

SELECTION GUIDE

FORMERRA HEALTHCARE SOLUTIONS

Medical Equipment

 MORE THAN
MATERIALS

 Formerra



MEDICAL EQUIPMENT

Medical equipment and devices must meet industry standards, maintaining performance and functionality despite frequent and rigorous disinfection with harsh chemicals and cleaners, exposure to ultraviolet rays and impact during use. As a medical equipment and device manufacturer, your high-performance, ergonomically designed equipment requires robust materials with high resistance to chemicals, UV rays and impact.

At Formerra, we help you solve your toughest application challenges by providing a specialized approach to the latest material, colorant and additive technologies. With a dedication to sustainable solutions, technical and logistics expertise and innovative design engineering capabilities, we can help you mitigate risk, optimize design, and accelerate product commercialization.

RIGID COMPONENTS: DIAGNOSTIC, IMAGING, LIFE SUPPORT, LABORATORY, & MONITORING EQUIPMENT

Applications include:

- Housings
- Covers
- Monitor bezels
- Body panels
- Handles
- Access panels
- Battery enclosures
- Wands
- Coils

Rigid Component Solution Needs:

- Materials compliant with ISO 10993 & USP Class VI, if required
- UL approved resins to meet flammability requirements
- Housings with toughness & good impact resistance
- Enclosures & components that withstand repeated cleanings
- High-flow materials for components with complex designs

Copolyester, Polyester & PC/Polyester Blends

Copolyester	Eastman Tritan™ (Copolyester)	High chemical resistance to a wide variety of hospital disinfectants; excellent toughness and impact resistance after disinfection; retains color and gloss after sterilization and disinfection; does not contain BPA, BPS or halogens
Polybutylene Terephthalate (PBT)	DuPont™ Crastin® & Rynite® (FR-PBT)	30% glass reinforced; flame retardant; good mold flow and electrical properties; high strength, stiffness, dimensional stability and heat resistance
Polycarbonate/Polyester (PC/PET) & Polycarbonate/Polybutylene Terephthalate (PC/PBT)	Covestro Makroblend® (FR-PC/PET) & (FR-PC/PBT)	Strength; toughness; chemical resistance; flame retardant
	Covestro Makroblend® (Non-FR PC/PBT)	Strength; toughness; chemical resistance; limited biocompatibility
	Trinseo EMERGE™ (FR-PC/PET)	Chemical resistance; ignition resistance; limited biocompatibility

PA, PVC, PC & PMMA

Polyamide (Nylon, PA)	Avient Trilliant™ XR Radiation Shielding (PA)	Radiation shielding; green alternative for lead replacement; enhanced design freedom vs. lead; available in hard and soft durometers
Polyvinyl Chloride (PVC)	GEON Performance Solutions Resilience™ HC (PVC)	Excellent chemical resistance; good strength and stiffness; very good surface quality; inherently flame resistant; available in all medical colors; excellent solvent bonding to PVC
Polycarbonate (PC)	Trinseo EMERGE™ (PC)	Ignition resistant; transparent and opaque; glass-filled also available
PolyMethyl Methacrylate (PMMA)	Trinseo Plexiglas® Acrylics (PMMA)	Clarity; easy processing; chemical resistance; BPA free; ideal for light piping and lenses

Styrenics & FR-PC/ABS Blends

Styrenics	Trinseo MAGNUM™ (ABS)	Opaque; custom colors; excellent impact and flow; low residuals; full biocompatibility
	INEOS Styrolution Terlux® HD (MABS)	Good clarity; good heat and overall chemical resistance; good impact strength; good solvent bonding to PVC; outstanding surface quality
	INEOS Styrolution Lustran® & Novodur® HD (ABS)	Opaque appearance; outstanding chemical resistance; high impact strength; excellent balance of properties; ease of processability; bondable
FR-Polycarbonate/ABS (FR-PC/ABS)	Covestro Bayblend® (FR-PC/ABS)	Flame retardant; good impact resistance; dimensional stability; toughness
	Trinseo EMERGE™ (FR-PC/ABS)	Ignition resistant; limited biocompatibility; high flow; easy processing; glass-filled also available

FLEXIBLE COMPONENTS: DIAGNOSTIC, IMAGING, LIFE SUPPORT, LABORATORY, & MONITORING EQUIPMENT

Applications include:

- O-rings
- Gaskets
- Wheels
- Soft touch grips/handles
- Keypads/displays
- Diaphragms
- Seals

Flexible Component Solution Needs:

- Comfortable handles & grips
- Water-tight seals
- Durable feet or casters
- Durable keypads
- Flow control

