



PLASTIC INNOVATIONS FOR MEDICAL APPLICATIONS

HEALTHCARE

FEATURES

- Biocompatibility database of materials for medical compounds
- Change Management and Formulation Control tools in place to reduce supply chain risks

BENEFITS

- Assistance with medical grade plastic selection speeds the product development process
- Our thermoplastic compounds can be formulated to your application's specific requirements

MATERIAL SELECTION ASSISTANCE

RTP Company works with virtually all the medical grade resins available on the market and can speed your product development process by helping you arrive at the correct material choice that meets your cost, performance and regulatory goals. RTP Company does this through maintaining a known biocompatible database that tracks the regulatory performance of resins, additives and colorants.

Drug delivery devices, surgical tools, in vitro diagnostics, orthopedics and other healthcare segments benefit immensely from the use of proven medical grade plastic compounds that help create safe and effective medical devices.

CHANGE MANAGEMENT AND FORMULATION CONTROL

Change management is critical in maintaining the integrity of your device testing. You will be provided with ultimate control over your formulation with RTP Company's "no material substitution" and customer notification policy. Over the years, RTP Company's purchasing department has also identified a supplier base that is committed to supplying the medical market in order to reduce supply chain risks.

ENGINEERED COMPOUNDS

Precolored Compounds and Additive Masterbatches

Application ideas: brand recognition, size differentiation, product refresh

- Pre-tested ISO 10993 colorants; available with a statement of biocompatibility
- Combine color with gamma and UV protection
- Control brand colors across the globe with RTP color controls

Thermoplastic Elastomer Compounds

Application ideas: "soft touch" surfaces, surgical tool grips, transdermal patches, seals and closures, toothbrushes, connectors

- Pre-tested ISO 10993 bondable grades; available with a statement of biocompatibility
- Bondable two-shot molded with rigid plastics to reduce cost
- Compatible with gamma radiation and ETO sterilization
- Customizable for color, softness, conductivity, lubricity, etc.
- Replacement considerations for latex, silicone, and PVC



Lung Expiratory Pressure Device

RTP 900 Series precolor polysulfone (PSU)

- Outstanding dimensional stability and heat resistance
- Maintains functionality through repeated cleaning and sterilization cycles
- FDA compliant ingredients, including colorants



Insulin Management System

RTP 6000 Series bondable TPE and RTP 300 Series polycarbonate

- Utilizes FDA compliant ingredients, including light diffusing technology
- A thermoplastic elastomer and precolored white PC are bonded as part of a two-shot injection molding process
- Device maintains a water tight seal even after repeated cleaning



Surgical Drill Guide

RTP 300 Series glass fiber reinforced polycarbonate

- Very stiff and dimensionally accurate, sterilizable compound
- Achieves a complex shape without the machining steps necessary
- Less than half the cost of comparable stainless steel versions



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PLASTIC INNOVATIONS FOR MEDICAL APPLICATIONS

Internally Lubricated Wear-Resistant Compounds

Application ideas: injection pens, inhalers, compressor bushings, gears, valves, sliding mechanisms, safety syringes, moving parts on medical devices

- Lowers coefficient of friction and promotes smooth, unforced motion
- Minimize/eliminate external lubricants
- Eliminate “stiction” and reduce noise (motion-induced squeaking) and “chatter”

Conductive Compounds

Application ideas: inhalers, ECG sensors, pipette tips, IVD tests, electronics protection

- Clear permanent antistatic protection to facilitate accurate dosages for inhaled powders/aerosols (minimize buildup or sudden release)
- Fully conductive compounds for testing and monitoring equipment related to muscle stimulation and response
- From carbon black to transparent, colorable, and non-sloughing
- EMI shielding grades

Flame Retardant Compounds

Application ideas: durable housings, enteral feeding and drug pumps, dialysis machines

- UL certified flame resistance
- Impact modified for drop tests
- Enhanced resistance to hospital cleaners
- Available in non-halogenated technologies

Laser Markable Compounds

Application ideas: Serial marks, bar codes and scoring for medical device packaging, dosage counters for injection pens and inhale devices

- Produce durable, high contrast wear-resistant marks
- Ability to mark curved or 3-dimensional surfaces
- Serial marks for anti-theft and product traceability
- Clean room compatible processing via laser

Reinforced Short & Long Fiber Compounds

Application ideas: Hospital beds, wheelchair components, housings, carts, mobile dialysis, ultrasound and x-ray equipment framework

- Fiber reinforced plastic increases flexural modulus and toughness when compared to non-reinforced plastics
- Replaces metal and can consolidate parts with lightweight strong materials
- Long glass fiber compounds offer superior stiffness, impact strength, dimensional stability, creep and fatigue performance over short glass fiber reinforced plastics

Radiopaque Compounds

Application ideas: catheters, surgical tools, radiation shielding, radioisotope (radiation therapy) shipping containers, dental products (prone to accidental ingestion), food delivery tubes, collimators

- Selectively protect personnel and equipment from scattered/indirect x-rays
- Monitor catheter or device position by means of fluoroscopy or x-ray
- High density as a metal replacement to add weight to plastic surgical hand tools for similar feel

Thermally Conductive Compounds

Application ideas: sterilization cases, microtiter plates, patient drug/blood bag warmers

- Dissipate or conduct heat through plastic surfaces
- Resists chemicals better than metals
- Electrically conductive or insulative technologies



Diagnostic Testing Pipette Tips

RTP 100 Series high flow conductive polypropylene

- Superior melt flow to 20g/10mn for fast cycle times and high cavitation molds
- Consistent conductivity properties for dependable diagnostic results
- Improved hydrophobic release properties



Asthma Inhaler

PermaStat® 600 Series anti-static ABS

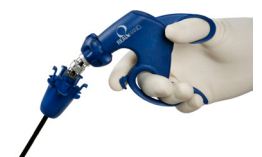
- Charge-neutral all-polymeric, permanent anti-static technology
- Achieves predictable dry powder and aerosol drug delivery
- Offers a balance of low resistivity, high clarity and strength



Epidural Anesthesia Catheter

RTP 2900 Series polyether-block-amide (PEBA), biocompatible, radiopaque TPE

- Easily observed during x-ray imaging
- Consistent radio pacifier loadings equals tight tolerance catheter extrusion
- Achieves uncompromised catheter operation and placement



Endo-laparoscopic Surgical Tool

RTP 2500 Series glass fiber reinforced, pre-color PC/ABS alloy

- Achieves a precise blend of strength, aesthetics, wear resistance and gamma sterilization stability
- Glass reinforcement was selected for rigidity and dimensional stability
- The device's dimensional stability helps mirror a surgeon's hand movements



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