

Murtfeldt Muralen® plus + AB Polyethylene, Antibacterial

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

Material Notes:

Muralen® is based on high molecular weight polyethylene (PE-HMW) and is ideally suited for use in applications that require the generally impressive material properties of polyethylene. Because of its great cut, impact, and shock resistance, this material is often used to make underlays for cutting and punching machines and for ram guards. Special Properties: • High cut resistance • Good shock and impact absorption • Good resistance to chemicals • Good anti-adhesion properties • Approved for use in the food industry (EU and FDA) • Good weldability • Antibacterial properties Information provided by Murtfeldt Kunststoffe GmbH & Co. KG.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Murtfeldt-Muralen-plus-AB-Polyethylene-Antibacterial.php

Physical Properties	Metric	English	Comments
Density	<= 0.950 g/cc	<= 0.0343 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	<= 0.10 %	<= 0.10 %	ISO 62
Water Absorption at Saturation	<= 0.10 %	<= 0.10 %	ISO 62
Molecular Weight	500000 g/mol	500000 g/mol	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	66	66	DIN 53505
Ball Indentation Hardness	45.0 MPa	6530 psi	
Tensile Strength	27.2 MPa	3950 psi	ISO 527
Tensile Strength, Yield	20.0 MPa	2900 psi	ISO 527
Elongation at Break	630 %	630 %	ISO 527
Modulus of Elasticity	1.10 GPa	160 ksi	
Compressive Yield Strength	9.00 MPa	1310 psi	ISO 604
	@Strain 1.00 %	@Strain 1.00 %	
	15.0 MPa	2180 psi	
	@Strain 2.00 %	@Strain 2.00 %	ISO 604
	23.0 MPa	3340 psi	ISO 604
	@Strain 5.00 %	@Strain 5.00 %	
Charpy Impact Unnotched	NB	NB	ISO 179
Charpy Impact, Notched	>= 2.50 J/cm ²	>= 11.9 ft-lb/in ²	ISO 179

Mechanical Properties <small>Coefficient of Friction Dynamic</small>	Metric <small>0.18</small>	English <small>0.18</small>	Comments
Sand Slurry	350	350	value in %

Thermal Properties	Metric	English	Comments
CTE, linear	200 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	111 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	
	@Temperature 23.0 - 60.0 $^\circ\text{C}$	@Temperature 73.4 - 140 $^\circ\text{F}$	
Thermal Conductivity	0.400 W/m-K	2.78 BTU-in/hr-ft ² - $^\circ\text{F}$	ISO 52612
Melting Point	130 - 135 $^\circ\text{C}$	266 - 275 $^\circ\text{F}$	ISO 3146
Maximum Service Temperature, Air	80.0 $^\circ\text{C}$	176 $^\circ\text{F}$	
	@Time 1.80e+7 sec	@Time 5000 hour	
Minimum Service Temperature, Air	-100 $^\circ\text{C}$	-148 $^\circ\text{F}$	
Glass Transition Temp, Tg	-120 $^\circ\text{C}$	-184 $^\circ\text{F}$	
Flammability, UL94	HB	HB	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	$\geq 1.00\text{e}+14$ ohm-cm	$\geq 1.00\text{e}+14$ ohm-cm	IEC 60093
Surface Resistance	$\geq 1.00\text{e}+13$ ohm	$\geq 1.00\text{e}+13$ ohm	IEC 60093
Dielectric Constant	2.4	2.4	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	2.4	2.4	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	≤ 45.0 kV/mm	≤ 1140 kV/in	IEC 60243
Dielectric Loss Index	0.00020	0.00020	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Loss Index	0.00020	0.00020	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Compliance Properties	Metric	English	Comments
European Food 1935/2004	Yes	Yes	
FDA	Yes	Yes	

Compliance Properties	Metric	English	Comments
Descriptive Properties		Value	Comments
Color		Sky Blue	

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