Fiberglass in Medical Equipment: Specification Guide

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Why Fiberglass for Medical Equipment?

Fiberglass FRP satisfies a combination of requirements no alternative matches: RF transparency for MRI, dimensional stability at large scale, smooth cleanable surfaces, and complex curved geometry.

Key Material Properties

- RF transparency: excellent (no MRI image interference)
- MRI compatibility: fully compatible, no ferrous content
- Chemical resistance: very good with proper gel coat
- Large-format stability: excellent (no warp or creep)
- Complex geometry: excellent formability

Applications in Medical Equipment

- MRI machine housings and bore liners
- CT scanner outer shells and patient table surfaces
- Radiation therapy (LINAC) treatment head covers
- Ultrasound and portable diagnostic equipment housings
- Patient positioning aids and immobilization fixtures

Manufacturing Process Selection

- Hand lay-up: 1 to 50 units per year, prototypes, complex geometry
- RTM (closed mold): 200 to 2,000 units per year, both-side finish needed
- Vacuum forming: non-structural cover panels, cosmetic trim

Specification Checklist for MRI Applications

- Confirm no metallic fibers or carbon fiber in laminate
- Specify gel coat system for chemical resistance
- Request MRI compatibility test reports from manufacturer
- Verify ISO 10993 biocompatibility if patient-contact surfaces
- Confirm UL 94 V-0 flame rating for electrical equipment

Hospital Disinfection Compatibility

Properly specified fiberglass gel coat is resistant to quaternary ammonium compounds, hydrogen peroxide, and chlorine-based disinfectants at standard clinical concentrations.

Contact BLG for Medical Fiberglass Projects

BLG Fiberglass manufactures medical equipment housings from our Toronto facility. Visit blgfiberglass.com/contact for project inquiries.
