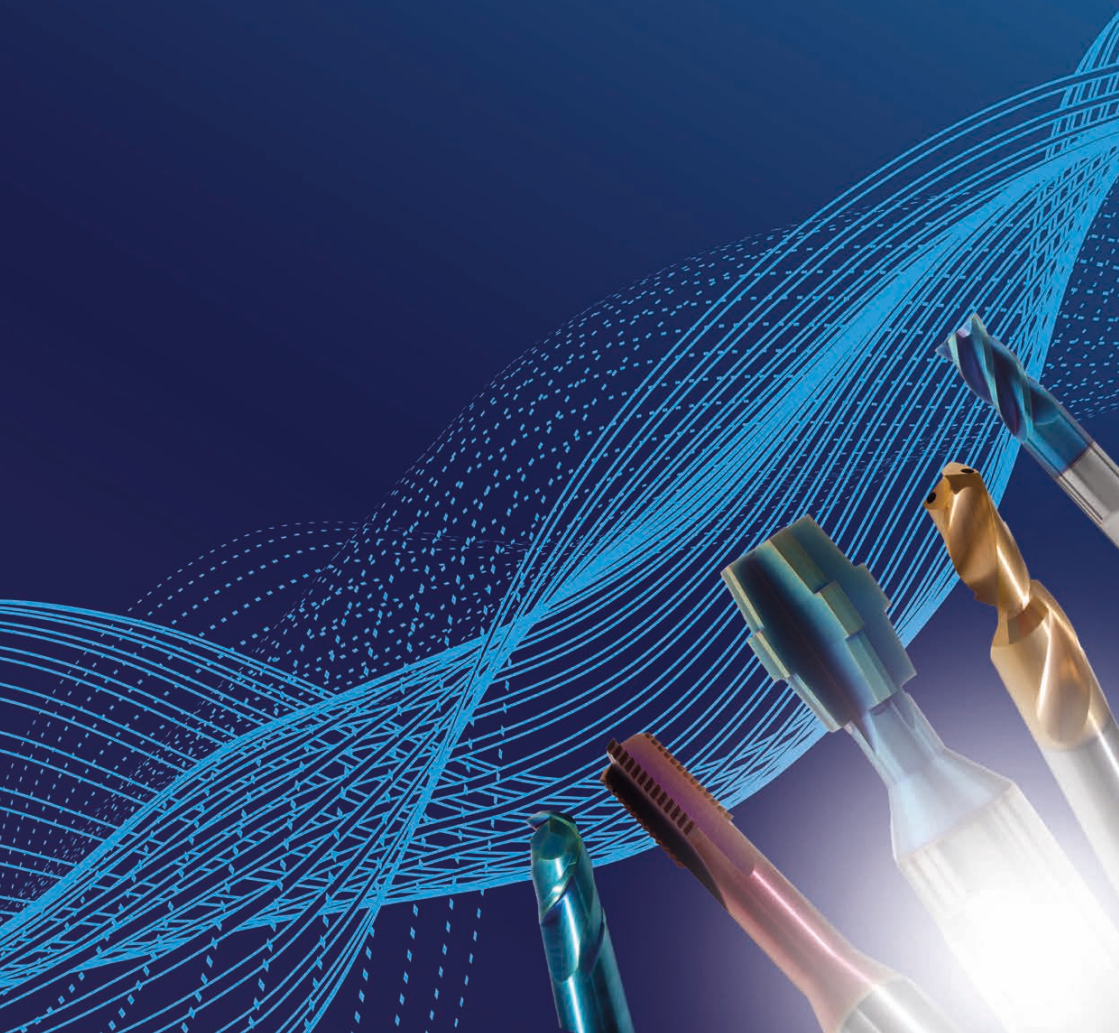




VÝROBA HM STANDARDNÍCH
A SPECIÁLNÍCH ROTAČNÍCH NÁSTROJŮ



OBSAH

| | |
|-------------------------------------|-------|
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| FRÉZY KULOVÉ A RÁDIUSOVÉ | 11-28 |
| FRÉZY HRUBOVACÍ | 29-30 |
| FRÉZY SE SPECIÁLNÍ GEOMETRIÍ | 31-34 |
| FRÉZY NA HLINÍK | 45-48 |
| SRÁŽEČE | 45-48 |
| NAVRTÁVÁKY | 49-50 |
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| VÝSTRUŽNÍKY | 78-79 |
| PŘÍKLADY SPECIÁLNÍCH NÁSTROJŮ | 80-81 |

ZÁKLADNÍ NABÍDKA POVLAKŮ

TripleCoating SI

povlak TiN+AlTiN+TiSiN

OBLAST APLIKACÍ

Obrábění zušlechťených ocelí s tvrdostí nad 60 HRC, obrábění těžkoobrobitelných materiálů, obrábění za sucha či za intenzivních řezných podmínek.

TripleCoating Cr

povlak TiN+AlTiN+CrAlSiN

OBLAST APLIKACÍ

Obrábění kalených materiálů, nerezí, obrábění těžkoobrobitelných materiálů a velmi náročné aplikace.

MARWIN SI

povlak TiAlSiN

OBLAST APLIKACÍ

Povlak se širokou škálou použití pro frézování, vystružování a vrtání.

MARWIN G

povlak TiAlN -AlTiN

OBLAST APLIKACÍ

Univerzální povlak se širokou škálou použití pro frézování, vrtání, vystružování.

ALWIN

povlak CrAlSiN

OBLAST APLIKACÍ

Lisování, tváření, frézování, vrtání, tlakové lití hliníku.

TiN

povlak TiN

OBLAST APLIKACÍ

Povlak vhodný pro vrtání a frézování, komponenty, formy či jiné nástroje.

FRÉZY VÁLCOVÉ

UNIVERZÁLNÍ

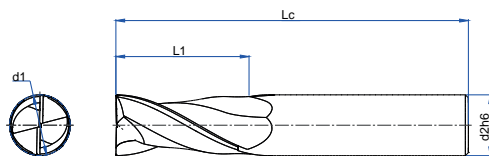
2 Z

45HRC

$\frac{\lambda 30^\circ}{\gamma 8^\circ}$

DIN 6535
HA

MARWIN SI
TripleCoating Cr



STANDARDNÍ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|--------|----|-----|-------|------|------------------------|-------------------------------|
| 5 | 12 | 51 | 5 | 2 | SV05B2M | SV05B2T |
| 6 | 13 | 55 | 6 | 2 | SV06B2M | SV06B2T |
| 8 | 19 | 63 | 8 | 2 | SV08B2M | SV08B2T |
| 10 | 22 | 72 | 10 | 2 | SV10B2M | SV10B2T |
| 12 | 26 | 80 | 12 | 2 | SV12B2M | SV12B2T |
| 14 | 26 | 80 | 14 | 2 | SV14B2M | SV14B2T |
| 16 | 32 | 92 | 16 | 2 | SV16B2M | SV16B2T |
| 18 | 32 | 92 | 18 | 2 | SV18B2M | SV18B2T |
| 20 | 38 | 104 | 20 | 2 | SV20B2M | SV20B2T |

PRODLOUŽENÉ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|--------|----|-----|-------|------|------------------------|-------------------------------|
| 5 | 20 | 60 | 5 | 2 | PV05B2M | PV05B2T |
| 6 | 20 | 60 | 6 | 2 | PV06B2M | PV06B2T |
| 8 | 25 | 70 | 8 | 2 | PV08B2M | PV08B2T |
| 10 | 30 | 90 | 10 | 2 | PV10B2M | PV10B2T |
| 12 | 36 | 90 | 12 | 2 | PV12B2M | PV12B2T |
| 14 | 38 | 90 | 14 | 2 | PV14B2M | PV14B2T |
| 16 | 50 | 110 | 16 | 2 | PV16B2M | PV16B2T |
| 18 | 50 | 110 | 18 | 2 | PV18B2M | PV18B2T |
| 20 | 55 | 110 | 20 | 2 | PV20B2M | PV20B2T |

FRÉZY VÁLCOVÉ

UNIVERZÁLNÍ

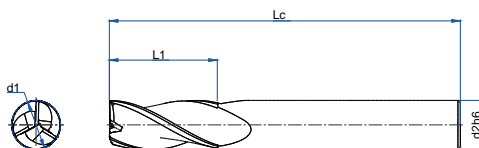
3 Z

45HRC

$\frac{\lambda 30^\circ}{\gamma 8^\circ}$

DIN 6535
HA

MARWIN SI
TripleCoating Cr



STANDARDNÍ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|--------|----|-----|-------|------|------------------------|-------------------------------|
| 5 | 12 | 51 | 5 | 3 | SV05B3M | SV05B3T |
| 6 | 13 | 55 | 6 | 3 | SV06B3M | SV06B3T |
| 8 | 19 | 63 | 8 | 3 | SV08B3M | SV08B3T |
| 10 | 22 | 72 | 10 | 3 | SV10B3M | SV10B3T |
| 12 | 26 | 80 | 12 | 3 | SV12B3M | SV12B3T |
| 14 | 26 | 80 | 14 | 3 | SV14B3M | SV14B3T |
| 16 | 32 | 92 | 16 | 3 | SV16B3M | SV16B3T |
| 18 | 32 | 92 | 18 | 3 | SV18B3M | SV18B3T |
| 20 | 38 | 104 | 20 | 3 | SV20B3M | SV20B3T |
| 25 | 45 | 110 | 25 | 3 | SV25B3M | SV25B3T |

PRODLOUŽENÉ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|--------|----|-----|-------|------|------------------------|-------------------------------|
| 5 | 20 | 60 | 5 | 3 | PV05B3M | PV05B3T |
| 6 | 20 | 60 | 6 | 3 | PV06B3M | PV06B3T |
| 8 | 25 | 70 | 8 | 3 | PV08B3M | PV08B3T |
| 10 | 30 | 90 | 10 | 3 | PV10B3M | PV10B3T |
| 12 | 36 | 90 | 12 | 3 | PV12B3M | PV12B3T |
| 14 | 38 | 90 | 14 | 3 | PV14B3M | PV14B3T |
| 16 | 50 | 110 | 16 | 3 | PV16B3M | PV16B3T |
| 18 | 50 | 110 | 18 | 3 | PV18B3M | PV18B3T |
| 20 | 55 | 110 | 20 | 3 | PV20B3M | PV20B3T |
| 25 | 60 | 120 | 25 | 3 | PV25B3M | PV25B3T |

FRÉZY VÁLCOVÉ

UNIVERZÁLNÍ

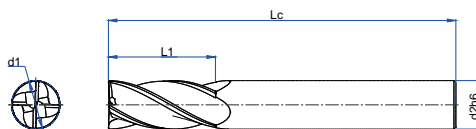
4 Z

45HRC

$\frac{\lambda 30^\circ}{\gamma 8^\circ}$

DIN 6535
HA

MARWIN SI
TripleCoating Cr



STANDARDNÍ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|--------|----|-----|-------|------|------------------------|-------------------------------|
| 5 | 12 | 51 | 5 | 4 | SV05B4M | SV05B4T |
| 6 | 13 | 55 | 6 | 4 | SV06B4M | SV06B4T |
| 8 | 19 | 63 | 8 | 4 | SV08B4M | SV08B4T |
| 10 | 22 | 72 | 10 | 4 | SV10B4M | SV10B4T |
| 12 | 26 | 80 | 12 | 4 | SV12B4M | SV12B4T |
| 14 | 26 | 80 | 14 | 4 | SV14B4M | SV14B4T |
| 16 | 32 | 92 | 16 | 4 | SV16B4M | SV16B4T |
| 18 | 32 | 92 | 18 | 4 | SV18B4M | SV18B4T |
| 20 | 38 | 104 | 20 | 4 | SV20B4M | SV20B4T |
| 25 | 45 | 110 | 25 | 4 | SV25B4M | SV25B4T |

PRODLOUŽENÉ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|--------|----|-----|-------|------|------------------------|-------------------------------|
| 5 | 20 | 60 | 5 | 4 | PV05B4M | PV05B4T |
| 6 | 20 | 60 | 6 | 4 | PV06B4M | PV06B4T |
| 8 | 25 | 70 | 8 | 4 | PV08B4M | PV08B4T |
| 10 | 30 | 90 | 10 | 4 | PV10B4M | PV10B4T |
| 12 | 36 | 90 | 12 | 4 | PV12B4M | PV12B4T |
| 14 | 38 | 90 | 14 | 4 | PV14B4M | PV14B4T |
| 16 | 50 | 110 | 16 | 4 | PV16B4M | PV16B4T |
| 18 | 50 | 110 | 18 | 4 | PV18B4M | PV18B4T |
| 20 | 55 | 110 | 20 | 4 | PV20B4M | PV20B4T |
| 25 | 60 | 120 | 25 | 4 | PV25B4M | PV25B4T |

FRÉZY VÁLCOVÉ

ANTIVIBRAČNÍ DO 55HRC

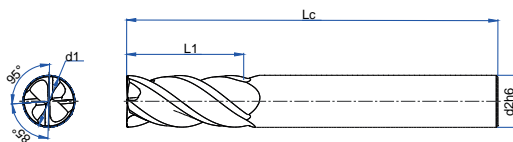
4 Z/X

55HRC

$\frac{\lambda 40^\circ}{\gamma 5^\circ}$

DIN 6535
HA

MARWIN SI
TripleCoating Cr



STANDARDNÍ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|--------|----|-----|-------|------|------------------------|-------------------------------|
| 5 | 12 | 51 | 5 | 4/X | SVX05B4M | SVX05B4T |
| 6 | 13 | 55 | 6 | 4/X | SVX06B4M | SVX06B4T |
| 8 | 19 | 63 | 8 | 4/X | SVX08B4M | SVX08B4T |
| 10 | 22 | 72 | 10 | 4/X | SVX10B4M | SVX10B4T |
| 12 | 26 | 80 | 12 | 4/X | SVX12B4M | SVX12B4T |
| 14 | 26 | 80 | 14 | 4/X | SVX14B4M | SVX14B4T |
| 16 | 32 | 92 | 16 | 4/X | SVX16B4M | SVX16B4T |
| 18 | 32 | 92 | 18 | 4/X | SVX18B4M | SVX18B4T |
| 20 | 38 | 104 | 20 | 4/X | SVX20B4M | SVX20B4T |
| 25 | 45 | 110 | 25 | 4/X | SVX25B4M | SVX25B4T |

PRODLOUŽENÉ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|--------|----|-----|-------|------|------------------------|-------------------------------|
| 5 | 20 | 60 | 5 | 4/X | PVX05B4M | PVX05B4T |
| 6 | 20 | 60 | 6 | 4/X | PVX06B4M | PVX06B4T |
| 8 | 25 | 70 | 8 | 4/X | PVX08B4M | PVX08B4T |
| 10 | 30 | 90 | 10 | 4/X | PVX10B4M | PVX10B4T |
| 12 | 36 | 90 | 12 | 4/X | PVX12B4M | PVX12B4T |
| 14 | 38 | 90 | 14 | 4/X | PVX14B4M | PVX14B4T |
| 16 | 50 | 110 | 16 | 4/X | PVX16B4M | PVX16B4T |
| 18 | 50 | 110 | 18 | 4/X | PVX18B4M | PVX18B4T |
| 20 | 55 | 110 | 20 | 4/X | PVX20B4M | PVX20B4T |
| 25 | 60 | 120 | 25 | 4/X | PVX25B4M | PVX25B4T |

FRÉZY VÁLCOVÉ

ANTIVIBRAČNÍ DO 55 HRC/2 ŠROUBOVICE

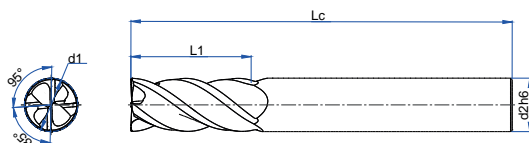
4 Z/X

55HRC

$\lambda 35^\circ/37^\circ$
 $\gamma 8^\circ$

DIN 6535
HA

MARWIN SI
TripleCoating Cr



STANDARDNÍ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|--------|----|-----|-------|------|------------------------|-------------------------------|
| 5 | 12 | 51 | 5 | 4/X | SVXN05B4M | SVXN05B4T |
| 6 | 13 | 55 | 6 | 4/X | SVXN06B4M | SVXN06B4T |
| 8 | 19 | 63 | 8 | 4/X | SVXN08B4M | SVXN08B4T |
| 10 | 22 | 72 | 10 | 4/X | SVXN10B4M | SVXN10B4T |
| 12 | 26 | 80 | 12 | 4/X | SVXN12B4M | SVXN12B4T |
| 14 | 26 | 80 | 14 | 4/X | SVXN14B4M | SVXN14B4T |
| 16 | 32 | 92 | 16 | 4/X | SVXN16B4M | SVXN16B4T |
| 18 | 32 | 92 | 18 | 4/X | SVXN18B4M | SVXN18B4T |
| 20 | 38 | 104 | 20 | 4/X | SVXN20B4M | SVXN20B4T |
| 25 | 45 | 110 | 25 | 4/X | SVXN25B4M | SVXN25B4T |

PRODLOUŽENÉ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|--------|----|-----|-------|------|------------------------|-------------------------------|
| 5 | 20 | 60 | 5 | 4/X | PVXN05B4M | PVXN05B4T |
| 6 | 20 | 60 | 6 | 4/X | PVXN06B4M | PVXN06B4T |
| 8 | 25 | 70 | 8 | 4/X | PVXN08B4M | PVXN08B4T |
| 10 | 30 | 90 | 10 | 4/X | PVXN10B4M | PVXN10B4T |
| 12 | 36 | 90 | 12 | 4/X | PVXN12B4M | PVXN12B4T |
| 14 | 38 | 90 | 14 | 4/X | PVXN14B4M | PVXN14B4T |
| 16 | 50 | 110 | 16 | 4/X | PVXN16B4M | PVXN16B4T |
| 18 | 50 | 110 | 18 | 4/X | PVXN18B4M | PVXN18B4T |
| 20 | 55 | 110 | 20 | 4/X | PVXN20B4M | PVXN20B4T |
| 25 | 60 | 120 | 25 | 4/X | PVXN25B4M | PVXN25B4T |

FRÉZY VÁLCOVÉ

UNIVERZÁLNÍ

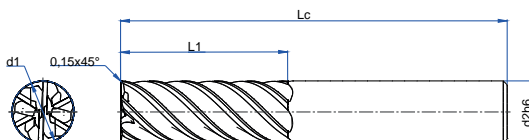
6-8 Z

45HRC

$\frac{\lambda 45^\circ}{\gamma 8^\circ}$

DIN 6535
HA

MARWIN SI
TripleCoating Cr



STANDARDNÍ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|--------|----|-----|-------|------|------------------------|-------------------------------|
| 5 | 12 | 51 | 5 | 6 | SV05B6M | SV05B6T |
| 6 | 13 | 55 | 6 | 6 | SV06B6M | SV06B6T |
| 8 | 19 | 63 | 8 | 6 | SV08B6M | SV08B6T |
| 10 | 22 | 72 | 10 | 6 | SV10B6M | SV10B6T |
| 12 | 26 | 80 | 12 | 6 | SV12B6M | SV12B6T |
| 14 | 26 | 80 | 14 | 6 | SV14B6M | SV14B6T |
| 16 | 32 | 92 | 16 | 6 | SV16B6M | SV16B6T |
| 18 | 32 | 92 | 18 | 6 | SV18B6M | SV18B6T |
| 20 | 38 | 104 | 20 | 6 | SV20B6M | SV20B6T |
| 25 | 45 | 110 | 25 | 8 | SV25B8M | SV25B8T |

PRODLOUŽENÉ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|--------|----|-----|-------|------|------------------------|-------------------------------|
| 5 | 20 | 60 | 5 | 6 | PV05B6M | PV05B6T |
| 6 | 20 | 60 | 6 | 6 | PV06B6M | PV06B6T |
| 8 | 25 | 70 | 8 | 6 | PV08B6M | PV08B6T |
| 10 | 30 | 90 | 10 | 6 | PV10B6M | PV10B6T |
| 12 | 36 | 90 | 12 | 6 | PV12B6M | PV12B6T |
| 14 | 38 | 90 | 14 | 6 | PV14B6M | PV14B6T |
| 16 | 50 | 110 | 16 | 6 | PV16B6M | PV16B6T |
| 18 | 50 | 110 | 18 | 6 | PV18B6M | PV18B6T |
| 20 | 55 | 110 | 20 | 6 | PV20B6M | PV20B6T |
| 25 | 60 | 120 | 25 | 8 | PV25B8M | PV25B8T |

FRÉZY VÁLCOVÉ

UNIVERZÁLNÍ

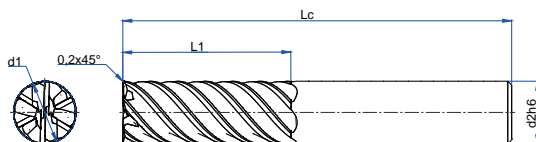
6-8 Z

70HRC

$\frac{\lambda 50^\circ}{\gamma-10^\circ}$

DIN 6535
HA

MARWIN SI
TripleCoating Cr



STANDARDNÍ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|--------|----|-----|-------|------|------------------------|-------------------------------|
| 5 | 12 | 51 | 5 | 6 | HSV05B6M | HSV05B6T |
| 6 | 13 | 55 | 6 | 6 | HSV06B6M | HSV06B6T |
| 8 | 19 | 63 | 8 | 6 | HSV08B6M | HVS08B6T |
| 10 | 22 | 72 | 10 | 6 | HSV10B6M | HSV10B6T |
| 12 | 26 | 80 | 12 | 6 | HSV12B6M | HSV12B6T |
| 14 | 26 | 80 | 14 | 6 | HSV14B6M | HSV14B6T |
| 16 | 32 | 92 | 16 | 6 | HSV16B6M | HSV16B6T |
| 18 | 32 | 92 | 18 | 8 | HSV18B8M | HSV18B8T |
| 20 | 38 | 104 | 20 | 8 | HSV20B8M | HSV20B8T |
| 25 | 45 | 110 | 25 | 8 | HSV25B8M | HSV25B8T |

PRODLOUŽENÉ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|--------|----|-----|-------|------|------------------------|-------------------------------|
| 5 | 20 | 60 | 5 | 6 | HPV05B6M | HPV05B6T |
| 6 | 20 | 60 | 6 | 6 | HPV06B6M | HPV06B6T |
| 8 | 25 | 70 | 8 | 6 | HPV08B6M | HPV08B6T |
| 10 | 30 | 90 | 10 | 6 | HPV10B6M | HPV10B6T |
| 12 | 36 | 90 | 12 | 6 | HPV12B6M | HPV12B6T |
| 14 | 38 | 90 | 14 | 6 | HPV14B6M | HPV14B6T |
| 16 | 50 | 110 | 16 | 6 | HPV16B6M | HPV16B6T |
| 18 | 50 | 110 | 18 | 8 | HPV18B8M | HPV18B8T |
| 20 | 55 | 110 | 20 | 8 | HPV20B8M | HPV20B8T |
| 25 | 60 | 120 | 25 | 8 | HPV25B8M | HPV25B8T |

FRÉZY VÁLCOVÉ

DO 60 HRC PROMĚNLIVÁ ŠROUBOVICE

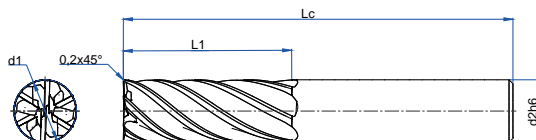
6-10 Z

60HRC

$\lambda 45^\circ/25^\circ$
 $\gamma 0^\circ$

DIN 6535
HA

TripleCoating Cr



STANDARDNÍ DÉLKY

| STANDARDNÍ DÉLKY | | | | | TripleCoating Cr |
|------------------|----|-----|-------|------|------------------|
| Ød1h10 | L1 | Lc | Ød2h6 | zuby | Obj.číslo |
| 5 | 12 | 51 | 5 | 6 | SVPMN05B6T |
| 6 | 13 | 55 | 6 | 6 | SVPMN06B6T |
| 8 | 19 | 63 | 8 | 6 | SVPMN08B6T |
| 10 | 22 | 72 | 10 | 6 | SVPMN10B6T |
| 12 | 26 | 80 | 12 | 6 | SVPMN12B6T |
| 14 | 26 | 80 | 14 | 6 | SVPMN14B6T |
| 16 | 32 | 92 | 16 | 6 | SVPMN16B6T |
| 18 | 32 | 92 | 18 | 6 | SVPMN18B6T |
| 20 | 38 | 104 | 20 | 8 | SVPMN20B8T |
| 25 | 45 | 110 | 25 | 10 | SVPMN25B10T |

PRODLOUŽENÉ DÉLKY

| PRODLOUŽENÉ DÉLKY | | | | | TripleCoating Cr |
|-------------------|----|-----|-------|------|------------------|
| Ød1h10 | L1 | Lc | Ød2h6 | zuby | Obj.číslo |
| 5 | 20 | 60 | 5 | 6 | PVPMN05B6T |
| 6 | 20 | 60 | 6 | 6 | PVPMN06B6T |
| 8 | 25 | 70 | 8 | 6 | PVPMN08B6T |
| 10 | 30 | 90 | 10 | 6 | PVPMN10B6T |
| 12 | 36 | 90 | 12 | 6 | PVPMN12B6T |
| 14 | 38 | 90 | 14 | 6 | PVPMN14B6T |
| 16 | 50 | 110 | 16 | 6 | PVPMN16B6T |
| 18 | 50 | 110 | 18 | 6 | PVPMN18B6T |
| 20 | 55 | 110 | 20 | 8 | PVPMN20B8T |
| 25 | 60 | 120 | 25 | 10 | PVPMN25B10T |

DOPORUČENÉ ŘEZNÉ PODMÍNKY PRO STANDARDNÍ FRÉZY

Parametry jsou stanoveny pro úběr $A_e-0,1xd_1$ a $Ap-0,1xd_1$

| Materiál | Pevnost v tahu | Vc | Fz (mm/min) | | | | | | | |
|---|----------------------------|-----|-------------|-------|-------|-------|-------|-------|-------|--|
| | | | Ø6 | Ø8 | Ø10 | Ø12 | Ø14 | Ø16 | Ø20 | |
| Konstrukční/automatová ocel, neleg.zušlechtěná ocel k cementování | do 850 N/mm ² | 210 | 0,035 | 0,040 | 0,060 | 0,080 | 0,090 | 0,100 | 0,120 | |
| Automatová ocel, nelegovaná ocel k cementování, ocel k nitrlování | 850-1200 N/mm ² | 175 | 0,035 | 0,040 | 0,060 | 0,080 | 0,090 | 0,100 | 0,120 | |
| legovaná zušlechtěná ocel, nástrojová/rychlořezná ocel | 850-1400 N/mm ² | 140 | 0,035 | 0,040 | 0,060 | 0,080 | 0,090 | 0,100 | 0,120 | |
| Nerezová ocel - lehce obrobitelná s obsahem síry | do 750 N/mm ² | 100 | 0,030 | 0,035 | 0,050 | 0,070 | 0,080 | 0,090 | 0,110 | |
| Nerezová ocel středně obrobitelná | 750-950 N/mm ² | 70 | 0,030 | 0,035 | 0,050 | 0,070 | 0,080 | 0,090 | 0,110 | |
| Litina, šedá litina, temperovaná litina, tvárná litina | nad 240 HB 30 | 160 | 0,040 | 0,050 | 0,070 | 0,085 | 0,095 | 0,110 | 0,130 | |
| Titan, slitina titanu | nad 1400 N/mm ² | 50 | 0,015 | 0,025 | 0,030 | 0,035 | 0,040 | 0,045 | 0,060 | |

Řeznou rychlost Vc a posuv na zub fz je případně potřeba upravit dle šířky a hloubky řezu.

Se zvyšující se A_e je nutno snížit řeznou rychlost až o 40% při $A_e-1,0xd_1$.

Se zvyšující se A_e současně s Ap je nutno navíc snížit i posuv na zub Fz až o 70% při $Ap-2,0xd_1$.

