

USG BORAL GLASS-MAT PORTFOLIO BROCHURE



USG BORAL GLASS-MAT PANELS
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INNOVATION INSPIRED BY YOU.™



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SECUROCK[™] Brand
Glass-Mat Sheathing

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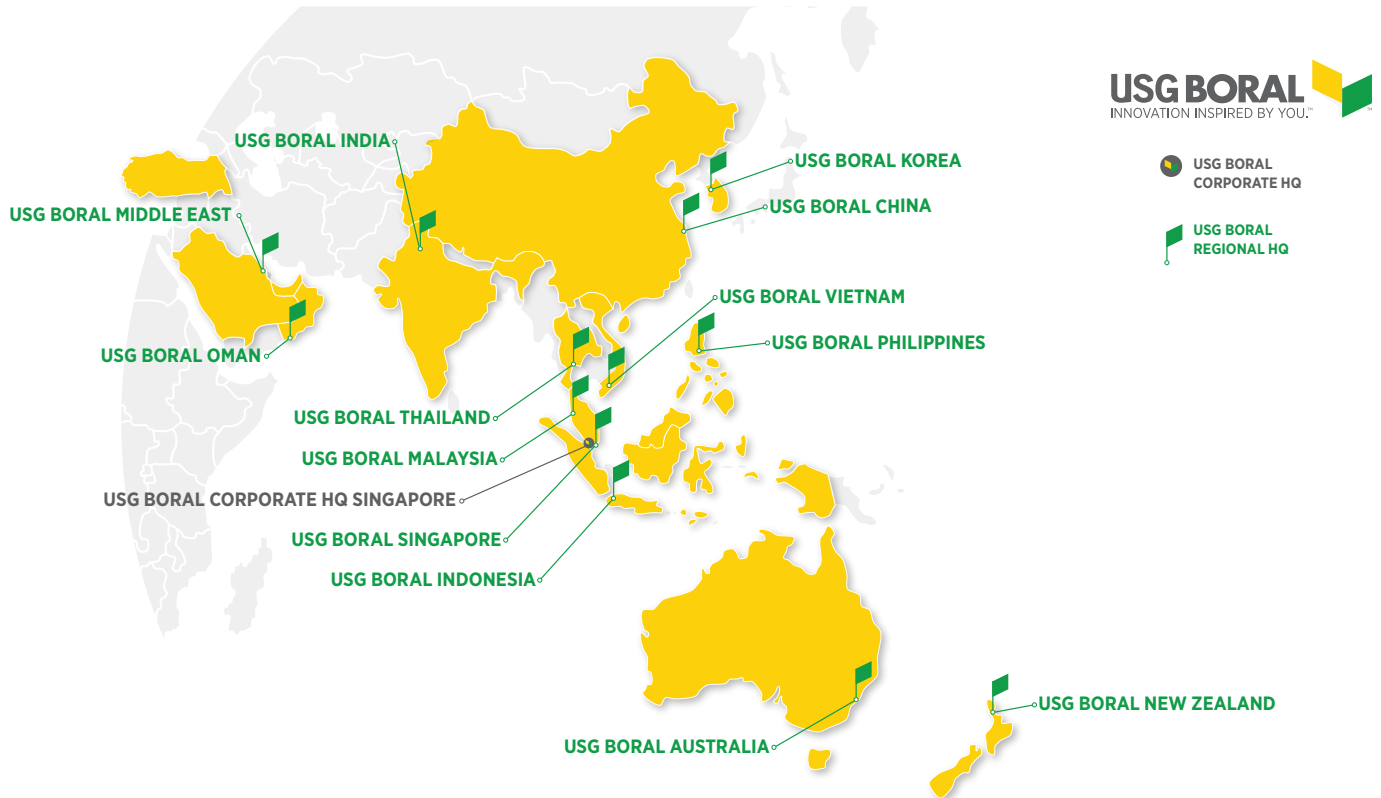
USG BORAL

SECUROCK[™] Brand
Glass-Mat Sheathing

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HISTORY AND TECHNOLOGY



USG Boral Building Products, a building construction products joint venture, brings together Boral's leading plasterboard manufacturing and distribution in Asia Pacific with USG's world-leading technologies and strategic assets in Asia and the Middle East.

