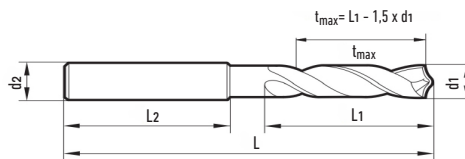


# Solid carbide drill 166510

without internal cooling / 5xD

- point angle 140°
- diameter tolerance m7
- cylindrical shank



Order code	Diameter (mm)	L (mm)	L <sub>1</sub> (mm)	L <sub>2</sub> (mm)	Shank (mm)
V.03000414.B5	3,00	66,0	28,0	36,0	6,000
V.03100414.B5	3,10	66,0	28,0	36,0	6,000
V.03170414.B5	3,17	66,0	28,0	36,0	6,000
V.03200414.B5	3,20	66,0	28,0	36,0	6,000
V.03250414.B5	3,25	66,0	28,0	36,0	6,000
V.03300414.B5	3,30	66,0	28,0	36,0	6,000
V.03400414.B5	3,40	66,0	28,0	36,0	6,000
V.03500414.B5	3,50	66,0	28,0	36,0	6,000
V.03570414.B5	3,57	66,0	28,0	36,0	6,000
V.03600414.B5	3,60	66,0	28,0	36,0	6,000
V.03700414.B5	3,70	66,0	28,0	36,0	6,000
V.03800414.B5	3,80	74,0	36,0	36,0	6,000
V.03900414.B5	3,90	74,0	36,0	36,0	6,000
V.03970414.B5	3,97	74,0	36,0	36,0	6,000
V.04000414.B5	4,00	74,0	36,0	36,0	6,000
V.04100414.B5	4,10	74,0	36,0	36,0	6,000
V.04200414.B5	4,20	74,0	36,0	36,0	6,000
V.04300414.B5	4,30	74,0	36,0	36,0	6,000
V.04370414.B5	4,37	74,0	36,0	36,0	6,000
V.04400414.B5	4,40	74,0	36,0	36,0	6,000
V.04500414.B5	4,50	74,0	36,0	36,0	6,000
V.04600414.B5	4,60	74,0	36,0	36,0	6,000
V.04650414.B5	4,65	74,0	36,0	36,0	6,000
V.04700414.B5	4,70	74,0	36,0	36,0	6,000
V.04760414.B5	4,76	82,0	44,0	36,0	6,000
V.04800414.B5	4,80	82,0	44,0	36,0	6,000
V.04900414.B5	4,90	82,0	44,0	36,0	6,000
V.05000414.B5	5,00	82,0	44,0	36,0	6,000
V.05100414.B5	5,10	82,0	44,0	36,0	6,000
V.05160414.B5	5,16	82,0	44,0	36,0	6,000
V.05200414.B5	5,20	82,0	44,0	36,0	6,000
V.05300414.B5	5,30	82,0	44,0	36,0	6,000
V.05400414.B5	5,40	82,0	44,0	36,0	6,000
V.05500414.B5	5,50	82,0	44,0	36,0	6,000
V.05550414.B5	5,55	82,0	44,0	36,0	6,000
V.05600414.B5	5,60	82,0	44,0	36,0	6,000
V.05700414.B5	5,70	82,0	44,0	36,0	6,000
V.05800414.B5	5,80	82,0	44,0	36,0	6,000
V.05900414.B5	5,90	82,0	44,0	36,0	6,000
V.05950414.B5	5,95	82,0	44,0	36,0	6,000
V.06000414.B5	6,00	82,0	44,0	36,0	6,000
V.06100414.B5	6,10	91,0	53,0	36,0	8,000
V.06200414.B5	6,20	91,0	53,0	36,0	8,000
V.06300414.B5	6,30	91,0	53,0	36,0	8,000
V.06350414.B5	6,35	91,0	53,0	36,0	8,000
V.06400414.B5	6,40	91,0	53,0	36,0	8,000
V.06500414.B5	6,50	91,0	53,0	36,0	8,000
V.06600414.B5	6,60	91,0	53,0	36,0	8,000
V.06700414.B5	6,70	91,0	53,0	36,0	8,000

