METZGER/McGUIRE
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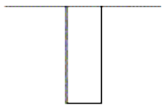
Known by the Floors We Protect

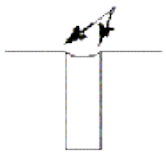
Joint Filler Profile is Important

The primary function of ***MM−80*** *is to restore the floor surface to an interruption−free, continuous plane. This is accomplished by filling the joints flush while protecting joint edges from damage caused by hard wheels.*

Flush Profile=No Impact



Recessed Profile=Impact Points



Obtaining a flush profile is not as simple as it might seem. Because floor joints are typically narrow and should be filled full saw−cut depth, floor joint fillers must be pour grade liquids. If you fill a joint with almost any liquid, it will likely settle in the middle and remain higher on the sides. This is called *dishing*. This will happen with any filler and is not caused by shrinkage of the filler. The problem is compounded, however, by fillers that generate heat during their cure cycle. Warmer fluids are thinner than cooler fluids. Thus, the heat generated by an epoxy during cure may add to the dishing.

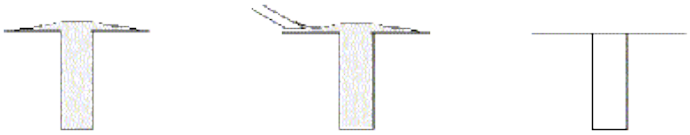
MM−80 can be installed with a flush cured profile by following the procedures described in this article. The first key to any of the methods is to effectively seal off any voids at the bottom. Do not use backer rod. Use Metzger/McGuire's SPAL−PRO ROD or a maximum of 1/4" of silica sand as described in pages T1 and T3.

The second key is to make multiple passes. Fill the joint to within 1/2" of the top on the first pass and allow it to settle for 30−60 minutes. By limiting the amount of **MM−80** on your final pass you can *finesse* it and make it stay just slightly high (crowned).

OVERFILL AND SHAVE

Install **MM−80** as previously described, slightly over filling. Allow **MM−80** to go past the gummy state until it sets into a solid (usually 6−8 hours). If possible at this time, shave off the excess, since it has not reached its full hardness and shaving is relatively easy. Possible shaving tools include well−honed spud hoes, ice scrapers, tile floor

stripping tools, wallpaper scrapers, putty knives, etc. Having a long−handled tool adds leverage and is easier on the back.

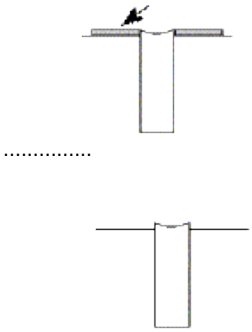


Crowned ***Shaving*** ***Flush Profile***

If you cannot shave on the day of installation, return as soon as possible afterward. Apply heat to the **MM−80** using a hot air gun or torch, then promptly shave. Do not burn or char the **MM−80**. (Note: Using an overfill procedure will leave a slight film on the top of the concrete, most of which will eventually wear off with traffic).

TAPED EDGES

Apply tape to both sides of the joint and then install the MM−80 as previously described. The thickness of the tape will partially determine the cured profile. You may choose to use duct tape, two layers of duct tape or even foam−backed tape for extra height. Allow the **MM−80** to thoroughly set into a solid before removing the tape (the excess above the floor level can be shaved or ground as described in later paragraphs). The tape will keep the joint edges neat and clean.



Before Filling.....After Filling.....

*The ideal profile for cured **MM−80** is perfectly flush with the floor, thereby re−establishing a smooth, interruption−free surface. Sometimes the **MM−80** cures low and the vulnerable edges become impact*

points for hard wheels. Corrective steps should be taken if the ***MM−80*** *is deemed too low.*

WHAT CAUSES LOW FILLING

MM−80, like any self−leveling filler, can cure too low despite having been applied flush. There are several possible causes and all are aggravated by the fact that epoxies generate heat as they cure. Liquids become thinner when they are warm. An example is syrup from the refrigerator versus syrup left on the table.

The most likely causes of low **MM−80** *include:*

A. During the mixing process, **MM−80** may entrap air bubbles. Eventually the bubbles rise and the **MM−80** runs down to fill in the void.

B. The shrinkage crack at the bottom of a joint may not be sealed off. Upon warming, the **MM−80** thins and flows out through the crack. We suggest using the Metzger/McGuire **Spal−Pro Rod** at the bottom of saw−cut control joints to prevent run−through.

C. The **MM−80** was applied high but was later "tooled" flush while still liquid. A *flush* fill will often *dish out* (become concave) when the heat generation occurs.

D. **MM−80** was installed in a *single pass* method, not allowing for settlement, or was not over−filled in a two−pass method

WHEN IS A JOINT FILLED TOO LOW

There is no single answer to what is an acceptable profile. The answer will vary with anticipated traffic frequency, loading, vehicle wheel size, and owner or A/E criteria. Generally, the main focus will be on whether the **MM−80** prevents wheel impact to the joint edge. An impact test with the type of vehicle to be used in the facility is usually a valid method of determination.

HOW TO CORRECT LOW JOINT FILLING

The only acceptable method of filling joints deemed too low is to redo a minimum of the top 1/2". This is accomplished by first saw−cutting out 1/2" minimum of **MM−80**. A circular saw and typical steel blade is usually adequate. As you cut, be sure the blade cleans any residue off the side walls. Refill with **MM−80**, overfilling slightly. Return when hard−to−the−touch and shave off flush with razor or similar tool.

HOW NOT TO REPAIR A LOW JOINT

The application of a thin "cap bead" of **MM−80** for low joints is **not acceptable**. **MM−80**, like many epoxies, does not adhere well to itself. A cap bead will become dislodged soon after the onset of traffic. To be durable, a corrective application of additional **MM−80** must have a minimum 1/2" vertical bond contact with the concrete.