

# Miramid® FP5KT

Polyamide 6

BASF Leuna GmbH

Message:

Miramid® FP5KT is a Polyamide 6 (Nylon 6) material. It is available in Europe for injection molding.

Important attributes of Miramid® FP5KT are:

Chemical Resistant

Crystalline

Fast Molding Cycle

Impact Modified

Impact Resistant

Typical applications include:

Construction Applications

Electrical/Electronic Applications

Engineering/Industrial Parts

Furniture

Wire & Cable

| General Information |                        |                   |       |                       |
|---------------------|------------------------|-------------------|-------|-----------------------|
| Additive            |                        | Impact Modifier   |       |                       |
| Features            | Crystalline            |                   |       |                       |
|                     | Fast Molding Cycle     |                   |       |                       |
|                     | Fuel Resistant         |                   |       |                       |
|                     | Good Flow              |                   |       |                       |
|                     | Good Impact Resistance |                   |       |                       |
|                     | Grease Resistant       |                   |       |                       |
|                     | Impact Modified        |                   |       |                       |
|                     | Oil Resistant          |                   |       |                       |
|                     | Solvent Resistant      |                   |       |                       |
| Uses                | Building Materials     |                   |       |                       |
|                     | Cable Jacketing        |                   |       |                       |
|                     | Electrical Parts       |                   |       |                       |
|                     | Engineering Parts      |                   |       |                       |
|                     | Furniture              |                   |       |                       |
| Forms               |                        | Granules          |       |                       |
| Processing Method   |                        | Injection Molding |       |                       |
| Physical            | Dry                    | Conditioned       | Unit  | Test Method           |
| Density             | 1110                   | --                | kg/m³ | ISO 1183 <sup>1</sup> |
| Water Absorption    |                        |                   |       | ISO 62 <sup>2</sup>   |
| Saturation          | 9.0                    | --                | %     |                       |
| Equilibrium         | 2.3                    | --                | %     |                       |
| Mechanical          | Dry                    | Conditioned       | Unit  | Test Method           |

|                                   |                                                                           |             |                   |                          |
|-----------------------------------|---------------------------------------------------------------------------|-------------|-------------------|--------------------------|
| Tensile modulus                   | 2500                                                                      | 900         | MPa               | ISO 527-2 <sup>3</sup>   |
| Tensile Stress (Yield)            | 65.0                                                                      | 35.0        | MPa               | ISO 527-2 <sup>4</sup>   |
| Tensile Strain (Yield)            | 4.0                                                                       | 20          | %                 | ISO 527-2 <sup>5</sup>   |
| Flexural Modulus                  | 2100                                                                      | 600         | MPa               | ISO 178                  |
| Impact                            | Dry                                                                       | Conditioned | Unit              | Test Method              |
| Charpy notched impact strength    |                                                                           |             |                   | ISO 179/1eA <sup>6</sup> |
| -30°C                             | 14.0                                                                      | --          | kJ/m <sup>2</sup> |                          |
| 23°C                              | 16.0                                                                      | 30.0        | kJ/m <sup>2</sup> |                          |
| Charpy impact strength            |                                                                           |             |                   | ISO 179/1eU <sup>7</sup> |
| -30°C                             | No Break                                                                  | --          |                   |                          |
| 23°C                              | No Break                                                                  | No Break    |                   |                          |
| Thermal                           | Dry                                                                       | Conditioned | Unit              | Test Method              |
| Deflection Temperature Under Load |                                                                           |             |                   | ISO 75-2 <sup>8</sup>    |
| 0.45 MPa                          | 180                                                                       | --          | °C                |                          |
| 1.8 MPa                           | 60.0                                                                      | --          | °C                |                          |
| Melting Temperature (DSC)         | 220                                                                       | --          | °C                | ISO 3146                 |
| Electrical                        | Dry                                                                       | Conditioned | Unit              | Test Method              |
| Volume resistivity                | 1.0E+13                                                                   | 1.0E+10     | ohms·m            | IEC 60093 <sup>9</sup>   |
| Dielectric Constant (1 MHz)       | 3.40                                                                      | 6.00        |                   | IEC 60250                |
| Dissipation Factor (1 MHz)        | 0.015                                                                     | 0.25        |                   | IEC 60250 <sup>10</sup>  |
| Comparative tracking index        | 600                                                                       | --          |                   | IEC 60112 <sup>11</sup>  |
| Injection                         | Dry                                                                       | Unit        |                   |                          |
| Processing (Melt) Temp            | 240 to 260                                                                |             | °C                |                          |
| Mold Temperature                  | 40.0 to 80.0                                                              |             | °C                |                          |
| NOTE                              |                                                                           |             |                   |                          |
| 1.                                | Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted. |             |                   |                          |
| 2.                                | Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted. |             |                   |                          |
| 3.                                | Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted. |             |                   |                          |
| 4.                                | Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted. |             |                   |                          |
| 5.                                | Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted. |             |                   |                          |
| 6.                                | Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted. |             |                   |                          |

|     |                                                                                 |
|-----|---------------------------------------------------------------------------------|
| 7.  | Tested in accordance with<br>ISO 10350. 23°C/50%r.h.<br>unless otherwise noted. |
| 8.  | Tested in accordance with<br>ISO 10350. 23°C/50%r.h.<br>unless otherwise noted. |
| 9.  | Tested in accordance with<br>ISO 10350. 23°C/50%r.h.<br>unless otherwise noted. |
| 10. | Tested in accordance with<br>ISO 10350. 23°C/50%r.h.<br>unless otherwise noted. |
| 11. | Tested in accordance with<br>ISO 10350. 23°C/50%r.h.<br>unless otherwise noted. |

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