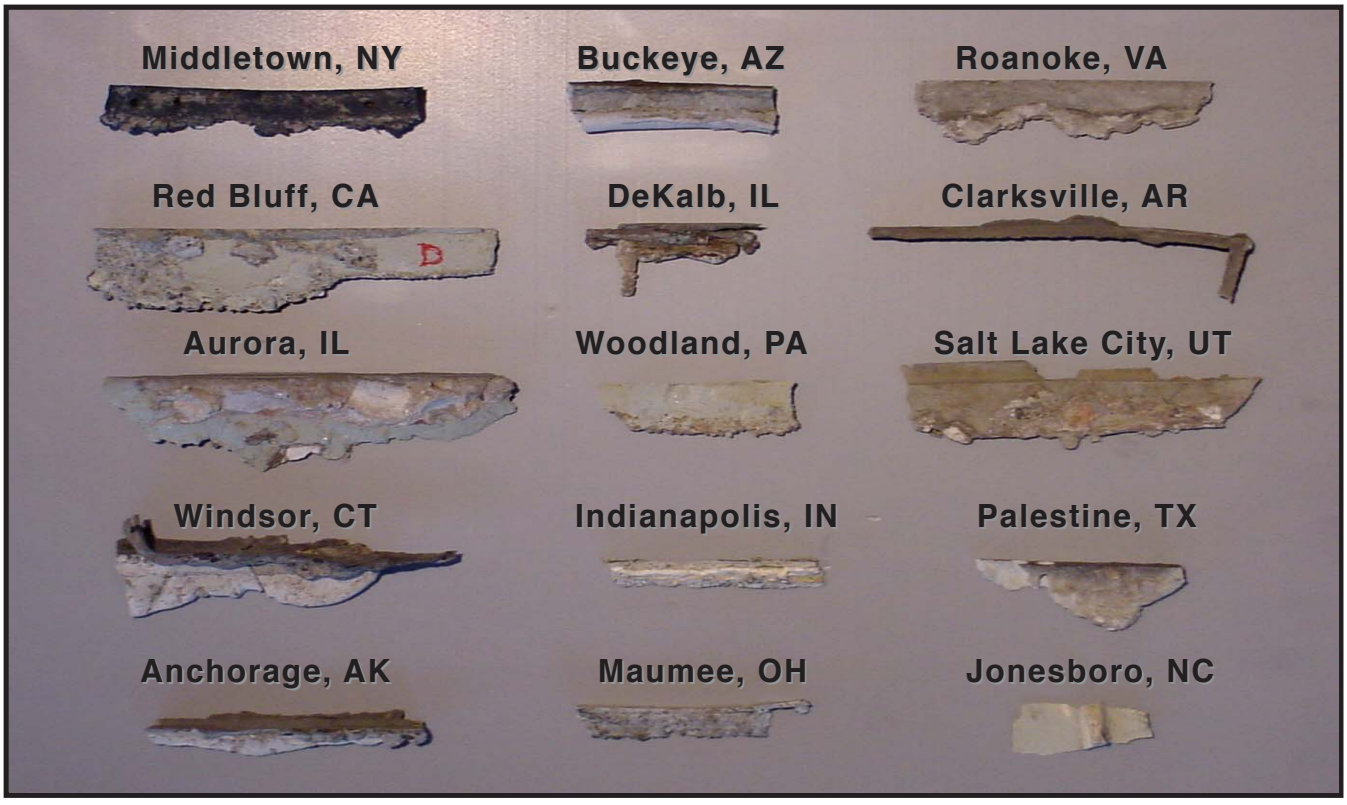
Paying Too Little for Your Floor Joint Filling Installation Can Buy You Big Problems...



The Floor is the Owner's Work Surface, And Where He Makes His Profit

Joint Spalling/Deterioration Resulting from a Poor Filler Installation is Likely to Be A Reason for One of Your First Call Backs!

Think about it. In a distribution warehouse setting, the owner's entire operation depends on the ability to efficiently run material handling vehicles across a concrete floor which is level and smooth. Saw cut control joints and construction joints create an interruption in the continuity of the floor. If left unfilled or filled deficiently, the joints will create impact points that will gradually deteriorate (spall). This will not escape the owner's attention for long, and when he goes looking for someone to blame, it will likely be the general contractor who gets the call...and the repair bill.

A Vast Majority of Joint Filler Installations Are Deficient.

