



USG DUROCK™ BRAND ULTRADRY™ SELF-LEVELING UNDERLAYMENT

Proprietary calcium aluminate cement product with quick-drying technology

- Fast-track solution for commercial and institutional repair and renovation
- Allows for application of ceramic tiles in 4 hours and most floor coverings in 12 hours; wood in 24 hours
- Featheredge to 5 in. (127 mm) neat
- No mechanical preparation required for most applications
- Fast and easy to mix

DESCRIPTION

USG Durock™ Brand UltraDry™ Self-Leveling Underlayment is a proprietary next-generation calcium aluminate cement product with an innovative quick-drying technology developed by USG for interior use in commercial, institutional and rehab construction. USG Durock™ UltraDry Self-Leveling Underlayment is the ideal product for fast-track renovation when the space needs to return to use as early as 24 hours. Its innovative quick, self-drying technology allows for the application of most floor coverings in as little as 12 hours after the underlayment application. USG Durock™ UltraDry Self-Leveling Underlayment requires minimal subfloor preparation and provides a smooth, hard surface over concrete slabs, pre-stressed concrete or concrete planks at a typical thickness from featheredge to 5 in. (127 mm) neat.

USG Durock™ UltraDry Self-Leveling Underlayment is suitable for a variety of floor coverings. It exceeds commercial resilient floor-covering requirements for underlayments with compressive strengths of 4,200 psi (29.0 MPa). USG Durock™ UltraDry Self-Leveling Underlayment is specially designed to have exceptional surface hardness, resistance to indentation and floor damage from other trades in addition to minimizing the need for repair patching.

USG Durock™ UltraDry Self-Leveling Underlayment can be stained, or when used with an appropriate clear coating system, can be used as a finished floor and provides a concrete look for industrial, commercial or loft style units.

EXTENDED WARRANTY

An extended warranty may apply when using USG Durock™ UltraDry Self-Leveling Underlayment in a system application. Please contact USG for further details.

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. Shot blasting is not required for most applications.

Subfloors must be clean and free of dirt, tar, wax, oil, grease, latex compounds, sealers, curing compounds, release agents, asphalt, water-soluble adhesives, rubber compounds, paint, chemicals, loose old cementitious products, joint compounds from drywall installation or any other contaminant that might prevent proper bonding of underlayment to concrete. Seal off floor drains before starting to pour underlayment to prevent drain pipes from clogging.

SUBFLOOR PREPARATION 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 underlayment 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 and has the right tensile strength.

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 underlayment systems must be cured properly (generally for a minimum of 28 days) prior to underlayment installation. Subfloor Moisture Vapor Emission Rate (MVER) exceeding 5 lbs. (2.3 kg)/1000 sq. ft. (92.9 m²)/24 hours per ASTM F1869 or a relative humidity (RH) greater than 80% per ASTM F2170 must be treated with USG Durock™ RH-100™ Moisture Vapor Reducer. USG Durock™ UltraDry Self-Leveling Underlayment is not a vapor barrier. Transmission of excessive moisture vapors from the concrete subfloor through USG Durock™ UltraDry Self-Leveling Underlayment can interfere with floor coverings and/or floor-covering adhesives, thus compromising their performance. After the installation of the RH-100 Moisture Vapor Reducer, the surface must be primed with USG Durock™ Primer-Sealer prior to application of USG Durock™ UltraDry Self-Leveling Underlayment.

To minimize the effect of expansion and cracking, wrap USG Levelrock Perimeter Isolation Strip 2.5 (1/4 in. (6 mm) thick) around all door jambs, columns and pipes. For outside corners, the strip should extend a minimum of 24 in. (610 mm) from the corner on both sides. For more information on perimeter isolation strip installation, see *USG Levelrock® Brand Perimeter Isolation Strip Submittal* (IG1874).

Fill deep areas and holes prior to final application. Contact USG for further information.

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™ UltraDry Self-Leveling Underlayment. 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™ UltraDry Self-Leveling Underlayment. 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™ UltraDry Self-Leveling Underlayment. Growth of existing cracks or formation of new cracks in the concrete subfloor can lead to cracks telegraphing through USG Durock™ UltraDry Self-Leveling Underlayment. Respect existing expansion and control joints (see *Notes/Limitations* #9, pg. 5).

USG Durock™ UltraDry Self-Leveling Underlayment 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 (rfci.com) 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.

