



USG DUROCK™ BRAND PWT™ PRO SELF-LEVELING TOPPING

Specialty formulated self-leveling, polishable wear topping

- Fast application, fast-setting; allows for return of light trade traffic within hours
- Hybrid cementitious formula can be used as a topping with wear surface qualities equal to concrete
- Ideal for pre-cast concrete or concrete applications
- Can be stained to create unique aesthetic designs
- May assist in obtaining LEED® credits

DESCRIPTION

USG Durock™ PWT™ Pro Self-Leveling Topping is a proprietary high-quality cementitious flooring product for interior use in new and renovation construction in residential and commercial applications. USG Durock™ PWT Pro Self-Leveling Topping offers a compressive range of 5,000-7,000 psi (34.5-48.2 MPa) and is designed to be polished as a wear surface. USG Durock™ PWT Pro Self-Leveling Topping is specially formulated to suspend larger sand aggregates. When polished, the topping exposes the aggregate offering unique dimension and color variation.

USG Durock™ PWT Pro Self-Leveling Topping is ideal for use over concrete. When applied on concrete decks (including poured-in-place and pre-cast), a minimum of 3/8 in. (10 mm) of USG Durock™ PWT Pro Self-Leveling Topping is required. Polishing and staining can start as soon as the topping has dried. USG Durock™ PWT Pro Self-Leveling Topping can be stained integrally or topically using a tested concrete stain. To provide a washable and stain-resistant floor surface, it is recommended that an appropriate protective coating system be used.

USG Durock™ PWT Pro Self-Leveling Topping is mixed with sand and water at the job site to yield a lightweight topping product with a smooth and monolithic surface. A 3/4-in. (19 mm) thick topping weighs approximately 8 lbs./sq. ft. and has an approximate dry density range of 130-135 lbs./cu. ft. (2082-2162 kg/m³) USG Durock™ PWT Pro Self-Leveling Topping may assist in obtaining LEED® credits.

INSTALLATION 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 old cementitious products, joint compounds from drywall installation or any other contaminant that might prevent proper bonding of the topping to concrete. Seal off floor drains before starting to pour topping to prevent drain pipes from clogging.

Mechanical floor preparation such as shot-blasting, scarification or other methods of grinding may not be required for wear surface applications. To prepare concrete subfloors, clean all surface debris and dust by sweeping or vacuuming with a HEPA filtration industrial vacuum and remove all loose or spalled concrete.

Mechanical preparation of the concrete is recommended in areas that will be polished. For areas to be polished, prepare the surface to a CSP 3-4 in accordance with the industry standards as outlined in International Concrete Repair Institute (ICRI) Technical Guideline No. 310.2, *Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair* or utilize a sand broadcast system. Contact your USG representative for more information.

INSTALLATION CONT.
SUBFLOOR PREPARATION CONT.

Concrete subfloors receiving cementitious topping systems must be cured properly (generally for a minimum of 28 days) prior to topping 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™ PWT Pro Self-Leveling Topping is not a vapor barrier. Transmission of excessive moisture vapors from the concrete subfloor through USG Durock™ PWT Pro Self-Leveling Topping can interfere with topical coatings and compromise their performance. After the installation of the RH-100 Moisture Vapor Reducer, the surface must be primed with USG Durock™ EW2™ Primer or USG Durock™ ESB™ Primer prior to application of USG Durock™ PWT Pro Self-Leveling Topping.

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™ PWT Pro Self-Leveling Topping. 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™ PWT Pro Self-Leveling Topping. 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™ PWT Pro Self-Leveling Topping. Growth of existing cracks or formation of new cracks in the concrete subfloor can lead to cracks telegraphing through USG Durock™ PWT Pro Self-Leveling Topping. Respect existing expansion and control joints (see *Notes/Limitations #4*, pg. 4).

