



MAGNUM™ 8391

Trinseo - ABS Resin

Sunday, November 3, 2019

General Information

Product Description

MAGNUM™ 8391 ABS combines an excellent glossy appearance with high flow and medium impact performance. The mass (continuous process) ABS technology ensures an ABS resin that combines excellent processability with a stable light base color that is ideal for self-coloring.

Applications:

- Household Appliance
- Consumer Goods
- Toys

Complies with:

- U.S. FDA FCN 1525

Consult the regulation for complete details.

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Features	• Good Processability	• High Flow	• Medium Impact Resistance
Uses	• Toys		
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.05		ASTM D792
Density	1.05	g/cm ³	ISO 1183/B
Density	0.0379	lb/in ³	ISO 1183 ²
Apparent (Bulk) Density	0.65	g/cm ³	ISO 60
Melt Mass-Flow Rate			ASTM D1238
220°C/10.0 kg	28	g/10 min	
220°C/5.0 kg	8.5	g/10 min	
230°C/3.8 kg	8.0	g/10 min	
Melt Mass-Flow Rate (MFR) (220°C/5.0 kg)	8.4	g/10 min	ISO 1133
Melt volume-flow rate (220°C/10.0 kg)	27	cm ³ /10min	ISO 1133 ²
Molding Shrinkage - Flow	4.0E-3 to 7.0E-3	in/in	ASTM D955
Molding Shrinkage - Flow	0.40 to 0.70	%	ISO 294-4
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	363000	psi	ASTM D638
Tensile Modulus (0.126 in, Injection Molded)	339000	psi	ISO 527-2
Tensile modulus	348000	psi	ISO 527-2 ²
Tensile Strength ³ (Yield)	6960	psi	ASTM D638
Tensile Stress			
Yield, 0.126 in, Injection Molded	6530	psi	ISO 527-2/50
Yield, 0.126 in, Injection Molded	6820	psi	ISO 527-2/100
Tensile Stress (Yield)	6960	psi	ISO 527-2 ²

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Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ³ (Break)	5080	psi	ASTM D638
Tensile Elongation ³ (Yield)	2.7	%	ASTM D638
Tensile Strain			
Yield, 0.126 in, Injection Molded	2.5	%	ISO 527-2/50
Yield, 0.126 in, Injection Molded	2.6	%	ISO 527-2/100
Tensile Elongation ³ (Break)	8.7	%	ASTM D638
Nominal strain at break	20	%	ISO 527-2 ²
Flexural Modulus ⁴	360000	psi	ASTM D790
Flexural Modulus ^{5, 6} (0.126 in, Injection Molded)	348000	psi	ISO 178
Flexural Strength ⁴	10900	psi	ASTM D790
Flexural Stress ^{5, 6} (0.126 in, Injection Molded)	10200	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F, Injection Molded	4.3	ft-lb/in ²	
73°F, Injection Molded	9.0	ft-lb/in ²	
Charpy notched impact strength (73°F)	8.57	ft-lb/in ²	ISO 179/1eA ²
Charpy notched impact strength (-22°F)	4.28	ft-lb/in ²	ISO 179/1eA ²
Charpy impact strength (73°F)	No Break		ISO 179/1eU ²
Charpy impact strength (-22°F)	No Break		ISO 179/1eU ²
Notched Izod Impact (73°F)	4.4	ft-lb/in	ASTM D256
Notched Izod Impact Strength			ISO 180/A
-22°F, Injection Molded	4.3	ft-lb/in ²	
73°F, Injection Molded	9.0	ft-lb/in ²	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	108		ASTM D785
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	189	°F	ASTM D648
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed	165	°F	
Heat Deflection Temperature (264 psi, Annealed)	203	°F	ISO 75-2/A
Deflection Temperature Under Load (264 psi)	203	°F	ISO 75-2 ²
Vicat Softening Temperature	210	°F	ASTM D1525 ⁷
Vicat Softening Temperature	203	°F	ISO 306/B50
Vicat Softening Temperature (50°C/h, B (50N))	198	°F	ISO 306 ²
Flammability	Nominal Value	Unit	Test Method
Burning Rate ⁸ (0.0787 in)	2.4	in/min	ISO 3795
Flame Rating ⁸			UL 94
0.06 in	HB		
0.12 in	HB		
Burning Behav. at 1.6mm nom. thickn. (0.06 in, UL)	HB		ISO 1210 ²
Optical	Nominal Value	Unit	Test Method
Gloss (60°)	92		ASTM D523

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Notes

- ¹ Typical properties: these are not to be construed as specifications.
- ² Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
- ³ 2.0 in/min
- ⁴ 0.051 in/min
- ⁵ 0.079 in/min
- ⁶ 3-points
- ⁷ Rate B (120°C/h), Loading 1 (10 N)
- ⁸ This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.