

STYRON™ 438

High-Impact Polystyrene Resins

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

Main Characteristics

- High heat
- Good balance of toughness and stiffness
- UL94 HB
- FDA compliance

* U.S. FDA 21 CFR177.1640

Applications

- Printers
- Food Containers
- Household goods

Properties	Test Method	Unit	Typical Value
Physical			
Melt Flow Rate (200 deg C/5 kg)	ASTM D1238	g/10 min	5
Density	ASTM D792	g/cm ³	1.04
Mold Shrinkage	ASTM D955	in/in	0.004-0.007
UL 94 Classification @ 1.5 mm			HB

Injection Molded Properties

Mechanical

Yield, Tensile Strength	ASTM D638	psi	4800
Ultimate, Tensile Strength	ASTM D638	psi	4400
Break Elongation	ASTM D638	%	40
Flexural Strength	ASTM D790	psi	8500
Flexural Modulus	ASTM D790	psi	372000
Notched Izod @ 23 deg C	ASTM D256	ft-lb/in	1.7

Compression Molded Properties

Mechanical

Yield Tensile Strength	ASTM D638	psi	4100
Ultimate Tensile Strength	ASTM D638	psi	3000
Break Elongation	ASTM D638	%	35
Flexural Strength	ASTM D790	psi	7200
Flexural Modulus	ASTM D790	psi	357000
Notched Izod @ 23 deg C	ASTM D256	ft-lb/in	1.4

Thermal

Vicat Softening Point	ASTM D1525	deg C	105
Deflection Temperature Under Load @ 1.82 Mpa, unannealed	ASTM D648	deg C	77.2
Deflection Temperature Under Load @ 1.82 Mpa, annealed	ASTM D648	deg C	98.9
CLTE-Flow	ASTM D696	cm/cm/deg C	0.000076

Notes

These are typical properties only and are not to be construed as specification. Users should confirm results by their own tests