MAGNUM™ 3513

ABS Resin

Trinseo

PROSPECTOR®
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Technical Data

Product Description

MAGNUM* 3513 is a grade which combines high impact with good flowability. It is suitable for injection moulding and extrusion applications.

The mass (continuous process) ABS technology ensures an ABS resin that combines excellent processability with a stable light base colour that is ideal for self-colouring.

Applications:

- Extruded sheet
- Profiles
- General injection moulding

General

Material Status	• Commercial: Active		
Literature [1]	• Brochure - MAGNUM™ ABS - Tthe Benchmark ABS for Extrusion (English) • Brochure - MAGNUM™ ABS Resins - Proven to enhance productivity and efficiency (English) • Technical Datasheet		
UL Yellow Card [2]	• E162447-238266 • E73656-249574		
Search for UL Yellow Card	• Trinseo • MAGNUM™		
Availability	• Asia Pacific	• Europe	• North America
Features	• Good Flow	• Good Processability	• High Impact Resistance
Uses	• Sheet		
Automotive Specifications	• BMW GS 93016 Color: Black		
Forms	• Pellets		
Processing Method	• Extrusion • Injection Molding	• Profile Extrusion • Sheet Extrusion	• Thermoforming

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density / Specific Gravity			
--	1.05	1.05 g/cm³	ASTM D792
--	1.05 g/cm³	1.05 g/cm³	ISO 1183/B
--	0.0379 lb/in³	1050 kg/m³	ISO 1183 [4]
Apparent (Bulk) Density	0.65 g/cm³	0.65 g/cm³	ISO 60
Melt Mass-Flow Rate (MFR)			ASTM D792
220°C/10.0 kg	8.5 g/10 min	8.5 g/10 min	
220°C/5.0 kg	2.5 g/10 min	2.5 g/10 min	
230°C/3.8 kg	2.6 g/10 min	2.6 g/10 min	
Melt volume-flow rate (220°C/10.0 kg)	0.488 in³/10min	8.00 cm³/10min	ISO 1133 [4]
Molding Shrinkage - Flow	0.40 to 0.70 %	0.40 to 0.70 %	ISO 294-4
Water Absorption			ISO 62 [4]
Saturation	0.70 %	0.70 %	
Equilibrium	0.10 %	0.10 %	

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus			
--	334000 psi	2300 MPa	ASTM D638
0.126 in (3.20 mm), Injection Molded	342000 psi	2360 MPa	ISO 527-2
--	377000 psi	2600 MPa	ISO 527-2 [4]
Tensile Strength			
Yield	6960 psi	48.0 MPa	ASTM D638
Yield, 0.126 in (3.20 mm), Injection Molded	6670 psi	46.0 MPa	ISO 527-2/50
Yield	6820 psi	47.0 MPa	ISO 527-2 [4]

