EASTMAN

Technical Data Sheet
Eastar™ Copolyester EN001

Applications

- Automotive
- Compounders
- Consumer housewares-nfc
- Process additives
- Skin care packaging
- Sporting equipment

Product Description

Eastar™ EN001 Copolyester is a thermoplastic polyester copolymer and is suitable for food packaging applications. 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.

Eastar™ EN001 copolyester is regulated for use in food packaging applications in accordance with US FDA Regulation 21 CFR 177.1315. It is lawful for use under US Department of Agriculture Food Safety Inspection Service regulations as a packaging material for meat or poultry food products prepared under federal inspection.

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 . Choose Eastman Chemical Company under the Manufacturer category and click search to display a list of our products.

Typical Properties

Property[a]	Test Method[b]	Typical Value, Units[c]
General Properties (ASTM Method)		
Specific Gravity	D 792	1.33
General Properties (ISO Method)		
Density	ISO 1183, Method D	1.33 g/cm^3
Mechanical Properties (ASTM Method)		
Tensile Stress @ Yield	D 638	58 MPa (8400 psi)
Tensile Stress @ Break	D 638	25 MPa (3600 psi)
Elongation @ Break	D 638	120 %
Tensile Modulus	D 638	2400 MPa (3.5 x 10^5 psi)
Flexural Modulus	D 790	2500 MPa (3.6 x 10^5 psi)
Flexural Yield Strength	D 790	84 MPa (12200 psi)
Rockwell Hardness, R Scale	D 785	112
Izod Impact Strength, Notched		
@ 23°C (73°F)	D 256	40 J/m (0.75 ft·lbf/in.)
@ -40°C (-40°F)	D 256	27 J/m (0.51 ft·lbf/in.)
Impact Strength, Unnotched		
@ -20°C (-4°F)	D 4812	NB

@ 23°C (73°F)	D 4812	NB
@ -30°C (-22°F)	D 4812	NB
@ -40°C (-40°F)	D 4812	NB
Impact Resistance (Puncture), Energy @ Max. Load		
2.5-mm (0.100-in.) Thick Plaques, @ 23°C (73°F)	D 3763	26 J (19 ft·lbf)
2.5-mm (0.100-in.) Thick Plaques, @ -40°C (-40°F)	D 3763	1.6 J (1.2 ft·lbf)
3.2-mm (0.125-in.) Thick Plaques @ 23°C (73°F)	D 3763	31 J (23 ft·lbf)
3.2-mm (0.125-in.) Thick Plaques @ -40°C (-40°F)	D 3763	2.1 J (1.6 ft·lbf)
Mechanical Properties (ISO Method)		
Tensile Stress @ Yield	ISO 527	57 MPa
Tensile Stress @ Break	ISO 527	25 MPa
Elongation @ Break	ISO 527	120 %
Tensile Modulus	ISO 527	2400 MPa
Flexural Modulus	ISO 178	2300 MPa
Flexural Yield Strength	ISO 178	77 MPa
Rockwell Hardness, R Scale	ISO 2039-2	114
Izod Impact Strength, Notched, Type 1 Specimen, Type A Notch		
@ 23°C	ISO 180	4.5 kJ/m^2
@ -40°C	ISO 180	3.1 kJ/m^2
Impact Strength, Unnotched, Type 1 Specimen		
@ -20°C	ISO 180	NB
@ 23°C	ISO 180	NB
@ -30°C	ISO 180	190 (90%C 10%NB) kJ/m^2
@ -40°C	ISO 180	170 kJ/m^2
Impact Resistance (Puncture), Energy @ Max. Load		
2.5-mm Thick Plaques @ 23°C	ISO 6603-2	15 J
2.5-mm Thick Plaques @ -40°C	ISO 6603-2	0.8 J
3.2-mm Thick Plaques @ 23°C	ISO 6603-2	18 J
3.2-mm Thick Plaques @ -40°C	ISO 6603-2	1.0 J
Optical Properties (ASTM Method)		
Haze	D 1003	1.0 %
Total Transmittance	D 1003	84 %
Thermal Properties (ASTM Method)		
Deflection Temperature		
@ 0.455 MPa (66 psi)	D 648	69 °C (156 °F)
@ 1.82 MPa (264 psi)	D 648	65 °C (149 °F)
Thermal Properties (ISO Method)		
Deflection Temperature		
@ 0.45 MPa	ISO 75	69 °C
@ 1.80 MPa	ISO 75	65 °C

[a] *Unless noted otherwise, all tests are run at 23°C (73°F) and 50% relative humidity.*
[b] *Unless noted otherwise, the test method is ASTM.*
[c] *Units are in SI or US customary units.*

Comments

Properties reported here are typical of average lots. Eastman makes no representation that the material in any particular shipment will conform exactly to the values given.

Eastman and its marketing affiliates shall not be responsible for the use of this information, or of any product, method, or apparatus mentioned, and you must make your own determination of its suitability and completeness for your own use, for the protection of the environment, and for the health and safety of your employees and purchasers of your products. No warranty is made of the merchantability of fitness of any product, and nothing herein waives any of the Seller's conditions of sale.

10/25/2019 12:37:04 PM