

HIGH GRAVITY COMPOUNDS

Heavy-Weight Thermoplastics From RTP Company

Quick Information

- ▶ **Ideal for Lead Replacement**
- ▶ **Weight Manipulation and Radiation Shielding**
- ▶ **Formulated with a specific gravity from 2 to 11**

Imagine a thermoplastic compound that duplicates the weight of metal while providing important design and performance benefits. One that allows large quantities of parts to be molded economically, particularly when the part is intricate. At RTP Company, we not only imagined it, we made it a reality.

High Gravity Compounds (HGCs) from RTP Company can be formulated with a specific gravity from 2 to 11. They are compounded using a wide variety of resins and additives depending on the performance objectives of the application.

Advancements in RTP Company's HGC technology enables the formulation of compounds with low viscosity, resulting in improved flow during processing, improved thermal stability, and enhanced surface finish of molded pieces. RTP Company can also provide HGCs for malleable characteristics. Designs can be more intricate and filling thinner walls is possible. Advances also

include improved processing capabilities with increased lot-to-lot material consistency and superior consistency within lots.

HGCs are ideal for lead replacement applications. Industries such as automotive, healthcare, and ammunition, where lead is being phased out due to the detrimental affects it has on health and the environment have found HGCs to be a viable alternative. Typical applications include counter weights, projectiles, and radiation shielding products.

RTP Company also develops HGCs matching the density of other metals for weight manipulation. Many of these products are sporting good applications where density controlled compounds greatly improve the performance of golf clubs, racquets, and bats.

High Gravity Compounds from RTP Company... another innovation from the leader in specialty compounding.



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The Leader in Specialty Compounding

Manufacturing Facilities:

Winona, MN
Sauk Rapids, MN
South Boston, VA
Fort Worth, TX
Indianapolis, IN
Beaune, France
Singapore
Suzhou, China



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Common RTP Company HGC Resin Systems

RTP 100 Series	Polypropylene (PP)
RTP 200 Series	Nylon (PA)
RTP 600 Series	Acrylonitrile Butadiene Styrene (ABS)
RTP 1000 Series	Polybutylene Terephthalate (PBT)
RTP 1200 Series	Polyurethane Thermoplastic Elastomer (TPU)
RTP 1300 Series	Polyphenylene Sulfide (PPS)
RTP 2200 Series	Polyetheretherketone (VICTREX® PEEK™)
RTP 2700 Series	Styrenic Thermoplastic Elastomer (TES)

VICTREX® is a registered trademark. PEEK™ is a trademark of Victrex plc

These are standard resin systems. Other compounds can be customized for your application.



Nylon 6 High Gravity Compound Properties

	Standard Nylon 6 Resin	Lightweight HGC Nylon 6, Easy mold	Middleweight HGC Nylon 6, Easy Mold	Heavyweight HGC Nylon 6, Easy Mold	Lead Replacement HGC Nylon 6
Specific Gravity	1.14	2.0	5.0	8.0	11.0
Filler loading weight %	0	50-65	75-90	80-95	90-97
Tensile Strength, psi	11800	8000	7500	8500	7500
Elongation, %	80	10+	4-5	2-3	0.4-0.7
Flexural Modulus, psi	400,000	450,000	700,000	1,300,000	2,100,000
Notched Izod Impact, ft-lb/in.	1.0	1.3	1.0	1.2	1.0

Performance weighted inserts made with High Gravity Compounds (HGCs) from RTP Company provide the ideal amount and distribution of mass in the Bosworth Tennis racquet. Previously, this was accomplished with the use of lead strips to customize their frames.

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