

## Eastman Neostar FN007 Elastomer

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

### Material Notes:

Neostar FN007 elastomer is the third in Eastman's series of tough, clear, durable copolyester ethers. Though originally designed for use in the profile and automotive markets, this innovative copolymer has also found use in tubing and packaging applications. Its excellent chemical, heat, and puncture resistance combined with its strength and durability make it a good choice for applications that require flex-crack resistance and a general utility in harsh environments. Neostar FN007 can be injection molded, extruded in blown film or tubing, or extrusion blow molded. The target inherent viscosity of this product is 1.23. 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

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Eastman-Neostar-FN007-Elastomer.php](http://www.lookpolymers.com/polymer_Eastman-Neostar-FN007-Elastomer.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.13 g/cc	1.13 g/cc	ASTM D792
Water Absorption	0.40 %	0.40 %	24h Immersion; ASTM D570
Viscosity Measurement	1.23	1.23	Inherent; EMN-A-AC-G-V-1
Melt Flow	4.0 g/10 min @Load 2.16 kg, Temperature 230 °C	4.0 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	23.0 MPa	3340 psi	ASTM D638
Tensile Strength, Yield	13.0 MPa	1890 psi	ASTM D638
Elongation at Break	400 %	400 %	ASTM D638
Elongation at Yield	38 %	38 %	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	0.400 J/cm @Temperature -40.0 °C	0.749 ft-lb/in @Temperature -40.0 °F	ASTM D256

Tear Strength, Total Mechanical Properties	350 N Metric	78.7 lb (f) English	ASTM D1004 Comments
<b>Thermal Properties</b>	<b>Metric</b>	<b>English</b>	<b>Comments</b>
Heat of Fusion	27.0 J/g	11.6 BTU/lb	ASTM E793
CTE, linear	150 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	83.3 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ASTM D696
	@Temperature 20.0 $^{\circ}\text{C}$	@Temperature 68.0 $^{\circ}\text{F}$	
Specific Heat Capacity	1.60 J/g- $^{\circ}\text{C}$	0.382 BTU/lb- $^{\circ}\text{F}$	DSC
	1.80 J/g- $^{\circ}\text{C}$	0.430 BTU/lb- $^{\circ}\text{F}$	DSC
	@Temperature 100 $^{\circ}\text{C}$	@Temperature 212 $^{\circ}\text{F}$	
	2.00 J/g- $^{\circ}\text{C}$	0.478 BTU/lb- $^{\circ}\text{F}$	DSC
	@Temperature 150 $^{\circ}\text{C}$	@Temperature 302 $^{\circ}\text{F}$	
	2.30 J/g- $^{\circ}\text{C}$	0.550 BTU/lb- $^{\circ}\text{F}$	solid; DSC
	@Temperature 175 $^{\circ}\text{C}$	@Temperature 347 $^{\circ}\text{F}$	
	2.30 J/g- $^{\circ}\text{C}$	0.550 BTU/lb- $^{\circ}\text{F}$	melt; DSC
	@Temperature 225 $^{\circ}\text{C}$	@Temperature 437 $^{\circ}\text{F}$	
	3.10 J/g- $^{\circ}\text{C}$	0.741 BTU/lb- $^{\circ}\text{F}$	transition; DSC
	@Temperature 200 $^{\circ}\text{C}$	@Temperature 392 $^{\circ}\text{F}$	
Thermal Conductivity	0.190 W/m-K	1.32 BTU-in/hr-ft <sup>2</sup> - $^{\circ}\text{F}$	ASTM C177
Melting Point	205 $^{\circ}\text{C}$	401 $^{\circ}\text{F}$	Crystalline Peak Melting Point; ASTM D3418
Crystallization Temperature	140 $^{\circ}\text{C}$	284 $^{\circ}\text{F}$	on cooling; DSC
Vicat Softening Point	170 $^{\circ}\text{C}$	338 $^{\circ}\text{F}$	1kg load; ASTM D1525
Brittleness Temperature	$\leq -75.0\text{ }^{\circ}\text{C}$	$\leq -103\text{ }^{\circ}\text{F}$	ASTM D746
Glass Transition Temp, Tg	-3.00 $^{\circ}\text{C}$	26.6 $^{\circ}\text{F}$	DSC
Clash Berg Stiffness Temperature	$\leq -70.0\text{ }^{\circ}\text{C}$	$\leq -94.0\text{ }^{\circ}\text{F}$	at 930 MPa; ASTM D1043
	-28.0 $^{\circ}\text{C}$	-18.4 $^{\circ}\text{F}$	at 240 MPa; ASTM D1043

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