

LNPT[™] THERMOCOMP[™] AM COMPOUND EF004XXAR1

DESCRIPTION

LNP THERMOCOMP EF004XXAR1 is a compound based on Polyetherimide (PEI) resin containing 20% glass fiber for Large Format Additive manufacturing (LFAM) applications. PEI compounds, based on SABIC's inherently flame-retardant ULTEM[™] resins, provide low thermal expansion, high temperature performance, excellent strength-to-weight ratio, high modulus and low creep.

| GENERAL INFORMATION | |
|-----------------------|--|
| Features | Flame Retardant, Creep resistant, Dimensional stability, High stiffness/Strength, High temperature resistance, No PFAS intentionally added, Additive Manufacturing |
| Fillers | Glass Fiber |
| Brands | LNPT [™] THERMOCOMP [™] |
| Polymer Types | Polyetherimide (PEI) |
| Processing Techniques | Large Format Additive Manufacturing (LFAM) |

| INDUSTRY | SUB INDUSTRY |
|------------|--------------------|
| Industrial | Industrial General |

TYPICAL PROPERTY VALUES

Revision 20240209

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|----------------|-------|--------------------|
| MECHANICAL | | | |
| Tensile Stress, 5mm/min ⁽¹⁾ | | | |
| XZ Orientation | 94 | MPa | ASTM D638 Modified |
| ZX Orientation | 39 | MPa | ASTM D638 Modified |
| Tensile Strain, 5mm/min | | | |
| XZ Orientation | 2.1 | % | ASTM D638 Modified |
| ZX Orientation | 1.7 | % | ASTM D638 Modified |
| Tensile Stiffness, 5mm/min | | | |
| XZ Orientation ⁽²⁾ | 5.6 | GPa | ASTM D638 Modified |
| ZX Orientation | 2.8 | GPa | ASTM D638 Modified |
| Flexural Stress, 5mm/min | | | |
| XZ Orientation | 62 | MPa | ASTM D790 Modified |
| ZX Orientation | 137 | MPa | ASTM D790 Modified |
| THERMAL | | | |
| HDT, 1.82 MPa, 3.2mm, annealed | 207 | °C | ASTM D648 |
| PHYSICAL | | | |
| Specific Gravity | 1.43 | - | ASTM D792 |
| EXTRUSION | | | |
| Drying Time | 4 – 6 | Hrs | |
| Drying Temperature | 120 – 150 | °C | |

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|-----------------------------|----------------|-------|--------------|
| Extruder L/D | 24 | - | |
| Maximum Moisture Content | .02 | % | |
| Barrel - Zone 1 Temperature | 325 – 345 | °C | |
| Barrel - Zone 2 Temperature | 345 – 355 | °C | |
| Barrel - Zone 3 Temperature | 355 – 365 | °C | |
| Barrel - Zone 4 Temperature | 365 – 375 | °C | |
| Nozzle Temperature | 340 – 360 | °C | |
| Melt Temperature | 350 – 370 | °C | |
| Bed Temperature | 100 – 100 | °C | |
| Extruder Pressure | <17 | MPa | |

(1) Modified ASTM E8 used for tensile test samples

(2) Tensile Stiffness (K) is structural property defined as the stress/strain in the linear region of the stress-strain curve. Value depends on the geometry/shape and boundary/surrounding conditions

ADDITIONAL PRODUCT NOTES

No PFAS intentionally added: The grade listed in this document does not contain PFAS intentionally added during Seller's manufacturing process and is not expected to contain unintentional PFAS impurities. Each user is responsible for evaluating the presence of unintentional PFAS impurities.

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