

TECHNICAL PROPERTIES OF PET

04/2009

Property	Unit	Test method	Condition of specimen	PET
MECHANICAL PROPERTIES				
Tensile strength at break	MPa	ISO 527	dry	80
	MPa	ISO 527	moist	
Elongation at break	%	ISO 527	dry	20
	%	ISO 527	moist	
Modulus of elasticity in tension	MPa	ISO 527	dry	3200
	MPa	ISO 527	moist	
Charpy impact strength	+ 23°C	ISO 179/1ep	dry	82
	- 40°C		dry	
Charpy notched impact strength		ISO 179/1epA	dry	14
			moist	
Hardness shore scale D		ISO 868	dry	81
Time yield limit $\sigma_{1/1000}$	23°C/50% RH	MPa	ISO 899	moist
	100°	MPa	ISO 899	dry
Apparent modulus $E_{C/1000\ 20}$	23°C/50% RH	MPa	ISO 899	moist
THERMAL PROPERTIES				
Heat distortion temperature,	Method A	°C	ISO 75	dry
	Method B	°C	ISO 75	dry
Melting point	Method A	°C	ISO 11357-1/-3	-
Maximum service temperature for few hours operation		°C	-	-
TEP 5 000 hours (50% of tensile strength) ¹⁾		°C	IEC 216	-
TEP 20 000 hours (50% of tensile strength) ¹⁾		°C	IEC 216	-
Thermal coefficient of linear expansion		1/K.10 ⁻⁵	DIN 53452	dry
Thermal conductivity	Method A	W/(K.m)		dry
Specific heat capacity		J/(g.K)	IEC 1006	dry
DIELECTRIC PROPERTIES				
Dielectric constant	1 MHz	-	IEC 250	dry
		-	IEC 250	moist
Dissipation factor tan δ	1 MHz	-	IEC 250	dry
		-	IEC 250	moist
Dielectric strength		KV/mm	IEC 243	dry
		KV/mm	IEC 243	moist
Volume resistivity		Ω .cm	IEC 93	dry
		Ω .cm	IEC 93	moist
Surface resistivity R_{0A}		Ω	IEC 93	dry
		Ω	IEC 93	moist
Resistance to tracking	KA/ KB method	-	IEC 112	dry/moist
	KC method	-	IEC 112	dry/moist
MISCELLANEOUS PROPERTIES				
Mass density	Method D, E	g/cm ³	ISO 1183	dry
Moisture absorption at 23°C, 50% RH	Saturation	%	ISO 1110	-
Water absorption at 23 °C	Saturation	%	ISO 62	-
Fire performance	Flameability Acc. VDE		VDE 0304	dry
	Flameability of interior materials in passenger cars h>1mm	mm/min	FMVSS 302	moist
	Flameability according UL Standard (thickness of specimen 1,6 mm)	-	UL 94	-
Resistance to wear ²⁾		μ m/km	ISO 7148-2	dry
Coefficient of friction ²⁾	static		ISO 7148-2	dry
Coefficient of friction ²⁾	dynamic		ISO 7148-2	dry

1. Datas of resin only

2. Made by a pin / rotating disc test according DIN-ISO 7148-2 under following conditions: $R_a = 0,35 - 0,45 \mu\text{m}$ (steel disc), $v = 0,3 \text{ m/s}$, $p = 3 \text{ N/mm}^2$, time $T > 16\text{h}$

All statements, technical information and recommendations contained in this brochure are presented in good faith, but all information given is without warranty and liability.