VÝPOČET OTÁČEK VŘETENE:

$$n=(1000 \times Vc)/(\pi \times d1) \quad (\text{min}^{-1})$$

ŘEZNÁ RYCHLOST:

$$Vc = (\pi \times d1 \times n)/1000 \quad (\text{m/min})$$

POSUV:

$$Vf = z \times fz \times n \quad (\text{mm/min}^{-1})$$

POSUV NA ZUB:

$$fz = Vf / (z \times n) \quad (\text{mm})$$

VYSVĚTLIVKY POJMŮ:

d1 - průměr nástroje

fz - posuv na zub

Vc - řezná rychlost

Vf - posuv nástroje

z - počet zubů

n - otáčky nástroje

A_e - šířka řezu

Ap - výška řezu

FRÉZY KULOVÉ

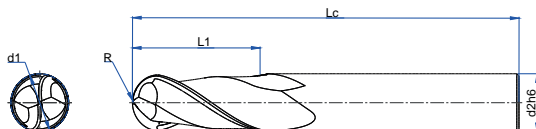
2 Z

55HRC

$\frac{\lambda 30^\circ}{\gamma 8^\circ}$

DIN 6535
HA

MARWIN SI
TripleCoating Cr



STANDARDNÍ DÉLKY

| Ød1 | R | L1 | Lc | Ød2h6 | zuby | MARWIN SI | | TripleCoating Cr | |
|-----|-----|----|-----|-------|------|-----------|--|------------------|--|
| | | | | | | Obj.číslo | | Obj.číslo | |
| 1 | 0,5 | 3 | 51 | 6 | 2 | SK01B2M | | SK01B2T | |
| 2 | 1 | 5 | 51 | 6 | 2 | SK02B2M | | SK02B2T | |
| 3 | 1,5 | 7 | 51 | 6 | 2 | SK03B2M | | SK03B2T | |
| 4 | 2 | 10 | 55 | 6 | 2 | SK04B2M | | SK04B2T | |
| 5 | 2,5 | 12 | 55 | 6 | 2 | SK05B2M | | SK05B2T | |
| 6 | 3 | 13 | 58 | 6 | 2 | SK06B2M | | SK06B2T | |
| 8 | 4 | 19 | 63 | 8 | 2 | SK08B2M | | SK08B2T | |
| 10 | 5 | 22 | 72 | 10 | 2 | SK10B2M | | SK10B2T | |
| 12 | 6 | 26 | 84 | 12 | 2 | SK12B2M | | SK12B2T | |
| 14 | 7 | 26 | 84 | 14 | 2 | SK14B2M | | SK14B2T | |
| 16 | 8 | 32 | 92 | 16 | 2 | SK16B2M | | SK16B2T | |
| 18 | 9 | 32 | 92 | 18 | 2 | SK18B2M | | SK18B2T | |
| 20 | 10 | 38 | 105 | 20 | 2 | SK20B2M | | SK20B2T | |

PRODLOUŽENÉ DÉLKY

| Ød1 | R | L1 | Lc | Ød2h6 | zuby | MARWIN SI | | TripleCoating Cr | |
|-----|-----|----|-----|-------|------|-----------|--|------------------|--|
| | | | | | | Obj.číslo | | Obj.číslo | |
| 5 | 2,5 | 16 | 58 | 6 | 2 | PK05B2M | | PK05B2T | |
| 6 | 3 | 20 | 60 | 6 | 2 | PK06B2M | | PK06B2T | |
| 8 | 4 | 25 | 70 | 8 | 2 | PK08B2M | | PK08B2T | |
| 10 | 5 | 30 | 90 | 10 | 2 | PK10B2M | | PK10B2T | |
| 12 | 6 | 36 | 90 | 12 | 2 | PK12B2M | | PK12B2T | |
| 14 | 7 | 36 | 90 | 14 | 2 | PK14B2M | | PK14B2T | |
| 16 | 8 | 50 | 105 | 16 | 2 | PK16B2M | | PK16B2T | |
| 18 | 9 | 50 | 110 | 18 | 2 | PK18B2M | | PK18B2T | |
| 20 | 10 | 55 | 110 | 20 | 2 | PK20B2M | | PK20B2T | |

FRÉZY KULOVÉ

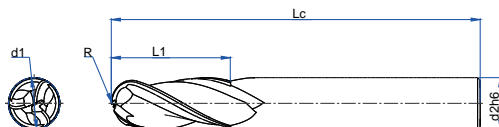
3 Z

55HRC

$\frac{\lambda 30^\circ}{\gamma 8^\circ}$

DIN 6535
HA

MARWIN SI
TripleCoating Cr



STANDARDNÍ DÉLKY

| Ød1 | R | L1 | Lc | Ød2h6 | zuby | MARWIN SI | | TripleCoating Cr | |
|-----|------|----|-----|-------|------|-----------|-----------|------------------|--|
| | | | | | | Obj.číslo | Obj.číslo | | |
| 5 | 2,5 | 12 | 55 | 6 | 3 | SK05B3M | SK05B3T | | |
| 6 | 3 | 13 | 58 | 6 | 3 | SK06B3M | SK06B3T | | |
| 8 | 4 | 19 | 63 | 8 | 3 | SK08B3M | SK08B3T | | |
| 10 | 5 | 22 | 72 | 10 | 3 | SK10B3M | SK10B3T | | |
| 12 | 6 | 26 | 84 | 12 | 3 | SK12B3M | SK12B3T | | |
| 14 | 7 | 26 | 84 | 14 | 3 | SK14B3M | SK14B3T | | |
| 16 | 8 | 32 | 92 | 16 | 3 | SK16B3M | SK16B3T | | |
| 18 | 9 | 32 | 92 | 18 | 3 | SK18B3M | SK18B3T | | |
| 20 | 10 | 38 | 105 | 20 | 3 | SK20B3M | SK20B3T | | |
| 25 | 12,5 | 45 | 110 | 25 | 3 | SK25B3M | SK25B3T | | |

PRODLOUŽENÉ DÉLKY

| Ød1 | R | L1 | Lc | Ød2h6 | zuby | MARWIN SI | | TripleCoating Cr | |
|-----|------|----|-----|-------|------|-----------|-----------|------------------|--|
| | | | | | | Obj.číslo | Obj.číslo | | |
| 5 | 2,5 | 16 | 58 | 6 | 3 | PK05B3M | PK05B3T | | |
| 6 | 3 | 20 | 60 | 6 | 3 | PK06B3M | PK06B3T | | |
| 8 | 4 | 25 | 70 | 8 | 3 | PK08B3M | PK08B3T | | |
| 10 | 5 | 30 | 90 | 10 | 3 | PK10B3M | PK10B3T | | |
| 12 | 6 | 36 | 90 | 12 | 3 | PK12B3M | PK12B3T | | |
| 14 | 7 | 36 | 90 | 14 | 3 | PK14B3M | PK14B3T | | |
| 16 | 8 | 50 | 105 | 16 | 3 | PK16B3M | PK16B3T | | |
| 18 | 9 | 50 | 110 | 18 | 3 | PK18B3M | PK18B3T | | |
| 20 | 10 | 55 | 110 | 20 | 3 | PK20B3M | PK20B3T | | |
| 25 | 12,5 | 60 | 120 | 25 | 3 | PK25B3M | PK25B3T | | |

FRÉZY KULOVÉ

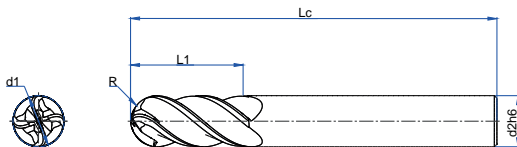
4 Z

55HRC

$\frac{\lambda 30^\circ}{\gamma 8^\circ}$

DIN 6535
HA

MARWIN SI
TripleCoating Cr



STANDARDNÍ DÉLKY

| Ød1 | R | L1 | Lc | Ød2h6 | zuby | MARWIN SI | TripleCoating Cr |
|-----|------|----|-----|-------|------|-----------|------------------|
| | | | | | | Obj.číslo | Obj.číslo |
| 5 | 2,5 | 12 | 55 | 6 | 4 | SK05B4M | SK05B4T |
| 6 | 3 | 13 | 58 | 6 | 4 | SK06B4M | SK06B4T |
| 8 | 4 | 19 | 63 | 8 | 4 | SK08B4M | SK08B4T |
| 10 | 5 | 22 | 72 | 10 | 4 | SK10B4M | SK10B4T |
| 12 | 6 | 26 | 84 | 12 | 4 | SK12B4M | SK12B4T |
| 14 | 7 | 26 | 84 | 14 | 4 | SK14B4M | SK14B4T |
| 16 | 8 | 32 | 92 | 16 | 4 | SK16B4M | SK16B4T |
| 18 | 9 | 32 | 92 | 18 | 4 | SK18B4M | SK18B4T |
| 20 | 10 | 38 | 105 | 20 | 4 | SK20B4M | SK20B4T |
| 25 | 12,5 | 45 | 110 | 25 | 4 | SK25B4M | SK25B4T |

PRODLOUŽENÉ DÉLKY

| Ød1 | R | L1 | Lc | Ød2h6 | zuby | MARWIN SI | TripleCoating Cr |
|-----|------|----|-----|-------|------|-----------|------------------|
| | | | | | | Obj.číslo | Obj.číslo |
| 5 | 2,5 | 16 | 58 | 6 | 4 | PK05B4M | PK05B4T |
| 6 | 3 | 20 | 60 | 6 | 4 | PK06B4M | PK06B4T |
| 8 | 4 | 25 | 70 | 8 | 4 | PK08B4M | PK08B4T |
| 10 | 5 | 30 | 90 | 10 | 4 | PK10B4M | PK10B4T |
| 12 | 6 | 36 | 90 | 12 | 4 | PK12B4M | PK12B4T |
| 14 | 7 | 36 | 90 | 14 | 4 | PK14B4M | PK14B4T |
| 16 | 8 | 50 | 105 | 16 | 4 | PK16B4M | PK16B4T |
| 18 | 9 | 50 | 110 | 18 | 4 | PK18B4M | PK18B4T |
| 20 | 10 | 55 | 110 | 20 | 4 | PK20B4M | PK20B4T |
| 25 | 12,5 | 60 | 120 | 25 | 4 | PK25B4M | PK25B4T |

FRÉZY KULOVÉ

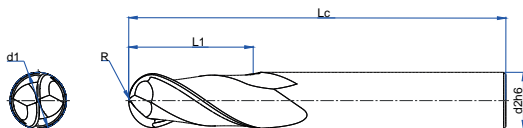
2 Z

70HRC

$$\frac{\lambda 40^\circ}{\gamma - 10^\circ}$$

DIN 6535
HA

TripleCoating Cr



STANDARDNÍ DÉLKY

| Ød1 | R | L1 | Lc | Ød2h6 | zuby | TripleCoating Cr |
|-----|-----|----|-----|-------|------|------------------|
| | | | | | | Obj.číslo |
| 2 | 1 | 5 | 51 | 6 | 2 | HSK02B2T |
| 3 | 1,5 | 7 | 51 | 6 | 2 | HSK03B2T |
| 4 | 2 | 10 | 55 | 6 | 2 | HSK04B2T |
| 5 | 2,5 | 12 | 55 | 6 | 2 | HSK05B2T |
| 6 | 3 | 13 | 58 | 6 | 2 | HSK06B2T |
| 8 | 4 | 19 | 63 | 8 | 2 | HSK08B2T |
| 10 | 5 | 22 | 72 | 10 | 2 | HSK10B2T |
| 12 | 6 | 26 | 84 | 12 | 2 | HSK12B2T |
| 14 | 7 | 26 | 84 | 14 | 2 | HSK14B2T |
| 16 | 8 | 32 | 92 | 16 | 2 | HSK16B2T |
| 18 | 9 | 32 | 92 | 18 | 2 | HSK18B2T |
| 20 | 10 | 38 | 105 | 20 | 2 | HSK20B2T |

PRODLOUŽENÉ DÉLKY

| Ød1 | R | L1 | Lc | Ød2h6 | zuby | TripleCoating Cr |
|-----|-----|----|-----|-------|------|------------------|
| | | | | | | Obj.číslo |
| 5 | 2,5 | 16 | 58 | 6 | 2 | HPK05B2T |
| 6 | 3 | 20 | 60 | 6 | 2 | HPK06B2T |
| 8 | 4 | 25 | 70 | 8 | 2 | HPK08B2T |
| 10 | 5 | 30 | 90 | 10 | 2 | HPK10B2T |
| 12 | 6 | 36 | 90 | 12 | 2 | HPK12B2T |
| 14 | 7 | 36 | 90 | 14 | 2 | HPK14B2T |
| 16 | 8 | 50 | 105 | 16 | 2 | HPK16B2T |
| 18 | 9 | 50 | 110 | 18 | 2 | HPK18B2T |
| 20 | 10 | 55 | 110 | 20 | 2 | HPK20B2T |

FRÉZY KULOVÉ

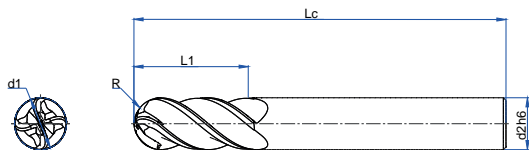
4 Z

70HRC

$$\frac{\lambda 40^\circ}{\gamma - 10^\circ}$$

DIN 6535
HA

TripleCoating Cr



STANDARDNÍ DÉLKY

| Ød1 | R | L1 | Lc | Ød2h6 | zuby | TripleCoating Cr Obj.číslo |
|-----|------|----|-----|-------|------|-------------------------------|
| 5 | 2,5 | 12 | 55 | 6 | 4 | HSK05B4T |
| 6 | 3 | 13 | 58 | 6 | 4 | HSK06B4T |
| 8 | 4 | 19 | 63 | 8 | 4 | HSK08B4T |
| 10 | 5 | 22 | 72 | 10 | 4 | HSK10B4T |
| 12 | 6 | 26 | 84 | 12 | 4 | HSK12B4T |
| 14 | 7 | 26 | 84 | 14 | 4 | HSK14B4T |
| 16 | 8 | 32 | 92 | 16 | 4 | HSK16B4T |
| 18 | 9 | 32 | 92 | 18 | 4 | HSK18B4T |
| 20 | 10 | 38 | 105 | 20 | 4 | HSK20B4T |
| 25 | 12,5 | 45 | 110 | 25 | 4 | HSK25B4T |

PRODLOUŽENÉ DÉLKY

| Ød1 | R | L1 | Lc | Ød2h6 | zuby | TripleCoating Cr Obj.číslo |
|-----|------|----|-----|-------|------|-------------------------------|
| 5 | 2,5 | 16 | 58 | 6 | 4 | HPK05B4T |
| 6 | 3 | 20 | 60 | 6 | 4 | HPK06B4T |
| 8 | 4 | 25 | 70 | 8 | 4 | HPK08B4T |
| 10 | 5 | 30 | 90 | 10 | 4 | HPK10B4T |
| 12 | 6 | 36 | 90 | 12 | 4 | HPK12B4T |
| 14 | 7 | 36 | 90 | 14 | 4 | HPK14B4T |
| 16 | 8 | 50 | 105 | 16 | 4 | HPK16B4T |
| 18 | 9 | 50 | 110 | 18 | 4 | HPK18B4T |
| 20 | 10 | 55 | 110 | 20 | 4 | HPK20B4T |
| 25 | 12,5 | 60 | 120 | 25 | 4 | HPK25B4T |

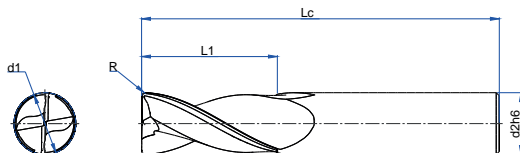
FRÉZY RÁDIUSOVÉ

$$\frac{2 Z}{R0,5}$$

55HRC

$$\frac{\lambda 30^\circ}{\gamma 8^\circ}$$

 DIN 6535
HA

 MARWIN SI
TripleCoating Cr


STANDARDNÍ DÉLKY

| Ød1 | L1 | Lc | Ød2h6 | zuby | MARWIN SI | TripleCoating Cr |
|-----|----|-----|-------|--------|------------|------------------|
| | | | | | Obj.číslo | Obj.číslo |
| 2 | 5 | 51 | 6 | 2/R0,5 | SR02B2R05M | SR02B2R05T |
| 3 | 6 | 51 | 6 | 2/R0,5 | SR03B2R05M | SR03B2R05T |
| 4 | 8 | 55 | 6 | 2/R0,5 | SR04B2R05M | SR04B2R05T |
| 5 | 11 | 55 | 6 | 2/R0,5 | SR05B2R05M | SR05B2R05T |
| 6 | 13 | 58 | 6 | 2/R0,5 | SR06B2R05M | SR06B2R05T |
| 8 | 19 | 63 | 8 | 2/R0,5 | SR08B2R05M | SR08B2R05T |
| 10 | 22 | 72 | 10 | 2/R0,5 | SR10B2R05M | SR10B2R05T |
| 12 | 26 | 84 | 12 | 2/R0,5 | SR12B2R05M | SR12B2R05T |
| 14 | 26 | 84 | 14 | 2/R0,5 | SR14B2R05M | SR14B2R05T |
| 16 | 32 | 92 | 16 | 2/R0,5 | SR16B2R05M | SR16B2R05T |
| 18 | 32 | 92 | 18 | 2/R0,5 | SR18B2R05M | SR18B2R05T |
| 20 | 38 | 105 | 20 | 2/R0,5 | SR20B2R05M | SR20B2R05T |

PRODLOUŽENÉ DÉLKY

| Ød1 | L1 | Lc | Ød2h6 | zuby | MARWIN SI | TripleCoating Cr |
|-----|----|-----|-------|--------|------------|------------------|
| | | | | | Obj.číslo | Obj.číslo |
| 4 | 12 | 58 | 6 | 2/R0,5 | PR04B2R05M | PR04B2R05T |
| 5 | 16 | 58 | 6 | 2/R0,5 | PR05B2R05M | PR05B2R05T |
| 6 | 20 | 60 | 6 | 2/R0,5 | PR06B2R05M | PR06B2R05T |
| 8 | 25 | 70 | 8 | 2/R0,5 | PR08B2R05M | PR08B2R05T |
| 10 | 30 | 90 | 10 | 2/R0,5 | PR10B2R05M | PR10B2R05T |
| 12 | 36 | 90 | 12 | 2/R0,5 | PR12B2R05M | PR12B2R05T |
| 14 | 36 | 90 | 14 | 2/R0,5 | PR14B2R05M | PR14B2R05T |
| 16 | 50 | 105 | 16 | 2/R0,5 | PR16B2R05M | PR16B2R05T |
| 18 | 50 | 110 | 18 | 2/R0,5 | PR18B2R05M | PR18B2R05T |
| 20 | 55 | 110 | 20 | 2/R0,5 | PR20B2R05M | PR20B2R05T |

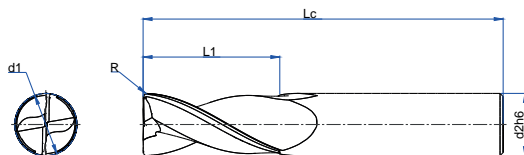
FRÉZY RÁDIUSOVÉ

 $\frac{2 Z}{R1}$

55HRC

 $\frac{\lambda 30^\circ}{\gamma 8^\circ}$

 DIN 6535
HA

 MARWIN SI
TripleCoating Cr


STANDARDNÍ DÉLKY

| Ød1 | L1 | Lc | Ød2h6 | zuby | MARWIN SI | | TripleCoating Cr | |
|-----|----|-----|-------|------|-----------|-----------|------------------|--|
| | | | | | Obj.číslo | Obj.číslo | | |
| 3 | 6 | 51 | 6 | 2/R1 | SR03B2R1M | SR03B2R1T | | |
| 4 | 8 | 55 | 6 | 2/R1 | SR04B2R1M | SR04B2R1T | | |
| 5 | 11 | 55 | 6 | 2/R1 | SR05B2R1M | SR05B2R1T | | |
| 6 | 13 | 58 | 6 | 2/R1 | SR06B2R1M | SR06B2R1T | | |
| 8 | 19 | 63 | 8 | 2/R1 | SR08B2R1M | SR08B2R1T | | |
| 10 | 22 | 72 | 10 | 2/R1 | SR10B2R1M | SR10B2R1T | | |
| 12 | 26 | 84 | 12 | 2/R1 | SR12B2R1M | SR12B2R1T | | |
| 14 | 26 | 84 | 14 | 2/R1 | SR14B2R1M | SR14B2R1T | | |
| 16 | 32 | 92 | 16 | 2/R1 | SR16B2R1M | SR16B2R1T | | |
| 18 | 32 | 92 | 18 | 2/R1 | SR18B2R1M | SR18B2R1T | | |
| 20 | 38 | 105 | 20 | 2/R1 | SR20B2R1M | SR20B2R1T | | |

PRODLOUŽENÉ DÉLKY

| Ød1 | L1 | Lc | Ød2h6 | zuby | MARWIN SI | | TripleCoating Cr | |
|-----|----|-----|-------|------|-----------|-----------|------------------|--|
| | | | | | Obj.číslo | Obj.číslo | | |
| 4 | 12 | 58 | 6 | 2/R1 | PR04B2R1M | PR04B2R1T | | |
| 5 | 16 | 58 | 6 | 2/R1 | PR05B2R1M | PR05B2R1T | | |
| 6 | 20 | 60 | 6 | 2/R1 | PR06B2R1M | PR06B2R1T | | |
| 8 | 25 | 70 | 8 | 2/R1 | PR08B2R1M | PR08B2R1T | | |
| 10 | 30 | 90 | 10 | 2/R1 | PR10B2R1M | PR10B2R1T | | |
| 12 | 36 | 90 | 12 | 2/R1 | PR12B2R1M | PR12B2R1T | | |
| 14 | 36 | 90 | 14 | 2/R1 | PR14B2R1M | PR14B2R1T | | |
| 16 | 50 | 105 | 16 | 2/R1 | PR16B2R1M | PR16B2R1T | | |
| 18 | 50 | 110 | 18 | 2/R1 | PR18B2R1M | PR18B2R1T | | |
| 20 | 55 | 110 | 20 | 2/R1 | PR20B2R1M | PR20B2R1T | | |

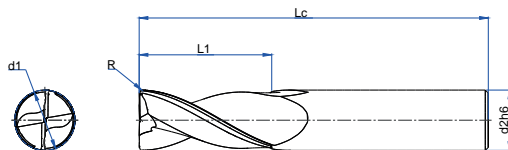
FRÉZY RÁDIUSOVÉ

 $\frac{2 Z}{R2}$

55HRC

 $\frac{\lambda 30^\circ}{\gamma 8^\circ}$

 DIN 6535
HA

 MARWIN SI
TripleCoating Cr


STANDARDNÍ DÉLKY

| Ød1 | L1 | Lc | Ød2h6 | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|-----|----|-----|-------|------|------------------------|-------------------------------|
| 8 | 19 | 64 | 8 | 2/R2 | SR08B2R2M | SR08B2R2T |
| 10 | 22 | 72 | 10 | 2/R2 | SR10B2R2M | SR10B2R2T |
| 12 | 26 | 84 | 12 | 2/R2 | SR12B2R2M | SR12B2R2T |
| 14 | 26 | 84 | 14 | 2/R2 | SR14B2R2M | SR14B2R2T |
| 16 | 32 | 92 | 16 | 2/R2 | SR16B2R2M | SR16B2R2T |
| 18 | 32 | 92 | 18 | 2/R2 | SR18B2R2M | SR18B2R2T |
| 20 | 38 | 105 | 20 | 2/R2 | SR20B2R2M | SR20B2R2T |

PRODLOUŽENÉ DÉLKY

| Ød1 | L1 | Lc | Ød2h6 | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|-----|----|-----|-------|------|------------------------|-------------------------------|
| 8 | 25 | 70 | 8 | 2/R2 | PR08B2R2M | PR08B2R2T |
| 10 | 30 | 90 | 10 | 2/R2 | PR10B2R2M | PR10B2R2T |
| 12 | 36 | 90 | 12 | 2/R2 | PR12B2R2M | PR12B2R2T |
| 14 | 36 | 90 | 14 | 2/R2 | PR14B2R2M | PR14B2R2T |
| 16 | 50 | 105 | 16 | 2/R2 | PR16B2R2M | PR16B2R2T |
| 18 | 50 | 110 | 18 | 2/R2 | PR18B2R2M | PR18B2R2T |
| 20 | 55 | 110 | 20 | 2/R2 | PR20B2R2M | PR20B2R2T |

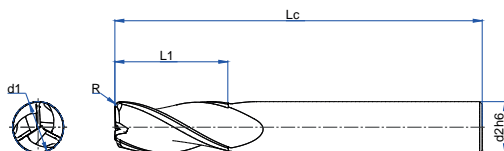
FRÉZY RÁDIUSOVÉ

 $\frac{3 Z}{R0,5}$

55HRC

 $\frac{\lambda 30^\circ}{\gamma 8^\circ}$

 DIN 6535
HA

 MARWIN SI
TripleCoating Cr


STANDARDNÍ DÉLKY

| Ød1 | L1 | Lc | Ød2h6 | zuby | MARWIN SI | TripleCoating Cr |
|-----|----|-----|-------|--------|------------|------------------|
| | | | | | Obj.číslo | Obj.číslo |
| 3 | 6 | 51 | 6 | 3/R0,5 | SR03B3R05M | SR03B3R05T |
| 4 | 8 | 55 | 6 | 3/R0,5 | SR04B3R05M | SR04B3R05T |
| 5 | 11 | 55 | 6 | 3/R0,5 | SR05B3R05M | SR05B3R05T |
| 6 | 13 | 58 | 6 | 3/R0,5 | SR06B3R05M | SR06B3R05T |
| 8 | 19 | 63 | 8 | 3/R0,5 | SR08B3R05M | SR08B3R05T |
| 10 | 22 | 72 | 10 | 3/R0,5 | SR10B3R05M | SR10B3R05T |
| 12 | 26 | 84 | 12 | 3/R0,5 | SR12B3R05M | SR12B3R05T |
| 14 | 26 | 84 | 14 | 3/R0,5 | SR14B3R05M | SR14B3R05T |
| 16 | 32 | 92 | 16 | 3/R0,5 | SR16B3R05M | SR16B3R05T |
| 18 | 32 | 92 | 18 | 3/R0,5 | SR18B3R05M | SR18B3R05T |
| 20 | 38 | 105 | 20 | 3/R0,5 | SR20B3R05M | SR20B3R05T |
| 25 | 45 | 110 | 25 | 3/R0,5 | SR25B3R05M | SR25B3R05T |

PRODLOUŽENÉ DÉLKY

| Ød1 | L1 | Lc | Ød2h6 | zuby | MARWIN SI | TripleCoating Cr |
|-----|----|-----|-------|--------|------------|------------------|
| | | | | | Obj.číslo | Obj.číslo |
| 4 | 12 | 58 | 6 | 3/R0,5 | PR04B3R05M | PR04B3R05T |
| 5 | 16 | 58 | 6 | 3/R0,5 | PR05B3R05M | PR05B3R05T |
| 6 | 20 | 60 | 6 | 3/R0,5 | PR06B3R05M | PR06B3R05T |
| 8 | 25 | 70 | 8 | 3/R0,5 | PR08B3R05M | PR08B3R05T |
| 10 | 30 | 90 | 10 | 3/R0,5 | PR10B3R05M | PR10B3R05T |
| 12 | 36 | 90 | 12 | 3/R0,5 | PR12B3R05M | PR12B3R05T |
| 14 | 36 | 90 | 14 | 3/R0,5 | PR14B3R05M | PR14B3R05T |
| 16 | 50 | 105 | 16 | 3/R0,5 | PR16B3R05M | PR16B3R05T |
| 18 | 50 | 110 | 18 | 3/R0,5 | PR18B3R05M | PR18B3R05T |
| 20 | 55 | 110 | 20 | 3/R0,5 | PR20B3R05M | PR20B3R05T |
| 25 | 60 | 120 | 25 | 3/R0,5 | PR25B3R05M | PR25B3R05T |

