

Styron EMERGE[®] 5100 Acrylonitrile Butadiene Styrene (ABS)

Category : Polymer , Thermoplastic , ABS Polymer

Material Notes:

EMERGE[®] ABS 5100 is a pre-colored, white, ABS resin, having high opacity and excellent toughness intended for manufacture of laser-marketable injection-molded smart cards. Information provided by Dow This product line was spun off from Dow Chemical to Styron in 2010.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Styron-EMERGE-5100-Acrylonitrile-Butadiene-Styrene-ABS.php

Physical Properties	Metric	English	Comments
Density	1.08 g/cc	0.0390 lb/in ³	ISO 1183
Linear Mold Shrinkage	0.0040 - 0.0070 cm/cm	0.0040 - 0.0070 in/in	ISO 294-4/D2
Melt Flow	8.5 g/10 min @Load 10.0 kg, Temperature 220 °C	8.5 g/10 min @Load 22.0 lb, Temperature 428 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	28.0 MPa	4060 psi	100mm/min, 4mm injection molded, unannealed; ISO 527-2
Tensile Strength, Yield	35.0 MPa	5080 psi	100mm/min, 4mm injection molded, unannealed; ISO 527-2
Elongation at Break	25 %	25 %	100mm/min, 4mm injection molded, unannealed; ISO 527-2
Elongation at Yield	2.5 %	2.5 %	100mm/min, 4mm injection molded, unannealed; ISO 527-2
Tensile Modulus	1.90 GPa	276 ksi	1mm/min, 4mm injection molded, unannealed; ISO 527-2
Flexural Strength	53.0 MPa @Thickness 4.00 mm	7690 psi @Thickness 0.157 in	2mm/min, injection molded, unannealed; ISO 178
Flexural Modulus	1.90 GPa @Thickness 4.00 mm	276 ksi @Thickness 0.157 in	2mm/min, injection molded, unannealed; ISO 178
Izod Impact, Notched (ISO)	38.0 kJ/m ²	18.1 ft-lb/in ²	ISO 180/1A
Charpy Impact, Notched	4.00 J/cm ²	19.0 ft-lb/in ²	ISO 179/1eA

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	87.0 °C	189 °F	ISO 75-2

Thermal Properties Deflection Temperature at 1.8 MPa (264 psi)	Metric °C	English	Comments
Vicat Softening Point	103 Â°C	217 Â°F	120Â°C / 10N; ISO 306A
	191 Â°C	376 Â°F	50Â°C / 50N; ISO 306B

Processing Properties	Metric	English	Comments
Melt Temperature	230 - 260 Â°C	446 - 500 Â°F	
Mold Temperature	25.0 - 70.0 Â°C	77.0 - 158 Â°F	
Drying Temperature	70.0 - 90.0 Â°C	158 - 194 Â°F	
Dry Time	2 - 3 hour	2 - 3 hour	

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