



MAGNUM™ 3404

Trinseo - ABS Resin

Sunday, November 3, 2019

General Information

Product Description

MAGNUM™ 3404 is an excellent general purpose extrusion / thermoforming resin with outstanding processability. It combines medium impact with medium-high heat performance. 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:

- Medium impact monosheet
- Co-extruded sheets

Complies with:

U.S. FDA 21 CFR 181.32(a)(3)(i)

(See Notes)

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Latin America	
	• Europe	• North America	
Features	• Good Processability	• High Heat Resistance	• Medium Impact Resistance
Uses	• General Purpose	• Sheet	
Forms	• Pellets		
Processing Method	• Coextrusion	• Injection Molding	• Thermoforming
	• Extrusion	• Sheet Extrusion	

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.05		ASTM D792
Density	1.05	g/cm ³	ISO 1183/B
Density	0.0379	lb/in ³	ISO 1183 ²
Melt Mass-Flow Rate			ASTM D1238
220°C/10.0 kg	6.6	g/10 min	
220°C/5.0 kg	1.9	g/10 min	
230°C/3.8 kg	2.0	g/10 min	
Melt Mass-Flow Rate (MFR) (220°C/10.0 kg)	6.6	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (220°C/10.0 kg)	6.70	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow	0.40 to 0.70	%	ISO 294-4
Water Absorption (Saturation)	0.50	%	ISO 62 ²
Water Absorption (Equilibrium)	0.10	%	ISO 62 ²
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	305000	psi	ASTM D638
Tensile Modulus (0.126 in, Injection Molded)	312000	psi	ISO 527-2
Tensile modulus	312000	psi	ISO 527-2 ²
Tensile Strength (Yield)	6670	psi	ASTM D638
Tensile Stress (Yield, 0.126 in, Injection Molded)	6240	psi	ISO 527-2/50
Tensile Stress (Yield)	6240	psi	ISO 527-2 ²
Tensile Elongation (Yield)	4.1	%	ASTM D638

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Mechanical	Nominal Value	Unit	Test Method
Tensile Strain (Yield, 0.126 in, Injection Molded)	2.7	%	ISO 527-2/50
Nominal strain at break	40	%	ISO 527-2 ²
Flexural Modulus	365000	psi	ASTM D790
Flexural Modulus ^{3,4} (0.126 in, Injection Molded)	305000	psi	ISO 178
Flexural Stress ^{3,4} (0.126 in, Injection Molded)	10200	psi	ISO 178
Flexural Strength (Yield)	9750	psi	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			
-22°F, Injection Molded	3.8	ft-lb/in ²	ISO 179/2C
-22°F, Injection Molded	6.2	ft-lb/in ²	ISO 179/1eA
73°F, Injection Molded	8.6	ft-lb/in ²	ISO 179/1eA
73°F, Injection Molded	6.2	ft-lb/in ²	ISO 179/2C
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)	4.3	ft-lb/in	ASTM D256
Notched Izod Impact Strength			ISO 180/A
-22°F, Injection Molded	5.2	ft-lb/in ²	
73°F, Injection Molded	9.0	ft-lb/in ²	
Tensile notched impact strength (73°F)	32.4	ft-lb/in ²	ISO 8256/1 ²
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi)	219	°F	ISO 75-2 ²
Heat Deflection Temperature (264 psi, Annealed)	214	°F	ISO 75-2/A
Deflection Temperature Under Load (264 psi)	214	°F	ISO 75-2 ²
Vicat Softening Temperature	216	°F	ASTM D1525
Vicat Softening Temperature	216	°F	ISO 306/B50
CLTE - Flow	3.9E-5	in/in/°F	ISO 11359-2 ²
CLTE - Transverse	3.6E-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)	2.80		IEC 60250 ²
Dissipation Factor (100 Hz)	6.0E-3		IEC 60250 ²
Dissipation Factor (1 MHz)	6.0E-3		IEC 60250 ²
Flammability	Nominal Value	Unit	Test Method
Burning Rate ⁵ (0.0787 in)	2.0	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°)	74		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.