



# USG DUROCK™ BRAND CST™ MOISTURE VAPOR REDUCER

## Penetrating concrete moisture barrier utilizing reactive chemistry

- Reactive chemistry creates a permanent membrane 2-4 mm below the surface
- Moisture-responsive particles assists in reducing MVER by 5+ lbs.
- Reduces RH by 10+%, maintains a consistent pH
- Maintains surface profile for optimal bond of patching and leveling compounds and coatings
- Dries in as little as 1 hour
- Effective at managing MVER up to 10 lbs. per ASTM F1869
- Can be applied 24 hours after concrete is poured

## DESCRIPTION

USG Durock™ Brand CST™ Moisture Vapor Reducer is a single component, penetrating concrete moisture mitigation system that reacts with concrete to create a permanent moisture barrier 2-4 mm below the surface. It contains moisture-responsive particles that swell and contract to help regulate moisture vapor transmission rates at the surface of concrete. USG Durock™ CST Moisture Vapor Reducer can be installed 24 hours after concrete is poured and dries in as little as 1 hour, depending on temperature and humidity.

Requiring just a one-coat application, ready-to-use USG Durock™ CST Moisture Vapor Reducer maintains the surface profile which increases the bond of cementitious floor preparation products and topical coatings.

## EXTENDED WARRANTY

An extended warranty may apply when using USG Durock™ CST Moisture Vapor Reducer in a system application. Please contact USG for further details.

## SUBFLOOR PREPARATION

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

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. The minimum required tensile strength is 175 psi (1.2 MPa) when tested per the ASTM C1583 standard. 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.

New concrete and areas to be treated must be clean and free of dirt, tar, wax, oil, grease, latex compounds, sealers, curing compounds, release agents, water-soluble adhesives, paint, chemicals, loose old cementitious products, joint compounds from drywall installation or any other contaminant that might interfere with the penetrations of USG Durock™ CST™ Moisture Vapor Reducer into the host substrate.

Remove all dirt, grease, oil, salt or other contaminants by cleaning the surface with USG Durock™ LSP™ Liquid Surface Profiler. (See *USG Durock™ Brand LSP™ Liquid Surface Profiler Submittal*, CB5246 at [usgperformanceflooring.com](http://usgperformanceflooring.com) for more information.) Rinse thoroughly with fresh, clean water. A minimum CSP 2 profile is required prior to USG Durock™ CST Moisture Vapor Reducer application. If a CSP 2 profile is not achieved after the first application of USG Durock™ LSP Liquid Surface Profiler, a second application is required. Surfaces can be dry or damp, but there should be no standing water on the surface as this may reduce the performance of USG Durock™ CST Moisture Vapor Reducer.

**EQUIPMENT**

- Low pressure sprayer
- Chemical safety glasses or splash-proof goggles
- Protective gloves
- NIOSH/OSHA-approved organic vapor respirator (optional in a well-ventilated space)
- Long sleeved shirts and trousers
- Emergency showers and eye wash stations should be readily accessible

**APPLICATION**

Always perform a water penetration test to determine whether USG Durock™ CST Moisture Vapor Reducer will be able to penetrate the surface of the concrete. Always perform a small test patch to determine product suitability. USG Durock™ CST Moisture Vapor Reducer will only react with free calcium and lime, but all areas that are not to be treated such as drywall, glass, siding, painted substrates and foliage should be protected. Overspray should be wiped off prior to drying to avoid adhesion issues of coatings/paints.

USG Durock™ CST Moisture Vapor Reducer can be applied indoors, outdoor, vertically, horizontally, above- and below-grade. USG Durock™ CST Moisture Vapor Reducer can be applied in as little as 24 hours after concrete is poured and when the temperature is above 41 °F (5 °C).

