



# USG DUROCK™ BRAND TUF-SKIM™ FLOOR PATCH

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## Trowel-able high early strength floor repair patch

- UL Classified for use in 130+ assemblies
  - Install floor covering in as little as 30 minutes
  - Fast-setting with an exceptionally strong bond and no shrinkage
  - Featheredge to 1/2 in. (13 mm) thick in large areas; any thickness in small, well-defined areas
  - Reduced water demand for quicker drying time
  - Easy mixing, smooth finish
  - No priming necessary over most surfaces
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## DESCRIPTION

USG Durock™ Brand Tuf-Skim™ Floor Patch is a fast-setting, fast-drying, chemically hardening compound specifically designed to bond to gypsum-based underlayment but can also be used over interior wood and concrete subfloors. USG Durock™ Tuf-Skim Floor Patch is UL Classified for use in 135+ fire rated assemblies, making it an ideal product for keeping a fire rated assembly code compliant.

Simply mix USG Durock™ Tuf-Skim Floor Patch with water and apply with a trowel—no need for priming or a latex additive for most applications. The low-water demand formulation reduces shrinkage and allows for quick dry times. Easy to mix and trowel, USG Durock™ Tuf-Skim Floor Patch is crack-resistant and can be troweled any thickness in small, well-defined areas such as thresholds and concave-shaped depressions in substrates; and featheredge to 1/2 in. (13 mm) in large areas. For maximum bond and high performance applications, use in conjunction with USG Durock™ Brand Matrix™ Bond Enhancer. See *USG Durock™ Brand Matrix™ Bond Enhancer Submittal* (CB765) for further details.

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## EXTENDED WARRANTY

An extended warranty may apply when using USG Durock™ Tuf-Skim Floor Patch in a system application. Please contact USG for further details.

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## SUBFLOOR PREPARATION

All subfloors must be structurally sound, stable and solid. If there is any question about the structural soundness of the subfloor, consult with the engineer on the project or request the services of a professional structural engineer.

Subfloors must be clean and free of dirt, tar, wax, oil, grease, latex compounds, sealers, curing compounds, release agents, asphalt, water-soluble adhesives, paint, chemicals, loose gypsum, joint compounds from drywall installation or any other contaminant that might prevent proper bonding of USG Durock™ Tuf-Skim Floor Patch to the host substrate.

No priming is required for treating concrete and USG Levelrock® and USG Durock™ gypsum underlayments. Over compromised weak gypsum underlayments and wood substrates, it is recommended to prime the surface with either USG Durock™ Fusion™ Primer or USG Durock™ Primer-Sealer. See *USG Durock™ Fusion™ Primer Submittal* (CB836) and *USG Durock™ Primer-Sealer Submittal* (CB519) at [usg.com](http://usg.com) for installation details.

## MIXING TOOLS

- Mixing bucket
- Trowels
- Razor scraper
- Mixing drill type 2 through 7—as outlined in the Technical Guidelines prepared by the International Concrete Repair Institute (ICRI), *Pictorial Atlas of Concrete Repair Material Mixing Equipment* (Guideline No. 320.5R-2014)
- Mixing paddle type 2, 3, 4, 8 or 9—as outlined in the Technical Guidelines prepared by the ICRI, *Pictorial Atlas of Concrete Repair Material Mixing Equipment* (Guideline No. 320.5R-2014)

## RATIO

Three parts USG Durock™ Tuf-Skim Floor Patch to one part water by volume, or 3.0-3.5 quarts (2.8-3.3 L) of water per one 25 lb. (11.3 kg) bag of USG Durock™ Tuf-Skim Floor Patch.

## INSTRUCTIONS

To mix a 25 lb. (11.3 kg) bag of USG Durock™ Tuf-Skim Floor Patch, add 3.0-3.5 quarts (2.8-3.3 L) of clean water to a clean 5 gal. (US) (11.3 L) pail. Sift in the entire bag of USG Durock™ Tuf-Skim Floor Patch and mix with a drill fitted with an appropriate mixing paddle for approximately 1-2 minutes, or until relatively smooth. Scrape the sides of the bucket to get all dry powder incorporated into the slurry. Allow the compound to stand (soak) for 1 minute, then remix the material until consistency is smooth and uniform.

To mix smaller quantities by hand, use 3 parts USG Durock™ Tuf-Skim Floor Patch to 1 part water by volume. Mix vigorously for 2-3 minutes with a trowel to achieve a lump-free consistency.

Over-mixing or mixing at too high a speed can shorten set times and entrain air in the mixture.

**Note** – The cooler the conditions, the longer the soak-time needed. If the compound thickens during application before setting, allow a longer soak-time. Do not overwater, high-strength compounds thin quickly.

