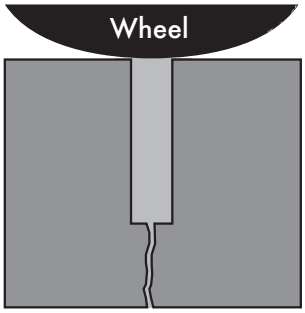
Flush Filler Profile is Critical

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:



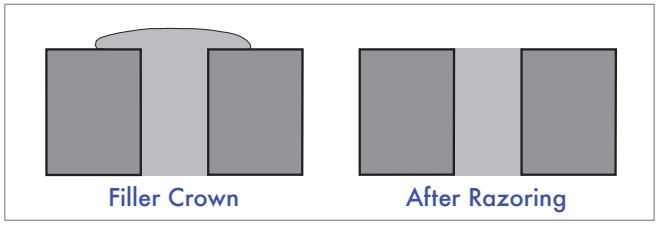
1. Semi-rigid fillers restore the floor surface continuity. As vehicles cross the joints the filler supports the vehicle wheels, thus making the ride interruption-free.

2. Semi-rigids 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. Epoxies are often blended with inert substances (silicas, clays, etc.) used to achieve certain viscosity and rheology characteristics. This gives epoxies a more open molecular matrix that blades can slice through cleanly.

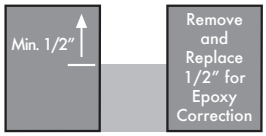
Polyureas are typically composed of only liquid components, and when cured they have a very dense molecular structure. A polyurea's rubbery texture can sometimes resist the blade and create a pulling tension, which can result in a concave profile. The potential for concave shaving varies from product 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.

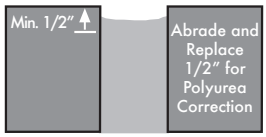
How Flush Is Flush?

The term flush can often be subjective. Some projects require absolute flushness, while others have a less stringent criteria. The most commonly used test to measure flushness on a jobsite is to hold a credit card edge across the joint and shine a flashlight behind it. If light comes through under the card, dishing is indicated.

Correcting Less-Than-Flush Filler Profiles

The best, basic means of correcting dished (concave) epoxy fillers is to saw cut out the top 1/2" of the filler and refill with the same epoxy or **Spal-Pro RS 88** polyurea. Allow filler to cure into a solid, then razor off flush. Correcting dished polyurea filler is generally done by abrading the surface to a nominal depth of 1/2" and applying additional polyurea.





While it's possible to saw out some polyureas using specialty blades, most polyureas are not as easily removed as epoxies.

Please contact *Metzger/McGuire* for more information on products and procedures, or should you have questions about a particular application.

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METZGER/McGUIRE
INDUSTRY STANDARD INDUSTRIAL FLOOR JOINT FILLERS & REPAIR PRODUCTS
800.223.MM80
www.metzgermcguire.com
Headquarters: P.O. Box 2217 Concord, NH 03302
Fax: 603.224.6020 E-Mail: info@metzgermcguire.com