# LNP™ THERMOCOMP™ Compound UC006H

UC-1006

## DESCRIPTION

LNP THERMOCOMP UC006H compound is based on Polyphthalamide (PPA) resin containing 30% carbon fiber. Added features of this grade include: Electrically Conductive, Healthcare.

| GENERAL INFORMATION | |
|---|---|
| **Features** | Electrically Conductive, Healthcare/Formula lock, Carbon fiber filled, High stiffness/Strength, High temperature resistance, No PFAS intentionally added (PCR contains <50ppm total organic fluorine content) |
| **Fillers** | Carbon Fiber |
| **Polymer Types** | Polyphthalamide (PPA) |
| **Processing Techniques** | Injection Molding |

| INDUSTRY | SUB INDUSTRY |
|---|---|
| Hygiene and Healthcare | Pharmaceutical Packaging and Drug Delivery, Surgical devices, General Healthcare, Patient Testing |
| Packaging | Industrial Packaging |

## TYPICAL PROPERTY VALUES

Revision 20241017

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| MECHANICAL [1] | | | |
| **Tensile Stress, break** | 287 | MPa | ASTM D638 |
| **Tensile Strain, break** | 1.5 | % | ASTM D638 |
| **Tensile Modulus, 5 mm/min** | 26110 | MPa | ASTM D638 |
| **Flexural Stress** | 419 | MPa | ASTM D790 |
| **Flexural Modulus** | 22630 | MPa | ASTM D790 |
| **Tensile Stress, break** | 263 | MPa | ISO 527 |
| **Tensile Strain, break** | 1.3 | % | ISO 527 |
| **Tensile Modulus, 1 mm/min** | 28160 | MPa | ISO 527 |
| **Flexural Stress** | 413 | MPa | ISO 178 |
| **Flexural Modulus** | 22320 | MPa | ISO 178 |
| IMPACT [1] | | | |
| **Izod Impact, unnotched, 23°C** | 827 | J/m | ASTM D4812 |
| **Izod Impact, notched, 23°C** | 74 | J/m | ASTM D256 |
| **Instrumented Dart Impact Energy @ peak, 23°C** | 8 | J | ASTM D3763 |
| **Multiaxial Impact** | 2 | J | ISO 6603 |
| **Izod Impact, unnotched 80*10*4 +23°C** | 51 | kJ/m² | ISO 180/1U |
| **Izod Impact, notched 80*10*4 +23°C** | 6 | kJ/m² | ISO 180/1A |
| THERMAL [1] | | | |
| **HDT, 1.82 MPa, 3.2mm, unannealed** | 285 | °C | ASTM D648 |
| **CTE, -40°C to 40°C, flow** | 1.8E-05 | 1/°C | ASTM E831 |
| **CTE, -40°C to 40°C, xflow** | 3.96E-05 | 1/°C | ASTM E831 |

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| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| CTE, -40°C to 40°C, flow | 1.89E-05 | 1/°C | ISO 11359-2 |
| CTE, -40°C to 40°C, xflow | 4.02E-05 | 1/°C | ISO 11359-2 |
| PHYSICAL [1] | | | |
| Density | 1.32 | g/cm³ | ASTM D792 |
| Moisture Absorption, (23°C/50% RH/24 hrs) | 0.31 | % | ASTM D570 |
| Mold Shrinkage, flow, 24 hrs [2] | 0.2 | % | ASTM D955 |
| Mold Shrinkage, xflow, 24 hrs [2] | 0.6 | % | ASTM D955 |
| Mold Shrinkage, flow, 24 hrs [2] | 0.16 | % | ISO 294 |
| Mold Shrinkage, xflow, 24 hrs [2] | 0.62 | % | ISO 294 |
| Wear Factor Washer | 6 | 10^-10 in^5-min/ft-lb-hr | ASTM D3702 Modified: Manual |
| Dynamic COF | 0.27 | - | ASTM D3702 Modified: Manual |
| Static COF | 0.21 | - | ASTM D3702 Modified: Manual |
| Density | 1.32 | g/cm³ | ISO 1183 |
| Moisture Absorption (23°C / 50% RH) | 0.66 | % | ISO 62 |
| INJECTION MOLDING [3] | | | |
| Drying Temperature | 120 – 150 | °C | |
| Drying Time | 4 | Hrs | |
| Maximum Moisture Content | 0.15 | % | |
| Melt Temperature | 315 – 330 | °C | |
| Front - Zone 3 Temperature | 325 – 340 | °C | |
| Middle - Zone 2 Temperature | 315 – 325 | °C | |
| Rear - Zone 1 Temperature | 310 – 320 | °C | |
| Mold Temperature | 140 – 165 | °C | |
| Back Pressure | 0.2 – 0.3 | MPa | |
| Screw Speed | 30 – 60 | rpm | |

(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(2) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

(3) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

## MORE INFORMATION

For curve data and CAE cards, please visit and register at https://materialfinder.sabic-specialties.com

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