DuraStar™ DS2010

Thermoplastic Polyester

Eastman Chemical Company

Message:

Durastar™ DS2010 polymer contains a mold release. It has excellent appearance and is nearly water-clear. Its most outstanding features are toughness, chemical resistance, and excellent processing characteristics. DS2010 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 DS2010 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™ DS2010 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.

General Information	
UL YellowCard	E118289-220143
Additive	Mold Release
Features	Fast Molding Cycle Food Contact Acceptable Good Chemical Resistance Good Flow Good Impact Resistance Good Mold Release Good Processability Good Toughness High Clarity Pleasing Surface Appearance
Uses	Appliance Components Appliances Flooring Maintenance/Repair Sporting Goods Toys Writing Instruments
Agency Ratings	FDA 21 CFR 177.1240 NSF 51
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
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	1.0E+17	ohms	ASTM D257
Volume Resistivity (23°C)	1.0E+17	ohms·cm	ASTM D257

Dielectric Strength [1] (23°C)	17	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
23°C, 1 kHz	2.60		
23°C, 10 kHz	2.60		
23°C, 100 kHz	2.50		
23°C, 1 MHz	2.50		
Dissipation Factor			ASTM D150
23°C, 1 kHz	6.0E-3		
23°C, 10 kHz	0.012		
23°C, 100 kHz	0.015		
23°C, 1 MHz	0.015		
Arc Resistance	123	sec	ASTM D495
Comparative Tracking Index	700	V	ASTM D3638
Flammability	Nominal Value	Unit	Test Method
Flame Rating (3.00 mm, AT)	V-2		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	
NOTE			
1.	Method A (Short-Time)		

Recommended distributors for this material

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