USG
Tile &
Flooring
Solutions

USG DUROCK™ BRAND EW2™ PRIMER

High bond, fast track epoxy primer

- Designed for use over interior and exterior concrete substrates up to 99% RH (ASTM F2170)
- Allows for underlayment application in as little as 30 minutes, depending on conditions
- Ideal primer for bonding with USG Durock™ and USG Levelrock® underlayments
- 100% solids epoxy-based primer with zero VOCs (ASTM D3960)
- Excellent substrate wetting capabilities
- No mechanical preparation required for most applications
- Empty packaging can be recycled

DESCRIPTION

USG Durock™ Brand EW2™ Primer is a two-component, 100% solids epoxy primer designed specifically to receive USG Durock™ Brand and USG Levelrock® Brand underlayments in as little as 30 minutes. It features excellent substrate wetting capabilities to promote penetration and adhesion to a variety of concrete substrates, including damp concrete.

EXTENDED WARRANTY

An extended warranty may apply when using USG Durock™ EW2 Primer in a system application. Please contact USG for further details.

SUBFLOOR PREPARATION

All subfloors must be structurally sound, solid and secure. 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.

When applying USG Durock™ EW2 Primer directly to a concrete substrate, the concrete must be cured 30 days, clean and free of dirt, tar, wax, oil, grease, latex compounds, sealers, curing compounds, release agents, asphalt, adhesives, paint, chemicals, loose old cementitious products, joint compounds from drywall installation or any other contaminant that might prevent proper bonding of USG Durock™ EW2 Primer to the concrete substrate. The surface may be damp but with no standing or glistening water at time of primer application. The tensile bond strength of the concrete over which USG Durock™ EW2 Primer is being applied must be a minimum of 175 psi (1.2 MPa) when tested per the ASTM C1583 standard. Seal off floor drains before starting the application of the primer to prevent clogging.

Contaminated concrete substrates exhibiting signs of laitance (a layer of weak material on the concrete surface either visible or invisible), scaling, spalling, crumbling, carbonation or delamination must be mechanically removed to achieve a solid and clean substrate. Use mechanical removal methods such as shot blasting, scarifying or diamond grinding to clean and prepare the concrete substrate. If the surface is diamond ground, use 12-16 grit diamonds and vacuum the subfloor with a HEPA filtration industrial vacuum to remove dust and debris.

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™ EW2 Primer. 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™ EW2 Primer. 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™ EW2 Primer. Growth of existing cracks or formation of new cracks in the concrete subfloor can lead to cracks telegraphing through USG Durock™ EW2 Primer. Respect existing expansion and control joints (see *Notes/Limitations* #3, pg. 3).

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SUBFLOOR PREPARATION

USG Durock™ EW2 Primer is not a moisture mitigation system. Concrete slabs not poured over an effective moisture vapor retarder are subject to possible moisture vapor transmission that may lead to blistering and failure of a floor covering or coating system. It is the floor covering or coating applicator's responsibility to conduct calcium chloride and relative humidity probe testing per ASTM F710 standards to determine whether a moisture mitigation system is required prior to the installation of floor covering or coatings. USG Durock™ EW2 Primer is a suitable primer prior to the application of USG Durock™ EcoCap™ HT Self-Leveling Topping for both interior and exterior applications.

MIXING

EQUIPMENT

- Chemical safety glasses or splash-proof goggles
- Protective gloves
- NIOSH/OSHA-approved organic vapor respirator
- Non-metallic cleated shoes
- Long sleeved shirts and trousers
- Emergency showers and eye wash stations should be readily accessible
- Electric drill (300–400 rpm)
- Jiffy®-type mixer
- Notched squeegee
- Nonshedding ¼ in. (6 mm) nap phenolic core roller cover
- Wet mil. gauge

INSTRUCTIONS

Read the entire warning which appears on the last page of this submittal before opening the package. USG Durock™ EW2 Primer is packaged in a two-part, premeasured kit. Both parts must be mixed in full—do not mix partial amounts of the materials. Pour the entire contents of part B into the part A container.