PRIMING

For polished applications, use USG Durock™ EW2™ or USG Durock™ ESB™ Primer for preparing the concrete prior to application of USG Durock™ PWT Pro Self-Leveling Topping. If mechanical preparation is required, USG Durock™ Primer-Sealer may be applied to a minimum surface profile CSP 3 prior to application of USG Durock™ PWT Pro Self-Leveling Topping. Proper use of USG Durock™ Brand primers enhance the bond of the topping and effectively seals the subfloor and prevents formation of pinholes, domes and craters in USG Durock™ PWT Pro Self-Leveling Topping due to the upward migration of air bubbles from the subfloor. Refer to submittal sheets *USG Durock™ Brand EW2™ Primer* (CB801), *USG Durock™ Brand ESB™ Primer* (CB800) and *USG Durock™ Brand Primer-Sealer* (CB519) at usg.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™ Brand primer, subfloor and room must be maintained between 50 °F and 95 °F (10 °C and 35 °C) for a period of 48 hours before and after application. Cure, dry and working times of the primer are influenced by both the ambient air temperature and the temperature of the concrete.

CONTINUOUS MIXER AND PUMP

Contact USG to determine the appropriate mixing equipment required.

MIXING

When opening bags and mixing, use engineering controls, including local exhaust, to reduce exposure to dust. Wear NIOSH-recommended respirator if needed.

USG Durock™ PWT Pro Self-Leveling Topping is mixed with a USG-approved sand and potable water at the job site. Each 80 lb. (36.3 kg) bag of USG Durock™ PWT Pro Self-Leveling Topping will require 80 – 100 lbs. (36.3 – 45.4 kg) of sand. Add sand and 1 bag (80 lbs. (36.3 kg)) of USG Durock™ PWT Pro Self-Leveling Topping powder to 3.5 to 4.0 gallons (13.25 to 15.1 liters) of cool, clean potable water and mix for a minimum of 45 seconds, but no longer than 3 minutes as this may induce air into the mixture.

TEST PROCEDURES**SLUMP TEST**

Set Plexiglas® sheet on a level, stable surface, away from foot traffic. Ensure that the 2 in. x 4 in. (51 mm x 102 mm) cylinder is clean and dry. Place the cylinder in the middle of the Plexiglas sheet. Pour the USG Durock™ PWT Pro Self-Leveling Topping 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 9-1/2 in. to 10-1/2 in. (241 mm to 267 mm) range.

APPLICATION

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 topical coatings or finish flooring to establish suitability of the complete system for intended use.

If permanent windows, doors and a roof have not been installed before the time of pour, temporary windows and doors, plus a permanent deck and exterior sheathing, must be installed before the pour commences. Before, during and up to 3 days after installation of the topping, the building's interior temperature must be maintained above 50 °F (10 °C) and below 110 °F (43 °C). 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).

The poured topping must be protected from wind until set has occurred, or a minimum of 2 hours after placing material. Thereafter, normal operation of the HVAC system can resume, as well as the use of doors, windows and other openings. Light foot traffic can occur after this time; normal trade traffic can resume the next day. Protect installation areas from direct sunlight exposure for at least 24 hours. Adequate ventilation must be provided to ensure uniform drying of the installed floor topping. High ambient humidity and higher thicknesses will delay the drying process. At 1/2-in. (13 mm) thickness, the typical drying time is 3 to 5 days. Protect floors from heavy trade traffic loads (i.e. loaded drywall carts, heavy tool cabinets, etc.) with plywood. Because this may cause the protected areas to take longer to dry, check for dryness in these areas before installing any topical coatings or floor coverings.

USG Durock™ PWT Pro Self-Leveling Topping has a flow time of approximately 15 minutes at 70 °F (21 °C). At higher temperatures the flow 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 the USG Durock™ PWT Pro Self-Leveling Topping to desired thickness and finish using a gauge rake and a smoother. Perform these operations promptly to avoid trapping air bubbles, prevent formation of cold joints and achieve a satisfactory finish surface.

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

The typical minimum thickness of USG Durock™ PWT Pro Self-Leveling Topping over a concrete subfloor is 3/8 in. (10 mm).

