

Styrolution PS 454N

High Impact Polystyrene
INEOS Styrolution Group GmbH

Message:

Styrolution PS 454N is an impact resistant polystyrene with a good balance of toughness, high flow, heat resistance and high gloss.

General Information			
UL YellowCard	E108538-100840249		
Features	Good Toughness		
	High Flow		
	High Gloss		
	High Heat Resistance		
	High Impact Resistance		
Uses	Appliances		
	Tanks		
Forms	Granules		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density	1.04	g/cm³	ISO 1183
Melt Volume-Flow Rate (MVR) (200°C/5.0 kg)	14.0	cm³/10min	ISO 1133
Molding Shrinkage	0.40 to 0.70	%	ISO 294-4
Water Absorption			ISO 62
Saturation, 23°C	< 0.10	%	
Equilibrium, 23°C, 50% RH	< 0.10	%	
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness	90.0	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2200	MPa	ISO 527-2
Tensile Stress (Yield, 23°C)	27.0	MPa	ISO 527-2
Tensile Strain (Yield, 23°C)	1.4	%	ISO 527-2
Flexural Modulus	2300	MPa	ISO 178
Flexural Stress	41.0	MPa	ISO 178
Films	Nominal Value	Unit	Test Method
Tensile Elongation - MD (Break)	25	%	
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	16	kJ/m²	ISO 179
Thermal	Nominal Value	Unit	Test Method

Heat Deflection Temperature			
0.45 MPa, Annealed	82.0	°C	ISO 75-2/B
1.8 MPa, Annealed	78.0	°C	ISO 75-2/A
Vicat Softening Temperature			
--	82.0	°C	ASTM D1525 ¹
--	91.0	°C	ISO 306/A50
CLTE - Flow	8.0E-5	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.17	W/m/K	DIN 52612
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+13	ohms	IEC 60093
Volume Resistivity	> 1.0E+18	ohms·cm	IEC 60093
Dielectric Constant (100 Hz)	2.50		IEC 60250
Dissipation Factor			IEC 60250
100 Hz	1.5E-4		
1 MHz	4.0E-4		
Flammability	Nominal Value	Unit	Test Method
Flame Rating	HB		UL 94
Injection	Nominal Value	Unit	
Processing (Melt) Temp	180 to 260	°C	
Mold Temperature	40.0	°C	
Injection Velocity	200	mm/sec	
NOTE			
1.	Rate B (120°C/h), Loading 2 (50 N)		

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Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