Order code	Diameter (mm)	L (mm)	L <sub>1</sub> (mm)	L <sub>2</sub> (mm)	Shank (mm)
V.06750414.B5	6,75	91,0	53,0	36,0	8,000
V.06800414.B5	6,80	91,0	53,0	36,0	8,000
V.06900414.B5	6,90	91,0	53,0	36,0	8,000
V.07000414.B5	7,00	91,0	53,0	36,0	8,000
V.07100414.B5	7,10	91,0	53,0	36,0	8,000
V.07140414.B5	7,14	91,0	53,0	36,0	8,000
V.07200414.B5	7,20	91,0	53,0	36,0	8,000
V.07300414.B5	7,30	91,0	53,0	36,0	8,000
V.07400414.B5	7,40	91,0	53,0	36,0	8,000
V.07500414.B5	7,50	91,0	53,0	36,0	8,000
V.07540414.B5	7,54	91,0	53,0	36,0	8,000
V.07600414.B5	7,60	91,0	53,0	36,0	8,000
V.07700414.B5	7,70	91,0	53,0	36,0	8,000
V.07800414.B5	7,80	91,0	53,0	36,0	8,000
V.07900414.B5	7,90	91,0	53,0	36,0	8,000
V.07940414.B5	7,94	91,0	53,0	36,0	8,000
V.08000414.B5	8,00	91,0	53,0	36,0	8,000
V.08100414.B5	8,10	103,0	61,0	40,0	10,000
V.08200414.B5	8,20	103,0	61,0	40,0	10,000
V.08300414.B5	8,30	103,0	61,0	40,0	10,000
V.08330414.B5	8,33	103,0	61,0	40,0	10,000
V.08400414.B5	8,40	103,0	61,0	40,0	10,000
V.08500414.B5	8,50	103,0	61,0	40,0	10,000
V.08600414.B5	8,60	103,0	61,0	40,0	10,000
V.08700414.B5	8,70	103,0	61,0	40,0	10,000
V.08730414.B5	8,73	103,0	61,0	40,0	10,000
V.08800414.B5	8,80	103,0	61,0	40,0	10,000
V.08900414.B5	8,90	103,0	61,0	40,0	10,000
V.09000414.B5	9,0	103,0	61,0	40,0	10,000
V.09100414.B5	9,10	103,0	61,0	40,0	10,000
V.09130414.B5	9,13	103,0	61,0	40,0	10,000
V.09200414.B5	9,20	103,0	61,0	40,0	10,000
V.09250414.B5	9,25	103,0	61,0	40,0	10,000
V.09300414.B5	9,30	103,0	61,0	40,0	10,000
V.09400414.B5	9,40	103,0	61,0	40,0	10,000
V.09500414.B5	9,50	103,0	61,0	40,0	10,000
V.09520414.B5	9,52	103,0	61,0	40,0	10,000
V.09600414.B5	9,60	103,0	61,0	40,0	10,000
V.09700414.B5	9,70	103,0	61,0	40,0	10,000
V.09800414.B5	9,80	103,0	61,0	40,0	10,000
V.09900414.B5	9,90	103,0	61,0	40,0	10,000
V.09920414.B5	9,92	103,0	61,0	40,0	10,000
V.10000414.B5	10,00	118,0	71,0	40,0	10,000
V.10100414.B5	10,10	118,0	71,0	45,0	12,000
V.10200414.B5	10,20	118,0	71,0	45,0	12,000
V.10300414.B5	10,30	118,0	71,0	45,0	12,000
V.10320414.B5	10,32	118,0	71,0	45,0	12,000
V.10400414.B5	10,40	118,0	71,0	45,0	12,000
V.10500414.B5	10,50	118,0	71,0	45,0	12,000
V.10600414.B5	10,60	118,0	71,0	45,0	12,000

