

## TECAPET black - Stock Shapes

### Chemical Designation

PET (Polyethylene terephthalate)

### Colour

black opaque

### Density

1.39 g/cm<sup>3</sup>

### Main features

- good chemical resistance
- very high strength
- easy to polish
- good weldable and bondable
- good slide and wear properties
- good machinability
- high toughness

### Target Industries

- mechanical engineering
- automotive industry
- electronics
- food technology

Mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1mm/min	3400	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	91	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	91	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	4	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	15	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	134	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	3400	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min, 10 N	19 / 36	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	2800	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	27	kJ/m <sup>2</sup>	DIN EN ISO 179-1eU	5)
Ball indentation hardness		195	MPa	ISO 2039-1	6)
<b>Thermal properties</b>	<b>parameter</b>	<b>value</b>	<b>unit</b>	<b>norm</b>	<b>comment</b>
Glass transition temperature		81	°C	DIN 53765	1)
Melting temperature		244	°C	DIN 53765	
Service temperature	short term	170	°C		2)
Service temperature	long term	110	°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.	10	10 <sup>-5</sup> K <sup>-1</sup>	DIN EN ISO 11359-1;2	
<b>Electrical properties</b>	<b>parameter</b>	<b>value</b>	<b>unit</b>	<b>norm</b>	<b>comment</b>
Specific surface resistance		10 <sup>14</sup>	Ω	DIN IEC 60093	
Specific volume resistance		10 <sup>14</sup>	Ω*cm	DIN IEC 60093	1)
<b>Other properties</b>	<b>parameter</b>	<b>value</b>	<b>unit</b>	<b>norm</b>	<b>comment</b>
Water absorption	24h / 96h (23°C)	0.02 / 0.03	%	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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