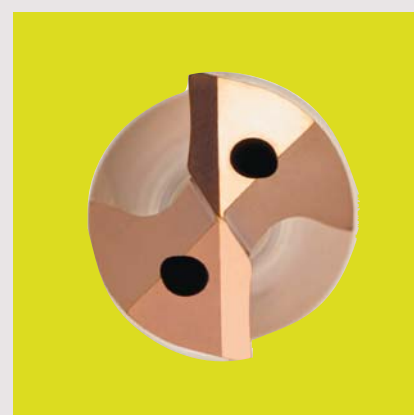
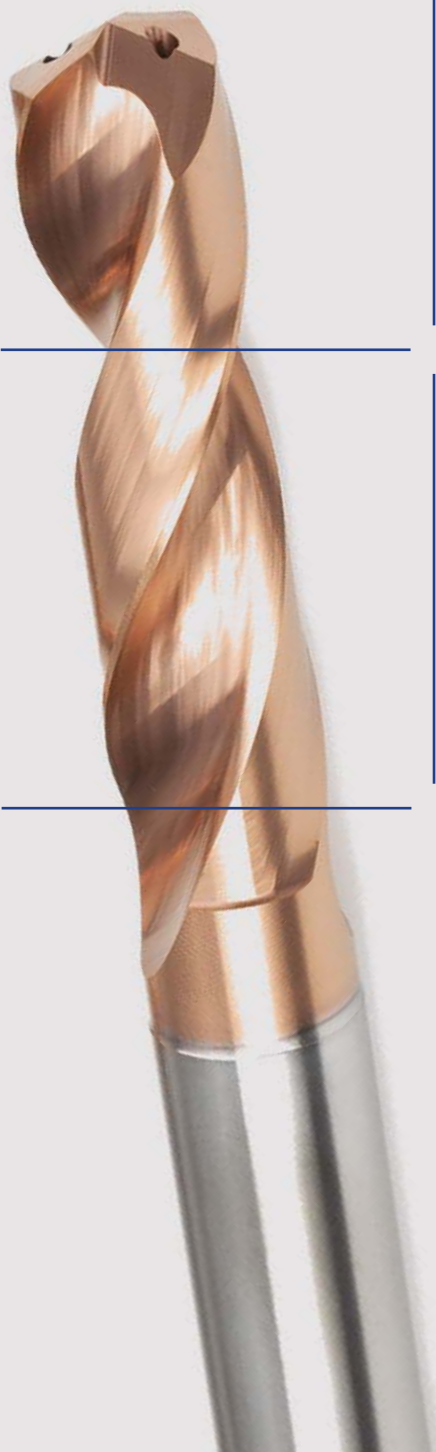


TYPHOON HVA

EN

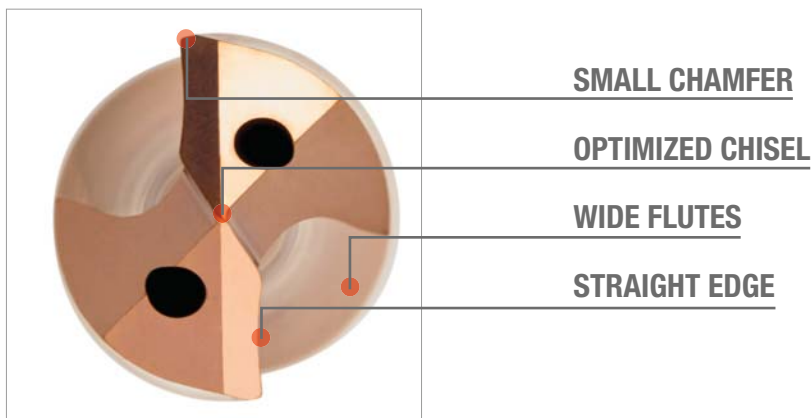
High performance carbide
drills for stainless steel



HVA

High performance - stainless steel

Features of HVA drills



Features and Benefits

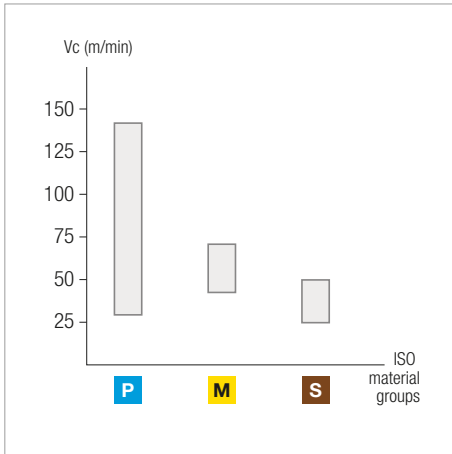
- Self-centering geometry: large chisel edge for highly accurate holes
- Straight cutting edge: short chips for easy evacuation and high reliability
- Large back taper geometry: reduces the torque and improves the cutting efficiency
- Chip pocket design: smooth surface to reduce welding and wide space to improve chip ejection
- Substrate: specifically selected sub-micrograin for high wear resistance, long and reliable tool life
- Coating: improved new coating technology for high wear resistance

HVA

High performance - stainless steel

Application range - ISO 513

P M S

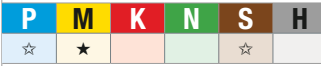
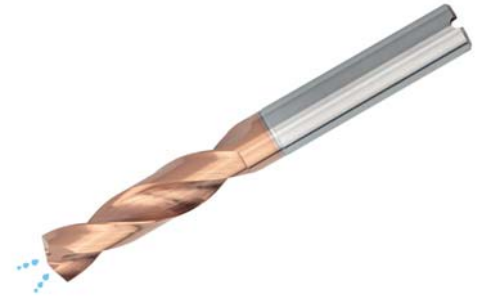
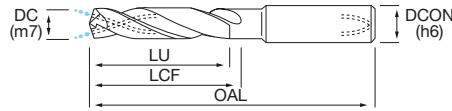


Use case

| | |
|------------------------|------------------------------|
| Tool Type | 353HVA |
| Workpiece | W.-Nr 1.0715 AISI 304 |
| Parameters | Vc 70 m/min, fn 0.145 mm/rev |
| Diameter | 8 mm |
| Coolant | internal |
| Hole depth | 18 mm |
| Machining time: | |
| OSAWA | +45% |
| Competitor A | |
| Competitor B | |

