



ASA L1951

Injection Molding Grade

Description

High Heat ASA

Application

Automotive Part (Radiator Grill, Side Mirror)

Physical Specific Gravity	Properties	[est Condition	ı Test Method	Unit	Typical Value
Molding Shrinkage (Flow), 3.2mm ASTM D955 % 0.4~0.7 Melt Flow Rate 220°C/10kg ASTM D1238 g/10min 6 Mechanical Tensile Strength, 3.2mm ASTM D638 kg/cm² 510 @ Yield 50mm/min % 25 Tensile Elongation, 3.2mm ASTM D638 kg/cm² 510 @ Yield 50mm/min % 25 Tensile Modulus, 3.2mm 1mm/min ASTM D638 kg/cm² Flexural Strength, 6.4mm 15mm/min ASTM D638 kg/cm² Flexural Modulus, 6.4mm 15mm/min ASTM D790 kg/cm² 790 Flexural Modulus, 6.4mm ASTM D256 kg-cm/cm 11 (Notched) 23°C kg-cm/cm 11 (Notched) 23°C kg-cm/cm 11 (Notched) 23°C kg-cm/cm 11 (Notched) 23°C kg-cm/cm 20°C (Notched) 23°C kg-cm/cm 20°C (Notched) 25 Kg-cm/cm	Physical				
Mechanical ASTM D1238 g/10min 6 Mechanical Tensile Strength, 3.2mm ASTM D638 6 510 Weild 50mm/min kg/cm² 510 510 Tensile Elongation, 3.2mm ASTM D638 kg/cm² 510 Weild 50mm/min % 25 510 Tensile Blongation, 3.2mm 1mm/min ASTM D638 kg/cm² 25 Tensile Modulus, 3.2mm 1mm/min ASTM D638 kg/cm² 790 Flexural Strength, 6.4mm 15mm/min ASTM D790 kg/cm² 24,000 IZOUI Impact Strength, 6.4mm ASTM D256 kg-cm/cm 11 (Notched) 23°C kg-cm/cm 11 IZOD Impact Strength, 3.2mm ASTM D256 kg-cm/cm (Notched) 23°C kg-cm/cm Rockwell Hardness R-Scale ASTM D785 - 104 Thermal Heat Deflection Temperature, 6.4mm ASTM D648 °C 95 (Unannealed) 18.6kg °C	Specific Gravity		ASTM D792	-	1.08
Mechanical Tensile Strength, 3.2mm	Molding Shrinkage (Flow), 3.2n	nm	ASTM D955	%	0.4~0.7
Tensile Strength, 3.2mm ASTM D638 kg/cm² 510 Tensile Elongation, 3.2mm ASTM D638 510 ② Yield 50mm/min % 25 Break 50mm/min % 25 Tensile Modulus, 3.2mm 1mm/min ASTM D638 kg/cm² 790 Flexural Strength, 6.4mm 15mm/min ASTM D790 kg/cm² 790 Flexural Modulus, 6.4mm 15mm/min ASTM D790 kg/cm² 24,000 IZOD Impact Strength, 6.4mm ASTM D256 kg·cm/cm 11 (Notched) 23°C kg·cm/cm 11 IZOD Impact Strength, 3.2mm ASTM D256 kg·cm/cm (Notched) 23°C kg·cm/cm Rockwell Hardness R-Scale ASTM D785 - 104 Thermal Heat Deflection Temperature, 6.4mm ASTM D648 °C 95 Vicat Softening Temperature ASTM D1525 °C 95 Vicat Softening Temperature Index UL 746B UL 746B C Electrical	Melt Flow Rate	220°C/10kg	ASTM D1238	g/10min	6
@ Yield 50mm/min kg/cm² 510 Tensile Elongation, 3.2mm ASTM D638 9 2 @ Yield 50mm/min % 25 Tensile Modulus, 3.2mm 1mm/min ASTM D638 kg/cm² Flexural Strength, 6.4mm 15mm/min ASTM D790 kg/cm² 790 Flexural Modulus, 6.4mm 15mm/min ASTM D790 kg/cm² 24,000 IZOD Impact Strength, 6.4mm ASTM D256 kg·cm/cm 11 (Notched) 23°C kg·cm/cm 11 IZOD Impact Strength, 3.2mm ASTM D256 kg·cm/cm (Notched) 23°C kg·cm/cm Rockwell Hardness R-Scale ASTM D785 - 104 Thermal Heat Deflection Temperature, 6.4mm ASTM D648 °C 95 (Unannealed) 18.6kg °C 95 Vicat Softening Temperature ASTM D1525 °C 104 Flammability UL 746B Electrical °C °C Mechanical with Impact <td>Mechanical</td> <td></td> <td></td> <td></td> <td></td>	Mechanical				
Tensile Elongation, 3.2mm	Tensile Strength, 3.2mm		ASTM D638		
