

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, 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 | 900 |
| Tensile Elongation, 3.2mm | | ASTM D638 | | |
| @ Break | 5mm/min | | % | 6 |
| 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 | 4.5 |
| | -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 | | ℃ | 185 |
| | 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 moulded specimens and after 48 hours storage at 23℃, 50% relative humidity.

Updated : 1-Jun-14

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Application

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Electrical

| | | | | |
|--|-----|-----------|--------|---------|
| Surface Resistivity | | IEC 60093 | Ohm | |
| Volume Resistivity | 23℃ | ASTM D257 | Ohm·cm | 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 | | 3.0 |

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Processing Guide (Injection Molding)

| Processing Parameters | | Unit | Value |
|--------------------------|----------------|--------------------|-----------|
| Drying Temperature | | ℃ | 80 ~ 100 |
| Drying Time | | hrs | 4 ~ 5 |
| Maximum Moisture Content | | % | 0.12 |
| 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 Type | kg/cm ² | 10~30 |
| | Electric Type | | 100~300 |
| Screw Speed | | rpm | 60~150 |

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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