



Product Data Sheet & General Processing Conditions

RTP 205 FR UV Nylon 6/6 (PA) Glass Fiber Flame Retardant UV Stabilized

The RTP series of flame retardant, glass fiber reinforced nylon materials are designed to provide the optimal balance of strength, electrical and ignition resistance properties while exhibiting excellent processing characteristics. RTP 205 FR UV includes a UV stabilizer package to ensure good maintenance of these properties in outdoor applications.

PROPERTIES & AVERAGE VALUES OF INJECTION MOLDED SPECIMENS

| PERMANENCE | English | SI Metric | ASTM TEST |
|---------------------------------|-----------------------|---------------|-----------|
| Primary Additive | 30 % | 30 % | |
| Specific Gravity | 1.66 | 1.66 | D 792 |
| Molding Shrinkage | | | |
| 1/8 in (3.2 mm) section | 0.0015 - 0.0030 in/in | 0.15 - 0.30 % | D 955 |
| Water Absorption, 24 hrs @ 23°C | 0.600 % | 0.600 % | D 570 |

MECHANICAL

| | | | |
|-----------------------------------|----------------------------|-------------|--------|
| Impact Strength, Izod | | | |
| notched 1/8 in (3.2 mm) section | 2.0 ft-lbs/in | 107 J/m | D 256 |
| unnotched 1/8 in (3.2 mm) section | 16.0 ft-lbs/in | 854 J/m | D 4812 |
| Tensile Strength | 21000 psi | 145 MPa | D 638 |
| Tensile Elongation | 2.0 - 3.0 % | 2.0 - 3.0 % | D 638 |
| Tensile Modulus | 1.65 x 10 ⁶ psi | 11377 MPa | D 638 |
| Flexural Strength | 33000 psi | 228 MPa | D 790 |
| Flexural Modulus | 1.55 x 10 ⁶ psi | 10687 MPa | D 790 |
| Hardness | | | |
| Rockwell, R | 118 | 118 | D 785 |

ELECTRICAL

| | | | |
|----------------------------------|---------------|---------------|-------|
| Dielectric Strength, S/T, in oil | 475 VPM | 18.7 kV/mm | D 149 |
| Dielectric Constant, 1 MHz, Dry | 3.8 | 3.8 | D 150 |
| Dissipation Factor, 1 MHz, Dry | 0.0150 | 0.0150 | D 150 |
| Volume Resistivity | > 1E14 ohm.cm | > 1E14 ohm.cm | D 257 |

THERMAL

| | | | |
|-------------------------|---------------|--------------|--------|
| Deflection Temperature | | | |
| @ 264 psi (1820 kPa) | 450 °F | 232 °C | D 648 |
| @ 66 psi (455 kPa) | 480 °F | 249 °C | D 648 |
| Ignition Resistance* | | | |
| Flammability** | V-0 @ 1/32 in | V-0 @ 0.8 mm | D 3801 |
| Limiting Oxygen Index** | 34.0 % | 34.00 % | D 2863 |

PROPERTY NOTES

Data herein is typical and not to be construed as specifications.

Unless otherwise specified, all data listed is for natural or black colored materials. Pigments can affect properties.

* This rating is not intended to reflect hazards of this or any other material under actual fire conditions.

** Values per RTP Company testing.

GENERAL PROCESSING FOR INJECTION MOLDING

| | English | SI Metric |
|--------------------|-------------------|--------------|
| Injection Pressure | 10000 - 18000 psi | 69 - 124 MPa |
| Melt Temperature | 530 - 570 °F | 277 - 299 °C |

| | | |
|------------------|----------------|---------------|
| Mold Temperature | 150 - 225 °F | 66 - 107 °C |
| Drying | 4 hrs @ 175 °F | 4 hrs @ 79 °C |
| Moisture Content | 0.20 % | 0.20 % |
| Dew Point | 0 °F | -18 °C |

PROCESSING NOTES

Desiccant Type Dryer Required.

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This information is intended to be used only as a guideline for designers and processors of modified thermoplastics. Because design and processing is complex, a set solution will not solve all problems. Observation on a "trial and error" basis may be required to achieve desired results.

Data are obtained from specimens molded under carefully controlled conditions from representative samples of the compound described herein. Properties may be materially affected by molding techniques applied and by the size and shape of the item molded. No assurance can be implied that all molded articles will have the same properties as those listed.

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