

Technical Data Sheet

Type: ESTANE® ZHF 90AT2 NAT 055 is a non-halogen, flame retardant, aromatic polyether-based thermoplastic polyurethane.

Application: Extrusion

Physical Properties	Value (Metric)	Unit	Test Method
Hardness	A/1: 91	Shore A	ISO 868
Specific Gravity	1.21	g/cm ³	ISO 1183
Tensile Strength	22	MPa	ISO 527-200
Ultimate Elongation	500	%	ISO 527-200
Tensile Stress at:			
- 100 % Elongation	9	MPa	ISO 527-200
- 300 % Elongation	12	MPa	ISO 527-200
Abrasion Loss	45	mm ³	ISO 4649-A
Tear Strength nicked	72	kN/m	ISO 34-1B

- Based on extruded strips
- Prior to testing samples were conditioned at 23°C for 48 hours
- 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	V2-2.0 mm	-	UL-94
LOI	23	%	ASTM D-2863
UL Temperature rating	90	°C	UL-1581
Smoke Density (0.75 mm)	DS@4: 53 DS@4: 101	Flaming DM Non flaming DM	ASTM E662

Material Preparation

- Prior to processing, **ESTANE® ZHF 90AT2 NAT 055** 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 90AT2 NAT 055 can be processed on any conventional extruder:

Recommended EXTRUSION Temperature Profile:

	°C
Zone 1	160-170
Zone 2	165-175
Zone 3	170-180
Zone 4	175-185
Adapter (5)	180-190
Die Zone 1 (6)	180-190
Die Zone 2	180-190
Target Melt Temperature	165-175
Target RPM	20-40

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

Storage

ESTANE® ZHF 90AT2 NAT 055 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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