Order code	Diameter (mm)	L (mm)	L <sub>1</sub> (mm)	L <sub>2</sub> (mm)	Shank (mm)
V.10700414.B5	10,70	118,0	71,0	45,0	12,000
V.10800414.B5	10,80	118,0	71,0	45,0	12,000
V.10900414.B5	10,90	118,0	71,0	45,0	12,000
V.11000414.B5	11,00	118,0	71,0	45,0	12,000
V.11100414.B5	11,10	118,0	71,0	45,0	12,000
V.11110414.B5	11,11	118,0	71,0	45,0	12,000
V.11200414.B5	11,20	118,0	71,0	45,0	12,000
V.11300414.B5	11,30	102,0	71,0	45,0	12,000
V.11400414.B5	11,40	118,0	71,0	45,0	12,000
V.11500414.B5	11,50	118,0	71,0	45,0	12,000
V.11600414.B5	11,60	118,0	71,0	45,0	12,000
V.11700414.B5	11,70	118,0	71,0	45,0	12,000
V.11800414.B5	11,80	118,0	71,0	45,0	12,000
V.11900414.B5	11,90	118,0	71,0	45,0	12,000
V.11910414.B5	11,91	118,0	71,0	45,0	12,000
V.12000414.B5	12,00	118,0	71,0	45,0	12,000
V.12100414.B5	12,10	124,0	77,0	45,0	14,000
V.12200414.B5	12,20	124,0	77,0	45,0	14,000
V.12500414.B5	12,50	124,0	77,0	45,0	14,000
V.12700414.B5	12,70	124,0	77,0	45,0	14,000
V.13000414.B5	13,00	124,0	77,0	45,0	14,000
V.13100414.B5	13,10	124,0	77,0	45,0	14,000
V.13500414.B5	13,50	124,0	77,0	45,0	14,000
V.13700414.B5	13,70	124,0	77,0	45,0	14,000
V.13800414.B5	13,80	124,0	77,0	45,0	14,000
V.14000414.B5	14,00	124,0	77,0	45,0	14,000
V.14100414.B5	14,10	133,0	83,0	48,0	16,000
V.14200414.B5	14,20	133,0	83,0	48,0	16,000
V.14290414.B5	14,29	133,0	83,0	48,0	16,000
V.14500414.B5	14,50	133,0	83,0	48,0	16,000
V.14700414.B5	14,70	133,0	83,0	48,0	16,000
V.15000414.B5	15,00	133,0	83,0	48,0	16,000
V.15100414.B5	15,10	133,0	83,0	48,0	16,000
V.15200414.B5	15,20	133,0	83,0	48,0	16,000
V.15500414.B5	15,50	133,0	83,0	48,0	16,000
V.15700414.B5	15,70	133,0	83,0	48,0	16,000
V.16000414.B5	16,00	133,0	83,0	48,0	16,000
V.16500414.B5	16,50	143,0	93,0	48,0	18,000
V.17000414.B5	17,00	143,0	93,0	48,0	18,000
V.17500414.B5	17,50	143,0	93,0	48,0	18,000
V.18000414.B5	18,00	143,0	93,0	48,0	18,000
V.18500414.B5	18,50	153,0	101,0	50,0	20,000
V.19000414.B5	19,00	153,0	101,0	50,0	20,000
V.19500414.B5	19,50	153,0	101,0	50,0	20,000
V.20000414.B5	20,00	153,0	101,0	50,0	20,000

