

## Great Wolf Lodge

Niagara Falls, Ontario

**Construction Completed**  
 Spring 2006

**Drywall**  
 DBN Drywall



For any project, architects, specifiers and developers have important decisions to make, as well as time constraints to meet. When it comes to building a hotel resort containing a 100,000 sq. ft. (9290 sq. m.) indoor water park, making the right decisions regarding the project's construction and materials becomes much more critical.

The need for moisture control, comfort and an improved indoor air environment calls for the use of water resistive barriers. This need for a high-quality, sustainable, moisture-resistant product is many times only evident after a project's completion, which can result in long-term issues and costly mitigation. On the other hand, when potential issues are foreseen, the benefits outweigh the upfront costs.

The construction of Great Wolf Lodge Niagara Falls, completed in the spring of 2006, is the perfect model. The resort complex is geared towards family fun with 406 hotel rooms, an expansive indoor water park, outdoor water facilities, spas, locker rooms, showers and restaurants.

### Choosing the right products

During pre-construction, a switch was made from the originally specified paper-faced moisture-resistant gypsum board to Georgia-Pacific's fibreglass mat-faced moisture- and mould- resistant products at this Niagara region family resort.

Ron Grossi Jr. of DBN Drywall explains, "The specifiers had called for moisture-resistant gypsum board in the water park (which is a paper-faced panel with a water-resistant treatment), but we insisted they switch to DensArmor Plus High-Performance Interior Panels, because otherwise they would have experienced moisture issues."

"The mould resistance of the products persuaded the specifiers to agree with us. Since this build was going to include a water park, they thought DensArmor Plus would be the way to go, considering the high moisture and humidity content. It really was the mould and mildew resistance that drove us to talk them into using Georgia-Pacific instead of MR board."

### From the outside in

Although the water park was a critical component of the build, it was only one piece of the puzzle. The building enclosure, floor assembly, exterior wall assembly including window and door openings, and the roof assembly needed to provide the building with structural integrity, moisture control, thermal comfort and efficiency.

"After the installation of structural steel framing, contractors installed the exterior facing wall of the building," recalls Joe Krawczyk, Director of Engineering with Great Wolf Lodge, who was the project manager during construction. "The benefit to using a product like DensGlass Sheathing is its superior weather protection."

The fibreglass mat-faced product offers superior mould and moisture resistance, compared to paper-faced sheathings.

"The panels integrate a water-resistant, treated core with a fibreglass mat face and back to provide superb protection from the elements," explains

Georgia-Pacific Canada's Ken McLeod. "Panels will not delaminate or deteriorate due to normal weather conditions — even during construction delays that last as long as 12 months after installation. A water-resistive barrier is not required over DensGlass Sheathing to provide for the protection of the gypsum sheathing itself."

The moisture resistance of these panels allowed crews to install 100,000 sq. ft. (9290 sq. m.) of DensGlass® Sheathing through the four Canadian seasons, despite rain, sleet, and snow, without concerns about potential damage, delamination, or mould growth.

#### Indoor water works

With over half a million gallons of recycled water cycling through the Great Wolf Lodge water park 24 times daily, DBN Drywall's recommendation to use Dens® Brand products, including DensArmor Plus® Interior Panels and DensShield® Tile Backer, in the water park, ensured a sustainable facility with prolonged moisture and mould resistance.

McLeod explains, "DensShield Tile Backer is designed for use as a tile substrate for walls, ceilings, floors and countertops. It is an ideal tile backer board for high moisture areas, because it has a built-in moisture barrier that stops moisture at the surface. The special coating protects the tile installation and wall cavity from moisture intrusion."

Like DensGlass Sheathing, DensArmor Plus panels are made with a moisture-resistant gypsum core that is faced with fibreglass mats. Fibreglass mats eliminate a potential food source for mould growth and, along with the use of DensShield Tile Backer, may reduce the potential of costly remediation.

#### As time goes by

After a few years of excess humidity and moisture exposure, DensShield Tile Backer and DensArmor Plus High-Performance Interior Panels have demonstrated superior performance. Great Wolf Lodge is pleased with the water park's condition and has found the products very durable. Georgia-Pacific products' superiority allows Great Wolf Lodge to provide a safe, family experience to an estimated 4.5 million visitors this year (2009). With standard maintenance to the wall and tile surfaces of the park, Georgia-Pacific Dens products will resist mould and moisture damage for years to come.

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

#### Sales Information & Order Placement

U.S.A. Midwest: **1-800-876-4746**  
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#### Technical Information

Georgia-Pacific Gypsum Technical Hotline  
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**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.

