

TECANYL 731 grey - Stock Shapes

Chemical Designation

PPE (Polyphenylene ether)

Colour

grey opaque

Density

1.1 g/cm³

Main features

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

Target Industries

- conveyor technology
- mechanical engineering
- food engineering
- precision engineering
- automotive industry
- electrical engineering
- home appliances

Mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1mm/min	2400	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	57	MPa	DIN EN ISO 527-2	(2)
Tensile strength at yield	50mm/min	57	MPa	DIN EN ISO 527-2	(3)
Elongation at yield	50mm/min	15	%	DIN EN ISO 527-2	(4)
Elongation at break	50mm/min	22	%	DIN EN ISO 527-2	(5)
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	(6)
Compression strength	1% / 2% 5mm/min, 10 N	18 / 33	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 53765	1)
Melting temperature		n.a.	°C	DIN 53765	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
Specific surface resistance		10 ¹⁴	Ω	DIN IEC 60093	
Specific volume resistance		10 ¹⁴	Ω*cm	DIN IEC 60093	
Other properties	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.02 / 0.04	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		(+)	-	-	2)
Resistance to weathering		-	-	-	3)
Flammability (UL94)	corresponding to	HB	-	DIN IEC 60695-11-10;	4)

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