USG SHEETROCK® BRAND
GLASS-MAT PANELS
MOLD TOUGH® AR
FIRECODE® X

High-performance, abuse-resistant (AR) interior panels with moisture and mold resistance
- Provide greater abuse resistance compared to standard drywall
- Resist surface abrasion, indentation and soft-body impact
- Suitable for use in pre dry-in (fast-track) and similar applications of wallboard before the building envelope is fully enclosed
- For use in interior applications where glass-mat gypsum panels are desired
- Feature an inorganic fiberglass face and back
- Install and finish similar to standard drywall
- Underwriters Laboratories Inc. (UL) Classification as to fire resistance, surface burning characteristics and noncombustibility
- Achieved GREENGUARD Gold Certification and qualifies as a low VOC emitting material (meets CA 01350)

USG Sheetrock® Brand Glass-Mat Panels Mold Tough® AR Firecode® X are high-performance interior panels for new construction or renovation work. The panels were designed and tested to offer greater resistance to surface indentation and impact damage than standard gypsum panels. These abuse-resistant gypsum panels are recommended for commercial and institutional construction where greater resistance to indentation and impact damage are required, providing a lower-cost alternative to other systems for partitions from other construction methods.

The panels have a noncombustible moisture-resistant core encased in a moisture-resistant fiberglass mat that sheds water and features tapered long edges for easy finishing. The facer mat is colored to match traditional drywall and is treated for the application of USG finishing systems. The back fiberglass mat features USG’s distinctive green color. The 5/8 in. panel is UL Classified for fire resistance and can be used in any UL Design where Type AR panels are listed.

Note: For projects requiring superior abuse resistance, specify USG Sheetrock® Brand Glass-Mat Panels Mold Tough® VHI Firecode® X

Mold-Resistant: Scores a 10 (highest) when tested in accordance with ASTM D3273, Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
Resists Water: Water-resistant gypsum core with water shedding glass-mat facer on both sides.
Quick Installation: Quick score-and-snap, no sawing or special tools required. See USG literature USG Sheetrock® Brand Gypsum Panels Installation Guide (J371) for more information on the installation of gypsum panels.

Warranted Performance: The panels can be exposed to weather for up to 12 months and are guaranteed three years against manufacturing defects. See USG literature USG Sheetrock® Brand Glass-Mat Panels Mold Tough® AR and VHI Firecode® X Warranty (WB2752).

DESCRIPTION

ADVANTAGES

LIMITATIONS

1. Avoid exposure to sustained temperatures exceeding 125 °F (52 °C).
2. Maximum framing spacing is 16 in. OC.
3. Intended for interior applications only and must be kept dry during handling and storage. See Gypsum Association publication GA-216, Handling and Storage of Gypsum Panel Products and ASTM C840, Standard Specification for Application and Finishing of Gypsum Board for handling and installation guidelines, including minimum 1/4 in. gap from floor.
4. In pre dry-in applications, temporary exposure to conditions such as wind pressure and moisture may influence the selection and spacing of fasteners and/or framing. Refer to USG literature Pre Dry-In Construction (WB2665) for more information about the installation of wallboard.
5. USG Sheetrock® Brand Glass-Mat Panels Mold Tough® AR Firecode® X offer resistance to normal weather conditions but are not intended for constant exposure to water. Protect from immersion in water and the eroding effects of cascading water.

6. The building must be dried-in prior to installation in soffits and other horizontal applications.

7. Wall cavities, floor cavities and other enclosed areas must be dry prior to being closed-up and application of interior finishing. Insulation in the wall or floor cavities must be dry.


9. For abuse-resistant construction over steel framing, minimum 20-gauge drywall steel studs (0.0312 in. design thickness) as defined by the Steel Stud Manufacturers Association (SSMA) are recommended.

10. Not suitable for use as a substrate for tile in wet areas such as tubs and showers, gang showers, and other areas subject to direct water exposure. Use as a wall tile substrate is limited to tile installed according to current TCNA and ANSI specifications. Please consult with the adhesive and tile manufacturers for their recommendations for maximum size and weight parameters for use with gypsum board.