For over 100 years, USG has led the building industry in drywall innovation. In that time, USG Sheetrock®, Securock®, Durock® and Fiberock® Brands have become the standard for the highest-quality and best-performing walls and ceilings. The USG Boral joint venture now makes these products available to our customers in Asia Pacific under the USG Boral brand names.

Leading the way in translating our customers' needs into innovative solutions, USG Boral's Glass-Mat Portfolio encompasses a range of applications, from wet area to sheathing, delivering the quality, strength, and ease of use that contractors, builders and dealers need.

Offering one of the region's largest-selling, broadest line of interior and exterior panels, USG Boral's range of products exceed the essential requirements of performance, safety, efficiency, workability, strength and ease of decoration to achieve top quality construction.

Beyond outstanding products, we also offer expertise, technical support and Asia Pacific-wide distribution. All driven by a dedication to finding solutions for you. We do all of this to contribute to improving the lives of our employees, our customers and our communities.

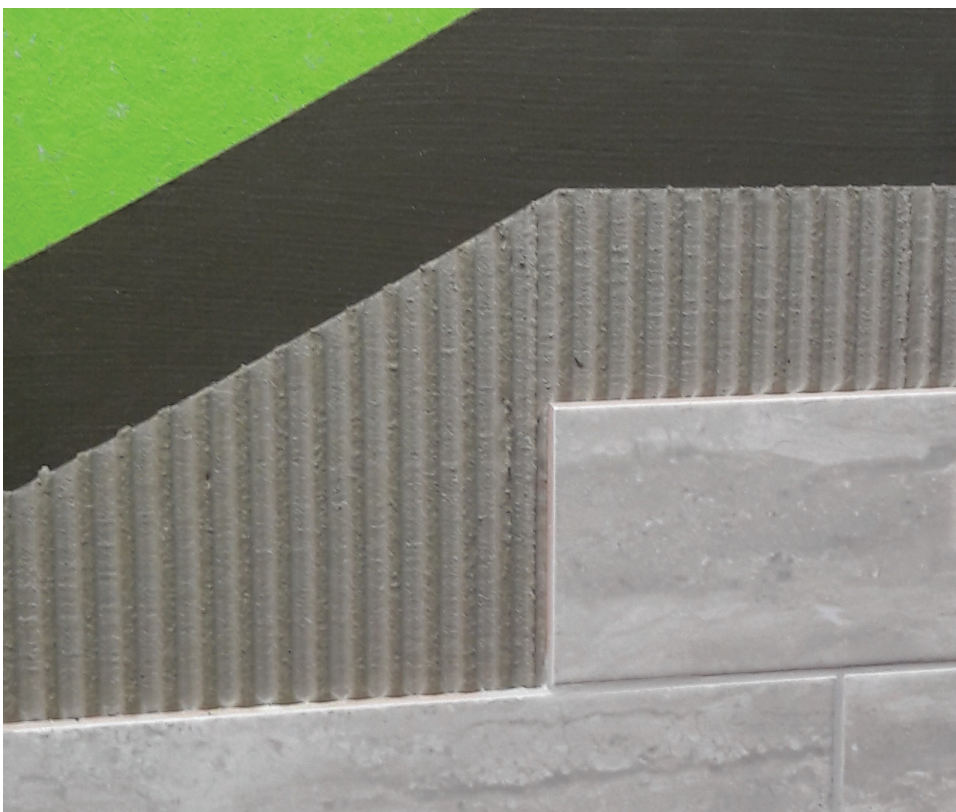
When you succeed, we succeed. And your exceptional work — combined with our solutions — brings new levels of performance, enabling you to create the spaces where people live, work and play.

