

Quadrant EPP Nylatron® MC® 907 Natural Nylon, Monocast® FDA Compliant, Unfilled Type 6 (ASTM Product Data Sheet)

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6 , Cast

Material Notes:

Order this product through the following link:

http://www.lookpolymers.com/polymer_Quadrant-EPP-Nylatron-MC-907-Natural-Nylon-Monocast-FDA-Compliant-Unfilled-Type-6-ASTM-Product-Data-Sheet.php

| Physical Properties | Metric | English | Comments |
|--------------------------------|-----------|-----------|-------------------------------|
| Specific Gravity | 1.15 g/cc | 1.15 g/cc | ASTM D792 |
| Water Absorption | 0.60 % | 0.60 % | Immersion, 24hr; ASTM D570(2) |
| Water Absorption at Saturation | 7.0 % | 7.0 % | Immersion; ASTM D570(2) |

| Mechanical Properties | Metric | English | Comments |
|----------------------------------|---|---|------------------------------|
| Hardness, Rockwell M | 85 | 85 | ASTM D785 |
| Hardness, Rockwell R | 115 | 115 | ASTM D785 |
| Hardness, Shore D | 85 | 85 | ASTM D2240 |
| Tensile Strength | 82.7 MPa | 12000 psi | ASTM D638 |
| Elongation at Break | 20 % | 20 % | ASTM D638 |
| Tensile Modulus | 2.76 GPa | 400 ksi | ASTM D638 |
| Flexural Strength | 110 MPa | 16000 psi | ASTM D790 |
| Flexural Modulus | 3.45 GPa | 500 ksi | ASTM D790 |
| Compressive Strength | 103 MPa | 15000 psi | 10% Def.; ASTM D695 |
| Compressive Modulus | 2.76 GPa | 400 ksi | ASTM D695 |
| Shear Strength | 75.8 MPa | 11000 psi | ASTM D732 |
| Izod Impact, Notched | 0.214 J/cm | 0.400 ft-lb/in | ASTM D256 Type A |
| Coefficient of Friction, Dynamic | 0.20 | 0.20 | Dry vs. Steel; QTM55007 |
| K (wear) Factor | 201 x 10 ⁻⁸ mm ³ /N-M | 100 x 10 ⁻¹⁰ in ³ -min/ft-lb-hr | QTM 55010 |
| Limiting Pressure Velocity | 0.105 MPa-m/sec | 3000 psi-ft/min | 4:1 safety factor; QTM 55007 |

| Thermal Properties | Metric | English | Comments |
|--------------------|--------|---------|----------|
|--------------------|--------|---------|----------|

| Thermal Properties | Metric | English | Comments |
|---|-----------------------------|------------------------------------|-------------------------------|
| CTE, linear | @Temperature -40.0 - 149 °C | @Temperature -40.0 - 300 °F | ASTM E831 |
| Thermal Conductivity | 0.245 W/m-K | 1.70 BTU-in/hr-ft ² -°F | ASTM F433 |
| Melting Point | 216 °C | 420 °F | Crystalline, Peak; ASTM D3418 |
| Maximum Service Temperature, Air | 93.3 °C | 200 °F | Long Term |
| Deflection Temperature at 1.8 MPa (264 psi) | 93.3 °C | 200 °F | ASTM D648 |
| Flammability, UL94 | HB | HB | 1/8 inch (Estimated Rating) |

| Electrical Properties | Metric | English | Comments |
|--------------------------------|--------------------|--------------------|-----------------------|
| Surface Resistivity per Square | >= 1.00e+13 ohm | >= 1.00e+13 ohm | EOS/ESD S11.11 |
| Dielectric Constant | 3.7 | 3.7 | ASTM D150 |
| | @Frequency 1e+6 Hz | @Frequency 1e+6 Hz | |
| Dielectric Strength | 19.7 kV/mm | 500 kV/in | Short Term; ASTM D149 |

| Compliance Properties | Metric | English | Comments |
|-----------------------|--------|---------|----------|
| 3A-Dairy | Yes | Yes | |
| Canada AG | No | No | |
| FDA | Yes | Yes | |
| NSF | No | No | |
| USDA | Yes | Yes | |
| USP Class VI | No | No | |

| Chemical Resistance Properties | Metric | English | Comments |
|--------------------------------|--------------|--------------|----------|
| Acids, Strong (pH 1-3) | Unacceptable | Unacceptable | |
| Acids, Weak | Limited | Limited | |
| Alcohols | Limited | Limited | |
| Alkalies, Strong (pH 11-14) | Unacceptable | Unacceptable | |
| Alkalies, Weak | Limited | Limited | |
| Chlorinated Solvents | Limited | Limited | |

| Conductive / Static Dissipative Chemical Resistance Properties | No Metric | No English | Comments |
|---|--------------|---------------|----------|
| Continuous Sunlight | Limited | Limited | |
| Hot Water / Steam | Limited | Limited | |
| Hydrocarbons - Aliphatic | Acceptable | Acceptable | |
| Hydrocarbons - Aromatic | Acceptable | Acceptable | |
| Inorganic Salt Solutions | Acceptable | Acceptable | |
| Ketones, Esters | Acceptable | Acceptable | |

| Descriptive Properties | Value | Comments |
|------------------------|---------|---------------------------|
| Color | Natural | |
| Machinability | 1 | 1-10, 1=Easier to Machine |

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