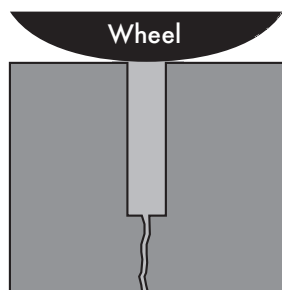


Flush Filler Profile is Critical

The primary function of a semi-rigid floor joint filler is to protect joint edges from deterioration. This damage called spalling, is caused by impact from the hard wheels of material handling vehicles, and heavy load imposition on unsupported joint edges.

Semi-rigid joint fillers provide edge protection in two ways:

1. Semi-rigid fillers restore the floor surface continuity. As vehicles cross the joints the filler supports the vehicle wheels, thus making the ride interruption-free.

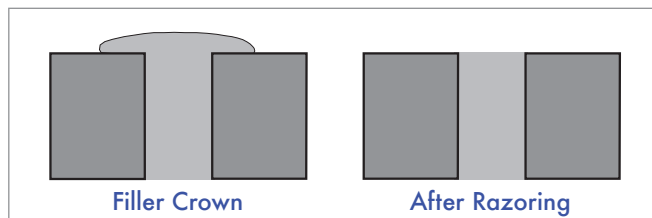


1. Semi-rigid fillers provide edge support when they directly abut the side of the joint and the top joint edge.

To be an effective joint edge protector, a semi-rigid filler must be flush with the floor surface. While this sounds easy to achieve, in practice it is not always simple. The problem arises from the fact that fillers must be liquid so they can readily flow into narrow joints. All liquids tend to dish (go concave) unless you use techniques that overcome a liquid's natural tendency.

How To Achieve A Flush Filler Profile

The only method of preventing concave filler profiles is called the overfill-and-shave procedure. When filling, the installer dispenses enough material so that a filler crown is created. This crown is left in place until the filler cures into a solid. At this point the installer shaves off the crown, leaving the final filler profile flush with the floor surface.



Variations In Crown Creation

Not all fillers crown in the same way. Because of their slower cure rate, epoxies may settle (dish) after the crown has been created. Additionally, epoxies may start to run through shrinkage cracks at the base of joints before they start to set, causing the crown to collapse. This is one reason why most epoxy filler instruction sheets call for a two-pass filler application, allowing any leakage to be exhibited before the crown pass is in place.

Variations Between Epoxies & Polyureas

Cured epoxies tend to shave "more flush" than cured polyurea fillers. The difference has to do mostly with the chemical make-up of the respective fillers, along with the variability of finding the "optimal shave window" for a polyurea – which can vary based on project conditions. Epoxies are often blended with inert substances (silicas, fibers, etc.) used to achieve certain viscosity and rheology characteristics. This gives epoxies a more open molecular matrix that blades can slice through cleanly.

Polyureas are typically composed of only liquid components, and when cured they have a very dense molecular structure. A polyurea's rubbery texture can sometimes resist the blade and create a pulling tension, which can result in a concave profile. The potential for concave shaving varies from product to product. With both epoxies and polyureas, there are optimal timing windows when best (most flush) profiles can be obtained. Refer to product data/instructions.

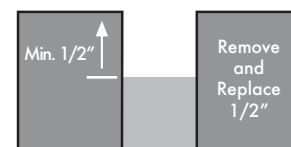
How Flush Is Flush?

The term "flush" can often be subjective. Demands on concrete floors vary, and that variation dictates how flush a filler needs to be. For example, in a high-volume distribution center or warehouse operating 24/7, traffic frequency and typical wheel type demands a heavy-duty filler that is truly flush with the floor surface to provide adequate protection against joint edge spalling. Conversely, in a polished concrete floor in a school, restaurant or retail store -where traffic is predominantly pedestrian- a less than completely flush filler is not as concerning as joint edge impact is nominal and the joint filler's importance is more for sanitation purposes and to eliminate trip hazards.

Correcting Less-Than-Flush Filler Profiles

The best, basic means of correcting dished (concave) epoxy or polyurea joint fillers is to saw cut out or "mill" the top 1/2" of the filler and refill the channel with compatible epoxy or polyurea filler. Because this work is often done in an operational facility, polyurea is commonly used even over epoxy fillers due to its quicker cure time. There are specialty blades designed for epoxy or polyurea removal available. After refilling the newly cut channel, the filler should be allowed to cure into a solid, then razored off flush.

Please contact Metzger/McGuire for more information on products and procedures related to the correction of low profile joint filler.



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