Apply USG Durock™ CST Moisture Vapor Reducer using a low-pressure sprayer, working from side to side to ensure complete surface coverage. If treating a vertical surface with USG Durock™ CST Moisture Vapor Reducer, start at the bottom while spraying horizontally back and forth working up the wall to ensure the surface is well saturated. USG Durock™ CST Moisture Vapor Reducer will pool or run down the surface, rather than be absorbed, when sufficient material is used. If USG Durock™ CST Moisture Vapor Reducer is still pooled on the surface after 20-30 minutes – wipe, brush or wash away. Surfaces treated with USG Durock™ CST Moisture Vapor Reducer should be left for 1-2 hours after application so the product can be effectively absorbed into the substrate. Drying rates will vary based on concrete density and environmental conditions.

**NOTES/LIMITATIONS**

1. Do not use over concrete that has been treated with reactive silicate curing compounds, densifiers or untreated slabs that may have silicate contamination. Use USG Durock™ LSP™ Liquid Surface Profiler to prepare the concrete prior to the application of USG Durock™ CST Moisture Vapor Reducer.
2. Do not apply over a concrete subfloor that is glistening or that has standing water.
3. Do not install over dimensionally unstable, improperly prepared, weak subfloors. Tensile strength of concrete over which USG Durock™ CST Moisture Vapor Reducer is installed must be a minimum of 175 psi (1.2 MPa) as tested per the ASTM C1583 standard.
4. Do not install over concrete subfloors less than 24 hours old.
5. For below-grade applications, contact USG.
6. Existing cracks in the new and old concrete must be repaired with USG Durock™ Crack Repair Compound in accordance with industry recommendations prior to installation of USG Durock™ CST Moisture Vapor Reducer. Note that repair of existing cracks in the concrete subfloor only subdues but does not completely prevent their ability to telegraph through USG Durock™ CST Moisture Vapor Reducer. Growth of existing cracks or formation of new cracks in the concrete subfloor can compromise the performance of USG Durock™ CST Moisture Vapor Reducer.
7. Do not use acid etching as a method of cleaning and preparing the concrete subfloor.
8. 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 USG Durock™ CST Moisture Vapor Reducer's ability to penetrate the surface. Use a HEPA filtration industrial vacuum to remove the dust and debris and prepare the subfloor for USG Durock™ CST Moisture Vapor Reducer application.
9. 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™ CST Moisture Vapor Reducer. When adhesive-removing chemicals or solvents have been used to eliminate contaminants from the concrete subfloor, USG Durock™ LSP Liquid Profiler must be used to prepare the surface prior to the application of USG Durock™ CST Moisture Vapor Reducer.

**PRODUCT DATA**

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**MVER (ASTM F1869):** Up to 10 lb. (4.54 kg)/1,000 sq. ft. (92.9 m<sup>2</sup>)/24 hours  
**RH (ASTM F2170):** Withstands up to 99% (no standing or glistening water)  
**Alkalinity:** Maintains a consistent pH at the surface level  
**VOC Content:** 0 g/L  
**Approximate Coverage:** 900 sq. ft./4 gal. (83.6 m<sup>2</sup>/ 15.1 L)  
**Approximate Dry Time:** 1-2 hours at 77 °F (25 °C)  
**Physical State:** Liquid  
**Flash Point:** N/A  
**Packaging:** 4 gal. (US) (15.1 L) of product

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**STORAGE**

USG Durock™ CST Moisture Vapor Reducer should be stored in an enclosed shelter providing protection from damage and exposure from the elements. Keep USG Durock™ CST Moisture Vapor Reducer from freezing and extreme heat. Dispose of any waste material according to federal/state/local regulations. USG Durock™ CST Moisture Vapor Reducer has a shelf life of 24 months from the date manufacture.

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**CLEANUP**

After using USG Durock™ CST Moisture Vapor Reducer flush spray equipment with water. Ensure all unused USG Durock™ CST Moisture Vapor Reducer is stored in closed plastic containers.

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**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.

**CAUTION**

Avoid contact with eyes or skin, ingestion, and inhalation of mist or vapor. Use only in a well-ventilated area, wear a NIOSH/MSHA-approved respirator if necessary. Wear protective gloves/protective clothing/face protection/eye protection. If on skin: Wash with plenty of water. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor if you feel unwell. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Dispose of contents/containers to an approved waste disposal plant. Keep containers closed when not in use. For more information call Product Safety: 1-800-507-8899 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 applicable SDSs and literature before specification and installation.

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