



MAGNUM™ 347 EZ

Trinseo - ABS Resin

Sunday, November 3, 2019

General Information

Product Description

MAGNUM ABS resins are thermoplastic materials which 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 strength and heat resistance for both high and low gloss applications manufactured by injection molding, sheet or profile extrusion and thermoforming processes.

Automotive MAGNUM ABS resins offer a wide range of gloss, viscosity, impact strength and heat properties for use in numerous automotive applications. Melt flow rates from 1 to 12 g/10 min, impact strengths from 2.4 to 11 ft-lb/in and heat distortion temperatures from 171°F to 194°F are available. Available primarily as natural plus concentrates, MAGNUM ABS resins are used in a wide variety of automotive applications including structural instrument panels, consoles, pillars, and exterior trim parts requiring painting and plating.

MAGNUM 347 EZ ABS resin is a higher flow version of 342 EZ having slightly lower impact strength. The melt flow rate of approximately 12 g/10min is often suitable for parts with long flow lines and minimal impact requirements.

General

Material Status	• Commercial: Active		
Availability	• Latin America	• North America	
Features	• Good Processability	• High Heat Resistance	• Medium Impact Resistance
Uses	• Automotive Applications	• Structural Parts	
Automotive Specifications	• CHRYSLER MS-DB-200 CPN3457	• CHRYSLER MS-DB-200 CPN508	• GM GMW15572P-ABS-T1
Forms	• Pellets		
Processing Method	• Injection Molding • Profile Extrusion	• Sheet Extrusion • Thermoforming	

ASTM & ISO Properties¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.04		ASTM D792
Density	0.0380	lb/in ³	ISO 1183 ²
Melt Mass-Flow Rate (230°C/3.8 kg)	12	g/10 min	ASTM D1238
Melt volume-flow rate (220°C/10.0 kg)	43	cm ³ /10min	ISO 1133 ²
Molding Shrinkage - Flow	4.0E-3 to 7.0E-3	in/in	ASTM D955
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ³	300000	psi	ASTM D638
Tensile modulus	274000	psi	ISO 527-2 ²
Tensile Strength ³ (Yield)	6000	psi	ASTM D638
Tensile Stress (Yield)	4930	psi	ISO 527-2 ²
Tensile Elongation ³ (Yield)	2.5	%	ASTM D638
Tensile Strain (Yield)	2.2	%	ISO 527-2 ²
Tensile Elongation ³ (Break)	30	%	ASTM D638
Nominal strain at break	> 50	%	ISO 527-2 ²
Flexural Modulus ⁴	315000	psi	ASTM D790
Flexural Strength ⁴	9500	psi	ASTM D790

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Impact	Nominal Value	Unit	Test Method
Charpy notched impact strength (73°F)	3.81	ft·lb/in ²	ISO 179/1eA ²
Charpy notched impact strength (-22°F)	2.38	ft·lb/in ²	ISO 179/1eA ²
Charpy impact strength (73°F)	66.6	ft·lb/in ²	ISO 179/1eU ²
Charpy impact strength (-22°F)	42.8	ft·lb/in ²	ISO 179/1eU ²
Notched Izod Impact ⁵ (73°F, 0.126 in)	2.5	ft·lb/in	ASTM D256
Instrumented Dart Impact ⁶			ASTM D3763
73°F, 0.126 in, Peak Energy	250	in·lb	
73°F, 0.126 in, Total Energy	310	in·lb	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
66 psi, Unannealed, 0.126 in	185	°F	
Deflection Temperature Under Load (66 psi)	190	°F	ISO 75-2 ²
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed, 0.126 in	165	°F	
Deflection Temperature Under Load (264 psi)	171	°F	ISO 75-2 ²
Vicat Softening Temperature	215	°F	ASTM D1525
Vicat Softening Temperature (50°C/h, B (50N))	201	°F	ISO 306 ²
CLTE - Flow	4.2E-5	in/in/°F	ISO 11359-2 ²

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	180 to 185	°F
Drying Time	2.0 to 4.0	hr
Suggested Max Moisture	0.10	%
Processing (Melt) Temp	420 to 450	°F
Mold Temperature	80 to 120	°F
Back Pressure	50.0 to 500	psi
Clamp Tonnage	2.0 to 3.0	tons/in ²
Screw L/D Ratio	20.0:1.0	
Screw Compression Ratio	1.5:1.0 to 3.5:1.0	

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 Type I, 2.0 in/min

⁴ Type I, 0.050 in/min

⁵ 10 mil Notch Depth

⁶ 11.1 ft/sec