

SolutionPartner


HIPS 50ISI

Injection Molding

Description

General Purpose, Injection Molding

Application

Home appliance, Food Containers, Plastic Toy Sheet or Film of Yogurt Receptacle.

Properties	Test Condition	Test Method	Unit	Typical Value
Physical				
Specific Gravity		ASTM D792	-	1.03
Molding Shrinkage (Flow), 3.2mm		ASTM D955	%	0.4~0.8
Melt Flow Rate	200 °C/5kg	ASTM D1238(G)	g/10min	8.1
	220 °C/10kg	-	g/10min	88
	230 °C/3.8kg	ASTM D1238(I)	g/10min	20
Mechanical				
Tensile Strength, 3.2mm @ Yield	50mm/min	ASTM D638	kg/cm ²	255
Tensile Elongation, 3.2mm @ Yield	50mm/min	ASTM D638	%	
@ Break	50mm/min		%	58
Tensile Modulus, 3.2mm	1mm/min	ASTM D638	kg/cm ²	
Flexural Strength, 3.2mm	15mm/min	ASTM D790	kg/cm ²	390
Flexural Modulus, 3.2mm	15mm/min	ASTM D790	kg/cm ²	22,800
IZOD Impact Strength, 6.4mm (Notched)	23 °C	ASTM D256	kg·cm/cm	9
	-30 °C		kg·cm/cm	
IZOD Impact Strength, 3.2mm (Notched)	23 °C	ASTM D256	kg·cm/cm	
	-30 °C		kg·cm/cm	
Rockwell Hardness	R-Scale	ASTM D785	-	97
Thermal				
Heat Deflection Temperature, 6.4mm (Unannealed)	18.6kg	ASTM D648	°C	75
	4.6kg		°C	-
Vicat Softening Temperature	5kg, 50 °C/h	ASTM D1525	°C	
Flammability		UL94		
1.5mm			class	HB
3.0mm			class	HB
Relative Temperature Index		UL 746B		
Electrical			°C	-
Mechanical with Impact			°C	-
Mechanical without Impact			°C	-

Note) Typical values are only for material selection purpose, and variation within normal tolerances are for various colors.

Values given should not be interpreted as specification and not be used for part or tool design.

All properties, except melt flow rate are measured on injection moulded specimens and after 48 hours storage at 23 °C, 50% relative humidity.

Updated : 10-Mar-16

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Processing Guide (Injection Molding)

Processing Parameters		Unit	Value
Drying Temperature		°C	80
Drying Time		hrs	2 ~ 4
Minimum Moisture Content		%	0.01
Melt Temperature		°C	190 ~ 220
Cylinder Temperature	Rear	°C	170 ~ 190
	Middle	°C	180 ~ 200
	Front	°C	190 ~ 210
Nozzle Temperature		°C	190 ~ 220
Mold Temperature		°C	40 ~ 70
Back Pressure		kg/cm ²	300 ~ 600
Screw Speed		rpm	30 ~ 60

Note) Back Pressure & Screw Speed are only mentioned as general guidelines.

These may not apply or need adjustment in specific situations such as low shot sizes, thin wall molding and gas-assist molding.

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