

# Grivory® HTV-4H1 black 9205

Polyamide 6I/6T Copolymer

EMS-GRIVORY

## Message:

Grivory® HTV-4H1 black 9205 is a Polyamide 6I/6T Copolymer (Nylon 6I/6T) material filled with 40% glass fiber. It is available in Africa & Middle East, Asia Pacific, Europe, Latin America, or North America for injection molding.

Important attributes of Grivory® HTV-4H1 black 9205 are:

Flame Rated

RoHS Compliant

Heat Resistant

Heat Stabilizer

Typical applications include:

Automotive

Appliances

Consumer Goods

Electrical/Electronic Applications

Engineering/Industrial Parts

| General Information    |                                            |                  |
|------------------------|--------------------------------------------|------------------|
| UL YellowCard          | E53898-243894                              | E53898-102346154 |
| Filler / Reinforcement | Glass Fiber,40% Filler by Weight           |                  |
| Additive               | Heat Stabilizer                            |                  |
| Features               | Heat Stabilized                            |                  |
|                        | High Heat Resistance                       |                  |
| Uses                   | Appliance Components                       |                  |
|                        | Automotive Applications                    |                  |
|                        | Automotive Exterior Parts                  |                  |
|                        | Automotive Interior Parts                  |                  |
|                        | Consumer Applications                      |                  |
|                        | Electrical/Electronic Applications         |                  |
|                        | Engineering Parts                          |                  |
|                        | Household Goods                            |                  |
|                        | Hydraulic Applications                     |                  |
|                        | Industrial Applications                    |                  |
|                        | Pneumatic Applications                     |                  |
|                        | 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) |                  |

Secant Modulus vs. Strain (ISO 11403-1)

Shear Modulus vs. Temperature (ISO 11403-1)

Specific Volume vs Temperature (ISO 11403-2)

Viscosity vs. Shear Rate (ISO 11403-2)

| Physical                         | Dry    | Conditioned | Unit              | Test Method     |
|----------------------------------|--------|-------------|-------------------|-----------------|
| Density                          | 1.53   | --          | g/cm <sup>3</sup> | ISO 1183        |
| Molding Shrinkage                |        |             |                   | ISO 294-4       |
| Across Flow                      | 0.70   | --          | %                 |                 |
| Flow                             | 0.10   | --          | %                 |                 |
| Water Absorption                 |        |             |                   | ISO 62          |
| Saturation, 23°C                 | 3.5    | --          | %                 |                 |
| Equilibrium, 23°C, 50% RH        | 1.5    | --          | %                 |                 |
| Hardness                         | Dry    | Conditioned | Unit              | Test Method     |
| Ball Indentation Hardness        | 310    | 300         | MPa               | ISO 2039-1      |
| Mechanical                       | Dry    | Conditioned | Unit              | Test Method     |
| Tensile Modulus                  | 14500  | 14000       | MPa               | ISO 527-2       |
| Tensile Stress (Break)           | 220    | 210         | MPa               | ISO 527-2       |
| Tensile Strain (Break)           | 2.0    | 2.0         | %                 | ISO 527-2       |
| Impact                           | Dry    | Conditioned | Unit              | Test Method     |
| Charpy Notched Impact Strength   |        |             |                   | ISO 179/1eA     |
| -30°C                            | 8.0    | 8.0         | kJ/m <sup>2</sup> |                 |
| 23°C                             | 8.0    | 8.0         | kJ/m <sup>2</sup> |                 |
| Charpy Unnotched Impact Strength |        |             |                   | ISO 179/1eU     |
| -30°C                            | 70     | 70          | kJ/m <sup>2</sup> |                 |
| 23°C                             | 70     | 70          | kJ/m <sup>2</sup> |                 |
| Thermal                          | Dry    | Conditioned | Unit              | Test Method     |
| Heat Deflection Temperature      |        |             |                   |                 |
| 1.8 MPa, Unannealed              | 280    | --          | °C                | ISO 75-2/A      |
| 8.0 MPa, Unannealed              | 200    | --          | °C                | ISO 75-2/C      |
| Continuous Use Temperature       |        |             |                   | Internal Method |
| -- <sup>1</sup>                  | 150    | --          | °C                |                 |
| -- <sup>2</sup>                  | 250    | --          | °C                |                 |
| Melting Temperature <sup>3</sup> | 325    | --          | °C                | ISO 11357-3     |
| CLTE                             |        |             |                   | ISO 11359-2     |
| Flow                             | 1.5E-5 | --          | cm/cm/°C          |                 |
| Transverse                       | 5.0E-5 | --          | cm/cm/°C          |                 |
| Electrical                       | Dry    | Conditioned | Unit              | Test Method     |
| Surface Resistivity              | --     | 1.0E+12     | ohms              | IEC 60093       |

|                                        |                            |             |         |                      |
|----------------------------------------|----------------------------|-------------|---------|----------------------|
| Volume Resistivity                     | 1.0E+13                    | 1.0E+13     | ohms·cm | IEC 60093            |
| Electric Strength                      | 30                         | 30          | kV/mm   | IEC 60243-1          |
| Comparative Tracking Index             | --                         | 600         | V       | IEC 60112            |
| 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                               | PA 6T/6I, MH, 12-140, GF40 | --          |         | ISO 1874             |
| NOTE                                   |                            |             |         |                      |
| 1.                                     | Long Term                  |             |         |                      |
| 2.                                     | Short Term                 |             |         |                      |
| 3.                                     | 10°C/min                   |             |         |                      |

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