USG Sheetrock® Brand Glass-Mat Panels Mold Tough® AR Firecode® X are by design stronger and have greater surface hardness than standard 5/8 in. Type X panels. Because of this, they are heavier and will be expectedly more difficult to install. Slower installation production rates should be accounted for in job planning. Installing USG Sheetrock® Brand Glass-Mat Panels Mold Tough® AR Firecode® X on studs fabricated with steel thinner than true 20-gauge drywall steel studs (0.0312 in. design thickness), as defined by the SSMA, may result in increased fastener strip-out, improper screw head seating or other related conditions. The equivalent gauge framing is also more sensitive to screw configuration and thread pitch. Due to the wide variety of “equivalent” or “effective” gauge studs and the variation by manufacturer in actual steel thickness, USG has no specific recommendations for installing USG Sheetrock® Brand Glass-Mat Panels Mold Tough® AR Firecode® X on equivalent gauge steel studs.

For high-quality finishing results, USG recommends the following products:

- USG Sheetrock® Brand Ready-Mixed Joint Compounds
- USG Sheetrock® Brand Setting-Type Joint Compounds
- USG Sheetrock® Brand Joint Tape
- USG Sheetrock® Brand First Coat™ Primer
- USG Sheetrock® Brand Tuff-Hide™ Primer-Surfacer

USG Sheetrock® Brand Glass-Mat Panels Mold Tough® AR Firecode® X should be finished in accordance with the most current version of the Gypsum Association Publication GA-214, Recommended Levels of Gypsum Board Finish. The nature of the texture and absorption properties of the panel will require an additional skim coat of the entire panel surface with joint compound in most applications. Additionally, an aesthetic benchmark or mock-up is recommended for establishing and demonstrating an approved finishing system to coordinate the expectations of the design professionals with those of the contracted workforce. The finished appearance of the constructed standard should be approved in advance of any widespread work. Refer to USG literature Finishing and Decorating Glass-Mat Gypsum Panels (WB2646) for more information.

Painting products and systems should be used, which comply with recommendations and requirements in Appendices of ASTM C840. For priming and decorating with paint, texture or wall covering, follow manufacturer’s directions for materials used.

All surfaces, including applied joint compound, must be thoroughly dry, dust-free and not glossy. Prime with USG Sheetrock® Brand First Coat™ Primer or with an undiluted, interior latex flat paint with high-solids content. Allow to dry before decorating.
**Labeling:** Each 5/8 in. USG Sheetrock® Brand Glass-Mat Panel Mold Tough® AR Firecode® X bears the UL label mark as evidence of UL Classification for fire resistance, surface-burning characteristics and noncombustibility.

<table>
<thead>
<tr>
<th>UL Type AR</th>
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<tbody>
<tr>
<td>Thickness, in.</td>
</tr>
<tr>
<td>Lengths, ft.</td>
</tr>
<tr>
<td>Widths', ft.</td>
</tr>
<tr>
<td>Weight, nominal, lb./sq. ft.</td>
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<tr>
<td>Linear expansion with moisture change, in/in %RH (mm/mm %RH)</td>
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<tr>
<td>Coefficient of thermal expansion, in/in/°F</td>
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<tr>
<td>Permeance, perms</td>
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<tr>
<td>Flexural strength, parallel, lbf.</td>
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<tr>
<td>Flexural strength, perpendicular, lbf.</td>
</tr>
<tr>
<td>R Value*, ft²•°F•hr/BTU</td>
</tr>
<tr>
<td>Combustibility</td>
</tr>
<tr>
<td>Nail pull resistance, lbf.</td>
</tr>
<tr>
<td>Hardness core, edges and ends, lbf.</td>
</tr>
<tr>
<td>Water absorption (% of weight)</td>
</tr>
<tr>
<td>Surface water absorption, grams</td>
</tr>
<tr>
<td>Surface-burning characteristics (per ASTM E84): flame spread/smoke developed</td>
</tr>
<tr>
<td>Humidified deflection, inches</td>
</tr>
<tr>
<td>Bending radius, ft.</td>
</tr>
</tbody>
</table>

1. Other sizes available by special order. Check with your local USG representative for availability.
2. Represents approximate weight for design and shipping purposes. For specific product weight in your area, contact your local USG representative or call the Customer Service Center at 800 950-3839.

USG Sheetrock® Brand Glass-Mat Panels Mold Tough® AR Firecode® X resist moisture and mold and comply with ASTM C1658 section 7.1.4. Per ASTM C473 the average water absorption for panels is not greater than 5 percent by weight after two-hour immersion.