353HVA

• Stainless steel

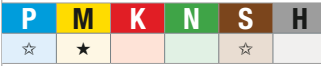
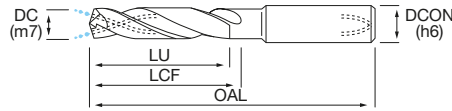


| DC | DC tol. | DCON | TCDCON | LU | LCF | OAL | EDP no. | Stock |
|-----|---------------|------|--------|----|-----|-----|------------|-------|
| 3 | +0.012/+0.002 | 6 | h6 | 14 | 20 | 62 | 353HVA0300 | ● |
| 3.1 | +0.016/+0.004 | 6 | h6 | 14 | 20 | 62 | 353HVA0310 | ● |
| 3.2 | +0.016/+0.004 | 6 | h6 | 14 | 20 | 62 | 353HVA0320 | ● |
| 3.3 | +0.016/+0.004 | 6 | h6 | 14 | 20 | 62 | 353HVA0330 | ● |
| 3.4 | +0.016/+0.004 | 6 | h6 | 14 | 20 | 62 | 353HVA0340 | ● |
| 3.5 | +0.016/+0.004 | 6 | h6 | 14 | 20 | 62 | 353HVA0350 | ● |
| 3.6 | +0.016/+0.004 | 6 | h6 | 14 | 20 | 62 | 353HVA0360 | ● |
| 3.7 | +0.016/+0.004 | 6 | h6 | 14 | 20 | 62 | 353HVA0370 | ● |
| 3.8 | +0.016/+0.004 | 6 | h6 | 17 | 24 | 66 | 353HVA0380 | ● |
| 3.9 | +0.016/+0.004 | 6 | h6 | 17 | 24 | 66 | 353HVA0390 | ● |
| 4 | +0.016/+0.004 | 6 | h6 | 17 | 24 | 66 | 353HVA0400 | ● |
| 4.1 | +0.016/+0.004 | 6 | h6 | 17 | 24 | 66 | 353HVA0410 | ● |
| 4.2 | +0.016/+0.004 | 6 | h6 | 17 | 24 | 66 | 353HVA0420 | ● |
| 4.3 | +0.016/+0.004 | 6 | h6 | 17 | 24 | 66 | 353HVA0430 | ● |
| 4.4 | +0.016/+0.004 | 6 | h6 | 17 | 24 | 66 | 353HVA0440 | ● |
| 4.5 | +0.016/+0.004 | 6 | h6 | 17 | 24 | 66 | 353HVA0450 | ● |
| 4.6 | +0.016/+0.004 | 6 | h6 | 17 | 24 | 66 | 353HVA0460 | ● |
| 4.7 | +0.016/+0.004 | 6 | h6 | 17 | 24 | 66 | 353HVA0470 | ● |
| 4.8 | +0.016/+0.004 | 6 | h6 | 20 | 28 | 66 | 353HVA0480 | ● |
| 4.9 | +0.016/+0.004 | 6 | h6 | 20 | 28 | 66 | 353HVA0490 | ● |
| 5 | +0.016/+0.004 | 6 | h6 | 20 | 28 | 66 | 353HVA0500 | ● |
| 5.1 | +0.016/+0.004 | 6 | h6 | 20 | 28 | 66 | 353HVA0510 | ● |
| 5.2 | +0.016/+0.004 | 6 | h6 | 20 | 28 | 66 | 353HVA0520 | ● |
| 5.3 | +0.016/+0.004 | 6 | h6 | 20 | 28 | 66 | 353HVA0530 | ● |
| 5.4 | +0.016/+0.004 | 6 | h6 | 20 | 28 | 66 | 353HVA0540 | ● |
| 5.5 | +0.016/+0.004 | 6 | h6 | 20 | 28 | 66 | 353HVA0550 | ● |
| 5.6 | +0.016/+0.004 | 6 | h6 | 20 | 28 | 66 | 353HVA0560 | ● |
| 5.7 | +0.016/+0.004 | 6 | h6 | 20 | 28 | 66 | 353HVA0570 | ● |
| 5.8 | +0.016/+0.004 | 6 | h6 | 20 | 28 | 66 | 353HVA0580 | ● |
| 5.9 | +0.016/+0.004 | 6 | h6 | 20 | 28 | 66 | 353HVA0590 | ● |
| 6 | +0.016/+0.004 | 6 | h6 | 20 | 28 | 66 | 353HVA0600 | ● |
| 6.1 | +0.021/+0.006 | 8 | h6 | 24 | 34 | 79 | 353HVA0610 | ● |
| 6.2 | +0.021/+0.006 | 8 | h6 | 24 | 34 | 79 | 353HVA0620 | ● |
| 6.3 | +0.021/+0.006 | 8 | h6 | 24 | 34 | 79 | 353HVA0630 | ● |
| 6.4 | +0.021/+0.006 | 8 | h6 | 24 | 34 | 79 | 353HVA0640 | ● |
| 6.5 | +0.021/+0.006 | 8 | h6 | 24 | 34 | 79 | 353HVA0650 | ● |
| 6.6 | +0.021/+0.006 | 8 | h6 | 24 | 34 | 79 | 353HVA0660 | ● |
| 6.7 | +0.021/+0.006 | 8 | h6 | 24 | 34 | 79 | 353HVA0670 | ● |
| 6.8 | +0.021/+0.006 | 8 | h6 | 24 | 34 | 79 | 353HVA0680 | ● |
| 6.9 | +0.021/+0.006 | 8 | h6 | 24 | 34 | 79 | 353HVA0690 | ● |
| 7 | +0.021/+0.006 | 8 | h6 | 24 | 34 | 79 | 353HVA0700 | ● |
| 7.1 | +0.021/+0.006 | 8 | h6 | 29 | 41 | 79 | 353HVA0710 | ● |
| 7.2 | +0.021/+0.006 | 8 | h6 | 29 | 41 | 79 | 353HVA0720 | ● |
| 7.3 | +0.021/+0.006 | 8 | h6 | 29 | 41 | 79 | 353HVA0730 | ● |
| 7.4 | +0.021/+0.006 | 8 | h6 | 29 | 41 | 79 | 353HVA0740 | ● |

★ 1st choice, ☆ suitable, ● stock standard, ◎ non-stock standard (no MOQ), ○ non-stock standard (MOQ), ▲ upcoming product, ▽ stock exhaustion

