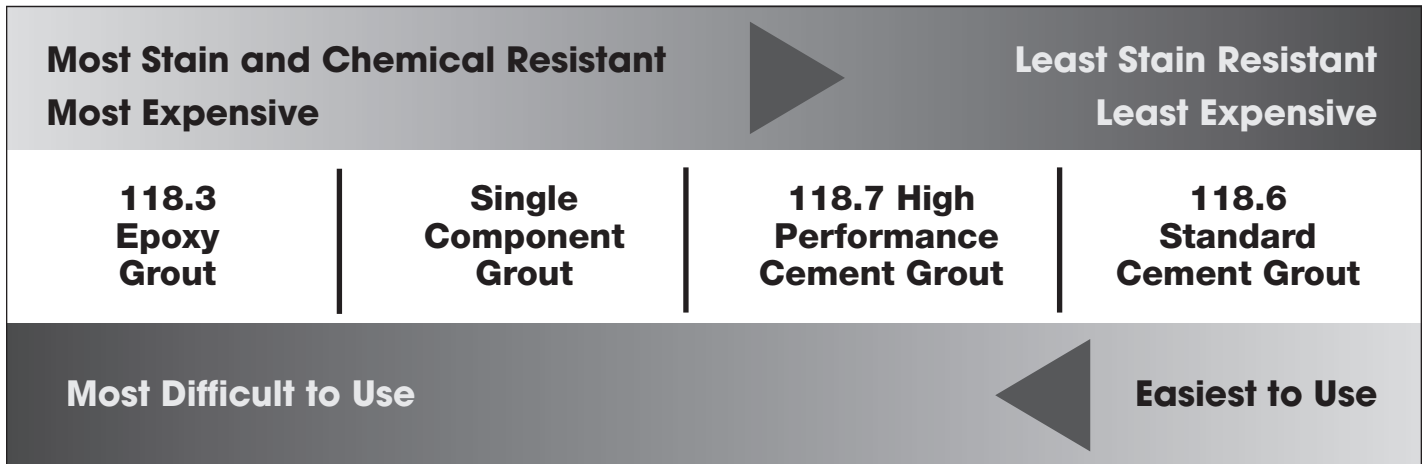




## Grout Choices for Designers

Today, design professionals have more grout choices than ever for tile and natural stone. Color palettes are broad and regularly updated to reflect trends, plus they can now include color-matched silicone sealant for the required flexible movement joints. The only downside to all of these choices is matching the needs of the project and specifying the right grout for the service conditions. Color is an important component of the specification but performance is still the key to a tile assembly that is both beautiful and durable.

*By Dale Roberts,  
CSI, CCPR, CDT,  
LEED Green Associate  
- Commercial Architectural  
Services Representative*



This article provides a simple guideline to the types of readily available grouts for commercial and residential applications.

The four main categories of grout are:

Standard Cement Grout - ANSI A118.6

High Performance Cement Grout - ANSI A118.7

Single Component Grout - (Standard in development; meets most attributes of A118.3 Epoxy Grout)

Chemical Resistant, Water Cleanable Epoxy - ANSI A118.3

### Standard Cement Grout

Standard cement grout is the most commonly used, most economical grout on the market. It is time-tested and contractors are usually very familiar with this grout, which is easy to install and clean up. There are three basic types of cement grout: sanded, non-sanded and coarse.

- Sanded grout can be used in joints from 1/8" to 1/2". Sand adds compressive strength and reduces shrinkage in wide joints.
- Non-sanded grout is for use with grout joints 1/8" or smaller, and/or for highly polished or soft-surfaced tile glass and stone tiles. Non-sanded is similar to the traditional pure cement grout used for tight joints.
- There is also a subcategory used with pavers or thin brick that contains additional coarse sand for joints 1/2" to 1-1/4" wide.

Cement grouts are the least expensive grout and the easiest material to install. So, if your client is looking for an economical product, then standard cement grout is the most economical. Since it is also the most porous, standard cement grout should be sealed with a high quality sealer. The best sealers are specially formulated to ensure lasting protection to the grout.



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However, these sealers will add additional labor and material cost to the installation. Sealer life will vary depending on the products used to clean the tile. Harsh or heavy-duty cleaners remove sealers quicker than neutral PH cleaners. Keep in mind that sealers will need to be reapplied after two to three years depending on the quality of the sealer and amount of cleaning (daily, weekly, monthly) and the type of cleaners used.

With cement grout, you may get some minor color variation (shading). This is due to the hydration or curing characteristics of Portland cement. If these grouts lose water too quickly, they can dry with areas that look splotchy and dark. When the grout is allowed to cure at a moderate rate, it will dry to an even, consistent color. Areas that receive a lot of sunlight or air movement across the top of the grout joints while they are curing will dry faster and dry darker than an area in the back of the room or in a bathroom that receives no sunlight and no air movement. This is the true cost of an inexpensive, standard performance grout: discoloration of grout from color/shade variation during curing and stains incurred during regular use. Cement-based grout can be used almost everywhere in interior or exterior, commercial or residential, wet or dry areas. Areas such as commercial kitchens or in high heat conditions such as a firebox, require specialized grouts

Custom Building Products offers original formula Polyblend® Sanded Grout and Polyblend® Non-Sanded Grout in the **ANSI A118.6 Standard Cement Grout** category. Polyblend is a durable, non-shrinking grout that delivers dense grout joints. New in this product class is Polyblend® Plus Non-Sanded Grout with formula enhancements that improve both the performance and color consistency.

