



**UNIVERSITY OF TEXAS MEDICAL BRANCH
SOLVES OPERATING ROOM DILEMMA
WITH HI-MACS SOLID SURFACES**

CREDIT

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INTRODUCTION

Officials at the University of Texas Medical Branch had to consider important qualifications when selecting operating room walls for their hospital.

Hospital walls must be made of a material that is easy to clean and resists the growth of bacteria, mold and mildew. The walls also have to be strong enough to avoid damage if hit with hospital equipment.

The University of Texas Medical Branch found the perfect material with HI-MACS solid surfaces.



THINGS TO CONSIDER

While there are no national performance specifications for wall finishes for operating rooms, hospitals often rely on the minimum standards set in the Guidelines for Design and Construction of Health Care Facilities.

Picking the right material is important, because it can affect the hospital's financing, accreditation, licensing and certification.

A safe and clean material is also critical for the health of the patient. The Centers for Disease Control and Prevention estimates hospital-acquired infections cause about 99,000 deaths per year and cost hospitals \$3 billion a year.

OPERATING ROOM WALLS: A BRIEF HISTORY

Walls in operating rooms have evolved through the years. Many materials have been tried, such as painted plasterboard, ceramic tile, uPVC or rigid PVC, PETG, epoxy resin, stainless steel and solid surfaces.

Each type has its own pros and cons regarding cleanliness, expense and strength.

- Painted plasterboard is the cheapest option, but it isn't sterile and does not hold up to repeated scrubbing. The guidelines do not recommend painted plasterboard.
- Ceramic tile was a popular choice for surgical walls in the 1950s and '60s. Tile can withstand the impact of hospital equipment and is easy to clean. But ceramic tiles easily grow mold and mildew in the operating room's high humidity. Also, grout maintenance becomes an issue for most hospitals. Ceramic tile is no longer recommended.
- Unplasticized Polyvinyl Chloride, also known as uPVC or rigid PVC, is heat-welded and thermoformed to corners and can be molded into any shape. It is a seamless and ultra-hygienic wall surface that was quickly thought to be perfect for operating rooms. However, uPVC is classified as a carcinogen, especially in high humidity and heat. Also, the vinyl plastic contains volatile organic compounds, which when inhaled or absorbed through the skin can lead to several health issues including cancer.
- Hospitals requested an alternative to PVC walls, and Polyethylene Terephthalate Glycol-modified walls were developed. PETG is a polyester plastic that can be made into sheets to form a moisture-resistant wall finish. However, this material is brittle and can crack if hit with carts and equipment. Also, moisture can be trapped between the sheets and the trim, creating a home for bacteria and mold. Attempts to fix the issues by adding a fiberboard core were unsuccessful.
- On the other end of the spectrum, epoxy resin walls provide outstanding durability and do not harbor bacteria growth. But the material is expensive to install and repair.
- Also expensive is stainless steel, which does have other positives. It resists corrosion and is extremely hard and smooth, preventing bacteria from forming. It is easy to clean and stands up to the harsh chemicals used in hospitals. But it also creates glare unless it is coated with powder. That, in turn, increases its cost and reduces its ability to withstand bacteria. Also, stainless steel walls make it difficult to expand spaces later.

THE BEST CHOICE FOR HOSPITALS

Although hospitals have many choices for the operating walls, HI-MACS solid surfaces offer an excellent solution.

Solid surface walls are made of natural and synthetic ingredients: mineral, resin, color and other additives. The mix is cast into shapes or sheets.

Most solid surfaces contain alumina trihydrate, or ATH, which is refined from a type of clay. It is hard enough to withstand the impact from carts and machines yet soft enough to be formed by machines. Also, it is a natural fire retardant, because it releases steam when attacked by heat.

The two main resins used in solid surface materials are acrylic and polyester. Acrylic-based resin creates a sheet that can be heated, bent into a shape and cooled without loss of performance.

The nonporous material does not require sealing and resists the growth of mold and mildew. The two-part adhesive used at the joints creates a seamless, solid surface.

Solid surfaces are also easy to repair with a seamless patch if they become damaged. It can be cleaned with bleach and other detergents.



THE BEST CHOICE FOR HOSPITALS - CONT'D.

Unlike PVC, solid surfaces such as HI-MACS are low-volatile organic compounds and have been proven safe in several third-party tests.

HI-MACS solid surfaces hit all of the key performance criteria outlined by the Guidelines for Design and Construction of Health Care Facilities, making them the perfect choice for hospital operating walls.