353HVA

• Stainless steel

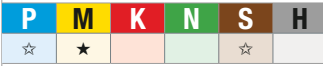
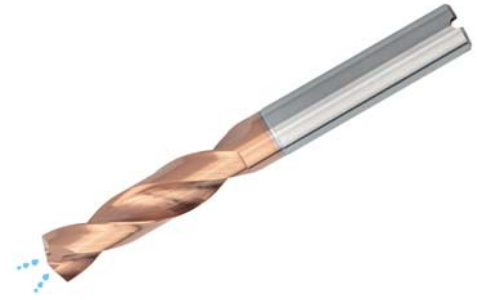
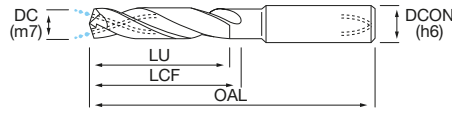


| DC | DC tol. | DCON | TCDCON | LU | LCF | OAL | EDP no. | Stock |
|------|---------------|------|--------|----|-----|-----|------------|-------|
| 7.5 | +0.021/+0.006 | 8 | h6 | 29 | 41 | 79 | 353HVA0750 | ● |
| 7.6 | +0.021/+0.006 | 8 | h6 | 29 | 41 | 79 | 353HVA0760 | ● |
| 7.7 | +0.021/+0.006 | 8 | h6 | 29 | 41 | 79 | 353HVA0770 | ● |
| 7.8 | +0.021/+0.006 | 8 | h6 | 29 | 41 | 79 | 353HVA0780 | ● |
| 7.9 | +0.021/+0.006 | 8 | h6 | 29 | 41 | 79 | 353HVA0790 | ● |
| 8 | +0.021/+0.006 | 8 | h6 | 29 | 41 | 79 | 353HVA0800 | ● |
| 8.1 | +0.021/+0.006 | 10 | h6 | 35 | 47 | 89 | 353HVA0810 | ● |
| 8.2 | +0.021/+0.006 | 10 | h6 | 35 | 47 | 89 | 353HVA0820 | ● |
| 8.3 | +0.021/+0.006 | 10 | h6 | 35 | 47 | 89 | 353HVA0830 | ● |
| 8.4 | +0.021/+0.006 | 10 | h6 | 35 | 47 | 89 | 353HVA0840 | ● |
| 8.5 | +0.021/+0.006 | 10 | h6 | 35 | 47 | 89 | 353HVA0850 | ● |
| 8.6 | +0.021/+0.006 | 10 | h6 | 35 | 47 | 89 | 353HVA0860 | ● |
| 8.7 | +0.021/+0.006 | 10 | h6 | 35 | 47 | 89 | 353HVA0870 | ● |
| 8.8 | +0.021/+0.006 | 10 | h6 | 35 | 47 | 89 | 353HVA0880 | ● |
| 8.9 | +0.021/+0.006 | 10 | h6 | 35 | 47 | 89 | 353HVA0890 | ● |
| 9 | +0.021/+0.006 | 10 | h6 | 35 | 47 | 89 | 353HVA0900 | ● |
| 9.1 | +0.021/+0.006 | 10 | h6 | 35 | 47 | 89 | 353HVA0910 | ● |
| 9.2 | +0.021/+0.006 | 10 | h6 | 35 | 47 | 89 | 353HVA0920 | ● |
| 9.3 | +0.021/+0.006 | 10 | h6 | 35 | 47 | 89 | 353HVA0930 | ● |
| 9.4 | +0.021/+0.006 | 10 | h6 | 35 | 47 | 89 | 353HVA0940 | ● |
| 9.5 | +0.021/+0.006 | 10 | h6 | 35 | 47 | 89 | 353HVA0950 | ● |
| 9.6 | +0.021/+0.006 | 10 | h6 | 35 | 47 | 89 | 353HVA0960 | ● |
| 9.7 | +0.021/+0.006 | 10 | h6 | 35 | 47 | 89 | 353HVA0970 | ● |
| 9.8 | +0.021/+0.006 | 10 | h6 | 35 | 47 | 89 | 353HVA0980 | ● |
| 9.9 | +0.021/+0.006 | 10 | h6 | 35 | 47 | 89 | 353HVA0990 | ● |
| 10 | +0.021/+0.006 | 10 | h6 | 35 | 47 | 89 | 353HVA1000 | ● |
| 10.1 | +0.025/+0.007 | 12 | h6 | 40 | 55 | 102 | 353HVA1010 | ● |
| 10.2 | +0.025/+0.007 | 12 | h6 | 40 | 55 | 102 | 353HVA1020 | ● |
| 10.3 | +0.025/+0.007 | 12 | h6 | 40 | 55 | 102 | 353HVA1030 | ● |
| 10.4 | +0.025/+0.007 | 12 | h6 | 40 | 55 | 102 | 353HVA1040 | ● |
| 10.5 | +0.025/+0.007 | 12 | h6 | 40 | 55 | 102 | 353HVA1050 | ● |
| 10.6 | +0.025/+0.007 | 12 | h6 | 40 | 55 | 102 | 353HVA1060 | ● |
| 10.7 | +0.025/+0.007 | 12 | h6 | 40 | 55 | 102 | 353HVA1070 | ● |
| 10.8 | +0.025/+0.007 | 12 | h6 | 40 | 55 | 102 | 353HVA1080 | ● |
| 10.9 | +0.025/+0.007 | 12 | h6 | 40 | 55 | 102 | 353HVA1090 | ● |
| 11 | +0.025/+0.007 | 12 | h6 | 40 | 55 | 102 | 353HVA1100 | ● |
| 11.1 | +0.025/+0.007 | 12 | h6 | 40 | 55 | 102 | 353HVA1110 | ● |
| 11.2 | +0.025/+0.007 | 12 | h6 | 40 | 55 | 102 | 353HVA1120 | ● |
| 11.3 | +0.025/+0.007 | 12 | h6 | 40 | 55 | 102 | 353HVA1130 | ● |
| 11.4 | +0.025/+0.007 | 12 | h6 | 40 | 55 | 102 | 353HVA1140 | ● |
| 11.5 | +0.025/+0.007 | 12 | h6 | 40 | 55 | 102 | 353HVA1150 | ● |
| 11.6 | +0.025/+0.007 | 12 | h6 | 40 | 55 | 102 | 353HVA1160 | ● |
| 11.7 | +0.025/+0.007 | 12 | h6 | 40 | 55 | 102 | 353HVA1170 | ● |
| 11.8 | +0.025/+0.007 | 12 | h6 | 40 | 55 | 102 | 353HVA1180 | ● |
| 11.9 | +0.025/+0.007 | 12 | h6 | 40 | 55 | 102 | 353HVA1190 | ● |

★ 1st choice, ☆ suitable, ● stock standard, ◎ non-stock standard (no MOQ), ○ non-stock standard (MOQ), ▲ upcoming product, ▽ stock exhaustion

