

Eastman Neostar FN005 Elastomer

Category : Polymer , Thermoplastic , Elastomer, TPE , Polyester TPE , Polyester, TP

Material Notes:

Neostar FN005 elastomer is a tough, clear, durable copolyester ether. It was designed for use in the profile and automotive markets, but is also used in packaging and tubing applications where toughness and flex-crack resistance are required. Neostar FN005 can be used in injection molding and cast film or tubing extrusion applications or in any application that demands strength, durability, and puncture resistance in harsh environments. This copolyester combines toughness, clarity, and flexibility without the addition of plasticizers. Neostar FN005 is considered environmentally preferred because of its non-halogenated material composition. The target inherent viscosity of this product is 1.05. Applications/Uses Automotive Flexible hinges Pricing channels Retail pricing fins Driver and passenger side air bags Packaging Profiles Tubing Key Attributes Environmentally preferred, non-halogenated material Excellent chemical resistance Exceptional heat resistance and high temperature dimensional stability High flexibility without plasticizers Solvent bondable

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http://www.lookpolymers.com/polymer_Eastman-Neostar-FN005-Elastomer.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.13 g/cc	1.13 g/cc	ASTM D792
Water Absorption	0.35 %	0.35 %	24h Immersion; ASTM D570
Viscosity Measurement	1.05	1.05	Inherent; EMN-A-AC-G-V-1
Melt Flow	20 g/10 min @Load 2.16 kg, Temperature 230 °C	20 g/10 min @Load 4.76 lb, Temperature 446 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	95	95	ASTM D2240
Hardness, Shore D	55	55	ASTM D2240
Tensile Strength at Break	20.0 MPa	2900 psi	ASTM D638
Tensile Strength, Yield	14.0 MPa	2030 psi	ASTM D638
Elongation at Break	300 %	300 %	ASTM D638
Elongation at Yield	30 %	30 %	ASTM D638
Tensile Modulus	0.170 GPa	24.7 ksi	ASTM D638
Flexural Modulus	0.150 GPa	21.8 ksi	ASTM D790
Izod Impact, Notched	0.500 J/cm @Temperature -40.0 °C	0.937 ft-lb/in @Temperature -40.0 °F	ASTM D256

Tear Strength, Total Mechanical Properties	370 N Metric	83.2 lb (f) English	ASTM D1004 Comments
Thermal Properties	Metric	English	Comments
Heat of Fusion	27.0 J/g	11.6 BTU/lb	ASTM E793
CTE, linear	150 µm/m-°C	83.3 µin/in-°F	ASTM D696
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Specific Heat Capacity	1.60 J/g-°C	0.382 BTU/lb-°F	DSC
	1.80 J/g-°C	0.430 BTU/lb-°F	DSC
	@Temperature 100 °C	@Temperature 212 °F	
	2.00 J/g-°C	0.478 BTU/lb-°F	DSC
	@Temperature 150 °C	@Temperature 302 °F	
	2.30 J/g-°C	0.550 BTU/lb-°F	solid; DSC
	@Temperature 175 °C	@Temperature 347 °F	
	2.30 J/g-°C	0.550 BTU/lb-°F	melt; DSC
	@Temperature 225 °C	@Temperature 437 °F	
	3.10 J/g-°C	0.741 BTU/lb-°F	transition; DSC
	@Temperature 200 °C	@Temperature 392 °F	
Thermal Conductivity	0.190 W/m-K	1.32 BTU-in/hr-ft ² -°F	ASTM C177
Melting Point	207 °C	405 °F	Crystalline Peak Melting Point; ASTM D3418
Crystallization Temperature	140 °C	284 °F	on cooling; DSC
Vicat Softening Point	170 °C	338 °F	1kg load; ASTM D1525
Brittleness Temperature	<= -75.0 °C	<= -103 °F	ASTM D746
Glass Transition Temp, Tg	-3.00 °C	26.6 °F	DSC
Clash Berg Stiffness Temperature	<= -70.0 °C	<= -94.0 °F	at 930 MPa; ASTM D1043
	-28.0 °C	-18.4 °F	at 240 MPa; ASTM D1043

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