Use USG Durock™ Tuf-Skim Floor Patch within 10–25 minutes after mixing. Dispose of any USG Durock™ Tuf-Skim Floor Patch once setting has occurred.

## APPLICATION

During application and until USG Durock™ Tuf-Skim Floor Patch is set (typically within 30–40 minutes), close all doors, windows and other openings in the building and turn off HVAC systems to prevent air drafts. Protect installation areas from direct sunlight exposure during setting time. Thereafter, the operation of the HVAC system can resume, as well as the use of doors, windows and other openings.

The subfloor, room temperature and USG Durock™ Tuf-Skim Floor Patch product—either mixed or in powdered form—must be between 55 °F and 95 °F (12-35 °C) at the time of application and for 72 hours after installation of USG Durock™ Tuf-Skim Floor Patch. For temperatures above 95 °F (35 °C), consult USG.

It is recommended to patch several small test areas before conducting full installation of USG Durock™ Tuf-Skim Floor Patch. The test areas must also include finish flooring to establish suitability of the complete system for intended use.

USG Durock™ Tuf-Skim Floor Patch has a working time of approximately 10–25 minutes at 70 °F (21 °C). At higher temperatures the working time is shortened. After application has hardened and as soon as possible after the compound stiffens, shave off tool lap marks and other protrusions using a trowel or a drywall knife as a plane.

## GYPSUM UNDERLAYMENTS

USG Durock™ Tuf-Skim Floor Patch can be applied directly to dry, newly poured USG Levelrock and USG Durock™ gypsum underlayments without priming the surface.

For all other gypsum underlayments, they must be solid. Loose, debonded gypsum underlayment must be completely removed until a sound bonding surface remains. Using a stiff bristle broom, sweep the old gypsum surface. This will help to remove some of the old gypsum “scale” from the surface. It is highly recommended that a HEPA filtration industrial vacuum be used after sweeping to remove as much dust as possible. Next, prime the surface with either USG Durock™ Fusion Primer or USG Durock™ Primer-Sealer per the application instructions. For more information about the use of USG Durock™ Tuf-Skim Floor Patch as a repair treatment for compromised gypsum underlayments, please see *USG Rehabilitation Guidelines for Damaged Gypsum Underlayments* (CB822).

**APPLICATION CONT.****CONCRETE SUBFLOORS**

Mechanical floor preparation such as shot-blasting, scarification or other methods of grinding may not be required prior to installation of the floor patch over a well-bonded, sound and clean subfloor. To decide whether mechanical preparation of substrate is required or not, the concrete substrate must be thoroughly assessed for its quality over the entire pour area. Simple visual appearance of the concrete substrate as strong and solid does not necessarily guarantee that the concrete substrate is free of impurities.

A weak or degraded concrete surface or concrete exhibiting signs of laitance (either visible or invisible), scaling, spalling, crumbling or delamination must be mechanically removed to achieve a solid and clean substrate.

Concrete subfloors receiving cementitious floor patches must be cured properly (generally for a minimum of 28 days) prior to floor patch installation. Subfloor Moisture Vapor Emission Rate (MVER) exceeding 5 lbs. (2.3 kg)/1,000 sq. ft. (92.9 m<sup>2</sup>)/24 hours per ASTM F1869 or a relative humidity (RH) greater than 80% per ASTM F2170, must be treated with USG Durock™ Brand RH-100™ Moisture Vapor Reducer. USG Durock™ Tuf-Skim Floor Patch is not a vapor barrier. Transmission of excessive moisture vapors from the concrete subfloor through USG Durock™ Tuf-Skim Floor Patch can interfere with floor coverings and/or floor-covering adhesives, thus compromising their performance. **Note** When applying USG Durock™ Tuf-Skim Floor Patch directly to the surface of USG Durock™ RH-100 Moisture Vapor Reducer, the patch must either be mixed with USG Durock™ Matrix Bond Enhancer or the epoxy surface must be primed with USG Durock™ Primer-Sealer.

Cracks in the existing concrete subfloor must be inspected to determine if the crack is due to typical concrete “shrink” or if it is a result of a structural movement. In the case of the latter, remediation of the crack must be addressed or eventually the crack will telegraph through USG Durock™ Tuf-Skim Floor Patch. Consult with the engineer on the project or request the services of a professional structural engineer for all suspected structural cracks.

