MAGNUM™ 8391 MED

Trinseo - ABS Resin

Sunday, November 3, 2019

General Information

Product Description

MAGNUM™ 8391 MED 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. MAGNUM 8391 MED natural resin has undergone biocompatibility testing based on ISO 10993 (Biological Evaluation of Medical Devices) and is suitable for use in approved medical applications.

Applications:

- Medical Applications

General			
Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Features	• Biocompatible • Good Processability	• High Flow • High Gloss	• Medium Impact Resistance
Uses	• Medical/Healthcare Applications		
Agency Ratings	• ISO 10993 [1]		
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties [2]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.05		ASTM D792
Density			
--	1.05	g/cm³	ASTM D792
--	1.05	g/cm³	ISO 1183/B
Density	0.0379	lb/in³	ISO 1183 [3]
Apparent (Bulk) Density	0.65	g/cm³	ISO 60
Melt Mass-Flow Rate			ASTM D1238
220°C/10.0 kg	28	g/10 min	
230°C/3.8 kg	8.0	g/10 min	
Melt Mass-Flow Rate (MFR) (220°C/10.0 kg)	28	g/10 min	ISO 1133
Melt volume-flow rate (220°C/10.0 kg)	27	cm³/10min	ISO 1133 [3]
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 (0.126 in, Injection Molded)	339000	psi	ISO 527-2
Tensile modulus	348000	psi	ISO 527-2 [3]
Tensile Strength [4] (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 [3]
Tensile Strength [4] (Break)	5080	psi	ASTM D638
Tensile Elongation [4] (Yield)	2.7	%	ASTM D638

MAGNUM™ 8391 MED
Trinseo - ABS Resin

Mechanical	Nominal Value	Unit	Test Method
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 [4] (Break)	8.7	%	ASTM D638
Nominal strain at break	20	%	ISO 527-2 [3]
Flexural Modulus [5]	360000	psi	ASTM D790
Flexural Modulus [6, 7] (0.126 in, Injection Molded)	348000	psi	ISO 178
Flexural Strength [5]	10900	psi	ASTM D790
Flexural Stress [6, 7] (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/in²	
73°F, Injection Molded	9.0	ft·lb/in²	
Charpy notched impact strength (73°F)	8.57	ft·lb/in²	ISO 179/1eA [3]
Charpy notched impact strength (-22°F)	4.28	ft·lb/in²	ISO 179/1eA [3]
Charpy impact strength (73°F)	No Break		ISO 179/1eU [3]
Charpy impact strength (-22°F)	No Break		ISO 179/1eU [3]
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/in²	
73°F, Injection Molded	9.0	ft·lb/in²	

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 [3]
Vicat Softening Temperature	210	°F	ASTM D1525 [8]
Vicat Softening Temperature	203	°F	ISO 306/B50
Vicat Softening Temperature (50°C/h, B (50N))	198	°F	ISO 306 [3]

Flammability	Nominal Value	Unit	Test Method
Burning Rate [9] (0.0787 in)	2.4	in/min	ISO 3795
Flame Rating [9]			UL 94
0.06 in	HB		
0.12 in	HB		
Burning Behav. at 1.6mm nom. thickn. (0.06 in, UL)	HB		ISO 1210 [3]

MAGNUM™ 8391 MED
Trinseo - ABS Resin

Notes

[1] Biocompatibility testing following ISO Guidelines 10993 has been completed on select classic resins in this series. Please consult Styron for details. ISO guidelines include a sensitization test.

[2] Typical properties: these are not to be construed as specifications.

[3] Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.

[4] 2.0 in/min

[5] 0.051 in/min

[6] 0.079 in/min

[7] 3-points

[8] Rate B (120°C/h), Loading 1 (10 N)

[9] This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.