

# STYRON™ 438

High Impact Polystyrene Resin

Trinseo

Message:

STYRON™ 438 is a high-impact polystyrene resin with good flow, excellent stiffness, high heat and impact resistance. It is designed for injection molding applications.

Main Characteristics:

- High heat
- Good balance of toughness and stiffness

Complies with:

- U.S. FDA 21 CFR 177.1640

Consult the regulations for complete details.

Applications:

- Printers
- Food containers
- Household goods

General Information			
UL YellowCard	E73656-586785		
Features	Food Contact Acceptable		
	Good Flow		
	Good Stiffness		
	Good Toughness		
	High Heat Resistance		
	High Impact Resistance		
Uses	Business Equipment		
	Containers		
	Household Goods		
Agency Ratings	FDA 21 CFR 177.1640		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.04	g/cm <sup>3</sup>	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	5.0	g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.40 to 0.70	%	ASTM D955
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			ASTM D638
Yield, Injection Molded	33.1	MPa	
Ultimate, Injection Molded	30.3	MPa	
Tensile Elongation (Break, Injection Molded)	40	%	ASTM D638
Flexural Modulus (Injection Molded)	2560	MPa	ASTM D790

Flexural Strength (Injection Molded)	58.6	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	91	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Unannealed	77.2	°C	
1.8 MPa, Annealed	98.9	°C	
Vicat Softening Temperature	105	°C	ASTM D1525
CLTE - Flow	7.6E-5	cm/cm/°C	ASTM D696
Flammability	Nominal Value		Test Method
Flame Rating <sup>1</sup> (1.50 mm)	HB		UL 94
NOTE			

1.

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

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#### Recommended distributors for this material

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