Eastar™ BR003, Natural

Copolyester

Eastman Chemical Company

Message:

Eastar™ BR003 Copolyester contains a mold release additive. It has excellent appearance and is nearly water-clear. Its most outstanding features are its chemical resistance and processing capabilities. Exposure to aromatic oils often causes crazing or actual fracture of many polymer resins, but BR003 maintains its physical properties when exposed to these oils, and its appearance is virtually unchanged. BR003 is specifically formulated to provide the optimal combination of chemical resistance, bristle retention, strength, stiffness, processability, clarity, colorability, and feel for toothbrushes. Under existing United States Food and Drug Administration(FDA) regulations, Eastar™ BR003 copolyester may lawfully be used to make food contact articles which comply with the specifications and conditions of use in 21 CFR 177.1240. Migration tests on BR003 samples meet the compliance requirements of 21 CFR 177.1240(e)(1),(2) and (3).
This product has been GREENGUARD INDOOR AIR QUALITY CERTIFIED®.
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General Information			
Additive	Mold Release		
Features	Food Contact Acceptable Good Chemical Resistance Good Colorability Good Mold Release Good Processability Good Stiffness Good Strength High Clarity Pleasing Surface Appearance		
Uses	Personal Care Toothbrush Handles		
Agency Ratings	FDA 21 CFR 177.1240 FDA 21 CFR 177.1240(e)(1) FDA 21 CFR 177.1240(e)(2) FDA 21 CFR 177.1240(e)(3)		
Appearance	Natural Color		
Forms	Pellets		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.20	g/cm³	ASTM D792
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	320	%	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/m^2	ISO 180
23°C	7.8	kJ/m^2	ISO 180
Unnotched Izod Impact			ASTM D4218
-40°C	No Break		
23°C	No Break		
Instrumented Dart Impact			ASTM D3763
-40°C, Energy at Peak Load	48.0	J	
23°C, Energy at Peak Load	42.0	J	
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	73.0	°C	
1.8 MPa, Unannealed	65.0	°C	
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	230 to 280	°C
Mold Temperature	15.0 to 30.0	°C

Recommended distributors for this material

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