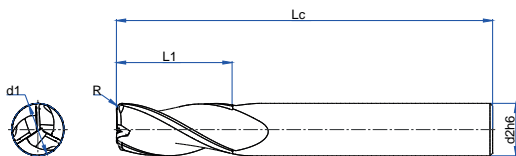
FRÉZY RÁDIUSOVÉ

 $\frac{3 Z}{R1}$

55HRC

 $\frac{\lambda 30^\circ}{\gamma 8^\circ}$

 DIN 6535
HA

 MARWIN SI
TripleCoating Cr


STANDARDNÍ DÉLKY

| Ød1 | L1 | Lc | Ød2h6 | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|-----|----|-----|-------|------|------------------------|-------------------------------|
| 3 | 6 | 51 | 6 | 3/R1 | SR03B3R1M | SR03B3R1T |
| 4 | 8 | 55 | 6 | 3/R1 | SR04B3R1M | SR04B3R1T |
| 5 | 11 | 55 | 6 | 3/R1 | SR05B3R1M | SR05B3R1T |
| 6 | 13 | 58 | 6 | 3/R1 | SR06B3R1M | SR06B3R1T |
| 8 | 19 | 63 | 8 | 3/R1 | SR08B3R1M | SR08B3R1T |
| 10 | 22 | 72 | 10 | 3/R1 | SR10B3R1M | SR10B3R1T |
| 12 | 26 | 84 | 12 | 3/R1 | SR12B3R1M | SR12B3R1T |
| 14 | 26 | 84 | 14 | 3/R1 | SR14B3R1M | SR14B3R1T |
| 16 | 32 | 92 | 16 | 3/R1 | SR16B3R1M | SR16B3R1T |
| 18 | 32 | 92 | 18 | 3/R1 | SR18B3R1M | SR18B3R1T |
| 20 | 38 | 105 | 20 | 3/R1 | SR20B3R1M | SR20B3R1T |
| 25 | 45 | 110 | 25 | 3/R1 | SR25B3R1M | SR25B3R1T |

PRODLOUŽENÉ DÉLKY

| Ød1 | L1 | Lc | Ød2h6 | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|-----|----|-----|-------|------|------------------------|-------------------------------|
| 4 | 12 | 58 | 6 | 3/R1 | PR04B3R1M | PR04B3R1T |
| 5 | 16 | 58 | 6 | 3/R1 | PR05B3R1M | PR05B3R1T |
| 6 | 20 | 60 | 6 | 3/R1 | PR06B3R1M | PR06B3R1T |
| 8 | 25 | 70 | 8 | 3/R1 | PR08B3R1M | PR08B3R1T |
| 10 | 30 | 90 | 10 | 3/R1 | PR10B3R1M | PR10B3R1T |
| 12 | 36 | 90 | 12 | 3/R1 | PR12B3R1M | PR12B3R1T |
| 14 | 36 | 90 | 14 | 3/R1 | PR14B3R1M | PR14B3R1T |
| 16 | 50 | 105 | 16 | 3/R1 | PR16B3R1M | PR16B3R1T |
| 18 | 50 | 110 | 18 | 3/R1 | PR18B3R1M | PR18B3R1T |
| 20 | 55 | 110 | 20 | 3/R1 | PR20B3R1M | PR20B3R1T |
| 25 | 60 | 120 | 25 | 3/R1 | PR25B3R1M | PR25B3R1T |

FRÉZY RÁDIUSOVÉ

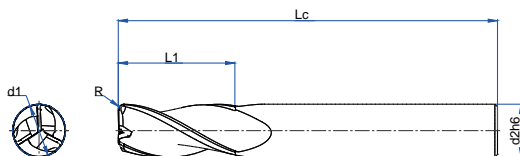
$\frac{3 Z}{R2}$

55HRC

$\frac{\lambda 30^\circ}{\gamma 8^\circ}$

DIN 6535
HA

MARWIN SI
TripleCoating Cr



STANDARDNÍ DÉLKY

| Ød1 | L1 | Lc | Ød2h6 | zuby | MARWIN SI | TripleCoating Cr |
|-----|----|-----|-------|------|-----------|------------------|
| | | | | | Obj.číslo | Obj.číslo |
| 8 | 19 | 64 | 8 | 3/R2 | SR08B3R2M | SR08B3R2T |
| 10 | 22 | 72 | 10 | 3/R2 | SR10B3R2M | SR10B3R2T |
| 12 | 26 | 84 | 12 | 3/R2 | SR12B3R2M | SR12B3R2T |
| 14 | 26 | 84 | 14 | 3/R2 | SR14B3R2M | SR14B3R2T |
| 16 | 32 | 92 | 16 | 3/R2 | SR16B3R2M | SR16B3R2T |
| 18 | 32 | 92 | 18 | 3/R2 | SR18B3R2M | SR18B3R2T |
| 20 | 38 | 105 | 20 | 3/R2 | SR20B3R2M | SR20B3R2T |
| 25 | 45 | 110 | 25 | 3/R2 | SR25B3R2M | SR25B3R2T |

PRODLOUŽENÉ DÉLKY

| Ød1 | L1 | Lc | Ød2h6 | zuby | MARWIN SI | TripleCoating Cr |
|-----|----|-----|-------|------|-----------|------------------|
| | | | | | Obj.číslo | Obj.číslo |
| 8 | 25 | 70 | 8 | 3/R2 | PR08B3R2M | PR08B3R2T |
| 10 | 30 | 90 | 10 | 3/R2 | PR10B3R2M | PR10B3R2T |
| 12 | 36 | 90 | 12 | 3/R2 | PR12B3R2M | PR12B3R2T |
| 14 | 36 | 90 | 14 | 3/R2 | PR14B3R2M | PR14B3R2T |
| 16 | 50 | 105 | 16 | 3/R2 | PR16B3R2M | PR16B3R2T |
| 18 | 50 | 110 | 18 | 3/R2 | PR18B3R2M | PR18B3R2T |
| 20 | 55 | 110 | 20 | 3/R2 | PR20B3R2M | PR20B3R2T |
| 25 | 60 | 120 | 25 | 3/R2 | PR25B3R2M | PR25B3R2T |

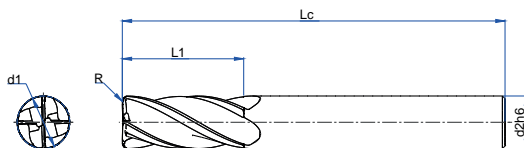
FRÉZY RÁDIUSOVÉ

 $\frac{4 Z}{R0,5}$

55HRC

 $\frac{\lambda 30^\circ}{\gamma 8^\circ}$

 DIN 6535
HA

 MARWIN SI
TripleCoating Cr


STANDARDNÍ DÉLKY

| Ød1 | L1 | Lc | Ød2h6 | zuby | MARWIN SI | TripleCoating Cr |
|-----|----|-----|-------|--------|------------|------------------|
| | | | | | Obj.číslo | Obj.číslo |
| 3 | 6 | 51 | 6 | 4/R0,5 | SR03B4R05M | SR03B4R05T |
| 4 | 8 | 55 | 6 | 4/R0,5 | SR04B4R05M | SR04B4R05T |
| 5 | 11 | 55 | 6 | 4/R0,5 | SR05B4R05M | SR05B4R05T |
| 6 | 13 | 58 | 6 | 4/R0,5 | SR06B4R05M | SR06B4R05T |
| 8 | 19 | 63 | 8 | 4/R0,5 | SR08B4R05M | SR08B4R05T |
| 10 | 22 | 72 | 10 | 4/R0,5 | SR10B4R05M | SR10B4R05T |
| 12 | 26 | 84 | 12 | 4/R0,5 | SR12B4R05M | SR12B4R05T |
| 14 | 26 | 84 | 14 | 4/R0,5 | SR14B4R05M | SR14B4R05T |
| 16 | 32 | 92 | 16 | 4/R0,5 | SR16B4R05M | SR16B4R05T |
| 18 | 32 | 92 | 18 | 4/R0,5 | SR18B4R05M | SR18B4R05T |
| 20 | 38 | 105 | 20 | 4/R0,5 | SR20B4R05M | SR20B4R05T |
| 25 | 45 | 110 | 25 | 4/R0,5 | SR25B4R05M | SR25B4R05T |

PRODLOUŽENÉ DÉLKY

| Ød1 | L1 | Lc | Ød2h6 | zuby | MARWIN SI | TripleCoating Cr |
|-----|----|-----|-------|--------|------------|------------------|
| | | | | | Obj.číslo | Obj.číslo |
| 4 | 12 | 58 | 6 | 4/R0,5 | PR04B4R05M | PR04B4R05T |
| 5 | 16 | 58 | 6 | 4/R0,5 | PR05B4R05M | PR05B4R05T |
| 6 | 20 | 60 | 6 | 4/R0,5 | PR06B4R05M | PR06B4R05T |
| 8 | 25 | 70 | 8 | 4/R0,5 | PR08B4R05M | PR08B4R05T |
| 10 | 30 | 90 | 10 | 4/R0,5 | PR10B4R05M | PR10B4R05T |
| 12 | 36 | 90 | 12 | 4/R0,5 | PR12B4R05M | PR12B4R05T |
| 14 | 36 | 90 | 14 | 4/R0,5 | PR14B4R05M | PR14B4R05T |
| 16 | 50 | 105 | 16 | 4/R0,5 | PR16B4R05M | PR16B4R05T |
| 18 | 50 | 110 | 18 | 4/R0,5 | PR18B4R05M | PR18B4R05T |
| 20 | 55 | 110 | 20 | 4/R0,5 | PR20B4R05M | PR20B4R05T |
| 25 | 60 | 120 | 25 | 4/R0,5 | PR25B4R05M | PR25B4R05T |

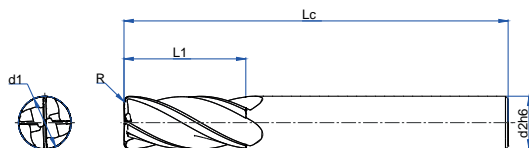
FRÉZY RÁDIUSOVÉ

 $\frac{4 Z}{R1}$

55HRC

 $\frac{\lambda 30^\circ}{\gamma 8^\circ}$

 DIN 6535
HA

 MARWIN SI
TripleCoating Cr


STANDARDNÍ DÉLKY

| Ød1 | L1 | Lc | Ød2h6 | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|-----|----|-----|-------|------|------------------------|-------------------------------|
| 3 | 6 | 51 | 6 | 4/R1 | SR03B4R1M | SR03B4R1T |
| 4 | 8 | 55 | 6 | 4/R1 | SR04B4R1M | SR04B4R1T |
| 5 | 11 | 55 | 6 | 4/R1 | SR05B4R1M | SR05B4R1T |
| 6 | 13 | 58 | 6 | 4/R1 | SR06B4R1M | SR06B4R1T |
| 8 | 19 | 63 | 8 | 4/R1 | SR08B4R1M | SR08B4R1T |
| 10 | 22 | 72 | 10 | 4/R1 | SR10B4R1M | SR10B4R1T |
| 12 | 26 | 84 | 12 | 4/R1 | SR12B4R1M | SR12B4R1T |
| 14 | 26 | 84 | 14 | 4/R1 | SR14B4R1M | SR14B4R1T |
| 16 | 32 | 92 | 16 | 4/R1 | SR16B4R1M | SR16B4R1T |
| 18 | 32 | 92 | 18 | 4/R1 | SR18B4R1M | SR18B4R1T |
| 20 | 38 | 105 | 20 | 4/R1 | SR20B4R1M | SR20B4R1T |
| 25 | 45 | 110 | 25 | 4/R1 | SR25B4R1M | SR25B4R1T |

PRODLOUŽENÉ DÉLKY

| Ød1 | L1 | Lc | Ød2h6 | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|-----|----|-----|-------|------|------------------------|-------------------------------|
| 4 | 12 | 58 | 6 | 4/R1 | PR04B4R1M | PR04B4R1T |
| 5 | 16 | 58 | 6 | 4/R1 | PR05B4R1M | PR05B4R1T |
| 6 | 20 | 60 | 6 | 4/R1 | PR06B4R1M | PR06B4R1T |
| 8 | 25 | 70 | 8 | 4/R1 | PR08B4R1M | PR08B4R1T |
| 10 | 30 | 90 | 10 | 4/R1 | PR10B4R1M | PR10B4R1T |
| 12 | 36 | 90 | 12 | 4/R1 | PR12B4R1M | PR12B4R1T |
| 14 | 36 | 90 | 14 | 4/R1 | PR14B4R1M | PR14B4R1T |
| 16 | 50 | 105 | 16 | 4/R1 | PR16B4R1M | PR16B4R1T |
| 18 | 50 | 110 | 18 | 4/R1 | PR18B4R1M | PR18B4R1T |
| 20 | 55 | 110 | 20 | 4/R1 | PR20B4R1M | PR20B4R1T |
| 25 | 60 | 120 | 25 | 4/R1 | PR25B4R1M | PR25B4R1T |

FRÉZY RÁDIUSOVÉ

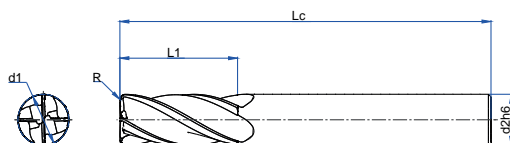
$\frac{4 Z}{R2}$

55HRC

$\frac{\lambda 30^\circ}{\gamma 8^\circ}$

DIN 6535
HA

MARWIN SI
TripleCoating Cr



STANDARDNÍ DÉLKY

| Ød1 | L1 | Lc | Ød2h6 | zuby | MARWIN SI | TripleCoating Cr |
|-----|----|-----|-------|------|-----------|------------------|
| | | | | | Obj.číslo | Obj.číslo |
| 8 | 19 | 64 | 8 | 4/R2 | SR08B4R2M | SR08B4R2T |
| 10 | 22 | 72 | 10 | 4/R2 | SR10B4R2M | SR10B4R2T |
| 12 | 26 | 84 | 12 | 4/R2 | SR12B4R2M | SR12B4R2T |
| 14 | 26 | 84 | 14 | 4/R2 | SR14B4R2M | SR14B4R2T |
| 16 | 32 | 92 | 16 | 4/R2 | SR16B4R2M | SR16B4R2T |
| 18 | 32 | 92 | 18 | 4/R2 | SR18B4R2M | SR18B4R2T |
| 20 | 38 | 105 | 20 | 4/R2 | SR20B4R2M | SR20B4R2T |
| 25 | 45 | 110 | 25 | 4/R2 | SR25B4R2M | SR25B4R2T |

PRODLOUŽENÉ DÉLKY

| Ød1 | L1 | Lc | Ød2h6 | zuby | MARWIN SI | TripleCoating Cr |
|-----|----|-----|-------|------|-----------|------------------|
| | | | | | Obj.číslo | Obj.číslo |
| 8 | 25 | 70 | 8 | 4/R2 | PR08B4R2M | PR08B4R2T |
| 10 | 30 | 90 | 10 | 4/R2 | PR10B4R2M | PR10B4R2T |
| 12 | 36 | 90 | 12 | 4/R2 | PR12B4R2M | PR12B4R2T |
| 14 | 36 | 90 | 14 | 4/R2 | PR14B4R2M | PR14B4R2T |
| 16 | 50 | 105 | 16 | 4/R2 | PR16B4R2M | PR16B4R2T |
| 18 | 50 | 110 | 18 | 4/R2 | PR18B4R2M | PR18B4R2T |
| 20 | 55 | 110 | 20 | 4/R2 | PR20B4R2M | PR20B4R2T |
| 25 | 60 | 120 | 25 | 4/R2 | PR25B4R2M | PR25B4R2T |

FRÉZY RÁDIUSOVÉ

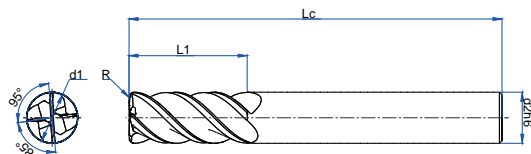
$\frac{4 Z}{R0,5 X}$

70HRC

$\frac{\lambda 45^\circ}{\gamma-5^\circ}$

DIN 6535
HA

TripleCoating Cr



STANDARDNÍ DÉLKY

| Ød1 | L1 | Lc | Ød2h6 | zuby | TripleCoating Cr Obj.číslo |
|-----|----|-----|-------|--------|-------------------------------|
| 3 | 6 | 51 | 6 | 4/R0,5 | HSRX03B4R05T |
| 4 | 8 | 55 | 6 | 4/R0,5 | HSRX04B4R05T |
| 5 | 11 | 55 | 6 | 4/R0,5 | HSRX05B4R05T |
| 6 | 13 | 58 | 6 | 4/R0,5 | HSRX06B4R05T |
| 8 | 19 | 63 | 8 | 4/R0,5 | HSRX08B4R05T |
| 10 | 22 | 72 | 10 | 4/R0,5 | HSRX10B4R05T |
| 12 | 26 | 84 | 12 | 4/R0,5 | HSRX12B4R05T |
| 14 | 26 | 84 | 14 | 4/R0,5 | HSRX14B4R05T |
| 16 | 32 | 92 | 16 | 4/R0,5 | HSRX16B4R05T |
| 18 | 32 | 92 | 18 | 4/R0,5 | HSRX18B4R05T |
| 20 | 38 | 105 | 20 | 4/R0,5 | HSRX20B4R05T |
| 25 | 45 | 110 | 25 | 4/R0,5 | HSRX25B4R05T |

PRODLOUŽENÉ DÉLKY

| Ød1 | L1 | Lc | Ød2h6 | zuby | TripleCoating Cr Obj.číslo |
|-----|----|-----|-------|--------|-------------------------------|
| 4 | 12 | 58 | 6 | 4/R0,5 | HPRX04B4R05T |
| 5 | 16 | 58 | 6 | 4/R0,5 | HPRX05B4R05T |
| 6 | 20 | 60 | 6 | 4/R0,5 | HPRX06B4R05T |
| 8 | 25 | 70 | 8 | 4/R0,5 | HPRX08B4R05T |
| 10 | 30 | 90 | 10 | 4/R0,5 | HPRX10B4R05T |
| 12 | 36 | 90 | 12 | 4/R0,5 | HPRX12B4R05T |
| 14 | 36 | 90 | 14 | 4/R0,5 | HPRX14B4R05T |
| 16 | 50 | 105 | 16 | 4/R0,5 | HPRX16B4R05T |
| 18 | 50 | 110 | 18 | 4/R0,5 | HPRX18B4R05T |
| 20 | 55 | 110 | 20 | 4/R0,5 | HPRX20B4R05T |
| 25 | 60 | 120 | 25 | 4/R0,5 | HPRX25B4R05T |

FRÉZY RÁDIUSOVÉ

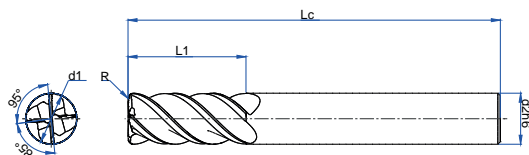
 $\frac{4 Z}{R1 X}$

70HRC

 $\frac{\lambda 45^\circ}{\gamma-5^\circ}$

 DIN 6535
HA

TripleCoating Cr



STANDARDNÍ DÉLKY

| Ød1 | L1 | Lc | Ød2h6 | zuby | TripleCoating Cr Obj.číslo |
|-----|----|-----|-------|------|-------------------------------|
| 4 | 8 | 55 | 6 | 4/R1 | HSRX04B4R1T |
| 5 | 11 | 55 | 6 | 4/R1 | HSRX05B4R1T |
| 6 | 13 | 58 | 6 | 4/R1 | HSRX06B4R1T |
| 8 | 19 | 63 | 8 | 4/R1 | HSRX08B4R1T |
| 10 | 22 | 72 | 10 | 4/R1 | HSRX10B4R1T |
| 12 | 26 | 84 | 12 | 4/R1 | HSRX12B4R1T |
| 14 | 26 | 84 | 14 | 4/R1 | HSRX14B4R1T |
| 16 | 32 | 92 | 16 | 4/R1 | HSRX16B4R1T |
| 18 | 32 | 92 | 18 | 4/R1 | HSRX18B4R1T |
| 20 | 38 | 105 | 20 | 4/R1 | HSRX20B4R1T |
| 25 | 45 | 110 | 25 | 4/R1 | HSRX25B4R1T |

PRODLOUŽENÉ DÉLKY

| Ød1 | L1 | Lc | Ød2h6 | zuby | TripleCoating Cr Obj.číslo |
|-----|----|-----|-------|------|-------------------------------|
| 4 | 12 | 58 | 6 | 4/R1 | HPRX04B4R1T |
| 5 | 16 | 58 | 6 | 4/R1 | HPRX05B4R1T |
| 6 | 20 | 60 | 6 | 4/R1 | HPRX06B4R1T |
| 8 | 25 | 70 | 8 | 4/R1 | HPRX08B4R1T |
| 10 | 30 | 90 | 10 | 4/R1 | HPRX10B4R1T |
| 12 | 36 | 90 | 12 | 4/R1 | HPRX12B4R1T |
| 14 | 36 | 90 | 14 | 4/R1 | HPRX14B4R1T |
| 16 | 50 | 105 | 16 | 4/R1 | HPRX16B4R1T |
| 18 | 50 | 110 | 18 | 4/R1 | HPRX18B4R1T |
| 20 | 55 | 110 | 20 | 4/R1 | HPRX20B4R1T |
| 25 | 60 | 120 | 25 | 4/R1 | HPRX25B4R1T |

FRÉZY RÁDIUSOVÉ

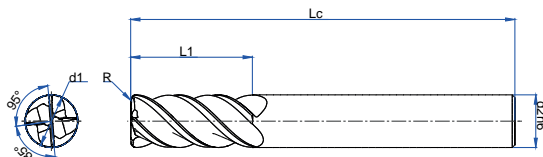
$\frac{4 Z}{R2 X}$

70HRC

$\lambda 45^\circ$
 $\gamma -5^\circ$

DIN 6535
HA

TripleCoating Cr



STANDARDNÍ DÉLKY

| Ød1 | L1 | Lc | Ød2h6 | zuby | TripleCoating Cr Obj.číslo |
|-----|----|-----|-------|------|-------------------------------|
| 8 | 19 | 64 | 8 | 2/R2 | HSRX08B2R2T |
| 10 | 22 | 72 | 10 | 4/R2 | HSRX10B4R2T |
| 12 | 26 | 84 | 12 | 4/R2 | HSRX12B4R2T |
| 14 | 26 | 84 | 14 | 4/R2 | HSRX14B4R2T |
| 16 | 32 | 92 | 16 | 4/R2 | HSRX16B4R2T |
| 18 | 32 | 92 | 18 | 4/R2 | HSRX18B4R2T |
| 20 | 38 | 105 | 20 | 4/R2 | HSRX20B4R2T |
| 25 | 45 | 110 | 25 | 4/R2 | HSRX25B4R2T |

PRODLOUŽENÉ DÉLKY

| Ød1 | L1 | Lc | Ød2h6 | zuby | TripleCoating Cr Obj.číslo |
|-----|----|-----|-------|------|-------------------------------|
| 8 | 25 | 70 | 8 | 2/R2 | HPRX08B2R2T |
| 10 | 30 | 90 | 10 | 4/R2 | HPRX10B4R2T |
| 12 | 36 | 90 | 12 | 4/R2 | HPRX12B4R2T |
| 14 | 36 | 90 | 14 | 4/R2 | HPRX14B4R2T |
| 16 | 50 | 105 | 16 | 4/R2 | HPRX16B4R2T |
| 18 | 50 | 110 | 18 | 4/R2 | HPRX18B4R2T |
| 20 | 55 | 110 | 20 | 4/R2 | HPRX20B4R2T |
| 25 | 60 | 120 | 25 | 4/R2 | HPRX25B4R2T |

DOPORUČENÉ ŘEZNÉ PODMÍNKY PRO RÁDIUSOVÉ A KULOVÉ FRÉZY

| Materiál | Pevnost v tahu | Vc | Fz (mm/min) | | | | | | | | | | | |
|--|----------------------------|-----|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | | Ø1 | Ø2 | Ø3 | Ø4 | Ø5 | Ø6 | Ø8 | Ø10 | Ø12 | Ø14 | Ø16 | Ø20 |
| Konstrukční/automatová ocel, neleg.zušlechťená ocel k cementování | do 850 N/mm ² | 210 | 0,015 | 0,020 | 0,030 | 0,035 | 0,040 | 0,045 | 0,050 | 0,060 | 0,070 | 0,080 | 0,095 | 0,110 |
| Automatová ocel, nelegovaná ocel k cementování, ocel k nitrídování | 850-1200 N/mm ² | 175 | 0,010 | 0,020 | 0,025 | 0,030 | 0,030 | 0,035 | 0,040 | 0,045 | 0,055 | 0,070 | 0,085 | 0,100 |
| legovaná zušlechťená ocel, nástrojová/rychlořezná ocel | 850-1400 N/mm ² | 140 | 0,010 | 0,015 | 0,025 | 0,030 | 0,030 | 0,035 | 0,040 | 0,045 | 0,055 | 0,065 | 0,080 | 0,090 |
| Nerezová ocel - lehce obrobitelná s obsahem síry | do 750 N/mm ² | 100 | 0,010 | 0,015 | 0,025 | 0,030 | 0,035 | 0,040 | 0,050 | 0,060 | 0,070 | 0,080 | 0,100 | 0,115 |
| Nerezová ocel středně obrobitelná | 750-950 N/mm ² | 70 | 0,010 | 0,015 | 0,020 | 0,025 | 0,030 | 0,035 | 0,045 | 0,050 | 0,055 | 0,060 | 0,070 | 0,090 |
| Litina, šedá litina, temperovaná litina, tvárná litina | nad 240 HB 30 | 160 | 0,015 | 0,020 | 0,030 | 0,035 | 0,040 | 0,045 | 0,050 | 0,060 | 0,070 | 0,080 | 0,090 | 0,110 |
| Titan, slitina titanu | nad 1400 N/mm ² | 50 | 0,010 | 0,015 | 0,015 | 0,020 | 0,025 | 0,030 | 0,030 | 0,040 | 0,040 | 0,050 | 0,050 | 0,065 |

Řeznou rychlost Vc a posuv na zub fz je případně potřeba upravit dle šířky a hloubky řezu a požadavku na kvalitu povrchu.

