Quality Technical Bulletin

Vertical Concrete Form & Finish Requirements for Waterproofing and Air/Vapor Barrier.

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Excessive surface repair for waterproofing Installation

The more preparation that must take place, the greater chance of a mis-take is likely.

When waterproofing, masonry flashing, etc… we must make sure that the concrete surface is in good condition, this generally includes the footing and foundation top…

Proper consolidation is very important and must be discussed…if voids develop, they must be chipped out and properly filled…not just filled.

ACI 347.3R-13 is a Guide to Formed Concrete Surfaces that goes deeper into specialty concrete finishes…please contact the Quality Department if more information is needed.

This information is discussed in the concrete pre-installation meeting, however, if this is the first time that the contractor is learning about the re-quirement, it is too late!

Properly bidding-out and installing the correct vertical concrete finish is critical for a successful project. The Architect should have specified a form finish per ACI 347-14 & 347.3R-13 and a concrete surface finish per ACI 301-10 in the Division 3 specifications. These finish requirements need to correspond to the waterproofing and air/vapor barrier specifications and allowable tolerances, however, seldom actually do…This bulletin discusses what the finish classes for concrete forms and the surface finishes for vertical concrete are and how they relate to the waterproofing & Air/vapor barrier on the concrete.

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- Most waterproofing and air/vapor barrier needs a surface without imperfections over 1/4" to 1/8" depending on the material…sheet products or liquid.
- Imperfections in the form or the concrete surface greater than acceptable by the barrier manufacture's will need to be treated by filling or ground down.
- According to ***ACI 347-14 Section 5.4—Irregularities in Formed Surfaces***, there are two types of irregularities…abrupt or gradual. The irregularities that we are concerned with for this type of installation are abrupt irregularities.
- Abrupt irregularities in formed surfaces are offsets and fins. Abrupt irregularities are measured within 1" of the irregularity and have the following class designations:

Class A (1/8") - Suggested for surfaces prominently exposed to public view where appearance is of special importance.

Class B (1/4") - Intended for coarse-textured, concrete-formed surfaces intended to receive plaster, stucco, or wainscoting.

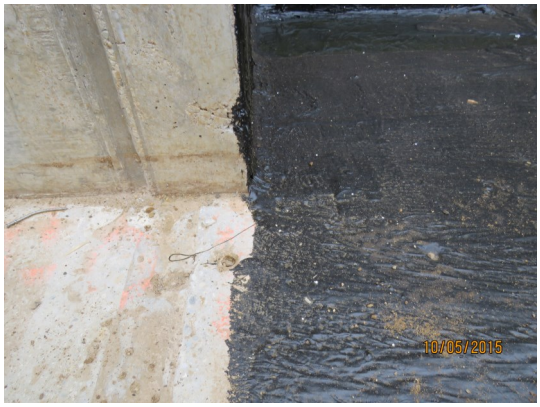
Class C (1/2") - A general standard for permanently exposed surfaces where other finishes are not specified.

Class D (1") - A minimum-quality requirement for surfaces where roughness is not objectionable, usually applied where surfaces will be permanently concealed.

- According to ***ACI 301-10 Section 5.3.3.3—As Cast Finishes***, there are three defined concrete surface finishes.

Surface Finish 1.0 (SF1.0)

- No formwork facing material is specified;
- Patch voids larger than 1-1/2" wide or 1/2" deep
- Remove projections larger than 1"
- Tie holes need not be patched
- Surface tolerance Class D as specified in ACI 347-14
- Mockup not required



Surface Finish 2.0 (SF2.0)

- Patch voids larger than 3/4" wide or 1/2" deep
- Remove projections larger than 1/4"
- Patched tie holes
- Surface tolerance Class B as specified in ACI 347-14
- Unless otherwise specified, provide mockup of concrete appearance and texture

Surface Finish 3.0 (SF3.0)

- No formwork facing material is specified;
- Patch voids larger than 3/4" wide or 1/2" deep
- Remove projections larger than 1/8"
- Patched tie holes
- Surface tolerance Class A as specified in ACI 347-14
- provide mockup of concrete appearance and texture

- **If installing a waterproofing and/or air/vapor barrier onto a concrete surface, we must make sure that we have the concrete contractor install the best possible concrete surface…by in-stalling with a Form Class A and concrete surface finish 3.0, otherwise we will have an issue with the coating system.**
- **We might need to educate the specifier, and make sure that we buy the correct surface for our specific project based on if we have waterproofing or an air/vapor barrier.**

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