

Eastar™ DN001, Natural

Copolyester
Eastman Chemical Company

Message:

Eastar™ copolyesters are brilliantly clear polymers that have excellent impact strength, chemical resistance, dimensional stability, and low shrinkage rates. DN001 is a base material without mold release or ultra-violet inhibitors(UVI). 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			
UL YellowCard	E118289-220132		
Features	Good Chemical Resistance		
	Good Dimensional Stability		
	Good Impact Resistance		
	High Clarity		
	Low Shrinkage		
Uses	Caps		
	Cosmetic Packaging		
	Eyeglass Frames		
	Eyeglasses		
Appearance	Natural Color		
Forms	Pellets		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.23	g/cm ³	ASTM D792
23°C	1.23	g/cm ³	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 Modulus (23°C)	1800	MPa	ASTM D638
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/m ²	ISO 180
23°C	130	kJ/m ²	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 3 1
--	79.0	°C	ISO 306/B
Specific Heat			
60°C	1340	J/kg/°C	
240°C	2050	J/kg/°C	
Thermal Conductivity (23°C)	0.19	W/m/K	
Electrical	Nominal Value	Unit	Test Method
Dielectric Strength (23°C)	16	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
23°C, 1 kHz	2.70		
23°C, 10 kHz	2.70		

23°C, 100 kHz	2.60		
23°C, 1 MHz	2.50		
Dissipation Factor			ASTM D150
23°C, 1 kHz	5.6E-3		
23°C, 10 kHz	0.012		
23°C, 100 kHz	0.016		
23°C, 1 MHz	0.018		
Arc Resistance	66.0	sec	ASTM D495
Flammability	Nominal Value	Unit	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)		

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