

May 2019

Candlewood Suites® Fort Carson, Colorado

The Candlewood Suites® hotel designed for Fort Carson has the typical 5-story layout, but is designed with a metal frame instead of wood. Light gauge steel (LGS) construction is very similar to wood-framed construction in principle, but requires different building materials and design specifications. For instance, LGS structures are non-combustible, which is a code requirement for some types of structures. However, steel loses its strength in fire quite easily, so must be protected with fire-rated sheeting.



Candelwood Suites Exterior During Construction

Another aspect to consider with LGS structures is they allow the passage of sound more readily than the more solid masonry construction, so creating sound control between rooms is imperative within the design. To improve the sound control in the corrugated metal deck flooring of the Candlewood Suites hotel, developer Lendlease contracted **El Paso Gypcrete** to install sound control mats, which help

absorb impact sound energy (IIC), and a special gypsum concrete underlayment, **Firm-Fill® CMD**, to add mass to the floor assembly, absorbing airborne sound energy (STC), and flattened the floors for finished floor coverings.

El Paso Gypcrete poured over 55,000 square feet of Firm-Fill® CMD, a gypsum concrete specially formulated to work with steel structures and will provide a minimum compressive strength of 3,500psi. Their first step to installing underlayments to a corrugated metal deck was to fill the deck flutes with the Firm-Fill® gypsum concrete and allow that to dry. They only needed to allow three hours of drying time before they began to lay the **Firm-Fill® SCM-250** sound control mat over the, now, flat floor provided by the Firm-Fill® CMD. SCM-250 is a 1/4" (6mm), random filament sound mat designed to limit impact noise between floors. With the SCM loose-layed over the subfloor, the El Paso Gypcrete team topped it with another inch of Firm-Fill® CMD to complete the underlayment sound control system.



Flutes are filled with Firm-Fill® CMD; One row of Firm-Fill® SCM-250 is rolled onto the deck

Ignacio "Nacho" Alvarado, owner of El Paso Gypcrete, has many years of experience working construction projects on military bases, being based in El Paso, Texas. On military projects, there is a higher emphasis on job-site safety, communication, and coordination. Nacho prefers this method as it makes sure all trades, and the GC, are on the same page.

The Privatization of Army Lodging (PAL) is a U.S. Army-led program established as a means to revitalize on-post lodging facilities for soldiers, their families, and all government travelers. Lendlease is the developer for the PAL program, and IHG® (InterContinental Hotels Group) is the PAL hotel operator.

About El Paso Gypcrete

After 18 years in the construction and concrete industry, Ignacio Alvarado launched his own company in 2016. Established on the principles of integrity, quality, and service, El Paso Gypcrete has become the contractor of choice for the most prominent builders in the region, providing gypsum concrete and sound control mat installation services for single-family, multi-family and commercial projects. With safety, efficiency, and professionalism as its core values, El Paso Gypcrete meets deadlines and delivers exceptional craftsmanship, establishing the company's reputation as a leader in the industry. To request a bid, visit their website: elpasogypcrete.com.

About Firm-Fill® Products

Designed for use in multi-family, commercial and institutional buildings with light-gauge steel framing and a corrugated steel deck, **Firm-Fill® CMD** is a lightweight, high-strength gypsum concrete floor underlayment. Installed at 1" above the top of the flutes, FIRM-FILL® CMD reduces deadloads and thickness, significantly lowering costs.

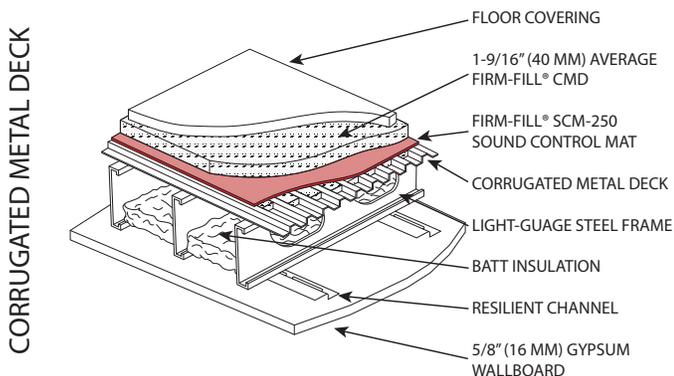
When **Firm-Fill® SCM-250** is used in conjunction with a 1" FIRM-FILL® Gypsum Concrete topping, the combined system has been tested to achieve a "Light Commercial" rating from the Tile Council of North America.



The second lift of Firm-Fill® CMD is installed over Firm-Fill® SCM-250 at 1" in depth



Finished pour of Firm-Fill® CMD in hallway - the gypsum dried enough to walk in within 90 minutes



Job Highlights

| | |
|------------------------|--------------------------------------|
| General Contractor: | Lendlease |
| Applicator: | El Paso Gypcrete |
| Project: | Candelwood Suites on Ft. Carson |
| Assembly: | Corrugated Metal Deck |
| Application: | FIRM-FILL® CMD FIRM-FILL® SCM-250 |
| Square Feet Installed: | 55,347 |