TRINSEO™

MAGNUM™ A642
ABS Resin

Overview

MAGNUM™ A642 is a very high heat resistance ABS resin with good processing characters. Produced by MASS (continues process) polymerization technology, this material offers a low emission and low odor performance even in a wide range of processing window. Its stable light base color makes it an ideal candidate for self-coloring process to reduce the total production cost.

- Applications:
  - Matt/unpainted automotive interior and exterior trims
  - Taillight housings
  - Dashboard components
  - Pillar covers
  - Consoles
  - Household appliances

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	1.05	g/cm³	1.05	g/cm³	ISO 1183
Apparent (Bulk) Density	0.65	g/cm³	0.65	g/cm³	ISO 60
Melt Mass-Flow Rate (MFR) (220°C/10.0 kg)	6.5	g/10 min	6.5	g/10 min	ISO 1133
Molding Shrinkage	4.0E-3 to 7.0E-3	in/in	0.40 to 0.70	%	ISO 294-4
Mechanical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Tensile Modulus	297000	psi	2050	MPa	ISO 527-1/1
Tensile Stress (Yield)	6240	psi	43.0	MPa	ISO 527-2/50
Tensile Strain					ISO 527-2/50
Yield	3.0	%	3.0	%	
Break	25	%	25	%	
Flexural Modulus [1]	290000	psi	2000	MPa	ISO 178
Flexural Stress [1]	9720	psi	67.0	MPa	ISO 178
Impact	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Charpy Notched Impact Strength					ISO 179/1eA
-22°F (-30°C), Injection Molded	4.3	ft·lb/in²	9.0	kJ/m²	
73°F (23°C), Injection Molded	6.7	ft·lb/in²	14	kJ/m²	
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Deflection Temperature Under Load					
66 psi (0.45 MPa), Unannealed	212	°F	100	°C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	185	°F	85.0	°C	ISO 75-2/A
Vicat Softening Temperature	225	°F	107	°C	ISO 306/B50
Flammability	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Flame Rating [2]					UL 94
0.06 in (1.5 mm)	HB		HB		
0.12 in (3.0 mm)	HB		HB		
Burning Rate [2]	55.0	min/mm	55.0	min/mm	ISO 3795
Carbon Emission [2]	20.0	µg/g	20.0	µg/g	VDA 277
Additional Information	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Fogging - (100C)	99	%	99	%	ISO 6452

Mass balance versions (bio-based (BIO) or chemically recycled (CR)) of this product are chemically and physically indistinguishable to the standard fossil grade. This technical data sheet applies to all versions. Letters of sameness are available upon request.

Injection	Nominal Value (English)		Nominal Value (SI)	
Drying Temperature	176 to 194	°F	80 to 90	°C
Drying Time	2.0 to 4.0	hr	2.0 to 4.0	hr