

MAGNUM™ 8391 MED

ABS Resin

Trinseo

Message:

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 Information			
Features	Biocompatible		
	Good Processability		
	High Flow		
	High Gloss		
	Medium Impact Resistance		
Uses	Medical/Healthcare Applications		
Agency Ratings	ISO 10993 2		
Forms	Pellets		
Processing Method	Injection Molding		
Multi-Point Data	Specific Volume vs Temperature (ISO 11403-2)		
	Tensile Stress vs. Strain (ASTM D638)		
	Viscosity vs. Shear Rate (ASTM D3835)		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.05	g/cm ³	ASTM D792, ISO 1183/B
--	1050	kg/m ³	ISO 1183 ¹
Apparent Density	0.65	g/cm ³	ISO 60
Melt Mass-Flow Rate (MFR)			
220°C/10.0 kg	28	g/10 min	ASTM D1238, ISO 1133
230°C/3.8 kg	8.0	g/10 min	ASTM D1238
Melt volume-flow rate (220°C/10.0 kg)	27.0	cm ³ /10min	ISO 1133 ²
Molding Shrinkage - Flow	0.40 to 0.70	%	ASTM D955, ISO 294-4
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	108		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
3.20 mm, Injection Molded	2340	MPa	ISO 527-2
--	2400	MPa	ISO 527-2 ³

Tensile Strength			
Yield ⁴	48.0	MPa	ASTM D638
Yield, 3.20 mm, Injection Molded	45.0	MPa	ISO 527-2/50
Yield, 3.20 mm, Injection Molded	47.0	MPa	ISO 527-2/100
Yield	48.0	MPa	ISO 527-2 ⁵
Break ⁶	35.0	MPa	ASTM D638
Tensile Elongation			
Yield ⁷	2.7	%	ASTM D638
Yield, 3.20 mm, Injection Molded	2.5	%	ISO 527-2/50
Yield, 3.20 mm, Injection Molded	2.6	%	ISO 527-2/100
Break ⁸	8.7	%	ASTM D638
Nominal strain at break	20	%	ISO 527-2 ⁹
Flexural Modulus			
-- ¹⁰	2480	MPa	ASTM D790
3.20 mm, Injection Molded	2400	MPa	ISO 178
Flexural Strength			
-- ¹¹	75.0	MPa	ASTM D790
3.20 mm, Injection Molded	70.0	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			
-30°C, Injection Molded	9.0	kJ/m ²	ISO 179/1eA
23°C, Injection Molded	19	kJ/m ²	ISO 179/1eA
-30°C	9.00	kJ/m ²	ISO 179/1eA ¹²
23°C	18.0	kJ/m ²	ISO 179/1eA ¹³
Charpy impact strength			ISO 179/1eU ¹⁴
-30°C	No Break		
23°C	No Break		
Notched Izod Impact			
23°C	230	J/m	ASTM D256
-30°C, Injection Molded	9.0	kJ/m ²	ISO 180/A
23°C, Injection Molded	19	kJ/m ²	ISO 180/A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed	87.0	°C	ASTM D648
1.8 MPa, Unannealed	74.0	°C	ASTM D648
1.8 MPa, Annealed	95.0	°C	ISO 75-2/A
1.8 MPa	95.0	°C	ISO 75-2 ¹⁵
Vicat Softening Temperature			
--	99.0	°C	ASTM D1525 ¹⁶
--	95.0	°C	ISO 306/B50
50°C/h, B (50N)	92.0	°C	ISO 306 ¹⁷
Flammability	Nominal Value	Unit	Test Method

Burning Rate ¹⁸ (2.00 mm)	60	mm/min	ISO 3795
Flame Rating ¹⁹			UL 94
1.50 mm	HB		
3.00 mm	HB		
Burning Behav. at 1.6mm nom. thickn. (1.50 mm, UL)	HB		ISO 1210 ²⁰
NOTE			
1.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
2.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
3.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
4.	50 mm/min		
5.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
6.	50 mm/min		
7.	50 mm/min		
8.	50 mm/min		
9.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
10.	1.3 mm/min		
11.	1.3 mm/min		
12.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
13.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
14.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
15.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
16.	Rate B (120°C/h), Loading 1 (10 N)		
17.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.		
18.	This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.		

19.	This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.
20.	Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.

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