

Product Data Sheet

Eastar™ Copolyester 5011

Application/Uses

- Pen/stationary supplies
- Toys/Sporting goods

Product Description

Eastar™ Copolyester 5011 is a glycol modified polyethylene terephthalate(PET). The modification is made by adding a second glycol, cyclohexanedimethanol (CHDM) during the polymerization stages. The second glycol is added in the proper proportion to produce an amorphous polymer.

This product has been GREENGUARD INDOOR AIR QUALITY CERTIFIED®.

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Typical Properties (Preliminary)

Property ^a	Test ^b Method	Typical Value, Units ^c
General Properties		
Specific Gravity	D 792	1.28
Mold Shrinkage		
Parallel to Flow, 3.2-mm (0.125-in.) thickness	D 955	0.002 mm/mm (0.002 in./in.)
Parallel to Flow, 1.6-mm (0.0625-in.) thickness		0.005 mm/mm (0.005 in./in.)
Water Absorption, 24 h immersion	D 570	0.13%
Mechanical Properties		
Tensile Stress @ Break	D 638	25 MPa (3600 psi)
Elongation @ Break	D 638	30%
Flexural Strength	D 790	75 MPa (10900 psi)
Flexural Modulus	D 790	2200 MPa (3.2 x 10 ⁵ psi)
Rockwell Hardness, R Scale	D 785	106

Izod Impact Strength, Notched

@ 23°C (73°F)	D 256	69 J/m (1.3 ft·lbf/in.)
@ -40°C (-40°F)	D 256	28 J/m (0.5 ft·lbf/in.)

Impact Strength, Unnotched

@ 23°C (73°F)	D 4812	NB J/m (NB ft·lbf/in.)
@ -40°C (-40°F)	D 4812	2600 J/m (50 ft·lbf/in.)

Thermal Properties**Deflection Temperature**

@ 0.455 MPa (66 psi)	D 648	67°C (152°F)
@ 1.82 MPa (264 psi)	D 648	62°C (143°F)

Optical Properties

Haze	D 1003	0.3%
Total Transmittance	D 1003	90%

Typical Processing Conditions

Drying Temperature	71°C (160°F)
Drying Time	4-6 hrs
Processing Melt Temperature	249-271°C (480-520°F)
Mold Temperature	16-38°C (60-100°F)

^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 based on limited testing. Eastman makes no representation that the material in any particular shipment will conform exactly to the values given.

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