

Avantra[®] 8020

Data Sheet

Avantra[®] Ignition Resistant Polystyrene

Avantra[®] 8020 is a V-0 ignition resistant, high flow, high impact polystyrene resin formulated for structural foam and large part molding.

Applications

Typical applications for Avantra[®] 8020 include appliance housings, business machine enclosures and electronic structural components.

Typical Properties for Uncolored Products*

Properties	Test method	SI	English		
	ASTM	Unit	Value	Unit	Value
Mechanical properties					
Tensile Stress at Yield	ASTM D 638	MPa	25	psi	3600
Tensile Stress at Break	ASTM D 638	MPa	20	psi	2900
Tensile Elongation	ASTM D 638	%	60	%	60
Flexural Modulus	ASTM D 790-1	MPa	2103	psi	305000
Notched Izod Impact Strength, 23°C	ASTM D 256-A	J/m	123	ft-lbs/in	2.3
Rockwell Hardness, (L, M or R) - Scale	ASTM D 785	L	60	L	60
Thermal properties					
Vicat Softening Temperature	ASTM D 1525	°C	97	°F	207
Temp.of Deflection Under Load at 264 psi	ASTM D 648	°C	84	°F	183
Processing					
Nominal Melt Flow Rate (200 °C, 5000g)	ASTM D 1238	g/10 min	12	g/10 min	12
Melt Temperature Range (Molding)	-	°C	200-240	°F	400-460
Flammability					
UL 94 (Solid) 1.8mm Black	UL 94	class	V-0	class	V-0
UL 94 (Foam) 3.9 - 6.3 mm Natural	UL 94	class	5VA	class	5VA
Miscellaneous properties					
Density	ASTM D 792	g/cm ³	1.14	g/cm ³	1.14
Water Absorption (Saturation in water at 23°C)		%	<0.15	%	<0.15
Moisture Absorpt. (23°C/50% r.h.)		%	<0.1	%	<0.1
Mold Shrinkage	ASTM D 955	%	0.3-0.6	%	0.3-0.6

Processing

Although Avantra[®] 8020 can be processed by any method applicable to polystyrene-based plastics, it is ideally suited for use in difficult to fill molds for large electronic/electrical housings. The melt temperature should not exceed 250 °C.

Handling and Safety

Avantra[®] 8020 is not known to have any ill effect on workers in an adequately ventilated molding shop when it is processed by usual methods used for polystyrene-based plastics. During processing of Avantra[®] 8020 small quantities of styrene monomer may be released into the atmosphere. At styrene vapor concentrations below 20 ppm no negative effects on health are expected. In our experience, the concentration of styrene does not exceed 1 ppm in well-ventilated workplaces - that is where five to eight air changes per hour are made.

Packaging and Samples

Avantra[®] 8020 is supplied in pellet form. It has to be stored original containers in a cool, dry place. Avoid direct exposure to sunlight. Avantra[®] 8020 can also be stored in silos. Samples are available on request.

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