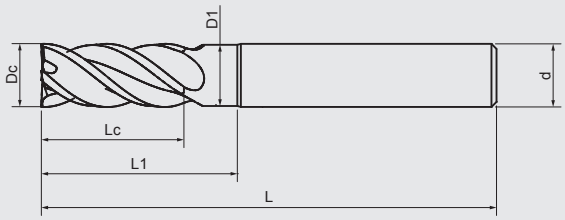
F524SX / F525SX

# Premium Cut End Mills

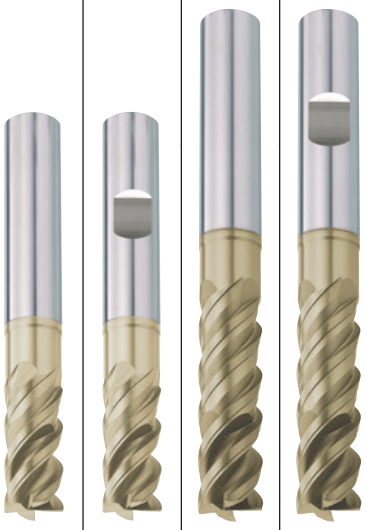
Two unequal flutes, and small edge cutting land with the relief angle, with better impact resistance.

Designed with high removal cutting geometry.

The use of Si-silicon AlTiSiN coating has excellent wear resistance.







Improved cutting edge strength for cutting different materials below 48HRC, stainless steel, cast iron as well as aluminium.

Application from roughing to finishing cutting, drilling, ramping... in different materials.

| F524SX HA | F524SX HB | F525SX HA | F525SX HB |
|---|---|---|---|
| P | P | P | P |
| H | H | H | H |
| M | M | M | M |
| K | K | K | K |

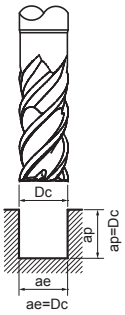
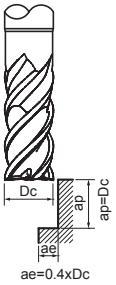
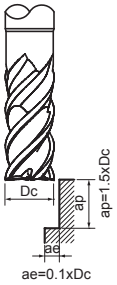
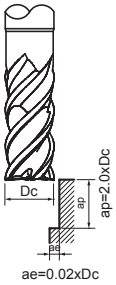
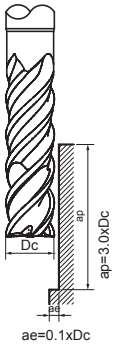
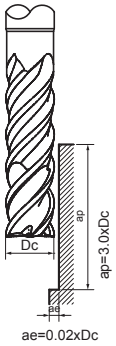
## DIN 6527 Standard Length

| Dc $^{0}_{-0.02}$ | Lc mm | L mm | d h5 | L1 mm | D1 mm | 45° mm | F524SX HA | F524SX HB | F525SX HA | F525SX HB |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 8 | 57 | 6 | 14 | 2.8 | 0.10 | ● | ● | | |
| 4 | 11 | 57 | 6 | 16 | 3.8 | 0.10 | ● | ● | | |
| 5 | 13 | 57 | 6 | 18 | 4.8 | 0.15 | ● | ● | | |
| 6 | 13 | 57 | 6 | 20 | 5.8 | 0.15 | ● | ● | | |
| 8 | 19 | 63 | 8 | 26 | 7.7 | 0.15 | ● | ● | | |
| 10 | 22 | 72 | 10 | 31 | 9.7 | 0.20 | ● | ● | | |
| 12 | 26 | 83 | 12 | 37 | 11.6 | 0.20 | ● | ● | | |
| 14 | 26 | 83 | 14 | 37 | 13.5 | 0.20 | ● | ● | | |
| 16 | 32 | 92 | 16 | 43 | 15.5 | 0.20 | ● | ● | | |
| 18 | 32 | 92 | 18 | 43 | 17.5 | 0.20 | ● | ● | | |
| 20 | 38 | 104 | 20 | 53 | 19.5 | 0.20 | ● | ● | | |