@ Yield 50mm/min % 25 Tensile Modulus, 3.2mm 1mm/min ASTM D638 kg/cm² Flexural Strength, 6.4mm 15mm/min ASTM D790 kg/cm² 790 Flexural Modulus, 6.4mm 15mm/min ASTM D790 kg/cm² 24,000 IZOD Impact Strength, 6.4mm ASTM D256 kg·cm/cm 11 (Notched) 23°C kg·cm/cm 11 IZOD Impact Strength, 3.2mm ASTM D256 kg·cm/cm (Notched) 23°C kg·cm/cm Rockwell Hardness R-Scale ASTM D785 - 104 Thermal Heat Deflection Temperature, 6.4mm ASTM D648 °C 95 Vicat Softening Temperature ASTM D1525 °C 104 Flammability UL 94 UL 746B C 104 Flammability UL 746B C C Mechanical with Impact °C Mechanical without Impact °C C Optical	@ Yield	50mm/min		kg/cm ²	510
@ Break 50mm/min % 25 Tensile Modulus, 3.2mm 1mm/min ASTM D638 kg/cm² Flexural Strength, 6.4mm 15mm/min ASTM D790 kg/cm² 790 Flexural Modulus, 6.4mm 15mm/min ASTM D790 kg/cm² 24,000 IZOD Impact Strength, 6.4mm ASTM D256 kg·cm/cm 11 (Notched) 23°C kg·cm/cm 11 IZOD Impact Strength, 3.2mm ASTM D256 kg·cm/cm (Notched) 23°C kg·cm/cm Rockwell Hardness R-Scale ASTM D785 - 104 Thermal Heat Deflection Temperature, 6.4mm ASTM D648 (Unannealed) 95 4.6kg °C 95 Vicat Softening Temperature ASTM D1525 °C 5kg, 50°C/h °C 104 Flammability UL 94 Relative Temperature Index UL 746B Electrical °C Mechanical with Impact °C Mechanical without Impact °C </td <td>Tensile Elongation, 3.2mm</td> <td></td> <td>ASTM D638</td> <td><u> </u></td> <td></td>	Tensile Elongation, 3.2mm		ASTM D638	<u> </u>	
Tensile Modulus, 3.2mm 1mm/min ASTM D638 kg/cm² Flexural Strength, 6.4mm 15mm/min ASTM D790 kg/cm² 790 Flexural Modulus, 6.4mm 15mm/min ASTM D790 kg/cm² 24,000 IZOD Impact Strength, 6.4mm ASTM D256 kg·cm/cm 11 (Notched) 23°C kg·cm/cm 11 IZOD Impact Strength, 3.2mm ASTM D256 kg·cm/cm (Notched) 23°C kg·cm/cm Rockwell Hardness R-Scale ASTM D785 - 104 Thermal Heat Deflection Temperature, 6.4mm ASTM D648 °C 95 (Unannealed) 18.6kg °C 95 Vicat Softening Temperature ASTM D1525 °C 104 Flammability UL94 UL94 Relative Temperature Index UL 746B °C Electrical °C °C Mechanical with Impact °C °C Mechanical without Impact °C °C	@ Yield	50mm/min		%	
Flexural Strength, 6.4mm	@ Break	50mm/min		%	25
Flexural Strength, 6.4mm	Tensile Modulus, 3.2mm	1mm/min	ASTM D638	kg/cm ²	
Flexural Modulus, 6.4mm	Flexural Strength, 6.4mm	15mm/min	ASTM D790		790
IZOD Impact Strength, 6.4mm (Notched) 23°C -30°C kg·cm/cm IZOD Impact Strength, 3.2mm (Notched) 23°C kg·cm/cm IZOD Impact Strength, 3.2mm (Notched) 23°C kg·cm/cm Rockwell Hardness R-Scale ASTM D256 kg·cm/cm Rockwell Hardness R-Scale ASTM D785 104 Thermal Heat Deflection Temperature, 6.4mm (Unannealed) 18.6kg °C 95 4.6kg °C Vicat Softening Temperature ASTM D1525 Skg, 50°C/h C 104 Flammability UL94 Relative Temperature Index Electrical Mechanical with Impact C Mechanical without Impact C Optical	Flexural Modulus, 6.4mm	15mm/min	ASTM D790		24,000
IZOD Impact Strength, 3.2mm	IZOD Impact Strength, 6.4mm		ASTM D256		
IZOD Impact Strength, 3.2mm (Notched) 23°C kg·cm/cm Rockwell Hardness R-Scale ASTM D785 104 Thermal Heat Deflection Temperature, 6.4mm (Unannealed) 18.6kg 'C Vicat Softening Temperature 5kg, 50°C/h Relative Temperature Index Electrical Mechanical with Impact Mechanical without Impact Optical ASTM D785 ASTM D785 ASTM D648 C Vicat Softening Temperature ASTM D1525 C 104 Flammability UL94 Relative Temperature Index C Mechanical without Impact C Optical	(Notched)	23°C		kg-cm/cm	11
Continue Continue		-30°C		kg-cm/cm	
Rockwell Hardness R-Scale ASTM D785 - 104	IZOD Impact Strength, 3.2mm		ASTM D256		