USG BORAL SECUROCK® BRAND GLASS-MAT PORTFOLIO

Exterior Ceiling and Wet Area Applications

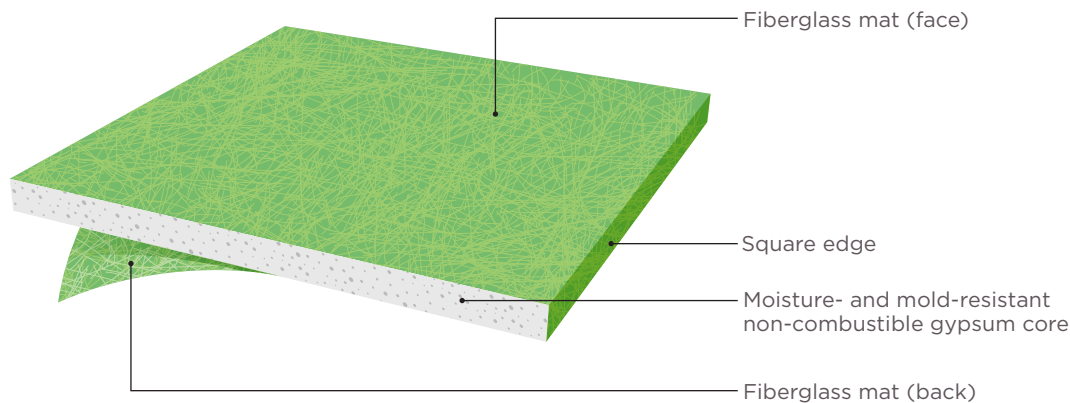


Treating the joints treatment with USG Boral Setting Compound for a smooth finish.



USG Boral Securock® Glass-Mat provides a flat and consistent surface for tile adhesion.

EXTERIOR CEILING AND WET AREA APPLICATIONS



USG Boral Securock® Brand Glass-Mat Sheathing Regular and Firecode®

USG Boral Securock® Brand Glass-Mat Sheathing is a non-combustible, moisture- and mold-resistant panel that offers a fiberglass facer mat to maximize coverage of air/water barrier systems.

Advantages:

Mold-resistant: High resistance to mold and mildew, scoring a 10 (highest) when tested in accordance with ASTM D3273.

Resists Water: Glass-mat sheathing facer on both sides sheds water.

Fire-resistant: Extensive ANSI/UL 263 Fire-resistant Designs (UL Designation USGX)

Quick and Dry Installation: Quick score and snap, with neither sawing or special tools nor rapid screws or nail attachments required.

Exposure: Can be exposed to weather for up to 12 months after application.

Warranted Performance: USG Boral Securock® Glass-Mat Sheathing is guaranteed for five years against manufacturing defects and for 12 months of weather exposure.

FEATURES AND BENEFITS

Exterior Ceiling and Wet Area Applications



Water-, Moisture- and Mold-resistant, and Non-combustible

- 100% inorganic, non-woven glass fiber scrim on both sides
- Patented Mold Tough™ technology with moisture- and mold-resistant gypsum core
- Non-combustible per BS 476 part 4 and ASTM E136

Meets Industry Standard

- Approved for use by leading EIFS/DEFS companies
- Compliant with ASTM C1177 standards (Standard specification for Glass-Mat Substrate for use as sheathing)
- ICC-ES (International Code Council Engineering Services) Certification per IBC (International Building Code, 2015)
- Extensive ANSI/UL 263 Fire-resistant Designs (UL Designation USGX)

Quick Installation

- Easy to score and snap
- Accepts fasteners well

Warranted Performance

- Can be exposed to the weather for up to 12 months
- Guaranteed for five years against manufacturing defects
- Backed by the high-quality standards and outstanding service of USG Boral

Choice

- Global manufacturing network
- 12.7mm (1/2") Securock® Glass-Mat Sheathing Panel
- 15.9mm (5/8") Securock® Glass-Mat Sheathing Panel

SUBMITTAL SHEET

USG Boral Securock® Brand Glass-Mat Sheathing Regular and Firecode® X



Quality, High-performance Sheathing for Warranted Protection from the Elements

- Treated gypsum core, combined with fibreglass face and back, offers exceptional water resistance
- Scores and snaps easily for quick installation
- For use in most exterior systems when properly detailed by exterior finish manufacturer
- Meets or exceeds the requirements of ASTM C1177

DESCRIPTION

USG Boral Securock® Brand Glass-Mat Sheathing is a non-combustible, moisture- and mold-resistant panel designed for use under exterior claddings where conventional gypsum sheathing products have traditionally ceiling and wet area.

ADVANTAGES

Mold-resistant: High resistance to mold and mildew, scoring a 10 (highest) when tested in accordance with ASTM D3273.

Resists Water: Glass-Mat Sheathing facer on both sides sheds water.

