



**Product Data Sheet &  
General Processing Conditions**

**RTP 4091  
Polyphthalamide (PPA)  
Carbon Fiber Reinforced**

**PROPERTIES & AVERAGE VALUES OF INJECTION MOLDED SPECIMENS**

| <b>PERMANENCE</b>                            | <b>English</b>        | <b>SI Metric</b> | <b>ASTM TEST</b> |
|--|-----------------------|------------------|------------------|
| Primary Additive                             | 60 %                  | 60 %             |                  |
| Specific Gravity                             | 1.48                  | 1.48             | D 792            |
| Molding Shrinkage<br>1/8 in (3.2 mm) section | 0.0005 - 0.0010 in/in | 0.05 - 0.10 %    | D 955            |

**MECHANICAL**

|  |                            |           |        |
|--|----------------------------|-----------|--------|
| Impact Strength, Izod<br>notched 1/8 in (3.2 mm) section | 1.2 ft-lbs/in              | 64 J/m    | D 256  |
| unnotched 1/8 in (3.2 mm) section                        | 10.0 ft-lbs/in             | 534 J/m   | D 4812 |
| Tensile Strength   | 32000 psi                  | 221 MPa   | D 638  |
| Tensile Elongation                                       | 0.5 %                      | 0.5 %     | D 638  |
| Tensile Modulus  | 7.70 x 10 <sup>6</sup> psi | 53092 MPa | D 638  |
| Flexural Strength  | 57000 psi                  | 393 MPa   | D 790  |
| Flexural Modulus   | 6.50 x 10 <sup>6</sup> psi | 44818 MPa | D 790  |

**ELECTRICAL**

|                    |              |              |       |
|--------------------|--------------|--------------|-------|
| Volume Resistivity | < 1E1 ohm.cm | < 1E1 ohm.cm | D 257 |
|--------------------|--------------|--------------|-------|

**THERMAL**

|  |              |             |       |
|--|--------------|-------------|-------|
| Deflection Temperature<br>@ 264 psi (1820 kPa) | 530 °F       | 277 °C      | D 648 |
| Ignition Resistance*<br>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**

|                    | <b>English</b>     | <b>SI Metric</b>   |
|--------------------|--------------------|--------------------|
| 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.

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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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