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Review Date:

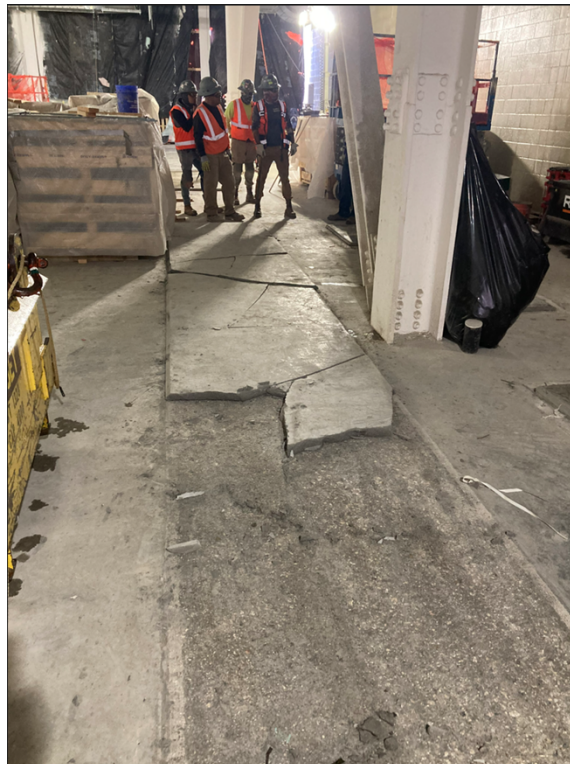
Title of Event:

Improper Grout Placement

What Happened:

During the initial concrete placement of the floor surface, concrete placed cured unevenly without the proper surface finish, creating a surface that was outside of tolerance for elevation profiles. As a result, a repair plan was created to bring the surfaces within tolerance under equipment that was to be set to ensure the equipment remained level. As part of the repair plan, cementitious grout was to be placed in forms as “housekeeping pads” to bring this up to the correct surface profile. After the grout was placed and the forms removed, it was noticed that the grout was not properly bonding to the concrete below.

Graphic/File 1:



Findings:

The grout selected for the placement was not compatible with the intended use resulting in the housekeeping pad not bonding to the substrate. The grout selected was intended specifically to be placed in a confined setting (i.e., under columns and pumps.).

The repair plan for placing cementitious grout had been submitted and approved by the customer, but there was no record at the time of review for how the grout application had been selected, and if the proper technical authorities were involved in the selection of the material for this application.

A Nonconformance was also initiated for this event, but there was no evidence at the time that the repair plan received the proper approvals through the Nonconformance process before proceeding with the work.

Site Solution / Immediate Solution:

The grout placed had to be removed and a new repair plan presented to the customer. The site contacted a manufacturer's representative from 5 Star grout to verify the proper grout for the application. With the representatives help the site team completed an execution plan that included preparation of the substrate, proper mixing techniques, proper placement procedures, cure time/method and form removal.

Corrective and/or Preventative Action:

When repairing concrete surfaces, it is always recommended to contact the grout manufacturer's representative to ensure the selection of grout for the repair is correct and to ensure the proper installation procedures are defined. Conduct pre-placement meetings prior to placing any grout to ensure the requirements of the installation procedure are understood by all parties. Ensure a Quality Control representative is present prior to any concrete repairs to verify the proper substrate preparation, mixing techniques, placement of grout, and curing method.

When dispositioning a nonconformance where the proposed resolution is anything other than to rework to the original specifications, ensure the work does not proceed without documented approval of the nonconformance by the Customer and/or EOR (Engineer of Record.) Dispositions other than rework include:

- Repair – This is the process of restoring an item to an acceptable condition. In the cases of a repair, a plan shall be submitted indicating the repair methods through the nonconformance process to ensure the Customer/EOR agrees with the method to resolve the issue.
- "Use-as-is" – A disposition permitted for a nonconforming item when it can be established that the item is satisfactory for its intended use.
- Reject/Scrap – This is the process of replacing the part or product with an equivalent product and will often require customer review of the part.

It is also recommended when devising a repair plan for resolving a nonconformance, ensure the correct technical authorities are involved in the discussion. Leverage the use of internal engineering resources and quality resources with knowledge of the correct installation procedures to be utilized during the repair.

CE&I Market Sector:

Industrial

Department:

Quality

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Business Process:

Tools / Templates

Was a Document Created/Modified in Response to the Alert or Lesson Learned?:

No