WOOD SUBFLOORS

USG Durock™ UltraDry Self-Leveling Underlayment can be applied without wire lath over engineer-approved, APA-rated exterior glue plywood or oriented strand board (OSB) (i.e., APA-Rated Exterior or Exposure 1 panels) wood subfloors at a minimum 1/2 in. (13 mm) depth. Subfloor must be tongue-and-groove or square edge wood subfloor with back-bracing that is properly prepared and primed with USG Durock™ Brand Primer-Sealer. See *Notes/Limitations* #20, pg. 5 for subfloor deflections.

PRIMING

Use USG Durock™ Primer-Sealer or USG Durock™ EW2™ Primer to prepare the concrete subfloor prior to USG Durock™ UltraDry Self-Leveling Underlayment application. Proper use of USG Durock™ primers enhance the bond of the underlayment and effectively seal the subfloor and prevent formation of pinholes, domes and craters in USG Durock™ UltraDry Self-Leveling Underlayment due to the upward migration of air bubbles from the subfloor. Refer to *USG Durock™ Brand Primer-Sealer Submittal (CB519)* and *USG Durock™ Brand EW2™ Primer Submittal (CB801)* at usgperformanceflooring.com for installation instructions and application rates.

Floors to be primed must be dry, structurally sound and clean. Remove any dirt, tar, wax, oil, grease, latex compounds, sealers, curing compounds, release agents, asphalt, water-soluble adhesives, paint, chemicals, loose topping, joint compounds from drywall installation or any other contaminant that might interfere with development of good bond.

For primer application, the temperature of the USG Durock™ Primer-Sealer, subfloor and room must be maintained between 50-95 °F (10-35 °C) for a period of 48 hours before and after application.

MIXING**TOOLS**

- Mixing drum (15 gallons)
- Gage rake
- Smoother/spreader
- Spiked roller
- Nonmetallic cleated shoes
- Measuring bucket
- Mixing drill type 2 through 7—as outlined in the *Technical Guidelines* prepared by the International Concrete Repair Institute, *Pictorial Atlas of Concrete Repair Equipment* (Guideline No. 320.5R-2014)
- Mixing paddle type 2, 3, 4, 8 or 9—as outlined in the *Technical Guidelines* prepared by the International Concrete Repair Institute, *Pictorial Atlas of Concrete Repair Equipment* (Guideline No. 320.5R-2014)
- 1 in. x 2 in. (25.4 mm x 50.8 mm) brass or plastic cylinder
- 12 in. x 12 in. x 1/4 in. (305 mm x 305 mm x 6.4 mm) Plexiglas® sheet
- Minimum 2 in. (50.8 mm) putty/drywall taping knife
- Ruler or tape measure

BARREL MIXING

When opening bags and mixing, use engineering controls, including local exhaust, to reduce exposure to dust. Wear NIOSH-recommended respirator if needed. It is important that the mixing water for the total number of bags to be mixed is in the barrel prior to adding the dry material.

Determine the number of bags needed. Add 4.5 - 5.0 quarts (4.3 - 4.7 L) of cool, clean potable water for each 50 lb. (22.7 kg) bag of USG Durock™ UltraDry Self-Leveling Underlayment powder to the clean and dry mixing barrel. Next, slowly add one bag to the barrel while mixing. Mix for 30 seconds, making sure that all material is wetted out thoroughly. Slowly add the second and any additional bags to the mixing barrel while continuing to mix. Make sure the barrel sides are thoroughly scraped free of dry powder and that there is no unmixed material on the bottom of the barrel. Mix for an additional 30 seconds and ensure the material is uniform and lump free. The total mixing time should be between two and three minutes.

Perform a slump test on the material before application. See *Test Procedures* for instructions.

Do not overwater the material. Do not overmix (more than three minutes), as this may induce air into the material.

The presence of bleed water on the surface and/or material segregation (settling of sand) indicates overwatering. Adjust the amount of water added to the mix to prevent bleed water and material segregation.

CONTINUOUS MIXER AND PUMP

Contact USG for information.

TEST PROCEDURES

SLUMP TEST

Set Plexiglas sheet on a level, stable surface, away from foot traffic. Ensure that the 1 in. x 2 in. (25 mm x 51 mm) cylinder is clean and dry. Place the cylinder in the middle of the Plexiglas sheet. Pour the USG Durock™ UltraDry Self-Leveling Underlayment slurry into the cylinder, slightly overfilling it. Screed off the excess material from the top of the poured cylinder, away from the Plexiglas sheet. Lift the cylinder up smoothly to form the patty. Do not shake any excess slurry from the cylinder. Wait one minute and measure the patty in two directions 90° apart and calculate the average of the two measurements +/- 1/8 in. (3 mm). Ensure that the average patty diameter is within the 6 - 7-1/2 in. (152-191 mm) range for USG Durock™ UltraDry Self-Leveling Underlayment.

