MAGNUM™ 3513

Trinseo - ABS Resin

Sunday, November 3, 2019

General Information

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		
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

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.05		ASTM D792
Density	1.05	g/cm³	ISO 1183/B
Density	0.0379	lb/in³	ISO 1183 [2]
Apparent (Bulk) Density	0.65	g/cm³	ISO 60
Melt Mass-Flow Rate (MFR)			ASTM D792
220°C/10.0 kg	8.5	g/10 min	
220°C/5.0 kg	2.5	g/10 min	
230°C/3.8 kg	2.6	g/10 min	
Melt volume-flow rate (220°C/10.0 kg)	8.00	cm³/10min	ISO 1133 [2]
Molding Shrinkage - Flow	0.40 to 0.70	%	ISO 294-4
Water Absorption (Saturation)	0.70	%	ISO 62 [2]
Water Absorption (Equilibrium)	0.10	%	ISO 62 [2]

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	334000	psi	ASTM D638
Tensile Modulus (0.126 in, Injection Molded)	342000	psi	ISO 527-2
Tensile modulus	377000	psi	ISO 527-2 [2]
Tensile Strength (Yield)	6960	psi	ASTM D638
Tensile Stress (Yield, 0.126 in, Injection Molded)	6670	psi	ISO 527-2/50
Tensile Stress (Yield)	6820	psi	ISO 527-2 [2]
Tensile Elongation (Yield)	4.0	%	ASTM D638
Tensile Strain (Yield, 0.126 in, Injection Molded)	2.3	%	ISO 527-2/50

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Mechanical	Nominal Value	Unit	Test Method
Tensile Strain (Yield)	2.4	%	ISO 527-2 [2]
Nominal strain at break	40	%	ISO 527-2 [2]
Flexural Modulus	436000	psi	ASTM D790
Flexural Modulus [3, 4] (0.126 in, Injection Molded)	319000	psi	ISO 178
Flexural Stress [3, 4] (0.126 in, Injection Molded)	10200	psi	ISO 178
Flexural Strength (Yield)	10200	psi	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			
-22°F, Injection Molded	3.8	ft·lb/in²	ISO 179/2C
-22°F, Injection Molded	5.2	ft·lb/in²	ISO 179/1eA
73°F, Injection Molded	11	ft·lb/in²	ISO 179/1eA
73°F, Injection Molded	7.1	ft·lb/in²	ISO 179/2C
Charpy notched impact strength (73°F)	10.5	ft·lb/in²	ISO 179/1eA [2]
Charpy notched impact strength (-22°F)	5.23	ft·lb/in²	ISO 179/1eA [2]
Charpy impact strength (73°F)	No Break		ISO 179/1eU [2]
Charpy impact strength (-22°F)	No Break		ISO 179/1eU [2]
Notched Izod Impact (73°F)	6.0	ft·lb/in	ASTM D256
Notched Izod Impact Strength			ISO 180/A
-22°F, Injection Molded	5.2	ft·lb/in²	
73°F, Injection Molded	11	ft·lb/in²	
Tensile notched impact strength (73°F)	34.3	ft·lb/in²	ISO 8256/1 [2]
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (66 psi)	217	°F	ISO 75-2 [2]
Heat Deflection Temperature (264 psi, Annealed)	212	°F	ISO 75-2/A
Deflection Temperature Under Load (264 psi)	212	°F	ISO 75-2 [2]
Vicat Softening Temperature	214	°F	ASTM D1525
Vicat Softening Temperature	213	°F	ISO 306/B50
Vicat Softening Temperature (50°C/h, B (50N))	210	°F	ISO 306 [2]
CLTE - Flow	4.4E-5	in/in/°F	ISO 11359-2 [2]
CLTE - Transverse	3.3E-5	in/in/°F	ISO 11359-2 [2]
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume resistivity	> 3.9E+14	ohms·in	IEC 60093 [2]
Relative Permittivity (100 Hz)	2.80		IEC 60250 [2]
Relative Permittivity (1 MHz)	2.70		IEC 60250 [2]
Dissipation Factor (100 Hz)	6.0E-3		IEC 60250 [2]
Dissipation Factor (1 MHz)	8.0E-3		IEC 60250 [2]
Flammability	**Nominal Value**	**Unit**	**Test Method**
Burning Rate [5] (0.0787 in)	1.8	in/min	ISO 3795
Flame Rating [5]			UL 94
0.06 in	HB		
0.12 in	HB		
Burning Behav. at 1.6mm nom. thickn. (0.06 in, UL)	HB		ISO 1210 [2]
Optical	**Nominal Value**	**Unit**	**Test Method**
Gloss (60°)	82		ASTM D523

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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] 0.079 in/min

[4] 3-points

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