FAÇADE CREATIONS

Technical Specification Sheets

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Chemical Designation
PPE (Polyphenylene ether)

Colour
grey opaque

Density
1.1 g/cm^3

Main features
- high strength
- electrically insulating
- high toughness
- good weldable and bondable
- sensitive to stress cracking

Target Industries
- mechanical engineering
- electronics
- energy industry
- food technology
- automotive industry

Mechanical properties	*parameter*	*value*	*unit*	*norm*		*comment*
Tensile strength	50mm/min	57	MPa	DIN EN ISO 527-2		(1) For tensile test: specimen type 1b (2) For flexural test: support span 64mm, norm specimen. (3) Specimen 10x10x10mm (4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression. (5) For Charpy test: support span 64mm, norm specimen. (6) Specimen in 4mm thickness
Modulus of elasticity (tensile test)	1mm/min	2400	MPa	DIN EN ISO 527-2	1)	
Tensile strength at yield	50mm/min	57	MPa	DIN EN ISO 527-2		
Elongation at yield (tensile test)	50mm/min	15	%	DIN EN ISO 527-2		
Elongation at break (tensile test)	50mm/min	22	%	DIN EN ISO 527-2		
Flexural strength	2mm/min, 10 N	85	MPa	DIN EN ISO 178	2)	
Modulus of elasticity (flexural test)	2mm/min, 10 N	2500	MPa	DIN EN ISO 178		
Compression strength	1% / 2% / 5% 5mm/min, 10 N	18/33/74	MPa	EN ISO 604	3)	
Compression modulus	5mm/min, 10 N	2100	MPa	EN ISO 604	4)	
Impact strength (Charpy)	max. 7,5J	69	kJ/m^2	DIN EN ISO 179-1eU	5)	
Ball indentation hardness		146	MPa	ISO 2039-1	6)	

Thermal properties	*parameter*	*value*	*unit*	*norm*		*comment*
Glass transition temperature		145	°C	DIN EN ISO 11357	1)	(1) Found in public sources. (2) n.a. = not applicable (3) Found in public sources. Individual testing regarding application conditions is mandatory.
Melting temperature		n.a.	°C	DIN EN ISO 11357	2)	
Service temperature	short term	110	°C		3)	
Service temperature	long term	85	°C			
Thermal expansion (CLTE)	23-60°C, long.	8	10^{-5} K^{-1}	DIN EN ISO 11359-1;2		
Thermal expansion (CLTE)	23-100°C, long.	8	10^{-5} K^{-1}	DIN EN ISO 11359-1;2		
Specific heat		1.3	J/(g*K)	ISO 22007-4:2008		
Thermal conductivity		0.21	W/(K*m)	ISO 22007-4:2008		

Electrical properties	*parameter*	*value*	*unit*	*norm*	*comment*
surface resistivity		10^{14}	Ω	-	
volume resistivity		10^{14}	Ω*cm	-	

Other properties	*parameter*	*value*	*unit*	*norm*		*comment*
Water absorption	24h / 96h (23°C)	0.02 / 0.04	%	DIN EN ISO 62	1)	(1) Ø ca. 50mm, h=13mm (2) (+) limited resistance (3) - poor resistance (4) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.
Resistance to hot water/ bases		(+)		-	2)	
Resistance to weathering		-		-	3)	
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	4)	