

ER451

Injection Molding

Description

- Heat Resistance

Applications

- Automotives Interior & Exterior Housing (Garnish etc.)

Properties	Method	Unit	ER451
Physical			
Specific Gravity , 23°C	ISO 1183		1.05
Mold Shrinkage , 23°C, 3.2mm , 23°C	ISO 294-4	%	0.4 ~ 0.7
Melt Volume Rate , 220°C, 10kg	ISO 1133	cm ³ /10min	14
Mechanical			
Tensile Strength at Yield , 23°C, 50mm/min, 4mm	ISO 527	MPa	49
Tensile Elongation at Break , 23°C, 50mm/min, 4mm	ISO 527	%, (Min)	20
Tensile Modulus , 23°C, 50mm/min, 4mm	ISO 527	MPa	2300
Flexural Strength , 23°C, 2mm/min, 4mm	ISO 178	MPa	73
Flexural Modulus , 23°C, 2mm/min, 4mm	ISO 178	MPa	2350
Izod Impact Strength , Notched, 4mm, 23°C	ISO 180/1A	kJ/m ²	23
Izod Impact Strength , Notched, 4mm, -30°C	ISO 180/1A	kJ/m ²	8
Charpy Impact Strength , 4mm, 23°C	ISO 179/1eA	kJ/m ²	25
Charpy Impact Strength , 4mm, -30°C	ISO 179/1eA	kJ/m ²	9
Rockwell Hardness , R-Scale	ISO 2039		112
Thermal			
HDT , Flatwise, 1.8MPa, 4mm, Unannealed	ISO 75	°C	85
HDT , Flatwise, 0.45MPa, 4mm, Unannealed	ISO 75	°C	97
HDT , Flatwise, 1.8MPa, 4mm, Annealed	ISO 75	°C	93
HDT , Flatwise, 0.45MPa, 4mm, Annealed	ISO 75	°C	102
VICAT , 50N, 50°C/h	ISO 306	°C	101
RTI , Electrical	UL 746B	°C	60
RTI , Mechanical with Impact	UL 746B	°C	60
RTI , Mechanical without Impact	UL 746B	°C	60

Note

Typical values can be used only for the purpose of selecting material, and there can be variation within normal tolerances for various colors.

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

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

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Processing Guide (Injection Molding)

Processing Parameters	Unit	Value
Drying Temperature	°C	80 ~ 90
Drying Time	hrs	3 ~ 4
Maximum Moisture Content	%	0.07
Melt Temperature	°C	230 ~ 260
Nozzle Temperature	°C	230 ~ 240
Mold Temperature	°C	40 ~ 60
Back Pressure, Hydraulic Type	kg/cm ²	10 ~ 30

Note

Back Pressure & Measuring 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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