

The High-Performance Thermoplastics Solution Provider



HT Materials Corporation
49 Geyser Road, Saratoga Springs, NY 12866, USA
Phone: +1 (518) 588-9357
Email: sales@htmaterials.com



HT Materials Corporation is an innovative high performance thermoplastic polymer developer and your partner for the future.

Founded in 2006, HT Materials is headquartered in Saratoga Springs, New York, with R&D in USA and Asia and manufacturing in Asia. Through its proprietary and patented technologies, HT Materials is poised to address the growing demands that engineers face every day in automotive, aerospace, oil & gas, medical, and industrial applications.



HT Materials offers an impressive range of high performance thermoplastic products including Polybutylene terephthalate (PBT), Polyphenylene sulfide (PPS), Polysulfones (PSU, PESU, PPSU), Polyetherimide (PEI), Polyetheretherketone (PEEK) and Polyaryletherketone). Our innovative chemistry and proprietary formulation can be fully customized to deliver the following attributes: high heat resistance; good corrosion resistance; high strength and toughness; abrasion, corrosion, and wear resistance; electrical conductivity or insulation; non-combustibility, and many other properties.

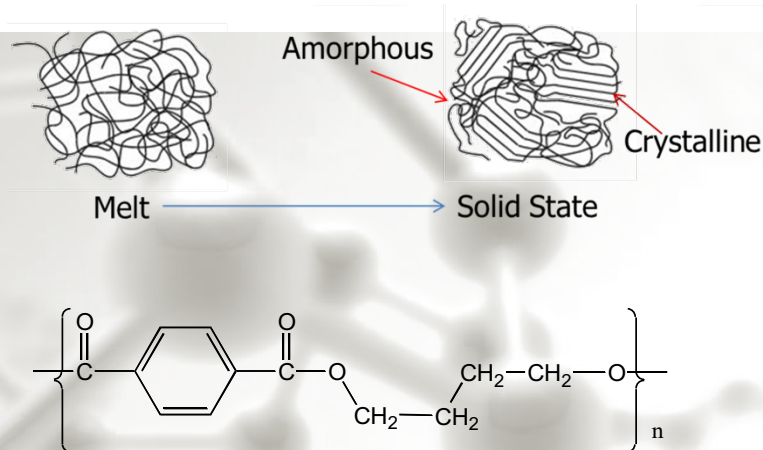
Polybutylene Terephthalate



HTM PBT

Polybutylene terephthalate (PBT) polymer from HT Materials Corporation is a semicrystalline thermoplastic polyester with an excellent balance

of properties. The PBT polymer is manufactured from polymerization of terephthalic acid and 1,4-butanediol.



The PBT polymer can be processed to have high crystallinity – typically as high as 60% – giving it many useful properties such as high hardness, stiffness, strength and chemical resistance.

With proper formulation and reinforcement, PBT based polyester compounds provide many application benefits including:

- ✓ High strength, stiffness and toughness to perform in mechanically demanding applications
- ✓ Superior electrical properties with high dielectric resistance and low dielectric loss
- ✓ Broad temperature capability, having impact resistance down to -40°F, high deflection temperatures under load above 392°F
- ✓ Low creep to retain key dimensions over time, even well above room temperature
- ✓ High temperature resistance to withstand long-term exposure in hot environments
- ✓ Minimal moisture absorption for dimensional stability under high humidity
- ✓ Superior chemical resistance to tolerate exposure to chemicals and solvents, oils and greases
- ✓ Easy colorability and good surface gloss for attractive appearance of parts
- ✓ Alloying compatibility to enable creation of highly flexible, high impact products

Polybutylene Terephthalate



HTM PBT

PBT exhibits almost instantaneous crystallization from the melt, enabling PBT and PBT based compounds, to be molded with short cycles in cooler tooling. The immediate high crystallinity also contributes to reduced post-

molding shrinkage, thereby enhancing dimensional stability. HT Materials' PBT product line encompasses a broad array of standard and specialty grades for use in compounding, injection molding, and extrusion.

