



# HIGH GRAVITY COMPOUNDS

STRUCTURAL PRODUCTS

## FEATURES

- Tailor density to a desired level up to 11 g/cm<sup>3</sup>
- Multiple polymer options for inherent chemical and corrosion resistance
- Robust formulations which balance density, durability, and cost
- Custom color matching capabilities

## BENEFITS

- Ability to adjust center of gravity
- Moldable in complex designs
- Environmentally and cost friendly option for metal/lead replacement
- Improved sound and vibration dampening
- Increase perceived value by adding weight



### TENNIS RACQUET

For maximized performance, Bosworth Tennis alters the center of gravity through the use of weighted inserts. These inserts, which are molded with a High Gravity Compound from RTP Company, provide the ideal amount and distribution of mass.

High Gravity Compounds from RTP Company are custom formulated thermoplastic compounds designed to replace metals while retaining the weightier feel. These materials can easily be formed into net shapes via injection molding and the density can be adjusted to meet your design criteria.

Our custom material development expertise allows RTP Company to formulate high gravity compounds that meet your requirements for density and performance while keeping your application feasible from a production and cost perspective.

High additive loadings can increase material viscosity. Processability is maintained by keeping viscosity in check, because material flow and the ability to fill intricate designs is as important as getting the precise density you need.

You can choose the exact density (up to 11 g/cm<sup>3</sup>) to make your design perform exactly as you imagined it. Whether you need to adjust the center of gravity, dampen sound, or change consumer perceptions – high gravity compounds are an excellent solution!

Simpler, quicker, and less costly to work with than machining metals, plastics are also corrosion resistant in aqueous environments. Correct polymer selection can provide resistance to the many different chemicals your application may be exposed to during its lifecycle.

While formulating your custom compound, RTP Company's engineers can often add molded-in, custom color to allow easy identification of your product without expensive secondary painting processes.

For more information:

[www.rtpcompany.com/products/structural/density-modified-high-gravity-compounds/](http://www.rtpcompany.com/products/structural/density-modified-high-gravity-compounds/)



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# HIGH GRAVITY COMPOUNDS

## TYPICAL PROPERTIES FOR DENSITY MODIFIED NYLON 6 COMPOUNDS

	Glass Bubble Nylon 6	Unmodified Nylon 6	2.0 Density Nylon 6	4.0 Density Nylon 6	5.75 Density Nylon 6
<b>Specific Gravity</b>	0.92 g/cm <sup>3</sup>	1.13 g/cm <sup>3</sup>	2.0 g/cm <sup>3</sup>	4.0 g/cm <sup>3</sup>	5.75 g/cm <sup>3</sup>
<b>Notched Impact</b>	0.3 ft-lbs/in 16 J/m	0.8 ft-lbs/in 43 J/m	1.2 ft-lbs/in 64 J/m	1.0 ft-lbs/in 53 J/m	0.9 ft-lbs/in 48 J/m
<b>Tensile Strength</b>	7,000 psi 48 MPa	11,000 psi 76 MPa	8,000 psi 55 MPa	6,500 psi 45 MPa	4,000 psi 28 MPa
<b>Tensile Modulus</b>	0.80 x 10 <sup>6</sup> psi 5,516 MPa	0.40 x 10 <sup>6</sup> psi 2,758 MPa	0.75 x 10 <sup>6</sup> psi 5,171 MPa	0.60 x 10 <sup>6</sup> psi 4,137 MPa	1.50 x 10 <sup>6</sup> psi 10,342 MPa
<b>Flexural Strength</b>	10,000 psi 69 MPa	16,000 psi 110 MPa	13,000 psi 90 MPa	12,000 psi 83 MPa	9,000 psi 92 MPa
<b>Flexural Modulus</b>	0.70 x 10 <sup>6</sup> psi 4,826 MPa	0.43 x 10 <sup>6</sup> psi 2,965 MPa	0.48 x 10 <sup>6</sup> psi 3,310 MPa	0.60 x 10 <sup>6</sup> psi 4,137 MPa	1.70 x 10 <sup>6</sup> psi 11,722 MPa



## POTENTIAL APPLICATIONS

- **Cosmetic caps and containers**
- **Plated articles**
- **Swinging sporting goods**
- **Ballasts**
- **Ammunition**
- **Fishing sinkers**
- **Wheel weights**



### RTP COMPANY: YOUR GLOBAL COMPOUNDER OF CUSTOM ENGINEERED THERMOPLASTICS

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