

Tile & Stone Installation Systems

Mixing partial units of grout

MAPEI's Tile & Stone Installation Systems products are designed, tested and packaged to be used as full units only, with the exception of premixed "ready-to-use" products. Periodically the need will arise to mix less than a full bag of material for repairs, touch-ups, and in some cases due to less-than-ideal jobsite conditions (such as hot weather).

When it is necessary to mix less than a full unit of product, certain things must be kept in mind. This document will focus specifically on tile/stone grouts. Below are answers to some commonly asked questions on the subject.

Which grout products should never be mixed in partial units?

Certain highly engineered products should only be mixed in full units for proper results and optimum performance. MAPEI's epoxy products (*Kerapoxy*[®], *Kerapoxy CQ* and *Kerapoxy IEG CQ*) should never be mixed in smaller batches, which is why their Technical Data Sheets do not give partial mixing ratios.

Why shouldn't I mix smaller batches of epoxy products?

Epoxy grout is designed and packaged to be used in full units for a reason. You need the exact amounts of Part A and Part B that are provided in the packaging. Any deviance from these proportions can cause the epoxy to set up much too fast, to never set at all, to discolor or to cause strength/durability issues after curing. For this reason, MAPEI offers its *Kerapoxy* and *Kerapoxy CQ* products in smaller 1-quart (946-mL) units for when smaller batches are desired.

For cement-based grouts, do any instructions change when smaller batches are mixed?

No, be sure to follow MAPEI's packaging instructions explicitly regarding mixing and the slaking time. Even when the amount of material in the mixing bucket is less than a full unit, all of the same chemical reactions need to take place within the product. So if a product calls for 3 to 5 minutes of mixing time, followed by a 10-minute slake period, this must be honored whether a full bag, a half bag or any amount in between is mixed.

What else should be noted when mixing smaller batches of MAPEI cement-based grouts?

Consistency of the mixture can suffer if the mixing ratios are not identical from batch to batch. Color consistency is not guaranteed when multiple small batches of a grout are used on a single installation area versus mixing/using the entire bag. If the specified mixing ratios are not followed, the strength and/or color consistency of the product can suffer.

Before mixing, always dry-blend the powder in a separate bucket to redistribute raw materials that may have settled. If circumstances require using a partial bag of cement-based grout, maintaining precise mixing ratios is crucial, so use the same measuring device to portion out the powder and liquid for each batch. Be sure to adhere to the powder-to-water ratios given below, and follow all mixing instructions on the Technical Data Sheet for the product being used.

What about grout additives?

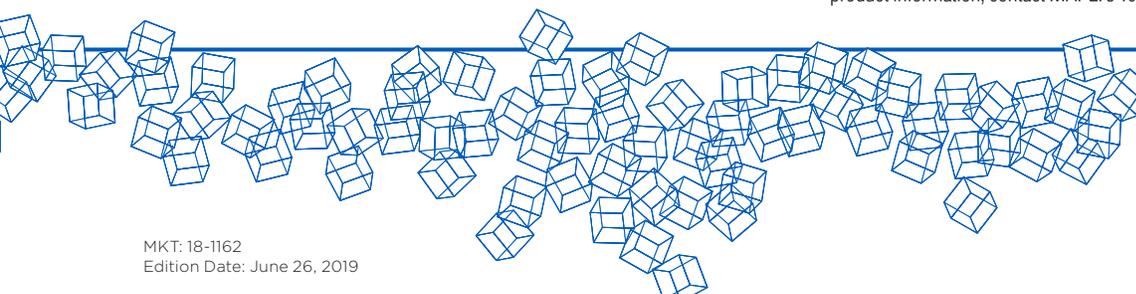
MAPEI's *UltraCare™ Grout Maximizer* is a grout additive that enhances the stain resistance of the Portland-cement-based grouts *Keracolor® S* and *Keracolor U*. When it is used, it replaces the entire amount of recommended water for the mixture. So if it is necessary to mix a partial bag of grout, follow the powder-to-liquid ratios in the chart below.

Mixing ratios by volume

Again, only when it is necessary to mix a partial bag of a cement-based grout, the ratios below may be used. However, keep in mind that these ratios are starting points. You may need to use slightly more or less powder or liquid in order to fine-tune the consistency of the mixture.

Product name	Powder-to-liquid ratio (by volume)
<i>Keracolor U</i>	3:1
<i>Keracolor S</i>	4:1
<i>Ultracolor® Plus FA</i>	3:1

For more guidance about mixing partial batches of materials, as well as the most current product information, contact MAPEI's Technical Services Product Support Team.



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