

RECOMMENDED CUTTING CONDITIONS

| Work Material | Properties | Cutting Mode | Chipbreaker | | Recom- mendation | Cutting Speed (m/min) | L/D ≤ 3 (Steel shank) | | L/D ≤ 4-5 (Steel shank) | | |
|----------------------|--------------------------------|--------------|--------------|------------------|---------------------|--------------------------|-----------------------|----------------------|-------------------------|----------------------|------|
| | | | | | | | Feed (mm/rev) | Depth of Cut (mm) | Feed (mm/rev) | Depth of Cut (mm) | |
| P Mild Steel | ≤180HB | Finish | FP | FV | NX2525 | 170 (120-220) | 0.10 (0.05-0.15) | -0.5 | 0.10 (0.05-0.15) | -0.5 | |
| | | | LP | SV | MP3025 | 150 (100-200) | 0.20 (0.10-0.25) | -1.0 | 0.15 (0.05-0.20) | -1.0 | |
| | | Light | LP | SV | NX2525 | 160 (110-210) | 0.20 (0.10-0.25) | -1.0 | 0.15 (0.05-0.20) | -1.0 | |
| | | | SV | - | NX3035 | 150 (100-200) | 0.20 (0.10-0.25) | -1.0 | 0.15 (0.05-0.20) | -1.0 | |
| | | Medium | MP | MV | MP3025 | 140 (90-190) | 0.25 (0.15-0.35) | -2.0 | 0.20 (0.15-0.25) | -1.5 | |
| | | | MP | MV | NX2525 | 150 (100-200) | 0.25 (0.15-0.35) | -2.0 | 0.20 (0.15-0.25) | -1.5 | |
| | Carbon Steel Alloy Steel | 180-350HB | Finish | FP | - | MC6115 | 140 (90-190) | 0.10 (0.05-0.15) | -0.5 | 0.10 (0.05-0.15) | -0.5 |
| | | | | FV | - | VP15TF | 140 (90-190) | 0.10 (0.05-0.15) | -0.5 | 0.10 (0.05-0.15) | -0.5 |
| | | | | FP | FV | NX2525 | 130 (80-180) | 0.10 (0.05-0.15) | -0.5 | 0.10 (0.05-0.15) | -0.5 |
| | | | Light | LP | SV | MC6125 | 140 (90-190) | 0.20 (0.10-0.25) | -1.0 | 0.15 (0.05-0.20) | -1.0 |
| | | | | LP | SV | MP3025 | 110 (60-160) | 0.20 (0.10-0.25) | -1.0 | 0.15 (0.05-0.20) | -1.0 |
| | | | SV | - | NX3035 | 110 (60-160) | 0.20 (0.10-0.25) | -1.0 | 0.15 (0.05-0.20) | -1.0 | |
| Medium | MP | MV | MC6125 | 130 (80-180) | 0.25 (0.15-0.35) | -2.0 | 0.20 (0.15-0.25) | -1.5 | | | |
| | MP | MV | MP3025 | 100 (60-150) | 0.25 (0.15-0.35) | -2.0 | 0.20 (0.15-0.25) | -1.5 | | | |
| | MV | - | NX3035 | 100 (60-150) | 0.25 (0.15-0.35) | -2.0 | 0.20 (0.15-0.25) | -1.5 | | | |
| M Stainless Steel | ≤200HB | Finish | FM | FV | VP15TF | 150 (110-190) | 0.10 (0.05-0.15) | -0.5 | 0.10 (0.05-0.15) | -0.5 | |
| | | | LM | - | MC7025 | 125 (85-165) | 0.20 (0.10-0.25) | -1.0 | 0.15 (0.05-0.20) | -1.0 | |
| | | Light | SV | - | US735 | 125 (85-165) | 0.20 (0.10-0.25) | -1.0 | 0.15 (0.05-0.20) | -1.0 | |
| | | | LM | SV | VP15TF | 130 (90-170) | 0.20 (0.10-0.25) | -1.0 | 0.15 (0.05-0.20) | -1.0 | |
| | | Medium | MM | - | MC7025 | 105 (70-135) | 0.20 (0.10-0.25) | -2.0 | 0.20 (0.15-0.25) | -1.0 | |
| | | | MV | - | US735 | 125 (85-165) | 0.20 (0.10-0.25) | -1.0 | 0.15 (0.05-0.20) | -1.0 | |
| MM | MV | VP15TF | 120 (80-160) | 0.20 (0.10-0.25) | -2.0 | 0.20 (0.15-0.25) | -1.0 | | | | |
| K Gray Cast Iron | Tensile Strength ≤350MPa | Finish | F | FS | HTi10 | 130 (90-160) | 0.15 (0.10-0.20) | -0.5 | 0.15 (0.05-0.20) | -0.5 | |
| | | Medium | MK | - | MC5015 | 90 (60-120) | 0.20 (0.15-0.25) | -2.0 | 0.20 (0.15-0.25) | -1.5 | |
| MV | - | | VP15TF | 90 (60-120) | 0.20 (0.10-0.25) | -2.0 | 0.20 (0.15-0.25) | -1.5 | | | |
| N Aluminium Alloy | - | Finish | F | FS | HTi10 | 300 (200-400) | 0.10 (0.05-0.15) | -0.5 | 0.10 (0.05-0.15) | -0.5 | |
| | | | Flat Top | - | MD220 | 200 (150-250) | 0.10 (0.05-0.15) | -2.0 | 0.10 (0.05-0.15) | -1.0 | |
| H Hardened Steel | 35-65HRC | Finish | Flat Top | - | MB8120 | 100 (80-200) | 0.10 (0.05-0.15) | -0.15 | 0.10 (0.05-0.15) | -0.1 | |

Note 1) When vibrations occur, reduce cutting speed by 30%.

Note 2) The depth of cut needs to be less than the corner diameter when using the FSVJ type.

Note 3) The recommended pressure for the internal coolant is 1MPa.

Note 4) The insert photos are only examples. The letters refer to the chipbreaker and the dimension refers to the inscribed circle.

Note 5) Dimensions shown for insert corner RE 0.4. (Model of ☆ Mark is RE 0.8)

Note 6) When using insert with right and left hand chipbreaker, please use left hand insert for right hand holder and right hand insert for left hand holder.