353HVA

• Stainless steel



| DC | DC tol. | DCON | TCDCON | LU | LCF | OAL | EDP no. | Stock |
|------|---------------|------|--------|----|-----|-----|------------|-------|
| 12 | +0.025/+0.007 | 12 | h6 | 40 | 55 | 102 | 353HVA1200 | ● |
| 12.1 | +0.025/+0.007 | 14 | h6 | 43 | 60 | 107 | 353HVA1210 | ● |
| 12.2 | +0.025/+0.007 | 14 | h6 | 43 | 60 | 107 | 353HVA1220 | ● |
| 12.5 | +0.025/+0.007 | 14 | h6 | 43 | 60 | 107 | 353HVA1250 | ● |
| 12.8 | +0.025/+0.007 | 14 | h6 | 43 | 60 | 107 | 353HVA1280 | ● |
| 13 | +0.025/+0.007 | 14 | h6 | 43 | 60 | 107 | 353HVA1300 | ● |
| 13.3 | +0.025/+0.007 | 14 | h6 | 43 | 60 | 107 | 353HVA1330 | ● |
| 13.5 | +0.025/+0.007 | 14 | h6 | 43 | 60 | 107 | 353HVA1350 | ● |
| 13.8 | +0.025/+0.007 | 14 | h6 | 43 | 60 | 107 | 353HVA1380 | ● |
| 14 | +0.025/+0.007 | 14 | h6 | 43 | 60 | 107 | 353HVA1400 | ● |
| 14.1 | +0.025/+0.007 | 16 | h6 | 45 | 65 | 115 | 353HVA1410 | ● |
| 14.2 | +0.025/+0.007 | 16 | h6 | 45 | 65 | 115 | 353HVA1420 | ● |
| 14.5 | +0.025/+0.007 | 16 | h6 | 45 | 65 | 115 | 353HVA1450 | ● |
| 15 | +0.025/+0.007 | 16 | h6 | 49 | 65 | 115 | 353HVA1500 | ● |
| 15.3 | +0.025/+0.007 | 16 | h6 | 49 | 65 | 115 | 353HVA1530 | ● |
| 15.5 | +0.025/+0.007 | 16 | h6 | 49 | 65 | 115 | 353HVA1550 | ● |
| 15.8 | +0.025/+0.007 | 16 | h6 | 49 | 65 | 115 | 353HVA1580 | ● |
| 16 | +0.025/+0.007 | 16 | h6 | 49 | 65 | 115 | 353HVA1600 | ● |
| 16.5 | +0.025/+0.007 | 18 | h6 | 52 | 73 | 123 | 353HVA1650 | ● |
| 17 | +0.025/+0.007 | 18 | h6 | 52 | 73 | 123 | 353HVA1700 | ● |
| 17.5 | +0.025/+0.007 | 18 | h6 | 52 | 73 | 123 | 353HVA1750 | ● |
| 18 | +0.025/+0.007 | 18 | h6 | 52 | 73 | 123 | 353HVA1800 | ● |
| 18.5 | +0.029/+0.008 | 20 | h6 | 55 | 79 | 131 | 353HVA1850 | ● |
| 19 | +0.029/+0.008 | 20 | h6 | 55 | 79 | 131 | 353HVA1900 | ● |
| 19.5 | +0.029/+0.008 | 20 | h6 | 55 | 79 | 131 | 353HVA1950 | ● |
| 20 | +0.029/+0.008 | 20 | h6 | 55 | 79 | 131 | 353HVA2000 | ● |

★ 1st choice, ☆ suitable, ● stock standard, ○ non-stock standard (no MOQ), ◌ non-stock standard (MOQ), ▲ upcoming product, ▽ stock exhaustion

353HVA

| Material Group ISO 513 | P1 P2 | P3 P4 | P5 | P6 | P7 | P8 |
|---------------------------|----------------|---------------------------|----------------------------|----------------------------|-----------------------------|------------------------|
| | Hardness/Rm | 500÷700 N/mm ² | 600÷1000 N/mm ² | 900÷1200 N/mm ² | 1200÷1400 N/mm ² | <700 N/mm ² |
| Vc (m/min) | 100÷140 | 80÷120 | 70÷90 | 50÷70 | 50÷70 | 20÷30 |
| DC (mm) | fn (mm/rev) | fn (mm/rev) | fn (mm/rev) | fn (mm/rev) | fn (mm/rev) | fn (mm/rev) |
| 3 | 0.118 | 0.106 | 0.095 | 0.083 | 0.077 | 0.046 |
| 4 | 0.140 | 0.126 | 0.112 | 0.098 | 0.091 | 0.055 |
| 5 | 0.161 | 0.145 | 0.129 | 0.113 | 0.105 | 0.063 |
| 6 | 0.183 | 0.164 | 0.146 | 0.128 | 0.119 | 0.071 |
| 7 | 0.204 | 0.184 | 0.163 | 0.143 | 0.133 | 0.080 |
| 8 | 0.226 | 0.203 | 0.181 | 0.158 | 0.147 | 0.088 |
| 9 | 0.247 | 0.223 | 0.198 | 0.173 | 0.161 | 0.096 |
| 10 | 0.269 | 0.242 | 0.215 | 0.188 | 0.175 | 0.105 |
| 11 | 0.280 | 0.252 | 0.224 | 0.196 | 0.182 | 0.109 |
| 12 | 0.301 | 0.271 | 0.241 | 0.211 | 0.196 | 0.117 |
| 13 | 0.323 | 0.290 | 0.258 | 0.226 | 0.210 | 0.126 |
| 14 | 0.344 | 0.310 | 0.275 | 0.241 | 0.224 | 0.134 |
| 15 | 0.366 | 0.329 | 0.292 | 0.256 | 0.238 | 0.143 |
| 16 | 0.387 | 0.348 | 0.310 | 0.271 | 0.252 | 0.151 |
| 17 | 0.398 | 0.358 | 0.318 | 0.278 | 0.259 | 0.155 |
| 18 | 0.409 | 0.368 | 0.327 | 0.286 | 0.266 | 0.159 |
| 19 | 0.419 | 0.377 | 0.335 | 0.293 | 0.273 | 0.164 |
| 20 | 0.430 | 0.387 | 0.344 | 0.301 | 0.280 | 0.168 |



| Material Group ISO 513 | M1 | M2 | M3 | | | |
|---------------------------|----------------|------------------------|---------------------------|---------------------------|--|--|
| | Hardness/Rm | <750 N/mm ² | 550÷850 N/mm ² | 650÷950 N/mm ² | | |
| Vc (m/min) | 50÷70 | 45÷65 | 35÷50 | | | |
| DC (mm) | fn (mm/rev) | fn (mm/rev) | fn (mm/rev) | | | |
| 3 | 0.077 | 0.061 | 0.054 | | | |
| 4 | 0.091 | 0.073 | 0.064 | | | |
| 5 | 0.105 | 0.084 | 0.073 | | | |
| 6 | 0.119 | 0.095 | 0.083 | | | |
| 7 | 0.133 | 0.106 | 0.093 | | | |
| 8 | 0.147 | 0.117 | 0.103 | | | |
| 9 | 0.161 | 0.129 | 0.112 | | | |
| 10 | 0.175 | 0.140 | 0.122 | | | |
| 11 | 0.182 | 0.145 | 0.127 | | | |
| 12 | 0.196 | 0.157 | 0.137 | | | |
| 13 | 0.210 | 0.168 | 0.147 | | | |
| 14 | 0.224 | 0.179 | 0.157 | | | |
| 15 | 0.238 | 0.190 | 0.166 | | | |
| 16 | 0.252 | 0.201 | 0.176 | | | |
| 17 | 0.259 | 0.207 | 0.181 | | | |
| 18 | 0.266 | 0.212 | 0.186 | | | |
| 19 | 0.273 | 0.218 | 0.191 | | | |
| 20 | 0.280 | 0.224 | 0.196 | | | |



