



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 rates are increased 20-40% relative to Durastar™ DS1000 as shown by spiral flow testing. Outstanding features of Durastar™ are easily maintained such as excellent appearance, 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 contact articles which comply with the specifications and conditions of use in 21 CFR 177.1530.

This product has been GREENGUARD INDOOR AIR QUALITY CERTIFIED®.

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Typical Properties

Property ^a	Test ^b Method	Typical Value, Units
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%
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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.

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