SANDVIK

CEMENTED CARBIDE
FOR ADDITIVE MANUFACTURING

DATA SHEET

Sandvik Additive Manufacturing Cemented Carbide is the same material as traditionally made with press and sintering methods and is used for its durability, wear resistance and productivity. Lifetime of cemented carbide is typically 3-20x that of the hardest steels. With additive manufacturing it now comes with the freedom to manufacture virtually any geometry.

GEOMETRIC CAPABILITIES (TYPICAL)

Size/Envelope:	Max 200x200x300mm, Typical <40x40x50mm
Wall thickness:	0.5 to 30mm
Accuracy:	± 0.5 to ±1.0% of nominal dimension, min ±0.04
Geometry:	Almost any
Channels:	L20mm*d0.8mm; L100mm*d1.2mm
Roughness:	Ra 3.2

COMPOSITION	H12N	H13F	H10F	
Cobalt	12	13	10	% w/w
Other	-	<1	<1	% w/w
Balance	WC	WC	WC	% w/w

PROPERTIES (TYPICAL)	H12N	H13F	H10F	
Hardness	1350	1450	1600	HV
Compressive Strength[1]:	4900	5500	6300	MPa
Transverse Rupture Strength[1]	2800	3800	3700	MPa
Youngs modulus[1]:	550	560	580	GPa
Thermal expansion coeff[1].:	5.8	6.1	5.7	10^{-6}/K
ISO CLASS	K40	K30	K20	
ANSI CLASS	C1	C1	C2	

[1]Not tested. Typical/Target values for reference

CORROSION RESISTANCE

Corrosion resistant at pH>7

APPLICATION AREAS

H12N	H13F	H10F
Wear parts	Wear Parts	Wear Parts
Nozzles	Nozzles	Wire Drawing Nibs
Mining and construction		Nozzles
Metal-forming tools		