

# LNP™ FARADEX™ AS003 compound

Acrylonitrile Butadiene Styrene

SABIC Innovative Plastics

## Message:

LNP FARADEX AS003 is a compound based on Acrylonitrile Butadiene Styrene resin containing Stainless Steel. Added features of this material include: Electrically Conductive, EMI/RFI Shielding.

Also known as: LNP\* FARADEX\* Compound AS-1003

Product reorder name: AS003

| General Information               |                                 |                   |             |
|-----------------------------------|---------------------------------|-------------------|-------------|
| Filler / Reinforcement            | Stainless steel fiber           |                   |             |
| Features                          | Conductivity                    |                   |             |
|                                   | Electromagnetic shielding (EMI) |                   |             |
|                                   | Radio frequency shielding (RFI) |                   |             |
| Processing Method                 | Injection molding               |                   |             |
| Physical                          | Nominal Value                   | Unit              | Test Method |
| Specific Gravity                  |                                 |                   |             |
| --                                | 1.16                            | g/cm <sup>3</sup> | ASTM D792   |
| --                                | 1.15                            | g/cm <sup>3</sup> | ISO 1183    |
| Molding Shrinkage                 |                                 |                   |             |
| Flow: 24 hours                    | 0.30                            | %                 | ASTM D955   |
| Transverse flow: 24 hours         | 0.40                            | %                 | ASTM D955   |
| Vertical flow direction: 24 hours | 0.39                            | %                 | ISO 294-4   |
| Flow direction: 24 hours          | 0.27                            | %                 | ISO 294-4   |
| Water Absorption (24 hr, 50% RH)  | 0.20                            | %                 | ASTM D570   |
| Mechanical                        | Nominal Value                   | Unit              | Test Method |
| Tensile Modulus                   |                                 |                   |             |
| -- <sup>1</sup>                   | 3160                            | MPa               | ASTM D638   |
| --                                | 2700                            | MPa               | ISO 527-2/1 |
| Tensile Strength                  |                                 |                   |             |
| Yield                             | 42.1                            | MPa               | ASTM D638   |
| Yield                             | 38.0                            | MPa               | ISO 527-2   |
| Fracture                          | 39.3                            | MPa               | ASTM D638   |
| Fracture                          | 37.0                            | MPa               | ISO 527-2   |
| Tensile Elongation                |                                 |                   |             |
| Yield                             | 2.6                             | %                 | ASTM D638   |
| Yield                             | 2.2                             | %                 | ISO 527-2   |
| Fracture                          | 6.2                             | %                 | ASTM D638   |
| Fracture                          | 2.8                             | %                 | ISO 527-2   |
| Flexural Modulus                  |                                 |                   |             |

|                                                      |               |                   |                 |
|------------------------------------------------------|---------------|-------------------|-----------------|
| --                                                   | 3050          | MPa               | ASTM D790       |
| --                                                   | 2800          | MPa               | ISO 178         |
| Flexural Strength                                    |               |                   |                 |
| --                                                   | 75.8          | MPa               | ASTM D790       |
| --                                                   | 66.0          | MPa               | ISO 178         |
| Impact                                               | Nominal Value | Unit              | Test Method     |
| Notched Izod Impact                                  |               |                   |                 |
| 23°C                                                 | 53            | J/m               | ASTM D256       |
| 23°C <sup>2</sup>                                    | 7.0           | kJ/m <sup>2</sup> | ISO 180/1A      |
| Unnotched Izod Impact                                |               |                   |                 |
| 23°C                                                 | 310           | J/m               | ASTM D4812      |
| 23°C <sup>3</sup>                                    | 18            | kJ/m <sup>2</sup> | ISO 180/1U      |
| Instrumented Dart Impact (23°C, Energy at Peak Load) | 15.0          | J                 | ASTM D3763      |
| Thermal                                              | Nominal Value | Unit              | Test Method     |
| Deflection Temperature Under Load                    |               |                   |                 |
| 0.45 MPa, unannealed, 3.20mm                         | 96.7          | °C                | ASTM D648       |
| 0.45 MPa, unannealed, 64.0mm span <sup>4</sup>       | 93.0          | °C                | ISO 75-2/Bf     |
| 1.8 MPa, unannealed, 3.20mm                          | 88.3          | °C                | ASTM D648       |
| 1.8 MPa, unannealed, 64.0mm span <sup>5</sup>        | 78.0          | °C                | ISO 75-2/Af     |
| Linear thermal expansion coefficient                 |               |                   |                 |
| Flow: -40 to 40°C                                    | 7.7E-5        | cm/cm/°C          | ASTM E831       |
| Flow: -40 to 40°C                                    | 7.1E-5        | cm/cm/°C          | ISO 11359-2     |
| Lateral: -40 to 40°C                                 | 6.3E-5        | cm/cm/°C          | ASTM E831       |
| Lateral: -40 to 40°C                                 | 9.3E-5        | cm/cm/°C          | ISO 11359-2     |
| Electrical                                           | Nominal Value | Unit              | Test Method     |
| Surface Resistivity                                  | 10 - 1.0E+3   | ohms              | ASTM D257       |
| Volume Resistivity                                   | 1.0E+4        | ohms · cm         | ASTM D257       |
| Shielding Effectiveness (3.00 mm)                    | 50 - 65       | dB                | Internal method |
| Injection                                            | Nominal Value | Unit              |                 |
| Drying Temperature                                   | 82.2          | °C                |                 |
| Drying Time                                          | 4.0           | hr                |                 |
| Suggested Max Moisture                               | 0.050 - 0.10  | %                 |                 |
| Rear Temperature                                     | 210 - 221     | °C                |                 |
| Middle Temperature                                   | 232 - 243     | °C                |                 |
| Front Temperature                                    | 254 - 266     | °C                |                 |
| Processing (Melt) Temp                               | 238 - 254     | °C                |                 |
| Mold Temperature                                     | 71.1 - 93.3   | °C                |                 |
| Back Pressure                                        | 0.172 - 0.344 | MPa               |                 |
| Screw Speed                                          | 30 - 60       | rpm               |                 |
| NOTE                                                 |               |                   |                 |
| 1.                                                   | 50 mm/min     |                   |                 |

|    |            |
|----|------------|
| 2. | 80*10*4    |
| 3. | 80*10*4    |
| 4. | 80*10*4 mm |
| 5. | 80*10*4 mm |

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#### Recommended distributors for this material

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