

POLYFLON

POLYFLON is a polyethylene in an ultra-high molecular weight (PE-UHMW) pressed ideal for use in applications requiring temperature conditions above 120 ° C. The additives used give a slow degradation of the material and a prolonged shelf life in extreme conditions of temperature.

This material is especially suitable for applications in the canning industry.

PROPERTIES	UNITS	TEST METHODS	VALUES
Properties			
Densisty	g/cm3	ISO 1183-1	1.10
Water absortion at saturation in water of 23°C	%	-	0.01
Mechanical Properties at 23°C			
Tensile stress at yield	MPa	ISO 527-1/-2	19
Tensile strain at yield	%	ISO 527-1/-2	15
Nominal tensile strain at break	%	ISO 527-1/-2	>50
Tensile modulus of elasticity	MPa	ISO 527-1/-2	700
Compressive stress at 1/2/5 % nominal strain	MPa	ISO 604	6/10/16
Flexural strength	MPa	ISO 178	16
Charpy impact strength-unnotched	KJ/m2	ISO 179-1/1eU	No break
Charpy impact strength- notched	KJ/m2	ISO 179-1/1eA	100P
Charpy impact strength- notched (double 14° notch)	KJ/m2	ISO 11542-2	130
Ball indentation hardness	N/mm2	ISO 2039-1	31
Shore hardness D (15s)	-	ISO 2039-2	58
Relative weight loss during a wear test in "sand/water- slurry"	-	ISO 15527	80
Thermal Properties			
Melting temperature (DSC, 10°C/min)	°C	ISO 11357-1/-3	135
Thermal conductivity at 23°C	W/(K.m)	-	0.40
Average coefficient of linear thermal expansion between 23 and 100 °C	m/(m.K)	-	200x10 ⁻⁶
Temperature of deflection under load: method A:1.8 MPa	°C	ISO 75-1/-2	42
Vicat softening temperature- VST/B50	°C	ISO 306	80

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Max. allowable service temperature in air for short periods	°C	-	135
Max. allowable service temperature in air continuously for 20,000 h	°C	-	110
Min. Service temperature	°C	-	-200
Oxygen Index for flammability	%	ISO 4589-1/-2	<20
Electrical Properties at 23°C			
Electric strength	kV/mm	IEC 60243-1	45
Volume resistivity	Ohm.cm	IEC 60093	$>10^{14}$
Surface resistivity	Ohm	IEC 60093	$>10^{12}$
Relative permittivity at 100 Hz	-	IEC 60250	-
Relative permittivity at 1 MHz	-	IEC 60250	-
Dielectric dissipation factor tan at 100 Hz	-	IEC 60250	-
Dielectric dissipation factor tan at 1 MHz	-	IEC 60250	-
Comparative tracking index (CTI)	-	IEC 60112	-

Note: 1g/cm³ = 1,000 kg/m³; 1Mpa= 1N/mm² ; 1kV/mm = 1MV/m

* These data are very useful for the choice of material. The data listed here are indicative values and should not be used to establish specification limits of the material. From these values may not be deducted a legally binding of security of certain properties or the suitability for a particular application.