VÝPOČET OTÁČEK VŘETENE:

$$n = (1000 \times Vc) / (\pi \times d1) \quad (\text{min}^{-1})$$

ŘEZNÁ RYCHLOST:

$$Vc = (\pi \times d1 \times n) / 1000 \quad (\text{m/min})$$

POSUV:

$$Vf = z \times fz \times n \quad (\text{mm/min}^{-1})$$

POSUV NA ZUB:

$$fz = Vf / (z \times n) \quad (\text{mm})$$

VYSVĚTLIVKY POJMŮ:

d1 – průměr nástroje

fz – posuv na zub

Vc – řezná rychlost

Vf – posuv nástroje

z – počet zubů

n – otáčky nástroje

A_e – šířka řezu

Ap – výška řezu

FRÉZY HRUBOVACÍ

UNIVERZÁLNÍ

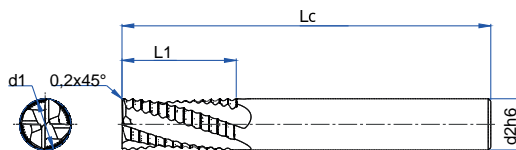
3-4 Z

45HRC

$$\frac{\lambda 20^\circ}{\gamma 8^\circ}$$

DIN 6535
HA

MARWIN SI
TripleCoating Cr



STANDARDNÍ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | MARWIN SI | TripleCoating Cr |
|--------|----|-----|-------|------|-------------|------------------|
| | | | | | Obj.číslo | Obj.číslo |
| 6 | 13 | 55 | 6 | 3 | SHR06B3-20M | SHR06B3-20T |
| 8 | 19 | 63 | 8 | 3 | SHR08B3-20M | SHR08B3-20T |
| 10 | 22 | 72 | 10 | 4 | SHR10B4-20M | SHR10B4-20T |
| 12 | 26 | 80 | 12 | 4 | SHR12B4-20M | SHR12B4-20T |
| 14 | 26 | 80 | 14 | 4 | SHR14B4-20M | SHR14B4-20T |
| 16 | 32 | 92 | 16 | 4 | SHR16B4-20M | SHR16B4-20T |
| 18 | 32 | 92 | 18 | 4 | SHR18B4-20M | SHR18B4-20T |
| 20 | 38 | 104 | 20 | 4 | SHR20B4-20M | SHR20B4-20T |

PRODLOUŽENÉ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | MARWIN SI | TripleCoating Cr |
|--------|----|-----|-------|------|-------------|------------------|
| | | | | | Obj.číslo | Obj.číslo |
| 6 | 20 | 60 | 6 | 3 | PHR06B3-20M | PHR06B3-20T |
| 8 | 25 | 70 | 8 | 3 | PHR08B3-20M | PHR08B3-20T |
| 10 | 30 | 90 | 10 | 4 | PHR10B4-20M | PHR10B4-20T |
| 12 | 36 | 90 | 12 | 4 | PHR12B4-20M | PHR12B4-20T |
| 14 | 38 | 90 | 14 | 4 | PHR14B4-20M | PHR14B4-20T |
| 16 | 50 | 110 | 16 | 4 | PHR16B4-20M | PHR16B4-20T |
| 18 | 50 | 110 | 18 | 4 | PHR18B4-20M | PHR18B4-20T |
| 20 | 55 | 110 | 20 | 4 | PHR20B4-20M | PHR20B4-20T |

FRÉZY HRUBOVACÍ

UNIVERZÁLNÍ

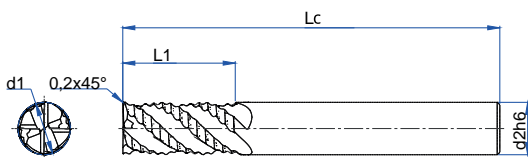
4-6 Z

60HRC

$\frac{\lambda 45^\circ}{\gamma 8^\circ}$

DIN 6535
HA

MARWIN SI
TripleCoating Cr



STANDARDNÍ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | MARWIN SI | TripleCoating Cr |
|--------|----|-----|-------|------|-------------|------------------|
| | | | | | Obj.číslo | Obj.číslo |
| 8 | 19 | 63 | 8 | 4 | SHR08B4-45M | SHR08B4-45T |
| 10 | 22 | 72 | 10 | 4 | SHR10B4-45M | SHR10B4-45T |
| 12 | 26 | 80 | 12 | 4 | SHR12B4-45M | SHR12B4-45T |
| 14 | 26 | 80 | 14 | 4 | SHR14B4-45M | SHR14B4-45T |
| 16 | 32 | 92 | 16 | 5 | SHR16B5-45M | SHR16B5-45T |
| 18 | 32 | 92 | 18 | 6 | SHR18B6-45M | SHR18B6-45T |
| 20 | 38 | 104 | 20 | 6 | SHR20B6-45M | SHR20B6-45T |
| 25 | 42 | 110 | 25 | 6 | SHR25B6-45M | SHR25B6-45T |

PRODLOUŽENÉ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | MARWIN SI | TripleCoating Cr |
|--------|----|-----|-------|------|-------------|------------------|
| | | | | | Obj.číslo | Obj.číslo |
| 8 | 25 | 70 | 8 | 4 | PHR08B4-45M | PHR08B4-45T |
| 10 | 30 | 90 | 10 | 4 | PHR10B4-45M | PHR10B4-45T |
| 12 | 36 | 90 | 12 | 4 | PHR12B4-45M | PHR12B4-45T |
| 14 | 38 | 90 | 14 | 4 | PHR14B4-45M | PHR14B4-45T |
| 16 | 50 | 110 | 16 | 5 | PHR16B5-45M | PHR16B5-45T |
| 18 | 50 | 110 | 18 | 6 | PHR18B6-45M | PHR18B6-45T |
| 20 | 55 | 110 | 20 | 6 | PHR20B6-45M | PHR20B6-45T |
| 25 | 60 | 120 | 25 | 6 | PHR25B6-45M | PHR25B6-45T |

FRÉZY SE SPECIÁLNÍ GEOMETRIÍ

STACH

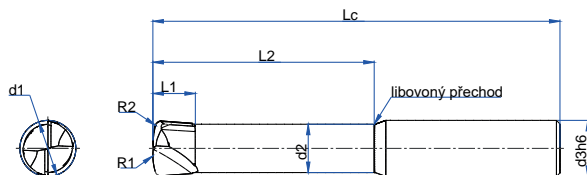
2 Z

70 HRC

DIN 6535
HA

VYSOKOVÝKONNÁ

TripleCoating Cr



STANDARDNÍ DÉLKY

| d1 | d2 | Ød3h6 | R1 | R2 | L1 | L2 | Lc | zuby | TripleCoating Cr Obj.číslo |
|----|----|-------|----|-----|----|----|-----|------|-------------------------------|
| 6 | 5 | 6 | 6 | 0,6 | 3 | 20 | 55 | 2 | SSTACH0602T |
| 8 | 7 | 8 | 8 | 0,8 | 4 | 25 | 63 | 2 | SSTACH0802T |
| 10 | 9 | 10 | 10 | 1 | 5 | 30 | 72 | 2 | SSTACH1002T |
| 12 | 11 | 12 | 12 | 1,2 | 7 | 35 | 84 | 2 | SSTACH1202T |
| 14 | 13 | 14 | 14 | 1,4 | 9 | 40 | 84 | 2 | SSTACH1402T |
| 16 | 15 | 16 | 16 | 1,6 | 11 | 44 | 92 | 2 | SSTACH1602T |
| 18 | 17 | 18 | 18 | 1,8 | 13 | 48 | 104 | 2 | SSTACH1802T |
| 20 | 19 | 20 | 20 | 2 | 14 | 52 | 104 | 2 | SSTACH2002T |

PRODLOUŽENÉ DÉLKY

| d1 | d2 | Ød3h6 | R1 | R2 | L1 | L2 | Lc | zuby | TripleCoating Cr Obj.číslo |
|----|----|-------|----|-----|----|----|-----|------|-------------------------------|
| 6 | 5 | 6 | 6 | 0,6 | 3 | 35 | 70 | 2 | PSTACH0602T |
| 8 | 7 | 8 | 8 | 0,8 | 4 | 45 | 80 | 2 | PSTACH0802T |
| 10 | 9 | 10 | 10 | 1 | 5 | 50 | 84 | 2 | PSTACH1002T |
| 12 | 11 | 12 | 12 | 1,2 | 7 | 55 | 97 | 2 | PSTACH1202T |
| 14 | 13 | 14 | 14 | 1,4 | 9 | 60 | 101 | 2 | PSTACH1402T |
| 16 | 15 | 16 | 16 | 1,6 | 11 | 65 | 108 | 2 | PSTACH1602T |
| 18 | 17 | 18 | 18 | 1,8 | 13 | 65 | 110 | 2 | PSTACH1802T |
| 20 | 19 | 20 | 20 | 2 | 14 | 70 | 110 | 2 | PSTACH2002T |

FRÉZY SE SPECIÁLNÍ GEOMETRIÍ

NA PLAST

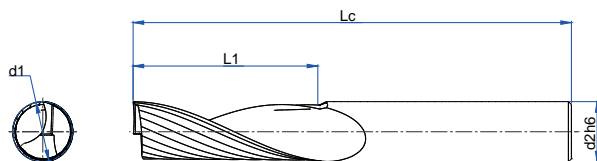
1 Z

$\frac{\lambda 25^\circ}{\gamma 20^\circ}$

DIN 6535
HA

BEZ POVLAKU

ALWIN



STANDARDNÍ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | Bez povlaku | ALWIN |
|--------|----|----|-------|------|-------------|-----------|
| | | | | | Obj.číslo | Obj.číslo |
| 3 | 15 | 55 | 6 | 1 | SPL03B1B | SPL03B1A |
| 4 | 15 | 55 | 6 | 1 | SPL04B1B | SPL04B1A |
| 5 | 18 | 58 | 6 | 1 | SPL05B1B | SPL05B1A |
| 6 | 20 | 60 | 6 | 1 | SPL06B1B | SPL06B1A |
| 8 | 25 | 70 | 8 | 1 | SPL08B1B | SPL08B1A |
| 10 | 30 | 84 | 10 | 1 | SPL10B1B | SPL10B1A |
| 12 | 36 | 84 | 12 | 1 | SPL12B1B | SPL12B1A |
| 14 | 38 | 84 | 14 | 1 | SPL14B1B | SPL14B1A |

FRÉZY SE SPECIÁLNÍ GEOMETRIÍ

SHARK

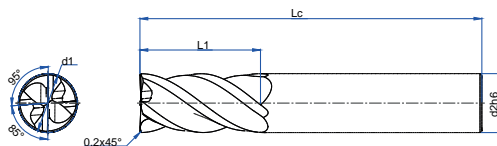
4Z/X

55HRC

ANTIVIBRAČNÍ
/
VYSOKOVÝKONNÁ

DIN 6535
HA

BEZ POVLAKU
/
TripleCoating Cr



STANDARDNÍ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | Bez povlaku | TripleCoating Cr |
|--------|----|-----|-------|------|-------------|------------------|
| | | | | | Obj.číslo | Obj.číslo |
| 4 | 11 | 55 | 6 | 4 | SSHARKX04B | SSHARKX04T |
| 5 | 12 | 55 | 6 | 4 | SSHARKX05B | SSHARKX05T |
| 6 | 13 | 55 | 6 | 4 | SSHARKX06B | SSHARKX06T |
| 8 | 19 | 63 | 8 | 4 | SSHARKX08B | SSHARKX08T |
| 10 | 22 | 72 | 10 | 4 | SSHARKX10B | SSHARKX10T |
| 12 | 26 | 84 | 12 | 4 | SSHARKX12B | SSHARKX12T |
| 14 | 28 | 84 | 14 | 4 | SSHARKX14B | SSHARKX14T |
| 16 | 32 | 92 | 16 | 4 | SSHARKX16B | SSHARKX16T |
| 20 | 38 | 104 | 20 | 4 | SSHARKX20B | SSHARKX20T |

PRODLOUŽENÉ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | Bez povlaku | TripleCoating Cr |
|--------|----|-----|-------|------|-------------|------------------|
| | | | | | Obj.číslo | Obj.číslo |
| 4 | 15 | 58 | 6 | 4 | PSHARKX04B | PSHARKX04T |
| 5 | 18 | 60 | 6 | 4 | PSHARKX05B | PSHARKX05T |
| 6 | 20 | 61 | 6 | 4 | PSHARKX06B | PSHARKX06T |
| 8 | 25 | 70 | 8 | 4 | PSHARKX08B | PSHARKX08T |
| 10 | 30 | 82 | 10 | 4 | PSHARKX10B | PSHARKX10T |
| 12 | 36 | 92 | 12 | 4 | PSHARKX12B | PSHARKX12T |
| 14 | 42 | 95 | 14 | 4 | PSHARKX14B | PSHARKX14T |
| 16 | 50 | 105 | 16 | 4 | PSHARKX16B | PSHARKX16T |
| 20 | 55 | 110 | 20 | 4 | PSHARKX20B | PSHARKX20T |

DOPORUČENÉ ŘEZNÉ PODMÍNKY PRO FRÉZY SHARK

Parametry jsou stanoveny pro úběr $A_e-0,1xd_1$ a $Ap-0,1xd_1$

| Materiál | Pevnost v tahu | Ap | Ae | Vc | Fz (mm/min) | | | | | | |
|--|----------------------------|-----|--------|-----|-------------|-------|-------|-------|-------|-------|-------|
| | | | | | Ø6 | Ø8 | Ø10 | Ø12 | Ø14 | Ø16 | Ø20 |
| Konstrukční/automatová ocel, neleg.zušlechtná ocel k cementování | do 850 N/mm ² | 2xD | 0,5xD | 270 | 0,030 | 0,045 | 0,060 | 0,075 | 0,080 | 0,090 | 0,110 |
| Automatová ocel, nelegovaná ocel k cementování, ocel k nitřování | 850-1200 N/mm ² | 2xD | 0,4xD | 240 | 0,030 | 0,045 | 0,060 | 0,075 | 0,080 | 0,090 | 0,110 |
| legovaná zušlechtná ocel, nástrojová, rychlořezná ocel | 850-1400 N/mm ² | 2xD | 0,3xD | 200 | 0,025 | 0,030 | 0,055 | 0,070 | 0,075 | 0,085 | 0,100 |
| Nerezová ocel - lehce obrobitelná s obsahem síry | do 750 N/mm ² | 2xD | 0,3xD | 120 | 0,025 | 0,035 | 0,055 | 0,065 | 0,070 | 0,080 | 0,090 |
| Nerezová ocel středně obrobitelná | 750-950 N/mm ² | 2xD | 0,25xD | 80 | 0,020 | 0,030 | 0,045 | 0,050 | 0,055 | 0,065 | 0,075 |
| Litina, šedá litina, temperovaná litina, tvárná litina | nad 240 HB 30 | 2xD | 0,4xD | 150 | 0,030 | 0,045 | 0,060 | 0,075 | 0,085 | 0,095 | 0,110 |
| Hliník, slitina hliníku k tváření, hliníkové slitiny | Do 3% Si | 2xD | 0,5xD | 550 | 0,045 | 0,065 | 0,080 | 0,100 | 0,110 | 0,120 | 0,150 |
| Slévárenská slitina hliníku | Nad 3% Si | 2xD | 0,4xD | 360 | 0,035 | 0,050 | 0,065 | 0,080 | 0,085 | 0,095 | 0,115 |
| Titan, slitina titanu | nad 1400 N/mm ² | 2xD | 0,4xD | 70 | 0,020 | 0,030 | 0,040 | 0,050 | 0,060 | 0,060 | 0,070 |

Při frézování na čisto doporučujeme zvýšit řeznou rychlost až o 50% – případně současně snížit Fz dle požadavku na povrch.

Se zvyšující se A_e je nutno snížit řeznou rychlost až o 40% při $A_e-1,0xd_1$.

Se zvyšující se A_e současně s Ap je nutno navíc snížit i posuv na zub Fz až o 70% při $Ap-2,0xd_1$.

VÝPOČET OTÁČEK VŘETENE:

$$n = (1000 \times Vc) / (\pi \times d1) \quad (\text{min}^{-1})$$

ŘEZNÁ RYCHLOST:

$$Vc = (\pi \times d1 \times n) / 1000 \quad (\text{m/min})$$

POSUV:

$$Vf = z \times fz \times n \quad (\text{mm/min}^{-1})$$

POSUV NA ZUB:

$$fz = Vf / (z \times n) \quad (\text{mm})$$

VYSVĚTLIVKY POJMŮ:

d1 – průměr nástroje

fz – posuv na zub

Vc – řezná rychlost

Vf – posuv nástroje

z – počet zubů

n – otáčky nástroje

A_e – šířka řezu

Ap – výška řezu

FRÉZY NA HLINÍK

VÁLCOVÉ

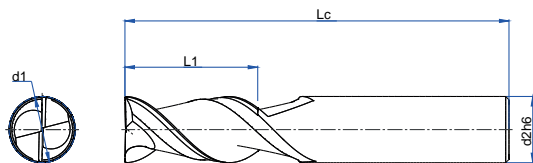
2 Z

$\frac{\lambda 45^\circ}{\gamma 15^\circ}$

DIN 6535
HA

ALWIN

BEZ POVLAKU



STANDARDNÍ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | ALWIN | Bez povlaku |
|--------|----|-----|-------|------|-----------|-------------|
| | | | | | Obj.číslo | Obj.číslo |
| 5 | 12 | 55 | 6 | 2 | SAL05B2A | SAL05B2B |
| 6 | 13 | 58 | 6 | 2 | SAL06B2A | SAL06B2B |
| 8 | 19 | 63 | 8 | 2 | SAL08B2A | SAL08B2B |
| 10 | 22 | 72 | 10 | 2 | SAL10B2A | SAL10B2B |
| 12 | 26 | 84 | 12 | 2 | SAL12B2A | SAL12B2B |
| 14 | 26 | 84 | 14 | 2 | SAL14B2A | SAL14B2B |
| 16 | 32 | 92 | 16 | 2 | SAL16B2A | SAL16B2B |
| 18 | 32 | 92 | 18 | 2 | SAL18B2A | SAL18B2B |
| 20 | 38 | 105 | 20 | 2 | SAL20B2A | SAL20B2B |

PRODLOUŽENÉ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | ALWIN | Bez povlaku |
|--------|----|-----|-------|------|-----------|-------------|
| | | | | | Obj.číslo | Obj.číslo |
| 5 | 18 | 58 | 6 | 2 | PAL05B2A | PAL05B2B |
| 6 | 20 | 60 | 6 | 2 | PAL06B2A | PAL06B2B |
| 8 | 25 | 70 | 8 | 2 | PAL08B2A | PAL08B2B |
| 10 | 30 | 90 | 10 | 2 | PAL10B2A | PAL10B2B |
| 12 | 36 | 90 | 12 | 2 | PAL12B2A | PAL12B2B |
| 14 | 36 | 90 | 14 | 2 | PAL14B2A | PAL14B2B |
| 16 | 50 | 105 | 16 | 2 | PAL16B2A | PAL16B2B |
| 18 | 50 | 110 | 18 | 2 | PAL18B2A | PAL18B2B |
| 20 | 55 | 110 | 20 | 2 | PAL20B2A | PAL20B2B |

FRÉZY NA HLINÍK

VÁLCOVÉ

$\frac{2 Z}{D1100}$

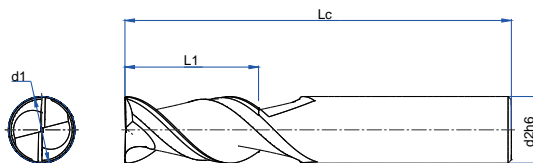
VYSOKÁ
KVALITA
POVRCHU

$\frac{\lambda 45^\circ}{\gamma 15^\circ}$

DIN 6535
HA

ALWIN

BEZ POVLAKU



STANDARDNÍ DÉLKY

| $\varnothing d1h10$ | L1 | Lc | $\varnothing d2h6$ | zuby | ALWIN Obj.číslo | Bez povlaku Obj.číslo |
|---------------------|----|-----|--------------------|------|--------------------|--------------------------|
| 5 | 12 | 55 | 6 | 2 | SALD05B2A | SALD05B2B |
| 6 | 13 | 58 | 6 | 2 | SALD06B2A | SALD06B2B |
| 8 | 19 | 63 | 8 | 2 | SALD08B2A | SALD08B2B |
| 10 | 22 | 72 | 10 | 2 | SALD10B2A | SALD10B2B |
| 12 | 26 | 84 | 12 | 2 | SALD12B2A | SALD12B2B |
| 14 | 26 | 84 | 14 | 2 | SALD14B2A | SALD14B2B |
| 16 | 32 | 92 | 16 | 2 | SALD16B2A | SALD16B2B |
| 18 | 32 | 92 | 18 | 2 | SALD18B2A | SALD18B2B |
| 20 | 38 | 105 | 20 | 2 | SALD20B2A | SALD20B2B |

PRODLOUŽENÉ DÉLKY

| $\varnothing d1h10$ | L1 | Lc | $\varnothing d2h6$ | zuby | ALWIN Obj.číslo | Bez povlaku Obj.číslo |
|---------------------|----|-----|--------------------|------|--------------------|--------------------------|
| 5 | 18 | 58 | 6 | 2 | PALD05B2A | PALD05B2B |
| 6 | 20 | 60 | 6 | 2 | PALD06B2A | PALD06B2B |
| 8 | 25 | 70 | 8 | 2 | PALD08B2A | PALD08B2B |
| 10 | 30 | 90 | 10 | 2 | PALD10B2A | PALD10B2B |
| 12 | 36 | 90 | 12 | 2 | PALD12B2A | PALD12B2B |
| 14 | 36 | 90 | 14 | 2 | PALD14B2A | PALD14B2B |
| 16 | 50 | 105 | 16 | 2 | PALD16B2A | PALD16B2B |
| 18 | 50 | 110 | 18 | 2 | PALD18B2A | PALD18B2B |
| 20 | 55 | 110 | 20 | 2 | PALD20B2A | PALD20B2B |

FRÉZY NA HLINÍK

VÁLCOVÉ

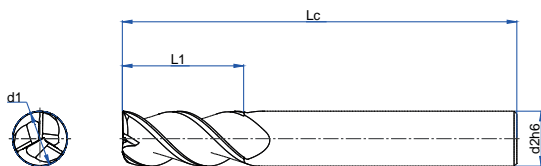
3 Z

$\frac{\lambda 45^\circ}{\gamma 15^\circ}$

DIN 6535
HA

ALWIN

BEZ POVLAKU



STANDARDNÍ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | ALWIN | Bez povlaku |
|--------|----|-----|-------|------|-----------|-------------|
| | | | | | Obj.číslo | Obj.číslo |
| 5 | 12 | 55 | 6 | 3 | SAL05B3A | SAL05B3B |
| 6 | 13 | 58 | 6 | 3 | SAL06B3A | SAL06B3B |
| 8 | 19 | 63 | 8 | 3 | SAL08B3A | SAL08B3B |
| 10 | 22 | 72 | 10 | 3 | SAL10B3A | SAL10B3B |
| 12 | 26 | 84 | 12 | 3 | SAL12B3A | SAL12B3B |
| 14 | 26 | 84 | 14 | 3 | SAL14B3A | SAL14B3B |
| 16 | 32 | 92 | 16 | 3 | SAL16B3A | SAL16B3B |
| 18 | 32 | 92 | 18 | 3 | SAL18B3A | SAL18B3B |
| 20 | 38 | 105 | 20 | 3 | SAL20B3A | SAL20B3B |
| 25 | 48 | 110 | 25 | 3 | SAL25B3A | SAL25B3B |

PRODLOUŽENÉ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | ALWIN | Bez povlaku |
|--------|----|-----|-------|------|-----------|-------------|
| | | | | | Obj.číslo | Obj.číslo |
| 5 | 18 | 58 | 6 | 3 | PAL05B3A | PAL05B3B |
| 6 | 20 | 60 | 6 | 3 | PAL06B3A | PAL06B3B |
| 8 | 25 | 70 | 8 | 3 | PAL08B3A | PAL08B3B |
| 10 | 30 | 90 | 10 | 3 | PAL10B3A | PAL10B3B |
| 12 | 36 | 90 | 12 | 3 | PAL12B3A | PAL12B3B |
| 14 | 36 | 90 | 14 | 3 | PAL14B3A | PAL14B3B |
| 16 | 50 | 105 | 16 | 3 | PAL16B3A | PAL16B3B |
| 18 | 50 | 110 | 18 | 3 | PAL18B3A | PAL18B3B |
| 20 | 55 | 110 | 20 | 3 | PAL20B3A | PAL20B3B |
| 25 | 60 | 120 | 25 | 3 | PAL25B3A | PAL25B3B |

FRÉZY NA HLINÍK

VÁLCOVÉ

$\frac{3 Z}{D1100}$

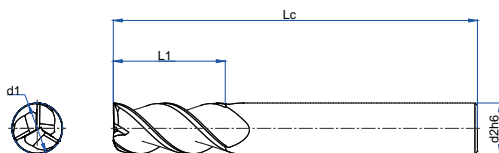
VYSOKÁ
KVALITA
POVRCHU

$\frac{\lambda 45^\circ}{\gamma 15^\circ}$

DIN 6535
HA

ALWIN

BEZ POVLAKU



STANDARDNÍ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | ALWIN Obj.číslo | Bez povlaku Obj.číslo |
|--------|----|-----|-------|------|--------------------|--------------------------|
| 5 | 12 | 55 | 6 | 3 | SALD05B3A | SALD05B3B |
| 6 | 13 | 58 | 6 | 3 | SALD06B3A | SALD06B3B |
| 8 | 19 | 63 | 8 | 3 | SALD08B3A | SALD08B3B |
| 10 | 22 | 72 | 10 | 3 | SALD10B3A | SALD10B3B |
| 12 | 26 | 84 | 12 | 3 | SALD12B3A | SALD12B3B |
| 14 | 26 | 84 | 14 | 3 | SALD14B3A | SALD14B3B |
| 16 | 32 | 92 | 16 | 3 | SALD16B3A | SALD16B3B |
| 18 | 32 | 92 | 18 | 3 | SALD18B3A | SALD18B3B |
| 20 | 38 | 105 | 20 | 3 | SALD20B3A | SALD20B3B |
| 25 | 48 | 110 | 25 | 3 | SALD25B3A | SALD25B3B |

PRODLOUŽENÉ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | ALWIN Obj.číslo | Bez povlaku Obj.číslo |
|--------|----|-----|-------|------|--------------------|--------------------------|
| 5 | 18 | 58 | 6 | 3 | PALD05B3A | PALD05B3B |
| 6 | 20 | 60 | 6 | 3 | PALD06B3A | PALD06B3B |
| 8 | 25 | 70 | 8 | 3 | PALD08B3A | PALD08B3B |
| 10 | 30 | 90 | 10 | 3 | PALD10B3A | PALD10B3B |
| 12 | 36 | 90 | 12 | 3 | PALD12B3A | PALD12B3B |
| 14 | 36 | 90 | 14 | 3 | PALD14B3A | PALD14B3B |
| 16 | 50 | 105 | 16 | 3 | PALD16B3A | PALD16B3B |
| 18 | 50 | 110 | 18 | 3 | PALD18B3A | PALD18B3B |
| 20 | 55 | 110 | 20 | 3 | PALD20B3A | PALD20B3B |
| 25 | 60 | 120 | 25 | 3 | PALD25B3A | PALD25B3B |

FRÉZY NA HLINÍK

HRUBOVACÍ

3-5Z

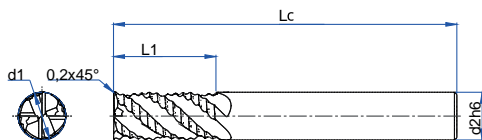
PŘERUŠENÝ
ŘEZ

$\frac{\lambda 45^\circ}{\gamma 15^\circ}$

DIN 6535
HA

ALWIN

BEZ POVLAKU



STANDARDNÍ DÉLKY

| $\varnothing d1h10$ | L1 | Lc | $\varnothing d2h6$ | zuby | ALWIN Obj.číslo | Bez povlaku Obj.číslo |
|---------------------|----|-----|--------------------|------|--------------------|--------------------------|
| 6 | 13 | 55 | 6 | 3 | SALHR06B3-45A | SALHR06B3-45B |
| 8 | 19 | 63 | 8 | 3 | SALHR08B3-45A | SALHR08B3-45B |
| 10 | 22 | 72 | 10 | 3 | SALHR10B3-45A | SALHR10B3-45B |
| 12 | 26 | 80 | 12 | 3 | SALHR12B3-45A | SALHR12B3-45B |
| 14 | 26 | 80 | 14 | 4 | SALHR14B4-45A | SALHR14B4-45B |
| 16 | 32 | 92 | 16 | 4 | SALHR16B4-45A | SALHR16B4-45B |
| 18 | 32 | 92 | 18 | 4 | SALHR18B4-45A | SALHR18B4-45B |
| 20 | 38 | 104 | 20 | 5 | SALHR20B5-45A | SALHR20B5-45B |

PRODLOUŽENÉ DÉLKY

| $\varnothing d1h10$ | L1 | Lc | $\varnothing d2h6$ | zuby | ALWIN Obj.číslo | Bez povlaku Obj.číslo |
|---------------------|----|-----|--------------------|------|--------------------|--------------------------|
| 6 | 20 | 60 | 6 | 3 | PALHR06B3-45A | PALHR06B3-45B |
| 8 | 25 | 70 | 8 | 3 | PALHR08B3-45A | PLAHR08B3-45B |
| 10 | 30 | 90 | 10 | 3 | PALHR10B3-45A | PALHR10B3-45B |
| 12 | 36 | 90 | 12 | 3 | PALHR12B3-45A | PALHR12B3-45B |
| 14 | 36 | 90 | 14 | 4 | PALHR14B4-45A | PALHR14B4-45B |
| 16 | 50 | 105 | 16 | 4 | PALHR16B4-45A | PALHR16B4-45B |
| 18 | 50 | 110 | 18 | 4 | PALHR18B4-45A | PALHR18B4-45B |
| 20 | 55 | 110 | 20 | 5 | PALHR20B5-45A | PLAHR20B5-45B |

