Product Data Sheet

Eastar™ Copolyester A150

Application/Uses

- Blister packaging
- Food packaging
- Food-contact applications
- Meat packaging
- Poultry packaging

Product Description

Eastar™ A150 Copolyester is a poly(1,4-cyclohexylene-dimethylene terephthalate/isophthalate). It is produced by reacting terephthalic acid and isophthalic acid with the glycol 1,4-cyclohexanedimethanol. Eastar™ A150 is intended primarily for extrusion into film and sheeting for packaging applications. It has excellent hydrolytic stability and good heat stability. Eastar™ A150 copolyester is lawful for use in food contact applications under food additive regulations published at 21 CFR 177.1240 by the Federal Food and Drug Administration. Therefore, it is lawful for use as a packaging material for meat or poultry foods prepared under federal inspection of the U.S. Department of Agriculture regulations at 9 CFR 318.7 and 381.147.

This product has been GREENGUARD INDOOR AIR QUALITY CERTIFIED®.
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Typical Properties

Property[a]	Test[b] Method	Typical Value, Units[c]
Pellet Properties		
Inherent Viscosity	EMN-A-AC-G-V-1	0.77
Density	D 1505	1.2 g/cm^3
Bulk Density		
Poured	D 1895	670 kg/m^3 (42 lb/ft^3)
Vibrated	D 1895	730 kg/m^3 (46 lb/ft^3)
Crystalline Peak Melting Point (T_m) [d]	D 3418	261°C (502°F)

Glass Transition Temperature (T_g) [d]	D 3418	91°C (196°F)
Heat of Fusion [e]	E 793	32 kJ/kg (7.6 cal/g)
Specific Heat [e]		
@ 23°C (73°F)	DSC	1.2 kJ/kg·K (0.29 Btu/lb·°F)
@ 80°C (176°F)	DSC	1.4 kJ/kg·K (0.33 Btu/lb·°F)
@ 100°C (212°F)	DSC	1.7 kJ/kg·K (0.41 Btu/lb·°F)
@ 200°C (392°F)	DSC	1.9 kJ/kg·K (0.45 Btu/lb·°F)
@ 280°C (536°F)	DSC	2.2 kJ/kg·K (0.53 Btu/lb·°F)
Film Properties		
Inherent Viscosity (film)	EMN-A-AC-G-V-1	0.73
Thickness of Film Tested	D 374	280 microns (11 mils)
Density (film)	D 1505	1.2 g/cm^3
Haze	D 1003	0.5%
Gloss @ 45°	D 2457	108
Transparency	D 1746	85%
Regular Transmittance	D 1003 Modified	90%
Total Transmittance	D 1003 Modified	93%
Water Vapor Transmission Rate [f]	F 372	5 g/m^2·24h (0.3 g/100$in.^2$·24h)
Gas Permeability, CO_2	D 1434	59 cm^3·mm/m^2·24h·atm (150 cm^3·mil/100$in.^2$·24h·atm)
Gas Permeability, O_2	D 3985	13 cm^3·mm/m^2·24h·atm (33 cm^3·mil/100$in.^2$·24h·atm)
Elmendorf Tear Resistance		
M.D.	D 1922	16 N (1600 gf)
T.D.	D 1922	17 N (1700 gf)
Tear Propagation Resistance, Split Tear Method		
@ 254 mm/min (10 in./min) M.D.	D 1938	19 N/mm (108 lbf/in.)
@ 254 mm/min (10 in./min) T.D.	D 1938	18 N/mm (103 lbf/in.)
Tensile Strength @ Yield		
M.D.	D 882	43 MPa (6200 psi)
T.D.	D 882	43 MPa (6200 psi)
Tensile Strength @ Break		
M.D.	D 882	56 MPa (8100 psi)
T.D.	D 882	56 MPa (8100 psi)
Elongation @ Yield		
M.D.	D 882	5%
T.D.	D 882	5%

Elongation @ Break		
M.D.	D 882	250%
T.D.	D 882	250%
Tensile Modulus		
M.D.	D 882	1600 MPa (2.32 x 10^5 psi)
T.D.	D 882	1600 MPa (2.32 x 10^5 psi)
Dart Impact [g]		
@ 23°C (73°F)	D 1709A Modified	680 g
@ -18°C (0°F)	D 1709A Modified	750 g
@ -30°C (-22°F)	D 1709A Modified	710 g
Coefficient of Friction	D 1894	0.6

[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.*

[d] *Determined by DSC on the second heating cycle.*

[e] *Determined by DSC on the first heating cycle.*

[f] *Tested at 38°C (100°F) and 100% relative humidity.*

[g] *12.7 mm (0.05 in.) dia. head, 127 mm (5 in.) dia. clamp, 660 mm (26 in.) drop*

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.

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