In independent lab tests conducted on 5/8 in. USG Sheetrock® Brand Glass-Mat Panels Mold Tough® AR Firecode® X at the time of manufacture per ASTM D3273, 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 overwhelmed 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 and after completion of the building. This can be accomplished by using good design and construction practices.

USG Sheetrock® Brand Glass-Mat Panels Mold Tough® AR Firecode® X are tested in accordance with ASTM C1629 and are third-party evaluated. The test procedures are summarized below:
## Test Data Cont.

### Abuse Resistance

<table>
<thead>
<tr>
<th>Test Standard</th>
<th>Test Summary</th>
<th>Classification Levels</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abrasion Resistance ASTM C1629</td>
<td>A sample is placed under a wire brush weighted with 25 lbs. The brush is then cycled 50 times back and forth across the surface. This creates surface wear that is measured to determine the level of abrasion resistance.</td>
<td>Maximum Depth Level 1 = 0.126 in. Level 2 = 0.059 in. Level 3 = 0.010 in.</td>
<td>Level 3*</td>
</tr>
<tr>
<td>Indentation Resistance ASTM C1629</td>
<td>A 2 lb. weight is raised to a 36 in. height and dropped onto a 5/8 in. hemispherical die that strikes the sample with 72 in.-lbs. of force. The depth of the indentation is measured to determine the level of indentation resistance.</td>
<td>Maximum Depth Level 1 = 0.150 in. Level 2 = 0.100 in. Level 3 = 0.050 in.</td>
<td>Level 1</td>
</tr>
<tr>
<td>Soft-Body Impact Resistance ASTM C1629</td>
<td>A 60 lb. leather bag is suspended on a rope and raised away angularly from a sample installed on 2 ft. x 4 ft. wood framing 16 in. OC. The bag is raised (in 6 in. increments) and released to impact the sample. The impact energy is calculated based upon the bag weight and drop height where structural failure occurs.</td>
<td>Minimum ft.-lb. Level 1 = 90 ft.-lb. Level 2 = 195 ft.-lb. Level 3 = 300 ft.-lb.</td>
<td>Level 2</td>
</tr>
<tr>
<td>Hard-Body Impact Resistance ASTM C1629</td>
<td>A 2 ft. x 2 ft. sample is mounted vertically to a metal frame and impacted with a 2-3/4 in. diameter weighted swinging ram (resembling a sledgehammer). Weight is added in 2.5 lb. increments to increase the impact force. Failure energy is determined when penetration through the face into the frame cavity occurs.</td>
<td>Minimum ft.-lb. Level 1 = 50 ft.-lb. Level 2 = 100 ft.-lb. Level 3 = 150 ft.-lb.</td>
<td>Level 1</td>
</tr>
</tbody>
</table>

*Note: USG demonstrates that when painted with one coat of primer and two coats of latex paint, the abrasion resistance increases to Level 3.*

### Compliance

- Comply with ASTM C1629, ASTM C1658, ASTM C1396 Section 7 and ASTM C1177
- Can be used in fire-rated designs where United States Gypsum Company Type “AR” panels are listed
- Per ASTM E136, noncombustible core
- Surface-burning characteristics per ASTM E84 flame spread is 0, smoke developed is 0

### Submittal Approvals

<table>
<thead>
<tr>
<th>Job Name</th>
<th>Contractor</th>
<th>Date</th>
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**GreenGuard**

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

GREENGUARD Certified products are certified to GREENGUARD standards for low chemical emissions into indoor air during product usage. For more information, visit ul.com/gg.

**CAUTION**

Dust may cause irritation to eyes, skin, nose, throat, and upper respiratory tract. Cut and trim with a utility knife or hand saw to minimize dust levels. Power tools must be equipped with a dust collection system. Wear eye, skin, and respiratory protection if necessary. If eye contact occurs, flush thoroughly with water for 15 minutes. If irritation persists, call a physician. Do not swallow, if swallowed, call a physician. 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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**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 and industrial hygiene practices during handling and installation of all products and systems. Take necessary precautions and wear the appropriate personal protective equipment as needed. Read the Safety Data Sheets and related literature on products before specification and/or installation.