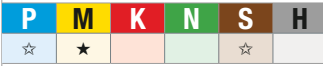
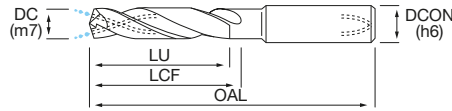
353HVA

| Material Group ISO 513 | S1 S2 | | S3 | S4 | S5 | | |
|---------------------------|-----------------------|----------------|-------------------------|----------------|----------------|--|--|
| | <35 N/mm ² | | 35÷45 N/mm ² | | | | |
| Vc (m/min) | 30÷50 | | 25÷45 | 30÷45 | 25÷35 | | |
| DC (mm) | fn (mm/rev) | fn (mm/rev) | fn (mm/rev) | fn (mm/rev) | fn (mm/rev) | | |
| 3 | 0.053 | 0.037 | 0.051 | 0.043 | | | |
| 4 | 0.063 | 0.044 | 0.060 | 0.050 | | | |
| 5 | 0.073 | 0.051 | 0.069 | 0.058 | | | |
| 6 | 0.082 | 0.058 | 0.078 | 0.066 | | | |
| 7 | 0.092 | 0.064 | 0.087 | 0.074 | | | |
| 8 | 0.102 | 0.071 | 0.097 | 0.081 | | | |
| 9 | 0.111 | 0.078 | 0.106 | 0.089 | | | |
| 10 | 0.121 | 0.085 | 0.115 | 0.097 | | | |
| 11 | 0.126 | 0.088 | 0.119 | 0.101 | | | |
| 12 | 0.135 | 0.095 | 0.129 | 0.108 | | | |
| 13 | 0.145 | 0.102 | 0.138 | 0.116 | | | |
| 14 | 0.155 | 0.108 | 0.147 | 0.124 | | | |
| 15 | 0.164 | 0.115 | 0.156 | 0.132 | | | |
| 16 | 0.174 | 0.122 | 0.165 | 0.139 | | | |
| 17 | 0.179 | 0.125 | 0.170 | 0.143 | | | |
| 18 | 0.184 | 0.129 | 0.175 | 0.147 | | | |
| 19 | 0.189 | 0.132 | 0.179 | 0.151 | | | |
| 20 | 0.194 | 0.135 | 0.185 | 0.155 | | | |



355HVA

• Stainless steel

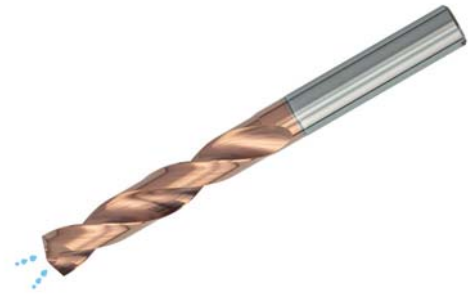
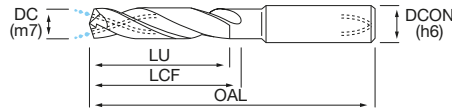


| DC | DC tol. | DCON | TCDCON | LU | LCF | OAL | EDP no. | Stock |
|-----|---------------|------|--------|----|-----|-----|------------|-------|
| 3 | +0.012/+0.002 | 6 | h6 | 23 | 28 | 66 | 355HVA0300 | ● |
| 3.1 | +0.016/+0.004 | 6 | h6 | 23 | 28 | 66 | 355HVA0310 | ● |
| 3.2 | +0.016/+0.004 | 6 | h6 | 23 | 28 | 66 | 355HVA0320 | ● |
| 3.3 | +0.016/+0.004 | 6 | h6 | 23 | 28 | 66 | 355HVA0330 | ● |
| 3.4 | +0.016/+0.004 | 6 | h6 | 23 | 28 | 66 | 355HVA0340 | ● |
| 3.5 | +0.016/+0.004 | 6 | h6 | 23 | 28 | 66 | 355HVA0350 | ● |
| 3.6 | +0.016/+0.004 | 6 | h6 | 23 | 28 | 66 | 355HVA0360 | ● |
| 3.7 | +0.016/+0.004 | 6 | h6 | 23 | 28 | 66 | 355HVA0370 | ● |
| 3.8 | +0.016/+0.004 | 6 | h6 | 29 | 36 | 74 | 355HVA0380 | ● |
| 3.9 | +0.016/+0.004 | 6 | h6 | 29 | 36 | 74 | 355HVA0390 | ● |
| 4 | +0.016/+0.004 | 6 | h6 | 29 | 36 | 74 | 355HVA0400 | ● |
| 4.1 | +0.016/+0.004 | 6 | h6 | 29 | 36 | 74 | 355HVA0410 | ● |
| 4.2 | +0.016/+0.004 | 6 | h6 | 29 | 36 | 74 | 355HVA0420 | ● |
| 4.3 | +0.016/+0.004 | 6 | h6 | 29 | 36 | 74 | 355HVA0430 | ● |
| 4.4 | +0.016/+0.004 | 6 | h6 | 29 | 36 | 74 | 355HVA0440 | ● |
| 4.5 | +0.016/+0.004 | 6 | h6 | 29 | 36 | 74 | 355HVA0450 | ● |
| 4.6 | +0.016/+0.004 | 6 | h6 | 29 | 36 | 74 | 355HVA0460 | ● |
| 4.7 | +0.016/+0.004 | 6 | h6 | 29 | 36 | 74 | 355HVA0470 | ● |
| 4.8 | +0.016/+0.004 | 6 | h6 | 35 | 44 | 82 | 355HVA0480 | ● |
| 4.9 | +0.016/+0.004 | 6 | h6 | 35 | 44 | 82 | 355HVA0490 | ● |
| 5 | +0.016/+0.004 | 6 | h6 | 35 | 44 | 82 | 355HVA0500 | ● |
| 5.1 | +0.016/+0.004 | 6 | h6 | 35 | 44 | 82 | 355HVA0510 | ● |
| 5.2 | +0.016/+0.004 | 6 | h6 | 35 | 44 | 82 | 355HVA0520 | ● |
| 5.3 | +0.016/+0.004 | 6 | h6 | 35 | 44 | 82 | 355HVA0530 | ● |
| 5.4 | +0.016/+0.004 | 6 | h6 | 35 | 44 | 82 | 355HVA0540 | ● |
| 5.5 | +0.016/+0.004 | 6 | h6 | 35 | 44 | 82 | 355HVA0550 | ● |
| 5.6 | +0.016/+0.004 | 6 | h6 | 35 | 44 | 82 | 355HVA0560 | ● |
| 5.7 | +0.016/+0.004 | 6 | h6 | 35 | 44 | 82 | 355HVA0570 | ● |
| 5.8 | +0.016/+0.004 | 6 | h6 | 35 | 44 | 82 | 355HVA0580 | ● |
| 5.9 | +0.016/+0.004 | 6 | h6 | 35 | 44 | 82 | 355HVA0590 | ● |
| 6 | +0.016/+0.004 | 6 | h6 | 35 | 44 | 82 | 355HVA0600 | ● |
| 6.1 | +0.021/+0.006 | 8 | h6 | 43 | 53 | 91 | 355HVA0610 | ● |
| 6.2 | +0.021/+0.006 | 8 | h6 | 43 | 53 | 91 | 355HVA0620 | ● |
| 6.3 | +0.021/+0.006 | 8 | h6 | 43 | 53 | 91 | 355HVA0630 | ● |
| 6.4 | +0.021/+0.006 | 8 | h6 | 43 | 53 | 91 | 355HVA0640 | ● |
| 6.5 | +0.021/+0.006 | 8 | h6 | 43 | 53 | 91 | 355HVA0650 | ● |
| 6.6 | +0.021/+0.006 | 8 | h6 | 43 | 53 | 91 | 355HVA0660 | ● |
| 6.7 | +0.021/+0.006 | 8 | h6 | 43 | 53 | 91 | 355HVA0670 | ● |
| 6.8 | +0.021/+0.006 | 8 | h6 | 43 | 53 | 91 | 355HVA0680 | ● |
| 6.9 | +0.021/+0.006 | 8 | h6 | 43 | 53 | 91 | 355HVA0690 | ● |
| 7 | +0.021/+0.006 | 8 | h6 | 43 | 53 | 91 | 355HVA0700 | ● |
| 7.1 | +0.021/+0.006 | 8 | h6 | 43 | 53 | 91 | 355HVA0710 | ● |
| 7.2 | +0.021/+0.006 | 8 | h6 | 43 | 53 | 91 | 355HVA0720 | ● |
| 7.3 | +0.021/+0.006 | 8 | h6 | 43 | 53 | 91 | 355HVA0730 | ● |
| 7.4 | +0.021/+0.006 | 8 | h6 | 43 | 53 | 91 | 355HVA0740 | ● |

