Volume 2 Issue 2

starlog

A Series of Floorcovering Bulletins

It's What You Don't See That Makes The Difference: The Importance of Floor Patches and Levelers

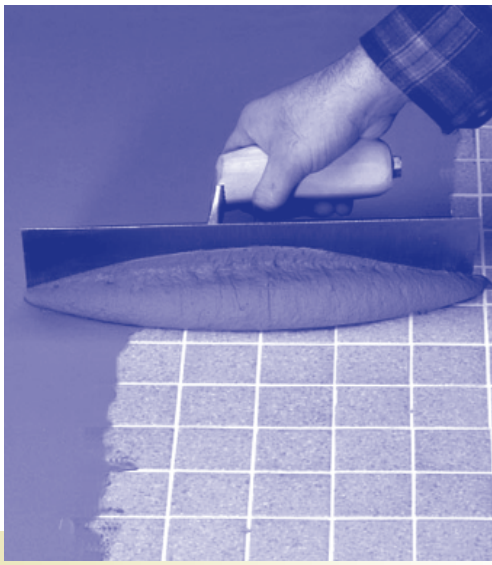
No matter what floorcovering you select, the key to a great installation lies beneath the surface. Proper substrate preparation creates the foundation for floors that look great and perform well. Taking short cuts with patches that repair substrate damage and imperfections, and with levelers that create smooth, flat surfaces, invites costly and unsightly installation issues and failures. If your underlayment is not flat, hard, durable and compatible with the floorcovering adhesive, two problems may plague your installation:

- **One is how the floorcovering looks after installation.** Imperfections in the underlayment may "telescope" through your floorcovering creating bumps, depressions, joint or texture show-through, tunnels, and ridges. Unsightly at best, ***uneven flooring surfaces create a trip-and-fall safety hazard.***
- **Another is warranty protection.** Patching and leveling are important steps in preparing an underlayment to receive flooring adhesives. So important, that most floorcovering manufacturers will void their warranty if the subfloor is not prepared properly, including all underlayment materials and procedures.

Fortunately, patches and levelers for repairing and smoothing uneven substrates are readily available. They come in a myriad of compositions for use over a broad range of subfloors including wood, concrete, metal, ceramic, terrazzo, quarry tile, resilient, and polymeric poured floors. Many are suitable for use over old adhesives and adhesive residue. And, since your floorcovering is only as good as what's underneath it, the right patches and levelers create a compatible surface that ensures a good bond between the flooring adhesive and the substrate.

Smooth Move – Selecting the Right Patch and/or Leveler

Much like computer software that allows more than one way to execute a command, the world of patches and levelers is filled with versatile products that fulfill more than one purpose. Some products simultaneously fill and patch holes and cracks, repair imperfections and gouges, smooth rough and uneven subfloors, and enhance acoustical and fire characteristics of a structure. Others provide more value in preparing an underlayment to receive a special type of adhesive or floorcovering rather than actually smoothing the structure. There are trowelable, pourable, pumpable and self-leveling varieties. They range from cellular concrete, Portland cement and gypsum-based. Various materials and methods are employed for use over porous and non porous subfloors.



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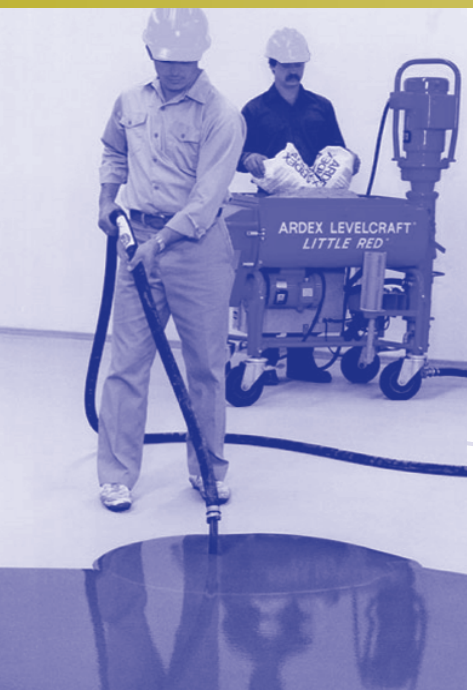


New materials and application procedures are introduced to the market frequently, including environmentally friendly options. How to make sense out of all the possibilities? Your StarNet member contractor is knowledgeable about subfloor preparation products. He or she is your best source for advising and/or selecting the right patch and leveler materials, and for applying them via professional methods and procedures. Although not seen after the floorcovering goes down, these choices are critical for safety, longevity, appearance retention and warranty protection.

On The Level
Patches and Levelers 101

Patches patch and levelers level, right? Well, there is no industry-accepted definition for defining patches and levelers, and confusing the issue is the fact that sometimes the products are used interchangeably. Both types of products correct imperfections and create smooth, hard surfaces. In fact, two of the most frequently asked questions flooring mechanics ask are, "Can I use a patch to level the floor?" and "Can I use a leveling compound to patch a floor?" The answers are often dependent on how they're mixed, how they're applied, the economies of scale, and substrate and/or adhesive composition considerations.

