

Polimersan Plastics POLIPOLEN® (Polyethylene) UHMW-PE 1000

Category : Polymer , Thermoplastic , Polyethylene (PE) , HDPE , High Density Polyethylene (HDPE), UHMW PE Ultra High Molecular Weight

Material Notes:

PE 1000: Polyethylene with very high molecular weight (UHMW - PE 1000; Ultra High Molecular Weight Polyethylene). Polyethylenes with molecular weight higher than 3 million gr/mol. POLIPOLEN® PE (POLYETHYLENE) is maintained from coke oven gas or from natural gas or from Ethene or Ethane which is produced by cracking of petroleum. Monomer, is polymerized by low pressure or high pressure method and then can be maintained as high density (PE-YY 0,941 and 0,965 g/cm³) or low (normal) density polyethylene(PE-NY 0,914 and 0,925 g/cm³). Other differences of various PE types are according to their melting degrees and opposite proportional connection occurs according to their relative molecular weights. In other words, when its melting degree is at the lowest level, its relative molecular weight is at the highest level and e.g. its mechanical specialties are the best. POLIPOLEN has quite a low density. Its flexibility rate is high and it is resistant to strokes even at low temperatures. It has a very high molecular weight(molecular chain length). It has a high corrosion resistance because of its high molecular chain. According to the results of the "sand slurry" corrosion test which is made as per "DIN" standards, POLIPOLEN 1000 , has shown the highest corrosion resistance among the solid materials(e.g. steels, tree, other engineering plastics.)

PROPERTIES OF POLIPOLEN®:Very high stroke resistanceVery high corrosion resistanceVery high chemical resistanceGetting lubricated itself and slickyExcellent electrical resistanceQuietness while processing and reducing vibrationsEasy processingLow friction rateVery low water absorption

GENERAL USAGE AREAS OF POLIPOLEN®:Coal warehouses and conveyor systemsGuttersChain conveyor guidesElevatorsElectric power stationsCement industryLime industryPalister industryFood industryCutting and chopping platesChopping blocksConveyor screwsSliding elementsFlat guidesProfilesBobbinsStar and screw conveyorsElevator systemsSliding bearingsGearsMotor landing platesStopper valvesClosing clapsAcid pumpsFilters

Information provided by Polimersan Polimer Kimya San.Tic.Ltd.Sti.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Polimersan-Plastics-POLIPOLEN-Polyethylene-UHMW-PE-1000.php

Physical Properties	Metric	English	Comments
Specific Gravity	>= 0.930 g/cc	>= 0.930 g/cc	ISO.1183 DN.53479
Water Absorption	<= 0.020 %	<= 0.020 %	ISO.62 DN.53495

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	60 - 70	60 - 70	DN.53505
Ball Indentation Hardness	38.0 MPa	5510 psi	ISO.2039-2
Tensile Strength at Break	>= 40.0 MPa	>= 5800 psi	ISO.527 DN.53455
Tensile Strength, Yield	>= 20.0 MPa	>= 2900 psi	ISO.527 DN.53455
Elongation at Break	>= 350 %	>= 350 %	ISO.527 DN.53455
Elongation at Yield	20 %	20 %	ISO.527 DN.53455
Modulus of Elasticity	>= 0.600 GPa	>= 87.0 ksi	ISO.178 DN.53452
Charpy Impact, Notched	21.0 J/cm ²	99.9 ft-lb/in ²	ISO.179 DN.53453

Mechanical Properties	Metric	English	Comments
Thermal Properties	Metric	English	Comments
CTE, linear	20.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	11.1 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	DN.53752
	@Temperature 20.0 $^{\circ}\text{C}$	@Temperature 68.0 $^{\circ}\text{F}$	
Melting Point	130 - 133 $^{\circ}\text{C}$	266 - 271 $^{\circ}\text{F}$	
Maximum Service Temperature, Air	70.0 $^{\circ}\text{C}$	158 $^{\circ}\text{F}$	ISO.75 DN.53461

Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 5.00\text{e}+16$ ohm-cm	$\geq 5.00\text{e}+16$ ohm-cm	ISO.167 DN.53482
Surface Resistance	$\geq 1.00\text{e}+13$ ohm	$\geq 1.00\text{e}+13$ ohm	ISO.167 DN.53482
Dielectric Strength	≥ 45.0 kV/mm	≥ 1140 kV/in	ISO.243 DN.53481

Descriptive Properties	Value	Comments
Corrosion	1	DN.58836 Sand Slurry Test

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