Project Profile

USG DUROCK® Brand Cement Board

Application/Building Type:
Hospitality Environments
Project Name:
The Peaks at Telluride Resort and Spa
Location:
Telluride, Colorado
Architect:
Pellechia Olson Architects
Subcontractor:
AROK Construction
Featured Products:
USG DUROCK® Brand Cement Board
DUROCK® Brand Joint Tape
DUROCK® Brand Latex-Fortified Mortar

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Rock-Solid Architecture

It's known as the spa for the stars. The Peaks at Telluride Resort and Spa in Telluride, Colo., is one of the most exclusive resorts in North America. And it took solid architectural thinking and leading-edge construction techniques to ensure that the $68 million building could provide the sustained performance required to match the purpose originally envisioned for this lofty property.

"Climatic conditions have a lot to do with the way you design a structure," said Jeff Olson, managing architect with Pellechia Olson Architects, Denver, Colo. "At 9,500 feet above sea level in Colorado there is very little humidity. A spa is inherently a high-humidity environment. The moisture in the air naturally tries to seek equilibrium, moving toward areas of lower humidity. In this process, it has the potential to deteriorate building materials on both the interior and the exterior of the building. Our challenge was to contain the saturated air within an environment which was built to withstand its effects and to control its movement out of the building."

The spa at The Peaks occupies 42,000 square feet on the first four floors of the building and includes a lap pool, an indoor-outdoor swimming pool, a water slide, separate Roman bath spas for men and women, plus three co-ed spas. The fitness area sports an endless list of equipment and programs as well as 44 personal treatment rooms and banks of individual showers. The water functions are concentrated on two levels; however, many of the individual treatments involve mud baths, hydrotherapy and similar wet activities.

"We started with a metal-stud and drywall wall system, covered it with an ice-and-water seal and then added a layer of 5/8-inch 4-foot-by-8-foot DUROCK cement board as a substrate for the tile," Olson continued.

The ice and water seal was a self-adhering sheet product, typically used under metal roofing in the mountains, that was continuously applied to the gypsum panel surface. DUROCK brand cement board panels were screw-attached through the gypsum board to the studs with specially shaped and coated DUROCK® brand screws.

The ceilings in the spa were sealed with the water seal and then covered with metal lath and a conventional three-coat plaster system. "The ceiling cavities in the highest-humidity areas are pressurized by the HVAC system, serving as a further barrier against migrating moisture," Olson said.

The DUROCK cement board used for the spa walls and as underlayment for tile on pool and bathtub decks is made of aggregated portland cement reinforced with fiberglass mesh. It is a superior substrate for ceramic tile, stone tile, thin brick and several other finishes. It will not deteriorate when wet.

"We used a couple of semi-trailer loads of DUROCK board to cover all of the tile-clad walls in the spa area," said Jim Cooper, project manager for AROK Construction, the metal framing, drywall and cement board contractor for the job.

"We used 5/8" DUROCK cement board behind the wall tile so that it would be flush with our 5/8" drywall in the room."

"It's heavier than wallboard, but not much more difficult to apply. The board can be cut to size by using a utility knife and cutting the surface on both sides. Then the excess can be snapped off similar to the way we handle gypsum panels," Cooper pointed out.

Once the DUROCK cement board panels were applied, the joints were finished with DUROCK® brand joint tape, a self-adhesive fiberglass mesh tape, and DUROCK® brand latex-fortified mortar. Ceramic tile throughout the spa area was applied with a latex-fortified thin-set mortar and finished with latex-fortified grout. Both ceramic tile and stone tiles were set the same way in the shower and tub areas of the resort's 177 deluxe guest rooms.

"In the private baths, the moisture situation is not nearly as intense. We didn't need the same moisture barrier, but we used the cement board substrate for the tile around the tubs and within the showers," Olson pointed out. Guest suites are equipped with oversize bathrooms that contain separate tubs and showers with floor-to-ceiling doors and enclosures.

The fact that DUROCK cement board could be obtained in a 5/8-inch thickness made it possible to have cement board walls adjacent to drywall partitions having 5/8-inch drywall needed for fire ratings. "We used 5/8-inch DUROCK cement board behind the wall tile so that it would be flush with our 5/8-inch drywall in the room," Cooper said. "We also used it under the tile on the tub decks."

"With a property that's as exclusive as this, there's no room for risk. Everything simply has to be right," Olson concluded.

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