# Solid carbide drill 166510

## without internal cooling / 5xD



### Recommended cutting condition

	Material	Tensile strenght (N/mm <sup>2</sup> ) Hardness	V <sub>c</sub> (m/min.)	Feed fz (mm/ot.)		
				3,0 - 7,9	8,0 - 15,9	16,0 - 20,0
<b>P</b>	Common structural steels	≤500	130	0,125 - 0,160 - 0,200	0,250 - 0,315	0,400 - 0,500
		≤1000	110	0,100 - 0,125 - 0,160	0,200 - 0,250	0,315 - 0,400
	Free-cutting steels	≤850	145	0,160 - 0,200 - 0,250	0,315 - 0,400	0,500 - 0,630
		≤1000	110	0,125 - 0,160 - 0,200	0,250 - 0,315	0,400 - 0,500
	Unalloyed heat-treatable steels	≤700	120	0,125 - 0,160 - 0,200	0,250 - 0,315	0,400 - 0,500
		≤850	110	0,125 - 0,160 - 0,200	0,250 - 0,315	0,400 - 0,500
		≤1000	105	0,125 - 0,160 - 0,200	0,250 - 0,315	0,400 - 0,500
	Alloyed case hardened steels	≤1000	105	0,125 - 0,160 - 0,200	0,250 - 0,315	0,400 - 0,500
		≤1400	100	0,100 - 0,125 - 0,160	0,200 - 0,250	0,315 - 0,400
	Unalloyed case hardened steels	≤850	130	0,160 - 0,200 - 0,250	0,315 - 0,400	0,500 - 0,630
	Alloyed case hardened steels	≤1000	120	0,125 - 0,160 - 0,200	0,250 - 0,315	0,400 - 0,500
		≤1400	85	0,080 - 0,100 - 0,125	0,160 - 0,200	0,250 - 0,315
	Nitriding steels	≤1000	100	0,100 - 0,125 - 0,160	0,200 - 0,250	0,315 - 0,400
		≤1400	90	0,080 - 0,100 - 0,125	0,160 - 0,200	0,250 - 0,315
Tool steels	≤850	65	0,100 - 0,125 - 0,160	0,200 - 0,250	0,315 - 0,400	
	≤1400	55	0,080 - 0,100 - 0,125	0,160 - 0,200	0,250 - 0,315	
<b>M</b>	Stainless steels sulphured	≤900	40	0,063 - 0,080 - 0,100	0,125 - 0,160	0,200 - 0,250
	SS austenitic	≤1100	15	0,063 - 0,080 - 0,100	0,125 - 0,160	0,200 - 0,250
	SS martensitic	≤1500	35	0,050 - 0,063 - 0,080	0,100 - 0,125	0,160 - 0,200
<b>H</b>	Hardened steels	≤48 HRC	35	0,050 - 0,063 - 0,080	0,100 - 0,125	0,160 - 0,200
		≤66 HRC	20	0,040 - 0,050 - 0,063	0,080 - 0,100	0,125 - 0,160
<b>K</b>	Cast iron	≤240 HB	210	0,160 - 0,200 - 0,250	0,315 - 0,400	0,500 - 0,630
		≤350 HB	155	0,160 - 0,200 - 0,250	0,315 - 0,400	0,500 - 0,630
	Malleable cast iron	≤240 HB	155	0,125 - 0,160 - 0,200	0,250 - 0,315	0,400 - 0,500
		≤350 HB	125	0,125 - 0,160 - 0,200	0,250 - 0,315	0,400 - 0,500
	Hardened cast iron	≤350 HB	35	0,050 - 0,063 - 0,080	0,100 - 0,125	0,160 - 0,200
<b>S</b>	Titanium and Ti-alloys	≤850	15	0,063 - 0,080 - 0,100	0,125 - 0,160	0,200 - 0,250
		≤1400	15	0,050 - 0,063 - 0,080	0,100 - 0,125	0,160 - 0,200
<b>N</b>	Aluminium and Al alloys	≤400	260	0,160 - 0,200 - 0,315	0,315 - 0,500	0,500 - 0,630
	Al wrought alloys	≤650	260	0,160 - 0,200 - 0,315	0,315 - 0,500	0,500 - 0,630
	Al cast alloys ≤ 10 % Si	≤600	220	0,160 - 0,200 - 0,250	0,315 - 0,400	0,500 - 0,630
		> 10 % Si	≤600	180	0,160 - 0,200 - 0,250	0,315 - 0,400
	Magnesium alloys	≤400	260	0,160 - 0,200 - 0,250	0,315 - 0,400	0,500 - 0,630
	Copper, low alloyed	≤500	105	0,125 - 0,160 - 0,200	0,250 - 0,315	0,400 - 0,500
	Brass	≤600	270	0,160 - 0,200 - 0,250	0,315 - 0,400	0,500 - 0,630
		≤600	180	0,125 - 0,160 - 0,200	0,250 - 0,315	0,400 - 0,500
		≤600	105	0,100 - 0,125 - 0,160	0,200 - 0,250	0,315 - 0,400
		≤850	85	0,100 - 0,125 - 0,160	0,200 - 0,250	0,315 - 0,400
Bronze	≤850	80	0,080 - 0,100 - 0,125	0,160 - 0,200	0,250 - 0,315	
	≤1000	60	0,080 - 0,100 - 0,125	0,160 - 0,200	0,250 - 0,315	