

## Technical Data Sheet

**Type:** ESTANE® ZHF 92AM9 is an 92A aromatic Thermoplastic Polyurethane (TPU)

**Features:** Zero halogen, flame retardant compound with high flame-retardant properties

**Uses:** Extrusion – wire and cable jacketing and general extrusion where balance of flexibility and high flame-retardant properties are required.

Physical Properties	Value (Metric)	Unit	Test Method
Hardness (5 sec)	92+/- 3	Shore A	ASTM D-2240
Specific Gravity	1.24		ASTM D-792
Tensile Strength	2800 (19.3)	psi (MPa)	ASTM D-412
Ultimate Elongation	450	%	"
Tensile Stress at			
- 100 % Elongation	1400 (9.7)	psi (MPa)	ASTM D-412
- 300 % Elongation	1900 (13.1)	psi (MPa)	"
Tear Strength			
Graves	380 (6.9)	lb/in (kg/mm)	ASTM D-624 (die C)
Trouser	114 (2.07)	lb/in (kg/mm)	ASTM D-470
Taber Loss (1000 rev)	0.0054 (153)	oz (mg)	ASTM D-3389 (H-18, 1000g)
Tm (by DMA)	190	°F (°C)	Lubrizol Advanced Materials
Tg (by DMA)	-42	°F (°C)	Lubrizol Advanced Materials

- Prior to testing samples were conditioned at 23°C for 48 hours.
- Based on extruded sheet (30 mils).
- Listed values are "typical (average) values" and should / cannot be applied for specification purposes.

## Supply Form and Standard Packaging

- ESTANE® ZHF 92AM9 is supplied in pellet form and packaged in 50 lb bags or 1000 lb boxes. Material

## Preparation

- Prior to processing, ESTANE® ZHF 92AM9 must be dried at 220°F (104°C) for 2-4 hours.
- It is recommended to dry the material in a desiccant type dryer. Target dew point should be -40°C.
- Depending on the applied processing technique, the maximum moisture level should be 0.02%.

## Processing Conditions

- ESTANE® ZHF 92AM9 can be processed on any conventional extruder.

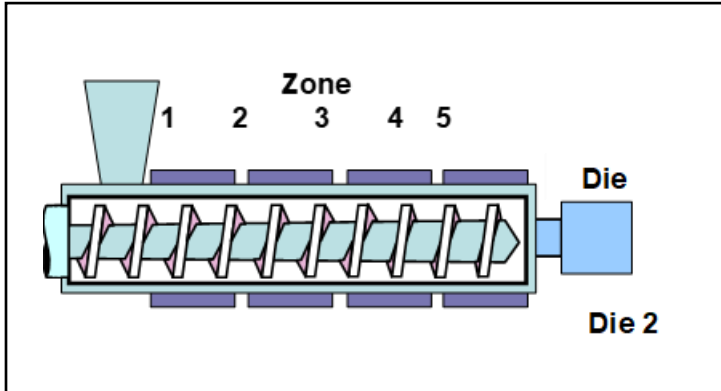
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**Recommended Starting Extrusion Temperature Profile:**



	°F/°C
<b>Zone 1</b>	<b>345-355/174-179</b>
<b>Zone 2</b>	<b>355-375/179-190</b>
<b>Zone 3</b>	<b>365-385 /185-195</b>
<b>Zone 4</b>	<b>365-385 /185-195</b>
<b>Adapter (5)</b>	<b>370 /188</b>
<b>Die Zone 1 (6)</b>	<b>370 /188</b>
<b>Die Zone 2</b>	<b>370 /188</b>

Melt Temp: 370 °F /188°C  
Screen Pack Recommendation: 20/40/20

**Application Information: zero halogen flame retardant TPU for high fire performance cable jacket**

Application Properties	Value	Unit	Test Method
Limiting Oxygen Index	32	N/A	ASTM D2863
UL flame rating 75 (1.9 mm)	V-0	N/A	UL-94
Air Oven, 7 days, 121°C			
Strength Retention	TBD	%	
Elongation Retention	TBD	%	

For further information refer to Lubrizol Advanced Materials processing guides.

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