



Procedural Bulletin / Concrete Bonding

No. 33-1 Effective Date January 2020

Gill 33® - Superbond

Purpose: This Procedural Bulletin No. 33-1 is the correct guideline for using Gill 33® to bond old concrete or grout to a new placement. This procedure may be used with or without using Gill Modified Concrete or grout. All references to Gill 33® also include the MCI® variant.

Materials:

- Type I or III fresh¹ portland cement
- Sand - Use washed concrete sand only for larger patches where feather edge is not required. Use washed sand of a #30 grit or less where width is 3/8 inch or less.
- Gill 8 Horizontal / Vertical Mix or Gill 29 Gill Crete may be substituted for cement / sand combination. Refer to Procedural Bulletin No. 8 and 29 respectively.
- Water- Use potable water, do not use industrial water.
- Gill 33® Superbond
- Gill 27 Etch N Kleen
- Gill 17 Gill Lock
- Gill 86 Gill Cure

Procedure:

Surface Preparation: Surface MUST be cleaned to remove all deteriorated concrete and then roughened. Scarification, grit blast (large media) or mechanical abrading will provide the depth and exposure of clean concrete required for proper bond. Air-hammer may be necessary for complete removal of all foreign material. For hydrocarbon contamination, use Gill 27 Etch N Kleen for surface preparation. See Technical Bulletin No. 27 for additional information.

Pre-soak: Area to be overlaid/patched must be pre-soaked using water. Follow ACI recommended procedure of "24 hour" pre-soak. Deviation from ACI recommendation may result in bond failure.

Pre-mix: *Each Gill container should be thoroughly shaken to ensure the micro-silica is fully dispersed in solution and does not adhere to the bottom of the container.* In a separate container, mix a solution of one (1) part Gill 33® to seven (7) parts water. This Gill Water solution is to be used for all mixing water in the bonding layer.

Bond Coat: After pre-soaking, remove standing water and remoisten with Gill Water solution. Broadcast fresh¹ portland type I or III cement on dampened surface, then using a stiff bristle brush, work a sufficient amount into the surface to create a paste of thick consistency. During this procedure, you may need to add more Gill Water and/or cement to achieve results. **Do not allow to dry!** For contaminated concrete, use Gill 17 Gill Lock. See Technical Bulletin No. 17 for additional information.

Placement: New concrete must be placed before bond coat dries.

Curing: After placement, immediately cover using plastic, burlap, or other membrane sealing system such as Gill 86 Gill Cure. See Technical Bulletin No. 86 for additional information. This must remain for 4 hours. Failure to cure properly may result in plastic shrinkage cracks, slab curl and/or improper bond.

Equipment Cleanup: Gill 33® will not damage mixers or hand tools. To neutralize the effects of Gill 33®, rinse all tools with water.

¹ *Test cement for freshness by putting a small amount of cement into a container. Add undiluted Gill 33® and create a small, stiff putty ball. If cement is fresh, the ball will be hot in 3-5 minutes. If not, replace cement.*

Please contact a Gill representative for your specific applications.

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