WPX MA 15-100

OCMC components can be manufactured very cost-efficiently using a winding technique that features load-appropriate fiber orientation and/or open grid structures. Due to its creep resistance, MA15 material is used for long-term, load-bearing applications at temperatures up to 1.200°C. For non-load-bearing applications, operating temperatures of up to 1.300°C are possible. Furthermore, its good machinability makes it suitable for the design of complex structures.

		Value	Unit	Standard
Manufacturer		WPX Faserkeramik		
Textile	Fibre	Nextel 720/ 10.000 den		
	Fibre manufacturer	3M		
	Roving type	10.000	den	
	Layer thickness	0,7-1.0	mm	
	Preform structure	Wound rovings		
	Fibre volume content	30%, adjustable		
Matrix composition		Al_2O_3		
Production process		Filament winding of Infiltrated rovings		
Maximum manufacturable component size		1.100 x 700 x 12	mm^3	
Minimum wall thickness		0,7	mm	
Joining process		Wet lamination		
Coatability		Yes		
Temperatures	Recommended continuous operating temperature with strength values < 1 MPa	< 1.300	°C	
	Recommended continuous operating temperature with strength values <6 MPa	< 1.250	°C	
	Recommended continuous operating temperature with strength values <20 MPa	< 1.200	°C	
Machineability		laser, waterjet, PKD milling, grinding		
TRL		9		
Density		2,6	g/cm^3	DIN EN 1389
Porosity		30	%	DIN EN 1389
CTE	@-200	5,1	J/gK	DIN EN 821-1
	@+600	6,0	J/gK	DIN EN 821-1
	@+900	-	J/gK	DIN EN 821-1
	@+1200	6,7	J/gK	DIN EN 821-1
λ	@+200	2,2	W/(mK)	DIN EN 821-2
	@+600	1,9	W/(mK)	DIN EN 821-2
	@+900	-	W/(mK)	DIN EN 821-2
	@+1100	1,6	W/(mK)	DIN EN 821-2
Strength	Bending anisotropic +/- 15° at RT	240	MPa	DIN EN 658-3*
	Shear +/-15°° at RT	9	MPa	DIN EN 658-4*
	Tensile anisotropic	(upon inquiry)		
	Compression in plane	(upon inquiry)		
	Compression	(upon inquiry)		
Young's Modulus	Bending +/- 15° at RT	70	GPa	DIN EN 658-3*
	compression +/- 15° at RT	(upon inquiry)	GPa	
	Tension +/- 15°	(upon inquiry)		
Emissivity for wavelengths 2-18µm 200°C 600°C 1400°C		 0.8 0.7 0.6		

* based on the quoted testing standard

Further material specs upon request at info@whipox.com