Using an electric drill (300–400 rpm) with a Jiffy-type mixer, mix the combined materials in container A for two full minutes. Do not mix by hand. Mix all material by moving drill around container's sides and bottom. **IMPORTANT** - The entire contents of USG Durock™ EW2 Primer must be poured out of the pail immediately after mixing or the material may reach extreme temperatures and possibly combust.

APPLICATION

Apply USG Durock™ EW2 Primer with a squeegee and roller. Immediately after mixing, pour USG Durock™ EW2 Primer from the mixing container in a ribbon format to the properly prepared concrete substrate. Spread material at an approximate rate of 175-200 sq. ft./gal (4.3-4.9 m^2/L) (8-9 mil. wet film thickness), then back roll with a 1/4 in. (6 mm) nap phenolic core roller. Ensure an even coat of material and eliminate puddling to prevent excess primer from floating to the surface of the underlayment.

Immediately broadcast graded, clean, washed, kiln-dried sand. If wet spots appear on the surface after broadcasting sand, rejection has not been achieved; apply additional sand.

Allow USG Durock™ EW2 Primer to begin curing (approximately 30 minutes at 77 °F (25 °C)) prior to application of USG Durock™ or USG Levelrock underlayments. Underlayment must be applied while USG Durock™ EW2 Primer is still tacky and within 4 hours of the primer application. If the underlayment is not applied within 4 hours, then you must reapply the primer after it is cured enough to walk on. If more than 24 hours has elapsed, mechanically abrade the primer and re-prime.[1]

Note 1. Cure times and working times are influenced by both the ambient air temperature and the temperature of the concrete.

SAND BROADCAST

Apply USG Durock™ EW2 Primer with a roller and squeegee. Immediately after mixing, pour USG Durock™ EW2 Primer from the mixing container in a ribbon format to the properly prepared concrete substrate. Spread material at an approximate rate of 100-160 sq. ft./gal. (2.5-3.9 m^2/L) (16-18 mil. wet film thickness), then back roll with a 1/4 in. (6 mm) nap phenolic core roller. Immediately broadcast graded, clean, washed, kiln-dried sand to full rejection. If wet spots appear on the surface after broadcasting sand, rejection has not been achieved; apply additional sand. Allow USG Durock™ EW2 Primer to fully cure (approximately 24 hours at 77 °F (25 °C)). If any bare spots exist, mechanically abrade bare areas, clean thoroughly and reapply primer and sand to rejection. Allow primer to cure (approximately 24 hours at 77 °F (25 °C)) and remove loose sand.[1]

Note 1. Cure times and working times are influenced by both the ambient air temperature and the temperature of the concrete.

APPLICATION CONT.

WEAR SURFACES

If the underlayment to be poured will be used as an exposed or polished wear surface, take the following precautions to limit finished surface blemishes that may result if USG Durock™ EW2 Primer is worked to the surface of the underlayment:

- A minimum cure time of 1 hour is required. USG Durock™ EW2 Primer should be tacky, but not "wet" to the touch before installing the underlayment.
- The use of gauge rakes or pin rollers may bring excess or uncured primer to the surface of the underlayment. Do not scrape the substrate or USG Durock™ EW2 Primer when smoothing the underlayment; just break the surface tension with the float.

