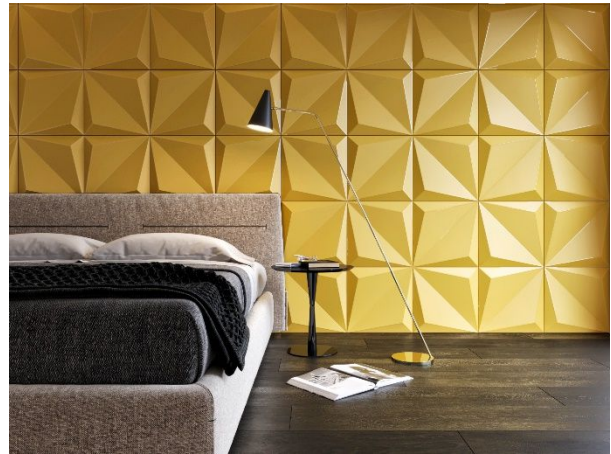


GFRG WÔL 3D Tile Data Sheet

- **Trade name**
GFRG WÔL 3D Tile
- **Common Names**
Glass fiber reinforced gypsum – GFRG
- **Manufacturer**
Palladio Mouldings Inc.
252 Java Street
Unit 136
Brooklyn NY 11222



- **Summary**

Palladio Mouldings Inc GFRG WÔL 3D Tile is a composite of high strength alpha gypsum cement reinforced with glass fibers. GFRG WÔL 3D Tile are usually supplied unfinished for onsite painting after installation. GFRG WÔL 3D Tile is a class A fire and smoke rated material.

- **Detailed description**

GFRG is a white gypsum cement material that is molded into architectural elements and shapes used in the construction and renovation of interior spaces. GFRG WÔL 3D Tile weigh approximately 2lbs/ft² and can be field finished with paint. Alpha gypsum is not like regular gypsum used in drywall or three coat plaster applications. Alpha gypsum is specifically formulated to be used where light weight and superior strength characteristics are required. These light weight GFRG WOL 3D Tiles are easier to install than tradition plastering methods.

GFRG compositions have enhanced physical properties compared to drywall or plaster such as hardness and flexural strength. WÔL 3D Tile components are fabricated from precision made molds and yield a product that is dimensionally accurate and make assembly easy in the field.

Our GFRG WÔL 3D Tile may contain an open cell, semi-rigid polyurethane foam applied to the back side of each panel providing thermal and sound insulation.

As GFRG WÔL 3D Tile fabrications are light weight, less supportive framing is necessary and less time is required for installation which results in substantial on-site labor savings. From an environmental perspective, GFRG is lighter, stronger and more durable than alternative methods and materials which reduces the use of raw materials and costs less to transport.

GFRG WÔL 3D Tile elements can be easily installed to a primed or painted surface using 3 common installation methods. It can be attached with high density spacer tape (pre-installed), with construction adhesive or mechanically fastened through pre-drilled holes to face fasten with screws, countersunk and filled.

Our WÔL 3D Tile have a high level of surface finish allowing the option to select any paint finish including gloss paint. The WÔL 3D Tile's tight seams can be filled by painting alone or if desired filled with joint treatment materials such as caulk prior to painting.

Palladio Mouldings Inc. prides itself in the ability to manufacture all patterns and molds with tremendous accuracy by hand without the use of CNC or other Computer Aided Machinery. However, Palladio's engineering department is equipped with up to date CAD technology which gives us the ability to provide detailed shop drawings to assist the architect and designer.



- **Technical Data**

Refer to the following standards:

ASTM

- C1381-2008 Standard for molded glass fiber reinforced gypsum parts
- C1467-2006 standard for the installation of molded glass fiber reinforced gypsum parts
- C1355-2006 Standard for glass fiber reinforced gypsum composites
- C 518 Aged Thermal Resistance for polyurethane foam

ISO

- ISO 1182:2010 Reaction to fire tests of products – Non Combustibility test
- ISO 1716:2010 Reaction to fire tests for products – Determination of gross heat of combustion (calorific Value)

- **Physical and Mechanical Properties**

Palladio Mouldings Inc uses alpha gypsum materials that are mined and processed in the USA from some of the world's purest deposits (over 99% purity of CaSO₄-2H₂O). Throughout the fabrication process, the gypsum material is subjected to strict inspection and testing to guarantee its high level of quality. Our prominent gypsum suppliers certify the raw materials are in compliance with the ASTM C1355 Standard.