Repair all non-structural cracks in old and new concrete to minimize and control their ability to telegraph through the layer of USG Durock™ Tuf-Skim Floor Patch. First remove the weak concrete along the length of the cracks by chiseling or other suitable means. Next, remove accumulated dust and debris from the crack cavities using a HEPA filtration industrial vacuum or other suitable means. Various cracks present in the concrete subfloor including shrinkage cracks must be filled with a suitable commercially available crack-fill epoxy adhesive designed for concrete flooring applications. To ensure superior resistance to crack growth, use injection epoxy crack repair techniques per industry guidelines to repair cracks that are active or deep. Note that repair of existing cracks in the concrete subfloor only subdues, but does not completely prevent their ability to telegraph through USG Durock™ Tuf-Skim Floor Patch. Growth of existing cracks or formation of new cracks in the concrete subfloor can lead to cracks telegraphing through USG Durock™ Tuf-Skim Floor Patch. Respect existing expansion and control joints (see *Notes/Limitations #8*, pg. 4).

**WOOD SUBFLOORS**

USG Durock™ Tuf-Skim Floor Patch can be applied over engineer-approved, APA-Rated exterior glue plywood or oriented strand board (OSB) (i.e., APA-Rated Exterior or Exposure 1 panels) wood subfloors. Subfloor must be properly prepared and primed with USG Durock™ Primer-Sealer per the application instructions. See *Notes/Limitations, #19*, pg. 4 for subfloor deflections.

**SPECIALTY APPLICATIONS****ADHESIVE RESIDUES**

USG Durock™ Tuf-Skim Floor Patch can be installed over non-water-soluble adhesives on concrete only. The adhesive residue must first be tested to make certain it is non-water-soluble. Any water-soluble adhesive residues must be mechanically removed down to clean concrete. Non-water-soluble adhesive residues should be prepared to a thin, well-bonded residue using the “wet-scraping” technique as recommended by the Resilient Floor Covering Institute’s (rfci.com) *Recommended Work Practices for Removal of Resilient Floor Coverings* to remove thick areas and adhesive buildup, as well as any areas that are weak or not well bonded to the concrete. Any existing patches below the adhesive must be completely removed.

**CUTBACK ADHESIVE RESIDUES**

To use USG Durock™ Tuf-Skim Floor Patch over cutback adhesive residue, first remove all loose debris from the cutback. Spread dry USG Durock™ Tuf-Skim Floor Patch over the cutback adhesive, then work the dry powder into the floor with a broom. Next, use a razorblade scraper to scrape the cutback down to a very thin thickness and allow to thoroughly dry prior to the application of USG Durock™ Tuf-Skim Floor Patch to the area. Patch the area with properly prepared USG Durock™ Tuf-Skim Floor Patch.

**SPECIALTY APPLICATIONS CONT.****EPOXY COATINGS**

All epoxy coatings must be solidly bonded to the existing substrate and be cured, clean and sound. A weak or degraded epoxy surface layer must be mechanically removed to provide a solid base. See *Application, Concrete Subfloors*, pgs. 2-3 for further information.

For direct application of USG Durock™ Tuf-Skim Floor Patch directly to the surface of USG Durock™ RH-100 Moisture Vapor Reducer, the patch must be mixed with USG Durock™ Matrix Bond Enhancer. For all other epoxy applications, prime the prepared epoxy coating with USG Durock™ Primer-Sealer. Mix and apply USG Durock™ Primer-Sealer per the corresponding installation instructions. After USG Durock™ Primer-Sealer has dried, USG Durock™ Tuf-Skim Floor Patch may be applied.

**FLOOR-COVERING INSTALLATION**

- A skim coat application of USG Durock™ Tuf-Skim Floor Patch can be walked on in as little as 15-30 minutes.
- Floor coverings such as ceramic tile, VCT, sheet vinyl and carpeting can be installed in as little as 30 minutes after USG Durock™ Tuf-Skim Floor Patch application. Non-breathable floor coverings requiring special adhesives that are sensitive to moisture; high-performance adhesives such as urethanes or epoxies; and wood flooring can be installed after 16 hours.
- Drying time is dependent on job site temperature and humidity conditions as well as thickness of application. For example, high humidity and/or low substrate temperatures will extend dry times.
- Check with floor-covering and adhesive manufacturers for installation guidelines and suitability of their manufactured products over USG Durock™ Tuf-Skim Floor Patch.
- Protect the surface of USG Durock™ Tuf-Skim Floor Patch from contaminants and water until installation of floor covering is accomplished.
- Perform field bond test to determine adhesive/flooring performance over USG Durock™ Tuf-Skim Floor Patch. Install floor covering with adhesive and perform field bond test approximately 72 hours after installation.
- Follow floor-covering manufacturers' recommendations for surface-sealing requirements. If the floor-covering or adhesive manufacturer requirements are more stringent, their requirements take precedence.

