

# SAFETY CONSIDERATIONS AND MATERIAL HANDLING FOR GYPSUM, GYPSUM- FIBER, CEMENTITIOUS AND STRUCTURAL PANELS

Construction can be a dangerous activity, and safe working practices can help prevent harmful and costly accidents. The foundation of any safety program is training, and must be incorporated to familiarize workers with jobsite hazards and how to best avoid them.

This document provides an overview of the health and safety concerns that should be addressed when using USG and CGC products and systems—both at home and on professional construction jobsites. **This is not intended to be a comprehensive review, but instead, provide general safety information, and refers to other sources for further information and assistance.** We recommend that professional contractors seek the assistance of safety professionals, as there are many factors to be considered that are not included here.

For more information, guidance may be provided by federal OSHA regulations and comparable state laws, or refer to *The USG Gypsum Construction Handbook* and/or Gypsum Association's GA-801, *Handling and Storage of Gypsum Products*.

## FORKLIFT SAFETY

Gypsum, gypsum-fiber and cementitious panel products will first be moved by a forklift or similar device. It is absolutely essential that the equipment be rated capable of handling the loads. The forks should always be long enough to extend completely through the width of the load. Forks should also be extended far enough apart to support the load so that it will not break or fall, but not so far as to damage adjacent stacks of material in the lifting process.

**USG Sheetrock® Brand, Securock® Brand gypsum panels and Durock™ Glass-Mat Tile Backerboard Panels:** Fork spacing between supports should be one-half the length of the panels or base being handled so that a maximum of 4 ft. (1219 mm) extends beyond the supports on either end.

**Durock® Cement Board and Fiberock® Brand Tile Backerboard Panels:** Fork spacing should be similar to the above, except that a maximum of only 3 ft. (914 mm) should extend beyond the supports on either end.

**USG Structural Panels:** Damaging either the tongue or groove edges of the panel may prevent their use, so careful handling of USG Structural Panel products is recommended. Lift the unit on the groove side of the long edge, leaving a gap between the forklift mast and the edge of panels. Lift only one unit at a time and ensure forks are positioned as wide as possible to prevent damage to the unit or the pallet. Use caution when moving and positioning units to prevent them from rubbing or bumping together, which may damage the tongue or groove edges. Leave a gap between units and adjacent objects, and never push against anything.

Fork carriage spread in the range of 46-84 in. (1168-2134 mm) is suitable for handling most common lengths of gypsum panels.

Sometimes gypsum panel manufacturers offer to band lifts of board at each end. This will aid in preventing deflection of the board when it is picked up with a forklift, but it is not a substitute for proper fork spacing. Banding will not prevent board from breaking if the forks are not spaced far enough apart.

Other key items of forklift safety include:

- Always follow the forklift manufacturer's operating and maintenance instructions, especially concerning load limits
- Always wear the appropriate safety equipment when operating a forklift
- Never move the forklift with the load elevated more than a few inches above the floor or ground surface
- Never stand below or near a raised load
- Observe all traffic rules in the loading or warehouse area
- Never disable equipment back-up alarms or other safety devices
- In heavy traffic areas, use a spotter to regulate forklift, pedestrian and other traffic
- Ensure both forks are as far under the load as possible before lifting

For more information on forklift safety, contact OSHA CFR at (800) 321-OSHA (6742), [osha.gov](http://osha.gov) or The National Safety Council at (800) 621-7619, [nsc.org](http://nsc.org).

## STACKING BOARD

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The safest way to store any gypsum, gypsum-fiber or cementitious panel product is to stack them flat on risers placed on a solid surface. Storing panels vertically on edge and leaning against wall framing can pose a serious hazard. Panels stacked on edge can easily become unstable, topple or slip and fall causing serious injury.

While vertical stacking on a jobsite is not recommended, there may be instances where floor load limits or space requirements may not sufficiently support flat stacking. Instead, the safer procedure in these situations is to distribute the panels in vertical stacks around the sides of a room. When vertical stacking is used, be sure to leave at least 4-6 in. (102-152 mm) of space between the bottom of the first board in the stack and the wall. Leaving less than 4 in. (102 mm) of space creates a risk that the stack could be pulled over, while more than 6 in. (152 mm) applies too much weight laterally against the wall. Warning tape or signage should be used to alert workers of the potential for leaning wallboard to fall if disturbed.