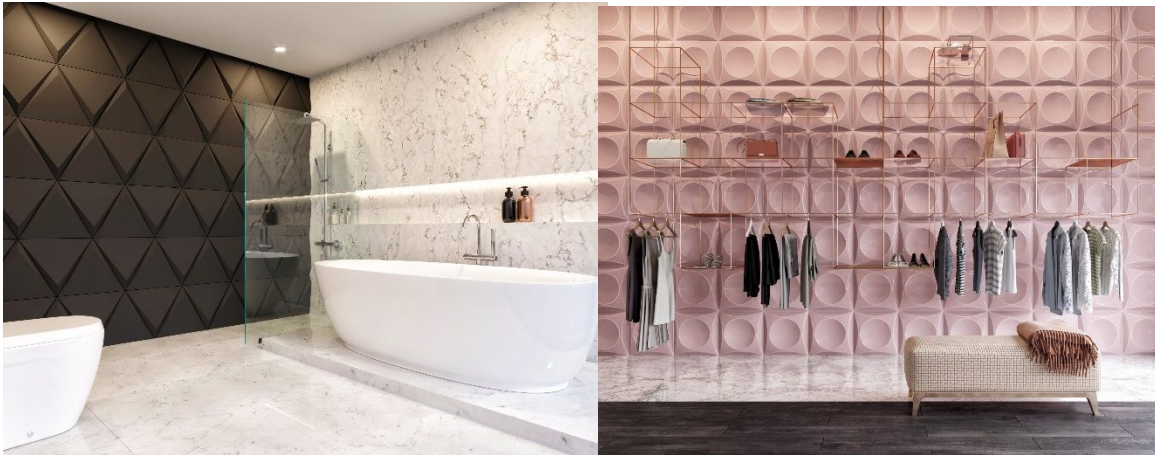
Matrix:	Alpha Gypsum Cement
Finish:	Standard unfinished, white to off white. Factory applied finished available
Surface:	Standard smooth. Custom molded textured surfaces available
Density:	105lb/ft ²
Weight:	1 ½ -2lb/ft ²
Shell Thickness:	3/16" nominal
Glass Fiber:	5% typical

ASTM C1355 and ISO Test Results

Flexural strength	
Ultimate Strength	4700psi
Yield Strength	1875psi
Flame Spread	0
Smoke Development	0
Behavior at 750 degrees C.	Pass
Coefficient of Linear Thermal Expansion	5.5x10 ⁻⁶ in/in/degrees F
Humidified Deflection	1/8"
Nail Pull Resistance	176 lbf
Impact Resistance	6.5 ft.lb/in
Barcol Hardness	60
Rockwell Hardness	72 M scale
ISO Reaction to Fire Tests	
Mass Loss:	20%
Temperature difference:	7 degrees F
Duration of Ignition > 5 sec:	0
Gross Heat of Combustion:	300 btu/lb

- **Manufacturing Tolerances**

Shell Thickness:	+/- 1/16"
Dimensional (all Directions) Over 8'	+/- 1/8" +/- 3/16"
Warpage and Bowing:	+/- 1/16"/ft



- **Delivery, Storage and Handling**

GFRG WÔL 3D Tile shall be transported and handled in a manner that avoids damage or excessive stress. Packaging or components showing signs of damage should be marked as such on freight documents, inspected immediately, and claimed for any damage due to shipping with the freight carrier. Advise the carrier and Palladio of any damage immediately. GFRG parts shall be protected from rain, snow, sunlight, excessive weather conditions, high levels of humidity, and job site damage. To prevent distortion, warping and other physical damage GEGR parts shall be kept clean and stored on a dry surface and not stacked or leaned on each other.

