DuraStar™ DS1010

Thermoplastic Polyester

Eastman Chemical Company

Message:

Durastar™ DS1010 polymer contains a mold release. It has excellent appearance and clarity. Its most outstanding features are chemical resistance and excellent processing characteristics. Exposure to aromatic oils often causes crazing or actual fracture of many polymer resins, but DS1010 maintains its physical properties when exposed to these oils, and its appearance is virtually unchanged. Easy to process, it flows readily, fills intricate molds, and is well suited for thick-wall applications. Under existing United States Food and Drug Administration (FDA) regulations, Durastar™ DS1010 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	E118289-220139
Additive	Mold Release
Features	Fast Molding Cycle Food Contact Acceptable Good Chemical Resistance Good Flow Good Impact Resistance Good Mold Release Good Processability High Clarity Pleasing Surface Appearance
Uses	Appliance Components Appliances Flooring Maintenance/Repair Furniture Household Goods Sporting Goods Thick-walled Parts 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)	103		ASTM D785
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus (23°C)	1800	MPa	ISO 527-2
Tensile Strength			
Yield, 23°C	47.0	MPa	ASTM D638, ISO 527-2
Break, 23°C	51.0	MPa	ASTM D638
Break, 23°C	46.0	MPa	ISO 527-2
Tensile Elongation			
Yield, 23°C	5.0	%	ASTM D638
Yield, 23°C	4.0	%	ISO 527-2
Break, 23°C	300	%	ASTM D638
Break, 23°C	200	%	ISO 527-2
Flexural Modulus			
23°C	2000	MPa	ASTM D790
23°C	1850	MPa	ISO 178
Flexural Stress			
23°C	65.0	MPa	ISO 178
Yield, 23°C	69.0	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact			
-40°C	40	J/m	ASTM D256
23°C	80	J/m	ASTM D256
-40°C	4.8	kJ/m²	ISO 180
23°C	7.8	kJ/m²	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	42.0	J	ASTM D3763
-40°C, Energy to Peak Force	52.6	J	ISO 6603-2
23°C, Energy to Peak Force	58.7	J	ISO 6603-2
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			
0.45 MPa, Unannealed	75.0	°C	ASTM D648
0.45 MPa, Unannealed	72.0	°C	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 (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	71.0	°C	
Drying Time	3.0 to 4.0	hr	
Processing (Melt) Temp	232 to 277	°C	
Mold Temperature	16.0 to 38.0	°C	

Recommended distributors for this material

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