DuraStar™ DS2000

Thermoplastic Polyester

Eastman Chemical Company

Message:

Durastar™ DS2000 polymer has excellent appearance and is nearly water-clear. Its most outstanding features are toughness, chemical resistance, and excellent processing characteristics. DS2000 has very good toughness as shown by Izod impact resistance. Exposure to aromatic oils often causes crazing or actual fracture of many polymer resins, but DS2000 maintains its physical properties when exposed to these oils, and its appearance is virtually unchanged. Easy to process, it flows readily and fills intricate molds. Under existing United States Food and Drug Administration (FDA) regulations, Durastar™ DS2000 may be used in food contact articles which comply with the specifications and conditions of use in 21 CFR 177.1240.

General Information			
UL YellowCard	E118289-220142		
Features	Fast Molding Cycle Food Contact Acceptable Good Chemical Resistance Good Flow Good Impact Resistance Good Processability Good Toughness High Clarity Pleasing Surface Appearance		
Uses	Sporting Goods Toys Writing Instruments		
Agency Ratings	FDA 21 CFR 177.1240		
Appearance	Natural Color		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity			
--	1.20	g/cm³	ASTM D792
23°C	1.19	g/cm³	ISO 1183
Molding Shrinkage - Flow (3.20 mm)	0.20 to 0.60	%	ASTM D955
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (R-Scale, 23°C)	105		ASTM D785
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength			
Yield, 23°C	46.0	MPa	ASTM D638
Yield, 23°C	47.0	MPa	ISO 527-2

Break, 23°C	53.0	MPa	ASTM D638
Break, 23°C	49.0	MPa	ISO 527-2
Tensile Elongation			
Yield, 23°C	5.0	%	ASTM D638
Yield, 23°C	4.0	%	ISO 527-2
Break, 23°C	310	%	ASTM D638
Break, 23°C	210	%	ISO 527-2
Flexural Modulus			
23°C	1900	MPa	ASTM D790
23°C	1750	MPa	ISO 178
Flexural Stress			
23°C	64.0	MPa	ISO 178
Yield, 23°C	67.0	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact			
-40°C	60	J/m	ASTM D256
23°C	370	J/m	ASTM D256
-40°C	6.3	kJ/m^2	ISO 180
23°C	30	kJ/m^2	ISO 180
Unnotched Izod Impact			ASTM D4812
-40°C	No Break		
23°C	No Break		
Instrumented Dart Impact			
-40°C, Energy at Peak Load	48.0	J	ASTM D3763
23°C, Energy at Peak Load	45.0	J	ASTM D3763
-40°C, Energy to Peak Force	55.0	J	ISO 6603-2
23°C, Energy to Peak Force	71.0	J	ISO 6603-2
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			
0.45 MPa, Unannealed	73.0	°C	ASTM D648, ISO 75-2/B
1.8 MPa, Unannealed	65.0	°C	ASTM D648
1.8 MPa, Unannealed	66.0	°C	ISO 75-2/A
Flammability	**Nominal Value**		**Test Method**
Flame Rating (1.50 mm, CL)	HB		UL 94
Optical	**Nominal Value**	**Unit**	**Test Method**
Transmittance			ASTM D1003
Total	91.0	%	
Regular	89.0	%	
Haze	0.30	%	ASTM D1003
Injection	**Nominal Value**	**Unit**	
Drying Temperature	70.0	°C	
Drying Time	3.0	hr	

Processing (Melt) Temp	250 to 290	°C
Mold Temperature	15.0 to 30.0	°C

Recommended distributors for this material

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