

## TECANYL 731 grey - Stock Shapes (rods, plates, tubes)

### Chemical Designation

PPE (Polyphenylene ether )

### Colour

grey opaque

### Density

1.1 g/cm<sup>3</sup>

### 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	
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	
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	
Compression modulus	5mm/min, 10 N	2100	MPa	EN ISO 604	
Impact strength (Charpy)	max. 7,5J	69	kJ/m <sup>2</sup>	DIN EN ISO 179-1eU	
Ball indentation hardness		146	MPa	ISO 2039-1	
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		145	°C	DIN EN ISO 11357	(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	
Service temperature	short term	110	°C		
Service temperature	long term	85	°C		
Thermal expansion (CLTE)	23-60°C, long.	8	10 <sup>-5</sup> K <sup>-1</sup>	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, long.	8	10 <sup>-5</sup> K <sup>-1</sup>	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 <sup>14</sup>	Ω	-	
volume resistivity		10 <sup>14</sup>	Ω*cm	-	
Other properties	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.02 / 0.04	%	DIN EN ISO 62	(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		(+)		-	
Resistance to weathering		-		-	
Flammability (UL94)	corresponding to	HB		DIN IEC 60695-11-10;	

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Date: 2018/02/20

Version: AC