APPLICATION

High ambient humidity and higher thicknesses will delay the drying process. Protect floors from heavy trade traffic loads (i.e., loaded drywall carts, heavy tool cabinets, etc.) with plywood. Protect installation areas from direct sunlight exposure for at least 24 hours.

USG Durock™ UltraDry Self-Leveling Underlayment—either mixed or in powdered form—subfloor and room temperature must be between 50 °F and 95 °F (10-35 °C) at the time of application and for 72 hours after installation of USG Durock™ UltraDry Self-Leveling Underlayment. For temperatures above 95 °F (35 °C), follow the American Concrete Institute's (ACI) *Hot Weather Concrete Guidelines* to ensure proper installation. If available water is not cool; chill water to 70 °F (21 °C).

When uncertain or unknown construction conditions are present on the job site, it is recommended to pour a small test area before conducting full installation. The test area must also include finish flooring to establish suitability of the complete system for intended use.

USG Durock™ UltraDry Self-Leveling Underlayment has a working time of approximately 20-30 minutes at 70 °F (21 °C). At higher temperatures the working time is shortened; at lower temperatures the flow time is extended. Work as a team to obtain a satisfactory installation. Ensure continuous flow of slurry and promptly spread USG Durock™ UltraDry Self-Leveling Underlayment to desired thickness (minimum average thickness of ¼ in. (6 mm)) and finish using a gauge rake and a smoother. For average thickness less than ¼ in. (3 mm), use a spike roller for finishing instead of the smoother. Perform these operations promptly to avoid trapping air bubbles, prevent formation of cold joints and achieve a satisfactory finish surface.

Apply USG Durock™ UltraDry Self-Leveling Underlayment in an even ribbon along the short dimension of the room or area to be poured. Maintain a continuous wet edge. If pouring USG Durock™ UltraDry Self-Leveling Underlayment against an edge that has been allowed to set, the edge of the previous pour should be treated with USG Durock™ Primer-Sealer.

WEAR SURFACE APPLICATION

- USG Durock™ UltraDry Self-Leveling Underlayment can be stained or used as a wear surface with a tested coating system.
- USG Durock™ UltraDry Self-Leveling Underlayment can provide a concrete look when used with a clear coating system.
- Coating systems must be tested for adhesion to USG Durock™ UltraDry Self-Leveling Underlayment. The bond test and performance of coatings are the responsibility of the coating manufacturer. Contact USG for further information regarding coating options.

FLOOR-COVERING INSTALLATION

- USG Durock™ UltraDry Self-Leveling Underlayment can be walked on in as little as 120 minutes after installation.
- Floor coverings can be installed in as little as 12 hours when USG Durock™ UltraDry Self-Leveling Underlayment is applied at a 1 in. (25 mm) thickness or less. Ceramic tile can be installed in as little as 4 hours. For applications greater than 1 in. (25 mm) deep, allow 24 hours before floor-covering installation. Wood flooring can be installed after 24 hours or when the underlayment is completely dry. If the floor-covering or adhesive manufacturer requirements are more stringent, their requirements take precedence. Drying time will vary depending on underlayment thickness, ambient climate conditions and humidity.
- Check with floor-covering and adhesive manufacturers for installation guidelines and suitability of their manufactured products over USG Durock™ UltraDry Self-Leveling Underlayment.
- Perform field bond test to determine adhesive/flooring performance over USG Durock™ UltraDry Self-Leveling Underlayment. 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.

For further details on installation requirements, specifications and the most up-to-date product information, please see usgperformanceflooring.com.