Quick and Dry Installation: Quick score and snap, with neither sawing or special tools nor rapid screws or nail attachments required.

Exposure: Can be exposed to weather for up to 12 months after application.

Warranted Performance: USG Boral Securock® Glass-Mat Sheathing is guaranteed for five years against manufacturing defects and for 12 months of weather exposure.

LIMITATIONS

1. USG Boral Securock® Glass-Mat Sheathing shall not be used as a nail base for exterior cladding.
2. Specific requirements regarding framing spacing, fastener spacing and fastener specifics to provide required lateral wind-load resistance are the responsibility of the design professional. (Refer to technical data and specifications on the following pages.)
3. USG Boral Securock® Glass-Mat Sheathing offers resistance to weather but is not intended for constant exposure to water. Protect this and all similar materials from the eroding effects of cascading water. If extreme weather conditions are possible, the design professional should consider recommending that panel joints be treated or a weather-resistant barrier be installed.
4. Not recommended for lamination to masonry surfaces. Use furring strips or framing.
5. Maximum stud spacing is 24" (610mm) centers.
6. USG Boral Securock® Glass-Mat Sheathing is not a finished surface.

PRODUCT DATA

Dimension: 1/2" (12.7mm) or 5/8" (15.9mm) thick, 48" (1219mm) wide, 8' (2438mm), 9' (2743mm) and 10' (3048mm) long. Up to 12' (3658mm) lengths available in 5/8" (15.9mm) thickness in some markets. Other sizes available on special order. Consult your USG Boral sales office or representative for more information.

Weight: Approximately 2.0 lbs./sq. ft (9.8 kg/m²) for 1/2" (12.7mm thickness), 2.7 lbs./sq. ft. (13.2 kg/m²) for 5/8" (15.9mm) thickness.

Edge Configuration: Square edges.

Compliance with Standards: Meets or exceeds the physical property requirements of ASTM C1177. 5/8" (15.9mm) USG Boral Securock® Glass-Mat Sheathing is UL Classified as to fire resistance, surface burning characteristics and core combustibility. ICCES Evaluation Report ESR 3044.

Fire Performance: USG Boral Securock® Glass-Mat Sheathing has a non-combustible core when tested in accordance with ASTM E136. Surface-burning characteristics - Flame spread: 0, and smoke developed: 0, when tested in accordance with ASTM E84. Fire resistance — 5/8" (15.9mm) panels meet the requirements of Type X as defined in ASTM C1396 and ASTM C1177 when tested in accordance with ASTM E119. UL Classified as to fire resistance. See Underwriters Laboratories Fire Resistance Directory for specific designs.

Tensile Bond: Exceeds 15 psi requirements for both cementitious and acrylic adhesives per ASTM C297.

Physical Properties Per ASTM C1177	1/2" (12.7mm) USG Boral Securock® Brand Glass-Mat Sheathing	5/8" (15.9mm) USG Boral Securock® Brand Glass-Mat Sheathing Firecode® X
Weight, nominal, lbs./sq. ft. (kg/m ²)	2.0 (9.8)	2.7 (13.2)
Linear expansion with moisture change, in/in %RH	6.25 x 10 ⁻⁶	6.25 x 10 ⁻⁶
Coefficient of thermal expansion, in/in/°F (mm/mm/°C)	8.5 x 10 ⁻⁶ (15.3 x 10 ⁻⁶)	8.5 x 10 ⁻⁶ (15.3 x 10 ⁻⁶)
Flexural strength, parallel, lbf. (N)	>80(356)	>100(444)
Flexural strength, perpendicular, lbf. (N)	>107(476)	>147(653)
R-Value, ft ² •°F•hr/BTU (m ² .K/W)	0.40	0.50
Combustibility	Non-combustible	Non-combustible
ASTM D3273 score	10/10	10/10
Permeance, perms	29	28
Surface burning characteristics (per ASTM E84 or CAN/ULC-S102): flame spread/smoke developed	0/0	0/0
Humidified deflection, in. (mm)	<2/8" (<6.4)	<1/8" (<3.0)
Bending radius (dry)*, ft. (mm)	9' (2743)	9' (2743)

Due to the variability in environmental conditions of each installation, the framing and fastener spacing of curved walls should be reduced as the radius approaches the minimum allowed. At the minimum radius, it is recommended that fastener and frame spacing be 6"(152mm) centers.

