

- ▶ Balance density, durability, and cost with custom formulations
- ▶ Achieve optimum processability, even in complex geometries, with tailored viscosity
- ▶ Brand products with molded-in custom matched color

ADDITIONAL BENEFITS

- Tune density to desired level up to 11 g/cm³
- Control center of gravity by adjusting mass
- Increase perceived value by adding heft
- Dampen sound and vibration by increasing density
- Use injection molding to obtain net shapes without cost of machining metals
- Inherent corrosion resistance of plastics
- Chemical resistance with appropriate polymer
- Environmentally-friendly alternative for lead

Imagine materials that can easily be formed into net shapes via injection molding but also have the heft of metals and whose mass can be adjusted to meet your design criteria. At RTP Company, we not only imagined it, we've made them a reality.

Density-modified high gravity compounds from RTP Company combine the benefits of plastics with the heft of metals.

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

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

You can choose the exact density necessary up to 11 g/cm³ 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 the solution you're looking for.

Simpler, quicker, and less costly to work with than machining metals, plastics are also corrosion resistant in aqueous environments and 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.

Density-modified high gravity compounds...another innovation from RTP Company – your global compounder of custom engineered thermoplastics.



Applications



- Mimic metal heft
- Cosmetic containers
- Plated articles
- Swinging sporting goods
- Vibration dampening
- Sound deadening
- Ballasts
- Lead replacement
- Ammunition
- X-ray/radiation shielding



Tennis Racquet

Weighted inserts molded from several different high gravity thermoplastic polyurethane elastomer compounds provide the ideal amount and distribution of mass to maximize performance by altering the center of gravity in tennis racquets produced by Bosworth Tennis.

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
Specific Gravity	0.92 g/cm ³	1.13 g/cm ³	2.0 g/cm ³	4.0 g/cm ³	5.75 g/cm ³
Notched Impact	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
Tensile Strength	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
Tensile Modulus	0.80 x 10 ⁶ psi 5,516 MPa	0.40 x 10 ⁶ psi 2,758 MPa	0.75 x 10 ⁶ psi 5,171 MPa	0.60 x 10 ⁶ psi 4,137 MPa	1.50 x 10 ⁶ psi 10,342 MPa
Flexural Strength	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
Flexural Modulus	0.70 x 10 ⁶ psi 4,826 MPa	0.43 x 10 ⁶ psi 2,965 MPa	0.48 x 10 ⁶ psi 3,310 MPa	0.60 x 10 ⁶ psi 4,137 MPa	1.70 x 10 ⁶ psi 11,722 MPa

RTP Company: Your Global Compounder Of Custom Engineered Thermoplastics

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