NOTES/LIMITATIONS

1. Must be applied to a properly prepared clean slab. The surface may be damp but with no standing or glistening water at time of primer application.
2. USG Durock™ EW2 Primer is not a moisture control membrane and should not be used by itself as a moisture mitigation solution. When the MVER exceeds 4 lbs. (1.8 kg)/1,000 sq. ft. (92.9 m^2)/24 hours, treat the concrete subfloor with a USG Durock™ Brand Moisture Vapor Reducer. Transmission of excessive water vapor or moisture from the concrete subfloor through the USG Durock™ EW2 Primer and USG Durock™ or USG Levelrock underlayment can interfere with topical coatings or floor-covering adhesives and compromise their performance.
3. 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.
4. 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 primer. Note that repair of existing cracks in the concrete subfloor only subdues but does not completely prevent their ability to telegraph through USG Durock™ EW2 Primer and the floor underlayment. Growth of existing cracks or formation of new cracks in the concrete subfloor can lead to cracks telegraphing through USG Durock™ EW2 Primer and the floor underlayment.

PRODUCT DATA

Tensile Strength (ASTM D638): 6,230 psi (43 MPa)
Ultimate Elongation (ASTM D638): 11%
Compressive Yield Strength (ASTM D695): 9,850 psi (68 MPa)
Ultimate Compressive Strength (ASTM D695): 19,500 psi (134 MPa)
Ultimate Flexural Strength (ASTM D790): 9,680 psi (67 MPa)
Hardness, Shore D (ASTM D2240): 80
Bond Strength to Concrete (ASTM D7234): concrete fails before loss of bond
Solids Content: 100%
VOC: none
Viscosity (Clear Material, 77 °F (25 °C)): 5500 cps
Coverage: 175-200 sq. ft./gal. (4.3-4.9 m^2/L) (8-9 mil. wet film thickness)
Sand Broadcast Coverage: 100-160 sq. ft./gal. (2.5-3.9 m^2/L) (16-18 mil. wet film thickness)
Kit Packaging: 3.5 gal. (US) (13.2 L) pail containing 1 gal. (US) (3.7 L) Part A and 1 gal. (US) (3.7 L) Part B

STORAGE

USG Durock™ EW2 Primer should be stored in an enclosed shelter providing protection from damage and exposure from the elements. Keep USG Durock™ EW2 Primer from freezing and extreme heat. Store USG Durock™ EW2 Primer at temperatures between 60 °F and 100 °F (15-38 °C). Dispose of any waste material according to federal/state/local regulations.[1] USG Durock™ EW2 Primer has a shelf life of 12 months from the date of manufacture.

Note 1. Metal shipping containers and the high-density polyethylene (HDPE) cradle can be recycled or disposed of as solid waste as long as they are empty per section 261.7 (Residues of hazardous waste in empty containers) of The Resource Conservation and Recovery Act (RCRA). If the material is catalyzed and solid it can be disposed of as solid waste. If it is liquid it would need to be disposed of as RCRA waste.

CLEANUP

Clean tools with denatured alcohol or isopropyl alcohol Acetone before the material dries.

SUBMITTAL APPROVALS

Job Name	
Contractor	Date

WARNING

Please read entire Danger copy before opening package.

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

DANGER
Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause respiratory irritation. Suspected of causing genetic defects. Suspected of damaging fertility or the unborn child. Very toxic to aquatic life with long lasting effects. Do not handle until all safety precautions have been read and understood. Use only in a well-ventilated area. Avoid contact with eyes or skin, ingestion, and inhalation of mist or vapor. Use NIOSH/OSHA-approved organic vapor respirator. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection. If swallowed, inhaled, on skin (or hair), or in eyes: immediately call a poison center or doctor. If swallowed: Rinse mouth; do not induce vomiting. If inhaled: Remove person to fresh air and keep comfortable for breathing. If on skin (or hair): Immediately remove all contaminated clothing; rinse skin with water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses and continue rinsing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Store locked up. Collect spillage and dispose of in accordance with local, state, and federal regulations. For more information call Product Safety (Chemtrec): 800-424-9300 or see the SDS at usg.com
KEEP OUT OF REACH OF CHILDREN.

NOTE
The information in this document is subject to change without notice. USG Corp. and/or its affiliates assume no responsibility for any errors that may inadvertently appear in this document. Consult your USG sales office or representative for information.

NOTICE
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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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