

# Grilon® FG 40 NL nat 6025

Polyamide 6

EMS-GRIVORY

## Message:

Grilon® FG 40 NL nat 6025 is a Polyamide 6 (Nylon 6) material. It is available in Africa & Middle East, Asia Pacific, Europe, Latin America, or North America for blown film, cast film, extrusion, or film extrusion.

Important attributes of Grilon® FG 40 NL nat 6025 are:

RoHS Compliant

Food Contact Acceptable

High Viscosity

Medium Viscosity

Nucleated

Typical applications include:

Film

Coating Applications

Food Contact Applications

Hose/Tubing

Medical/Healthcare

| General Information |                                      |
|---------------------|--------------------------------------|
| Additive            | Nucleating Agent                     |
|                     | UV Stabilizer                        |
| Features            | Barrier Resin                        |
|                     | Food Contact Acceptable              |
|                     | High Viscosity                       |
|                     | Medium Viscosity                     |
|                     | Nucleated                            |
| Uses                | Cast Film                            |
|                     | Coating Applications                 |
|                     | Film                                 |
|                     | Medical Packaging                    |
|                     | Non-oriented Film                    |
|                     | Oriented Film                        |
|                     | Packaging                            |
|                     | Paper Coatings                       |
|                     | Tubing                               |
| Agency Ratings      | EU Food Contact, Unspecified Rating  |
|                     | FDA Food Contact, Unspecified Rating |
| RoHS Compliance     | RoHS Compliant                       |
| Appearance          | Natural Color                        |

|                   |                |  |  |  |
|-------------------|----------------|--|--|--|
| Forms             | Granules       |  |  |  |
| Processing Method | Blown Film     |  |  |  |
|                   | Cast Film      |  |  |  |
|                   | Extrusion      |  |  |  |
|                   | Film Extrusion |  |  |  |

| Physical                                     | Dry  | Conditioned | Unit                                       | Test Method    |
|----------------------------------------------|------|-------------|--------------------------------------------|----------------|
| Density                                      | 1.15 | --          | g/cm <sup>3</sup>                          | ISO 1183       |
| Melt Volume-Flow Rate (MVR) (275°C/5.0 kg)   | 20.0 | --          | cm <sup>3</sup> /10min                     | ISO 1133       |
| Water Absorption                             |      |             |                                            | ISO 62         |
| Saturation, 23°C                             | 9.0  | --          | %                                          |                |
| Equilibrium, 23°C, 50% RH                    | 3.0  | --          | %                                          |                |
| Mechanical                                   | Dry  | Conditioned | Unit                                       | Test Method    |
| Tensile Modulus                              | 3000 | 1100        | MPa                                        | ISO 527-2      |
| Coefficient of Friction (Dynamic)            | 0.30 | --          |                                            | ISO 8295       |
| Films                                        | Dry  | Conditioned | Unit                                       | Test Method    |
| Tensile Stress                               |      |             |                                            | ISO 527-3      |
| MD : Yield                                   | 40.0 | --          | MPa                                        |                |
| TD : Yield                                   | 40.0 | --          | MPa                                        |                |
| MD : Break                                   | 100  | --          | MPa                                        |                |
| TD : Break                                   | 90.0 | --          | MPa                                        |                |
| Tensile Elongation                           |      |             |                                            | ISO 527-3      |
| MD : Yield                                   | 10   | --          | %                                          |                |
| TD : Yield                                   | 7.0  | --          | %                                          |                |
| MD : Break                                   | 600  | --          | %                                          |                |
| TD : Break                                   | 900  | --          | %                                          |                |
| Elmendorf Tear Strength                      |      |             |                                            | ISO 6383-2     |
| MD                                           | 15   | --          | N                                          |                |
| TD                                           | 15   | --          | N                                          |                |
| Trouser Tear Resistance                      |      |             |                                            | ISO 6383-1     |
| MD                                           | 50.0 | --          | N/mm                                       |                |
| TD                                           | 50.0 | --          | N/mm                                       |                |
| Water Vapor Transmission Rate (23°C, 85% RH) | 10   | --          | g/m <sup>2</sup> /24 hr                    | DIS 15106-1/-2 |
| Oxygen Transmission Rate                     |      |             |                                            | DIS 15105-1/-2 |
| 23°C <sup>1</sup>                            | 25   | --          | cm <sup>3</sup> /m <sup>2</sup> /bar/24 hr |                |
| 23°C <sup>2</sup>                            | 30   | --          | cm <sup>3</sup> /m <sup>2</sup> /bar/24 hr |                |
| Carbon Dioxide Transmission Rate             |      |             |                                            | DIS 15105-1/-2 |
| 23°C <sup>3</sup>                            | 150  | --          | cm <sup>3</sup> /m <sup>2</sup> /bar/24 hr |                |
| 23°C <sup>4</sup>                            | 80.0 | --          | cm <sup>3</sup> /m <sup>2</sup> /bar/24 hr |                |

|                                  |                            |             |      |             |
|----------------------------------|----------------------------|-------------|------|-------------|
| ISO Type                         | PA 6+PA 6I/6T, FR, 27-030N | --          |      | ISO 1874    |
| Thermal                          | Dry                        | Conditioned | Unit | Test Method |
| Melting Temperature <sup>5</sup> | 222                        | --          | °C   | ISO 11357-3 |
| Optical                          | Dry                        | Conditioned |      | Test Method |
| Gloss (60°)                      | 100                        | --          |      | ISO 2813    |
| NOTE                             |                            |             |      |             |
| 1.                               | 0% RH                      |             |      |             |
| 2.                               | 85% RH                     |             |      |             |
| 3.                               | 85% RH                     |             |      |             |
| 4.                               | 0% RH                      |             |      |             |
| 5.                               | 10°C/min                   |             |      |             |

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