

**Technical Data Sheet**

**Type:** ESTANE® ZHF 90AM9 NAT 01 is a non-halogen, flame retardant, aromatic polyether-based thermoplastic polyurethane.

**Features:** Zero Halogen, Flame Retardant compound with Very High Mechanical Properties

**Application:** Extrusion

Physical Properties	Value (Metric)	Unit	Test Method
Hardness	A/1: 90	Shore A	ISO 868
Specific Gravity	1.28	g/cm <sup>3</sup>	ISO 1183
Tensile Strength	35	MPa	ISO 527-200
Ultimate Elongation	460	%	ISO 527-200
Tensile Stress at:			
- 100% Elongation	10	MPa	ISO 527-200
- 300% Elongation	15	MPa	ISO 527-200
Abrasion Loss	82	mm <sup>3</sup>	ISO 4649-A
Tear Strength nicked	70	kN/m	ISO 34-1B

- Based on extruded strips
- Prior to testing samples were conditioned at 23°C for 7 days
- Listed values are "typical (average) values" and should/cannot be applied for specification purposes.

Application Specific Properties	Value (Metric)	Unit	Test Method
UL Flame Rating	V0 – 2 mm	-	UL-94
LOI	27,5	%	ASTM D-2863
UL Temperature rating	105	°C	UL-1581
Smoke Density (0.75 mm)	TBD	Flaming DM Non flaming DM	ASTM E662

**Material Preparation**

- Prior to processing, **ESTANE® ZHF 90AM9 NAT 01** must be dried at 100°C for 4 hours.
- It is recommended to dry the material in a vacuum or dehumidifying type dryer. Target dew point should be -40°C.
- Depending on the applied processing technique, the maximum moisture level should be 0.02%.

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**ESTANE® ZHF 90AM9 NAT 01** can be processed on any conventional extruder:

**Recommended EXTRUSION Temperature Profile:**

	°C
<b>Zone 1</b>	<b>165-175</b>
<b>Zone 2</b>	<b>165-175</b>
<b>Zone 3</b>	<b>170-180</b>
<b>Zone 4</b>	<b>175-185</b>
<b>Adapter (5)</b>	<b>175-185</b>
<b>Die Zone 1 (6)</b>	<b>175-185</b>
<b>Die Zone 2</b>	<b>175-185</b>
<b>Target Melt Temperature</b>	<b>160-170</b>
<b>Target RPM</b>	<b>20-40</b>

In case of need, please contact our Technical Service Department.

**Storage**

**ESTANE® ZHF 90AM9 NAT 01** must be stored in a cool (15-25°C) and dry place. Standard Practice of consuming resin first-in first-out basis should be employed. Contact your account manager for specific information related to shelf life.

**For further information refer to Lubrizol Advanced Materials processing guides.**

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