### High Performance Cement Grout

The next step up is still a Portland cement-based grout, but it meets the **High Performance Cement Grout requirements of ANSI A118.7** with higher strengths and lower porosity. CUSTOM's new Polyblend® Plus is formulated for specification on commercial installations that are economically oriented while requiring a high performance grout for the project conditions.

On the top cement podium step, Prism® Ultimate Performance Cement Grout contains higher performance Calcium Aluminate cements with exothermic qualities that control curing. This consistency in hydration creates more consistent color even with varying tile porosities in most environmental conditions. This grout is harder, and denser than the standard grout and therefore more stain resistant. These high performance cements have little or no lime and will not contribute to efflorescence. This is a costly and bothersome maintenance problem where white, powdery mineral deposits appear on the surface of the grout and affect the look of the entire tile assembly.

Along with the high performance comes a small upcharge compared to standard cement grout. This equals approximately 5 cents per square foot, depending on tile size and grout joint width and depth. Most owners agree it is a small cost for such drastic improvement in performance, including better color consistency and stain resistance. Products in this category do

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not require sealing, although end users will benefit from protecting the grout with a sealer. Prism is formulated with lightweight recycled content, meets Greenguard Gold standards and contributes to LEED certification. This high performance grout meeting ANSI A118.7 can be used almost everywhere in interior or exterior, commercial or residential, wet or dry including challenging like submerged pools and steam rooms. Note that some areas such as commercial kitchens or in high heat conditions such as a firebox require specialized grouts—more on this below.

### Single Component Grout

**Single Component Grout meets most of the performance criteria of ANSI A118.7 and A118.3** and is ideally suited for commercial and residential applications, for bathrooms and heavy traffic areas. The single component formula (silicone resin and acrylic polymer) is a category developed and pioneered by Custom Building Products as the newest addition to the grout family,

Fusion® Pro Single Component® Grout fuses the best qualities of cement and epoxy products. With Fusion Pro's stain proof and color perfect guarantee, it can be specified for high visibility projects where appearance is critical. There is no efflorescence due to mineralogy, color is completely consistent and the grout is crack resistant due to its inherent flexibility. Single component grout develops excellent hardness, does not need to be sealed and is easy to spread right from the bucket. The lid is replaced when installation is finished so the bucket can be used again later with no waste of leftover product.

If you are looking for a lower cost alternative to epoxy that still delivers high stain resistance and consistent color, then Fusion Pro is the perfect choice.

### Chemical Resistant, Water Cleanable Epoxy

**ANSI A118.3 is unique in describing products that can be used as both grouts and tile adhesives.** This product category is most chemical resistant grout you can buy over the counter. It encompasses two- to four-part product systems that require mixing color and catalysts together for a chemical reaction. Epoxy grouts are designed for projects that require high chemical resistance to food and other biological contaminants sources such as dairies, hospitals or anywhere you are looking for the maximum chemical resistance and stain resistance. Some Epoxy grout colors are not UV stable and should be used on interiors only.

CEG-Lite™ 100% Solids Commercial Epoxy Grout provides chemical and stain resistance with a fast cure time for a quick return to service. Its lightweight formula makes it easier to spread and clean than typical epoxy grouts and also contributes to LEED certification. CEG-Lite exceeds ANSI A118.3 performance requirements, is suitable for use on vertical joints without an additive, and can also be used as a mortar. Its two-component formula combines a Part A pigmented hardener with a Part B consisting of resins and lightweight aggregates.

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For industrial areas with harsh environments such as high use commercial kitchens or food processing facilities that need both high chemical and high temperature resistance, specify CEG-IG 100% Solids Industrial Grade Epoxy Grout. CEG-IG has improved resistance to stronger cleaners that may be used in these environments.

While, all of these grouts can be used either residentially or commercially, they all offer unique benefits. For the most chemically resistant product, select an epoxy grout and make the owner aware of the extra costs for the product and labor with the long lasting advantages of longevity under harsh conditions. For the most economical clients or valued engineered projects, recommend a standard cement based grout or improved Polyblend Plus. For a small incremental cost increase, you can move them to a high performance grout that meets ANSI 118.7, such as Prism, which offers the best of both worlds for stain resistance and cost effectiveness. Where appearance and ease of maintenance is most important, specify Fusion Pro Single Component Grout.

If you have any questions about grout selection, please contact a member of our Architectural or Technical Services Teams at 800.282.8786.



### About the Author

Dale Roberts is an architectural consultant for Custom Building Products where he helps specifiers ensure that their tile and stone projects are successful, cost-efficient, and done right the first time. He has been in the tile industry for 30 years and has earned CSI, CDT, CCPR, CTC, LEED Green Associate certifications. Dale often presents continuing education classes to design professionals and tile contractors and enjoys troubleshooting challenging installations.

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