FRÉZY NA HLINÍK

KULOVÉ

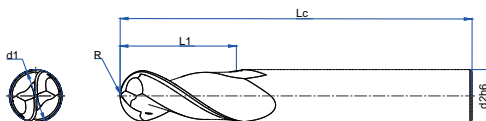
2 Z

$\lambda 35^\circ$
 $\gamma 15^\circ$

DIN 6535
HA

ALWIN

BEZ POVLAKU



STANDARDNÍ DÉLKY

| Ød1h10 | R | L1 | Lc | Ød2h6 | zuby | ALWIN | Bez povlaku |
|--------|-----|----|-----|-------|------|-----------|-------------|
| | | | | | | Obj.číslo | Obj.číslo |
| 3 | 1,5 | 7 | 51 | 6 | 2 | SALK03B2A | SALK03B2B |
| 4 | 2 | 10 | 51 | 6 | 2 | SALK04B2A | SALK04B2B |
| 5 | 2,5 | 12 | 55 | 6 | 2 | SALK05B2A | SALK05B2B |
| 6 | 3 | 13 | 58 | 6 | 2 | SALK06B2A | SALK06B2B |
| 8 | 4 | 19 | 63 | 8 | 2 | SALK08B2A | SALK08B2B |
| 10 | 5 | 22 | 72 | 10 | 2 | SALK10B2A | SALK10B2B |
| 12 | 6 | 26 | 84 | 12 | 2 | SALK12B2A | SALK12B2B |
| 14 | 7 | 26 | 84 | 14 | 2 | SALK14B2A | SALK14B2B |
| 16 | 8 | 32 | 92 | 16 | 2 | SALK16B2A | SALK16B2B |
| 18 | 9 | 32 | 92 | 18 | 2 | SALK18B2A | SALK18B2B |
| 20 | 10 | 38 | 105 | 20 | 2 | SALK20B2A | SALK20B2B |

PRODLOUŽENÉ DÉLKY

| Ød1h10 | R | L1 | Lc | Ød2h6 | zuby | ALWIN | Bez povlaku |
|--------|-----|----|-----|-------|------|-----------|-------------|
| | | | | | | Obj.číslo | Obj.číslo |
| 5 | 2,5 | 18 | 58 | 6 | 2 | PALK05B2A | PALK05B2B |
| 6 | 3 | 20 | 60 | 6 | 2 | PALK06B2A | PALK06B2B |
| 8 | 4 | 25 | 70 | 8 | 2 | PALK08B2A | PALK08B2B |
| 10 | 5 | 30 | 90 | 10 | 2 | PALK10B2A | PALK10B2B |
| 12 | 6 | 36 | 90 | 12 | 2 | PALK12B2A | PALK12B2B |
| 14 | 7 | 36 | 90 | 14 | 2 | PALK14B2A | PALK14B2B |
| 16 | 8 | 50 | 105 | 16 | 2 | PALK16B2A | PALK16B2B |
| 18 | 9 | 50 | 110 | 18 | 2 | PALK18B2A | PALK18B2B |
| 20 | 10 | 55 | 110 | 20 | 2 | PALK20B2A | PALK20B2B |

FRÉZY NA HLINÍK

RÁDIUSOVÉ

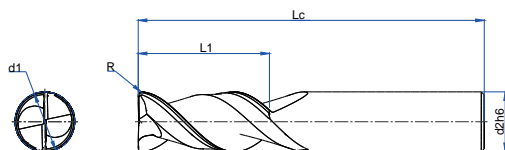
$\frac{2 Z}{R0,5}$

$\frac{\lambda 45^\circ}{\gamma 15^\circ}$

DIN 6535
HA

ALWIN

BEZ POVLAKU



STANDARDNÍ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | ALWIN | Bez povlaku |
|--------|----|-----|-------|--------|--------------|--------------|
| | | | | | Obj.číslo | Obj.číslo |
| 2 | 5 | 51 | 6 | 2/R0,5 | SALR02B2R05A | SALR02B2R05B |
| 3 | 6 | 51 | 6 | 2/R0,5 | SALR03B2R05A | SALR03B2R05B |
| 4 | 8 | 55 | 6 | 2/R0,5 | SALR04B2R05A | SALR04B2R05B |
| 5 | 11 | 55 | 6 | 2/R0,5 | SALR05B2R05A | SALR05B2R05B |
| 6 | 13 | 58 | 6 | 2/R0,5 | SALR06B2R05A | SALR06B2R05B |
| 8 | 19 | 63 | 8 | 2/R0,5 | SALR08B2R05A | SALR08B2R05B |
| 10 | 22 | 72 | 10 | 2/R0,5 | SALR10B2R05A | SALR10B2R05B |
| 12 | 26 | 84 | 12 | 2/R0,5 | SALR12B2R05A | SALR12B2R05B |
| 14 | 26 | 84 | 14 | 2/R0,5 | SALR14B2R05A | SALR14B2R05B |
| 16 | 32 | 92 | 16 | 2/R0,5 | SALR16B2R05A | SALR16B2R05B |
| 18 | 32 | 92 | 18 | 2/R0,5 | SALR18B2R05A | SALR18B2R05B |
| 20 | 38 | 105 | 20 | 2/R0,5 | SALR20B2R05A | SALR20B2R05B |

PRODLOUŽENÉ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | ALWIN | Bez povlaku |
|--------|----|-----|-------|--------|--------------|--------------|
| | | | | | Obj.číslo | Obj.číslo |
| 4 | 12 | 58 | 6 | 2/R0,5 | PALR04B2R05A | PALR04B2R05B |
| 5 | 16 | 58 | 6 | 2/R0,5 | PALR05B2R05A | PALR05B2R05B |
| 6 | 20 | 60 | 6 | 2/R0,5 | PALR06B2R05A | PALR06B2R05B |
| 8 | 25 | 70 | 8 | 2/R0,5 | PALR08B2R05A | PALR08B2R05B |
| 10 | 30 | 90 | 10 | 2/R0,5 | PALR10B2R05A | PALR10B2R05B |
| 12 | 36 | 90 | 12 | 2/R0,5 | PALR12B2R05A | PALR12B2R05B |
| 14 | 36 | 90 | 14 | 2/R0,5 | PALR14B2R05A | PALR14B2R05B |
| 16 | 50 | 105 | 16 | 2/R0,5 | PALR16B2R05A | PALR16B2R05B |
| 18 | 50 | 110 | 18 | 2/R0,5 | PALR18B2R05A | PALR18B2R05B |
| 20 | 55 | 110 | 20 | 2/R0,5 | PALR20B2R05A | PALR20B2R05B |

FRÉZY NA HLINÍK

RÁDIUSOVÉ

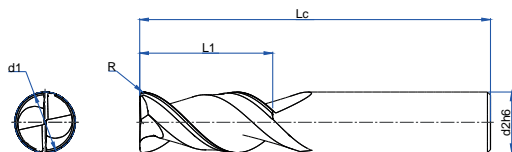
$\frac{2 Z}{R1}$

$\frac{\lambda 45^\circ}{\gamma 15^\circ}$

DIN 6535
HA

ALWIN

BEZ POVLAKU



STANDARDNÍ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | ALWIN | Bez povlaku |
|--------|----|-----|-------|------|-------------|-------------|
| | | | | | Obj.číslo | Obj.číslo |
| 4 | 8 | 55 | 6 | 2/R1 | SALR04B2R1A | SALR04B2R1B |
| 5 | 11 | 55 | 6 | 2/R1 | SALR05B2R1A | SALR05B2R1B |
| 6 | 13 | 58 | 6 | 2/R1 | SALR06B2R1A | SALR06B2R1B |
| 8 | 19 | 63 | 8 | 2/R1 | SALR08B2R1A | SALR08B2R1B |
| 10 | 22 | 72 | 10 | 2/R1 | SALR10B2R1A | SALR10B2R1B |
| 12 | 26 | 84 | 12 | 2/R1 | SALR12B2R1A | SALR12B2R1B |
| 14 | 26 | 84 | 14 | 2/R1 | SALR14B2R1A | SALR14B2R1B |
| 16 | 32 | 92 | 16 | 2/R1 | SALR16B2R1A | SALR16B2R1B |
| 18 | 32 | 92 | 18 | 2/R1 | SALR18B2R1A | SALR18B2R1B |
| 20 | 38 | 105 | 20 | 2/R1 | SALR20B2R1A | SALR20B2R1B |

PRODLOUŽENÉ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | ALWIN | Bez povlaku |
|--------|----|-----|-------|------|-------------|-------------|
| | | | | | Obj.číslo | Obj.číslo |
| 4 | 12 | 58 | 6 | 2/R1 | PALR04B2R1A | PALR04B2R1B |
| 5 | 16 | 58 | 6 | 2/R1 | PALR05B2R1A | PALR05B2R1B |
| 6 | 20 | 60 | 6 | 2/R1 | PALR06B2R1A | PALR06B2R1B |
| 8 | 25 | 70 | 8 | 2/R1 | PALR08B2R1A | PALR08B2R1B |
| 10 | 30 | 90 | 10 | 2/R1 | PALR10B2R1A | PALR10B2R1B |
| 12 | 36 | 90 | 12 | 2/R1 | PALR12B2R1A | PALR12B2R1B |
| 14 | 36 | 90 | 14 | 2/R1 | PALR14B2R1A | PALR14B2R1B |
| 16 | 50 | 105 | 16 | 2/R1 | PALR16B2R1A | PALR16B2R1B |
| 18 | 50 | 110 | 18 | 2/R1 | PALR18B2R1A | PALR18B2R1B |
| 20 | 55 | 110 | 20 | 2/R1 | PALR20B2R1A | PALR20B2R1B |

FRÉZY NA HLINÍK

RÁDIUSOVÉ

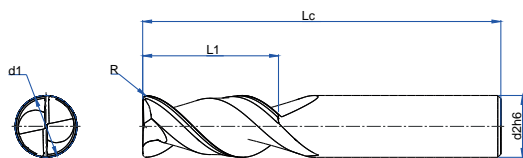
$\frac{2 Z}{R2}$

$\frac{\lambda 45^\circ}{\gamma 15^\circ}$

DIN 6535
HA

ALWIN

BEZ POVLAKU



STANDARDNÍ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | ALWIN Obj.číslo | Bez povlaku Obj.číslo |
|--------|----|-----|-------|------|--------------------|--------------------------|
| 8 | 19 | 63 | 8 | 2/R2 | SALR08B2R2A | SALR08B2R2B |
| 10 | 22 | 72 | 10 | 2/R2 | SALR10B2R2A | SALR10B2R2B |
| 12 | 26 | 84 | 12 | 2/R2 | SALR12B2R2A | SALR12B2R2B |
| 14 | 26 | 84 | 14 | 2/R2 | SALR14B2R2A | SALR14B2R2B |
| 16 | 32 | 92 | 16 | 2/R2 | SALR16B2R2A | SALR16B2R2B |
| 18 | 32 | 92 | 18 | 2/R2 | SALR18B2R2A | SALR18B2R2B |
| 20 | 38 | 105 | 20 | 2/R2 | SALR20B2R2A | SALR20B2R2B |

PRODLOUŽENÉ DÉLKY

| Ød1h10 | L1 | Lc | Ød2h6 | zuby | ALWIN Obj.číslo | Bez povlaku Obj.číslo |
|--------|----|-----|-------|------|--------------------|--------------------------|
| 8 | 25 | 70 | 8 | 2/R2 | PALR08B2R2A | PALR08B2R2B |
| 10 | 30 | 90 | 10 | 2/R2 | PALR10B2R2A | PALR10B2R2B |
| 12 | 36 | 90 | 12 | 2/R2 | PALR12B2R2A | PALR12B2R2B |
| 14 | 36 | 90 | 14 | 2/R2 | PALR14B2R2A | PALR14B2R2B |
| 16 | 50 | 105 | 16 | 2/R2 | PALR16B2R2A | PALR16B2R2B |
| 18 | 50 | 110 | 18 | 2/R2 | PALR18B2R2A | PALR18B2R2B |
| 20 | 55 | 110 | 20 | 2/R2 | PALR20B2R2A | PALR20B2R2B |

DOPORUČENÉ ŘEZNÉ PODMÍNKY PRO FRÉZY NA HLINÍK

Parametry jsou stanoveny pro úběr $A_c-0,1xd_1$ a $A_p-0,1xd_1$

| Materiál | Pevnost v tahu | Vc | Fz (mm/min) | | | | | | | |
|--|--------------------------|-----|-------------|-------|-------|-------|-------|-------|-------|--|
| | | | Ø6 | Ø8 | Ø10 | Ø12 | Ø14 | Ø16 | Ø20 | |
| Měď, nízkolegovaná měď | do 500 N/mm ² | 600 | 0,060 | 0,110 | 0,130 | 0,140 | 0,155 | 0,170 | 0,200 | |
| Slitiny Cu-Zn, slitiny Cu-Sn | do 800 N/mm ² | 240 | 0,060 | 0,110 | 0,130 | 0,140 | 0,155 | 0,170 | 0,200 | |
| Al - hliník bez Si | do 400 N/mm ² | 350 | 0,050 | 0,070 | 0,090 | 0,110 | 0,120 | 0,130 | 0,160 | |
| Al slitiny - obsah Si do 10% | do 400 N/mm ² | 550 | 0,060 | 0,110 | 0,130 | 0,140 | 0,155 | 0,170 | 0,200 | |
| Al slitiny - obsah Si nad 10% Slitiny hořčíku | do 600 N/mm ² | 430 | 0,050 | 0,070 | 0,090 | 0,110 | 0,120 | 0,130 | 0,160 | |
| Termoplasty | | 900 | 0,060 | 0,100 | 0,125 | 0,135 | 0,145 | 0,155 | 0,215 | |
| Kompozity | | 240 | 0,060 | 0,100 | 0,125 | 0,135 | 0,145 | 0,155 | 0,215 | |

Řeznou rychlost V_c a posuv na zub f_z je případně potřeba upravit dle šířky a hloubky řezu.

Se zvyšující se A_c je nutno snížit řeznou rychlost až o 40% při $A_c-1,0xd_1$.

Se zvyšující se A_c současně s A_p je nutno navíc snížit i posuv na zub F_z až o 70% při $A_p-2,0xd_1$.

VÝPOČET OTÁČEK VŘETENE:

$$n = (1000 \times V_c) / (\pi \times d_1) \quad (\text{min}^{-1})$$

ŘEZNÁ RYCHLOST:

$$V_c = (\pi \times d_1 \times n) / 1000 \quad (\text{m/min})$$

POSUV:

$$V_f = z \times f_z \times n \quad (\text{mm/min}^{-1})$$

POSUV NA ZUB:

$$f_z = V_f / (z \times n) \quad (\text{mm})$$

VYSVĚTLIVKY POJMŮ:

d_1 - průměr nástroje

f_z - posuv na zub

V_c - řezná rychlost

V_f - posuv nástroje

z - počet zubů

n - otáčky nástroje

A_c - šířka řezu

A_p - výška řezu

SRÁŽEČE HRAN

60°

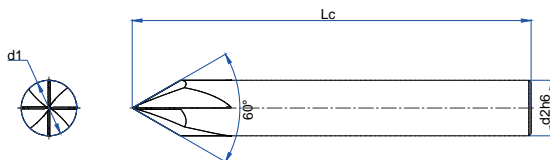
4 Z

60°

DIN 6535
HA

MARWIN SI

TripleCoating Cr



JEDNOSTRANNÉ

| Ød1h10 | Lc | Ød2h6 | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|--------|-----|-------|------|------------------------|-------------------------------|
| 6 | 55 | 6 | 4 | SSR06B4ST60M | SSR06B4ST60T |
| 8 | 63 | 8 | 4 | SSR08B4ST60M | SSR08B4ST60T |
| 10 | 72 | 10 | 4 | SSR10B4ST60M | SSR10B4ST60T |
| 12 | 84 | 12 | 4 | SSR12B4ST60M | SSR12B4ST60T |
| 14 | 84 | 14 | 4 | SSR14B4ST60M | SSR14B4ST60T |
| 16 | 92 | 16 | 4 | SSR16B4ST60M | SSR16B4ST60T |
| 20 | 105 | 20 | 4 | SSR20B4ST60M | SSR20B4ST60T |

OBOUSTRANNÉ

| Ød1h10 | Lc | Ød2h6 | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|--------|-----|-------|------|------------------------|-------------------------------|
| 6 | 55 | 6 | 4 | PSR06B4ST60M | PSR06B4ST60T |
| 8 | 63 | 8 | 4 | PSR08B4ST60M | PSR08B4ST60T |
| 10 | 72 | 10 | 4 | PSR10B4ST60M | PSR10B4ST60T |
| 12 | 84 | 12 | 4 | PSR12B4ST60M | PSR12B4ST60T |
| 14 | 84 | 14 | 4 | PSR14B4ST60M | PSR14B4ST60T |
| 16 | 92 | 16 | 4 | PSR16B4ST60M | PSR16B4ST60T |
| 20 | 105 | 20 | 4 | PSR20B4ST60M | PSR20B4ST60T |

SRÁŽEČE HRAN

90°

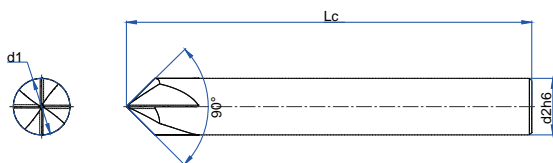
4 Z

90°

DIN 6535
HA

MARWIN SI

TripleCoating Cr



JEDNOSTRANNÉ

| $\varnothing d1h10$ | Lc | $\varnothing d2h6$ | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|---------------------|-----|--------------------|------|------------------------|-------------------------------|
| 6 | 55 | 6 | 4 | SSR06B4ST90M | SSR06B4ST90T |
| 8 | 63 | 8 | 4 | SSR08B4ST90M | SSR08B4ST90T |
| 10 | 72 | 10 | 4 | SSR10B4ST90M | SSR10B4ST90T |
| 12 | 84 | 12 | 4 | SSR12B4ST90M | SSR12B4ST90T |
| 14 | 84 | 14 | 4 | SSR14B4ST90M | SSR14B4ST90T |
| 16 | 92 | 16 | 4 | SSR16B4ST90M | SSR16B4ST90T |
| 20 | 105 | 20 | 4 | SSR20B4ST90M | SSR20B4ST90T |

OBOUSTRANNÉ

| $\varnothing d1h10$ | Lc | $\varnothing d2h6$ | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|---------------------|-----|--------------------|------|------------------------|-------------------------------|
| 6 | 55 | 6 | 4 | PSR06B4ST90M | PSR06B4ST90T |
| 8 | 63 | 8 | 4 | PSR08B4ST90M | PSR08B4ST90T |
| 10 | 72 | 10 | 4 | PSR10B4ST90M | PSR10B4ST90T |
| 12 | 84 | 12 | 4 | PSR12B4ST90M | PSR12B4ST90T |
| 14 | 84 | 14 | 4 | PSR14B4ST90M | PSR14B4ST90T |
| 16 | 92 | 16 | 4 | PSR16B4ST90M | PSR16B4ST90T |
| 20 | 105 | 20 | 4 | PSR20B4ST90M | PSR20B4ST90T |

SRÁŽEČE HRAN

120°

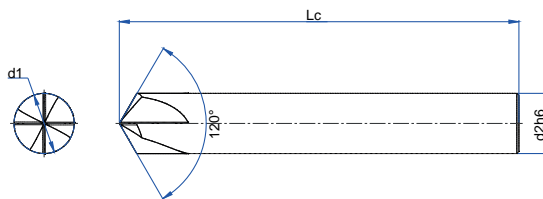
4 Z

120°

DIN 6535
HA

MARWIN SI

TripleCoating Cr



JEDNOSTRANNÉ

| $\varnothing d1h10$ | Lc | $\varnothing d2h6$ | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|---------------------|-----|--------------------|------|------------------------|-------------------------------|
| 6 | 55 | 6 | 4 | SSR06B4ST120M | SSR06B4ST120T |
| 8 | 63 | 8 | 4 | SSR08B4ST120M | SSR08B4ST120T |
| 10 | 72 | 10 | 4 | SSR10B4ST120M | SSR10B4ST120T |
| 12 | 84 | 12 | 4 | SSR12B4ST120M | SSR12B4ST120T |
| 14 | 84 | 14 | 4 | SSR14B4ST120M | SSR14B4ST120T |
| 16 | 92 | 16 | 4 | SSR16B4ST120M | SSR16B4ST120T |
| 20 | 105 | 20 | 4 | SSR20B4ST120M | SSR20B4ST120T |

OBOUSTRANNÉ

| $\varnothing d1h10$ | Lc | $\varnothing d2h6$ | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|---------------------|-----|--------------------|------|------------------------|-------------------------------|
| 6 | 55 | 6 | 4 | PSR06B4ST120M | PSR06B4ST120T |
| 8 | 63 | 8 | 4 | PSR08B4ST120M | PSR08B4ST120T |
| 10 | 72 | 10 | 4 | PSR10B4ST120M | PSR10B4ST120T |
| 12 | 84 | 12 | 4 | PSR12B4ST120M | PSR12B4ST120T |
| 14 | 84 | 14 | 4 | PSR14B4ST120M | PSR14B4ST120T |
| 16 | 92 | 16 | 4 | PSR16B4ST120M | PSR16B4ST120T |
| 20 | 105 | 20 | 4 | PSR20B4ST120M | PSR20B4ST120T |

ZPĚTNÝ SRÁŽEČ HRAN

90°

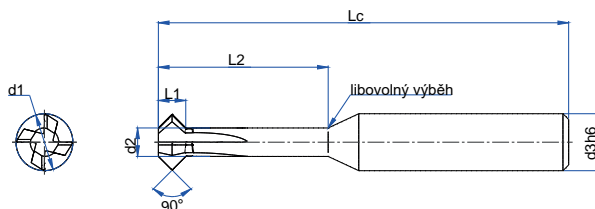
4 Z

90°

DIN 6535
HA

MARWIN SI

TripleCoating Cr



STANDARDNÍ

| d1 | d2 | Ød3h6 | L1 | L2 | Lc | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|------|----|-------|-----|----|----|------|------------------------|-------------------------------|
| 5,8 | 3 | 6 | 2,8 | 20 | 58 | 4 | SZSR06B4ST90M | SZSR06B4ST90T |
| 7,8 | 4 | 8 | 3,8 | 25 | 64 | 4 | SZSR08B4ST90M | SZSR08B4ST90T |
| 9,8 | 5 | 10 | 4,8 | 30 | 72 | 4 | SZSR10B4ST90M | SZSR10B4ST90T |
| 11,8 | 6 | 12 | 5,8 | 35 | 84 | 4 | SZSR12B4ST90M | SZSR12B4ST90T |
| 13,8 | 7 | 14 | 6,8 | 35 | 84 | 4 | SZSR14B4ST90M | SZSR14B4ST90T |

PRODLOUŽENÉ

| d1 | d2 | Ød3h6 | L1 | L2 | Lc | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|------|----|-------|-----|----|-----|------|------------------------|-------------------------------|
| 5,8 | 3 | 6 | 2,8 | 50 | 80 | 4 | PZSR06B4ST90M | PZSR06B4ST90T |
| 7,8 | 4 | 8 | 3,8 | 60 | 100 | 4 | PZSR08B4ST90M | PZSR08B4ST90T |
| 9,8 | 5 | 10 | 4,8 | 60 | 100 | 4 | PZSR10B4ST90M | PZSR10B4ST90T |
| 11,8 | 6 | 12 | 5,8 | 70 | 110 | 4 | PZSR12B4ST90M | PZSR12B4ST90T |
| 13,8 | 7 | 14 | 6,8 | 70 | 110 | 4 | PZSR14B4ST90M | PZSR14B4ST90T |

NAVRTÁVÁKY

90°

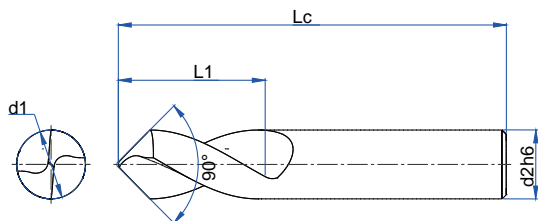
2 Z

90°

DIN 6535
HA

MARWIN G

TripleCoating Cr



| Ød1h10 | L1 | Lc | Ød2h6 | zuby | MARWIN G Obj.číslo | TripleCoating Cr Obj.číslo |
|--------|----|-----|-------|------|-----------------------|-------------------------------|
| 6 | 13 | 55 | 6 | 2 | NAV06ST90G | NAV06ST90T |
| 8 | 16 | 63 | 8 | 2 | NAV08ST90G | NAV08ST90T |
| 10 | 20 | 72 | 10 | 2 | NAV10ST90G | NAV10ST90T |
| 12 | 25 | 84 | 12 | 2 | NAV12ST90G | NAV12ST90T |
| 14 | 30 | 84 | 14 | 2 | NAV14ST90G | NAV14ST90T |
| 16 | 35 | 92 | 16 | 2 | NAV16ST90G | NAV16ST90T |
| 18 | 40 | 92 | 18 | 2 | NAV18ST90G | NAV18ST90T |
| 20 | 45 | 105 | 20 | 2 | NAV20ST90G | NAV20ST90T |

NAVRTÁVÁKY

120°

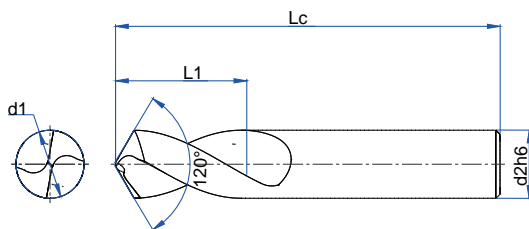
2 Z

120°

DIN 6535
HA

MARWIN G

TripleCoating Cr



| Ød1h10 | L1 | Lc | Ød2h6 | zuby | MARWIN G | TripleCoating Cr |
|--------|----|-----|-------|------|-------------|------------------|
| | | | | | Obj.číslo | Obj.číslo |
| 6 | 13 | 55 | 6 | 2 | NAV06ST120G | NAV06ST120T |
| 8 | 16 | 63 | 8 | 2 | NAV08ST120G | NAV08ST120T |
| 10 | 20 | 72 | 10 | 2 | NAV10ST120G | NAV10ST120T |
| 12 | 25 | 84 | 12 | 2 | NAV12ST120G | NAV12ST120T |
| 14 | 30 | 84 | 14 | 2 | NAV14ST120G | NAV14ST120T |
| 16 | 35 | 92 | 16 | 2 | NAV16ST120G | NAV16ST120T |
| 18 | 40 | 92 | 18 | 2 | NAV18ST120G | NAV18ST120T |
| 20 | 45 | 105 | 20 | 2 | NAV20ST120G | NAV20ST120T |

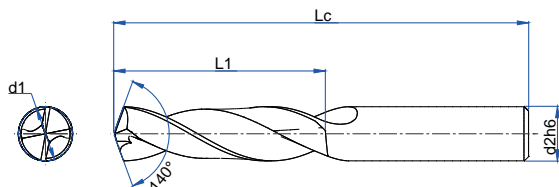
2 Z

3D

DIN 6335
HA

MARWIN G

TripleCoating Cr



| d1m7 | L1 | Lc | d2h6 | zuby | ZÁVIT (stoupání) | MARWIN G Obj.číslo | TripleCoating Cr Obj.číslo |
|------|----|----|------|------|-------------------|-----------------------|-------------------------------|
| 3 | 21 | 67 | 6 | 2 | W 5/32" | 430300G | 430300T |
| 3,1 | 21 | 67 | 6 | 2 | | 430310G | 430310T |
| 3,2 | 21 | 67 | 6 | 2 | | 430320G | 430320T |
| 3,3 | 21 | 67 | 6 | 2 | M4(0,7) | 430330G | 430330T |
| 3,4 | 21 | 67 | 6 | 2 | | 430340G | 430340T |
| 3,5 | 21 | 67 | 6 | 2 | M4(0,5) / W 3/16" | 430350G | 430350T |
| 3,6 | 21 | 67 | 6 | 2 | | 430360G | 430360T |
| 3,69 | 21 | 67 | 6 | 2 | Tvářecí M4 | 430369G | 430369T |
| 3,7 | 21 | 67 | 6 | 2 | | 430370G | 430370T |
| 3,8 | 25 | 67 | 6 | 2 | | 430380G | 430380T |
| 3,9 | 25 | 67 | 6 | 2 | | 430390G | 430390T |
| 4 | 25 | 67 | 6 | 2 | | 430400G | 430400T |
| 4,1 | 25 | 67 | 6 | 2 | | 430410G | 430410T |
| 4,2 | 25 | 67 | 6 | 2 | M5(0,8) | 430420G | 430420T |
| 4,3 | 25 | 67 | 6 | 2 | W 7/32" | 430430G | 430430T |
| 4,4 | 25 | 67 | 6 | 2 | | 430440G | 430440T |
| 4,5 | 25 | 67 | 6 | 2 | M5(0,5) | 430450G | 430450T |
| 4,6 | 25 | 67 | 6 | 2 | | 430460G | 430460T |
| 4,65 | 25 | 67 | 6 | 2 | Tvářecí M5 | 430465G | 430465T |
| 4,7 | 25 | 67 | 6 | 2 | | 430470G | 430470T |
| 4,8 | 28 | 67 | 6 | 2 | | 430480G | 430480T |
| 4,9 | 28 | 67 | 6 | 2 | W 1/4" | 430490G | 430490T |