Rockwell Hardness R-Scale ASTM D785 - 104 Thermal Heat Deflection Temperature, 6.4mm ASTM D648 (Unannealed) 18.6kg °C 95 4.6kg °C Vicat Softening Temperature ASTM D1525 Skg, 50°C/h °C 104 Flammability UL94 Relative Temperature Index Electrical °C Mechanical with Impact %C Mechanical without Impact °C Optical	(Notched)	23°C		kg-cm/cm	
Thermal Heat Deflection Temperature, 6.4mm (Unannealed) 18.6kg °C 95 4.6kg °C Vicat Softening Temperature ASTM D1525 5kg, 50°C/h °C 104 Flammability UL94 Relative Temperature Index UL 746B Electrical °C Mechanical with Impact °C Mechanical without Impact °C Optical		-30°C		kg-cm/cm	
Heat Deflection Temperature, 6.4mm ASTM D648 (Unannealed) 18.6kg °C 95 4.6kg °C Vicat Softening Temperature ASTM D1525 5kg, 50°C/h °C 104 Flammability UL94 Relative Temperature Index UL 746B Electrical °C Mechanical with Impact °C Mechanical without Impact °C Optical	Rockwell Hardness	R-Scale	ASTM D785	-	104
Heat Deflection Temperature, 6.4mm ASTM D648 (Unannealed) 18.6kg °C 95 4.6kg °C Vicat Softening Temperature ASTM D1525 5kg, 50°C/h °C 104 Flammability UL94 Relative Temperature Index UL 746B Electrical °C Mechanical with Impact °C Mechanical without Impact °C Optical	Thermal				
(Unannealed) 18.6kg 4.6kg °C Vicat Softening Temperature ASTM D1525 Skg, 50°C/h °C 104 Flammability UL94 Relative Temperature Index Electrical Mechanical with Impact Mechanical without Impact Optical		3 4mm	ASTM D648		
4.6kg °C Vicat Softening Temperature ASTM D1525 5kg, 50°C/h °C 104 Flammability UL94 Relative Temperature Index Electrical CMechanical with Impact Mechanical without Impact Optical			7.01.11.2010	°C	95
Vicat Softening Temperature Skg, 50°C/h Plammability Relative Temperature Index Electrical Mechanical with Impact Mechanical without Impact Optical ASTM D1525 C C Optical ASTM D1525 C C C Optical	(enameasea)	•		_	
5kg, 50°C/h °C 104 Flammability UL94 Relative Temperature Index UL 746B Electrical °C Mechanical with Impact °C Mechanical without Impact °C Optical	Vicat Softening Temperature	g	ASTM D1525		
Relative Temperature Index Electrical Mechanical with Impact Mechanical without Impact Optical	rioat Contonning romporature	5kg, 50°C/h	7.012.020	°C	104
Electrical °C Mechanical with Impact °C Mechanical without Impact °C Optical	Flammability		UL94		
Mechanical with Impact Mechanical without Impact Optical C	Relative Temperature Index		UL 746B		
Mechanical without Impact °C Optical	Electrical			°C	
Optical	Mechanical with Impact			°C	
Optical	Mechanical without Impact			°C	
		45°	ASTM D2457	-	

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 molulded specimens and after 48 hours storage at 23°C, 50%

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ASA LI951

Injection Molding Grade

Description

High Heat ASA

Application

Automotive Part (Radiator Grill, Side Mirror)

Processing Guide (Injection Molding)

Processing Parameters		Unit	Value
Drying Temperature		°C	70 ~ 80
Drying Time		hrs	3 ~ 4
Minimum Moisture Content		%	0.07
Melt Temperature		$^{\circ}$	190 ~ 210
Cylinder Temperature	Rear	°C	200 ~ 220
	Middle	$^{\circ}$ C	210 ~ 230
	Front	°C	220 ~ 240
Nozzle Temperature		$^{\circ}$	220 ~ 240
Mold Temperature		$^{\circ}$	40 ~ 60
Back Pressure		kg/cm ²	10~30
Screw 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 mole