

Dow AIM® 4810 High Impact Styrenic Resin

Category : Polymer , Thermoplastic , Polystyrene (PS) , Polystyrene, Impact Modified

Material Notes:

AIM® 4810 advanced styrenic resin is designed to offer the processability of high impact polystyrene and the gloss and practical toughness of high gloss ABS. It can be processed at lower temperatures than ABS, which may allow faster cycle times, energy savings or an opportunity to fill more complex molds. When used unmodified for the manufacture of food contact articles AIM 4810 complies with the US Food, Drug and Cosmetic Act and Food Additive Regulations 21 CFR 177.1640. The statute and regulations should be consulted for complete details. Data provided by Dow Chemical.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Dow-AIM-4810-High-Impact-Styrenic-Resin.php

Physical Properties	Metric	English	Comments
Density	1.04 g/cc	0.0376 lb/in ³	ASTM Data
Melt Density	0.963 g/cc	0.0348 lb/in ³	Melt density
Linear Mold Shrinkage	0.0055 cm/cm	0.0055 in/in	
Melt Flow	8.5 g/10 min @Load 3.80 kg, Temperature 230 °C	8.5 g/10 min @Load 8.38 lb, Temperature 446 °F	ASTM Data

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	19.3 MPa	2800 psi	ASTM Data
Tensile Strength, Yield	24.5 MPa	3550 psi	ASTM Data
Elongation at Break	50 %	50 %	ASTM Data
Tensile Modulus	1.79 GPa	260 ksi	ASTM Data
Izod Impact, Notched	2.94 J/cm	5.51 ft-lb/in	ASTM Data
	0.690 J/cm @Temperature -50.0 °C	1.29 ft-lb/in @Temperature -58.0 °F	ASTM Data
Impact Test	22.0 J @Temperature -30.0 °C	16.2 ft-lb @Temperature -22.0 °F	Instrumented Dart Total Energy
	39.6 J @Temperature 23.0 °C	29.2 ft-lb @Temperature 73.4 °F	Instrumented Dart Total Energy

Thermal Properties	Metric	English	Comments
	81.0 µm/m-°C	45.0 µin/in-°F	

CTE, linear, Parallel to Flow Thermal Properties	Metric @ Temperature 20.0 °C	English @ Temperature 68.0 °F	ASTM data Comments
Specific Heat Capacity	2.16 J/g-°C	0.516 BTU/lb-°F	
Thermal Conductivity	0.181 W/m-K	1.26 BTU-in/hr-ft ² -°F	
Deflection Temperature at 0.46 MPa (66 psi)	85.0 °C	185 °F	Unannealed; ASTM Data
	96.0 °C	205 °F	Annealed; ASTM Data
Deflection Temperature at 1.8 MPa (264 psi)	74.0 °C	165 °F	Unannealed; ASTM Data
	93.0 °C	199 °F	Annealed; ASTM Data
Vicat Softening Point	101 °C	214 °F	
Flammability, UL94	HB	HB	
	@Thickness 1.47 mm	@Thickness 0.0579 in	

Optical Properties	Metric	English	Comments
Gloss	85 %	85 %	Gardner Gloss, 60°

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