USG LEVELROCK® BRAND
3500
FLOOR UNDERLayment

Premium engineered cementitious underlayment
• Fast application, fast setting, allows for quick return of light trade traffic within hours
• Meets the vinyl industry’s commercial performance requirements
• Applied by USG Levelrock® authorized applicators
• GREENGUARD Gold Certification; qualifies as a low VOC emitting material (meets CA 01350)

USG Levelrock® Brand 3500 Floor Underlayment is a high-quality, versatile engineered cementitious
underlayment. It can be applied at thicknesses from featheredge (with proper sand) to 3 in. (.76 mm),
while meeting commercial vinyl floor-covering requirements as a high-performance underlayment
with compressive strengths ranging from 3500 psi to 4500 psi (24.1 to 31.0 MPa).

USG Levelrock 3500 Floor Underlayment is mixed with approved sand and potable water at the
job site to yield a lightweight underlayment that weighs approximately 7.5 lbs./sq. ft. (36.6 kg/m²)
at 3/4 in. (19 mm) thickness and has an approximate dry density range of 118-124 lbs./cu. ft.
(1,890-1,986 kg/m³).

• Light-commercial, residential, institutional, hotel/motel and rehab construction
• Concrete slabs, pre-stressed concrete, concrete planks, concrete repair/leveling, existing
gypsum, radiant heat systems, OSB and plywood
• UL fire-rated assemblies with UL Designation Type LRK
• Floor systems with USG sound attenuation products
• Use with a variety of floor coverings, including vinyl, carpet, hardwood, and natural and man-
made stone

1. Do not use in exterior applications.
2. Do not over water or over sand.
3. Do not install where continuous exposure to moisture is a possibility.
4. For wood subfloors – install only on tongue-and-groove edge plywood or OSB, or square-edge
wood subfloor with back-bracing.
5. Do not install in below-grade applications without a USG-approved moisture vapor reducer.
6. Do not pour 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 the services of a licensed
structural engineer.
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.
8. Adhere to the Radiant Panel Association (RPA) Guidelines for Hydronic Radiant Floor Heating
regarding temperature and fluid temperatures. Fluid temperatures of radiant systems shall
not exceed 140 °F (60 °C) at the exit of the heating device. To limit risk, floor temperatures
shall not exceed 100 °F (38 °C) in general and shall be limited to 85 °F (29 °C) in areas of
direct contact by building occupants. To minimize any potential of shocking the USG Levelrock
3500 Floor Underlayment, the radiant heat system should be ramped up slowly over several
days until the underlayment is fully dry. Startup of radiant systems shall be in accordance with
manufacturers’ and RPA-recommended startup procedures.
During the entire installation process, the building must be enclosed and temperature maintained at 50 °F (10 °C) minimum. Adequate ventilation must be provided to ensure uniform drying of the installed floor underlayment, which typically occurs within 5-7 days at a 3/4 in. (19 mm) thickness. Protect floors from heavy trade traffic loads (i.e. loaded drywall carts, heavy tool cabinets, etc.) with plywood. This may cause the protected areas to take longer to dry. Check for dryness in these areas before installing floor covering.

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 an approved moisture vapor reducer. USG Levelrock Floor Underlaminents are not vapor or moisture barriers. Transmission of excessive water vapor or moisture from the concrete subfloor through the floor underlaminents can interfere with floor coverings and/or floor-covering adhesives, thus compromising their performance. For on-grade concrete applications, use an approved moisture vapor reducer. A 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. If the concrete subfloor has been treated with an approved moisture vapor reducer, it must be primed with USG Levelrock® Acrylic Concrete Primer prior to application of the USG Levelrock 3500 Floor Underlayment.

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. 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. Note that repair of existing cracks in the concrete subfloor only subdues but does not completely prevent their ability to telegraph. Respect existing expansion and control joints.

To minimize the effect of expansion and cracking, wrap USG Levelrock® Brand 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).

USG Levelrock floor underlaminents are not structural and will not resist movement in buildings. Structural movement resulting in stress to the USG Levelrock floor underlayment will cause cracking to occur.

<table>
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<th>USG Levelrock 3500 Floor Underlayment</th>
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<tr>
<td>Approximate Compressive Strength (aggregated)</td>
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<tr>
<td>ASTM C472 (modified)</td>
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<tr>
<td>Approximate Dry Density (aggregated)</td>
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<tr>
<td>Set Time Range</td>
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<td>Surface-Burning Characteristics</td>
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<td>ASTM E84</td>
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NOTE: Results for the properties published above 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 Levelrock floor underlayment, as well as differences in mixing/pumping equipment.
USG Levelrock floor underlayments and systems have been tested in accordance with ASTM E90 and E492. See USG Levelrock® & USG Durock™ Sound Systems Fire & Sound Rating Guide (IG1685) for STC and IIC results or visit usg.com for further information on sound test results.


For the most up-to-date UL Designation Type LRK, 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.

EXTENDED WARRANTY
An extended warranty may apply when using USG Levelrock floor underlayments in a system application. Please contact USG for further details.

SUBMITTAL APPROVALS

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<thead>
<tr>
<th>Job Name</th>
<th>Contractor</th>
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IGA448-USA-ENG/rev. 9-20
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