N720-EF13-4500/FW12

Keramikblech®
Walter E. C. Pritzkow Spezialkeramik

Material description: This material is developed for high performance applications at temperatures up to 1300°C and high mechanical load. 3 D-components for industrial applications where a good price performance ratio is needed

28		Value	Unit	Standard
Manufacturer		Walter E.C. Pritzkow Spezialkeramik		
Textile	Fibre	Nextel 720		
	Fibre manufacturer	3M		
	Fabric type	EF13-4500		
	Layer thickness	0,5	mm	
	Preform structure	Anisotropic fabric 0/90, isotropic possible		
	Fiber volume content	-		
Matrix composition		85% Al_2O_3; 15% 3YSZ		
Production process		open laminated, hand laminate, press moulds		
Maximum manufacturable component size		3	m	
Minimum wall thickness		0,35	mm	
Joining process		Yes		
Coatability		Yes		
Temperatures	Recommended continuous operating temperature without mechanical load	< 1.300	°C	
	Recommended continuous operating temperature under mechanical load	< 1.250	°C	
	Recommended continuous operating temperature under high mechanical load	< 1.200	°C	
Machineability		Yes, certain diamond-coated cutting edges, laser		
TRL		8 - 9		
Density		2,5	g/cm³	DIN EN 1389
Porosity		30	%	DIN EN 1389
CTE	@+300		1/K	DIN EN 1159-1
	@+600		1/K	DIN EN 1159-1
	@+900		1/K	DIN EN 1159-1
	@+1100		1/K	DIN EN 1159-1
λ	@+300		W/(mK)	DIN EN 1159-2
	@+600		W/(mK)	DIN EN 1159-2
	@+900		W/(mK)	DIN EN 1159-2
	@+1100		W/(mK)	DIN EN 1159-2
Strength	Bending anisotropic 0/90° at RT	198	MPa	DIN EN 658-3 3PB
	Bending anisotropic +/-45° at RT		MPa	DIN EN 658-3 3PB
	Shear 0/90° at RT	7,4	MPa	DIN EN 658-4
	Tensile anisotropic 0/90° at RT		MPa	DIN EN 658-1
	Tensile anisotropic +/-45° at RT		MPa	DIN EN 658-1
	Tensile 0/90°at 1000 °C		MPa	DIN EN 658-1
	Tensile 0/90°at 1200°C		MPa	DIN EN 658-1
	Compression 0/90°at RT		MPa	DIN EN 658-2
Young's Modulus	Bending 0/90°at RT		GPa	DIN EN 658-3
	tension 0/90°at RT		GPa	DIN EN 658-1
	compression 0°/90° at RT		GPa	DIN EN 658-2
Emissivity		Not available		