

## EMS-Grivory Grivory® GV-6 FWA nat PA\*-GF60

Category : Polymer , Thermoplastic , Nylon

### Material Notes:

Product description: Grivory GV-6 FWA natural is a 60% glass fiber reinforced engineering thermoplastic material based on a combination of semicrystalline Polyamide with partially aromatic copolyamide. Grivory GV-6 FWA natural is used for injection molding technical parts, exhibiting exceptional characteristics even after moisture absorption: high stiffness and strengthdimensional stability, low warpagegood chemical resistancegood surface finish Grivory GV is the economical alternative to die-cast alloys. Grivory GV-6 FWA natural is a specially heat stabilized material. It is particularly suitable for parts in direct contact with drinking water and food. Grivory GV-6 FWA natural is suitable for all engineering thermoplastic applications with the requirement of approvals in contact with foodstuffs or/and in contact with drinking water.Information provided by EMS Grivory

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_EMS-Grivory-Grivory-GV-6-FWA-nat-PA-GF60.php](http://www.lookpolymers.com/polymer_EMS-Grivory-Grivory-GV-6-FWA-nat-PA-GF60.php)

| Physical Properties               | Metric       | English                   | Comments        |
|-----------------------------------|--------------|---------------------------|-----------------|
| Density                           | 1.69 g/cc    | 0.0611 lb/in <sup>3</sup> | ISO 1183        |
| Water Absorption                  | 3.5 %        | 3.5 %                     | ISO 62          |
| Moisture Absorption               | 1.20 %       | 1.20 %                    | ISO 62          |
| Linear Mold Shrinkage, Flow       | 0.0010 cm/cm | 0.0010 in/in              | ISO 294-4, 2577 |
| Linear Mold Shrinkage, Transverse | 0.0030 cm/cm | 0.0030 in/in              | ISO 294-4, 2577 |

| Mechanical Properties     | Metric                 | English                    | Comments                  |
|---------------------------|------------------------|----------------------------|---------------------------|
| Ball Indentation Hardness | 290 MPa                | 42100 psi                  | conditioned; ISO 2039-1   |
|                           | 315 MPa                | 45700 psi                  | dry; ISO 2039-1           |
| Tensile Strength at Break | 240 MPa                | 34800 psi                  | conditioned; ISO 527-1/-2 |
|                           | 260 MPa                | 37700 psi                  | dry; ISO 527-1/-2         |
| Elongation at Break       | 2.0 %                  | 2.0 %                      | dry; ISO 527-1/-2         |
|                           | 2.0 %                  | 2.0 %                      | conditioned; ISO 527-1/-2 |
| Tensile Modulus           | 21.0 GPa               | 3050 ksi                   | conditioned; ISO 527-1/-2 |
|                           | 22.0 GPa               | 3190 ksi                   | dry; ISO 527-1/-2         |
| Charpy Impact Unnotched   | 8.00 J/cm <sup>2</sup> | 38.1 ft-lb/in <sup>2</sup> | dry; ISO 179/1eU          |
|                           | 8.00 J/cm <sup>2</sup> | 38.1 ft-lb/in <sup>2</sup> | conditioned; ISO 179/1eU  |
|                           | 8.00 J/cm <sup>2</sup> | 38.1 ft-lb/in <sup>2</sup> | dry; ISO 179/1eU          |

| Mechanical Properties  | @Temperature 30.0 °C<br>Metric | @Temperature 86.0 °F<br>English | Comments                 |
|------------------------|--------------------------------|---------------------------------|--------------------------|
|                        | 8.00 J/cm²                     | 38.1 ft-lb/in²                  | conditioned; ISO 179/1eU |
|                        | @Temperature 30.0 °C           | @Temperature 86.0 °F            |                          |
| Charpy Impact, Notched | 1.40 J/cm²                     | 6.66 ft-lb/in²                  | dry; ISO 179/1eA         |
|                        | 1.40 J/cm²                     | 6.66 ft-lb/in²                  | conditioned; ISO 179/1eA |
|                        | 1.30 J/cm²                     | 6.19 ft-lb/in²                  | dry; ISO 179/1eU         |
|                        | @Temperature 30.0 °C           | @Temperature 86.0 °F            |                          |
|                        | 1.30 J/cm²                     | 6.19 ft-lb/in²                  | conditioned; ISO 179/1eU |
|                        | @Temperature 30.0 °C           | @Temperature 86.0 °F            |                          |

| Thermal Properties                          | Metric       | English        | Comments                 |
|---------------------------------------------|--------------|----------------|--------------------------|
| CTE, linear, Parallel to Flow               | 15.0 µm/m-°C | 8.33 µin/in-°F | ISO 11359-1/-2           |
| CTE, linear, Transverse to Flow             | 90.0 µm/m-°C | 50.0 µin/in-°F | ISO 11359-1/-2           |
| Melting Point                               | 260 °C       | 500 °F         | 10°C/min; ISO 11357-1/-3 |
| Maximum Service Temperature, Air            | 100 - 120 °C | 212 - 248 °F   | long term; EMS           |
|                                             | 220 °C       | 428 °F         | short term; EMS          |
| Deflection Temperature at 1.8 MPa (264 psi) | 235 °C       | 455 °F         | ISO 75-1/-2              |
| Deflection Temperature at 8.0 MPa           | 175 °C       | 347 °F         | ISO 75-1/-2              |
| Flammability, UL94                          | HB           | HB             | IEC 60695-11-10          |

| Electrical Properties      | Metric          | English         | Comments                 |
|----------------------------|-----------------|-----------------|--------------------------|
| Volume Resistivity         | 1.00e+14 ohm-cm | 1.00e+14 ohm-cm | dry; IEC 60093           |
|                            | 1.00e+14 ohm-cm | 1.00e+14 ohm-cm | conditioned; IEC 60093   |
| Surface Resistance         | 1.00e+13 ohm    | 1.00e+13 ohm    | IEC 60093                |
| Dielectric Strength        | 33.0 kV/mm      | 838 kV/in       | dry; IEC 60243-1         |
|                            | 33.0 kV/mm      | 838 kV/in       | conditioned; IEC 60243-1 |
| Comparative Tracking Index | 600 V           | 600 V           | conditioned; IEC 60112   |

| Descriptive Properties | Value           | Comments |
|------------------------|-----------------|----------|
| Food contact           | EU Requirements |          |

| Descriptive Properties    | FDA Value                      | Comments |
|---------------------------|--------------------------------|----------|
| Form                      | Granules                       |          |
| Industry & Consumer goods | Housewares                     |          |
|                           | Hydraulics & Pneumatics        |          |
|                           | Mechanical Engineering         |          |
|                           | Power transmission             |          |
|                           | Sanitary, water and gas supply |          |
| Processing                | Injection Molding              |          |
| Product Attributes        | Partially aromatic Polyamide   |          |
| Water Contact             | ACS                            |          |
|                           | DVGW W270                      |          |
|                           | KTW                            |          |
|                           | NSF 61                         |          |
|                           | WRAS                           |          |

## Contact Songhan Plastic Technology Co.,Ltd.

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