HTM PBT Resins for Compounding and Extrusion Application

Product Grade	Supply Form	Melt Flow Rate (g/10min @ 482°F(250°C)/2.16kg)	Description
PBT2150	Pellets	5.0±1.0	Ultra-high viscosity (very low flow) for extrusion
PBT2130	Pellets	9.5±1.5	High viscosity (low flow) for extrusion and injection molding
PBT2120	Pellets	11±3	High viscosity (low flow) for extrusion and injection molding
PBT2110	Pellets	16±4	Standard flow for compounding and injection molding
PBT2100	Pellets	30±4	Medium flow for compounding
PBT2090	Pellets	45±5	High flow for compounding

HTM PBT Resins - Basic Properties

Product Grade	PBT2150	PBT2130	PBT2120	PBT2110	PBT2100	PBT2090
Melt flow rate (g/10min @ 482°F(250°C)/2.16kg)	5	9	11	16	30	45
Intrinsic viscosity, dL/g	1.45	1.30	1.20	1.10	1.00	0.90
Melting temperature, °F (°C)	437 (225)	437 (225)	437 (225)	437 (225)	437 (225)	437 (225)
Glass transition temperature, °F	140 (65)	140 (65)	140 (65)	140 (65)	140 (65)	140 (65)
Ash content, ppm	150	150	150	150	150	150
Color (L)	95	96	96	96	96	96
Color (B)	4	3	3	3	3	3
Moisture content, %	0.02	0.02	0.02	0.02	0.02	0.02

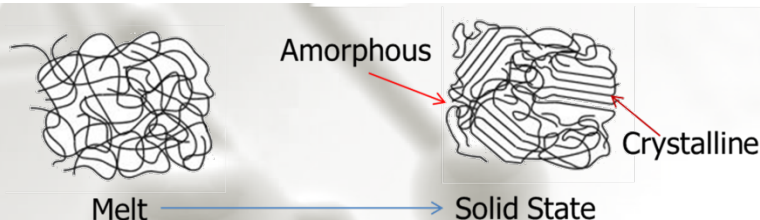
Polyphenylene Sulfide



HTMax® PPS

HTMax® polyphenylene sulfide (PPS) is a semi-crystalline high performance thermoplastic with an excellent balance of properties. It is stiff, strong, hard, tough, and has outstanding chemical and oxidative resistance. It retains these properties at temperatures well above 392°F (200°C), i.e., its continuous service temperature

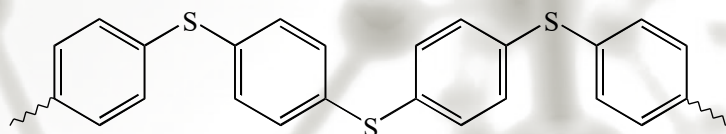
extends to 464°F (240°C). It absorbs little moisture and is both dimensionally stable and inherently flame retardant. It also has excellent electrical properties, is highly impermeable to most liquids and gases, has minimal creep, even at elevated temperatures, and flows well in molding to fill long, thin, and complex parts.



HTMax® PPS is a linear, partially aromatic plastic containing a phenylene ring and a sulfur atom, which are linked alternating in para-position. HTMax® PPS has the following distinct features:

- ✓ Uniform chemical structure (100% linear)
- ✓ Narrower molecular weight distribution

- ✓ Fast crystallization
- ✓ Lower chloride content
- ✓ Good melt stability
- ✓ Wide range of grades available (from low viscosity to high viscosity)



The HTMax® PPS product line encompasses a broad array of standard and specialty grades for use in injection molding, extrusion, and fiber spinning. Compounding grades are available as free-flowing granules for easy feeding.

Extrusion grades are available in both pellet form and free-flowing granule form.

Polyphenylene Sulfide



HTMax® PPS

HTMax® PPS Resins for Compounding Application

Resin Type	Product Grade	Supply Form	Melt Flow Rate (g/10 minutes) (ISO 1133, 601°F (316°C))/5kg)	Ash Content (%) (ISO 3451 1382°F (750°C))	Volatile Content (%) (572°F (300°C)/1hr)
Linear	PPS C-1000	Granules	1050	< 0.50	< 0.50
	PPS C-0450	Granules	450	< 0.50	< 0.50
	PPS C-0150	Granules	150	< 0.50	< 0.50

HTMax® PPS Resin for Extrusion Application

Resin Type	Product Grade	Supply Form	Melt Flow Rate (g/10 minutes) (ISO 1133, 601°F (316°C))/5kg)	Ash Content (%) (ISO 3451 1382°F (750°C))	Volatile Content (%) (572°F (300°C)/1hr)
Linear	PPS EX-200	Granules/Pellets	140	< 0.50	< 0.50
	PPS EX-300	Granules/Pellets	60	< 0.50	< 0.50
	PPS EX-400	Granules/Pellets	40	< 0.50	< 0.50
	PPS EX-500	Granules/Pellets	25	< 0.10	< 0.50

