USG SHEETROCK® BRAND
MOLD TOUGH® VHI
FIRECODE® X PANELS

Low-cost, very high impact-resistant panels with moisture and mold resistance
• Designed and tested to offer greater resistance to impact damage than abuse-resistant panels
• Meets ASTM C1629 Level 3 (highest) for hard- and soft-body impact resistance
• Can be used for a tile substrate in dry locations or areas with limited water exposure
• Underwriters Laboratories Inc. (UL) Classification as to fire resistance, surface burning characteristics and noncombustibility
• USG Sheetrock® Brand Mold Tough® VHI Firecode® X Panels have achieved GREENGUARD GOLD Certification

USG Sheetrock® Brand Mold Tough® VHI Firecode® X Panels are designed and tested to offer greater resistance to surface indentation and impact damage than abuse-resistant panels, and are a low-cost alternative to other systems for partitions that require greater impact resistance.

USG Sheetrock® Brand Mold Tough® VHI Firecode® X Panels have a noncombustible, moisture-resistant core encased in moisture- and mold-resistant, 100 percent recycled green-face and brown-back papers. The face paper is folded around the long edges to reinforce and protect the core, and the ends are cut square and finished smooth. Through a proprietary process, a fiberglass reinforcing mesh is imbedded in the core adjacent to the back paper. This mesh strengthens the panels and increases resistance against impact damage. The long edges of panels are tapered, allowing joints to be reinforced and concealed with a USG joint treatment system.

The panels are UL Classified for fire resistance and can be used in any UL Design where Type X panels are listed. On the face along the long edge of each panel, the UL Type Designation is printed for easy identification after installation.

Note: For projects requiring abuse resistance and extended moisture exposure, specify USG Sheetrock® Brand Glass-Mat Panels Mold Tough® VHI Firecode® X.

INTENDED FOR
• Commercial applications where greater resistance to indentation and impact damage are required
• Areas where moisture and mold resistance is desired
• New or repair and remodel construction

LIMITATIONS
1. Do not expose to sustained temperatures exceeding 125°F (52°C).
2. Maximum framing spacing for walls is 16 in. o.c.
3. Do not expose to excessive, repetitive or continuous moisture before, during or after installation. Eliminate sources of moisture immediately.
4. Not suitable for use in high-moisture areas such as tub and shower enclosures, gang showers and other areas subject to direct water exposure.
5. 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 required.
6. Application of USG Sheetrock® Brand Mold Tough® VHI Firecode® X Panels over insulating blanket, installed continuously across the framing members is not recommended. Blankets should be recessed and blanket flanges attached to sides of studs or joists.
7. Use as a tile substrate is limited to tile installed according to the most 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 Mold Tough® VHI Firecode® X Panels 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 Mold Tough® VHI Firecode® X Panels 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 screwhead 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 Mold Tough® VHI Firecode® X Panels on equivalent gauge steel studs.

For high-quality finishing results, USG recommends USG Sheetrock® Brand finishing products. Painting products and systems should be used that 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. Gypsum Association’s Recommended Specification for Levels of Gypsum Board Finish (GA-214) should be referred to in order to determine the level of finishing needed to ensure a surface properly prepared to accept the final decoration.

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.

To improve fastener concealment where gypsum panel walls and ceilings will be subjected to critical artificial or natural side lighting, or will be decorated with a gloss paint (eggshell, semigloss or gloss), the gypsum panel should be skim coated with joint compound. This equalizes suction and texture differences between the drywall face paper and the finished joint compound before painting. When a Level 5 finish is required, use USG Sheetrock® Brand Tuff-Hide™ Primer-Surfacer. See USG Sheetrock® Brand Tuff-Hide™ Primer-Surfacer submittal sheet (J1613) for limitations and application instructions.

For more information, refer to USG literature Finishing & Decorating Gypsum Panels white paper (J2010).

<table>
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<th>UL Type AR</th>
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<tr>
<td>Thickness</td>
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<tr>
<td>Lengths and Widths¹</td>
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<tr>
<td>Weight²</td>
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<tr>
<td>Edges</td>
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<td>Packaging</td>
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¹ Check with your local USG representative for availability. Other lengths available via special order (minimum order quantities may apply).
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.

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 USG Sheetrock® Brand Mold Tough® VHI Firecode® X Panels 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 Mold Tough® VHI Firecode® X Panels are tested in accordance with ASTM C1629 and are third-party evaluated.

### Test Summary

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<th>Test Standard</th>
<th>Test Summary</th>
<th>Classification Levels</th>
<th>Test Results</th>
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<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>Level 2</td>
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<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.-l bs. of force. The depth of the indentation is measured to determine the level of indentation resistance.</td>
<td>Level 1</td>
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<tr>
<td>Soft-Body Impact Resistance ASTM C1629</td>
<td>A 60 lb. leather bag is suspended on a rope and raised away from a sample installed on 2 in. x 4 in. wood framing 16 in. o.c. 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>Level 3</td>
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<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>Level 3</td>
<td></td>
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**Note:** USG testing demonstrates that when painted with one coat of primer and two coats of semigloss latex paint, the abrasion resistance for paper-faced gypsum wallboard panels increases to Level 3.

### Compliances

Each USG Sheetrock® Brand Mold Tough® VHI Firecode® X Panel bears the UL mark as evidence of UL Classifications for fire resistance, surface burning characteristics and noncombustibility. They can be used in UL designs where type “AR” panels are listed. Class A, as defined in International Building Code® (IBC®) section 803.1, flame spread is 15, smoke developed is 5, when tested in accordance with ASTM E84. Complies with ASTM C1396.

### Submittal Approvals

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<tr>
<th>Job Name</th>
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