Product Data Sheet

Eastar™ Polyester EN052

Application/Uses

- General consumer products
- Oral hygiene
- Personal Care and Cosmetics

Product Description

Eastar™ Polyester EN052 is a thermoplastic condensation homopolymer produced by a continuous melt-phase polymerization process followed by a solid-state polymerization process. It has been crystallized.

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

Property[a]	Test[b] Method	Typical Value, Units[c]
Injection Molded Properties		
Specific Gravity	D 792	1.32
Water Absorption, 24 h immersion	D 570	0.1%
Mold Shrinkage Parallel to Flow, 3.2-mm (0.125-in.) thickness	D 955	0.004 mm/mm (0.004 in./in.)
Tensile Stress @ Yield	D 638	57 MPa (8300 psi)
Tensile Stress @ Break	D 638	26 MPa (3800 psi)
Elongation @ Yield	D 638	4%
Flexural Modulus	D 790	2500 MPa (3.6 x 10^5 psi)
Flexural Yield Strength	D 790	81 MPa (11700 psi)
Rockwell Hardness, R Scale	D 785	110
Izod Impact Strength, Notched @ 23°C (73°F)	D 256	51 J/m (1.0 ft·lbf/in.)

@ -40°C (-40°F)	D 256	36 J/m (0.7 ft·lbf/in.)
Impact Strength, Unnotched		
@ 23°C (73°F)	D 4812	NB
@ -40°C (-40°F)	D 4812	NB
Deflection Temperature		
@ 0.455 MPa (66 psi)	D 648	66°C (151°F)
@ 1.82 MPa (264 psi)	D 648	62°C (144°F)
Vicat Softening Temperature @ 1 kg load	D 1525	79°C (174°F)
Dielectric Constant		
1 kHz	D 150	3.2
1 MHz	D 150	3.0
Dissipation Factor		
1 kHz	D 150	0.008
1 MHz	D 150	0.02
Arc Resistance	D 495	155 sec
Volume Resistivity	D 257	10^{16} ohm·cm
Surface Resistivity	D 257	10^{16} ohms/square
Dielectric Strength, Short Time, 500 V/sec rate-of-rise	D 149	15.7 kV/mm (400 V/mil)

Typical Processing Conditions	
Drying Temperature	150-160°C (300-320°F)
Drying Time	4-6 hrs
Processing Melt Temperature	275-295°C (530-565°F)
Mold Temperature	10-30°C (50-90°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 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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