MAGNUM™ 555

ABS Resin

Trinseo

Message:

MAGNUM™ 555 ABS resin is low gloss, low flow ABS resin that has a sheet Izod impact strength of 6.6 ft-lb/in. MAGNUM ABS resins are thermoplastic materials that provide an excellent balance of processability, impact resistance, and heat resistance as imparted by the various polymer compositions. MAGNUM ABS resins are available in a wide range of melt flow rates, impact strengths, and heat resistances for both high and low gloss applications manufactured by injection molding, sheet or profile extrusion, and thermoforming. The sheet and thermoforming grades of MAGNUM ABS resins provide excellent high and low gloss aesthetics, good thermal color stability, heat and impact resistance, and stiffness. MAGNUM ABS resins can fill a variety of needs by offering ranges in melt flow rates from 1.0 to 4.0, sheet Izod impacts from 2.5 to 10.5 ft-lb/in and sheet flexural modulus from 285,000 to 300,000 psi.
Applications
Burial vault liners
Tool cases
Recreational vehicles
Luggage
Signs
Complies with:
U.S. FDA 21 CFR 181.32
Consult the regulations for complete details.

General Information	
UL YellowCard	E54680-100944392
Features	Rigid, good Gloss, low Impact resistance, high Workability, good Good color stability Low liquidity Heat resistance, high Good appearance
Uses	Lining Sheet
Agency Ratings	FDA 21 CFR 181.32 NSF 51
Forms	Particle
Processing Method	Sheet extrusion molding Thermoforming Profile extrusion molding Injection molding

Physical	Nominal Value	Unit	Test Method

Specific Gravity			
--	1.04	g/cm³	ASTM D792
--	1050	kg/m³	ISO 1183 [1]
Melt Mass-Flow Rate (MFR) (230°C/3.8 kg)	2.4	g/10 min	ASTM D1238
Melt volume-flow rate (220°C/10.0 kg)	9.00	cm³/10min	ISO 1133 [2]
Molding Shrinkage - Flow	0.40 - 0.70	%	ASTM D955
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus			
-- [3]	2340	MPa	ASTM D638
--	2200	MPa	ISO 527-2 [4]
Tensile Strength			
Yield [5]	43.4	MPa	ASTM D638
Yield	47.0	MPa	ISO 527-2 [6]
Fracture [7]	35.2	MPa	ASTM D638
Tensile Strain (Yield)	2.6	%	ISO 527-2 [8]
Tensile Elongation at Break	20	%	ISO 527-2 [9]
Flexural Modulus [10]	2550	MPa	ASTM D790
Flexural Strength [11]	77.9	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			ISO 179/1eA [12]
-30°C	12.0	kJ/m²	ISO 179/1eA
23°C	40.0	kJ/m²	ISO 179/1eA
Charpy impact strength			ISO 179/1eU [13]
-30°C	No Break		ISO 179/1eU
23°C	No Break		ISO 179/1eU
Notched Izod Impact [14]			ASTM D256
-18°C, 3.20 mm	140	J/m	ASTM D256
23°C, 3.20 mm	430	J/m	ASTM D256
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature			ISO 75-2 [15]
0.45 MPa	95.0	°C	ISO 75-2
1.8 MPa	82.0	°C	ISO 75-2
Vicat Softening Temperature			
--	108	°C	ASTM D1525
50°C/h, B (50N)	98.0	°C	ISO 306 [16]
CLTE - Flow	7.9E-5	cm/cm/°C	ISO 11359-2 [17]
Flammability	**Nominal Value**		**Test Method**
Flame Rating [18] (1.52 mm)	HB		UL 94
Burning Behav. at 1.6mm nom. thickn. (1.47 mm, UL)	HB		ISO 1210 [19]
Optical	**Nominal Value**		**Test Method**
Gardner Gloss (60°)	85		ASTM D523

Injection	Nominal Value	Unit
Drying Temperature	82.2 - 87.8	°C
Drying Time	2.0 - 4.0	hr
Suggested Max Moisture	0.10	%
Processing (Melt) Temp	218 - 274	°C
Mold Temperature	26.7 - 60.0	°C
Back Pressure	0.345 - 3.45	MPa
Clamp Tonnage	2.8 - 6.9	kN/cm^2
Screw L/D Ratio	20.0:1.0	
Screw Compression Ratio	1.5:1.0 to 3.5:1.0	

Injection instructions
Some applications such as plating may require moisture levels as low as 0.05%.

NOTE	
1.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
2.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
3.	Type 1, 51mm/min
4.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
5.	Type 1, 51mm/min
6.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
7.	Type 1, 51mm/min
8.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
9.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
10.	Type 1, 1.3mm/min
11.	Type 1, 1.3mm/min
12.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
13.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
14.	0.25mm notch depth
15.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
16.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
17.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???
18.	This rating is not intended to reflect the danger caused by this or any other material under actual fire conditions.
19.	??????,?? ISO 10350 ??? 23°C/50%r.h. ???

Recommended distributors for this material

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