**NOTES/LIMITATIONS**

1. Do not use in exterior applications.
2. Do not use as a wear surface.
3. Do not install over wet surfaces, surfaces likely to become wet, or where continuous exposure to moisture is a possibility.
4. Do not install over dimensionally unstable, improperly prepared, weak subfloors.
5. Do not install over concrete subfloor less than 28 days old. For untreated (without an approved moisture mitigation system) concrete subfloors less than 28 days old, contact USG.
6. For below-grade applications, contact USG.
7. Do not apply directly to sound mats.
8. Do not use over expansion or isolation joints. Continue all movement joints in the concrete slab up through the layer of floor patch. In areas where the expansion or isolation joints are not present in the floor or where the concrete slab has developed systematic cracks in response to slab movement, consult with an engineer on the project or request services of a professional structural engineer to provide such joints as part of the system in accordance with engineering requirements and industry standards.
9. Existing cracks in the new and old concrete must be repaired with an appropriate crack-repair material in accordance with industry recommendations prior to installation of USG Durock™ Tuf-Skim Floor Patch. Note that repair of existing cracks in the concrete subfloor only subdues but does not completely prevent their ability to telegraph through USG Durock™ Tuf-Skim Floor Patch. Growth of existing cracks or formation of new cracks in the concrete subfloor can lead to cracks telegraphing through the floor patch.
10. When the MVER exceeds 5 lbs. (2.3 kg)/1,000 sq. ft. (92.9 m<sup>2</sup>)/24 hours or an RH greater than 80% per ASTM F2170, treat the concrete subfloor with USG Durock™ RH-100 Moisture Vapor Reducer. USG Durock™ Tuf-Skim Floor Patch is not a vapor or moisture barrier. Transmission of excessive water vapor or moisture from the concrete subfloor through the USG Durock™ Tuf-Skim Floor Patch can interfere with floor coverings and/or floorcovering adhesives, thus compromising their performance. For on-grade applications, use USG Durock™ RH-100 Moisture Vapor Reducer over concrete. Moisture mitigation system may not be needed if a vapor retarder is installed below the concrete slab in accordance to industry specifications and practice (ASTM E1745, ASTM E1993, ASTM E1693) and the MVER value of the concrete slab is below 5 lbs. (2.3 kg)/1,000 sq. ft. (92.9 m<sup>2</sup>)/24 hours or has an RH less than 80% per ASTM F2170.
11. Do not use acid etching as a method of cleaning and preparing the concrete subfloor.
12. Do not use oil-based sweeping compounds to clean and prepare the concrete subfloor. Use of such sweeping compounds leaves an oil film on the surface of the concrete that will interfere with the floor patch's bond development. Use vacuum, compressed air or a dry broom to remove the dust and debris and prepare the subfloor for USG Durock™ Tuf-Skim Floor Patch application.

**NOTES/LIMITATIONS CONT.**

13. Do not use adhesive-removing chemicals or solvents to eliminate contaminants from the concrete subfloor. Use of such chemicals can transport oil, grease and other contaminants further into the concrete pores. These chemicals can be released back to the surface at a later time to interfere with the floor-covering adhesives, thus compromising the bond performance with USG Durock™ Tuf-Skim Floor Patch. Mechanically removing the organic adhesives, asphalt, coal-tar-based adhesives and other oil-based contaminants is the sole recommended method of preparing the subfloor for application of USG Durock™ Tuf-Skim Floor Patch.
14. For applications over materials containing asbestos, contact USG. Do not mechanically remove organic adhesives, asphalt, coal-tar-based adhesives or other materials containing asbestos.
15. Do not overwater or over mix.
16. Do not add non-USG approved chemical additives or polymers to USG Durock™ Tuf-Skim Floor Patch.
17. Existing curing compounds on concrete surfaces must be removed. Shot blasting is the only recommended method of removal.
18. Do not mix with other cementitious products or self-leveling materials.
19. Structure shall be designed so deflection does not exceed L/240 from combined dead and live loads and L/360 from live loads. Certain floor coverings such as marble, limestone, travertine and wood may have more restrictive deflection limits. Consult the appropriate floor-covering manufacturer.
20. Existing gypsum underlayments must be solid. First test surface hardness by scratching existing underlayment with a coin. If surface can be gouged, refer to the *USG Rehabilitation Guidelines for Damaged Gypsum Underlayments* (CB822) before proceeding with the application of USG Durock™ Tuf-Skim Floor Patch.