A working knowledge about patches and levelers is useful during the specification and construction stages of a project. Here are some basics to help you understand the underlayment materials that are used over the substrate and under the floorcovering adhesive.

Patches

Generally, patch compounds are used for patching or repairing substrate imperfections and damage. They typically are used for patching and leveling small areas; flash patching large areas; skim-coating minor flaws; and for filling in ridges, gouges, depressions and seams on subfloor. Patches cover and smooth over cracks, knots and old hard-to-remove adhesive residue. The compounds are typically hand-troweled by a skilled mechanic on the jobsite.

Patch products come pre-mixed and ready-to-use for convenience and time saving. They also come in powder form for mixing with water or latex. The latter gives the mechanic more control over patch properties and working characteristics, and some flexibility for use over varying types of substrates. Patches can play the role of leveling too, if finished with smooth troweling methods. This is generally cost-prohibitive for large spaces because of the labor involved.

Levelers

Levelers are engineered to flatten, smooth, and where required, level a surface. Their role is to create a smooth underlayment that bonds to the substrate and to create a compatible surface for the floorcovering adhesive to bond to. They can top, smooth and repair substrates, and be applied in a variety of thicknesses. They are used in new construction as well as in renovated areas.

Levelers and leveling systems are designed for mixing with water or latex prior to application. Custom mixing gives the mechanic more control over flow rate and material characteristics. Generally, levelers are flowed onto the subfloor by pouring or pumping. The material is then spread evenly over the entire subfloor surface with large trowels or other smoothing equipment. The new generation of products are self leveling, requiring no troweling to create an even, hard, level surface.

Functionally, levelers can play the same role as a patch to cover subfloor flaws and imperfections. However, the economies of scale encourage cost-effective leveler usage on large jobs. Levelers are generally not used for smaller square footage spaces, for spot-repairs, as fillers or for patching where a mechanic is hand-troweling the materials.

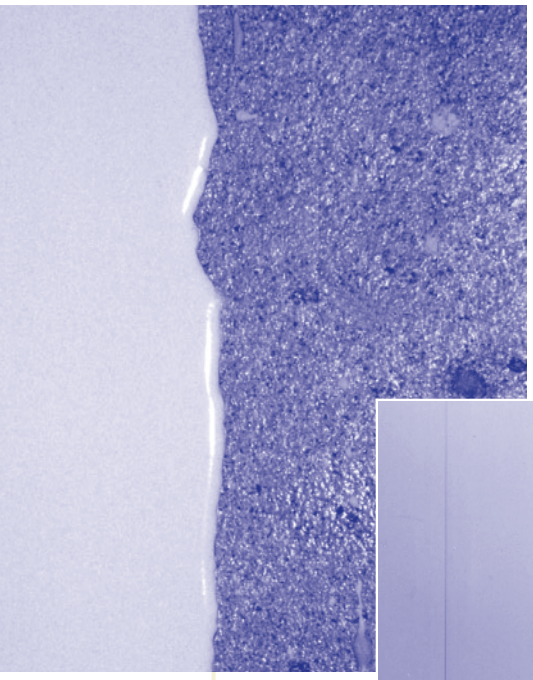
Penny Wise
Patch Foolish

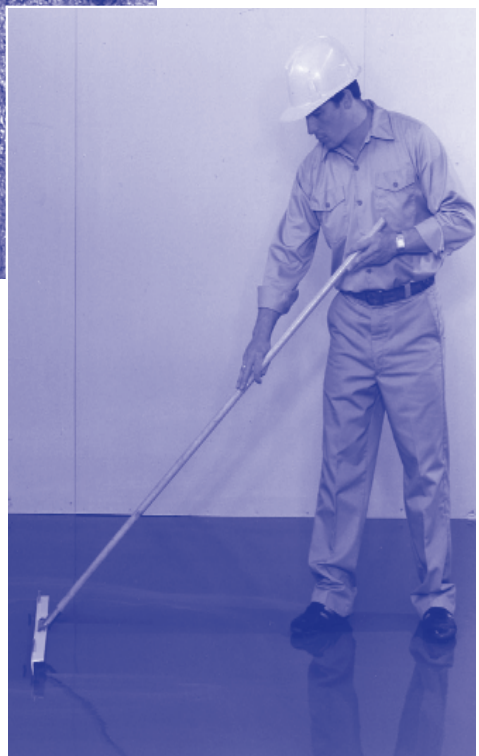
A web search for Floors+Leveling+Patching will produce between 700 and 800 results for businesses that make products and businesses that apply them. How do you refine your selection? Initial cost alone should never be the determining factor. This is a price-sensitive business, and unfortunately, there are suppliers that default to cheaper, easier and faster methods; inferior ingredients; obsolete machinery; and unskilled labor to stay in business. ***Don't let their problems become your problem.*** Patch and leveler failure may not be apparent until weeks, months or even years after the installation. That's because staining, disbonding and mildew growth take time to evolve. If and when failure occurs, it will be a costly procedure to rip out the floorcovering and redo the underlayment procedure.