Moisture and Mold Resistance: USG Boral Securock® Glass-Mat Sheathing resists moisture and mold, and complies with ASTM C1177 for water resistance. In independent lab tests conducted on USG Boral Securock® Glass-Mat Sheathing at the time of manufacture per ASTM D3273, Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber, the panel score was 10.

This ASTM lab test may not accurately represent the mold performance of building materials in actual use. Given unsuitable project conditions during storage, installation or after completion, any building material can be affected by mold. To manage the growth of mold, the best and most cost-effective strategy is to protect building products from water exposure during storage and installation, as well as after completion of the building. This can be accomplished by using good design and construction practices.

INSTALLATION

USG Boral Securock® Glass-Mat Sheathing shall be installed in accordance with USG Boral Securock® Glass-Mat Sheathing Installation Guide, GA-253 Application of Gypsum Sheathing, and ASTM C1280 Standard Specification for Application of Gypsum Panel Products for Use as Sheathing. If extreme weather conditions are possible, the design professional should consider recommending that panel joints be treated or a weather-resistant barrier be installed.

SPECIFICATION
PART 1: GENERAL

1.1 Scope

Specify to meet project requirements.

1.2 Delivery and Storage of Materials

All materials shall be stored in an enclosed shelter providing protection from damage and exposure to the elements. Damaged or deteriorated materials shall be removed from the premises. Prior to installation, panels should be stacked flat (unless the contractor in charge of site safety directs otherwise to avoid point overloading of the structure or a tripping hazard) and reasonably protected from the elements.

Warning: Store all USG Boral Securock® Glass-Mat panels flat. Panels are heavy and can fall over, causing serious injury or death. Do not move unless authorized. Panels 12' (3658mm) in length will be in banded units. To ensure safety and performance of the product, use of a forklift truck with ship minimum 35" (889mm) span between the forks when moving the banded units is recommended. Keep the nylon bands on each lift until individual boards are moved.

SPECIFICATION
PART 2: PRODUCTS

- A.** USG Boral Securock® Glass-Mat Sheathing — 1/2" (12.7mm) or 5/8" (15.9mm) thick x 48" (1219mm) wide x 8'-10' (2438mm-3048mm) long (up to 12' (305mm) for 5/8" (15.9mm) thickness) with square edges.
- B.** Screws — 1-1/4" (32mm) or 1-5/8" (41mm) #6 bugle head corrosion-resistant fasteners. Where sheet-type, weather-resistive barriers or self-adhering membranes are placed over the sheathing, corrosion resistance shall be equal to or greater than a hot-dipped, galvanized coating of 460g/m² of surface area. Where liquid or fluid-applied air and water barriers are used, or where no sheet-type, weather-resistive barriers are used over the sheathing, screws shall have a corrosion resistance of more than 800 hours per ASTM B117. Stainless steel fasteners shall be used in coastal or aggressive environments. Consult the building code for other requirements.

SPECIFICATION
PART 3: EXECUTION

3.1 Soffits Sheathing Application

The maximum frame spacing for soffits is 16" (406mm) centers when installed parallel to the joists and 24" (610mm) centers when installed perpendicular to the joists. Maximum fastener spacing for horizontal surface (soffits) is 8" (203mm) centers.

3.2 Control Joints

Control joints shall be installed at building expansion joints. Location and design of these control joints shall be detailed by the design professional. Per the International Building Code (IBC), the distance between control joints shall not be more than 30' (9144mm).

3.3 Shear- or Fire-rated Construction

Shear- or fire-rated construction may have additional execution requirements as specified in local codes or the UL Fire Resistance Directory.

3.4 Weather-resistant Barriers

No weather-resistant barrier is required for exposure warranty but may be required by local codes or cladding system specifications.

