

Eastman Drystar 0601 Copolyester, Injection Molded

Category : Polymer , Thermoplastic , Polyester, TP

Material Notes:

This product-line is designed to meet the needs of converters seeking value-added solutions to their drying requirements of copolyesters. Eastman's copolyesters are highly valued for their excellent balance of properties such as superior aesthetics, impact strength, and chemical resistance. These properties can be optimally realized when the resins are properly dehydrated in accordance to recommended drying conditions and equipment. Recognizing this value, Eastman conceived DRYSTAR copolyesters to allow converters with limited access to desiccant dryers to achieve these optimizations. In addition, some converters with desiccant dryers may still find DRYSTAR copolyesters value-adding to attain production flexibility and cost saving by removing the drying process prior to injection molding, profile extruding, or extrusion blow molding copolyesters. The initial launch comprises of the commercialization of four grades of DRYSTAR copolyesters and Eastman has on-going program to extend this strategic product-line in the future.*DRYSTAR is only available in the Asia Pacific Region. Applications/Uses Injection molding

Order this product through the following link:

http://www.lookpolymers.com/polymer_Eastman-Drystar-0601-Copolyester-Injection-Molded.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.27 g/cc	1.27 g/cc	ASTM D792
Density	1.27 g/cc	0.0459 lb/in ³	ISO 1183
Water Absorption	0.13 %	0.13 %	24h Immersion; ISO 62
	0.13 %	0.13 %	24h Immersion; ASTM D570

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	106	106	ASTM D785
	109	109	ISO 2039-2
Tensile Strength at Break	28.0 MPa	4060 psi	ISO 527
	28.0 MPa	4060 psi	ASTM D638
Tensile Strength, Yield	50.0 MPa	7250 psi	ASTM D638
	50.0 MPa	7250 psi	ISO 527
Elongation at Break	100 %	100 %	ISO 527
	130 %	130 %	ASTM D638
Tensile Modulus	2.10 GPa	305 ksi	ASTM D638
	2.10 GPa	305 ksi	ISO 527
Flexural Yield Strength	68.0 MPa	9860 psi	ISO 178

Mechanical Properties	Metric 10.0 MPa	English 1000 psi	Comments ASTM D790
Flexural Modulus	2.00 GPa	290 ksi	ISO 178
	2.10 GPa	305 ksi	ASTM D790
Izod Impact, Notched	0.370 J/cm	0.693 ft-lb/in	ASTM D256
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Izod Impact, Notched	1.01 J/cm	1.89 ft-lb/in	ASTM D256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched	NB	NB	ASTM D4812
	NB	NB	ASTM D4812
Izod Impact, Notched (ISO)	4.20 kJ/m ²	2.00 ft-lb/in ²	ISO 180
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Izod Impact, Notched (ISO)	6.20 kJ/m ²	2.95 ft-lb/in ²	ISO 180
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched (ISO)	NB	NB	ISO 180
	NB	NB	ISO 180
Puncture Energy	28.0 J	20.7 ft-lb	max load; ASTM D3763
	@Thickness 2.50 mm, Temperature 23.0 °C	@Thickness 0.0984 in, Temperature 73.4 °F	
Puncture Energy	33.0 J	24.3 ft-lb	max load; ASTM D3763
	@Thickness 3.20 mm, Temperature 23.0 °C	@Thickness 0.126 in, Temperature 73.4 °F	
Puncture Energy	35.0 J	25.8 ft-lb	max load; ISO 6603-2
	@Thickness 2.50 mm, Temperature -40.0 °C	@Thickness 0.0984 in, Temperature -40.0 °F	
Puncture Energy	36.0 J	26.6 ft-lb	max load; ISO 6603-2
	@Thickness 3.20 mm, Temperature -40.0 °C	@Thickness 0.126 in, Temperature -40.0 °F	
Puncture Energy	40.0 J	29.5 ft-lb	max load; ISO 6603-2
	@Thickness 2.50 mm, Temperature 23.0 °C	@Thickness 0.0984 in, Temperature 73.4 °F	
Puncture Energy	41.0 J	30.2 ft-lb	

Mechanical Properties	Metric	English	Comments
	@Thickness 2.50 mm, Temperature -40.0 °C	@Thickness 0.0984 in, Temperature -40.0 °F	max load; ASTM D3763
	44.0 J	32.5 ft-lb	
	@Thickness 3.20 mm, Temperature 23.0 °C	@Thickness 0.126 in, Temperature 73.4 °F	max load; ISO 6603-2
	50.0 J	36.9 ft-lb	
	@Thickness 3.20 mm, Temperature -40.0 °C	@Thickness 0.126 in, Temperature -40.0 °F	max load; ASTM D3763

Thermal Properties	Metric	English	Comments
CTE, linear	51.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ @Temperature 20.0 °C	28.3 $\mu\text{in}/\text{in}\cdot\text{°F}$ @Temperature 68.0 °F	ASTM D696
Specific Heat Capacity	1.30 J/g-°C @Temperature 60.0 °C	0.311 BTU/lb-°F @Temperature 140 °F	DSC
	1.76 J/g-°C @Temperature 100 °C	0.421 BTU/lb-°F @Temperature 212 °F	DSC
	1.88 J/g-°C @Temperature 150 °C	0.449 BTU/lb-°F @Temperature 302 °F	DSC
	2.05 J/g-°C @Temperature 250 °C	0.490 BTU/lb-°F @Temperature 482 °F	DSC
Thermal Conductivity	0.210 W/m-K	1.46 BTU-in/hr-ft ² -°F	ASTM C177
Deflection Temperature at 0.46 MPa (66 psi)	70.0 °C	158 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	64.0 °C	147 °F	ASTM D648
Vicat Softening Point	85.0 °C	185 °F	ASTM D1525
Glass Transition Temp, Tg	80.0 °C	176 °F	DSC

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	ASTM D257
Surface Resistivity per Square	1.00e+16 ohm	1.00e+16 ohm	ASTM D257
Dielectric Constant	2.4 @Frequency 1e+6 Hz	2.4 @Frequency 1e+6 Hz	ASTM D150
	2.6	2.6	

Electrical Properties	Metric	English	ASTM D150 Comments
Dielectric Strength	16.0 kV/mm	406 kV/in	Short Time, 500V/sec; ASTM D149
Dissipation Factor	0.0050	0.0050	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	0.020	0.020	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Arc Resistance	158 sec	158 sec	ASTM D495

Processing Properties	Metric	English	Comments
Melt Temperature	250 - 270 °C	482 - 518 °F	
Mold Temperature	15.0 - 40.0 °C	59.0 - 104 °F	
Drying Temperature	70.0 °C	158 °F	
Dry Time	6 hour	6 hour	

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