★ 1st choice, ☆ suitable, ● stock standard, ◎ non-stock standard (no MOQ), ○ non-stock standard (MOQ), ▲ upcoming product, ▽ stock exhaustion

355HVA

• Stainless steel



| | | | | | |
|---|---|---|---|---|---|
| P | M | K | N | S | H |
| ☆ | ★ | | | ☆ | |

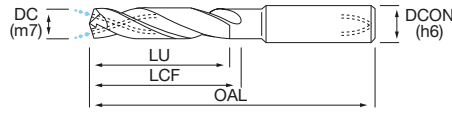
| | | | | | | |
|------------|--|------------------|--|-----------------|--|--|
| 5xD | | DIN 6537L | | MG PV350 | | |
|------------|--|------------------|--|-----------------|--|--|

| DC | DC tol. | DCON | TCDCON | LU | LCF | OAL | EDP no. | Stock |
|------|---------------|------|--------|----|-----|-----|------------|-------|
| 7.5 | +0.021/+0.006 | 8 | h6 | 43 | 53 | 91 | 355HVA0750 | ● |
| 7.6 | +0.021/+0.006 | 8 | h6 | 43 | 53 | 91 | 355HVA0760 | ● |
| 7.7 | +0.021/+0.006 | 8 | h6 | 43 | 53 | 91 | 355HVA0770 | ● |
| 7.8 | +0.021/+0.006 | 8 | h6 | 43 | 53 | 91 | 355HVA0780 | ● |
| 7.9 | +0.021/+0.006 | 8 | h6 | 43 | 53 | 91 | 355HVA0790 | ● |
| 8 | +0.021/+0.006 | 8 | h6 | 43 | 53 | 91 | 355HVA0800 | ● |
| 8.1 | +0.021/+0.006 | 10 | h6 | 49 | 61 | 103 | 355HVA0810 | ● |
| 8.2 | +0.021/+0.006 | 10 | h6 | 49 | 61 | 103 | 355HVA0820 | ● |
| 8.3 | +0.021/+0.006 | 10 | h6 | 49 | 61 | 103 | 355HVA0830 | ● |
| 8.4 | +0.021/+0.006 | 10 | h6 | 49 | 61 | 103 | 355HVA0840 | ● |
| 8.5 | +0.021/+0.006 | 10 | h6 | 49 | 61 | 103 | 355HVA0850 | ● |
| 8.6 | +0.021/+0.006 | 10 | h6 | 49 | 61 | 103 | 355HVA0860 | ● |
| 8.7 | +0.021/+0.006 | 10 | h6 | 49 | 61 | 103 | 355HVA0870 | ● |
| 8.8 | +0.021/+0.006 | 10 | h6 | 49 | 61 | 103 | 355HVA0880 | ● |
| 8.9 | +0.021/+0.006 | 10 | h6 | 49 | 61 | 103 | 355HVA0890 | ● |
| 9 | +0.021/+0.006 | 10 | h6 | 49 | 61 | 103 | 355HVA0900 | ● |
| 9.1 | +0.021/+0.006 | 10 | h6 | 49 | 61 | 103 | 355HVA0910 | ● |
| 9.2 | +0.021/+0.006 | 10 | h6 | 49 | 61 | 103 | 355HVA0920 | ● |
| 9.3 | +0.021/+0.006 | 10 | h6 | 49 | 61 | 103 | 355HVA0930 | ● |
| 9.4 | +0.021/+0.006 | 10 | h6 | 49 | 61 | 103 | 355HVA0940 | ● |
| 9.5 | +0.021/+0.006 | 10 | h6 | 49 | 61 | 103 | 355HVA0950 | ● |
| 9.6 | +0.021/+0.006 | 10 | h6 | 49 | 61 | 103 | 355HVA0960 | ● |
| 9.7 | +0.021/+0.006 | 10 | h6 | 49 | 61 | 103 | 355HVA0970 | ● |
| 9.8 | +0.021/+0.006 | 10 | h6 | 49 | 61 | 103 | 355HVA0980 | ● |
| 9.9 | +0.021/+0.006 | 10 | h6 | 49 | 61 | 103 | 355HVA0990 | ● |
| 10 | +0.021/+0.006 | 10 | h6 | 49 | 61 | 103 | 355HVA1000 | ● |
| 10.1 | +0.025/+0.007 | 12 | h6 | 57 | 71 | 118 | 355HVA1010 | ● |
| 10.2 | +0.025/+0.007 | 12 | h6 | 57 | 71 | 118 | 355HVA1020 | ● |
| 10.3 | +0.025/+0.007 | 12 | h6 | 57 | 71 | 118 | 355HVA1030 | ● |
| 10.4 | +0.025/+0.007 | 12 | h6 | 57 | 71 | 118 | 355HVA1040 | ● |
| 10.5 | +0.025/+0.007 | 12 | h6 | 57 | 71 | 118 | 355HVA1050 | ● |
| 10.6 | +0.025/+0.007 | 12 | h6 | 57 | 71 | 118 | 355HVA1060 | ● |
| 10.7 | +0.025/+0.007 | 12 | h6 | 57 | 71 | 118 | 355HVA1070 | ● |
| 10.8 | +0.025/+0.007 | 12 | h6 | 57 | 71 | 118 | 355HVA1080 | ● |
| 10.9 | +0.025/+0.007 | 12 | h6 | 57 | 71 | 118 | 355HVA1090 | ● |
| 11 | +0.025/+0.007 | 12 | h6 | 57 | 71 | 118 | 355HVA1100 | ● |
| 11.1 | +0.025/+0.007 | 12 | h6 | 57 | 71 | 118 | 355HVA1110 | ● |
| 11.2 | +0.025/+0.007 | 12 | h6 | 57 | 71 | 118 | 355HVA1120 | ● |
| 11.3 | +0.025/+0.007 | 12 | h6 | 57 | 71 | 118 | 355HVA1130 | ● |
| 11.4 | +0.025/+0.007 | 12 | h6 | 57 | 71 | 118 | 355HVA1140 | ● |
| 11.5 | +0.025/+0.007 | 12 | h6 | 57 | 71 | 118 | 355HVA1150 | ● |
| 11.6 | +0.025/+0.007 | 12 | h6 | 57 | 71 | 118 | 355HVA1160 | ● |
| 11.7 | +0.025/+0.007 | 12 | h6 | 57 | 71 | 118 | 355HVA1170 | ◎ |
| 11.8 | +0.025/+0.007 | 12 | h6 | 57 | 71 | 118 | 355HVA1180 | ● |
| 11.9 | +0.025/+0.007 | 12 | h6 | 57 | 71 | 118 | 355HVA1190 | ● |

