Product Data Sheet

DuraStar™ Polymer DS1900HF, Natural

Application/Uses

- Appliances
- Floor care
- Furniture/Furniture trim
- Housewares
- Toys/Sporting goods
- Writing instruments

Key Attributes

- Excellent clarity
- Excellent flow
- Fast drying times
- Good chemical resistance
- Outstanding impact resistance
- Quick cycle times

Product Description

Durastar™ DS1900HF polymer is a high flow grade of Durastar™ . Durastar™ DS1900HF flow lengths are increased 20-40% relative to Durastar™ DS1000 as shown by spiral flow testing. Other outstanding features of Durastar™ are easily maintained such as excellent appearance and clarity, good physical properties, chemical resistance, and easy processing. This high flow product is especially suited for those applications utilizing thin-walled intricate tools. Under existing United States Food and Drug Administration (FDA) regulations, Durastar™ DS1900HF may be used in food contact articles which comply with the specifications and conditions of use in 21 CFR 177.1240.

Typical Properties

Property[a]	Test[b] Method	Typical Value, Units[c]
General Properties		
Specific Gravity	D 792	1.19
Mold Shrinkage	D 955	0.003 mm/mm (0.003 in./in.)
Water Absorption, 24 h immersion	D 570	0.15%
Mechanical Properties		
Tensile Stress @ Yield	D 638	50 MPa (7200 psi)
Tensile Stress @ Break	D 638	43 MPa (6300 psi)
Elongation @ Yield	D 638	5%
Elongation @ Break	D 638	270%
Flexural Yield Strength	D 790	68 MPa (9800 psi)
Flexural Modulus	D 790	1900 MPa (2.7 x 10^5 psi)
Rockwell Hardness, R Scale	D 785	107
Izod Impact Strength, Notched @ 23°C (73°F)	D 256	80 J/m (1.5 ft·lbf/in.)

@ -40°C (-40°F)	D 256	44 J/m (0.8 ft·lbf/in.)
Impact Strength, Unnotched		
@ 23°C (73°F)	D 4812	NB
@ -40°C (-40°F)	D 4812	NB
Impact Resistance (Puncture), Energy @ Max. Load		
@ 23°C (73°F)	D 3763	40 J (30 ft·lbf)
@ -40°C (-40°F)	D 3763	38 J (28 ft·lbf)
Thermal Properties		
Deflection Temperature		
@ 0.455 MPa (66 psi)	D 648	73°C (163°F)
@ 1.82 MPa (264 psi)	D 648	66°C (150°F)
Vicat Softening Temperature @ 1 kg load	D 1525	86°C (186°F)
Optical Properties		
Total Transmittance	D 1003	92%
Haze	D 1003	< 1%
Typical Processing Conditions		
Drying Temperature		70°C (160°F)
Drying Time		4 hrs
Processing Melt Temperature		230-280°C (450-530°F)
Mold Temperature		15-30°C (60-80°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.

13-May-2004 10:54:03 AM