Here are action points for selecting subfloor preparation products and companies:

- ***Ask*** your flooring contractor to select the best total value patch and leveler, factoring in product cost, quality, performance, compatibility with the substrate and compatibility with the floorcovering adhesive.
- ***Include*** the products by-name in the job specification. The larger, better-known brands such as Armstrong, Ardex and HENRY have consistent, guaranteed quality.
- ***Consult*** with your StarNet member contractor about installation preparation products, procedures and warranty coverage.
- ***Insist*** that the floorcovering mechanics are qualified and follow the manufacturer's directions for preparing and applying the product.
- ***Document*** what was used, and how it was applied. These records will be helpful if the floorcovering warranty is ever in dispute. Your StarNet member contractor can supply this information.

Finally, there are "universal" patches and levelers, and some flooring contractors may be tempted to save money by using just one product for the entire jobsite. However, each space should be considered individually. The characteristics of the floorcovering, subfloor, adhesive or grade level may require a specific type of patch or underlayment to ensure a successful, warranted installation.



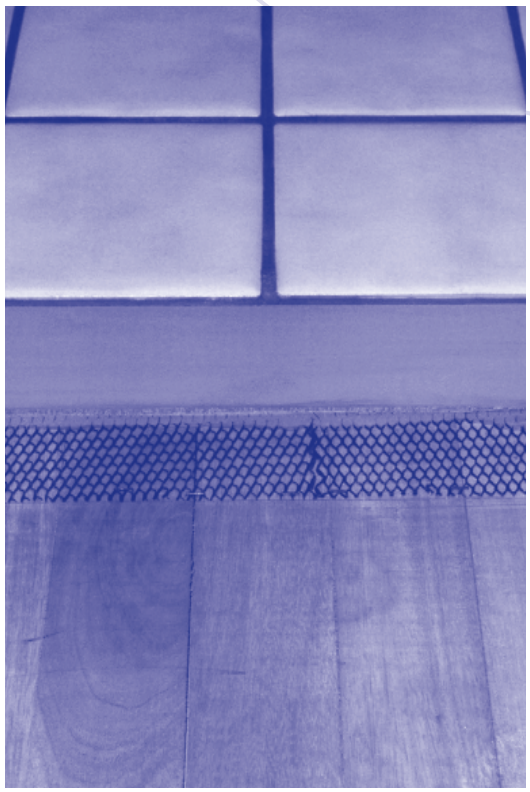


Patches Make Perfect – The Importance of Testing and Test Areas

Although the better patch and level manufacturers test the suitability of their products for every conceivable floorcovering situation, there is no way to predict actual performance for every installation. For this reason, you should always arrange for an adequate number of test areas for all floorcovering installations. The tests should include the substrate, under-layment, adhesive, and the floorcovering. Floorcovering manufacturers usually have specific directives for testing procedures, measurements and results.

In addition to testing the integrity of the patches and underlayments, it is important to test concrete slabs for moisture and pH levels. No testing or installations should be done over "green" concrete that is less than 28 days old. *(Visit the StarNet website at www.starnetflooring.com, and refer to StarLog Volume 1, Issue 5, for more information about concrete.)*

During testing as well as during the actual installation, substrates should be sound, clean, and dry. They should be free from oil, grease, wax, dirt, asphalt, curing compounds, latex and gypsum compounds, dust, paint or any contaminant that may act as a bondbreaker. If the test area or actual installation is over old adhesive or adhesive residue, your StarNet member floorcovering contractor will consult the flooring manufacturer and all applicable government agencies for recommendations and rules concerning the removals of adhesives and adhesive residue.



Stick With A Good Investment

In some installations, a floorcovering can be bonded directly to the subfloor without the need for patches, levelers or additional underlayment preparation. But, when your installation requires underlayment treatments including patching and leveling, the bonding characteristics of that underlayment "sandwich" is critical. In other words, the bond of the flooring adhesive to the subfloor is only as good as the underlayment it's bonded onto, which in turn is only as good as the bond between the underlayment and the substrate. You can see how patching and leveling compounds take on a dual bonding role, and why the initial and long-term quality and compatibility of these bonds is important.

An investment in the best patching and leveling materials and companies that apply them is an investment in the look, longevity, and safety of your floorcovering. There is no need to over-engineer the underlayment, but the easiest, fastest and cheapest choices may come back to haunt you. Don't hesitate to contact your StarNet member floorcovering contractor for advice on the best patch and leveling materials, methods, costs and performance.

If you have any comments or questions about the StarLog newsletter, we would enjoy hearing from you. Write us at StarNet, 44 East Ridge Rd., Ridgefield, CT 06877, or call 1-800-787-6381. Visit www.starnetflooring.com for back issues of the StarLog.

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