N610-DF13-4500/FW12

Keramikblech®
Walter E. C. Pritzkow Spezialkeramik

Material description: This material is developed for high performance applications at temperatures up to 1100°C and high mechanical load. 3 D-components for industrial applications where a good price performance ratio is needed

		Value	Unit	Standard
Manufacturer		Walter E.C. Pritzkow Spezialkeramik		
Textile	Fibre	Nextel 610		
	Fibre manufacturer	3M		
	Fabric type	DF13		
	Layer thickness	0,35	mm	
	Preform structure	Anisotropic fabric 0/90, isotropic possible		
	Fibre 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	< 1.200	°C	
	Recommended continuous operating temperature under high mechanical load	< 1.000	°C	
Machineability		Yes, certain diamond-coated cutting edges, laser		
TRL		8 - 9		
Density		2,6	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	8,49	1/K	DIN EN 1159-1
λ	@+300	3,8	W/(mK)	DIN EN 1159-2
	@+600	2,81	W/(mK)	DIN EN 1159-2
	@+900	2,3	W/(mK)	DIN EN 1159-2
	@+1100	2,02	W/(mK)	DIN EN 1159-2
Strength	Bending anisotropic 0/90° at RT	330	MPa	DIN EN 658-3 3PB
	Bending anisotropic +/-45° at RT		MPa	DIN EN 658-3 3PB
	Shear 0/90° at RT	15,5	MPa	DIN EN 658-4
	Tensile anisotropic 0/90° at RT	250	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	100	MPa	DIN EN 658-3
	tension 0/90°at RT	83	MPa	DIN EN 658-1
	compression 0°/90° at RT		MPa	DIN EN 658-2
Emissivity		Not available		