

MASTERFLOW[®] GROUTS

Recommended installation procedures for cementitious grouts

Before carrying out any grouting operations consult your BASF representative for advice on selection of the correct grout for your application and installation methods.

Foundation preparation

Preparation of the concrete surface to which the grout will bond should be carried out before the base plate is placed.

Prepare the concrete surface using a chipping hammer, grit blasting or high pressure water jetting to leave a rough but clean surface free from all forms of contamination. Bush hammering is not recommended.

Bolt pockets should be prepared and cleaned out before the base plate is fixed.

Base plate

The underside of the base plate should be free of rust, oil or grease.

The minimum gap width between the base plate and foundation should be 25mm for base plates up to 1m wide, increasing by 20mm for each additional metre of width.

For base plate pours over 1m in width or when the gap width is less than the minimum recommended, please consult your local representative.

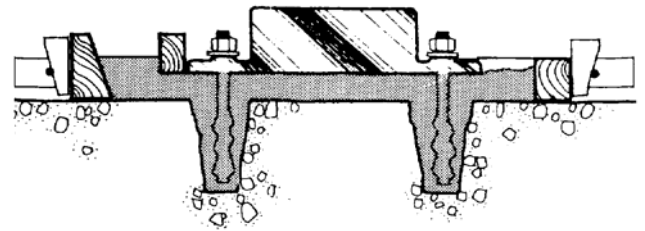
Formwork

Before fixing formwork ensure the base area and bolt holes are clean. Formwork fitted around the base plate to contain the grout must be as water

tight as is practical, to prevent grout loss. The top of the formwork should be a minimum of 2.5cm above the underside of the base plate. For large base plate pours or when the gap between base plate and foundation concrete is less than recommended, the formwork should be higher to allow a pressure head to build up.

On the pouring side, which should be the shortest distance across the base plate, the formwork should be at least 15cm higher than the underside of the base plate. The form should be fixed with the top sloping away from the base plate at a 45° angle, to form a slope, down which the grout can be poured.

A piece of formwork should be fixed on top of the base plate as below, to allow a head of grout to build up.



The formwork should be fixed to allow easy stripping without causing damage or stress to the grout, if the formwork is to be removed when the grout is still green.

MASTERFLOW[®] GROUTS

Note:

1. If grout is to be pumped under pressure, special formwork may be required. Contact Technical Services.
2. Keep shoulders to a minimum, unless properly designed, they may crack.

Preparation for grouting

Before fixing the last piece of formwork, remove all dirt and debris from within the area to be grouted.

Saturate the concrete within the formwork with water for 24 hrs prior to grouting.

Ensure sufficient grout is available for the pour.

Check that mixing equipment is suitable and in good working order. If using drum type concrete mixers, fix wire mesh with a mesh size of 12-15mm over blades inside drum to assist in breaking up balls of grout. Have a back-up mixer available. Ensure adequate potable water is available for mixing.

Hot weather grouting

If grouting is to take place in the open, store bags of grout under shade, shade the area to be grouted, and ensure that a supply of cool or chilled water is available to reduce mixed grout temperatures to less than 30°C for best results.

Cold weather grouting

If the temperature of the base concrete cannot be maintained at or above 10°C whilst the grout hydrates, consult BASF Technical Services.

Use warm water to bring the mixed temperature of the grout above 10°C.

If the ambient temperature will fall below 5°C after placing the grout, make sure materials are available to insulate the grout.

Mixing

Before mixing begins, ensure that all standing water is removed from bolt pockets and surrounding areas. For small pours a drill and 100mm paddle with a speed of 400-600 RPM, mixing in a 20-30 ltr pail will be suitable. Larger pours will require proper grout mixers or modified drum mixers.

The mixing set up must be able to produce a continuous supply of freshly mixed grout once the pour starts.

Always put 90% of the mixing water into the pail or mixer bowl before adding the grout.

When the mixed grout is lump free, add the remaining mix water.

Mixing time with drill and paddle will be not less than 3 minutes and 4-5 minutes with a drum mixer.

In hot weather the mixing operation should take place under shade.

Add sufficient water to give the flow characteristics required. In high ambient temperatures more water will be required to offset evaporation losses.

Placing

Fill all the bolt pockets with grout before pouring the rest of the underplate grout. Start at one end of the base plate, pouring grout down the slope of the formwork. When the grout reaches the far

MASTERFLOW[®] GROUTS

side formwork and rises above the bottom of the base plate, move the pouring point slowly along the length of the base plate always ensuring that the grout has risen up on the opposite side of the base plate before moving along. Do not pour from different sides of the base plate as this can cause voids.

Straps:

If due to the length of the pour and / or narrow gap width there is concern about the grout having adequate flow, metal or plastic straps as used for binding crates and boxes can be placed in the pour so that they can be pulled back and forth to assist the grout flow. Be aware that if or when the straps are withdrawn this can leave small voids.

Curing

As soon as the grout is placed, cover exposed edges with wet rags (cloth retains moisture more effectively than hessian) keeping them wet for 24 hours. After 24 hrs remove the formwork.

After removing the formwork, brush on MASTERKURE curing membrane (2 coats), brushing the curing membrane onto the concrete for at least 25 mm from the edge of the grout. Allow the curing membrane to dry, then cover the exposed edges of grout with cloth and keep wet for a minimum of 7 days.

Note:

Wet curing is the preferred curing method, but it is very rare for the grout to be kept wet 24 hrs a day unless very strict supervision is maintained.

Shoulders

Shoulders formed from high performance grout should be avoided. If shoulders are required, they can be formed from concrete repair mortar or polymer modified concrete.

Shoulders formed from shrinkage compensated grouts have a tendency to crack and debond. The main cause of the problem is lack of care in preparation and design. If it is necessary to form shoulders around the grouted base plate, contact BASF Technical Services for further advice.

It is not possible to cover all aspects of grouting in a grouting summary such as this. Our field service staff working with our Technical Services Department prefer to discuss your grouting needs or problems before the project gets underway.

Note:

Grout is a fine concrete that in general has a higher cement content than normal concrete. The absolute minimum standard with regard to mixed temperatures and pouring conditions such as shading etc., should be those applied to structural concrete on a well controlled site.

Safety precautions

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs (which can also be tainted with vapour until product is fully cured or dried). Treat splashes to skin and eyes immediately. If accidentally ingested, seek medical attention. Reseal containers after use. For specific storage and disposal instructions refer to the Material Safety Data Sheet.

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As all BASF technical datasheets are updated on a regular basis it is the user's responsibility to obtain the most recent issue.

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