2 Z

3D

DIN 6335
HA

MARWIN G

TripleCoating Cr

| d1m7 | L1 | Lc | d2h6 | zuby | ZÁVIT (stoupání) | MARWIN G Obj.číslo | TripleCoating Cr Obj.číslo |
|------|----|----|------|------|------------------|-----------------------|-------------------------------|
| 5 | 28 | 67 | 6 | 2 | M6(1) | 430500G | 430500T |
| 5,1 | 28 | 67 | 6 | 2 | | 430510G | 430510T |
| 5,2 | 28 | 67 | 6 | 2 | M6(0,75) | 430520G | 430520T |
| 5,3 | 28 | 67 | 6 | 2 | | 430530G | 430530T |
| 5,4 | 28 | 67 | 6 | 2 | | 430540G | 430540T |
| 5,5 | 28 | 67 | 6 | 2 | | 430550G | 430550T |
| 5,56 | 28 | 67 | 6 | 2 | Tvářecí M6 | 430556G | 430556T |
| 5,6 | 28 | 67 | 6 | 2 | | 430560G | 430560T |
| 5,7 | 28 | 67 | 6 | 2 | | 430570G | 430570T |
| 5,8 | 28 | 67 | 6 | 2 | | 430580G | 430580T |
| 5,9 | 28 | 67 | 6 | 2 | | 430590G | 430590T |
| 6 | 28 | 67 | 6 | 2 | M7(1) | 430600G | 430600T |
| 6,1 | 34 | 80 | 8 | 2 | | 430610G | 430610T |
| 6,2 | 34 | 80 | 8 | 2 | M7(0,75) | 430620G | 430620T |
| 6,3 | 34 | 80 | 8 | 2 | | 430630G | 430630T |
| 6,4 | 34 | 80 | 8 | 2 | W 5/16" | 430640G | 430640T |
| 6,5 | 34 | 80 | 8 | 2 | | 430650G | 430650T |
| 6,6 | 34 | 80 | 8 | 2 | | 430660G | 430660T |
| 6,7 | 34 | 80 | 8 | 2 | G 1/16" | 430670G | 430670T |
| 6,8 | 34 | 80 | 8 | 2 | M8(1,25) | 430680G | 430680T |
| 6,9 | 34 | 80 | 8 | 2 | | 430690G | 430690T |
| 7 | 34 | 80 | 8 | 2 | M8(1) | 430700G | 430700T |
| 7,1 | 41 | 80 | 8 | 2 | | 430710G | 430710T |
| 7,2 | 41 | 80 | 8 | 2 | M8 (0,75) | 430720G | 430720T |
| 7,3 | 41 | 80 | 8 | 2 | | 430730G | 430730T |
| 7,4 | 41 | 80 | 8 | 2 | | 430740G | 430740T |
| 7,45 | 41 | 80 | 8 | 2 | Tvářecí M8 | 430745G | 430745T |
| 7,5 | 41 | 80 | 8 | 2 | | 430750G | 430750T |
| 7,6 | 41 | 80 | 8 | 2 | | 430760G | 430760T |
| 7,7 | 41 | 80 | 8 | 2 | W 3/8" | 430770G | 430770T |
| 7,8 | 41 | 80 | 8 | 2 | M9 (1,25) | 430780G | 430780T |
| 7,9 | 41 | 80 | 8 | 2 | | 430790G | 430790T |

2 Z

3D

DIN 6335
HA

MARWIN G

TripleCoating Cr

| d1m7 | L1 | Lc | d2h6 | zuby | ZAVIT (stoupání) | MARWIN G Obj.číslo | TripleCoating Cr Obj.číslo |
|------|----|-----|------|------|-------------------------|-----------------------|-------------------------------|
| 8 | 41 | 80 | 8 | 2 | M9 (1) | 430800G | 430800T |
| 8,1 | 47 | 90 | 10 | 2 | | 430810G | 430810T |
| 8,2 | 47 | 90 | 10 | 2 | M9 (0,75) | 430820G | 430820T |
| 8,3 | 47 | 90 | 10 | 2 | | 430830G | 430830T |
| 8,4 | 47 | 90 | 10 | 2 | | 430840G | 430840T |
| 8,5 | 47 | 90 | 10 | 2 | M10 (1,5) | 430850G | 430850T |
| 8,6 | 47 | 90 | 10 | 2 | | 430860G | 430860T |
| 8,7 | 47 | 90 | 10 | 2 | | 430870G | 430870T |
| 8,8 | 47 | 90 | 10 | 2 | M10 (1,25) / G 1/8" | 430880G | 430880T |
| 8,9 | 47 | 90 | 10 | 2 | | 430890G | 430890T |
| 9 | 47 | 90 | 10 | 2 | M10 (1) | 430900G | 430900T |
| 9,1 | 47 | 90 | 10 | 2 | W 7/16" | 430910G | 430910T |
| 9,2 | 47 | 90 | 10 | 2 | M10 (0,75) | 430920G | 430920T |
| 9,3 | 47 | 90 | 10 | 2 | | 430930G | 430930T |
| 9,34 | 47 | 90 | 10 | 2 | Tvářecí M10 | 430934G | 430934T |
| 9,4 | 47 | 90 | 10 | 2 | | 430940G | 430940T |
| 9,5 | 47 | 90 | 10 | 2 | M11 (1,5) | 430950G | 430950T |
| 9,6 | 47 | 90 | 10 | 2 | | 430960G | 430960T |
| 9,7 | 47 | 90 | 10 | 2 | | 430970G | 430970T |
| 9,8 | 47 | 90 | 10 | 2 | | 430980G | 430980T |
| 9,9 | 47 | 90 | 10 | 2 | | 430990G | 430990T |
| 10 | 47 | 90 | 10 | 2 | M11 (1) | 431000G | 431000T |
| 10,1 | 55 | 104 | 12 | 2 | | 431010G | 431010T |
| 10,2 | 55 | 104 | 12 | 2 | M11 (0,75) / M12 (1,75) | 431020G | 431020T |
| 10,3 | 55 | 104 | 12 | 2 | W 1/2" | 431030G | 431030T |
| 10,4 | 55 | 104 | 12 | 2 | | 431040G | 431040T |
| 10,5 | 55 | 104 | 12 | 2 | M12 (1,5) | 431050G | 431050T |
| 10,6 | 55 | 104 | 12 | 2 | | 431060G | 431060T |
| 10,7 | 55 | 104 | 12 | 2 | | 431070G | 431070T |
| 10,8 | 55 | 104 | 12 | 2 | M12 (1,25) | 431080G | 431080T |
| 10,9 | 55 | 104 | 12 | 2 | | 431090G | 431090T |

2 Z

3D

DIN 6335
HA

MARWIN G

TripleCoating Cr

| d1m7 | L1 | Lc | d2h6 | zuby | ZÁVIT (stoupání) | MARWIN G Obj.číslo | TripleCoating Cr Obj.číslo |
|-------|----|-----|------|------|------------------|-----------------------|-------------------------------|
| 11 | 55 | 104 | 12 | 2 | M12(1) | 431100G | 431100T |
| 11,1 | 55 | 104 | 12 | 2 | | 431110G | 431110T |
| 11,2 | 55 | 104 | 12 | 2 | | 431120G | 431120T |
| 11,23 | 55 | 104 | 12 | 2 | Tvářecí M12 | 431123G | 431123T |
| 11,3 | 55 | 104 | 12 | 2 | | 431130G | 431130T |
| 11,4 | 55 | 104 | 12 | 2 | | 431140G | 431140T |
| 11,5 | 55 | 104 | 12 | 2 | | 431150G | 431150T |
| 11,6 | 55 | 104 | 12 | 2 | | 431160G | 431160T |
| 11,7 | 55 | 104 | 12 | 2 | G 1/4" | 431170G | 431170T |
| 11,8 | 55 | 104 | 12 | 2 | W 9/16" | 431180G | 431180T |
| 11,9 | 55 | 104 | 12 | 2 | | 431190G | 431190T |
| 12 | 55 | 104 | 12 | 2 | M14 (2) | 431200G | 431200T |
| 12,1 | 60 | 109 | 14 | 2 | | 431210G | 431210T |
| 12,2 | 60 | 109 | 14 | 2 | | 431220G | 431220T |
| 12,3 | 60 | 109 | 14 | 2 | | 431230G | 431230T |
| 12,4 | 60 | 109 | 14 | 2 | | 431240G | 431240T |
| 12,5 | 60 | 109 | 14 | 2 | | 431250G | 431250T |
| 12,6 | 60 | 109 | 14 | 2 | | 431260G | 431260T |
| 12,7 | 60 | 109 | 14 | 2 | | 431270G | 431270T |
| 12,8 | 60 | 109 | 14 | 2 | M14 (1,25) | 431280G | 431280T |
| 12,9 | 60 | 109 | 14 | 2 | | 431290G | 431290T |
| 13 | 60 | 109 | 14 | 2 | M14 (1) | 431300G | 431300T |
| 13,1 | 60 | 109 | 14 | 2 | | 431310G | 431310T |
| 13,12 | 60 | 109 | 14 | 2 | Tvářecí M14 | 431312G | 431312T |
| 13,2 | 60 | 109 | 14 | 2 | | 431320G | 431320T |
| 13,25 | 60 | 109 | 14 | 2 | W 5/8" | 431325G | 431325T |
| 13,3 | 60 | 109 | 14 | 2 | | 431330G | 431330T |
| 13,4 | 60 | 109 | 14 | 2 | | 431340G | 431340T |
| 13,5 | 60 | 109 | 14 | 2 | | 431350G | 431350T |
| 13,6 | 60 | 109 | 14 | 2 | | 431360G | 431360T |
| 13,7 | 60 | 109 | 14 | 2 | | 431370G | 431370T |
| 13,8 | 60 | 109 | 14 | 2 | | 431380G | 431380T |
| 13,9 | 60 | 109 | 14 | 2 | | 431390G | 431390T |

2 Z

3D

DIN 6335
HA

MARWIN G

TripleCoating Cr

| d1m7 | L1 | Lc | d2h6 | zuby | ZÁVIT (stoupání) | MARWIN G Obj.číslo | TripleCoating Cr Obj.číslo |
|-------|----|-----|------|------|------------------|-----------------------|-------------------------------|
| 14 | 60 | 109 | 14 | 2 | M15 (1) / M16(2) | 431400G | 431400T |
| 14,1 | 65 | 117 | 16 | 2 | | 431410G | 431410T |
| 14,2 | 65 | 117 | 16 | 2 | | 431420G | 431420T |
| 14,3 | 65 | 117 | 16 | 2 | | 431430G | 431430T |
| 14,4 | 65 | 117 | 16 | 2 | | 431440G | 431440T |
| 14,5 | 65 | 117 | 16 | 2 | M16 (1,5) | 431450G | 431450T |
| 14,6 | 65 | 117 | 16 | 2 | | 431460G | 431460T |
| 14,7 | 65 | 117 | 16 | 2 | | 431470G | 431470T |
| 14,8 | 65 | 117 | 16 | 2 | | 431480G | 431480T |
| 14,9 | 65 | 117 | 16 | 2 | | 431490G | 431490T |
| 15 | 65 | 117 | 16 | 2 | M16 (1) | 431500G | 431500T |
| 15,1 | 65 | 117 | 16 | 2 | | 431510G | 431510T |
| 15,2 | 65 | 117 | 16 | 2 | Tvářecí M16 | 431512G | 431512T |
| 15,2 | 65 | 117 | 16 | 2 | G 3/8" | 431520G | 431520T |
| 15,3 | 65 | 117 | 16 | 2 | | 431530G | 431530T |
| 15,4 | 65 | 117 | 16 | 2 | | 431540G | 431540T |
| 15,5 | 65 | 117 | 16 | 2 | M18 (2,5) | 431550G | 431550T |
| 15,6 | 65 | 117 | 16 | 2 | | 431560G | 431560T |
| 15,7 | 65 | 117 | 16 | 2 | | 431570G | 431570T |
| 15,8 | 65 | 117 | 16 | 2 | | 431580G | 431580T |
| 15,9 | 65 | 117 | 16 | 2 | | 431590G | 431590T |
| 16 | 65 | 117 | 16 | 2 | M17 (1) | 431600G | 431600T |
| 16,1 | 73 | 125 | 18 | 2 | | 431610G | 431610T |
| 16,2 | 73 | 125 | 18 | 2 | | 431620G | 431620T |
| 16,25 | 73 | 125 | 18 | 2 | W 3/4" | 431625G | 431625T |
| 16,3 | 73 | 125 | 18 | 2 | | 431630G | 431630T |
| 16,4 | 73 | 125 | 18 | 2 | | 431640G | 431640T |
| 16,5 | 73 | 125 | 18 | 2 | M18 (1,5) | 431650G | 431650T |
| 16,6 | 73 | 125 | 18 | 2 | | 431660G | 431660T |
| 16,7 | 73 | 125 | 18 | 2 | | 431670G | 431670T |
| 16,8 | 73 | 125 | 18 | 2 | | 431680G | 431680T |
| 16,9 | 73 | 125 | 18 | 2 | | 431690G | 431690T |

2 Z

3D

DIN 6335
HA

MARWIN G

TripleCoating Cr

| d1m7 | L1 | Lc | d2h6 | zuby | ZÁVIT (stoupání) | MARWIN G Obj.číslo | TripleCoating Cr Obj.číslo |
|------|----|-----|------|------|------------------|-----------------------|-------------------------------|
| 17 | 73 | 125 | 18 | 2 | M18 (1) | 431700G | 431700T |
| 17,1 | 73 | 125 | 18 | 2 | | 431710G | 431710T |
| 17,2 | 73 | 125 | 18 | 2 | | 431720G | 431720T |
| 17,3 | 73 | 125 | 18 | 2 | | 431730G | 431730T |
| 17,4 | 73 | 125 | 18 | 2 | | 431740G | 431740T |
| 17,5 | 73 | 125 | 18 | 2 | M20 (2,5) | 431750G | 431750T |
| 17,6 | 73 | 125 | 18 | 2 | | 431760G | 431760T |
| 17,7 | 73 | 125 | 18 | 2 | | 431770G | 431770T |
| 17,8 | 73 | 125 | 18 | 2 | | 431780G | 431780T |
| 17,9 | 73 | 125 | 18 | 2 | | 431790G | 431790T |
| 18 | 73 | 125 | 18 | 2 | | 431800G | 431800T |
| 18,1 | 79 | 134 | 20 | 2 | | 431810G | 431810T |
| 18,2 | 79 | 134 | 20 | 2 | | 431820G | 431820T |
| 18,3 | 79 | 134 | 20 | 2 | | 431830G | 431830T |
| 18,4 | 79 | 134 | 20 | 2 | | 431840G | 431840T |
| 18,5 | 79 | 134 | 20 | 2 | M20 (1,5) | 431850G | 431850T |
| 18,6 | 79 | 134 | 20 | 2 | | 431860G | 431860T |
| 18,7 | 79 | 134 | 20 | 2 | | 431870G | 431870T |
| 18,8 | 79 | 134 | 20 | 2 | G 1/2" | 431880G | 431880T |
| 18,9 | 79 | 134 | 20 | 2 | | 431890G | 431890T |
| 19 | 79 | 134 | 20 | 2 | M20 (1) / W 7/8" | 431900G | 431900T |
| 19,1 | 79 | 134 | 20 | 2 | | 431910G | 431910T |
| 19,2 | 79 | 134 | 20 | 2 | | 431920G | 431920T |
| 19,3 | 79 | 134 | 20 | 2 | | 431930G | 431930T |
| 19,4 | 79 | 134 | 20 | 2 | | 431940G | 431940T |
| 19,5 | 79 | 134 | 20 | 2 | M22 (2,5) | 431950G | 431950T |
| 19,6 | 79 | 134 | 20 | 2 | | 431960G | 431960T |
| 19,7 | 79 | 134 | 20 | 2 | | 431970G | 431970T |
| 19,8 | 79 | 134 | 20 | 2 | | 431980G | 431980T |
| 19,9 | 79 | 134 | 20 | 2 | | 431990G | 431990T |
| 20 | 79 | 134 | 20 | 2 | | 432000G | 432000T |

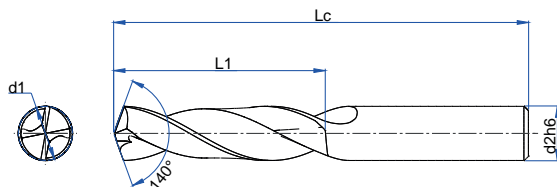
2 Z

5D

DIN 6335
HA

MARWIN G

TripleCoating Cr



| d1m7 | L1 | Lc | d2h6 | zuby | ZÁVIT (stoupání) | MARWIN G Obj.číslo | TripleCoating Cr Obj.číslo |
|------|----|----|------|------|-------------------|-----------------------|-------------------------------|
| 3 | 28 | 67 | 6 | 2 | W 5/32" | 450300G | 450300T |
| 3,1 | 28 | 67 | 6 | 2 | | 450310G | 450310T |
| 3,2 | 28 | 67 | 6 | 2 | | 450320G | 450320T |
| 3,3 | 28 | 67 | 6 | 2 | M4(0,7) | 450330G | 450330T |
| 3,4 | 28 | 67 | 6 | 2 | | 450340G | 450340T |
| 3,5 | 28 | 67 | 6 | 2 | M4(0,5) / W 3/16" | 450350G | 450350T |
| 3,6 | 28 | 67 | 6 | 2 | | 450360G | 450360T |
| 3,69 | 28 | 67 | 6 | 2 | Tvářecí M4 | 450369G | 450369T |
| 3,7 | 28 | 67 | 6 | 2 | | 450370G | 450370T |
| 3,8 | 36 | 83 | 6 | 2 | | 450380G | 450380T |
| 3,9 | 36 | 83 | 6 | 2 | | 450390G | 450390T |
| 4 | 36 | 83 | 6 | 2 | | 450400G | 450400T |
| 4,1 | 36 | 83 | 6 | 2 | | 450410G | 450410T |
| 4,2 | 36 | 83 | 6 | 2 | M5(0,8) | 450420G | 450420T |
| 4,3 | 36 | 83 | 6 | 2 | W 7/32" | 450430G | 450430T |
| 4,4 | 36 | 83 | 6 | 2 | | 450440G | 450440T |
| 4,5 | 36 | 83 | 6 | 2 | M5(0,5) | 450450G | 450450T |
| 4,6 | 36 | 83 | 6 | 2 | | 450460G | 450460T |
| 4,65 | 36 | 83 | 6 | 2 | Tvářecí M5 | 450465G | 450465T |
| 4,7 | 36 | 83 | 6 | 2 | | 450470G | 450470T |
| 4,8 | 44 | 83 | 6 | 2 | | 450480G | 450480T |
| 4,9 | 44 | 83 | 6 | 2 | W 1/4" | 450490G | 450490T |

2 Z

5D

DIN 6335
HA

MARWIN G

TripleCoating Cr

| d1m7 | L1 | Lc | d2h6 | zuby | ZÁVIT (stoupání) | MARWIN G Obj.číslo | TripleCoating Cr Obj.číslo |
|------|----|----|------|------|------------------|-----------------------|-------------------------------|
| 5 | 44 | 83 | 6 | 2 | M6(1) | 450500G | 450500T |
| 5,1 | 44 | 83 | 6 | 2 | | 450510G | 450510T |
| 5,2 | 44 | 83 | 6 | 2 | M6(0,75) | 450520G | 450520T |
| 5,3 | 44 | 83 | 6 | 2 | | 450530G | 450530T |
| 5,4 | 44 | 83 | 6 | 2 | | 450540G | 450540T |
| 5,5 | 44 | 83 | 6 | 2 | | 450550G | 450550T |
| 5,56 | 44 | 83 | 6 | 2 | Tvářecí M6 | 450556G | 450556T |
| 5,6 | 44 | 83 | 6 | 2 | | 450560G | 450560T |
| 5,7 | 44 | 83 | 6 | 2 | | 450570G | 450570T |
| 5,8 | 44 | 83 | 6 | 2 | | 450580G | 450580T |
| 5,9 | 44 | 83 | 6 | 2 | | 450590G | 450590T |
| 6 | 44 | 83 | 6 | 2 | M7(1) | 450600G | 450600T |
| 6,1 | 53 | 92 | 8 | 2 | | 450610G | 450610T |
| 6,2 | 53 | 92 | 8 | 2 | M7(0,75) | 450620G | 450620T |
| 6,3 | 53 | 92 | 8 | 2 | | 450630G | 450630T |
| 6,4 | 53 | 92 | 8 | 2 | W 5/16" | 450640G | 450640T |
| 6,5 | 53 | 92 | 8 | 2 | | 450650G | 450650T |
| 6,6 | 53 | 92 | 8 | 2 | | 450660G | 450660T |
| 6,7 | 53 | 92 | 8 | 2 | G 1/16" | 450670G | 450670T |
| 6,8 | 53 | 92 | 8 | 2 | M8(1,25) | 450680G | 450680T |
| 6,9 | 53 | 92 | 8 | 2 | | 450690G | 450690T |
| 7 | 53 | 92 | 8 | 2 | M8(1) | 450700G | 450700T |
| 7,1 | 53 | 92 | 8 | 2 | | 450710G | 450710T |
| 7,2 | 53 | 92 | 8 | 2 | M8 (0,75) | 450720G | 450720T |
| 7,3 | 53 | 92 | 8 | 2 | | 450730G | 450730T |
| 7,4 | 53 | 92 | 8 | 2 | | 450740G | 450740T |
| 7,45 | 53 | 92 | 8 | 2 | Tvářecí M8 | 450745G | 450745T |
| 7,5 | 53 | 92 | 8 | 2 | | 450750G | 450750T |
| 7,6 | 53 | 92 | 8 | 2 | | 450760G | 450760T |
| 7,7 | 53 | 92 | 8 | 2 | W 3/8" | 450770G | 450770T |
| 7,8 | 53 | 92 | 8 | 2 | M9 (1,25) | 450780G | 450780T |
| 7,9 | 53 | 92 | 8 | 2 | | 450790G | 450790T |

2 Z

5D

DIN 6335
HA

MARWIN G

TripleCoating Cr

| d1m7 | L1 | Lc | d2h6 | zuby | ZAVIT (stoupání) | MARWIN G Obj.číslo | TripleCoating Cr Obj.číslo |
|------|----|-----|------|------|-------------------------|-----------------------|-------------------------------|
| 8 | 53 | 92 | 8 | 2 | M9 (1) | 450800G | 450800T |
| 8,1 | 61 | 104 | 10 | 2 | | 450810G | 450810T |
| 8,2 | 61 | 104 | 10 | 2 | M9 (0,75) | 450820G | 450820T |
| 8,3 | 61 | 104 | 10 | 2 | | 450830G | 450830T |
| 8,4 | 61 | 104 | 10 | 2 | | 450840G | 450840T |
| 8,5 | 61 | 104 | 10 | 2 | M10 (1,5) | 450850G | 450850T |
| 8,6 | 61 | 104 | 10 | 2 | | 450860G | 450860T |
| 8,7 | 61 | 104 | 10 | 2 | | 450870G | 450870T |
| 8,8 | 61 | 104 | 10 | 2 | M10 (1,25) / G 1/8" | 450880G | 450880T |
| 8,9 | 61 | 104 | 10 | 2 | | 450890G | 450890T |
| 9 | 61 | 104 | 10 | 2 | M10 (1) | 450900G | 450900T |
| 9,1 | 61 | 104 | 10 | 2 | W 7/16" | 450910G | 450910T |
| 9,2 | 61 | 104 | 10 | 2 | M10 (0,75) | 450920G | 450920T |
| 9,3 | 61 | 104 | 10 | 2 | | 450930G | 450930T |
| 9,34 | 61 | 104 | 10 | 2 | Tvářecí M10 | 450934G | 450934T |
| 9,4 | 61 | 104 | 10 | 2 | | 450940G | 450940T |
| 9,5 | 61 | 104 | 10 | 2 | M11 (1,5) | 450950G | 450950T |
| 9,6 | 61 | 104 | 10 | 2 | | 450960G | 450960T |
| 9,7 | 61 | 104 | 10 | 2 | | 450970G | 450970T |
| 9,8 | 61 | 104 | 10 | 2 | | 450980G | 450980T |
| 9,9 | 61 | 104 | 10 | 2 | | 450990G | 450990T |
| 10 | 61 | 104 | 10 | 2 | M11 (1) | 451000G | 451000T |
| 10,1 | 71 | 120 | 12 | 2 | | 451010G | 451010T |
| 10,2 | 71 | 120 | 12 | 2 | M11 (0,75) / M12 (1,75) | 451020G | 451020T |
| 10,3 | 71 | 120 | 12 | 2 | W 1/2" | 451030G | 451030T |
| 10,4 | 71 | 120 | 12 | 2 | | 451040G | 451040T |
| 10,5 | 71 | 120 | 12 | 2 | M12 (1,5) | 451050G | 451050T |
| 10,6 | 71 | 120 | 12 | 2 | | 451060G | 451060T |
| 10,7 | 71 | 120 | 12 | 2 | | 451070G | 451070T |
| 10,8 | 71 | 120 | 12 | 2 | M12 (1,25) | 451080G | 451080T |
| 10,9 | 71 | 120 | 12 | 2 | | 451090G | 451090T |

2 Z

5D

DIN 6335
HA

MARWIN G

TripleCoating Cr

| d1m7 | L1 | Lc | d2h6 | zuby | ZÁVIT (stoupání) | MARWIN G Obj.číslo | TripleCoating Cr Obj.číslo |
|-------|----|-----|------|------|------------------|-----------------------|-------------------------------|
| 11 | 71 | 120 | 12 | 2 | M12(1) | 451100G | 451100T |
| 11,1 | 71 | 120 | 12 | 2 | | 451110G | 451110T |
| 11,2 | 71 | 120 | 12 | 2 | | 451120G | 451120T |
| 11,23 | 71 | 120 | 12 | 2 | Tvářecí M12 | 451123G | 451123T |
| 11,3 | 71 | 120 | 12 | 2 | | 451130G | 451130T |
| 11,4 | 71 | 120 | 12 | 2 | | 451140G | 451140T |
| 11,5 | 71 | 120 | 12 | 2 | | 451150G | 451150T |
| 11,6 | 71 | 120 | 12 | 2 | | 451160G | 451160T |
| 11,7 | 71 | 120 | 12 | 2 | G 1/4" | 451170G | 451170T |
| 11,8 | 71 | 120 | 12 | 2 | W 9/16" | 451180G | 451180T |
| 11,9 | 71 | 120 | 12 | 2 | | 451190G | 451190T |
| 12 | 71 | 120 | 12 | 2 | M14 (2) | 451200G | 451200T |
| 12,1 | 77 | 126 | 14 | 2 | | 451210G | 451210T |
| 12,2 | 77 | 126 | 14 | 2 | | 451220G | 451220T |
| 12,3 | 77 | 126 | 14 | 2 | | 451230G | 451230T |
| 12,4 | 77 | 126 | 14 | 2 | | 451240G | 451240T |
| 12,5 | 77 | 126 | 14 | 2 | | 451250G | 451250T |
| 12,6 | 77 | 126 | 14 | 2 | | 451260G | 451260T |
| 12,7 | 77 | 126 | 14 | 2 | | 451270G | 451270T |
| 12,8 | 77 | 126 | 14 | 2 | M14 (1,25) | 451280G | 451280T |
| 12,9 | 77 | 126 | 14 | 2 | | 451290G | 451290T |
| 13 | 77 | 126 | 14 | 2 | M14 (1) | 451300G | 451300T |
| 13,1 | 77 | 126 | 14 | 2 | | 451310G | 451310T |
| 13,12 | 77 | 126 | 14 | 2 | Tvářecí M14 | 451312G | 451312T |
| 13,2 | 77 | 126 | 14 | 2 | | 451320G | 451320T |
| 13,25 | 77 | 126 | 14 | 2 | W 5/8" | 451325G | 451325T |
| 13,3 | 77 | 126 | 14 | 2 | | 451330G | 451330T |
| 13,4 | 77 | 126 | 14 | 2 | | 451340G | 451340T |
| 13,5 | 77 | 126 | 14 | 2 | | 451350G | 451350T |
| 13,6 | 77 | 126 | 14 | 2 | | 451360G | 451360T |
| 13,7 | 77 | 126 | 14 | 2 | | 451370G | 451370T |
| 13,8 | 77 | 126 | 14 | 2 | | 451380G | 451380T |
| 13,9 | 77 | 126 | 14 | 2 | | 451390G | 451390T |