We recognize that within the scope of a multimillion dollar project, filling the floor joints may not rank at the top of your list for attention. But remember, many months of planning and construction are involved in delivering the owner the best quality industrial concrete floor within the specified budget. All too often, the planning and cost of constructing a showcase industrial floor is compromised by waiting until the last minute to address the joint filling, or by awarding the work to an unqualified or unethical low bidder. Insufficient attention and knowledge about the importance of the joint filler installation is likely one the reasons that a study by the Portland Cement Association found that a majority of facility owners cited deteriorated joints as their primary floor problem. Our own experiences in inspecting facilities nationwide lead us to believe that probably 80% of all installations are performed improperly. This affects all general contractors and owners, even the most vigilant. Careful attention in selecting the joint filling contractor saves you in the long run.

Paying Too Little Can Cost You A Lot. Joint Repair Costs Begin at $3/LF and Quickly Climb. This Work is Often Performed at YOUR EXPENSE.

Nationwide we have seen a "race to the bottom" in the amount that general contractors are paying for industrial floor joint filling. While some expenses have declined for the average joint filling installer (i.e. material costs, greater efficiency through using dual-component pumps, etc.), the inherent costs for the most critical aspects of the installation (joint preparation/cleaning) have remained fixed. The primary change has resulted from many installers compromising quality to survive and many general contractors continuing to accept and award joint filling bids which make it unlikely or impossible that the work can be performed properly by the installer.

From the Field: The Results of Low Cost, Deficient Filler Installations

SOUTHEASTERN U.S. - G.C. ON THE HOOK

A major U.S. retailer called us in recently to inspect the joint filling installation on one of their regional distribution centers. After just 60 days of occupancy the filler was already starting to come out of the joints and early spalling was occurring. Our inspection found that the filler was installed less than 1/2" over compressible backer rod/laitance. When the general contractor confronted the installer, he said that he did the best he could for $1.05/lf and given the schedule. He refused to correct the installation and walked away from his retainage. The GC was left to pay for the material to be reinstalled at $2.75/lf and had nearly $200,000 held back from the owner until the issue was resolved. The original installation cost the GC just over $50,000. The repair cost was nearly $120,000 and a lost client.

SOUTHWESTERN U.S. - INSTALLER CALLS IT QUITS

After a particularly long and active bidding process to award the joint filling at a food distribution center for one of our better clients, we were relieved when the project was awarded to an installer which we had seen high quality installations from in the past. As part of a prearranged agreement, we visited the facility for a punch list inspection with the installer and an owner's representative. The installer appeared

INSTALLER CALLS IT QUITS - Continued

uneasy and tried to convince us to limit our inspection for filler depth samples to one particular building. When we took samples in the other buildings, we understood why he was nervous. The depth of the samples rarely exceeded 1" in the 1 1/2" joints and some were as little as 1/2". The owner insisted that all the joints be refilled, and we had to agree based on the few random areas that showed proper filling depth. The installer, after some initial arguing about exceptional circumstances, agreed to perform the work.

In a subsequent walk-through alone with the installer, we asked him what went wrong and why he would install the material shallow. He expressed regret and said that he just couldn't afford to lose any more jobs without having to lay his guys off. He said that he had to start installing the filler the same way his competitors did and that even at his bottom-line price of $1.35/lf he wasn't able to land any good work. After cursing his luck in getting caught the first time he had "cheated" a job, he said that the cost to fix this project would put him further in debt and that he would likely have to get out of joint filling altogether and find some other way to earn a living. His prediction later proved true and he is no longer a floor joint filling contractor.

How to "Buy" Industrial Floor Joint Filling on Your Next Project

Perhaps the most critical step in obtaining a "proper" floor joint filler installations occurs when the filling bids are reviewed and the contract is awarded. The old adage "you get what you pay for" is definitely true in floor joint filling. The following are some guidelines to help you effectively compare bids and award the contract to the bidder which will do the work correctly.

A. How Much Should You Pay?

There are many variables that can determine the "right" price for a good installation. The major variables include joint width, joint depth, project size (how many lineal feet), travel distance of applicator, local labor rates, one continual operation or multiple phases, etc. On a national average, here is what you should expect to pay for a proper installation, assuming 3/16" - 1/4" x 1 1/2" joints filled full depth as called for by ACI, PCA and industry standards:

Filler	Ambient Temp. Areas	Freezer Areas
Semi-Rigid Epoxy	$1.95 - $2.75 lf	-
Semi-Rigid Polyurea	$1.75 - $2.50 lf	$3.00 - $5.00

Prices 5-7% below these may be legitimate. Prices well below these should raise red flags.

