



Texas Children's Hospital

Houston, Texas

Architect
FKP Architects, Inc.

Drywall Contractor
Marek Systems

Roofing Contractor
Chamberlin Roofing



Dens® Brand Gypsum Panels from Georgia-Pacific Strengthens and Sustains New Maternity Center

As architect for a new maternity center at a Texas hospital, Michael McVay understands the importance of specifying building products resistant to mold and moisture, challenges never welcome in a healthcare environment.

Echoing the same sentiments is the construction project manager, Thomas Kubin, who confirms that using durable construction materials is paramount to the project finishing on time and enjoying long-term sustainability.

"In a medical facility, especially one that is exposed to hurricanes, we cannot risk any contamination due to water damage," says Kubin, of W.S. Bellows Construction Company. "Early in the design cycle, we chose the Dens line because of the durability of the products as well as their moisture resistance. Not only would we avoid potential mold issues, but they would help us meet our deadline goals, too."

Adds McVay, vice president of FKP Architects, "In a fast-track healthcare project like this one, gypsum products were installed before the building envelope was completely enclosed. Therefore, it was crucial to specify proven products that meet these requirements."

Moisture damage can come in many forms—ambient humidity, wind-driven rain, plumbing failures. Moisture-resistant Dens® fiberglass mat panels from Georgia-Pacific Gypsum resist delamination and decay due to normal moisture exposure during and after construction, and thus were the ideal choice for all drywall needs in this project for the Texas Children's Hospital (TCH) Maternity Center in Houston.

The new 790,000 square-foot, 15-floor building will open in 2011 with 102 beds and a capacity for more than 5,000 births per year. By including DensGlass® Sheathing, DensArmor Plus® Interior Panels, DensGlass® Shaftliner and DensShield® Tile Backer, McVay and Kubin know the facility will benefit from the potential reduction of mold growth due to moisture, which can be a big problem in a hospital. In addition, DensArmor Plus Interior Panels are

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SAIED ALAVI,
OPERATIONS MANAGER WITH
MAREK BROTHERS SYSTEMS

GREENGUARD Indoor Air Quality Certified® and GREENGUARD Children & Schoolssm Certified for low emissions of volatile organic compounds.

Mold-resistant Dens® products are uniquely formulated with fiberglass mat faces instead of traditional paper facings. Replacing paper – the food source for mold – ensures that Dens products are mold-resistant. A specially-treated gypsum core further ensures mold resistance and makes them resistant to moisture.

Houston's Sudden Rain is No Problem for Dens®

Saied Alavi, Operations Manager with Marek Brothers Systems (Marek), oversees the interior construction of the Maternity Center. Marek has used Georgia-Pacific Dens products for more than 10 years because they can be installed early in the construction process. DensArmor Plus® drywall can be in place before the building is topped off with a roof and windows are installed. Early installation would be impossible when building interiors are totally open to the outside environment with traditional paper-faced drywall.

Alavi explains Houston weather this way: “You get only about 20 seconds warning before it starts pouring. And it doesn't just sprinkle. Water can be gushing down the inside of the building. During the spring rainy season, it rains two or three times a week. Even in the best of weather conditions, southeast Texas is wet. With a high concentration of humidity, it is common to hear the drywall craftsmen talking about buildings “raining.”

“No question, cool concrete overnight combined with a hot and humid day means that the concrete is going to sweat. We get so much moisture here, sweat drips from every surface in the structure,” Alavi says.

Zero Tolerance for Mold

In a maternity facility, any occurrence of moisture and mold is especially critical because pregnant mothers and newborn babies have less resistance to bacteria and infection. Thus, any potential for mold in the TCH Maternity Center is unacceptable.

This is precisely why the building's architects and contractors chose Georgia-Pacific Gypsum fiberglass mat products. Says Alavi, “In the old days, when we worked on a medical project and needed the interior work done early, we might be forced to replace 10 to 30 percent of the paper-faced drywall. Dens products greatly reduce that risk.”

Fiberglass mat products like DensGlass® Sheathing and DensArmor Plus® Interior Panels work together to create a moisture-resistant exterior/interior wall system. Georgia-Pacific backs these products with a limited warranty for up to 12 months of exposure to normal weather conditions. DensShield® Tile Backer and DensGlass Shaftliner help extend moisture management throughout the building. Moreover, each Dens® product performs at the highest score attainable for mold resistance under widely-recognized ASTM standards¹.

No material can be considered mold proof, but by removing a food source for mold – paper – these products are resistant to mold growth. Use of Dens products, along with using proper construction process and appropriate HVAC systems, support good indoor air quality for staff and patients.

