

Technical Data Sheet

DuraStar™ Polymer DS1910HF, Natural

Application/Uses

- Appliances
- Floor care
- Furniture/Furniture trim
- Housewares
- In-mold decoration
- In-mold labeling
- Pen/stationary supplies
- Refrigerator interior components
- Toys/Sporting goods
- Washing machine components

Key Attributes

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

Product Description

Durastar™ DS1910HF polymer is a high flow grade of Durastar™ that contains a mold release. Durastar™ DS1910HF flow lengths are increased 20-40% relative to Durastar™ DS1010 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™ DS1910HF may be used in food contact articles which comply with the specifications and conditions of use in 21 CFR 177.1240. This product is certified to ANSI/NSF Standard 51.

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.

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13-May-2004 10:58:21 AM