

TOTAL Polystyrene Impact 4241

High Impact Polystyrene
TOTAL Refining & Chemicals

Message:

Polystyrene Impact 4241 is a high ductility polystyrene for extrusion and injection molding applications. It offers good mechanical and thermal properties, that leads to manufacturing of articles with good rigidity, dimensional stability and toughness.

Applications:

Sheet for Thermoforming

Household

General Information			
UL YellowCard	E314268-100058366	E472299-102067180	
Features	Good Dimensional Stability		
	Good Stiffness		
	Good Toughness		
Uses	Household Goods		
	Sheet		
Agency Ratings	EC 1907/2006 (REACH)		
UL File Number	E314268		
Forms	Pellets		
Processing Method	Extrusion		
	Injection Molding		
	Thermoforming		
Multi-Point Data	Viscosity vs. Shear Rate (ISO 11403-2)		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.04	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	4.0	g/10 min	ASTM D1238, ISO 1133
Spiral Flow ¹	44.0	cm	ASTM D3123
Molding Shrinkage - Flow	0.40 to 0.70	%	ASTM D955
Water Absorption			
Equilibrium	0.070	%	ASTM D570
Equilibrium, 23°C, 50% RH	0.070	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			
R-Scale, 23°C, Injection Molded	99		ASTM D785
R-Scale, 23°C	99		ISO 2039-2
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength (Yield, 23°C, Injection Molded)	27.0	MPa	ASTM D638, ISO 527-2

Tensile Elongation (Break, 23°C, Injection Molded)	70	%	ASTM D638, ISO 527-2
Flexural Modulus (23°C, Injection Molded)	2150	MPa	ASTM D790, ISO 178
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			
23°C, Injection Molded	100	J/m	ASTM D256
23°C, Injection Molded	12	kJ/m ²	ISO 180
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	96.0	°C	ISO 306/A50, ASTM D1525 ²
CLTE - Flow	9.1E-5	cm/cm/°C	ASTM D696
Heat Distortion			
--	80	°C	ISO 75-2
--	80	°C	ASTM D648
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+14	ohms	ASTM D257
Dielectric Strength	150	kV/mm	ASTM D149
Injection	Nominal Value	Unit	
Rear Temperature	160 to 180	°C	
Middle Temperature	180 to 220	°C	
Front Temperature	210 to 240	°C	
Nozzle Temperature	210 to 260	°C	
Extrusion	Nominal Value	Unit	
Cylinder Zone 1 Temp.	160 to 180	°C	
Cylinder Zone 2 Temp.	180 to 220	°C	
Cylinder Zone 3 Temp.	210 to 240	°C	
Cylinder Zone 4 Temp.	210 to 260	°C	
Cylinder Zone 5 Temp.	210 to 260	°C	
NOTE			
1.	Melt Temperature: 220°C		
2.	Rate A (50°C/h), Loading 1 (10 N)		

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