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

High-performance, very high impact-resistant (VHI) interior panels with moisture and mold resistance

- Provide superior impact resistance and are an upgrade to abuse-resistant panels
- Suitable for use in pre dry-in (aka “pre-rock”) 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
- UL Classified as to fire resistance, surface-burning characteristics and noncombustibility

USG Sheetrock® Brand Glass-Mat Panels Mold Tough® VHI are high-performance interior panels for new construction or renovation work. The panels were designed and tested to offer greater 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 impact-resistant systems for partitions from other construction methods.

The panels have a noncombustible moisture- and mold-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 Firecode® X panel is UL Classified for fire resistance and can be used in any UL designs where Type AR panels are listed.

Mold-Resistant: Scores a 10 (highest) when tested in accordance with ASTM D3273.

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. Please see J371 USG Sheetrock® Brand Gypsum Panels Installation Guide for more information on the installation of gypsum panels.

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

1. Avoid exposure to sustained temperatures exceeding 125°F (52°C).
2. Maximum framing spacing is 16” o.c.
3. Intended for interior applications only and must be kept dry during handling and storage. Please see WB2333 Storage and Handling and GA-216 and ASTM C840 for handling and installation guidelines including minimum 1/4” gap from floor.
4. In pre-rock applications, temporary exposure to conditions such as wind pressure and moisture may influence the selection and spacing of fasteners and/or framing. Please reference WB2665 for more information about pre dry-in installation of wallboard.
5. USG Sheetrock® Brand Glass-Mat Panels Mold Tough VHI 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.
LIMITATIONS CONT.

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" 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 VHI are by design stronger and have greater surface hardness than standard 5/8" 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 VHI on studs fabricated with steel thinner than true 20-gauge drywall steel studs (0.0312" 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 VHI on equivalent gauge steel studs.

FINISHING AND DECORATING

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 VHI 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. Please reference the USG Sheetrock® Brand Glass-Mat Panels Finishing Guide (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” USG Sheetrock® Brand Glass-Mat Panel Mold Tough VHI Firecode X bears the Underwriters Laboratories, Inc. label mark as evidence of UL Classifications for fire resistance, surface-burning characteristics and noncombustibility.

### Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>USG Sheetrock® Brand Glass-Mat Panels Mold Tough VHI Firecode X</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness, in.</td>
<td>5/8”</td>
</tr>
<tr>
<td>Lengths and widths, ft.</td>
<td>4’ x 8’-12’</td>
</tr>
<tr>
<td>Weight1, nominal, psf</td>
<td>2.8</td>
</tr>
<tr>
<td>Linear expansion with moisture change, in/in %RH</td>
<td>6.25 x 10^-6</td>
</tr>
<tr>
<td>Coefficient of thermal expansion, in/in/°F</td>
<td>8.5 x 10^-6</td>
</tr>
<tr>
<td>Permeance, perms</td>
<td>&gt;10</td>
</tr>
<tr>
<td>Flexural strength, parallel, lbf.</td>
<td>&gt;100</td>
</tr>
<tr>
<td>Flexural strength, perpendicular, lbf.</td>
<td>&gt;177</td>
</tr>
<tr>
<td>R Value2, ft•°F•hr/ BTU</td>
<td>0.5</td>
</tr>
<tr>
<td>Combustibility</td>
<td>Noncombustible</td>
</tr>
<tr>
<td>Nail pull resistance, lbf. 3, 4</td>
<td>&gt;90</td>
</tr>
<tr>
<td>Hardness core, edges and ends, lbf.</td>
<td>&gt;15</td>
</tr>
<tr>
<td>Water absorption (% of weight)</td>
<td>&lt;5</td>
</tr>
<tr>
<td>Surface water absorption, grams</td>
<td>&lt;1.6</td>
</tr>
<tr>
<td>Surface burning characteristics (per ASTM E84 or CAN/ULC-S102): flame spread/smoke developed</td>
<td>0/5</td>
</tr>
<tr>
<td>Humidified deflection, inches</td>
<td>&lt;1/8</td>
</tr>
<tr>
<td>Bending radius, ft.</td>
<td>18</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.

### Abuse Resistance

USG Sheetrock® Brand Glass-Mat Panels Mold Tough VHI are tested in accordance with ASTM C1629 and are third-party evaluated. The test procedures are summarized below:

<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</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 = 0.326”, Level 2 = 0.059”, Level 3 = 0.010”</td>
<td>Level 3*</td>
</tr>
<tr>
<td>ASTM C1629</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indentation Resistance</td>
<td>A 2 lb. weight is raised to a 36” height and dropped onto a 5/8” hemispherical die that strikes the sample with 72 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”, Level 2 = 0.100”, Level 3 = 0.050”</td>
<td>Level 1</td>
</tr>
<tr>
<td>ASTM C1629</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soft-Body Impact Resistance</td>
<td>A 60 lb. leather bag is suspended on a rope and raised away angularly from a sample installed on 2” x 4” wood framing 16” o.c. The bag is raised (in 6” 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. (structural failure) Level 1 = 90 ft.-lb., Level 2 = 195 ft.-lb., Level 3 = 300 ft.-lb.</td>
<td>Level 3</td>
</tr>
<tr>
<td>ASTM C1629</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hard-Body Impact Resistance</td>
<td>A 2’ x 2’ sample is mounted vertically to a metal frame and impacted with a 2-3/4” 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. (structural failure) Level 1 = 50 ft.-lb., Level 2 = 100 ft.-lb., Level 3 = 150 ft.-lb.</td>
<td>Level 2</td>
</tr>
<tr>
<td>ASTM C1629</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: Abrasion results indicative of finished product sample prepped with two coats of flat latex paint.
USG Sheetrock® Brand Glass-Mat Panels Mold Tough VHI resist moisture and mold and comply with ASTM C1658 section 7.1.4 for water resistance. 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” USG Sheetrock® Brand Glass-Mat Panels Mold Tough VHI 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 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 VHI comply with ASTM C1658, ASTM C1396 Section 7 and ASTM C1177
- Test standard ASTM C1629
- Can be used in UL designs where Type "AR" panels are listed
- Per ASTM E136, noncombustible gypsum core
- Surface Burning Characteristics per ASTM E84; flame spread is 0, smoke developed is 5

**MOISTURE AND MOLD RESISTANCE**

**COMPLIANCE**

**SUBMITTAL APPROVALS**

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

**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**
The trademarks USG, FIRECODE, FIRST COAT, MOLD TOUGH, SHEETROCK, TUFF-HIDE, IT’S YOUR WORLD, BUILD IT, the USG logo, the design elements and colors, and related marks are trademarks of USG Corporation or its affiliates.

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

**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 MSDS and literature before specification and installation.