NOTES/LIMITATIONS

1. Do not use in exterior applications.
2. USG Durock™ UltraDry Self-Leveling Underlayment can be stained or used as a wear surface with a tested, protective coating system. Coating systems must be tested for adhesion to USG Durock™ UltraDry Self-Leveling Underlayment. The bond test and performance of coatings are the responsibility of the coating manufacturer.
3. Do not install 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 applications over existing gypsum subfloors, contact USG.
7. For below-grade applications, contact USG.
8. Do not use over sound mat.
9. Do not use over expansion or isolation joints. Continue all movement joints in the concrete slab up through the layer of underlayment. 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.
10. 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 the underlayment. Note that repair of existing cracks in the concrete subfloor only subdues but does not completely prevent their ability to telegraph through USG Durock™ UltraDry Self-Leveling Underlayment. Growth of existing cracks or formation of new cracks in the concrete subfloor can lead to cracks telegraphing through the poured underlayment.
11. When the MVER exceeds 5 lbs. (2.3 kg)/1,000 sq. ft. (92.9 m²)/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™ UltraDry Self-Leveling Underlayment is not a vapor or moisture barrier. Transmission of excessive water vapor or moisture from the concrete subfloor through the USG Durock™ UltraDry Self-Leveling Underlayment can interfere with floor coverings and/or floor-covering 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 m²)/24 hours or has an RH less than 80% per ASTM F2170.
12. Do not use acid etching as a method of cleaning and preparing the concrete subfloor.
13. 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 underlayment's bond development. Use a HEPA filtration industrial vacuum to remove the dust and debris and prepare the subfloor for USG Durock™ UltraDry Self-Leveling Underlayment application.
14. 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™ UltraDry Self-Leveling Underlayment. 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™ UltraDry Self-Leveling Underlayment.
15. Contact USG for applications of USG Durock™ UltraDry Self-Leveling Underlayment over asbestos tiles. Do not mechanically remove organic adhesives, asphalt, coal-tar-based adhesives or other materials containing asbestos.
16. Do not overwater or overmix.
17. Do not add any chemical additives or polymers to USG Durock™ UltraDry Self-Leveling Underlayment.
18. Do not use wet curing or curing compounds.
19. Do not mix with other cementitious products or self-leveling materials.
20. 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.
21. For thicknesses greater than 1 in. (25 mm), contact USG for special application instructions.

PRODUCT DATA

USG Durock™ UltraDry Self-Leveling Underlayment is sanded at the factory. Job site addition of sand is not recommended and will void the warranty. USG Durock™ UltraDry Self-Leveling Underlayment is mixed with water to yield a self-leveling slurry.

Approximate Compressive Strength ASTM C109 (modified): 4,200 psi² (29.0 MPa)

Approximate Dry Density: 125-132 lbs./cu. ft.² (2002-2114 kg/m³)

Mixing Ratio: 4.5-5.0 quarts (4.3-4.7 L) of water per 50 lb. (22.7 kg) bag

Approximate Coverage: 22 sq. ft. (2.04 m²) per bag at 1/4 in. (6 mm) thickness

Approximate Flow Time: 20-30 minutes

Approximate Final Set ASTM C1708: 60-100 minutes²

Approximate Light Foot Traffic: 120-180 minutes

Approximate Time to Flooring: 12 hours (4 hours for ceramic tile, 24 hours for wood)

Approximate Flexural Strength ASTM C348: minimum 1,000 psi² (6.9 MPa)

Thickness Range: Featheredge - 5 in. (127 mm) neat

Surface pH Range ASTM F710: 10.7 pH +/- .5

Packaging: 50 lb. (22.7 kg) multiwall paper bags

Notes

1. ASTM C109 modified refers to air drying as opposed to damp curing.
2. Results 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™ UltraDry Self-Leveling Underlayment, as well as differences in mixing/pumping equipment.

STORAGE

USG Durock™ UltraDry Self-Leveling Underlayment 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, as deeply cooled material may increase the risk that some additives may not dissolve during mixing. If temperature is too high, premature setting may occur. Remove damaged or deteriorated materials from the job site. USG Durock™ UltraDry Self-Leveling Underlayment has a shelf life of 12 months from the manufactured date.

SUBMITTAL APPROVALS

Job Name	
Contractor	Date

PRODUCT INFORMATION

See usgperformanceflooring.com for the most up-to-date product information.

GREENGUARD INFORMATION

GREENGUARD Certified products are certified to GREENGUARD standards for low chemical emissions into indoor air during product usage. For more information, visit ul.com/gg.

DANGER

Causes serious eye damage. Causes skin irritation. May cause an allergic skin reaction. May cause cancer by inhalation of respirable crystalline silica. Do not handle until all safety precautions have been read and understood. Avoid breathing dust. Use only in a well-ventilated area, wear a NIOSH/MSHA-approved respirator. Wear protective gloves/protective clothing/eye protection. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses and continue rinsing. Immediately call a poison center/doctor. If on skin: Wash with plenty of water. If swallowed, inhaled, or skin irritation occurs get medical attention. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. 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

KEEP OUT OF REACH OF CHILDREN.

TRADEMARKS

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NOTICE

We shall not be liable for consequential, incidental or special damages, directly or indirectly sustained, nor for any loss caused by application of these goods not in accordance with current printed instructions or for other than the intended use. Our liability is expressly limited to the replacement of defective goods or a refund of the purchase price, at USG's option, and does not include costs of labor, floor-covering materials, or any other costs associated with material replacement. Any claim shall be deemed waived unless made in writing to us within thirty (30) days from date it was or reasonably should have been discovered.

SAFETY FIRST!

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

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