## Long Length

| Dc $^{0}_{-0.02}$ | Lc mm | L mm | d h5 | L1 mm | D1 mm | 45° mm | F524SX HA | F524SX HB | F525SX HA | F525SX HB |
|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 19 | 63 | 6 | 26 | 5.8 | 0.15 | | | ● | ● |
| 8 | 28 | 72 | 8 | 35 | 7.7 | 0.15 | | | ● | ● |
| 10 | 34 | 84 | 10 | 43 | 9.7 | 0.20 | | | ● | ● |
| 12 | 40 | 97 | 12 | 51 | 11.6 | 0.20 | | | ● | ● |
| 16 | 48 | 108 | 16 | 59 | 15.5 | 0.20 | | | ● | ● |
| 20 | 56 | 122 | 20 | 71 | 19.5 | 0.20 | | | ● | ● |

## Cutting Conditions

| | | F524SX | | F524SX | | F524SX | | F524SX | | F525SX | | F525SX | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F524SX<br>F525SX | |  ae=Dc | |  ae=0.4xDc | |  ae=0.1xDc | |  ae=0.02xDc | |  ae=0.1xDc | |  ae=0.02xDc | |
| | | cutting speed Vc (m/min) | feed per tooth fz(mm) | cutting speed Vc (m/min) | feed per tooth fz(mm) | cutting speed Vc (m/min) | feed per tooth fz(mm) | cutting speed Vc (m/min) | feed per tooth fz(mm) | cutting speed Vc (m/min) | feed per tooth fz(mm) | cutting speed Vc (m/min) | feed per tooth fz(mm) |
| P | Carbon Steel Materials | | | | | | | | | | | | |
| | GR1 Carbon Steel | 120 | 0.006xDc | 120 | 0.006xDc | 130 | 0.006xDc | 140 | 0.007xDc | 110 | 0.006xDc | 120 | 0.006xDc |
| | GR2 <24HRC Low-alloyed Steel | 120 | 0.005xDc | 120 | 0.005xDc | 130 | 0.005xDc | 140 | 0.006xDc | 110 | 0.005xDc | 120 | 0.005xDc |
| | GR3 <30HRC Hi-alloyed Steel | 80 | 0.005xDc | 80 | 0.005xDc | 90 | 0.005xDc | 100 | 0.006xDc | 70 | 0.005xDc | 80 | 0.005xDc |
| H | Hardened Steel Materials | | | | | | | | | | | | |
| | GR4 30~38HRC Hardened Steel | 65 | 0.004xDc | 90 | 0.003xDc | 90 | 0.003xDc | 100 | 0.003xDc | 90 | 0.004xDc | 100 | 0.003xDc |
| | GR5 38~48HRC Hardened Steel | 60 | 0.003xDc | 80 | 0.003xDc | 80 | 0.003xDc | 90 | 0.003xDc | 70 | 0.003xDc | 80 | 0.003xDc |
| M | Stainless Steel Materials | | | | | | | | | | | | |
| | GR8-1 Ferritic、Martensitic | 80 | 0.003xDc | 90 | 0.004xDc | 110 | 0.003xDc | 130 | 0.003xDc | 70 | 0.003xDc | 80 | 0.004xDc |
| | GR8-2 Austenitic | 70 | 0.003xDc | 80 | 0.003xDc | 90 | 0.003xDc | 100 | 0.003xDc | 60 | 0.003xDc | 70 | 0.003xDc |
| | GR8-3 Austenitic-ferritic | 40 | 0.002xDc | 50 | 0.003xDc | 90 | 0.002xDc | 60 | 0.002xDc | 50 | 0.002xDc | 60 | 0.003xDc |
| | GR8-4 Austenitic-ferritic Heat-resistant | 30 | 0.002xDc | 40 | 0.003xDc | 40 | 0.002xDc | 50 | 0.002xDc | 40 | 0.002xDc | 50 | 0.003xDc |
| K | Cast Lron Materials | | | | | | | | | | | | |
| | GR9-1 Grey cast iron | 110 | 0.006xDc | 110 | 0.006xDc | 120 | 0.006xDc | 130 | 0.007xDc | 100 | 0.006xDc | 110 | 0.005xDc |
| | GR9-2 Nodular cast iron | 120 | 0.006xDc | 120 | 0.006xDc | 130 | 0.006xDc | 140 | 0.007xDc | 110 | 0.006xDc | 120 | 0.005xDc |

All cutting data serve for orientation only and should be adapted individually to the technical conditions on location
1. Please work with good rigidity / high precision facilities and collet chuck.
2. Please choose proper cutting fluid.
3. The cutting data is reference value only. Please adjust it according to your real working conditions.
4. If RPM is lower the reference value, the Feed rate (fz) and RPM should be reduced by the same proportion.
5. If vibration occurs during cutting, please reduce cutting parameter.