2 Z

5D

DIN 6335
HA

MARWIN G

TripleCoating Cr

| d1m7 | L1 | Lc | d2h6 | zuby | ZÁVIT (stoupání) | MARWIN G Obj.číslo | TripleCoating Cr Obj.číslo |
|-------|----|-----|------|------|------------------|-----------------------|-------------------------------|
| 14 | 77 | 126 | 14 | 2 | M15 (1) / M16(2) | 451400G | 451400T |
| 14,1 | 83 | 135 | 16 | 2 | | 451410G | 451410T |
| 14,2 | 83 | 135 | 16 | 2 | | 451420G | 451420T |
| 14,3 | 83 | 135 | 16 | 2 | | 451430G | 451430T |
| 14,4 | 83 | 135 | 16 | 2 | | 451440G | 451440T |
| 14,5 | 83 | 135 | 16 | 2 | M16 (1,5) | 451450G | 451450T |
| 14,6 | 83 | 135 | 16 | 2 | | 451460G | 451460T |
| 14,7 | 83 | 135 | 16 | 2 | | 451470G | 451470T |
| 14,8 | 83 | 135 | 16 | 2 | | 451480G | 451480T |
| 14,9 | 83 | 135 | 16 | 2 | | 451490G | 451490T |
| 15 | 83 | 135 | 16 | 2 | M16 (1) | 451500G | 451500T |
| 15,1 | 83 | 135 | 16 | 2 | | 451510G | 451510T |
| 15,2 | 83 | 135 | 16 | 2 | Tvářecí M16 | 451512G | 451512T |
| 15,2 | 83 | 135 | 16 | 2 | G 3/8" | 451520G | 451520T |
| 15,3 | 83 | 135 | 16 | 2 | | 451530G | 451530T |
| 15,4 | 83 | 135 | 16 | 2 | | 451540G | 451540T |
| 15,5 | 83 | 135 | 16 | 2 | M18 (2,5) | 451550G | 451550T |
| 15,6 | 83 | 135 | 16 | 2 | | 451560G | 451560T |
| 15,7 | 83 | 135 | 16 | 2 | | 451570G | 451570T |
| 15,8 | 83 | 135 | 16 | 2 | | 451580G | 451580T |
| 15,9 | 83 | 135 | 16 | 2 | | 451590G | 451590T |
| 16 | 83 | 135 | 16 | 2 | M17 (1) | 451600G | 451600T |
| 16,1 | 93 | 145 | 18 | 2 | | 451610G | 451610T |
| 16,2 | 93 | 145 | 18 | 2 | | 451620G | 451620T |
| 16,25 | 93 | 145 | 18 | 2 | W 3/4" | 451625G | 451625T |
| 16,3 | 93 | 145 | 18 | 2 | | 451630G | 451630T |
| 16,4 | 93 | 145 | 18 | 2 | | 451640G | 451640T |
| 16,5 | 93 | 145 | 18 | 2 | M18 (1,5) | 451650G | 451650T |
| 16,6 | 93 | 145 | 18 | 2 | | 451660G | 451660T |
| 16,7 | 93 | 145 | 18 | 2 | | 451670G | 451670T |
| 16,8 | 93 | 145 | 18 | 2 | | 451680G | 451680T |
| 16,9 | 93 | 145 | 18 | 2 | | 451690G | 451690T |

2 Z

5D

DIN 6335
HA

MARWIN G

TripleCoating Cr

| d1m7 | L1 | Lc | d2h6 | zuby | ZÁVIT (stoupání) | MARWIN G Obj.číslo | TripleCoating Cr Obj.číslo |
|------|-----|-----|------|------|------------------|-----------------------|-------------------------------|
| 17 | 93 | 145 | 18 | 2 | M18 (1) | 451700G | 451700T |
| 17,1 | 93 | 145 | 18 | 2 | | 451710G | 451710T |
| 17,2 | 93 | 145 | 18 | 2 | | 451720G | 451720T |
| 17,3 | 93 | 145 | 18 | 2 | | 451730G | 451730T |
| 17,4 | 93 | 145 | 18 | 2 | | 451740G | 451740T |
| 17,5 | 93 | 145 | 18 | 2 | M20 (2,5) | 451750G | 451750T |
| 17,6 | 93 | 145 | 18 | 2 | | 451760G | 451760T |
| 17,7 | 93 | 145 | 18 | 2 | | 451770G | 451770T |
| 17,8 | 93 | 145 | 18 | 2 | | 451780G | 451780T |
| 17,9 | 93 | 145 | 18 | 2 | | 451790G | 451790T |
| 18 | 93 | 145 | 18 | 2 | | 451800G | 451800T |
| 18,1 | 101 | 156 | 20 | 2 | | 451810G | 451810T |
| 18,2 | 101 | 156 | 20 | 2 | | 451820G | 451820T |
| 18,3 | 101 | 156 | 20 | 2 | | 451830G | 451830T |
| 18,4 | 101 | 156 | 20 | 2 | | 451840G | 451840T |
| 18,5 | 101 | 156 | 20 | 2 | M20 (1,5) | 451850G | 451850T |
| 18,6 | 101 | 156 | 20 | 2 | | 451860G | 451860T |
| 18,7 | 101 | 156 | 20 | 2 | | 451870G | 451870T |
| 18,8 | 101 | 156 | 20 | 2 | G 1/2" | 451880G | 451880T |
| 18,9 | 101 | 156 | 20 | 2 | | 451890G | 451890T |
| 19 | 101 | 156 | 20 | 2 | M20 (1) / W 7/8" | 451900G | 451900T |
| 19,1 | 101 | 156 | 20 | 2 | | 451910G | 451910T |
| 19,2 | 101 | 156 | 20 | 2 | | 451920G | 451920T |
| 19,3 | 101 | 156 | 20 | 2 | | 451930G | 451930T |
| 19,4 | 101 | 156 | 20 | 2 | | 451940G | 451940T |
| 19,5 | 101 | 156 | 20 | 2 | M22 (2,5) | 451950G | 451950T |
| 19,6 | 101 | 156 | 20 | 2 | | 451960G | 451960T |
| 19,7 | 101 | 156 | 20 | 2 | | 451970G | 451970T |
| 19,8 | 101 | 156 | 20 | 2 | | 451980G | 451980T |
| 19,9 | 101 | 156 | 20 | 2 | | 451990G | 451990T |
| 20 | 105 | 165 | 20 | 2 | | 452000G | 452000T |

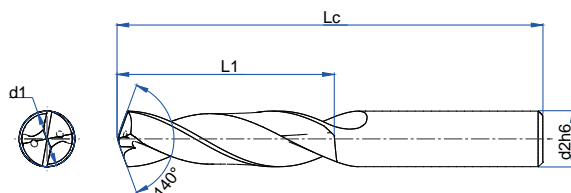
2 Z

3D

DIN 6335
HA

MARWIN G

TripleCoating Cr



| d1m7 | L1 | Lc | d2h6 | zuby | ZÁVIT (stoupání) | MARWIN G Obj.číslo | TripleCoating Cr Obj.číslo |
|------|----|----|------|------|------------------|-----------------------|-------------------------------|
| 4,2 | 25 | 67 | 6 | 2 | M5(0,8) | 530420G | 530420T |
| 4,3 | 25 | 67 | 6 | 2 | W 7/32" | 530430G | 530430T |
| 4,4 | 25 | 67 | 6 | 2 | | 530440G | 530440T |
| 4,5 | 25 | 67 | 6 | 2 | M5(0,5) | 530450G | 530450T |
| 4,6 | 25 | 67 | 6 | 2 | | 530460G | 530460T |
| 4,65 | 25 | 67 | 6 | 2 | Tvářecí M5 | 530465G | 530465T |
| 4,7 | 25 | 67 | 6 | 2 | | 530470G | 530470T |
| 4,8 | 28 | 67 | 6 | 2 | | 530480G | 530480T |
| 4,9 | 28 | 67 | 6 | 2 | W 1/4" | 530490G | 530490T |
| 5 | 28 | 67 | 6 | 2 | M6(1) | 530500G | 530500T |
| 5,1 | 28 | 67 | 6 | 2 | | 530510G | 530510T |
| 5,2 | 28 | 67 | 6 | 2 | M6(0,75) | 530520G | 530520T |
| 5,3 | 28 | 67 | 6 | 2 | | 530530G | 530530T |
| 5,4 | 28 | 67 | 6 | 2 | | 530540G | 530540T |
| 5,5 | 28 | 67 | 6 | 2 | | 530550G | 530550T |
| 5,56 | 28 | 67 | 6 | 2 | Tvářecí M6 | 530556G | 530556T |
| 5,6 | 28 | 67 | 6 | 2 | | 530560G | 530560T |
| 5,7 | 28 | 67 | 6 | 2 | | 530570G | 530570T |
| 5,8 | 28 | 67 | 6 | 2 | | 530580G | 530580T |
| 5,9 | 28 | 67 | 6 | 2 | | 530590G | 530590T |

2 Z

3D

DIN 6335
HA

MARWIN G

TripleCoating Cr

| d1m7 | L1 | Lc | d2h6 | zuby | ZÁVIT (stoupání) | MARWIN G Obj.číslo | TripleCoating Cr Obj.číslo |
|------|----|----|------|------|---------------------|-----------------------|-------------------------------|
| 6 | 28 | 67 | 6 | 2 | M7(1) | 530600G | 530600T |
| 6,1 | 34 | 80 | 8 | 2 | | 530610G | 530610T |
| 6,2 | 34 | 80 | 8 | 2 | M7(0,75) | 530620G | 530620T |
| 6,3 | 34 | 80 | 8 | 2 | | 530630G | 530630T |
| 6,4 | 34 | 80 | 8 | 2 | W 5/16" | 530640G | 530640T |
| 6,5 | 34 | 80 | 8 | 2 | | 530650G | 530650T |
| 6,6 | 34 | 80 | 8 | 2 | | 530660G | 530660T |
| 6,7 | 34 | 80 | 8 | 2 | G 1/16" | 530670G | 530670T |
| 6,8 | 34 | 80 | 8 | 2 | M8(1,25) | 530680G | 530680T |
| 6,9 | 34 | 80 | 8 | 2 | | 530690G | 530690T |
| 7 | 34 | 80 | 8 | 2 | M8(1) | 530700G | 530700T |
| 7,1 | 41 | 80 | 8 | 2 | | 530710G | 530710T |
| 7,2 | 41 | 80 | 8 | 2 | M8 (0,75) | 530720G | 530720T |
| 7,3 | 41 | 80 | 8 | 2 | | 530730G | 530730T |
| 7,4 | 41 | 80 | 8 | 2 | | 530740G | 530740T |
| 7,45 | 41 | 80 | 8 | 2 | Tvářecí M8 | 530745G | 530745T |
| 7,5 | 41 | 80 | 8 | 2 | | 530750G | 530750T |
| 7,6 | 41 | 80 | 8 | 2 | | 530760G | 530760T |
| 7,7 | 41 | 80 | 8 | 2 | W 3/8" | 530770G | 530770T |
| 7,8 | 41 | 80 | 8 | 2 | M9 (1,25) | 530780G | 530780T |
| 7,9 | 41 | 80 | 8 | 2 | | 530790G | 530790T |
| 8 | 41 | 80 | 8 | 2 | M9 (1) | 530800G | 530800T |
| 8,1 | 47 | 90 | 10 | 2 | | 530810G | 530810T |
| 8,2 | 47 | 90 | 10 | 2 | M9 (0,75) | 530820G | 530820T |
| 8,3 | 47 | 90 | 10 | 2 | | 530830G | 530830T |
| 8,4 | 47 | 90 | 10 | 2 | | 530840G | 530840T |
| 8,5 | 47 | 90 | 10 | 2 | M10 (1,5) | 530850G | 530850T |
| 8,6 | 47 | 90 | 10 | 2 | | 530860G | 530860T |
| 8,7 | 47 | 90 | 10 | 2 | | 530870G | 530870T |
| 8,8 | 47 | 90 | 10 | 2 | M10 (1,25) / G 1/8" | 530880G | 530880T |
| 8,9 | 47 | 90 | 10 | 2 | | 530890G | 530890T |

2 Z

3D

DIN 6335
HA

MARWIN G

TripleCoating Cr

| d1m7 | L1 | Lc | d2h6 | zuby | ZÁVIT (stoupání) | MARWIN G Obj.číslo | TripleCoating Cr Obj.číslo |
|-------|----|-----|------|------|-------------------------|-----------------------|-------------------------------|
| 9 | 47 | 90 | 10 | 2 | M10 (1) | 530900G | 530900T |
| 9,1 | 47 | 90 | 10 | 2 | W 7/16" | 530910G | 530910T |
| 9,2 | 47 | 90 | 10 | 2 | M10 (0,75) | 530920G | 530920T |
| 9,3 | 47 | 90 | 10 | 2 | | 530930G | 530930T |
| 9,34 | 47 | 90 | 10 | 2 | Tvářecí M10 | 530934G | 530934T |
| 9,4 | 47 | 90 | 10 | 2 | | 530940G | 530940T |
| 9,5 | 47 | 90 | 10 | 2 | M11 (1,5) | 530950G | 530950T |
| 9,6 | 47 | 90 | 10 | 2 | | 530960G | 530960T |
| 9,7 | 47 | 90 | 10 | 2 | | 530970G | 530970T |
| 9,8 | 47 | 90 | 10 | 2 | | 530980G | 530980T |
| 9,9 | 47 | 90 | 10 | 2 | | 530990G | 530990T |
| 10 | 47 | 90 | 10 | 2 | M11 (1) | 531000G | 531000T |
| 10,1 | 55 | 104 | 12 | 2 | | 531010G | 531010T |
| 10,2 | 55 | 104 | 12 | 2 | M11 (0,75) / M12 (1,75) | 531020G | 531020T |
| 10,3 | 55 | 104 | 12 | 2 | W 1/2" | 531030G | 531030T |
| 10,4 | 55 | 104 | 12 | 2 | | 531040G | 531040T |
| 10,5 | 55 | 104 | 12 | 2 | M12 (1,5) | 531050G | 531050T |
| 10,6 | 55 | 104 | 12 | 2 | | 531060G | 531060T |
| 10,7 | 55 | 104 | 12 | 2 | | 531070G | 531070T |
| 10,8 | 55 | 104 | 12 | 2 | M12 (1,25) | 531080G | 531080T |
| 10,9 | 55 | 104 | 12 | 2 | | 531090G | 531090T |
| 11 | 55 | 104 | 12 | 2 | M12(1) | 531100G | 531100T |
| 11,1 | 55 | 104 | 12 | 2 | | 531110G | 531110T |
| 11,2 | 55 | 104 | 12 | 2 | | 531120G | 531120T |
| 11,23 | 55 | 104 | 12 | 2 | Tvářecí M12 | 531123G | 531123T |
| 11,3 | 55 | 104 | 12 | 2 | | 531130G | 531130T |
| 11,4 | 55 | 104 | 12 | 2 | | 531140G | 531140T |
| 11,5 | 55 | 104 | 12 | 2 | | 531150G | 531150T |
| 11,6 | 55 | 104 | 12 | 2 | | 531160G | 531160T |
| 11,7 | 55 | 104 | 12 | 2 | G 1/4" | 531170G | 531170T |
| 11,8 | 55 | 104 | 12 | 2 | W 9/16" | 531180G | 531180T |
| 11,9 | 55 | 104 | 12 | 2 | | 531190G | 531190T |

2 Z

3D

DIN 6335
HA

MARWIN G

TripleCoating Cr

| d1m7 | L1 | Lc | d2h6 | zuby | ZÁVIT (stoupání) | MARWIN G Obj.číslo | TripleCoating Cr Obj.číslo |
|-------|----|-----|------|------|------------------|-----------------------|-------------------------------|
| 12 | 55 | 104 | 12 | 2 | M14 (2) | 531200G | 531200T |
| 12,1 | 60 | 109 | 14 | 2 | | 531210G | 531210T |
| 12,2 | 60 | 109 | 14 | 2 | | 531220G | 531220T |
| 12,3 | 60 | 109 | 14 | 2 | | 531230G | 531230T |
| 12,4 | 60 | 109 | 14 | 2 | | 531240G | 531240T |
| 12,5 | 60 | 109 | 14 | 2 | | 531250G | 531250T |
| 12,6 | 60 | 109 | 14 | 2 | | 531260G | 531260T |
| 12,7 | 60 | 109 | 14 | 2 | | 531270G | 531270T |
| 12,8 | 60 | 109 | 14 | 2 | M14 (1,25) | 531280G | 531280T |
| 12,9 | 60 | 109 | 14 | 2 | | 531290G | 531290T |
| 13 | 60 | 109 | 14 | 2 | M14 (1) | 531300G | 531300T |
| 13,1 | 60 | 109 | 14 | 2 | | 531310G | 531310T |
| 13,12 | 60 | 109 | 14 | 2 | Tvářecí M14 | 531312G | 531312T |
| 13,2 | 60 | 109 | 14 | 2 | | 531320G | 531320T |
| 13,25 | 60 | 109 | 14 | 2 | W 5/8" | 531325G | 531325T |
| 13,3 | 60 | 109 | 14 | 2 | | 531330G | 531330T |
| 13,4 | 60 | 109 | 14 | 2 | | 531340G | 531340T |
| 13,5 | 60 | 109 | 14 | 2 | | 531350G | 531350T |
| 13,6 | 60 | 109 | 14 | 2 | | 531360G | 531360T |
| 13,7 | 60 | 109 | 14 | 2 | | 531370G | 531370T |
| 13,8 | 60 | 109 | 14 | 2 | | 531380G | 531380T |
| 13,9 | 60 | 109 | 14 | 2 | | 531390G | 531390T |
| 14 | 60 | 109 | 14 | 2 | M15 (1) / M16(2) | 531400G | 531400T |
| 14,1 | 65 | 117 | 16 | 2 | | 531410G | 531410T |
| 14,2 | 65 | 117 | 16 | 2 | | 531420G | 531420T |
| 14,3 | 65 | 117 | 16 | 2 | | 531430G | 531430T |
| 14,4 | 65 | 117 | 16 | 2 | | 531440G | 531440T |
| 14,5 | 65 | 117 | 16 | 2 | M16 (1,5) | 531450G | 531450T |
| 14,6 | 65 | 117 | 16 | 2 | | 531460G | 531460T |
| 14,7 | 65 | 117 | 16 | 2 | | 531470G | 531470T |
| 14,8 | 65 | 117 | 16 | 2 | | 531480G | 531480T |
| 14,9 | 65 | 117 | 16 | 2 | | 531490G | 531490T |

2 Z

3D

DIN 6335
HA

MARWIN G

TripleCoating Cr

| d1m7 | L1 | Lc | d2h6 | zuby | ZÁVIT (stoupání) | MARWIN G Obj.číslo | TripleCoating Cr Obj.číslo |
|-------|----|-----|------|------|------------------|-----------------------|-------------------------------|
| 15 | 65 | 117 | 16 | 2 | M16 (1) | 531500G | 531500T |
| 15,1 | 65 | 117 | 16 | 2 | | 531510G | 531510T |
| 15,12 | 65 | 117 | 16 | 2 | Tvářecí M16 | 531512G | 531512T |
| 15,2 | 65 | 117 | 16 | 2 | G 3/8" | 531520G | 531520T |
| 15,3 | 65 | 117 | 16 | 2 | | 531530G | 531530T |
| 15,4 | 65 | 117 | 16 | 2 | | 531540G | 531540T |
| 15,5 | 65 | 117 | 16 | 2 | M18 (2,5) | 531550G | 531550T |
| 15,6 | 65 | 117 | 16 | 2 | | 531560G | 531560T |
| 15,7 | 65 | 117 | 16 | 2 | | 531570G | 531570T |
| 15,8 | 65 | 117 | 16 | 2 | | 531580G | 531580T |
| 15,9 | 65 | 117 | 16 | 2 | | 531590G | 531590T |
| 16 | 65 | 117 | 16 | 2 | M17 (1) | 531600G | 531600T |
| 16,1 | 73 | 125 | 18 | 2 | | 531610G | 531610T |
| 16,2 | 73 | 125 | 18 | 2 | | 531620G | 531620T |
| 16,25 | 73 | 125 | 18 | 2 | W 3/4" | 531625G | 531625T |
| 16,3 | 73 | 125 | 18 | 2 | | 531630G | 531630T |
| 16,4 | 73 | 125 | 18 | 2 | | 531640G | 531640T |
| 16,5 | 73 | 125 | 18 | 2 | M18 (1,5) | 531650G | 531650T |
| 16,6 | 73 | 125 | 18 | 2 | | 531660G | 531660T |
| 16,7 | 73 | 125 | 18 | 2 | | 531670G | 531670T |
| 16,8 | 73 | 125 | 18 | 2 | | 531680G | 531680T |
| 16,9 | 73 | 125 | 18 | 2 | | 531690G | 531690T |
| 17 | 73 | 125 | 18 | 2 | M18 (1) | 531700G | 531700T |
| 17,1 | 73 | 125 | 18 | 2 | | 531710G | 531710T |
| 17,2 | 73 | 125 | 18 | 2 | | 531720G | 531720T |
| 17,3 | 73 | 125 | 18 | 2 | | 531730G | 531730T |
| 17,4 | 73 | 125 | 18 | 2 | | 531740G | 531740T |
| 17,5 | 73 | 125 | 18 | 2 | M20 (2,5) | 531750G | 531750T |
| 17,6 | 73 | 125 | 18 | 2 | | 531760G | 531760T |
| 17,7 | 73 | 125 | 18 | 2 | | 531770G | 531770T |
| 17,8 | 73 | 125 | 18 | 2 | | 531780G | 531780T |
| 17,9 | 73 | 125 | 18 | 2 | | 531790G | 531790T |

2 Z

3D

DIN 6335
HA

MARWIN G

TripleCoating Cr

| d1m7 | L1 | Lc | d2h6 | zuby | ZÁVIT (stoupání) | MARWIN G Obj.číslo | TripleCoating Cr Obj.číslo |
|------|----|-----|------|------|------------------|-----------------------|-------------------------------|
| 18 | 73 | 125 | 18 | 2 | | 531800G | 531800T |
| 18,1 | 79 | 134 | 20 | 2 | | 531810G | 531810T |
| 18,2 | 79 | 134 | 20 | 2 | | 531820G | 531820T |
| 18,3 | 79 | 134 | 20 | 2 | | 531830G | 531830T |
| 18,4 | 79 | 134 | 20 | 2 | | 531840G | 531840T |
| 18,5 | 79 | 134 | 20 | 2 | M20 (1,5) | 531850G | 531850T |
| 18,6 | 79 | 134 | 20 | 2 | | 531860G | 531860T |
| 18,7 | 79 | 134 | 20 | 2 | | 531870G | 531870T |
| 18,8 | 79 | 134 | 20 | 2 | G 1/2" | 531880G | 531880T |
| 18,9 | 79 | 134 | 20 | 2 | | 531890G | 531890T |
| 19 | 79 | 134 | 20 | 2 | M20 (1) / W 7/8" | 531900G | 531900T |
| 19,1 | 79 | 134 | 20 | 2 | | 531910G | 531910T |
| 19,2 | 79 | 134 | 20 | 2 | | 531920G | 531920T |
| 19,3 | 79 | 134 | 20 | 2 | | 531930G | 531930T |
| 19,4 | 79 | 134 | 20 | 2 | | 531940G | 531940T |
| 19,5 | 79 | 134 | 20 | 2 | M22 (2,5) | 531950G | 531950T |
| 19,6 | 79 | 134 | 20 | 2 | | 531960G | 531960T |
| 19,7 | 79 | 134 | 20 | 2 | | 531970G | 531970T |
| 19,8 | 79 | 134 | 20 | 2 | | 531980G | 531980T |
| 19,9 | 79 | 134 | 20 | 2 | | 531990G | 531990T |
| 20 | 79 | 134 | 20 | 2 | | 532000G | 532000T |

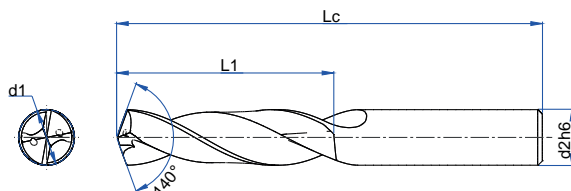
2 Z

5D

DIN 6335
HA

MARWIN G

TripleCoating Cr



| d1m7 | L1 | Lc | d2h6 | zuby | ZÁVIT (stoupání) | MARWIN G Obj.číslo | TripleCoating Cr Obj.číslo |
|------|----|----|------|------|------------------|-----------------------|-------------------------------|
| 4,2 | 36 | 82 | 6 | 2 | M5(0,8) | 550420G | 550420T |
| 4,3 | 36 | 82 | 6 | 2 | W 7/32" | 550430G | 550430T |
| 4,4 | 36 | 82 | 6 | 2 | | 550440G | 550440T |
| 4,5 | 36 | 82 | 6 | 2 | M5(0,5) | 550450G | 550450T |
| 4,6 | 36 | 82 | 6 | 2 | | 550460G | 550460T |
| 4,65 | 36 | 82 | 6 | 2 | Tvářecí M5 | 550465G | 550465T |
| 4,7 | 36 | 82 | 6 | 2 | | 550470G | 550470T |
| 4,8 | 44 | 82 | 6 | 2 | | 550480G | 550480T |
| 4,9 | 44 | 82 | 6 | 2 | W 1/4" | 550490G | 550490T |
| 5 | 44 | 82 | 6 | 2 | M6(1) | 550500G | 550500T |
| 5,1 | 44 | 82 | 6 | 2 | | 550510G | 550510T |
| 5,2 | 44 | 82 | 6 | 2 | M6(0,75) | 550520G | 550520T |
| 5,3 | 44 | 82 | 6 | 2 | | 550530G | 550530T |
| 5,4 | 44 | 82 | 6 | 2 | | 550540G | 550540T |
| 5,5 | 44 | 82 | 6 | 2 | | 550550G | 550550T |
| 5,56 | 44 | 82 | 6 | 2 | Tvářecí M6 | 550556G | 550556T |
| 5,6 | 44 | 82 | 6 | 2 | | 550560G | 550560T |
| 5,7 | 44 | 82 | 6 | 2 | | 550570G | 550570T |
| 5,8 | 44 | 82 | 6 | 2 | | 550580G | 550580T |
| 5,9 | 44 | 82 | 6 | 2 | | 550590G | 550590T |

