POLYGLASS

POLYGLASS is a polyethylene in an ultra-high molecular weight (UHMW-PE), pressed with incorporated micro glass beads, specifically developed for contact areas with very high abrasion and wear.
This product is especially designed for the papermaking industry and ceramics.

PROPERTIES	UNITS	TEST METHODS	VALUES
Properties			
Densisty	g/cm3	ISO 1183-1	0.96
Water absortion at saturation in water of 23ºC	%	-	0.02
Mechanical Properties at 23ºC			
Tensile stress at yield	MPa	ISO 527-1/-2	18
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	750
Compressive stress at 1/2/5 % nominal strain	MPa	ISO 604	7/11/17.5
Flexural strength	MPa	ISO 178	17
Charpy impact strength-unnotched	KJ/m2	ISO 179-1/1eU	No break
Charpy impact strength- notched	KJ/m2	ISO 179-1/1eA	150P
Charpy impact strength- notched (double 14º notch)	KJ/m2	ISO 11542-2	125
Ball indentation hardness	N/mm2	ISO 2039-1	33
Shore hardness D (15s)	-	ISO 2039-2	60
Relative weight loss during a wear test in "sand/water- slurry"	-	ISO 15527	75
Thermal Properties			
Melting temperature (DSC, 10ºC/min)	ºC	ISO 11357-1/-3	135
Thermal conductivity at 23ºC	W/(K.m)	-	0.40
Average coefficient of linear thermal expansion between 23 and 100 ºC	m/(m.K)	-	$200x10^{-6}$
Temperature of deflection under load: method A:1.8 MPa	ºC	ISO 75-1/-2	42
Vicat softening temperature- VST/B50	ºC	ISO 306	80

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Max. allowable service temperature in air for short periods	ºC	-	120
Max. allowable service temperature in air continuously for 20,000 h	ºC	-	80
Min. Service temperature	ºC	-	-150
Oxygen Index for flammability	%	ISO 4589-1/-2	<20
Electrical Properties at 23ºC			
Electric strength	kV/mm	IEC 60243-1	45
Volume resistance	Ohm.cm	IEC 60093	$<10^{14}$
Surface resistance	Ohm	IEC 60093	$<10^{12}$
Relative permittivity ξ at 100 Hz	-	IEC 60250	-
Relative permittivity ξ at 1 MHz	-	IEC 60250	-
Dielectic dissipation factor tan ξ at 100 Hz	-	IEC 60250	-
Dielectic dissipation factor tan ξ at 1 MHz	-	IEC 60250	-
Comparative tracking indez (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.