Eastar™ EN001

Copolyester

Eastman Chemical Company

Message:

Eastar™ EN001 Copolyester is a thermoplastic polyester copolymer. Eastar™ EN001 Copolyester has a relatively slow crystallization rate. This broadens the operating window for extrusion and forming processes and helps maintain good clarity when processing much thicker sheet. Eastar™ EN001 copolyester can also be used for injection molding applications. It is the preferred general-purpose crystallizable PET for thermoforming.
This product has been GREENGUARD INDOOR AIR QUALITY CERTIFIED®.
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General Information	
Features	Copolymer
	Food Contact Acceptable
	Medium Clarity
Uses	Food Packaging
	Household Goods
	Sporting Goods
	Toys
	Writing Instruments
Agency Ratings	FDA 21 CFR 177.1315
Forms	Pellets
Processing Method	Extrusion
	Injection Molding
	Sheet Extrusion
	Thermoforming

Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.33	g/cm³	ASTM D792
23°C	1.33	g/cm³	ISO 1183/D
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness			
R-Scale, 23°C	112		ASTM D785
R-Scale, 23°C	114		ISO 2039-2
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus (23°C)	2400	MPa	ASTM D638, ISO 527-2
Tensile Strength			

Yield, 23°C	58.0	MPa	ASTM D638
Yield, 23°C	57.0	MPa	ISO 527-2
Break, 23°C	25.0	MPa	ASTM D638, ISO 527-2
Tensile Elongation (Break, 23°C)	120	%	ASTM D638, ISO 527-2
Flexural Modulus			
23°C	2500	MPa	ASTM D790
23°C	2300	MPa	ISO 178
Flexural Stress			
23°C	77.0	MPa	ISO 178
Yield, 23°C	84.0	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact			
-40°C	27	J/m	ASTM D256
23°C	40	J/m	ASTM D256
-40°C	3.1	kJ/m^2	ISO 180/1A
23°C	4.5	kJ/m^2	ISO 180/1A
Unnotched Izod Impact			
-40°C	No Break		ASTM D4218
-30°C	No Break		ASTM D4218
-20°C	No Break		ASTM D4218, ISO 180/1U
23°C	No Break		ASTM D4218, ISO 180/1U
-40°C	170	kJ/m^2	ISO 180/1U
-30°C [1]	190	kJ/m^2	ISO 180/1U
Instrumented Dart Impact			
-40°C, 2.50 mm, Energy at Peak Load	1.60	J	ASTM D3763
-40°C, 3.20 mm, Energy at Peak Load	2.10	J	ASTM D3763
23°C, 2.50 mm, Energy at Peak Load	26.0	J	ASTM D3763
23°C, 3.20 mm, Energy at Peak Load	31.0	J	ASTM D3763
-40°C, 2.50 mm, Energy to Peak Force	0.800	J	ISO 6603-2
-40°C, 3.20 mm, Energy to Peak Force	1.00	J	ISO 6603-2
23°C, 2.50 mm, Energy to Peak Force	15.0	J	ISO 6603-2
23°C, 3.20 mm, Energy to Peak Force	18.0	J	ISO 6603-2
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			
0.45 MPa, Unannealed	69.0	°C	ASTM D648, ISO 75-2/B
1.8 MPa, Unannealed	65.0	°C	ASTM D648, ISO 75-2/A
Optical	**Nominal Value**	**Unit**	**Test Method**
Transmittance (Total)	84.0	%	ASTM D1003
Haze	1.0	%	ASTM D1003
NOTE			
1.	90%C, 10%NB		

Recommended distributors for this material

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