**PRODUCT DATA**

**Mixing Ratio:** 3.0-3.5 quarts (2.8-3.3 L) of water per one 25 lb. (11.3 kg) bag of USG Durock™ Tuf-Skim Floor Patch (3 parts USG Durock™ Tuf-Skim Floor Patch to one part water by volume)

**Approximate Compressive Strength:** 6,000 psi (41.4 MPa)

**Approximate Coverage:**

Up to 48 sq. ft. (4.5 m<sup>2</sup>) per bag when applied at 1/8 in. (3.2 mm) thickness

Up to 96 sq. ft. (9 m<sup>2</sup>) at 1/16 in. (1.6 mm) thickness

**Approximate Coverage (when mixed with USG Durock™ Matrix® Bond Enhancer):**

Up to 65 sq. ft. (6 m<sup>2</sup>) per bag when applied at 1/8 in. (3.2 mm) thickness

**Approximate Working Time:** 10-25 minutes

**Application of Floor Covering:** In as little as 30 minutes or when USG Durock™ Tuf-Skim Floor Patch can be worked on without damaging the surface. Drying time is dependent on job site temperature and humidity conditions as well as application thickness.

**Thickness Range:** Featheredge to 1/2 in. (13 mm) thick in large areas; any thickness in small well-defined areas such as thresholds and concave-shaped depressions in substrates

**Packaging:** 25 lb. (11.3 kg) multiwall paper bags

**Note:** Physical characteristics published herein were achieved under controlled laboratory conditions. Actual field results may differ due to environmental conditions, inconsistent proportioning of field-applied water and USG Durock™ Tuf-Skim Floor Patch, as well as differences in mixing equipment.

**UL DESIGNATION TYPE HSLRK**

G230, G516, G524, G535, G551\*, G553\*, G556, G559, G561, G562, G564\*, G566, G587, G588, G591, G592, H502, J917, J919, J920, J924, J927, J931, J957, J958, J991, J994, L006, L201, L206, L208, L209, L210, L211, L212, L501, L502, L503, L504, L505, L506, L507, L508, L509, L510, L511, L512, L513, L514, L515, L516, L517, L518, L519, L520, L521, L522, L523, L524, L525, L526, L527, L528, L529, L530, L533, L534, L535, L536, L537, L538, L539, L540, L541, L542, L543, L545, L546, L547, L549, L550, L551, L552, L556, L557, L558, L559, L560, L562, L563, L564, L565, L568, L569, L570, L573, L574, L577, L579, L581, L583, L585, L587, L588, L589, L590, L592, L593, M500, M501, M502, M503, M504, M505, M506, M508, M510, M511, M513, M515, M517\*, M521\*, M522\*, M525, M527, M530, M531, M532, M534, M535, M536, M538, M541.

For the most up-to-date UL Designation Type HSLRK, contact your USG representative.

**Note:** \*UL Design requires greater minimum pour depths and compressive strengths and/or additional requirements. See individual UL Designs for specifics.

**STORAGE**

USG Durock™ Tuf-Skim Floor Patch should be stored in an enclosed shelter providing protection from damage and exposure from the elements. During winter, dry mix material should be stored in a heated room before application. If temperature is too high, premature setting may occur. Protect unused material by removing air from bag and sealing tightly. Remove damaged or deteriorated materials from the job site. USG Durock™ Tuf-Skim Floor Patch has a shelf life of nine months from the manufactured date.

**SUBMITTAL APPROVALS**

<b>Job Name</b>	
<b>Contractor</b>	<b>Date</b>

**PRODUCT INFORMATION**

See [usgperformanceflooring.com](http://usgperformanceflooring.com) for the most up-to-date product information.

**DANGER**

May cause cancer by inhalation of respirable crystalline silica. Do not handle until all safety precautions have been read and understood. Use only in a well-ventilated area, wear a NIOSH/MSHA-approved respirator. Use a sander with vacuum attachment or wet-sanding to reduce dust. Wear protective gloves/protective clothing/eye protection. If swallowed, inhaled, or skin irritation occurs immediately get medical attention. If on skin: Wash with plenty of water. When mixed with water, this material hardens and becomes very hot sometimes quickly. DO NOT attempt to make a cast enclosing any part of the body using this material. Dust from mixing may cause irritation to eyes, skin, nose, throat and upper respiratory tract. Prolonged or repeated breathing of respirable mica dust may cause lung disease (pneumoconiosis). Dispose of in accordance with local, state, and federal regulations. For more information call Product Safety: 800-507-8899 or see the SDS at [usg.com](http://usg.com)  
**KEEP OUT OF REACH OF CHILDREN.**

**TRADEMARKS**

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**SAFETY FIRST!**

Follow good safety/industrial hygiene practices during installation. Wear appropriate personal protective equipment. Read SDS and literature before specification and installation.

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