TPE, TPC-ET, TPU, TPV & Flexible PVC

Thermoplastic Elastomers (TPE)	Avient Versaflex™ HC Overmolding Series (TPE)	Proven healthcare solutions with hardness ranges 42–65 Shore A; autoclave, radiation and EtO sterilizable; bondable to many substrates; customizable haptics
Thermoplastic Polyester Elastomers (TPC-ET)	DuPont™ Hytrel® (TPC-ET)	Wide range of flexibility, stiffness, and processing options; Shore D between 30-82; BPA-free; excellent flex fatigue and toughness; low temperature flexibility; good chemical resistance
Thermoplastic Polyurethane (TPU)	Covestro Texin® (TPU)	Biocompatible; soft touch; sterilizable; good chemical resistance; overmold for grips and handles; excellent bonding to polar substrates like PC; 70A to 95A
Thermoplastic Vulcanizate (TPV)	Avient Versalloy™ (TPV)	Proven healthcare solutions with hardness ranges 45–90 Shore A; autoclave, radiation and EtO sterilizable; natural and colorable; smooth texture; bonds to PP
	Celanese Santoprene™ (TPV)	Durable sealing performance; elastic recovery; excellent chemical resistance; compliance with medical standards
Flexible Polyvinyl Chloride (PVC)	GEON Performance Solutions Geon™ Flexible PVC	Engineered exclusively for the healthcare market; transparent and opaque colors; radiopaque grades available; durometer ranges from 55A to 40D; gamma and EtO sterilizable

Thermoset Silicone Elastomers

Thermoset Silicone Elastomers/ Liquid Silicone Rubber (LSR)	DuPont™ Liveo™ Silicone Elastomers (LSR)	Biocompatible; non-irritating and non-sensitization; sterilizable; made without plasticizers, phthalates or latex
---	--	---



WIRE & CABLE: DIAGNOSTIC, IMAGING, LIFE SUPPORT, LABORATORY, & MONITORING EQUIPMENT

Applications include:

- Plug molding
- Flexible cords
- Flexible jacket
- Coil cords & cable
- Heater cable insulation

Wire & Cable Component Solution Needs:

- Materials compliant with UL, RoHS, REACH & WEEE, if needed
- Materials with good chemical, moisture & abrasion resistance
- Low smoke & non-halogen materials

PVC

Polyvinyl Chloride (PVC)

GEON Performance Solutions
Geon™ Flexible PVC

Inherent flame resistance; halogen-free; excellent chemical resistance; non-yellowing; proven safety record in wire and cable applications; high temperature grades available

TPE, TPC-ET, TPU & POE

Thermoplastic Polyester Elastomers (TPC-ET)

DuPont™ Hytrel® (TPC-ET)

REACH, RoHS and WEEE compliant; wide range of flexibility, stiffness, and processing options; 30D-82D; BPA-free; excellent flex fatigue and toughness; low temperature flexibility; good chemical resistance

Thermoplastic Polyurethane (TPU)

Covestro Texin® (TPU)

RoHS, WEEE, and REACH compliant; excellent memory and recoil; abrasion resistance; Texin® Rx Series - medical grade Polyether TPU – 70A to 80D

Polyolefin Elastomer (POE)

Avient ECCOH™

Non-halogenated flame retardant; high flexibility; environmental stress cracking resistance (ESCR); good electrical properties





FORMERRA

Healthcare Supplier Line Card

You face a unique set of challenges when designing parts for the healthcare industry. In addition to maintaining an effective manufacturing and supply chain operation, you're challenged with designing products that must meet strict regulatory and quality assurance standards. At Formerra, we help you achieve these goals with our comprehensive portfolio of leading suppliers, on-time delivery and a host of services focused on helping you succeed.



FORMERRA HEALTHCARE SOLUTIONS

At Formerra, we're prepared to help you:

- Mitigate risk
- Optimize design
- Accelerate commercialization

Contact us today to learn more about how we can help you overcome your toughest challenges.



formerra.com



MEDICAL EQUIPMENT THAT'S EQUIPPED TO PERFORM

Your medical equipment needs to be durable and properly perform every time. With the right polymers, your equipment will not only resist cracking, but can also bring greater comfort to both the patient and the physician.

- Housings
- Covers
- Panels
- Enclosures
- Handles
- Wands
- Coils
- O-rings
- Gaskets
- Wheels
- Soft-Touch Components
- Keypad Displays

1.888.502.0951
www.formerra.com



Copyright © 2022, Formerra, LLC. All the information in this literature is for general information purpose only. Formerra makes no representations, guarantees, or warranties of any kind with respect to the information contained in this literature, including its accuracy, completeness, reliability, suitability for particular applications, or the results obtained or obtainable using the information. Some of the information arises from laboratory work with small-scale equipment which may not provide a reliable indication of performance or properties obtained or obtainable on larger-scale equipment. Values reported as "typical" or stated without a range do not state minimum or maximum properties; consult your sales representative for pricing, property ranges and min/max specifications. Processing conditions can cause material properties to shift from the values stated in the information. Formerra makes no warranties or guarantees respecting suitability of either Formerra's products or the information for your process or end-use application. You have the responsibility to conduct full-scale end-product performance testing to determine suitability in your application, and you assume all risk and liability arising from your use of the information and/or use or handling of any product. FORMERRA MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, either with respect to the information or products reflected by the information. This literature or any other provided literature shall NOT operate as permission, recommendation, or inducement to practice any patented invention without permission of the patent owner. Any action you take upon the information you find in this literature is strictly at your own risk. Formerra will not be liable for any losses and/or damages in connection with the use of this literature. By using this literature, you hereby consent to this disclaimer and agree to its terms.