Dens® Ensures Delivery before Due Date

Hanging paper-faced drywall before the building is dried in has always been a gamble, particularly in storm-prone or humid areas where wind-blown rain and dampness can cause scheduling delays. No contractor wants to rip out damaged paper drywall, wasting precious time and money and causing a ripple effect of scheduling problems with other trades. Fiberglass mat Dens products from Georgia-Pacific Gypsum can be installed earlier and with less risk of remediation during construction. Earlier installation means not having to wait for roofs, windows and doors to go in first.

Alavi explains, “Dens products allow us to get in earlier and other sub-contractors who have to work around us are able to get started sooner than normal. For example, because we can build electrical rooms, overhead mechanical and shaft walls, the elevator installer can get his equipment in much more quickly.”

DensGlass Shaftliner, made for elevator shafts and stairwells and often used around mechanical equipment which goes in early in the construction cycle, holds up well on job sites before and after the building is closed in. Alavi adds, “Dens products fast-forward the project by a number of months and keep us out of harm’s way in the fight against water damage and mold.”

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¹ASTM International is one of the largest voluntary standards development organizations in the world, trusted for technical standards for materials, products, systems and services.



Georgia-Pacific Gypsum Products used in Texas Children’s Hospital Maternity Center

- 3,000,000 square feet
DensArmor Plus®
Interior Panels
- 174,000 square feet
DensGlass® Shaftliner
- 133,000 square feet
DensGlass® Sheathing
- 100,000 square feet
DensDeck® Prime
Roof Board
- 74,000 square feet
DensShield® Tile Backer



For more information about fiberglass mat gypsum building products from Georgia-Pacific Gypsum, and for copies of product warranties, visit www.gpgypsum.com.

Fiberglass Mat Building Products Lessen Risk

One of the benefits of Dens® is to avoid remediation necessary if paper-faced boards get wet. The water-resistant nature of Dens reduces the possibility of schedule delays and escalating expenses. Renovation in the middle of the project would be costly to the hospital, contractor and sub-contractors.

"The size of the job dictates when you can close in. If you have a smaller job, you can close in quickly, but the Maternity Center is large. Using Georgia-Pacific Gypsum products, like tile backer board on wet areas in bathrooms and exterior grade sheathing on the outside, lessens the risk we take," explains contractor Kubin. *To clarify, tile backer boards are applied after the building is dried in.*

Gypsum panels with fiberglass mats are a sound component of moisture management strategies because they help create a more durable structure. Building owners, architects, and contractors who use fiberglass mat panels on both exterior and interior surfaces as well as interior walls, behind tile in wet areas, in shafts and stairwells provide the moisture forgiveness that ensures sustainability of the structure.

U.S.A. — Georgia-Pacific Gypsum LLC
Canada — Georgia-Pacific Canada LP

Sales Information & Order Placement

U.S.A. Midwest: **1-800-876-4746**
West: **1-800-824-7503**
South: **1-800-327-2344**
Northeast: **1-800-947-4497**

CANADA Canada Toll Free: **1-800-387-6823**
Quebec Toll Free: **1-800-361-0486**

Technical Information

Georgia-Pacific Gypsum Technical Hotline
U.S.A. and Canada: **1-800-225-6119**
www.gpgypsum.com



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For current warranty information for this product, please go to www.gpgypsum.com and select the product for warranty information. All sales of this product by Georgia-Pacific are subject to our Terms of Sale available at www.gpgypsum.com.

UPDATES AND CURRENT INFORMATION

The information in this document may change without notice. Visit our website at www.gpgypsum.com for updates and current information.

CAUTION For product fire, safety and use information, go to www.gp.com/safetyinfo or call 1-800-225-6119.

HANDLING AND USE—CAUTION This product contains fiberglass facings which may cause skin irritation. Dust and fibers produced during the handling and installation of the product may cause skin, eye and respiratory tract irritation. Avoid breathing dust and minimize contact with skin and

eyes. Wear long sleeve shirts, long pants and eye protection. Always maintain adequate ventilation. Use a dust mask or NIOSH/MSHA approved respirator as appropriate in dusty or poorly ventilated areas.

FIRE SAFETY CAUTION Passing a fire test in a controlled laboratory setting and/or certifying or labeling a product as having a one-hour, two-hour, or any other fire resistance or protection rating and, therefore, as acceptable for use in certain fire rated assemblies/systems, does not mean that either a particular assembly/system incorporating the product, or any given piece of the product itself, will necessarily provide one-hour fire resistance, two-hour fire resistance, or any other specified fire resistance or protection in an actual fire. In the event of an actual fire, you should immediately take any and all actions necessary for your safety and the safety of others without regard for any fire rating of any product or assembly/system.