- **Preparatory Work**

Do not deliver or install GFRG WÔL 3D Tile until the building is enclosed and weatherproof, wet work is complete and the HVAC system maintains temperature and humidity at normal occupancy levels. Acclimatize GFRG parts for a minimum of 48 hours to the ambient temperature and humidity levels of spaces in which they are to be installed. It is the installing contractor's responsibility to order the correct material quantities (including a waste allowance) and verify the field dimensions and conditions for inclusion into the shop drawings

Site Conditions

Review the site conditions for compliance with Palladio's requirements relating to environmental conditions, installation tolerances and other conditions affecting the installation and performance of GFRG WÔL 3D Tile. Any unsatisfactory conditions are to be corrected prior to installation. Field measurements are to be taken to verify the dimensions for **custom** sized WÔL 3D Tiles, including those not shown on the drawing and provide specific details of any changes for inclusion into Palladio shop drawings prior to commencing the manufacture of **custom** molds and GFRG WÔL 3D Tile. Palladio will produce parts in accordance with approved shop drawings only and is NOT responsible for any deviations between the site condition and the approved drawings.

Substrates

The substrates to accept GFRG WÔL 3D Tile shall be installed straight and true within 1/8' in 8 linear ft. and shall be free of obstructions and interference that prevent the correct positioning and attachment of the WÔL 3D Tile. Framing members shall be of the proper size and design for the intended use and shall be sufficient to properly support the installed GFRG parts. Metal framing members shall be installed in accordance with ASTM Standards C754 or C1007 as required. The location and incorporation of control joints is determined by the architect.

- **Installer Safety**

Installers are to wear appropriate personal protection equipment when handling or installing Palladio materials. This should include eye protection, gloves and dust masks. Please adhere to local regulation and rules established at the job site. Before handling and installing Palladio materials, installers are responsible for reviewing MSDS information.

- **Installation**

Install GFRG WÔL 3D Tile as indicated on approved shop drawings, other recommendations and the contract requirements. GFRG parts shall be carefully lifted into place using suitable devices and installed securely. The installing contractor is to supply and install all brackets and shims as required for the installation and proper alignment of the WÔL 3D Tile with adjacent parts and materials.

Attach WÔL 3D Tile to substrates and framing with high density spacer tape (optional), adhesive and/or screws as shown on the shop drawings. Countersink screws below the surrounding surface. Where GFRG WÔL 3D Tiles are installed on horizontal surfaces, the use of mechanical fastening at points indicated on the shop drawings or on the back of the GFRG parts as a minimum requirement and use additional support(s) if required.

Unfinished GFRG WÔL 3D Tile may exhibit slight differences in surface tones, the use of primer and/or paint will normally provide a uniform texture. Under certain lighting conditions (e.g. atriums, near reflectors, vaults etc.) fasteners and joints "read-through" may occur. Use joint treatment materials to finish GFRG parts and assemblies to produce surfaces ready to receive primers and paint finishes as detailed. Countersunk fasteners and damage areas are to be patched to match the GFRG WÔL 3D Tile texture.

Finishing

Finishing is typically completed by others. Proper priming of the GFRG assemblies must be provided for mechanical installation methods to avoid screw hole 'read-through' due to the differences in porosity and absorption between the GFRG WÔL 3D Tile and the joint compound material.

The GFRG WÔL 3D Tile are manufactured as a level 5 finish in accordance with ASTM Standard C840, and are suitable to be subjected to critical lighting and provides a surface suitable to receive semi-gloss and gloss finish paints. Care should be exercised in the selection of primer and sealers to make sure they will perform satisfactory and fulfill the following functions:

- Spraying is recommended
 - Provide a bonding surface for the paint to be used
 - Equalize variations of suction over the entire surface
 - Avoid nap raising
 - Before applying the primer make sure the GFRG surface is clean and the joint treatment material is thoroughly dry
 - Apply a sufficient quantity of primer or sealer in accordance to the paint manufacturer's instructions. More than one coat may be necessary
 - Ensure primer is fully dried before applying paint
 - No less than two coats of paint should be applied
- See ASTM Standard C840 for other important finishing recommendations.

