# LNP™ FARADEX™ COMPOUND NS0031

## DESCRIPTION

LNP FARADEX NS0031 compound is based on Polycarbonate / Acrylonitrile Butadiene Styrene (PC/ABS) blend containing 15% stainless steel fiber. Added features of this grade include: EMI/RFI shielding, Electrically Conductive, Non-Brominated and Non-Chlorinated Flame Retardant.

| GENERAL INFORMATION | |
|---|---|
| **Features** | Flame Retardant, Electrically Conductive, EMI/RFI Shielding, Non Cl/Br flame retardant |
| **Fillers** | Stainless Steel Fiber |
| **Polymer Types** | Polycarbonate + ABS (PC+ABS) |
| **Processing Techniques** | Injection Molding |

| INDUSTRY | SUB INDUSTRY |
|---|---|
| Consumer | Commercial Appliance |
| Electrical and Electronics | Electronic Components |
| Industrial | Electrical, Material Handling |
| Packaging | Industrial Packaging |

## TYPICAL PROPERTY VALUES

Revision 20241025

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| MECHANICAL [1] | | | |
| **Tensile Stress, yld, Type I, 5 mm/min** | 61 | MPa | ASTM D638 |
| **Tensile Stress, brk, Type I, 5 mm/min** | 57 | MPa | ASTM D638 |
| **Tensile Strain, yld, Type I, 5 mm/min** | 3.4 | % | ASTM D638 |
| **Tensile Strain, brk, Type I, 5 mm/min** | 3.7 | % | ASTM D638 |
| **Tensile Modulus, 5 mm/min** | 3120 | MPa | ASTM D638 |
| **Flexural Stress, yld, 1.3 mm/min, 50 mm span** | 95 | MPa | ASTM D790 |
| **Flexural Modulus, 1.3 mm/min, 50 mm span** | 2970 | MPa | ASTM D790 |
| **Tensile Stress, yield, 5 mm/min** | 59 | MPa | ISO 527 |
| **Tensile Stress, break, 5 mm/min** | 55 | MPa | ISO 527 |
| **Tensile Strain, yield, 5 mm/min** | 3.2 | % | ISO 527 |
| **Tensile Strain, break, 5 mm/min** | 4.4 | % | ISO 527 |
| **Tensile Modulus, 1 mm/min** | 3000 | MPa | ISO 527 |
| **Flexural Stress, yield, 2 mm/min** | 102 | MPa | ISO 178 |
| **Flexural Modulus, 2 mm/min** | 3090 | MPa | ISO 178 |
| IMPACT [1] | | | |
| **Izod Impact, unnotched, 23°C** | 686 | J/m | ASTM D4812 |
| **Izod Impact, unnotched, -30°C** | 588 | J/m | ASTM D4812 |
| **Izod Impact, notched, 23°C** | 55 | J/m | ASTM D256 |
| **Izod Impact, notched, -30°C** | 43 | J/m | ASTM D256 |
| **Multiaxial Impact** | 7 | J | ISO 6603 |
| **Izod Impact, unnotched 80*10*4 +23°C** | 39 | kJ/m² | ISO 180/1U |

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| Izod Impact, unnotched 80*10*4 -30°C | 39 | kJ/m² | ISO 180/1U |
| Izod Impact, notched 80*10*4 +23°C | 5 | kJ/m² | ISO 180/1A |
| Izod Impact, notched 80*10*4 -30°C | 5 | kJ/m² | ISO 180/1A |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm | 4 | kJ/m² | ISO 179/1eA |
| THERMAL [1] | | | |
| Vicat Softening Temp, Rate B/50 | 109 | °C | ASTM D1525 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 96 | °C | ASTM D648 |
| CTE, -40°C to 40°C, flow | 5.7E-05 | 1/°C | ASTM E831 |
| CTE, -40°C to 40°C, xflow | 6.6E-05 | 1/°C | ASTM E831 |
| CTE, -40°C to 40°C, flow | 5.5E-05 | 1/°C | ISO 11359-2 |
| CTE, -40°C to 40°C, xflow | 6.4E-05 | 1/°C | ISO 11359-2 |
| Vicat Softening Temp, Rate B/50 | 109 | °C | ISO 306 |
| Vicat Softening Temp, Rate B/120 | 112 | °C | ISO 306 |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm | 98 | °C | ISO 75/Af |
| Relative Temp Index, Mech w/impact [2] | 85 | °C | UL 746B |
| Relative Temp Index, Mech w/o impact [2] | 85 | °C | UL 746B |
| PHYSICAL [1] | | | |
| Specific Gravity | 1.33 | - | ASTM D792 |
| Mold Shrinkage, flow, 3.2 mm [3] | 0.59 | % | SABIC method |
| Melt Flow Rate, 280°C/5.0 kgf | 12.3 | g/10 min | ASTM D1238 |
| Density | 1.33 | g/cm³ | ISO 1183 |
| Water Absorption, (23°C/saturated) | 0.2 | % | ISO 62-1 |
| Moisture Absorption (23°C / 50% RH) | 0.1 | % | ISO 62 |
| Melt Volume Rate, MVR at 265°C/10.0 kg | 31 | cm³/10 min | ISO 1133 |
| ELECTRICAL [1] | | | |
| Volume Resistivity [4] | 1.E+07 | Ω.cm | ASTM D257 |
| Surface Resistivity [4] | 1.E+05 | Ω | ASTM D257 |
| Static Decay, 5000V to <50V | <0.01 | Seconds | FTMS101B |
| Shielding Effectivness @ 3mm | 47 | dB | SABIC method |
| FLAME CHARACTERISTICS [2] | | | |
| UL Yellow Card Link | E207780-101282733 | - | - |
| UL Recognized, 94-5VB Flame Class Rating | ≥2 | mm | UL 94 |
| UL Recognized, 94V-0 Flame Class Rating | ≥1.5 | mm | UL 94 |
| INJECTION MOLDING [5] | | | |
| Drying Temperature | 85 – 90 | °C | |
| Drying Time | 3 – 4 | Hrs | |
| Maximum Moisture Content | 0.04 | % | |
| Melt Temperature | 270 – 300 | °C | |
| Nozzle Temperature | 265 – 300 | °C | |
| Front - Zone 3 Temperature | 265 – 300 | °C | |
| Middle - Zone 2 Temperature | 260 – 300 | °C | |
| Rear - Zone 1 Temperature | 260 – 300 | °C | |
| Mold Temperature | 60 – 90 | °C | |
| Back Pressure | 4 | MPa | |
| Screw Speed | 30 – 100 | 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) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

(3) 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.

(4) Measurement meets requirements as specified in ASTM D4496.

(5) 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.

## DISCLAIMER