SUBMITTAL APPROVALS

Job Name	
Contractor	Date

INSTALLATION GUIDE

USG Boral Securock® Brand Glass-Mat Sheathing

GENERAL

- 1.1 USG Boral Securock® Brand Glass-Mat Sheathing meets or exceeds all requirements of ASTM C1177 Standard Specification for Glass-Mat Substrate for Use as Sheathing. Panels are available in 1/2" (12.7mm) and 5/8" (15.9mm) thicknesses, 48" (1219mm) wide, and standard lengths of 8' (2438mm), 9' (2743mm) and 10' (3048mm), with square edges. Other sizes are available on special order.
- 1.2 This product may be used under exterior claddings where conventional gypsum sheathing products have traditionally been used, such as brick veneer, clapboard, wood shingles or shakes, plywood, vinyl, metal and conventional stucco. This product may also be used as a substrate for mechanically and adhesively attached EIFS/DEFS.
- 1.3 Details and requirements pertaining to framing and application limitations shall be controlled by the cladding, structural or fire-resistant-rated system, and must be approved by the architect, engineer or design professional of record.
- 1.4 This product shall be installed in accordance with GA-253 Application of Gypsum Sheathing, ASTM C1280 Standard Specification for Application of Gypsum Sheathing and the requirements of USG Boral product literature.
- 1.5 This product is not approved for use as a nail base.
- 1.6 Details for construction of a specific assembly to achieve a required fire resistance shall be installed in accordance with actual fire-resistive testing. Consult the actual UL design and local fire test report for more details.
- 1.7 Where sound control is required, details of construction shall be in accordance with an acoustical test report of an assembly that has met the required acoustical value(s).
- 1.8 Where resistance to racking shear and/or transverse wind load is required, system-design capacities shall be obtained from USG Boral-published literature, engineering evaluations and test reports of a specific assembly where mandated by local code requirements.
- 1.9 Always wear appropriate personal protective equipment, such as gloves, safety glasses, hearing protection and a NIOSH-approved dust mask, when handling and installing USG Boral Securock® Glass-Mat Sheathing panels.

DELIVERY AND JOB-SITE STORAGE

- 2.1 All materials shall be delivered in their original, unopened packages and stored in an enclosed shelter providing protection from damage and exposure to the elements.

Warning: Store all USG Boral Securock® Glass-Mat Sheathing panels flat, unless the site manager directs vertical stacking to avoid point overloading of the floor structure or a tripping hazard. Panels are heavy and can fall over, causing serious injury or death. Do not move unless authorized.

- 2.2 Prevent face, back and edges of the panels from exposure to cascading water.

FRAMING

- 3.1 USG Boral Securock® Glass-Mat Sheathing shall be installed on either wood or steel framing. The framing system shall be sized and designed to meet the requirements of the intended application.
- 3.2 The maximum spacing for framing members is 24" (610mm) centers.
- 3.3 Framing shall be straight and true, attached securely following accepted engineering practices and as required for the intended design.
- 3.4 The surfaces to which abutting edges or ends of the sheathing are to be attached shall not be less than 1-1/4" (32mm) for steel framing and 1-1/2" (38mm) for wood framing.
- 3.5 Bearing surfaces shall not be less than 3/4" (19mm) for internal corners or angles.
- 3.6 Framing members shall be installed so that the surface will be on an even plane, unless otherwise specified, after the sheathing has been applied. The fastening surface shall not vary more than 1/8" (3mm) from the plane of the faces of adjacent framing members.

SOFFIT CONSTRUCTION

- 5.1 The roof must be dried-in prior to the installation of sheathing in horizontal applications.
- 5.2 Maximum fastener spacing for soffits is 8" (203mm) centers.
- 5.3 Panels are subject to expansion and contraction due to changes in temperature and humidity. A 1/4" (6.35mm) clearance joint (perimeter relief) is required between USG Boral Securock® Glass-Mat Sheathing installed in soffits and adjacent walls, fascia, beams or columns. Wings of "L", "U" and "T"-shaped areas should be separated with control joints. See the Control Joints section of this publication for additional requirements.
- 5.4 Adequate ventilation in accordance with the local code requirements shall be provided for the space immediately above the panels.
- 5.5 Applications must be designed to resist wind uplift. Contact USG Boral for a tailored design.

5.6 Fascia boards should extend at least 1/4" (6.35mm) below the ceiling board or adjacent trim moldings, whichever is lower, to provide a drip edge.

Option 1

Apply a synthetic-type, direct-applied finish system in accordance with the finish manufacturer's recommendations.

