55 | 0.115 | 4480 | 1065 | 140 | 0.079 | 3360 | 810 | 105 | 0.080 |
| 12.0 | 1400 | 660 | 55 | 0.157 | 3640 | 1065 | 135 | 0.098 | 2800 | 810 | 105 | 0.096 |
| 14.0 | 1260 | 685 | 55 | 0.181 | 3220 | 1065 | 140 | 0.110 | 2380 | 810 | 105 | 0.113 |
| 16.0 | 1120 | 715 | 55 | 0.213 | 2800 | 1065 | 140 | 0.127 | 2100 | 810 | 105 | 0.129 |
| 20.0 | 900 | 755 | 55 | 0.280 | 2240 | 1065 | 140 | 0.158 | 1680 | 810 | 105 | 0.161 |



※ The FEED, in long & extra long types, should be reduced by around 50%

RPM = rev./min.
FEED = mm/min.
Vc = m/min.
fz = mm/t