

## Eastman Eastar BR203 Copolyester

Category : Polymer , Thermoplastic , Polyester, TP

**Material Notes:**

Eastar BR203 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 BR203 maintains its physical properties when exposed to these oils, and its appearance is virtually unchanged. BR203 is specifically formulated to provide the optimal combination of chemical resistance, bristle retention, strength, stiffness, toughness, processability, clarity, colorability, and feel for toothbrushes. Under existing United States Food and Drug Administration (FDA) regulations, Eastar BR203 copolyester may lawfully be used to make food contact articles which comply with the specifications and conditions of use in 21 CFR 177.1240.Applications/UsesToothbrushes

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Eastman-Eastar-BR203-Copolyester.php](http://www.lookpolymers.com/polymer_Eastman-Eastar-BR203-Copolyester.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 g/cc	1.20 g/cc	ASTM D792
Density	1.19 g/cc	0.0430 lb/in <sup>3</sup>	ISO 1183
Linear Mold Shrinkage	0.0020 - 0.0060 cm/cm @Thickness 3.20 mm	0.0020 - 0.0060 in/in @Thickness 0.126 in	ASTM D955

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	105	105	ASTM D785
Tensile Strength at Break	49.0 MPa	7110 psi	ISO 527
	53.0 MPa	7690 psi	ASTM D638
Tensile Strength, Yield	46.0 MPa	6670 psi	ASTM D638
	47.0 MPa	6820 psi	ISO 527
Elongation at Break	210 %	210 %	ISO 527
	310 %	310 %	ASTM D638
Elongation at Yield	4.0 %	4.0 %	ISO 527
	5.0 %	5.0 %	ASTM D638
Flexural Strength	64.0 MPa	9280 psi	ISO 178
Flexural Yield Strength	67.0 MPa	9720 psi	ASTM D790
Flexural Modulus	1.75 GPa	254 ksi	ISO 178

Mechanical Properties	1.90 GPa Metric	276 ksi English	ASTM D790 Comments
Izod Impact, Notched	0.600 J/cm	1.12 ft-lb/in	ASTM D256
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	3.70 J/cm	6.93 ft-lb/in	ASTM D256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched	NB	NB	ASTM D4812
	NB	NB	
	NB	NB	ASTM D4812
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Izod Impact, Notched (ISO)	6.30 kJ/m <sup>2</sup>	3.00 ft-lb/in <sup>2</sup>	ISO 180
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	29.6 kJ/m <sup>2</sup>	14.1 ft-lb/in <sup>2</sup>	ISO 180
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Puncture Energy	45.0 J	33.2 ft-lb	Puncture Resistance @Max Load, 23°C; ASTM D3763
	71.0 J	52.4 ft-lb	
	48.0 J	35.4 ft-lb	Puncture Resistance @ max load, 23°C; ISO 6603-2
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	55.0 J	40.6 ft-lb	Puncture Resistance at Max Load; ASTM D3763
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	55.0 J	40.6 ft-lb	Puncture Resistance at Max Load; ISO 6603-2
	@Temperature -40.0 °C	@Temperature -40.0 °F	

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	73.0 °C	163 °F	ISO 75
	73.0 °C	163 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	65.0 °C	149 °F	ASTM D648
	66.0 °C	151 °F	ISO 75

Optical Properties	Metric	English	Comments
Haze	0.30 %	0.30 %	ASTM D1003
Transmission, Visible	89 %	89 %	Regular Transmittance; ASTM D1003
	91 %	91 %	Total Transmittance; ASTM D1003

Processing Properties	Metric	English	Comments
Melt Temperature	250 - 290 °C	482 - 554 °F	
Mold Temperature	15.0 - 30.0 °C	59.0 - 86.0 °F	
Drying Temperature	70.0 °C	158 °F	
Dry Time	3 hour	3 hour	

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China