

LUMID LW4203A(W)

Injection Molding, PA6+GF/MF20%

Description

Low Warpage

Application

Automotive Parts(Engine Cover)

Properties	Test Condition	Test Method	Unit	Typical Value
Physical				
Specific Gravity	23℃	ASTM D792	-	1.27
Molding Shrinkage (Flow), 3.2mm	23℃	ASTM D955	%	0.7 ~ 1.2
Melt Flow Rate		ASTM D1238	g/10min	
Water Absorption		ASTM D570	%	1.2
Mechanical				
Tensile Strength, 3.2mm		ASTM D638		
@ Break	5mm/min		kg/cm ²	1,050
Tensile Elongation, 3.2mm		ASTM D638		
@ Break	5mm/min		%	9
Flexural Strength, 6.4mm	2.8mm/min	ASTM D790	kg/cm ²	1,400
Flexural Modulus, 6.4mm	2.8mm/min	ASTM D790	kg/cm ²	40,000
IZOD Impact Strength, 6.4mm		ASTM D256		
(Notched)	23℃		kg·cm/cm	
	-30℃		kg·cm/cm	
IZOD Impact Strength, 3.2mm		ASTM D256		
(Notched)	23℃		kg·cm/cm	5
	-30℃		kg·cm/cm	
Rockwell Hardness	R-Scale	ASTM D785	-	121
Thermal				
Melting Temperature		ASTM D3418	℃	220
Heat Deflection Temperature, 6.4mm		ASTM D648		
(Unannealed)	18.6kg		℃	180
	4.6kg		℃	
Coefficient of Linear Thermal Expansion		ASTM D696		
Flow			10 ⁻⁵ m/m℃	4.6
Cross-flow			10 ⁻⁵ m/m℃	
Ball Pressure Temperature		IEC 60695-10-2	℃	
Burning Rate, 3.2mm		FMVSS 302	mm	
Flammability		UL94		
0.8mm			class	
1.6mm			class	
2.5mm			class	
3.2mm			class	

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.

Updated : 9-Nov-09

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Electrical

Surface Resistivity		IEC 60093	Ohm	
Volume Resistivity	23℃	ASTM D257	Ohm·m	1.0E+15
Arc Resistance	23℃	ASTM D495	sec	130
Dielectric Strength, 1mm	23℃	ASTM D149	kV/mm	21
Dielectric Constant (10 ⁶ Hz)	23℃	ASTM D150	sec	3.0

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Processing Guide (Injection Molding)

Processing Parameters		Unit	Value
Drying Temperature		℃	80 ~ 100
Drying Time		hrs	4 ~ 5
Minimum Moisture Content		%	
Melt Temperature		℃	250 ~ 275
Cylinder Temperature	Rear	℃	235 ~ 250
	Middle	℃	240 ~ 265
	Front	℃	240 ~ 265
Nozzle Temperature		℃	250 ~ 275
Mold Temperature		℃	80 ~ 100
Back Pressure	Hydraulic	kg/cm ²	10 ~ 30
	Electronic	kg/cm ²	100 ~ 300
Screw Speed		rpm	60 ~ 200

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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