When used as a wear surface, use a protective coating to prevent dirt, grime or other contaminants from staining the surface.

Prior to floor-covering installation, we recommend priming the surface of USG Durock™ PWT Pro Self-Leveling Topping with USG Durock™ Primer-Sealer. However, the recommendations of the floor-covering manufacturer will always take precedence over those presented here. When installing high-solids floor-covering adhesives, we do not recommend priming the surface.

NOTES/LIMITATIONS

1. Do not use in exterior applications.
2. Do not install where continuous exposure to moisture is a possibility.
3. Do not install in below-grade applications. Contact USG for on-grade application recommendations.
4. Do not use over expansion or isolation joints. Continue all movement joints in the concrete slab up through the layer of topping. 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 the services of a professional structural engineer to provide such joints as part of the system in accordance with engineering requirements and industry standards.
5. 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 topping. Note that repair of existing cracks in the concrete subfloor only subdues but does not completely prevent their ability to telegraph through USG Durock™ PWT Pro Self-Leveling Topping. Growth of existing cracks or formation of new cracks in the concrete subfloor can lead to cracks telegraphing through the poured topping.
6. 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™ PWT Pro Self-Leveling Topping is not a vapor or moisture barrier. Transmission of excessive water vapor or moisture from the concrete subfloor through the USG Durock™ PWT Pro Self-Leveling Topping can interfere with floor-covering adhesives and compromise 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.
7. Structure shall be designed so that 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.

PRODUCT DATA

Mixing Ratio: 3.5 to 4.0 gallons (13.25 to 15.1 liters) of water per 80 lb. (36.3 kg) bag

Approximate Coverage Rate: 53 sq. ft. (4.9 m²) per bag at 3/8 in. (10 mm) thickness
40 sq. ft. (3.7 m²) per bag at 1/2 in. (13 mm) thickness

Approximate Final Set ASTM C191: 60–90 minutes¹

Approximate Walkable (light foot traffic): 2 – 3 hours

Thickness Range: 3/8 in. – 3 in. (10 mm – 76 mm)

Packaging: 80 lb. (36.3 kg) multiwall paper bags

Approximate Compressive Strength (aggregated) ASTM C472 (modified):
5,000–7,000 psi (34.5–48.3 MPa)¹

Approximate Dry Density (aggregated): 130–135 lbs./cu. ft. (2082–2162 kg/m³)

Note

1. Results published herein were achieved under controlled laboratory conditions. Actual field results may differ due to environmental conditions, regional sand variations, inconsistent proportioning of field applied water, sand and USG Durock™ PWT Pro Self-Leveling Topping, as well as differences in mixing/pumping equipment.

UL DESIGNATION TYPE HSLRK

G524, G230, G516, G535, G551*, G553*, G556, G561, G562, G564*, G566, G587, G588, G591, 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, L532, L533, L534, L535, L536, L537, L538, L539, L540, L541, L542, L543, L545, L546, L547, L549, L550, L551, L552, L556, L557, L558, L559, L562, L563, L564, L565, L568, L569, L570, L571, 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*.

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™ PWT Pro Self-Leveling Topping should be stored in an enclosed shelter providing protection from damage and exposure from the elements at a temperature of 50-90 °F (10-32 °C). During winter, dry mix material should be stored in a heated room before application. Remove damaged or deteriorated materials from the job site. USG Durock™ PWT Pro Self-Leveling Topping has a shelf life of 12 months from the manufactured date.

SUBMITTAL APPROVALS

Job Name	
Contractor	Date

PRODUCT INFORMATION

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

DANGER

Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection. Use only in a well-ventilated area, wear a NIOSH/MSHA-approved respirator. If exposed, swallowed, inhaled, or skin irritation occurs get medical attention. If on skin: Wash with plenty of 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. 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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NOTE

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NOTICE

We shall not be liable for incidental and consequential 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 replacement of defective goods. 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 SDS and literature before specification and installation.

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