Cemented Carbide Rods Technical Data

General Descriptions:

Our mill partner for carbide has a newly built plant with high quality production facilities.The R&D and manufacturing center use the latest technology.The commitment to quality in each step of the production process results in extremely high quality carbide rods.

We provide the following cemented carbide products in metric or inches.

- Solid long rods.
- Ground rods with chamfered ends.
- Rods with two helical coolant holes (30º).
- Rods with three helical coolant holes (30º).
- Rods with central coolant holes.
- Rods with two straight coolant holes.

- Cemented Tungsten carbide is basically tungsten carbide grains cemented together by cobalt.
  - Cobalt is the binder.
- The size of the tungsten carbide grains and the amount of cobalt are the two factors that affect the characteristics.
- As the cobalt content increases the hardness decreases, impact resistance increases, and wear resistance decreases.
  - Parts with less cobalt break easier.
- As the tungsten carbide grains gets larger the hardness decreases, impact resistance increases and wear resistance descreases.
  -Parts with smaller tungsten carbide grains break easier.

SB Specialty Metals LLC

*Your **First Choice** for Specialty Metals*

Grades available

Grade	ISO Grade	Grain Size (μ)	Cobalt Content (wt.%)	Hardness HRA	Hardness HV30	Density (g/m^3)	TRS (psi, min)
SBC-6.4	K05-K10	0.4	6.0	94.0	2050	14.4	551,000
SBC-61	K15	1.0	6.0	92.5	1740	14.9	377,000
SBC-85.4	K10-K20	0.4	8.5	93.5	1940	14.5	551,000
SBC-9.2	K05-K10	0.2	9.0	94.0	2050	14.4	580,000
SBC-10.6	K20-K40	0.6	10.0	92.3	1700	14.4	609,000
SBC-10.7	K20-K40	0.7	10.0	91.9	1630	14.4	580,000
SBC-12.4	K20-K40	0.4	12.0	92.6	1750	14.1	609,000

Solid Rod - Selection guide

Work piece	Type of cutting Tool		SBC-9.2	SBC-6.4	SBC-85.4	SBC-12.4	SBC-10.6	SBC-10.7	SBC-61
Steel	End Mill	Roughing					x	+	
		Finishing				+	x	x	
	Drill						x	+	
Stainless Steel	End Mill	Roughing					x	+	
		Finishing	x			x	+		
	Drill						x	+	
Castiron	End Mill	Roughing						+	
		Finishing					+	x	*
	Drill						x	+	
Nonferrous material	End Mill	Roughing					x	+	
		Finishing	x			+	x	x	*
	Drill							+	
Heat Resistant Material	End Mill	Roughing			x			+	
		Finishing				+		x	
	Drill						x	+	
Hardened Material	End Mill	Roughing	x		+	x			
		Finishing	+	x	x				
	Drill				x		x	+	
Others	Graphite								*
	CFRP		x	x	x				*
	PCB		x	+	x				

First Choice	+
Second Choice	x
Coating	*