MOBILE MEDICAL EQUIPMENT

Achieving Strength & Durability with —— THERMOPLASTIC TECHNOLOGIES



RTP.

Applications

RTP Company offers a full complement of thermoplastic compounds that serve a variety of uses in mobilized medical equipment. Whether your application requires chemical resistance, strength, or pleasing aesthetics, we have a solution for you.



Beds

For hospital beds and stretchers, our thermoplastic compounds are used for side rails, head rails, and foot rails, making the overall weight of the beds and stretchers considerably lighter. In addition, our compounds are used for components that are found underneath, such as pans and support blocks.



Mobile Equipment

From the star base, to the shaft, to the monitor and hand piece holders with excellent strength, creep, resistance, and impact, thermoplastic compounds from RTP Company can be used to replace painted metal for lighter weight, better durability, and longer service life... at less expense!



Wheelchairs

Wheelchair components such as foot pedals, brakes, arm rests and wheels can be made from our toughest thermoplastic compounds. For example, wheels undergo strict ASTM testing such as temperature, load capability and impact; our compounds have been proven very successful in these applications.

The Molding Process

Whether you are designing a large part or small, intricate components, our compounds flow easily for effortless molding. With the proper gating, you can get great results from Very Long Fiber (VLF) or short glass reinforced compounds (see description in Figure 2 below). In addition, it is interesting to note that VLF and carbon fiber compounds create less wear damage to tools than standard short glass compounds.

Figure 2: Characteristics of Very Long Fiber and Short Fiber Pellets



Very Long Fiber pellets:

- 11mm long
- Fibers are continuous through the length of the pellet
- Fibers are fully wetted with thermoplastic resin



Short Fiber pellets:

- ~ 3mm long
- Random fibers vary in length and orientation through the pellet

Chemical Resistance and RoHS Compliance

RTP Company offers polypropylene (PP) 100 Series and nylon (PA) 200 Series compounds that are resistant to damage caused by high level, intermediate, and low level disinfectants used in healthcare settings. All compounds are RoHs compliant; in addition, Flame Retardant versions are available for applications that include electrical components to meet the Revised RoHS Directive, 2011/65/EC.

Disinfectant	Typical Brand	PP	Nylon 6/6		
Phenol	Birex	~	*		
Quaternary Compound	Sani-Cloth AF3	\checkmark	~		
Chlorine	Sani-Cloth bleach	~	*		
Alcohols	CaviCide 1	~	~		
Alkyl amine	T-Spray II	~			
Glutaraldehyde	Cidex Plus	~			
*Subject to investigation					

Strength, Toughness, and Durability

Beds, stretchers, chairs, mobile diagnostic and monitoring devices must exhibit overall toughness to hospital and home environments. They need to withstand high levels of impact, heavy loads, stress, strain, and exposure to temperature and/or chemicals. Our highlighted formulations have been developed for the specific purpose of maximizing strength, toughness and durability for applications in homecare and healthcare environments.

Aesthetic Advantages

Thermoplastic compounds open up a whole spectrum of design possibilities that are not available with other materials. From technical to Class A surface finish, to colorability and washability, your products can stand out in the market, helping to build brand awareness and product recognition. In addition, thermoplastic compounds can eliminate the need for paint, provide UV stabilization to reduce fade, and be laser mark compatible for unique device identification purposes.



Toughness - 40 wt. % Fiber





Properties of Selected Compounds

The data displayed in Figure 3 provides information on the properties of various thermoplastic compounds from RTP Company.

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Figure 3		8	Files.	Decilie	Unnot the straugh	PSI IS Str.	^{Tonsile} In	PSI "odulus, Flexural St.	Fleetingt,	PSI Modulus	
	RTP 107 CC	Standard	40	1.21	12.5	11900	1.01	18850	0.94		
	RTP 107 XP	Xtra Performance	40	1.21	17	17500	1.31	27000	1.16		
	VLF 80107 CC	VLF 80107 CC	Long Glass	40	1.21	17	17500	1.30	26000	1.20	
Polypropylopo	PP 40% CF	Carbon Fiber	40	1.11	9	16000	2.20	22000	2.0 <mark>0</mark>		
Polypropylene	RTP 109 CC	Standard	50	1.33	13	13775	1.52	21750	1.31		
	RTP 109 XP	Xtra Performance	50	1.33	18	19140	1.60	30500	1.45		
	VLF 80109 CC	Long Glass	50	1.33	18	18000	1.70	29000	1.50	F	
	PP 50% CF	Carbon Fiber	50	1.20	5	17000	2.30	27000	2.50	П	
	RTP 207	Standard	40	1.46	21	27000	1.90	43000	1.68		
	VLF 80207	Long Glass	40	1.47	21	33000	2.00	48000	1.70		
Nylon 6/6	RTP 287	Carbon Fiber	40	1.31	20	40000	4.10	54000	3.70		
	RTP 209	Standard	50	1.56	23	30000	2.30	46000	2.10	d	
	VLF 80209	Long Glass	50	1.57	25	38000	2.40	56000	2.30	-	
	RTP 289	Carbon Fiber	50	1.37	15	36000	5.00	54000	4.00	-	



The Right Compound for Your Needs

Depending on your application requirements, RTP Company can provide the thermoplastic compound that fits your needs. Our portfolio includes Very Long Fiber compounds that offer the best impact performance, creep resistance and surface finish; our Carbon Fiber compounds are among the stiffest and strongest thermoplastics at the lightest weight; and our short glass compounds provide chemical resistance and durability at the most economical cost.



RTP.

STRUCTURAL • THERMOPLASTIC ELASTOMERS • WEAR COLOR • CONDUCTIVE • FLAME RETARDANT • FILM/SHEET

YOUR GLOBAL COMPOUNDER OF CUSTOM ENGINEERED THERMOPLASTICS

RTP Company is committed to providing you with solutions, customization, and service for all of your thermoplastic needs. We offer a wide range of technologies available in pellet, sheet, and film that are designed to meet even your most challenging application requirements.

COLOR

RTP

Color inspires, energizes, and builds brand recognition, and choosing the right supplier is as important as selecting the right color. We offer color technology options in standard precolored resins or custom compounds, UniColor[™] Masterbatches, or cube blends.

CONDUCTIVE

We offer compounds for electrostatic discharge (ESD) protection, EMI shielding, or PermaStat[®] permanent anti-static protection. Available in particulate and all polymeric-based materials, these compounds can be colored, as well.

FLAME RETARDANT

Whether you are developing a new product or need to reformulate due to ever-changing regulations, we can custom engineer a flame retardant material with the exact properties you require.

STRUCTURAL

Our reinforced structural compounds can increase strength, stiffness, and provide resistance to impact, creep and fatigue. Ideal for metal or other material replacement, our formulas can be customized to meet cost and performance targets.

TPE

Our thermoplastic elastomers provide rubberlike performance with the processing benefits of thermoplastic resin. We offer a wide range of options, from standard, in-stock resins to custom compounds designed to meet your specifications.

WEAR RESISTANT

Our wear resistant thermoplastic compounds can incorporate internal lubricants to reduce wear and friction, thereby lengthening the service life of your application and reducing your processing costs.





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