

ER460

Description

ER460 is a Heat Resistant ABS product for injection molding, designed to have medium heat resistance.

Key Features

Medium Heat Resistance

Application

Motorcycle, Vacuum Cleaner, Electrical/Electronic Products, Miscellaneous Goods

Properties	Condition	Method	Unit	ER460
Physical				
Specific Gravity	23°C	ASTM D792		1.04
Mold Shrinkage	23°C, 3.2mm	ASTM D955	%	0.4 ~ 0.7
Melt Flow Index	220°C, 10kg	ASTM D1238	g/10min	22
Mechanical				
Tensile Strength at Yield	23°C, 50mm/min, 3.2mm	ASTM D638	MPa	45
Tensile Elongation at Break	23°C, 50mm/min, 3.2mm	ASTM D638	%, (Min)	15
Tensile Modulus	23°C, 50mm/min, 3.2mm	ASTM D638	MPa	2450
Flexural Strength	23°C, 10mm/min, 6.4mm	ASTM D790	MPa	80
Flexural Modulus	23°C, 10mm/min, 6.4mm	ASTM D790	MPa	2550
Izod Impact Strength	Notched, 3.2mm, 23°C	ASTM D256	J/m	240
Izod Impact Strength	Notched, 3.2mm, -30°C	ASTM D256	J/m	100
Izod Impact Strength	Notched, 6.4mm, 23°C	ASTM D256	J/m	240
Izod Impact Strength	Notched, 6.4mm, -30°C	ASTM D256	J/m	100
Rockwell Hardness	R-Scale	ASTM D785		110
Thermal				
Heat Deflection Temperature	Edgewise, 1.82MPa, 6.4mm, Unannealed	ASTM D648	°C	92
Heat Deflection Temperature	Edgewise, 0.46MPa, 6.4mm, Unannealed	ASTM D648	°C	98
Heat Deflection Temperature	Edgewise, 1.82MPa, 6.4mm, Annealed	ASTM D648	°C	96
Heat Deflection Temperature	Edgewise, 0.46MPa, 6.4mm, Annealed	ASTM D648	°C	101
Vicat Softening Temperature	50N, 50°C/h	ASTM D1525	°C	99
Flammability	1.5mm	UL 94		HB
Flammability	3.0mm	UL 94		HB

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.

Updated Date: 2021-05-07 Issued Date : 2021-09-23

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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 ~ 290
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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ABS HI121

Injection Molding

Description

Well Balanced Mechanical Properties

Application

Electric&Electronic Products, Miscellaneous Goods

Properties	Test Condition	Test Method	Unit	Typical Value
Physical				
Specific Gravity		ASTM D792	-	1.04
Molding Shrinkage (Flow), 3.2mm		ASTM D955	%	0.4~0.7
Melt Flow Rate	220℃/10kg	ASTM D1238	g/10min	21
Mechanical				
Tensile Strength, 3.2mm @ Yield	50mm/min	ASTM D638	kg/cm ²	460
Tensile Elongation, 3.2mm @ Break	50mm/min	ASTM D638	%	40
Tensile Modulus, 3.2mm	1mm/min	ASTM D638	kg/cm ²	21,200
Flexural Strength, 3.2mm	15mm/min	ASTM D790	kg/cm ²	740
Flexural Modulus, 3.2mm	15mm/min	ASTM D790	kg/cm ²	25,000
IZOD Impact Strength, 6.4mm (Notched)	23℃	ASTM D256	kg-cm/cm	32
	-30℃		kg-cm/cm	13
IZOD Impact Strength, 3.2mm (Notched)	23℃	ASTM D256	kg-cm/cm	35
	-30℃		kg-cm/cm	13
Rockwell Hardness	R-Scale	ASTM D785	-	108
Thermal				
Heat Deflection Temperature, 6.4mm (Unannealed)	18.6kg	ASTM D648	℃	87
	4.6kg		℃	91
Vicat Softening Temperature	5kg, 50℃/h	ASTM D1525	℃	93
Flammability		UL94		HB
Relative Temperature Index		UL 746B		
Electrical			℃	60
Mechanical with Impact			℃	60
Mechanical without Impact			℃	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℃, 50% relative humidity.

Updated : 7-Jun-10

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Electrical

Comparative Tracking Index(CTI)	Solution A	IEC 60112	Volts	0
Surface Resistivity		IEC 60093	Ohm	
Volume Resistivity	23℃	ASTM D257	Ohm·m	
Arc Resistance	23℃	ASTM D495	Ohm·cm	6

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 molded specimens and after 48 hours storage at 23℃, 50% relative humidity.

Processing Guide (Injection Molding)

Processing Parameters		Unit	Value
Drying Temperature		℃	80
Drying Time		hrs	2 ~ 4
Minimum Moisture Content		%	0.01
Melt Temperature		℃	210 ~ 240
Cylinder Temperature	Rear	℃	180 ~ 200
	Middle	℃	190 ~ 210
	Front	℃	200 ~ 220
Nozzle Temperature		℃	200 ~ 230
Mold Temperature		℃	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.

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