Option 2

Apply USG Boral's 3-coat joint system by first embedding USG Boral Paper Joint Tape in USG Boral Setting-Type Joint Compound over all joints, achieving 300mm in width for a flatter finish. Upon setting, apply the second coat to be 100mm wider than the first and the finishing coat a further 100mm wider with USG Boral Setting Type Joint Compound.

Once dry, apply a smooth and uniform coat of USG Boral Setting-Type Joint Compound over the entire surface of the panels. Setting-type joint compound should be applied thick enough to ensure proper hydration prior to setting. For ease of application, USG Boral Setting-Type Joint Compounds with longer setting times are recommended.

After the joint compound has dried, apply one coat of a good quality latex flat exterior primer and finish with two coats of a balanced, good quality alkyd or latex exterior finish paint.

TILE BACKER CONSTRUCTION

- 6.1 Install backer board with ends and edges closely abutted but not forced together. Stagger end joint in successive courses.
- 6.2 For wall application, fasten USG Boral Securock® Glass-Mat Sheathing panels to framing with specified fasteners. Drive fasteners into field of panels first, working toward ends and edges.
- 6.3 Hold panels in firm contact with framing while driving fasteners. Ensure to space fasteners a maximum of 8" (203mm) for walls and 6" (152mm) for ceilings, with perimeter fasteners at least 3/8" (9.5mm) and less than 5/8" (15.9mm) from ends and edges. Drive screws to bottom of heads, so they are flush with panel surface and do not over drive fasteners.
- 6.4 Ensure the use of approved fasteners.
- 6.5 If required, pre-fill joints with latex-fortified mortar or approved water-proof ceramic tile adhesive, and then immediately embed USG Boral Joint Mesh Tape before levelling joints.
- 6.6 Maintain 1/4" (6.4mm) gap between USG Boral Securock® Glass-Mat Sheathing to the tub surroundings.
- 6.7 Panels should be cut to size with a knife and straight edge. A power saw should be used only if it is equipped with a dust-collection device. Installer should wear NIOSH/MSHA-approved dust mask.

CONTROL JOINTS

- 7.1 The location and design of control joints are the responsibility of the design professional of record.
- 7.2 Control joints are required by the International Building Code. The maximum distance between control joints shall not exceed 30' (9144mm), and shall be installed at every building construction joint.
- 7.3 Locate all other control joints as per cladding system requirements or in accordance with ASTM C1280 Standard Specification for Application of Gypsum Sheathing, whichever is more stringent.

CLEAN UP

- 8.1 Leftover material shall be removed from the job site.
- 8.2 Waste material shall be disposed of in a safe manner and in compliance with site, local, state and/or federal requirements.

EXPOSURE AFTER INSTALLATION

- 9.1 USG Boral Securock® Glass-Mat Sheathing shall be covered by an exterior cladding or other weather-resistive barrier, and is not intended for long-term exposure. Sheathing shall not be exposed to the elements for more than 12 months after it has been installed. Immediately upon installing the panels, the joints should be finished and the entire panel covered with a weather-resistive barrier if the exposure time will be more than 12 months.
- 9.2 Apply weather-resistive or water barriers and flashing as required by and in accordance with the applicable local code requirements and the recommendations of the exterior cladding manufacturer, whichever is more stringent.
- 9.3 For maximum protection, the design professional may recommend treating the cut edges with a low-modulus silicone sealant; treat joints by embedding 4" (102mm)-wide USG Boral Durock® Brand Exterior Tape in a low-modulus silicone sealant and strike joints flush using a trowel or broad knife. Allow sealant to cure per manufacturer's instructions prior to installation of weather-resistive barrier and/or cladding system. An example of this sealant is Dow Corning® 795 Silicone Building Sealant.

Note : This treatment should be used only under mechanically attached weather-resistive barriers and cladding systems.

Warning

Products described here may not be available in all geographic markets. Consult your USG Boral sales office or representative for information.

Safety First!

This technical information is intended to provide general information and should not be a substitute for professional building advice. We recommend you use a qualified person to install USG Boral products. Illustrations in this guide are only representative of USG Boral products and the appearance and effects that may be achieved by their use. To ensure the information you are using is current, (USGBoral.com) recommends you review the latest building information available on the USG Boral website (USGBoral.com)

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

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