2 Z

5D

DIN 6335
HA

MARWIN G

TripleCoating Cr

| d1m7 | L1 | Lc | d2h6 | zuby | ZÁVIT (stoupání) | MARWIN G Obj.číslo | TripleCoating Cr Obj.číslo |
|------|----|-----|------|------|---------------------|-----------------------|-------------------------------|
| 6 | 44 | 82 | 6 | 2 | M7(1) | 550600G | 550600T |
| 6,1 | 53 | 92 | 8 | 2 | | 550610G | 550610T |
| 6,2 | 53 | 92 | 8 | 2 | M7(0,75) | 550620G | 550620T |
| 6,3 | 53 | 92 | 8 | 2 | | 550630G | 550630T |
| 6,4 | 53 | 92 | 8 | 2 | W 5/16" | 550640G | 550640T |
| 6,5 | 53 | 92 | 8 | 2 | | 550650G | 550650T |
| 6,6 | 53 | 92 | 8 | 2 | | 550660G | 550660T |
| 6,7 | 53 | 92 | 8 | 2 | G 1/16" | 550670G | 550670T |
| 6,8 | 53 | 92 | 8 | 2 | M8(1,25) | 550680G | 550680T |
| 6,9 | 53 | 92 | 8 | 2 | | 550690G | 550690T |
| 7 | 53 | 92 | 8 | 2 | M8(1) | 550700G | 550700T |
| 7,1 | 53 | 92 | 8 | 2 | | 550710G | 550710T |
| 7,2 | 53 | 92 | 8 | 2 | M8 (0,75) | 550720G | 550720T |
| 7,3 | 53 | 92 | 8 | 2 | | 550730G | 550730T |
| 7,4 | 53 | 92 | 8 | 2 | | 550740G | 550740T |
| 7,45 | 53 | 92 | 8 | 2 | Tvářecí M8 | 550745G | 550745T |
| 7,5 | 53 | 92 | 8 | 2 | | 550750G | 550750T |
| 7,6 | 53 | 92 | 8 | 2 | | 550760G | 550760T |
| 7,7 | 53 | 92 | 8 | 2 | W 3/8" | 550770G | 550770T |
| 7,8 | 53 | 92 | 8 | 2 | M9 (1,25) | 550780G | 550780T |
| 7,9 | 53 | 92 | 8 | 2 | | 550790G | 550790T |
| 8 | 53 | 92 | 8 | 2 | M9 (1) | 550800G | 550800T |
| 8,1 | 61 | 104 | 10 | 2 | | 550810G | 550810T |
| 8,2 | 61 | 104 | 10 | 2 | M9 (0,75) | 550820G | 550820T |
| 8,3 | 61 | 104 | 10 | 2 | | 550830G | 550830T |
| 8,4 | 61 | 104 | 10 | 2 | | 550840G | 550840T |
| 8,5 | 61 | 104 | 10 | 2 | M10 (1,5) | 550850G | 550850T |
| 8,6 | 61 | 104 | 10 | 2 | | 550860G | 550860T |
| 8,7 | 61 | 104 | 10 | 2 | | 550870G | 550870T |
| 8,8 | 61 | 104 | 10 | 2 | M10 (1,25) / G 1/8" | 550880G | 550880T |
| 8,9 | 61 | 104 | 10 | 2 | | 550890G | 550890T |

2 Z

5D

DIN 6335
HA

MARWIN G

TripleCoating Cr

| d1m7 | L1 | Lc | d2h6 | zuby | ZÁVIT (stoupání) | MARWIN G Obj.číslo | TripleCoating Cr Obj.číslo |
|-------|----|-----|------|------|-------------------------|-----------------------|-------------------------------|
| 9 | 61 | 104 | 10 | 2 | M10 (1) | 550900G | 550900T |
| 9,1 | 61 | 104 | 10 | 2 | W 7/16" | 550910G | 550910T |
| 9,2 | 61 | 104 | 10 | 2 | M10 (0,75) | 550920G | 550920T |
| 9,3 | 61 | 104 | 10 | 2 | | 550930G | 550930T |
| 9,34 | 61 | 104 | 10 | 2 | Tvářecí M10 | 550934G | 550934T |
| 9,4 | 61 | 104 | 10 | 2 | | 550940G | 550940T |
| 9,5 | 61 | 104 | 10 | 2 | M11 (1,5) | 550950G | 550950T |
| 9,6 | 61 | 104 | 10 | 2 | | 550960G | 550960T |
| 9,7 | 61 | 104 | 10 | 2 | | 550970G | 550970T |
| 9,8 | 61 | 104 | 10 | 2 | | 550980G | 550980T |
| 9,9 | 61 | 104 | 10 | 2 | | 550990G | 550990T |
| 10 | 61 | 104 | 10 | 2 | M11 (1) | 551000G | 551000T |
| 10,1 | 71 | 120 | 12 | 2 | | 551010G | 551010T |
| 10,2 | 71 | 120 | 12 | 2 | M11 (0,75) / M12 (1,75) | 551020G | 551020T |
| 10,3 | 71 | 120 | 12 | 2 | W 1/2" | 551030G | 551030T |
| 10,4 | 71 | 120 | 12 | 2 | | 551040G | 551040T |
| 10,5 | 71 | 120 | 12 | 2 | M12 (1,5) | 551050G | 551050T |
| 10,6 | 71 | 120 | 12 | 2 | | 551060G | 551060T |
| 10,7 | 71 | 120 | 12 | 2 | | 551070G | 551070T |
| 10,8 | 71 | 120 | 12 | 2 | M12 (1,25) | 551080G | 551080T |
| 10,9 | 71 | 120 | 12 | 2 | | 551090G | 551090T |
| 11 | 71 | 120 | 12 | 2 | M12(1) | 551100G | 551100T |
| 11,1 | 71 | 120 | 12 | 2 | | 551110G | 551110T |
| 11,2 | 71 | 120 | 12 | 2 | | 551120G | 551120T |
| 11,23 | 71 | 120 | 12 | 2 | Tvářecí M12 | 551123G | 551123T |
| 11,3 | 71 | 120 | 12 | 2 | | 551130G | 551130T |
| 11,4 | 71 | 120 | 12 | 2 | | 551140G | 551140T |
| 11,5 | 71 | 120 | 12 | 2 | | 551150G | 551150T |
| 11,6 | 71 | 120 | 12 | 2 | | 551160G | 551160T |
| 11,7 | 71 | 120 | 12 | 2 | G 1/4" | 551170G | 551170T |
| 11,8 | 71 | 120 | 12 | 2 | W 9/16" | 551180G | 551180T |
| 11,9 | 71 | 120 | 12 | 2 | | 551190G | 551190T |

2 Z

5D

DIN 6335
HA

MARWIN G

TripleCoating Cr

| d1m7 | L1 | Lc | d2h6 | zuby | ZÁVIT (stoupání) | MARWIN G Obj.číslo | TripleCoating Cr Obj.číslo |
|-------|----|-----|------|------|------------------|-----------------------|-------------------------------|
| 12 | 71 | 120 | 12 | 2 | M14 (2) | 551200G | 551200T |
| 12,1 | 77 | 126 | 14 | 2 | | 551210G | 551210T |
| 12,2 | 77 | 126 | 14 | 2 | | 551220G | 551220T |
| 12,3 | 77 | 126 | 14 | 2 | | 551230G | 551230T |
| 12,4 | 77 | 126 | 14 | 2 | | 551240G | 551240T |
| 12,5 | 77 | 126 | 14 | 2 | | 551250G | 551250T |
| 12,6 | 77 | 126 | 14 | 2 | | 551260G | 551260T |
| 12,7 | 77 | 126 | 14 | 2 | | 551270G | 551270T |
| 12,8 | 77 | 126 | 14 | 2 | M14 (1,25) | 551280G | 551280T |
| 12,9 | 77 | 126 | 14 | 2 | | 551290G | 551290T |
| 13 | 77 | 126 | 14 | 2 | M14 (1) | 551300G | 551300T |
| 13,1 | 77 | 126 | 14 | 2 | | 551310G | 551310T |
| 13,12 | 77 | 126 | 14 | 2 | Tvářecí M14 | 551312G | 551312T |
| 13,2 | 77 | 126 | 14 | 2 | | 551320G | 551320T |
| 13,25 | 77 | 126 | 14 | 2 | W 5/8" | 551325G | 551325T |
| 13,3 | 77 | 126 | 14 | 2 | | 551330G | 551330T |
| 13,4 | 77 | 126 | 14 | 2 | | 551340G | 551340T |
| 13,5 | 77 | 126 | 14 | 2 | | 551350G | 551350T |
| 13,6 | 77 | 126 | 14 | 2 | | 551360G | 551360T |
| 13,7 | 77 | 126 | 14 | 2 | | 551370G | 551370T |
| 13,8 | 77 | 126 | 14 | 2 | | 551380G | 551380T |
| 13,9 | 77 | 126 | 14 | 2 | | 551390G | 551390T |
| 14 | 77 | 126 | 14 | 2 | M15 (1) / M16(2) | 551400G | 551400T |
| 14,1 | 83 | 135 | 16 | 2 | | 551410G | 551410T |
| 14,2 | 83 | 135 | 16 | 2 | | 551420G | 551420T |
| 14,3 | 83 | 135 | 16 | 2 | | 551430G | 551430T |
| 14,4 | 83 | 135 | 16 | 2 | | 551440G | 551440T |
| 14,5 | 83 | 135 | 16 | 2 | M16 (1,5) | 551450G | 551450T |
| 14,6 | 83 | 135 | 16 | 2 | | 551460G | 551460T |
| 14,7 | 83 | 135 | 16 | 2 | | 551470G | 551470T |
| 14,8 | 83 | 135 | 16 | 2 | | 551480G | 551480T |
| 14,9 | 83 | 135 | 16 | 2 | | 551490G | 551490T |

2 Z

5D

DIN 6335
HA

MARWIN G

TripleCoating Cr

| d1m7 | L1 | Lc | d2h6 | zuby | ZÁVIT (stoupání) | MARWIN G Obj.číslo | TripleCoating Cr Obj.číslo |
|-------|----|-----|------|------|------------------|-----------------------|-------------------------------|
| 15 | 83 | 135 | 16 | 2 | M16 (1) | 551500G | 551500T |
| 15,1 | 83 | 135 | 16 | 2 | | 551510G | 551510T |
| 15,12 | 83 | 135 | 16 | 2 | Tvářecí M16 | 551512G | 551512T |
| 15,2 | 83 | 135 | 16 | 2 | G 3/8" | 551520G | 551520T |
| 15,3 | 83 | 135 | 16 | 2 | | 551530G | 551530T |
| 15,4 | 83 | 135 | 16 | 2 | | 551540G | 551540T |
| 15,5 | 83 | 135 | 16 | 2 | M18 (2,5) | 551550G | 551550T |
| 15,6 | 83 | 135 | 16 | 2 | | 551560G | 551560T |
| 15,7 | 83 | 135 | 16 | 2 | | 551570G | 551570T |
| 15,8 | 83 | 135 | 16 | 2 | | 551580G | 551580T |
| 15,9 | 83 | 135 | 16 | 2 | | 551590G | 551590T |
| 16 | 83 | 135 | 16 | 2 | M17 (1) | 551600G | 551600T |
| 16,1 | 93 | 145 | 18 | 2 | | 551610G | 551610T |
| 16,2 | 93 | 145 | 18 | 2 | | 551620G | 551620T |
| 16,25 | 93 | 145 | 18 | 2 | W 3/4" | 551625G | 551625T |
| 16,3 | 93 | 145 | 18 | 2 | | 551630G | 551630T |
| 16,4 | 93 | 145 | 18 | 2 | | 551640G | 551640T |
| 16,5 | 93 | 145 | 18 | 2 | M18 (1,5) | 551650G | 551650T |
| 16,6 | 93 | 145 | 18 | 2 | | 551660G | 551660T |
| 16,7 | 93 | 145 | 18 | 2 | | 551670G | 551670T |
| 16,8 | 93 | 145 | 18 | 2 | | 551680G | 551680T |
| 16,9 | 93 | 145 | 18 | 2 | | 551690G | 551690T |
| 17 | 93 | 145 | 18 | 2 | M18 (1) | 551700G | 551700T |
| 17,1 | 93 | 145 | 18 | 2 | | 551710G | 551710T |
| 17,2 | 93 | 145 | 18 | 2 | | 551720G | 551720T |
| 17,3 | 93 | 145 | 18 | 2 | | 551730G | 551730T |
| 17,4 | 93 | 145 | 18 | 2 | | 551740G | 551740T |
| 17,5 | 93 | 145 | 18 | 2 | M20 (2,5) | 551750G | 551750T |
| 17,6 | 93 | 145 | 18 | 2 | | 551760G | 551760T |
| 17,7 | 93 | 145 | 18 | 2 | | 551770G | 551770T |
| 17,8 | 93 | 145 | 18 | 2 | | 551780G | 551780T |
| 17,9 | 93 | 145 | 18 | 2 | | 551790G | 551790T |

2 Z

5D

DIN 6335
HA

MARWIN G

TripleCoating Cr

| d1m7 | L1 | Lc | d2h6 | zuby | ZÁVIT (stoupání) | MARWIN G Obj.číslo | TripleCoating Cr Obj.číslo |
|------|-----|-----|------|------|------------------|-----------------------|-------------------------------|
| 18 | 93 | 145 | 18 | 2 | | 551800G | 551800T |
| 18,1 | 101 | 156 | 20 | 2 | | 551810G | 551810T |
| 18,2 | 101 | 156 | 20 | 2 | | 551820G | 551820T |
| 18,3 | 101 | 156 | 20 | 2 | | 551830G | 551830T |
| 18,4 | 101 | 156 | 20 | 2 | | 551840G | 551840T |
| 18,5 | 101 | 156 | 20 | 2 | M20 (1,5) | 551850G | 551850T |
| 18,6 | 101 | 156 | 20 | 2 | | 551860G | 551860T |
| 18,7 | 101 | 156 | 20 | 2 | | 551870G | 551870T |
| 18,8 | 101 | 156 | 20 | 2 | G 1/2" | 551880G | 551880T |
| 18,9 | 101 | 156 | 20 | 2 | | 551890G | 551890T |
| 19 | 101 | 156 | 20 | 2 | M20 (1) / W 7/8" | 551900G | 551900T |
| 19,1 | 101 | 156 | 20 | 2 | | 551910G | 551910T |
| 19,2 | 101 | 156 | 20 | 2 | | 551920G | 551920T |
| 19,3 | 101 | 156 | 20 | 2 | | 551930G | 551930T |
| 19,4 | 101 | 156 | 20 | 2 | | 551940G | 551940T |
| 19,5 | 101 | 156 | 20 | 2 | M22 (2,5) | 551950G | 551950T |
| 19,6 | 101 | 156 | 20 | 2 | | 551960G | 551960T |
| 19,7 | 101 | 156 | 20 | 2 | | 551970G | 551970T |
| 19,8 | 101 | 156 | 20 | 2 | | 551980G | 551980T |
| 19,9 | 101 | 156 | 20 | 2 | | 551990G | 551990T |
| 20 | 105 | 165 | 20 | 2 | | 552000G | 552000T |

DOPORUČENÉ ŘEZNÉ PODMÍNKY PRO VRTÁKY

| Materiál | Pevnost v tahu | Vc | Fz (mm/min) | | | |
|--|----------------------------|-----------|---------------|---------------|---------------|---------------|
| | | | Ø3 - Ø6 | Ø6,1 - Ø12 | Ø12,1 - Ø18 | Ø18,1 - Ø25 |
| Konstruční/automatová ocel, neleg.zušlechtná ocel k cementování | do 850 N/mm ² | 110 – 130 | 0,035 – 0,070 | 0,070 – 0,125 | 0,125 – 0,160 | 0,160 – 0,200 |
| Automatová ocel, nelegovaná ocel k cementování, ocel k nitríkování | 850-1200 N/mm ² | 110 – 140 | 0,035 – 0,070 | 0,070 – 0,125 | 0,125 – 0,160 | 0,160 – 0,200 |
| legovaná zušlechtná ocel, nástrojová/rychlořezná ocel | 850-1400 N/mm ² | 90 – 110 | 0,035 – 0,070 | 0,070 – 0,125 | 0,125 – 0,160 | 0,160 – 0,200 |
| Nerezová ocel – lehce obrobitelná s obsahem síry | do 750 N/mm ² | 45 – 55 | 0,030 – 0,060 | 0,060 – 0,085 | 0,085 – 0,120 | 0,120 – 0,160 |
| Nerezová ocel středně obrobitelná | 750-950 N/mm ² | 35 – 45 | 0,030 – 0,060 | 0,060 – 0,085 | 0,085 – 0,120 | 0,120 – 0,160 |
| Litina, šedá litina, temperovaná litina, tvárná litina | nad 240 HB 30 | 70 – 85 | 0,025 – 0,040 | 0,050 – 0,070 | 0,070 – 0,100 | 0,100 – 0,140 |
| Hliník, slitina hliníku k tváření, hliníkové slitiny | Do 3% Si | 220 – 250 | 0,060 – 0,120 | 0,120 – 0,180 | 0,180 – 0,300 | 0,300 – 0,400 |
| Slévárenská slitina hliníku | Nad 3% Si | 200 – 220 | 0,060 – 0,120 | 0,120 – 0,180 | 0,180 – 0,300 | 0,300 – 0,400 |
| Titan, slitina titanu | nad 1400 N/mm ² | 30 – 40 | 0,020 – 0,040 | 0,040 – 0,065 | 0,065 – 0,090 | 0,090 – 0,120 |

Uvedené hodnoty jsou pouze orientační pro tuhé stroje za předpokladu použití vhodného povlaku na nástroji a upínání s minimální házivostí. Řezné podmínky je nutno doladit dle daného materiálu a tvaru třísky.

U vrtáků s vnitřním chlazením je možno zvýšit Vc až o 25% a Fz o 10%.

VÝPOČET OTÁČEK VŘETENE:

$$n = (1000 \times Vc) / (\pi \times d1) \quad (\text{min}^{-1})$$

ŘEZNÁ RYCHLOST:

$$Vc = (\pi \times d1 \times n) / 1000 \quad (\text{m/min})$$

POSUV:

$$Vf = z \times fz \times n \quad (\text{mm/min}^{-1})$$

POSUV NA ZUB:

$$fz = Vf / (z \times n) \quad (\text{mm})$$

VYSVĚTLIVKY POJMŮ:

d1 – průměr nástroje

fz – posuv na zub

Vc – řezná rychlost

Vf – posuv nástroje

z – počet zubů

n – otáčky nástroje

VRTÁKY POD ZÁVIT

90°

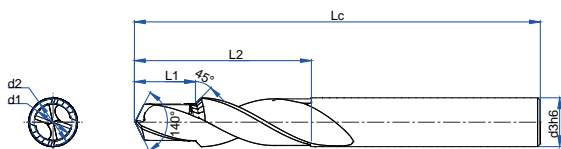
2 Z

ŠPIČKA
140°

OSAZENÍ
90°

MARWIN G

TripleCoating Cr



| závit | d1 | L1 | L2 | Lc | d2h6 | zuby | MARWIN G | TripleCoating Cr |
|-------|------|------|----|-----|------|------|-----------|------------------|
| | | | | | | | Obj.číslo | Obj.číslo |
| M4 | 3,3 | 11,5 | 20 | 58 | 6 | 2 | RM4ST90G | RM4ST90T |
| M5 | 4,2 | 14 | 23 | 58 | 6 | 2 | RM5ST90G | RM5ST90T |
| M6 | 5 | 16,5 | 26 | 60 | 6 | 2 | RM6ST90G | RM6ST90T |
| M8 | 6,8 | 21 | 36 | 82 | 8 | 2 | RM8ST90G | RM8ST90T |
| M10 | 8,5 | 26 | 42 | 90 | 10 | 2 | RM10ST90G | RM10ST90T |
| M12 | 10,2 | 30 | 46 | 90 | 12 | 2 | RM12ST90G | RM12ST90T |
| M14 | 12 | 34 | 51 | 100 | 14 | 2 | RM14ST90G | RM14ST90T |
| M16 | 14 | 39 | 58 | 110 | 16 | 2 | RM16ST90G | RM16ST90T |
| M20 | 17,5 | 48 | 63 | 120 | 20 | 2 | RM20ST90G | RM20ST90T |

Na přání zákazníka je možno vyrobit jakýkoli stupňový nástroj, případně i s vnitřním chlazením

VRTÁKY POD ZÁVIT

180°

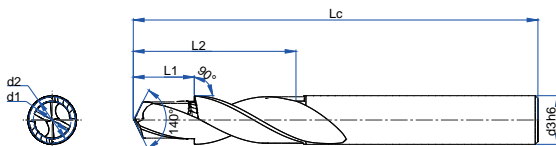
2 Z

ŠPIČKA
140°

OSAZENÍ
180°

MARWIN G

TripleCoating Cr



| závit | d1 | L1 | L2 | Lc | d2h6 | zuby | MARWIN G | TripleCoating Cr |
|-------|------|------|----|-----|------|------|------------|------------------|
| | | | | | | | Obj.číslo | Obj.číslo |
| M4 | 3,3 | 11,5 | 20 | 58 | 6 | 2 | RM4ST180G | RM4ST180T |
| M5 | 4,2 | 14 | 23 | 58 | 6 | 2 | RM5ST180G | RM5ST180T |
| M6 | 5 | 16,5 | 26 | 60 | 6 | 2 | RM6ST180G | RM6ST180T |
| M8 | 6,8 | 21 | 36 | 82 | 8 | 2 | RM8ST180G | RM8ST180T |
| M10 | 8,5 | 26 | 42 | 90 | 10 | 2 | RM10ST180G | RM10ST180T |
| M12 | 10,2 | 30 | 46 | 90 | 12 | 2 | RM12ST180G | RM12ST180T |
| M14 | 12 | 34 | 51 | 100 | 14 | 2 | RM14ST180G | RM14ST180T |
| M16 | 14 | 39 | 58 | 110 | 16 | 2 | RM16ST180G | RM16ST180T |
| M20 | 17,5 | 48 | 63 | 120 | 20 | 2 | RM20ST180G | RM20ST180T |

Na přání zákazníka je možno vyrobit jakýkoli stupňový nástroj, případně i s vnitřním chlazením

VÝSTRUŽNÍKY PRO NEPRŮCHOZÍ DÍRU

PRAVOŘEZNÝ / PRAVÁ ŠROUBOVICE

6Z P/P

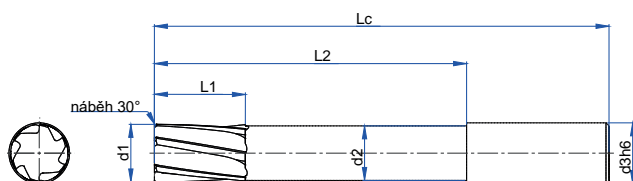
60HRC

$\frac{\lambda 7^{\circ}}{\gamma 5^{\circ}}$

DIN6535
HA

MARWIN SI

TripleCoating Cr



die požadavků
tolerance

| od1 | od2 | od3h6 | L1 | L2 | Lc | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|---------------|----------|-------|----|-----|-----|------|------------------------|-------------------------------|
| 5,010+6,000 | d1-0,5mm | 6 | 20 | 50 | 90 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 6,010+7,000 | d1-0,5mm | 8 | 23 | 55 | 95 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 7,010+8,000 | d1-0,5mm | 8 | 28 | 60 | 100 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 8,010+9,000 | d1-0,5mm | 10 | 31 | 65 | 105 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 9,010+10,000 | d1-0,5mm | 10 | 34 | 70 | 110 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 10,010+11,000 | d1-0,5mm | 12 | 36 | 75 | 115 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 11,010+12,000 | d1-0,5mm | 12 | 38 | 85 | 130 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 12,010+13,000 | d1-0,5mm | 14 | 41 | 95 | 140 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 13,010+14,000 | d1-0,5mm | 14 | 43 | 100 | 145 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 14,010+15,000 | d1-0,5mm | 16 | 45 | 105 | 150 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 15,010+16,000 | d1-0,5mm | 16 | 45 | 110 | 165 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 16,010+17,000 | d1-0,5mm | 18 | 48 | 115 | 165 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 17,010+18,000 | d1-0,5mm | 18 | 48 | 120 | 165 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 18,010+19,000 | d1-0,5mm | 20 | 50 | 125 | 175 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 19,010+20,000 | d1-0,5mm | 20 | 50 | 130 | 180 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |

Cena výstružníků je stanovena na toleranci H7 a vyšší (H8,H9,...).

Ostatní tolerance nebo jiné délky nástrojů na poptávku.

Přesnost nástroje garantujeme za předpokladu použití správného upínání a technologického postupu.

VYSVĚTLIVKY KÓDU:

XX,XXX -požadovaný průměr nástroje

ZZ - požadovaná tolerance průměru

VÝSTRUŽNÍKY PRO PRŮCHOZÍ DÍRU

PRÁVOŘEZNÝ/LEVÁ ŠROUBOVICE

6Z P/L

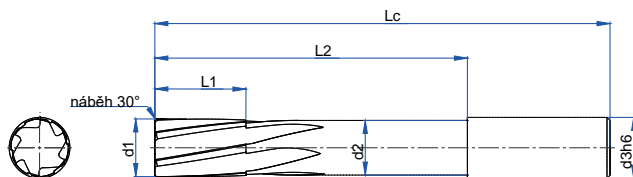
60HRC

$\frac{\lambda 7^{\circ}}{\gamma 5^{\circ}}$

DIN6535
HA

MARWIN SI

TripleCoating Cr



dle požadavků
tolerance

| od1 | od2 | od3h6 | L1 | L2 | Lc | zuby | MARWIN SI Obj.číslo | TripleCoating Cr Obj.číslo |
|---------------|----------|-------|----|-----|-----|------|------------------------|-------------------------------|
| 5,010+6,000 | d1-0,5mm | 6 | 20 | 50 | 90 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 6,010+7,000 | d1-0,5mm | 8 | 23 | 55 | 95 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 7,010+8,000 | d1-0,5mm | 8 | 28 | 60 | 100 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 8,010+9,000 | d1-0,5mm | 10 | 31 | 65 | 105 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 9,010+10,000 | d1-0,5mm | 10 | 34 | 70 | 110 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 10,010+11,000 | d1-0,5mm | 12 | 36 | 75 | 115 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 11,010+12,000 | d1-0,5mm | 12 | 38 | 85 | 130 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 12,010+13,000 | d1-0,5mm | 14 | 41 | 95 | 140 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 13,010+14,000 | d1-0,5mm | 14 | 43 | 100 | 145 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 14,010+15,000 | d1-0,5mm | 16 | 45 | 105 | 150 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 15,010+16,000 | d1-0,5mm | 16 | 45 | 110 | 165 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 16,010+17,000 | d1-0,5mm | 18 | 48 | 115 | 165 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 17,010+18,000 | d1-0,5mm | 18 | 48 | 120 | 165 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 18,010+19,000 | d1-0,5mm | 20 | 50 | 125 | 175 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |
| 19,010+20,000 | d1-0,5mm | 20 | 50 | 130 | 180 | 6 | VPP-XX,XXX-ZZ-G | VPP-XX,XXX-ZZ-T |

Cena výstružníků je stanovena na toleranci H7 a vyšší (H8,H9,...).

Ostatní tolerance nebo jiné délky nástrojů na poptávku.

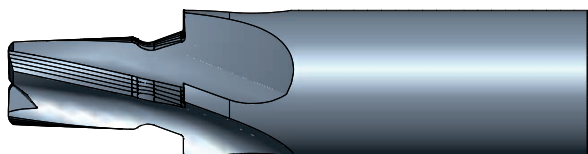
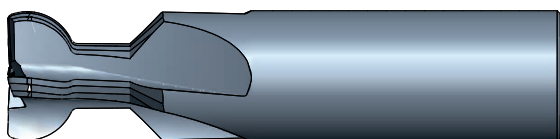
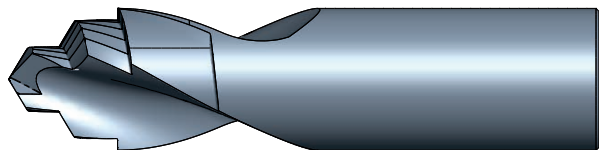
Přesnost nástroje garantujeme za předpokladu použití správného upínání a technologického postupu.

VYSVĚTLIVKY KÓDU:

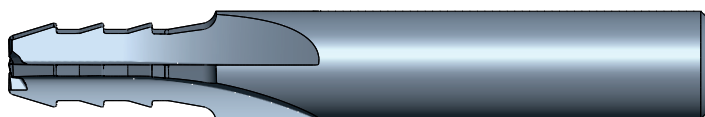
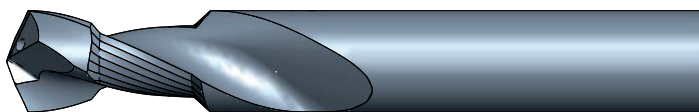
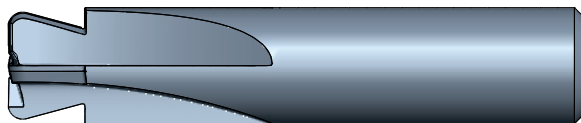
XX,XXX -požadovaný průměr nástroje

ZZ - požadovaná tolerance průměru

PŘÍKLADY SPECIÁLNÍCH NÁSTROJŮ



PŘÍKLADY SPECIÁLNÍCH NÁSTROJŮ



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