

WeConnectScience



ER459

Description

ER459 has good chemical resistance and is engineered for non-primer painting processes

Key Features

Medium Heat Resistance, Paintability, Non-Primer Painting Process, Chemical Resistance

Application

Bumper, Outside Mirror

Properties	Condition	Method	Unit	ER459
Physical				
Specific Gravity	23°C	ISO 1183		1.05
Mold Shrinkage	23°C, 3.2mm	ISO 294-4	%	0.4 ~ 0.7
Melt Flow Rate	220°C, 10kg	ISO 1133	g/10min	16
Mechanical				
Tensile Strength at Yield	23°C, 50mm/min, 4mm	ISO 527	MPa	50
Tensile Elongation at Yield	23°C, 50mm/min, 4mm	ISO 527	%, (Min)	5
Tensile Elongation at Break	23°C, 50mm/min, 4mm	ISO 527	%, (Min)	10
Flexural Strength	23°C, 2mm/min, 4mm	ISO 178	MPa	75
Flexural Modulus	23°C, 2mm/min, 4mm	ISO 178	MPa	2400
Izod Impact Strength	Notched, 4mm, 23°C	ISO 180/1A	kJ/m ²	20
Izod Impact Strength	Notched, 4mm, -30°C	ISO 180/1A	kJ/m ²	7
Charpy Impact Strength	Notched, 4mm, 23°C	ISO 179/1eA	kJ/m ²	20
Charpy Impact Strength	Notched, 4mm, -30°C	ISO 179/1eA	kJ/m ²	7
Rockwell Hardness	R-Scale	ISO 2039		107
Thermal				
Heat Deflection Temperature	Flatwise, 1.8MPa, 4mm, Unannealed	ISO 75	°C	84
Heat Deflection Temperature	Flatwise, 0.45MPa, 4mm, Unannealed	ISO 75	°C	91
Heat Deflection Temperature	Flatwise, 1.8MPa, 4mm, Annealed	ISO 75	°C	92
Heat Deflection Temperature	Flatwise, 0.45MPa, 4mm, Annealed	ISO 75	°C	96
Vicat Softening Temperature	50N, 50°C/h	ISO 306	°C	102

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 index 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
Injection Temperature	°C	220 ~ 260
Mold Temperature	°C	40 ~ 80
Screw Speed	rpm	30 ~ 60

Note

Injection Temperature & 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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