

Common, not exclusive, methods of grouting

National Precast's publication *Understanding Grouted Precast Joints, A guide for engineers and building contractors* (issued May 2020) explains grouted precast joints and the importance of correct design and construction.

Clearly, essential messages from the Guide are that engineers should carefully consider joint design and processes, and that both builders and engineers must ensure that on-site practises are consistent with the design.

Section 2.4 *Grouting methods* outlines **commonly specified** grouting methods for flat joints and ship-lapped joints. These methods are not exclusive nor exhaustive. The most appropriate method of grouting must be specified by the engineer for each joint, and the contractor should construct joints in accordance with the design.

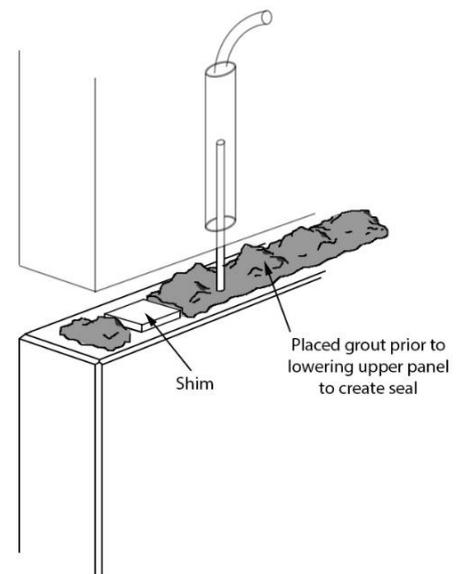
As well as other methods outlined in the Guide, dry-packing a grout bed of a flat joint is another commonly used grouting method for flat joints. Some considerations are listed below when this method is specified.

Flat joint - Before placement of the top panel:

Dry-packed grout is placed on the flat horizontal loadbearing area at the top of the lower panel, before the upper panel is lowered and grout is poured for the joint reinforcement bars.

Dry-pack any gaps to ensure a consistent distribution of grout. A visual inspection should ensure the inside joint face is fully grouted and free of air pockets.

The volume of grout should exceed the height of the shim to form a seal once compressed. This will ensure that the grout bed is taking the subsequent forces applied to the upper panel, so that the entire load is not placed on the shims. Excessively packed grout should also be avoided as this can change the height of the joint which should be set by the shims.



Flat joint - Placing the top panel:

Lower the upper panel into position IMMEDIATELY after placing grout on the top of the lower panel. Any delay or higher ambient air temperature may cause the grout to stiffen, thereby causing cracks in the grout bed when compressed by the above panel as it is lowered into place. This in turn could allow the subsequent poured grout (completing the reinforcement bars across the joint) to leak.

If panel location adjustments are required (in particular a panel height increase by adding shims) after the initial lowering of the upper panel, then re-bedding the grout may be necessary to ensure that the grout bed is also taking the subsequent forces rather than only the shims.

Clean any excess grout that has squeezed from between the panels to the inside face of the panels, to leave a tidy finish.

Allow sufficient time (per grout manufacturer's instructions) for the bedding grout to cure, before placement of further panels.

Remove the shims if specified.