

## Daikin POLYFLON M-391 PTFE Molding Powder, Free Flow

Category : Polymer , Thermoplastic , Fluoropolymer , PTFE , Polytetrafluoroethylene (PTFE), Molded

### Material Notes:

Free flow powder.Processing Methods: Compression molding and automatic or semi-automatic compression molding.Features: Used if concerned about insufficient molding pressure for flat sheets.Information provided by Daikin Industries.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Daikin-POLYFLON-M-391-PTFE-Molding-Powder-Free-Flow.php](http://www.lookpolymers.com/polymer_Daikin-POLYFLON-M-391-PTFE-Molding-Powder-Free-Flow.php)

| Physical Properties   | Metric                                                 | English                                                | Comments                                  |
|-----------------------|--------------------------------------------------------|--------------------------------------------------------|-------------------------------------------|
| Specific Gravity      | 2.13 - 2.22 g/cc                                       | 2.13 - 2.22 g/cc                                       | ASTM D792                                 |
| Bulk Density          | 0.800 g/cc                                             | 0.0289 lb/in <sup>3</sup>                              | ASTM D894                                 |
| Water Absorption      | 0.00 %<br>@Thickness 8.50 mm,<br>Time 86400 sec        | 0.00 %<br>@Thickness 0.335 in,<br>Time 24.0 hour       | ASTM D570                                 |
| Particle Size         | 650 µm                                                 | 650 µm                                                 | ASTM D4894                                |
| Viscosity             | 1.00e+13 - 1.00e+15 cP<br>@Temperature 340 -<br>380 °C | 1.00e+13 - 1.00e+15 cP<br>@Temperature 644 -<br>716 °F | Melt viscosity                            |
| Linear Mold Shrinkage | 0.020 - 0.050 cm/cm                                    | 0.020 - 0.050 in/in                                    |                                           |
| Deformation           | 5.0 %                                                  | 5.0 %                                                  | 6.7 MPa load, at 100°C, 24 hrs; ASTM D621 |
|                       | 7.0 %                                                  | 7.0 %                                                  | 13.7 MPa load, at 25°C, 24 hrs; ASTM D621 |

| Mechanical Properties     | Metric                                  | English                               | Comments                  |
|---------------------------|-----------------------------------------|---------------------------------------|---------------------------|
| Hardness, Shore D         | 50 - 65                                 | 50 - 65                               |                           |
| Tensile Strength at Break | 20.0 - 45.0 MPa                         | 2900 - 6530 psi                       | ASTM D638                 |
| Elongation at Break       | 200 - 450 %                             | 200 - 450 %                           | ASTM D638                 |
| Tensile Modulus           | 0.392 GPa                               | 56.9 ksi                              | ASTM D638                 |
| Flexural Modulus          | 0.490 - 0.588 GPa                       | 71.1 - 85.3 ksi                       | ASTM D790                 |
| Compressive Strength      | 5.00 - 6.00 MPa<br>@Temperature 25.0 °C | 725 - 870 psi<br>@Temperature 77.0 °F | 1% deformation; ASTM D695 |
| Izod Impact, Unnotched    | 1.60 J/cm                               | 3.00 ft-lb/in                         | ASTM D256                 |
| Coefficient of Friction   | 0.020 - 0.038                           | 0.020 - 0.038                         | Non-lubricating           |

| Mechanical Properties           | Metric 0.0385 | English 0.0385 | Comments                |
|---------------------------------|---------------|----------------|-------------------------|
| Coefficient of Friction, Static | 0.020         | 0.020          | Coated-steel surface    |
| Taber Abrasion, mg/1000 Cycles  | <= 36         | <= 36          | 9.8 N load, cs-10 wheel |

| Thermal Properties               | Metric                                     | English                                      | Comments       |
|----------------------------------|--------------------------------------------|----------------------------------------------|----------------|
| CTE, linear                      | 100 µm/m-°C<br>@Temperature 23.0 - 60.0 °C | 55.6 µin/in-°F<br>@Temperature 73.4 - 140 °F | ASTM D696      |
| Thermal Conductivity             | 0.250 W/m-K                                | 1.74 BTU-in/hr-ft²-°F                        | ASTM C177      |
| Melting Point                    | 327 °C                                     | 621 °F                                       |                |
| Maximum Service Temperature, Air | 260 °C                                     | 500 °F                                       | Continuous use |
| Flammability, UL94               | V-0                                        | V-0                                          |                |
| Oxygen Index                     | >= 95 %                                    | >= 95 %                                      | ASTM D2863     |

| Electrical Properties | Metric             | English             | Comments              |
|-----------------------|--------------------|---------------------|-----------------------|
| Volume Resistivity    | <= 1.00e+18 ohm-cm | <= 1.00e+18 ohm-cm  | ASTM D257             |
| Dielectric Constant   | 2.1                | 2.1                 | ASTM D150             |
|                       | @Frequency 1000 Hz | @Frequency 1000 Hz  |                       |
|                       | 2.1                | 2.1                 | ASTM D150             |
|                       | @Frequency 1e+6 Hz | @Frequency 1e+6 Hz  |                       |
| Dielectric Strength   | 19.0 kV/mm         | 483 kV/in           | Short time; ASTM D149 |
|                       | @Thickness 3.20 mm | @Thickness 0.126 in |                       |
| Dissipation Factor    | <= 0.000010        | <= 0.000010         | ASTM D150             |
|                       | @Frequency 1000 Hz | @Frequency 1000 Hz  |                       |
|                       | 0.000020           | 0.000020            | ASTM D150             |
|                       | @Frequency 1e+6 Hz | @Frequency 1e+6 Hz  |                       |

| Descriptive Properties | Value     | Comments       |
|------------------------|-----------|----------------|
| Chemical Resistance    | Excellent |                |
| Contact Angle          | 110       | Angle to level |
| Weatherability         | Excellent |                |

## Contact Songhan Plastic Technology Co.,Ltd.

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