

## Murtfeldt Original Material "S"® plus + ESD Polyethylene, Conductive

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

### Material Notes:

Material "S"® plus+ ESD has extremely low electrical resistance and is an optimum conductor. Full voltage dissipation for earthed components at maximum speed enables safe, spark-free work. This material provides a cost-effective alternative to carbon-filled PTFE. Special Properties: • Very good conductivity • Voltage dissipation on surface in less than 0.1s • Suitable for devices and machines subject to Directive 94/9/EC (ATEX 95) • Approved for use in the food industry (EU and FDA) Information provided by Murtfeldt Kunststoffe GmbH & Co. KG.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Murtfeldt-Original-Material-S-plus-ESD-Polyethylene-Conductive.php](http://www.lookpolymers.com/polymer_Murtfeldt-Original-Material-S-plus-ESD-Polyethylene-Conductive.php)

Physical Properties	Metric	English	Comments
Density	<= 0.930 g/cc	<= 0.0336 lb/in <sup>3</sup>	ISO 1183
Moisture Absorption at Equilibrium	<= 0.10 %	<= 0.10 %	ISO 62
Water Absorption at Saturation	<= 0.10 %	<= 0.10 %	ISO 62
Molecular Weight	5.00e+6 g/mol	5.00e+6 g/mol	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	63	63	DIN 53505
Ball Indentation Hardness	38.0 MPa	5510 psi	
Tensile Strength at Break	25.0 MPa	3630 psi	ISO 527
Tensile Strength	20.4 MPa	2960 psi	ISO 527
Tensile Strength, Yield	>= 20.0 MPa	>= 2900 psi	ISO 527
Elongation at Break	290 %	290 %	ISO 527
Modulus of Elasticity	0.750 GPa	109 ksi	
Compressive Yield Strength	6.00 MPa	870 psi	ISO 604
	@Strain 1.00 %	@Strain 1.00 %	
	10.5 MPa	1520 psi	
	@Strain 2.00 %	@Strain 2.00 %	ISO 604
	18.0 MPa	2610 psi	ISO 604
@Strain 5.00 %	@Strain 5.00 %		
Charpy Impact, Notched	>= 12.0 J/cm <sup>2</sup>	>= 57.1 ft-lb/in <sup>2</sup>	ISO 179

Mechanical Properties	Metric	English	Comments
Sand Slurry	110	110	value in %

Thermal Properties	Metric	English	Comments
CTE, linear	200 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ @Temperature 23.0 - 60.0 $^\circ\text{C}$	111 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ @Temperature 73.4 - 140 $^\circ\text{F}$	
Thermal Conductivity	0.400 W/m-K	2.78 BTU-in/hr-ft <sup>2</sup> - $^\circ\text{F}$	ISO 52612
Melting Point	130 - 135 $^\circ\text{C}$	266 - 275 $^\circ\text{F}$	ISO 3146
Maximum Service Temperature, Air	90.0 $^\circ\text{C}$	194 $^\circ\text{F}$	Short Term
	80.0 $^\circ\text{C}$ @Time 1.80e+7 sec	176 $^\circ\text{F}$ @Time 5000 hour	
Minimum Service Temperature, Air	-150 $^\circ\text{C}$	-238 $^\circ\text{F}$	
Glass Transition Temp, Tg	-120 $^\circ\text{C}$	-184 $^\circ\text{F}$	
Flammability, UL94	HB	HB	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	$\leq 10000$ ohm-cm	$\leq 10000$ ohm-cm	IEC 60093
Surface Resistance	$\leq 10000$ ohm	$\leq 10000$ ohm	IEC 60093

Compliance Properties	Metric	English	Comments
FDA	Yes	Yes	

Descriptive Properties	Value	Comments
Color	Black	

## Contact Songhan Plastic Technology Co.,Ltd.

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