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Natural stone – unlimited potential



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Just when you thought that the stone found in a home improvement store is all a contractor needs, that perception is shattered by the fact that there is a whole other world of stone available. Stone has so much more potential than the commonly seen 12" x 12" or 18" x 18" sizes and kitchen countertop slabs.

The same goes with installation methods: there is so much more possible than just thin-setting stone. Add exterior elements into the design and the potentials are truly unlimited. This can be dem-

onstrated by taking a peek into one ongoing project in downtown San Diego.

Thin-set paving installations: just the tip of the iceberg

There are a lot more applications available than the commonly installed interior stone floors. One example is a mud-set 3" granite paver installation designed for vehicular traffic in this San Diego project.

In this case, a bonded wire-reinforced mortar bed was used. The mortar bed allowed the installer to compensate for deviations in the concrete substrate to allow proper grades to be met for drainage. The specifications called for a polymer-fortified mortar bed, which really increases the performance characteristics.

Another effective





UltraCare Penetrating SB Stone, Tile & Grout Sealer is a natural-look, solvent-based, penetrating sealer that provides maximum protection against most common stains. It is safe for use on all interior and exterior natural stone (marble, limestone, sandstone, slate, granite, travertine, etc.), unglazed porcelain and ceramic tiles, masonry, quarry tiles and cementitious grout. The product can also be used as a pre-grouting sealer.



UltraCare Penetrating SB Stone, Tile and Grout Sealer passes the Ceramic Tile of America CTIOA-T72 stain test. This testing method requires placing selected staining substances (water, white vinegar, vegetable oil, red wine, soy sauce, cola, red sports drink, hot black coffee, yellow mustard and all-purpose cleaner) on tile for four hours, open to air, and then washing them off with water and allowing the tile to sit for 24 hours. www.mapei.com

method the installer used that is not seen often was box screeding. Believe it or not, this method has been in practice long before medium-bed (or large-and-heavy-tile) mortars were being created in laboratories and is simple in approach, but effective in performance. After the stones are back buttered, they are set in boxes and filled and leveled off to offset any deviations in the thickness of the stone.

Another inventive paving example would be an amphitheater of stone stairs that were set in a semi-circular layout. Dimensional stone pieces approximately 4" x 30" x 9" had to be installed on a radius such that the grout joints were a consistent width from top to bottom. The installer chose to perform all cutting themselves rather than having the fabricator cut these special shapes overseas. A template was made – not unlike the shape of a giant piece of pie – so that the pieces at the bottom stair were almost 9" shorter than the top step. The riser stones were all set in a wet-set mortar bed application, and the treads were installed by allowing the mortar bed to cure and then thin-setting the treads.

Vertical cladding is another great example of the versatility of natural stone. There are two application methods commonly used to set stone on walls, one is adhered and another is a mechanical-attachment method. Both are found on this project as different areas required

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different architectural details. The adhered stone was installed over an anti-fracture membrane and a concrete block substrate. The mechanically attached stone was installed using stainless steel clips that were bolted to the cast-in-place concrete wall substrate.



Different stone finishes can add dramatic effects

Although many stone installations utilize honed and polished finishes, there are many other finishes that can be fabricated. There are varying degrees of clefted and bush-hammered finishes. There are countless chiseled looks that can be created. Some hard materials such as granite can be flamed, which leaves a textured finish.

Combined with targeted lighting, textured stone can create dramatic results. Contrasting finishes such as a bush-hammered and a grooved finish, together with the right light-

ing condition really shows the potential that finishes can play by creating shadows.



The mechanically attached walls in this project also used contrasting finishes to highlight the design. Here a heavily clefted horizontal band was alternated with bush-hammered stone, adding a three-dimensional feel to the surface of these walls.



There was also an outdoor shower wall that code required to have a surface that can be easily cleaned, yet a bush-hammered finish was the desired look. The solution was to have this wall honed. It ended up as another great example of using different finishes in unison to add a stunning look and feel.

Stone doesn't have to come in small sizes

Move aside "large-format" 24" x

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24" stone – some installations can have stone that takes on almost pyramid-like qualities. The stairs in this San Diego amphitheater project called for a clever design that had large “tiers” stepping down and separating the area into seven sections. These tiers are anchored by 8"-thick stone riser pieces that were clefted on the face.



A forklift and other special equipment was required to install these pieces, since some can weigh over 500 lbs. each. The tops of the tiers were 2" thick pieces that had to be cut into pie shapes to fit the curved nature of the amphitheater. Here the installer utilized fabrication done overseas at the fabrications facility, but precise fabrication tickets were required and needed to be created by AutoCAD®.



Many stone walls have a parapet cap that needs to be finished and sheet metal is a common material

for this purpose. But stone – not sheet metal – was the option chosen here, and we're talking 1/2" or even 3/4" thick. In fact, the caps designed on this project will vary from 1" to 3" thick. The stone caps complete the look and feel of solid stone walls all the way through, which is a common design intent architects are looking for.



The stone caps offer further versatility with their overhanging edge where a recessed light will be hidden to illuminate signage.

Kent Klaser founded Klaser Consulting, Inc., in July 2015 on the belief that stone and tile installations can and should be installed correctly the first time. For 20 years, Kent has worked for Klaser Tile Co., Inc. maintaining the business as an industry leader well known for quality and lifetime lasting performance. For more information, visit Klaser Consulting, Inc. at www.klaserconsulting.com or contact Kent at kent@klaserconsulting.com, phone 619-884-7565.