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Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Elongation			
Yield	4.0 %	4.0 %	ASTM D638
Yield, 0.126 in (3.20 mm), Injection Molded	2.3 %	2.3 %	ISO 527-2/50
Yield	2.4 %	2.4 %	ISO 527-2 [4]
Nominal strain at break	40 %	40 %	ISO 527-2 [4]
Flexural Modulus			
--	436000 psi	3010 MPa	ASTM D790
0.126 in (3.20 mm), Injection Molded [5, 6]	319000 psi	2200 MPa	ISO 178
Flexural Stress			
0.126 in (3.20 mm), Injection Molded [5, 6]	10200 psi	70.0 MPa	ISO 178
Yield	10200 psi	70.0 MPa	ASTM D790
Impact	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Charpy Notched Impact Strength			
-22°F (-30°C), Injection Molded	3.8 ft·lb/in²	8.0 kJ/m²	ISO 179/2C
-22°F (-30°C), Injection Molded	5.2 ft·lb/in²	11 kJ/m²	ISO 179/1eA
73°F (23°C), Injection Molded	11 ft·lb/in²	24 kJ/m²	ISO 179/1eA
73°F (23°C), Injection Molded	7.1 ft·lb/in²	15 kJ/m²	ISO 179/2C
-22°F (-30°C)	5.23 ft·lb/in²	11.0 kJ/m²	ISO 179/1eA [4]
73°F (23°C)	10.5 ft·lb/in²	22.0 kJ/m²	ISO 179/1eA [4]
Charpy impact strength			ISO 179/1eU [4]
-22°F (-30°C)	No Break	No Break	
73°F (23°C)	No Break	No Break	
Notched Izod Impact			
73°F (23°C)	6.0 ft·lb/in	320 J/m	ASTM D256
-22°F (-30°C), Injection Molded	5.2 ft·lb/in²	11 kJ/m²	ISO 180/A
73°F (23°C), Injection Molded	11 ft·lb/in²	23 kJ/m²	ISO 180/A
Tensile notched impact strength			ISO 8256/1 [4]
73°F (23°C)	34.3 ft·lb/in²	72.0 kJ/m²	
Thermal	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Deflection Temperature Under Load			
66 psi (0.45 MPa)	217 °F	103 °C	ISO 75-2 [4]
264 psi (1.8 MPa), Annealed	212 °F	100 °C	ISO 75-2/A
264 psi (1.8 MPa)	212 °F	100 °C	ISO 75-2 [4]
Vicat Softening Temperature			
--	214 °F	101 °C	ASTM D1525
--	213 °F	101 °C	ISO 306/B50
50°C/h, B (50N)	210 °F	99.0 °C	ISO 306 [4]
CLTE			ISO 11359-2 [4]
Flow	4.4E-5 in/in/°F	8.0E-5 cm/cm/°C	
Transverse	3.3E-5 in/in/°F	6.0E-5 cm/cm/°C	
Electrical	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Volume resistivity	> 3.9E+14 ohms·in	> 1.0E+13 ohms·m	IEC 60093 [4]
Relative Permittivity			IEC 60250 [4]
100 Hz	2.80	2.80	
1 MHz	2.70	2.70	
Dissipation Factor			IEC 60250 [4]
100 Hz	6.0E-3	6.0E-3	
1 MHz	8.0E-3	8.0E-3	

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Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Burning Rate [7] (0.0787 in (2.00 mm))	1.8 in/min	45 mm/min	ISO 3795
Flame Rating [7]			UL 94
0.06 in (1.5 mm)	HB	HB	
0.12 in (3.0 mm)	HB	HB	
Burning Behav. at 1.6mm nom. thickn.			ISO 1210 [4]
0.06 in (1.50 mm), UL	HB	HB	

Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gardner Gloss (60°)	82	82	ASTM D523

Notes

[1] These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

[2] A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

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

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

[5] 0.079 in/min (2.0 mm/min)

[6] 3-points

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

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Where to Buy

Supplier

Trinseo
, USA
Telephone: 888-789-7661
Web: http://www.trinseo.com/

Distributor

ARM CHEMICAL LIMITED
Telephone: +86-20-3874-3190
Availability: China

Channel Prime Alliance
Telephone: 800-247-8038
Web: http://www.channelpa.com/
Availability: North America

Entec Polymers
Telephone: 800-375-5440
Web: http://www.entecpolymers.com/
Availability: North America

Nexeo Solutions - Europe
Nexeo Solutions is a Pan European distribution company. Contact Nexeo for availability of individual products by country.
Telephone: +34-93-480-9125
Web: http://www.nexeosolutions.com/
Availability: Austria, Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Russian Federation, Slovakia, Spain, Sweden, Switzerland, United Kingdom

PolyOne Distribution
PolyOne Distribution is a global distribution company. Contact PolyOne Distribution for availability of individual products by country.
Telephone: 800-894-4266
Web: http://polyonedistribution.com/
Availability: Global

RESINEX Group
RESINEX is a Pan European distribution company. Contact RESINEX for availability of individual products by country.
Telephone: +32-14-672511
Web: http://www.resinex.com/
Availability: Europe

Tex-Co Resin Distribution, Inc.
Telephone: 877-908-3926
Web: http://www.texcoresin.com/
Availability: North America

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