

Eastman Drystar 0113 Copolyester

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-0113-Copolyester.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
Linear Mold Shrinkage	0.0020 - 0.0050 cm/cm	0.0020 - 0.0050 in/in	ASTM D955
	@Thickness 3.20 mm	@Thickness 0.126 in	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	106	106	ASTM D785
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	60 %	60 %	ISO 527
	110 %	110 %	ASTM D638
Elongation at Yield	4.2 %	4.2 %	ISO 527
	4.3 %	4.3 %	ASTM D638

Mechanical Properties	Metric Pa	English	Comments
	70.0 MPa	10200 psi	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	
	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
	@Temperature -40.0 °C	@Temperature -40.0 °F	
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	
	6.20 kJ/m ²	2.95 ft-lb/in ²	ISO 180
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Puncture Energy	12.0 J	8.85 ft-lb	Puncture Resistance @ max load, 23°C; ISO 6603-2
	13.0 J	9.59 ft-lb	Puncture Resistance at Max Load; ISO 6603-2
	@Temperature -40.0 °C	@Temperature -40.0 °F	

Thermal Properties	Metric	English	Comments
Specific Heat Capacity	1.30 J/g-°C	0.311 BTU/lb-°F	
	@Temperature 60.0 °C	@Temperature 140 °F	
	2.00 J/g-°C	0.478 BTU/lb-°F	
	@Temperature 240 °C	@Temperature 464 °F	
Thermal Conductivity	0.190 W/m-K	1.32 BTU-in/hr-ft ² -°F	
Deflection Temperature at 0.46 MPa (66 psi)	70.0 °C	158 °F	ISO 75
	70.0 °C	158 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	64.0 °C	147 °F	ISO 75
	64.0 °C	147 °F	ASTM D648

Thermal Properties	Metric	English	Comments
	85.0 °C	185 °F	1kg load; ISO 306
	85.0 °C	185 °F	1kg load; ASTM D1525

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	2.4	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Constant	2.6	2.6	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dielectric Strength	16.1 kV/mm	409 kV/in	Short Time, 500V/sec; ASTM D149
Dissipation Factor	0.0050	0.0050	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dissipation Factor	0.017	0.017	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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