



**Product Data Sheet &
General Processing Conditions**

**RTP 4085
Polyphthalamide (PPA)
Carbon Fiber**

PROPERTIES & AVERAGE VALUES OF INJECTION MOLDED SPECIMENS

| PERMANENCE | English | SI Metric | ASTM TEST |
|--|-----------------------|------------------|------------------|
| Primary Additive | 30 % | 30 % | |
| Specific Gravity | 1.33 | 1.33 | D 792 |
| Molding Shrinkage 1/8 in (3.2 mm) section | 0.0005 - 0.0010 in/in | 0.05 - 0.10 % | D 955 |

MECHANICAL

| | | | |
|--|----------------------------|-------------|--------|
| Impact Strength, Izod notched 1/8 in (3.2 mm) section | 1.4 ft-lbs/in | 75 J/m | D 256 |
| unnotched 1/8 in (3.2 mm) section | 14.0 ft-lbs/in | 747 J/m | D 4812 |
| Tensile Strength | 41000 psi | 283 MPa | D 638 |
| Tensile Elongation | 1.0 - 2.0 % | 1.0 - 2.0 % | D 638 |
| Tensile Modulus | 3.40 x 10 ⁶ psi | 23443 MPa | D 638 |
| Flexural Strength | 58000 psi | 400 MPa | D 790 |
| Flexural Modulus | 3.20 x 10 ⁶ psi | 22064 MPa | D 790 |

ELECTRICAL

| | | | |
|---------------------|--------------|--------------|--------------|
| Volume Resistivity | < 1E3 ohm.cm | < 1E3 ohm.cm | D 257 |
| Surface Resistivity | < 1E6 ohm/sq | < 1E6 ohm/sq | D 257 |
| Surface Resistance | < 1E5 ohm | < 1E5 ohm | ESD STM11.11 |

THERMAL

| | | | |
|--|--------------|-------------|-------|
| Ignition Resistance* Flammability** | HB @ 1/16 in | HB @ 1.5 mm | D 635 |
|--|--------------|-------------|-------|

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 | 575 - 625 °F | 302 - 329 °C |
| Mold Temperature | 275 - 325 °F | 135 - 163 °C |
| Drying | 4 - 6 hrs @ 225 °F | 4 - 6 hrs @ 107 °C |
| Moisture Content | 0.05 % | 0.05 % |
| Dew Point | -25 °F | -32 °C |

PROCESSING NOTES

Desiccant Type Dryer Required.

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.

No information supplied by RTP Company constitutes a warranty regarding product performance or use. Any information regarding performance or use is only offered as suggestion for investigation for use, based upon RTP Company or other customer experience. RTP Company makes no warranties, expressed or implied, concerning the suitability or fitness of any of its products for any particular purpose. It is the responsibility of the customer to determine that the product is safe, lawful and technically suitable for the intended use. The disclosure of information herein is not a license to operate under, or a recommendation to infringe any patents.

RTP COMPANY • 580 EAST FRONT STREET • WINONA, MN 55987 • 507-454-6900