★ 1st choice, ☆ suitable, ● stock standard, ◎ non-stock standard (no MOQ), ○ non-stock standard (MOQ), ▲ upcoming product, ▽ stock exhaustion

355HVA

• Stainless steel



| | | | | | |
|----------|----------|----------|----------|----------|----------|
| P | M | K | N | S | H |
| ☆ | ★ | | | ☆ | |

| | | | | | | |
|------------|-------------------------|------------------|------------|-----------------|-----------------|----------------|
| 5xD | INTERNAL COOLANT | DIN 6537L | HVA | MG PV350 | SIG 140° | FHA 30° |
|------------|-------------------------|------------------|------------|-----------------|-----------------|----------------|

| DC | DC tol. | DCON | TCDCON | LU | LCF | OAL | EDP no. | Stock |
|------|---------------|------|--------|----|-----|-----|-------------------|-------|
| 12 | +0.025/+0.007 | 12 | h6 | 57 | 71 | 118 | 355HVA1200 | ● |
| 12.1 | +0.025/+0.007 | 14 | h6 | 63 | 77 | 124 | 355HVA1210 | ● |
| 12.2 | +0.025/+0.007 | 14 | h6 | 63 | 77 | 124 | 355HVA1220 | ● |
| 12.5 | +0.025/+0.007 | 14 | h6 | 63 | 77 | 124 | 355HVA1250 | ● |
| 12.8 | +0.025/+0.007 | 14 | h6 | 63 | 77 | 124 | 355HVA1280 | ● |
| 13 | +0.025/+0.007 | 14 | h6 | 63 | 77 | 124 | 355HVA1300 | ● |
| 13.3 | +0.025/+0.007 | 14 | h6 | 63 | 77 | 124 | 355HVA1330 | ● |
| 13.5 | +0.025/+0.007 | 14 | h6 | 63 | 77 | 124 | 355HVA1350 | ● |
| 13.8 | +0.025/+0.007 | 14 | h6 | 63 | 77 | 124 | 355HVA1380 | ● |
| 14 | +0.025/+0.007 | 14 | h6 | 63 | 77 | 124 | 355HVA1400 | ● |
| 14.1 | +0.025/+0.007 | 16 | h6 | 67 | 83 | 133 | 355HVA1410 | ● |
| 14.2 | +0.025/+0.007 | 16 | h6 | 67 | 83 | 133 | 355HVA1420 | ● |
| 14.5 | +0.025/+0.007 | 16 | h6 | 67 | 83 | 133 | 355HVA1450 | ● |
| 15 | +0.025/+0.007 | 16 | h6 | 67 | 83 | 133 | 355HVA1500 | ● |
| 15.3 | +0.025/+0.007 | 16 | h6 | 67 | 83 | 133 | 355HVA1530 | ● |
| 15.5 | +0.025/+0.007 | 16 | h6 | 67 | 83 | 133 | 355HVA1550 | ● |
| 15.8 | +0.025/+0.007 | 16 | h6 | 67 | 83 | 133 | 355HVA1580 | ● |
| 16 | +0.025/+0.007 | 16 | h6 | 67 | 83 | 133 | 355HVA1600 | ● |
| 16.5 | +0.025/+0.007 | 18 | h6 | 75 | 93 | 143 | 355HVA1650 | ● |
| 17 | +0.025/+0.007 | 18 | h6 | 75 | 93 | 143 | 355HVA1700 | ● |
| 17.5 | +0.025/+0.007 | 18 | h6 | 75 | 93 | 143 | 355HVA1750 | ● |
| 18 | +0.025/+0.007 | 18 | h6 | 75 | 93 | 143 | 355HVA1800 | ● |
| 18.5 | +0.029/+0.008 | 20 | h6 | 81 | 101 | 153 | 355HVA1850 | ● |
| 19 | +0.029/+0.008 | 20 | h6 | 81 | 101 | 153 | 355HVA1900 | ● |
| 19.5 | +0.029/+0.008 | 20 | h6 | 81 | 101 | 153 | 355HVA1950 | ● |
| 20 | +0.029/+0.008 | 20 | h6 | 81 | 101 | 153 | 355HVA2000 | ● |

