Eastar™ DN003, Natural

Copolyester

Eastman Chemical Company

Message:

Eastar™ Copolyester DN003 has been tested for FDA/ISO 10993 and USP Class VI Biological Evaluation testing after Gamma and EtO sterilization. Eastar™ Copolyesters are brilliantly clear polymers that have excellent impact strength, chemical resistance, dimensional stability, and low shrinkage rates. DN003 contains a mold release.
This product has been GREENGUARD INDOOR AIR QUALITY CERTIFIED®.
The GREENGUARD INDOOR AIR QUALITY CERTIFIED® Mark is a registered certification mark used under license through the GREENGUARD Environmental Institute (GEI). GEI is an industry-independent, non-profit organization that oversees the GREENGUARD Certification Program. The GREENGUARD Certification Program is an industry independent, third-party testing program for low-emitting products and materials for indoor environments. For more information about GEI and to obtain printable certificates for Eastman™ Copolyesters, visit www.greenguard.org. Choose Eastman Chemical Company under the Manufacturer category and click search to display a list of our products.

General Information	
Additive	Mold Release
Features	Barrier Resin E-beam Sterilizable Good Chemical Resistance Good Colorability Good Dimensional Stability Good Impact Resistance Good Mold Release Good Stiffness Good Toughness High Clarity High Gloss Low Shrinkage Radiation Sterilizable
Uses	Eyeglasses Medical/Healthcare Applications Packaging
Agency Ratings	ISO 10993 USP Class VI
Appearance	Natural Color
Forms	Pellets
Processing Method	Extrusion Injection Molding

Physical	Nominal Value	Unit	Test Method

Specific Gravity			
--	1.23	g/cm³	ASTM D792
23°C	1.23	g/cm³	ISO 1183
Molding Shrinkage - Flow (3.20 mm)	0.20 to 0.50	%	ASTM D955
Water Absorption (23°C, 24 hr)	0.13	%	ASTM D570, ISO 62
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (R-Scale, 23°C)	105		ASTM D785
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength			
Yield, 23°C	45.0	MPa	ASTM D638
Yield, 23°C, 4.00 mm	46.0	MPa	ISO 527-2
Break, 23°C	52.0	MPa	ASTM D638
Break, 23°C, 4.00 mm	47.0	MPa	ISO 527-2
Tensile Elongation			
Yield, 23°C	5.0	%	ASTM D638
Yield, 23°C, 4.00 mm	4.4	%	ISO 527-2
Break, 23°C	330	%	ASTM D638
Break, 23°C, 4.00 mm	230	%	ISO 527-2
Flexural Modulus			
23°C	1800	MPa	ASTM D790
23°C, 4.00 mm	1800	MPa	ISO 178
Flexural Stress			
23°C, 4.00 mm	63.0	MPa	ISO 178
Yield, 23°C	66.0	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact			
-40°C	64	J/m	ASTM D256
23°C	No Break		ASTM D256
-40°C	7.4	kJ/m²	ISO 180
23°C	130	kJ/m²	ISO 180
Unnotched Izod Impact			ASTM D4218
-40°C	No Break		
23°C	No Break		
Multi-Axial Instrumented Impact Energy			ISO 6603-2
-40°C, Energy to Peak Force	16.0	J	
23°C, Energy to Peak Force	14.0	J	
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			
0.45 MPa, Unannealed	74.0	°C	ASTM D648, ISO 75-2/B
1.8 MPa, Unannealed	64.0	°C	ASTM D648
1.8 MPa, Unannealed	65.0	°C	ISO 75-2/A
Vicat Softening Temperature			

--	88.0	°C	ASTM D1525, ISO 306/A 2 [1]
--	79.0	°C	ISO 306/B
Specific Heat			DSC
60°C	1340	J/kg/°C	
240°C	2050	J/kg/°C	
Thermal Conductivity (23°C)	0.19	W/m/K	

Flammability	Nominal Value	Test Method
Flame Rating		UL 94
1.60 mm	HB	
3.20 mm	HB	

Injection	Nominal Value	Unit
Drying Temperature	71.0	°C
Drying Time	6.0	hr
Processing (Melt) Temp	250 to 270	°C
Mold Temperature	15.0 to 40.0	°C

NOTE	
1.	Loading 1 (10 N)

Recommended distributors for this material

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