

ABS ER451

Injection Molding

Description

Heat Resistance

Application

Automotives Interior & Exterior Housing (garnish etc)

Properties	Test Condition	Test Method	Unit	Typical Value
Physical				
Specific Gravity		ASTM D792	-	1.05
Molding Shrinkage (Flow), 3.2mm		ASTM D955	%	0.4~0.7
Melt Flow Rate	220°C/10kg	ASTM D1238	g/10min	14
Mechanical				
Tensile Strength, 3.2mm @ Yield	50mm/min	ASTM D638	kg/cm ²	510
Tensile Elongation, 3.2mm @ Break	50mm/min	ASTM D638	%	20
Flexural Strength, 3.2mm	15mm/min	ASTM D790	kg/cm ²	810
Flexural Modulus, 3.2mm	15mm/min	ASTM D790	kg/cm ²	26,000
IZOD Impact Strength, 6.4mm (Notched)	23°C	ASTM D256	kg·cm/cm	25
	-30°C		kg·cm/cm	9
IZOD Impact Strength, 3.2mm (Notched)	23°C	ASTM D256	kg·cm/cm	27
	-30°C		kg·cm/cm	10
Rockwell Hardness	R-Scale	ASTM D785	-	110
Thermal				
Heat Deflection Temperature, 6.4mm (Unannealed)	18.6kg	ASTM D648	°C	92
	4.6kg		°C	99
Vicat Softening Temperature	5kg, 50°C/h	ASTM D1525	°C	99
Flammability		UL94		HB
Relative Temperature Index		UL 746B		
	Electrical		°C	60
	Mechanical with Impact		°C	60
Mechanical without Impact			°C	60

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 : 25-Jul-14

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Electrical

Comparative Tracking Index(CTI)	Solution A	IEC 60112	Volts	0
Surface Resistivity		IEC 60093	Ohm	-
Volume Resistivity	23 °C	ASTM D257	Ohm·m	1.4E+01
Arc Resistance	23 °C	ASTM D495	Ohm·cm	6
Dielectric Strength, 1mm	23 °C	ASTM D149	kV/mm	30
Dielectric Constant (10 ⁶ Hz)	23 °C	ASTM D150	sec	-

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Processing Guide (Injection Molding)

Processing Parameters		Unit	Value
Drying Temperature		°C	80 ~ 90
Drying Time		hrs	3 ~ 4
Recommendable Moisture Content		%	0.07 below
Melt Temperature		°C	190 ~ 210
Cylinder Temperature	Rear	°C	180 ~ 200
	Middle	°C	200 ~ 220
	Front	°C	220 ~ 230
Nozzle Temperature		°C	220 ~ 230
Mold Temperature		°C	40~60
Back Pressure		kg/cm ²	10 ~ 30
Measuring Speed		rpm	Low speed

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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