★ 1st choice, ☆ suitable, ● stock standard, ◎ non-stock standard (no MOQ), ○ non-stock standard (MOQ), ▲ upcoming product, ▽ stock exhaustion

SOLID

H - CARBIDE DRILLS

I - HSS DRILLS

J - CARBIDE END MILLS

K - HSS END MILLS

L - CARBIDE BURRS

355HVA

| Material Group ISO 513 | P1 P2 | P3 P4 | P5 | P6 | P7 | P8 |
|---------------------------|----------------|---------------------------|----------------------------|----------------------------|-----------------------------|------------------------|
| | Hardness/Rm | 500÷700 N/mm ² | 600÷1000 N/mm ² | 900÷1200 N/mm ² | 1200÷1400 N/mm ² | <700 N/mm ² |
| Vc (m/min) | 100÷140 | 80÷120 | 70÷90 | 50÷70 | 50÷70 | 20÷30 |
| DC (mm) | fn (mm/rev) | fn (mm/rev) | fn (mm/rev) | fn (mm/rev) | fn (mm/rev) | fn (mm/rev) |
| 3 | 0.101 | 0.075 | 0.060 | 0.050 | 0.065 | 0.039 |
| 4 | 0.119 | 0.089 | 0.071 | 0.059 | 0.077 | 0.046 |
| 5 | 0.137 | 0.103 | 0.082 | 0.069 | 0.089 | 0.053 |
| 6 | 0.155 | 0.117 | 0.093 | 0.078 | 0.101 | 0.061 |
| 7 | 0.174 | 0.130 | 0.104 | 0.087 | 0.113 | 0.068 |
| 8 | 0.192 | 0.144 | 0.115 | 0.096 | 0.125 | 0.075 |
| 9 | 0.210 | 0.158 | 0.126 | 0.105 | 0.137 | 0.082 |
| 10 | 0.228 | 0.171 | 0.137 | 0.114 | 0.148 | 0.089 |
| 11 | 0.238 | 0.178 | 0.143 | 0.119 | 0.154 | 0.093 |
| 12 | 0.256 | 0.192 | 0.154 | 0.128 | 0.166 | 0.100 |
| 13 | 0.274 | 0.206 | 0.164 | 0.137 | 0.178 | 0.107 |
| 14 | 0.292 | 0.219 | 0.175 | 0.146 | 0.190 | 0.114 |
| 15 | 0.311 | 0.233 | 0.186 | 0.155 | 0.202 | 0.121 |
| 16 | 0.329 | 0.247 | 0.197 | 0.164 | 0.214 | 0.128 |
| 17 | 0.338 | 0.254 | 0.203 | 0.169 | 0.220 | 0.132 |
| 18 | 0.347 | 0.260 | 0.208 | 0.174 | 0.226 | 0.135 |
| 19 | 0.356 | 0.267 | 0.214 | 0.178 | 0.232 | 0.139 |
| 20 | 0.366 | 0.274 | 0.219 | 0.183 | 0.238 | 0.143 |



| Material Group ISO 513 | M1 | M2 | M3 | | | |
|---------------------------|----------------|------------------------|---------------------------|---------------------------|--|--|
| | Hardness/Rm | <750 N/mm ² | 550÷850 N/mm ² | 650÷950 N/mm ² | | |
| Vc (m/min) | 50÷70 | 45÷65 | 35÷50 | | | |
| DC (mm) | fn (mm/rev) | fn (mm/rev) | fn (mm/rev) | | | |
| 3 | 0.065 | 0.052 | 0.046 | | | |
| 4 | 0.077 | 0.062 | 0.054 | | | |
| 5 | 0.089 | 0.071 | 0.062 | | | |
| 6 | 0.101 | 0.081 | 0.071 | | | |
| 7 | 0.113 | 0.090 | 0.079 | | | |
| 8 | 0.125 | 0.100 | 0.087 | | | |
| 9 | 0.137 | 0.109 | 0.096 | | | |
| 10 | 0.148 | 0.119 | 0.104 | | | |
| 11 | 0.154 | 0.124 | 0.108 | | | |
| 12 | 0.166 | 0.133 | 0.116 | | | |
| 13 | 0.178 | 0.143 | 0.125 | | | |
| 14 | 0.190 | 0.152 | 0.133 | | | |
| 15 | 0.202 | 0.162 | 0.141 | | | |
| 16 | 0.214 | 0.171 | 0.150 | | | |
| 17 | 0.220 | 0.176 | 0.154 | | | |
| 18 | 0.226 | 0.181 | 0.158 | | | |
| 19 | 0.232 | 0.185 | 0.162 | | | |
| 20 | 0.238 | 0.190 | 0.166 | | | |



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H - CARBIDE DRILLS

I - HSS DRILLS

J - CARBIDE END MILLS

K - HSS END MILLS

L - CARBIDE BURRS

355HVA

| Material Group ISO 513 | S1 S2 | | S3 | S4 | S5 | | |
|---------------------------|-----------------------|----------------|-------------------------|----------------|----------------|--|--|
| | <35 N/mm ² | | 35÷45 N/mm ² | | | | |
| Vc (m/min) | 30÷50 | | 25÷45 | 30÷45 | 25÷35 | | |
| DC (mm) | fn (mm/rev) | fn (mm/rev) | fn (mm/rev) | fn (mm/rev) | fn (mm/rev) | | |
| 3 | 0.045 | 0.032 | 0.043 | 0.036 | | | |
| 4 | 0.053 | 0.037 | 0.051 | 0.043 | | | |
| 5 | 0.062 | 0.043 | 0.059 | 0.049 | | | |
| 6 | 0.070 | 0.049 | 0.066 | 0.056 | | | |
| 7 | 0.078 | 0.055 | 0.074 | 0.063 | | | |
| 8 | 0.086 | 0.060 | 0.082 | 0.069 | | | |
| 9 | 0.095 | 0.066 | 0.090 | 0.076 | | | |
| 10 | 0.103 | 0.072 | 0.098 | 0.082 | | | |
| 11 | 0.107 | 0.075 | 0.102 | 0.086 | | | |
| 12 | 0.115 | 0.081 | 0.109 | 0.092 | | | |
| 13 | 0.123 | 0.086 | 0.117 | 0.099 | | | |
| 14 | 0.132 | 0.092 | 0.125 | 0.105 | | | |
| 15 | 0.140 | 0.098 | 0.133 | 0.112 | | | |
| 16 | 0.148 | 0.104 | 0.141 | 0.118 | | | |
| 17 | 0.152 | 0.106 | 0.145 | 0.122 | | | |
| 18 | 0.156 | 0.109 | 0.148 | 0.125 | | | |
| 19 | 0.160 | 0.112 | 0.152 | 0.128 | | | |
| 20 | 0.164 | 0.115 | 0.156 | 0.132 | | | |



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