

## Lubrizol Estane® ZHF 95AT3 Thermoplastic Polyurethane, Flame Retardant

Category : Polymer , Thermoplastic , Polyurethane, TP , Thermoplastic Polyurethane (TPUR), Polyether Grade

### Material Notes:

Type: Estane® ZHF 95AT3 TPU is a zero halogen flame retardant polyether based thermoplastic polyurethane compound.Features:

Outstanding flame retardant properties, especially suited for tray cables.Uses: Cable jacket and hose and tube and injection molding and fabric coating Available in Americas, Europe, Middle East, Africa, India and Asia Information Provided by The Lubrizol Corporation

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Lubrizol-Estane-ZHF-95AT3-Thermoplastic-Polyurethane-Flame-Retardant.php](http://www.lookpolymers.com/polymer_Lubrizol-Estane-ZHF-95AT3-Thermoplastic-Polyurethane-Flame-Retardant.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.24 g/cc	1.24 g/cc	ASTM D792
Maximum Moisture Content	0.020	0.020	

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	95	95	ASTM D2240
	@Time 5.00 sec	@Time 0.00139 hour	
Tensile Strength	10.3 MPa	1500 psi	Air Oven
	@Temperature 121 °C, Time 605000 sec	@Temperature 250 °F, Time 168 hour	
	11.7 MPa	1700 psi	Air Oven
	@Temperature 113 °C, Time 605000 sec	@Temperature 235 °F, Time 168 hour	
	13.8 MPa	2000 psi	IRM 902 Oil
	@Temperature 100 °C, Time 605000 sec	@Temperature 212 °F, Time 168 hour	
Tensile Strength, Ultimate	13.8 MPa	2000 psi	ASTM D412
Elongation at Break	360 %	360 %	ASTM D412
	270 %	270 %	
	@Temperature 121 °C, Time 605000 sec	@Temperature 250 °F, Time 168 hour	Air Oven
	288 %	288 %	
	@Temperature 100 °C, Time 605000 sec	@Temperature 212 °F, Time 168 hour	IRM 902 Oil
	324 %	324 %	
	@Temperature 113 °C, Time 605000 sec	@Temperature 235 °F, Time 168 hour	Air Oven

Mechanical Properties	Metric	English	Comments
300% Modulus	0.0124 GPa	1.80 ksi	ASTM D412
Tear Strength	15.8 kN/m	90.0 pli	Trouser; ASTM D470
Graves Tear Strength	59.6 kN/m	340 pli	Die C; ASTM D624
Taber Abrasion, mg/1000 Cycles	300 @Load 1.00 kg	300 @Load 2.20 lb	H-18 wheel; ASTM D3389

Thermal Properties	Metric	English	Comments
Melting Point	175 °C	347 °F	DSC
Glass Transition Temp, Tg	-30.0 °C	-22.0 °F	DSC
Flammability, UL94	V-0 @Thickness 0.762 mm	V-0 @Thickness 0.0300 in	Vertical Flame Test; ASTM D3801
Oxygen Index	38 %	38 %	ASTM D2863

Electrical Properties	Metric	English	Comments
Volume Resistivity	5.60e+12 ohm-cm	5.60e+12 ohm-cm	ASTM D257
Surface Resistivity per Square	5.60e+14 ohm	5.60e+14 ohm	ASTM D257
Dielectric Constant	4.5 @Frequency 1000 Hz	4.5 @Frequency 1000 Hz	ASTM D2520
	5.7 @Frequency 1.00e+6 Hz	5.7 @Frequency 1.00e+6 Hz	ASTM D2520
Dissipation Factor	0.040 @Frequency 1000 Hz	0.040 @Frequency 1000 Hz	ASTM D2520
	0.050 @Frequency 1.00e+6 Hz	0.050 @Frequency 1.00e+6 Hz	ASTM D2520

Processing Properties	Metric	English	Comments
Zone 1	160 °C	320 °F	Extrusion
Zone 2	165 °C	329 °F	Extrusion
Zone 3	170 °C	338 °F	Extrusion

Processing Properties	Metric	English	Comments
Adapter Temperature	180 °C	356 °F	5, Extrusion
Die Temperature	180 °C	356 °F	6, Zone 1, Extrusion
	180 °C	356 °F	Zone 2, Extrusion
Drying Temperature	82.0 °C	180 °F	
Dry Time	2.00 - 4.00 hour	2.00 - 4.00 hour	
Dew Point	-40.0 °C	-40.0 °F	

## Contact Songhan Plastic Technology Co.,Ltd.

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