

# Grilamid® LC-15H black

Polyamide 12

EMS-GRIVORY

## Message:

Grilamid® LC-15H black is a Polyamide 12 (Nylon 12) material filled with 15% carbon fiber. It is available in Africa & Middle East, Asia Pacific, Europe, Latin America, or North America for injection molding.

Important attributes of Grilamid® LC-15H black are:

Flame Rated

RoHS Compliant

Antistatic

Good UV Resistance

Heat Stabilizer

Typical applications include:

Consumer Goods

Electrical/Electronic Applications

Engineering/Industrial Parts

Industrial Applications

Medical/Healthcare

| General Information    |     |                                               |      |             |
|------------------------|-----|-----------------------------------------------|------|-------------|
| Filler / Reinforcement |     | Carbon Fiber, 15% Filler by Weight            |      |             |
| Additive               |     | Antistatic                                    |      |             |
|                        |     | Heat Stabilizer                               |      |             |
| Features               |     | Antistatic                                    |      |             |
|                        |     | Good UV Resistance                            |      |             |
|                        |     | Heat Stabilized                               |      |             |
| Uses                   |     | Consumer Applications                         |      |             |
|                        |     | Electrical/Electronic Applications            |      |             |
|                        |     | Engineering Parts                             |      |             |
|                        |     | Industrial Applications                       |      |             |
|                        |     | Medical Devices                               |      |             |
|                        |     | Power/Other Tools                             |      |             |
|                        |     | Sporting Goods                                |      |             |
| RoHS Compliance        |     | RoHS Compliant                                |      |             |
| Appearance             |     | Black                                         |      |             |
| Forms                  |     | Granules                                      |      |             |
| Processing Method      |     | Injection Molding                             |      |             |
| Multi-Point Data       |     | Isothermal Stress vs. Strain (ISO 11403-1)    |      |             |
|                        |     | Tensile Modulus vs. Temperature (ISO 11403-1) |      |             |
| Physical               | Dry | Conditioned                                   | Unit | Test Method |

|                                        |                         |             |                   |                      |
|----------------------------------------|-------------------------|-------------|-------------------|----------------------|
| Density                                | 1.07                    | --          | g/cm <sup>3</sup> | ISO 1183             |
| Molding Shrinkage                      |                         |             |                   | ISO 294-4            |
| Across Flow                            | 0.50                    | --          | %                 |                      |
| Flow                                   | 0.20                    | --          | %                 |                      |
| Water Absorption                       |                         |             |                   | ISO 62               |
| Saturation, 23°C                       | 1.1                     | --          | %                 |                      |
| Equilibrium, 23°C, 50% RH              | 0.70                    | --          | %                 |                      |
| Hardness                               | Dry                     | Conditioned | Unit              | Test Method          |
| Ball Indentation Hardness              | --                      | 100         | MPa               | ISO 2039-1           |
| Mechanical                             | Dry                     | Conditioned | Unit              | Test Method          |
| Tensile Modulus                        | 9500                    | 7500        | MPa               | ISO 527-2            |
| Tensile Stress (Break)                 | 110                     | 100         | MPa               | ISO 527-2            |
| Tensile Strain (Break)                 | 4.5                     | 5.0         | %                 | ISO 527-2            |
| Impact                                 | Dry                     | Conditioned | Unit              | Test Method          |
| Charpy Notched Impact Strength         |                         |             |                   | ISO 179/1eA          |
| -30°C                                  | --                      | 5.0         | kJ/m <sup>2</sup> |                      |
| 23°C                                   | --                      | 10          | kJ/m <sup>2</sup> |                      |
| Charpy Unnotched Impact Strength       |                         |             |                   | ISO 179/1eU          |
| -30°C                                  | --                      | 40          | kJ/m <sup>2</sup> |                      |
| 23°C                                   | --                      | 40          | kJ/m <sup>2</sup> |                      |
| Thermal                                | Dry                     | Conditioned | Unit              | Test Method          |
| Heat Deflection Temperature            |                         |             |                   |                      |
| 1.8 MPa, Unannealed                    | 160                     | --          | °C                | ISO 75-2/A           |
| 8.0 MPa, Unannealed                    | 100                     | --          | °C                | ISO 75-2/C           |
| Continuous Use Temperature             |                         |             |                   | Internal Method      |
| -- <sup>1</sup>                        | 90.0 to 120             | --          | °C                |                      |
| -- <sup>2</sup>                        | 150                     | --          | °C                |                      |
| Melting Temperature <sup>3</sup>       | 178                     | --          | °C                | ISO 11357-3          |
| CLTE                                   |                         |             |                   | ISO 11359-2          |
| Flow                                   | 1.0E-5                  | --          | cm/cm/°C          |                      |
| Transverse                             | 1.5E-4                  | --          | cm/cm/°C          |                      |
| Electrical                             | Dry                     | Conditioned | Unit              | Test Method          |
| Surface Resistivity                    | --                      | 50          | ohms              | IEC 60093            |
| Volume Resistivity                     | --                      | 1.0E+4      | ohms·cm           | IEC 60093            |
| Flammability                           | Dry                     | Conditioned | Unit              | Test Method          |
| Flammability Classification (0.800 mm) | HB                      | --          |                   | IEC 60695-11-10, -20 |
| Additional Information                 | Dry                     | Conditioned |                   | Test Method          |
| ISO Type                               | PA12, MHR, 18-080, CF15 | --          |                   | ISO 1874             |

## NOTE

- |    |            |
|----|------------|
| 1. | Long Term  |
| 2. | Short Term |
| 3. | 10°C/min   |

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