B. Questions to Ask the Low Bidder(s)

There are a number of "short-cuts" that installers can take in floor joint filling. These short-cuts can cause you major problems if they compromise the durability of the installation. Here are some questions you should ask the low bidder(s) prior to awarding the contract:

	Answer Should Be...
1. Did you bid based on joints being 3/16"-1/4" wide?	*Yes. (1/8" saw cut generally opens to 3/16" - 1/4").*
2. Is your price based on using the specified filler(s), or do you plan to submit an alternate product later?	*Yes. If no, make applicator explain why substitute is better (not just cheaper) and get approval from the owner.*
3. How will you "prepare" (clean) the joint? Will you use a saw (the proper method), or will you merely rake out the joint? If using a saw, will your blade reach the full 1 1/2" - 2" joint depth?	*Chasing the joints with a saw (preferably dustless) equipped with a diamond/abrasive blade is the best method of cleaning the joints. Sandblasting or pressure washing may be acceptable if not affecting other trades.*
4. How will you "choke off" the base of the joint to prevent filler loss? Do you understand that the use of compressible backer rod is prohibited (except in joints exceeding 2" in depth)?	*Yes. A 1/4" maximum base of clean, dry silica sand may be used to choke off base of joint. Compressible backer rod is not acceptable in control joints as it may deflect under loads and lead to joint deterioration.*
5. Do you plan to fill "full depth" in saw cuts and 2" deep in non-cut construction joints as specified?	*Yes. Control joints filled less than full depth will generally spall as material deflects under traffic. This is critical!*
6. Do you plan to overfill, allow material to cure, then razor-off flush? When do you plan to razor (shave)?	*Yes. Material should cure into solid before shaving. "Wet" shaving or filling flush will lead to low filler profile.*
7. How do you plan to correct concave (low) joints?	*Remove top 1/2" of filler and refill joint, then razor flush.*
8. Are you aware that we plan to watch the installation and randomly drill to verify full depth filling? Do you understand that inadequate filler depth will require removal and proper replacement at your cost?	*A quality applicator should have no fear of having work inspected and checked for depth. Follow through on this commitment and use a drill to inspect joint filler depth to ensure adequacy and minimize call backs.*

If the installer hedges on giving a direct answer, or gives you an answer you feel is vague or incorrect, don't hesitate to call Metzger/McGuire. We will do eveything we can to help you select the best instaler and get the best installation for you and your client.

What You Should Watch For...
HOW TO PREVENT A DEFICIENT JOINT FILLER INSTALLATION ON YOUR NEXT PROJECT

DEFICIENCY	HOW TO PREVENT DURING CONSTRUCTION
Filler Substitution Using a cheaper, unapproved filler can save an unethical applicator lots of money.	• Check to see that applicator has on-site the specified material in the necessary quantities to properly perform the installation or has material scheduled for delivery in phases if necessary. • Watch for delivery of containers that look old, rusted, damaged, or previously opened. • Ask for proof of purchase for specified filler at conclusion of job.
Inadequate Joint Cleaning The filler must bond directly to bare concrete, not to saw laitance, dirt, curing compounds, sealers, etc.	• Confirm use of saw and proper blades for cleaning joints. • Confirm blade can reach full depth of saw-cut or 2". • Insert a file or masonry blade into the joint and scrape it against a side wall to check for remaining saw laitance. No material will adhere properly to a debris coated joint wall. • Scrape base of joint with a screwdriver or five-in-one tool to check for packed laitance, etc. Look for shrinkage crack at joint base.
Inadequate Filler Depth Saw cuts must be filled to their full depth. Construction (formed) joints should be filled at least 2" deep (50 mm).	• Compressible backer rod, if used, should be limited to use in construction (cold) joints (not in control joints) and placed at 2" depth. • Check joints just prior to filling for backer rod or debris left in place which prevents material from reaching base of joint. • Check depth of any silica sand used to choke off joint base. Silica sand should be limited to 1/4" max. • After filler has cured, drill a 1/8" diameter hole through it. Shallow fills will be readily noticeable if the drill bit plunges.
Less-Than-Flush Profile A properly installed filler will be flush with the surface, thus eliminating wheel-to-edge impact points.	• Watch to see that the installer overfills, then razors flush after the filler has cured. Shaving before solid cure (wet) is ineffective. • If there is a question as to the flushness, run a hard-wheeled vehicle over the joint and listen for impact. (Simpler: Close your eyes and run your hand over the joint. You should not be able to feel any interruption).

Additional Red Flags

- Watch out when one bid comes in far below the others; always ask why.
- Watch out when the applicator is overly aggressive in trying to get a substitute filler approved.
- Watch out when the applicator comes to the project site ill-equipped or with inadequate labor.

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