When stacking gypsum panel products, maximum height shall be limited to 17 ft. (5 m). Durock® Brand Cement Board shall not be stacked higher than six pallets high, as pallets of any thickness or length stacked higher than six pose a serious safety risk.

Gypsum, gypsum-fiber and cementitious panel products shall also be stocked so their weight is evenly distributed and the floor is not overloaded. The capacity of the floor to support the load when panels are stacked must be examined and considered when stocking.

For USG Structural Panels, each unit weighs approximately 3,400 lbs (1,542 kg). Panels shall be stacked in a horizontal position and uniformly supported on a surface rated for the total weight of the product being stored. Stack a maximum of three units high and leave space between the units to help prevent edge damage.

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## STORAGE CONDITIONS

Gypsum panel products shall be stored in a warehouse or other suitable structure with protection from inclement weather, direct sunlight and/or sustained temperatures exceeding 125°F (52°C). If left unprotected, discoloration and/or moisture in the board can provide conditions favorable for mold, mildew and fungus growth.

Plastic covers used to protect gypsum panel products during shipment are intended to provide temporary protection from moisture exposure and should be removed upon receipt at the distributor's location. Failure to remove this plastic covering can result in damage to the gypsum panels due to moisture, condensation and/or mold. Durock® plastic covers help to secure the product to the pallet and should not be removed until ready for use.

**Units of gypsum, gypsum-fiber and cementitious panel products need to be supported properly to minimize sagging. Precautions should be taken in placement of support members known as risers.** Use wood risers to prevent moisture from wicking up and wetting the material. Various problems can result when these products get wet or are exposed to direct sunlight for extended periods. Gypsum panels shall also be stored flat on a clean, dry floor to prevent moisture intrusion, permanent sag, damage or deformity, such as wavy edges. Do not store vertically. If panels are stored on risers, they should be evenly spaced no more than 28 in. (711 mm) apart and within 2 in. (51 mm) of the ends. The risers should also be placed directly under each other vertically. Gypsum, gypsum-fiber and cementitious panel products should not be stored in high humidity areas; however, if such storage conditions exist, additional risers shall be used to prevent sagging.

Locate stored stacks of gypsum, gypsum-fiber and cementitious panel products away from heavy-traffic areas to prevent damage from other trades. Keep materials in their packages or containers until ready for use to protect them from dirt, corrosion and distortion. Damaged board edges are more susceptible to ridging after joint treatment. Boards with rough ends will require remedial action before installation. Otherwise, deformation or blistering may occur at end joints.

**USG Structural Panels** must be covered with tarps or similar coverings when stored in unprotected areas. Excessive moisture and freezing temperatures may result in panels sticking together within the units. Care should be taken to ensure units are not exposed to excessive moisture, ice or snow. In the event that panels become frozen together, the unit needs to be brought to a temperature above 32°F (0°C) to allow the ice to melt naturally. Salt, fertilizer, direct heat, or other de-icing agents should not be used at any time. Do not attempt to pry or pull frozen panels apart.

For more information, refer to Gypsum Association's GA-801, *Handling and Storage of Gypsum Panel Products*.

## LIFTING

Gypsum, gypsum-fiber and cementitious panels can be very heavy, awkward loads posing the risk of severe back injury. Always observe proper lifting techniques: keep the load close to your body and use your legs, not your arms, to lift. When panels are moved manually, they shall be supported vertically by the edges and never carried flat. Use mechanical assistance such as pallet lifters or hand dollies wherever possible. Confine manual lifting and carrying to the shortest distance possible.

Each 4 ft. x 8 ft. (1,220 mm x 2,440 mm) USG Structural Panel weighs approximately 170 lbs. (77 kg) and is intended to be handled by two people. Individual panels can be carried horizontally or vertically.

For more information, contact The National Safety Council at (800) 621-7619, nsc.org.

### PRODUCT INFORMATION

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

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### 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 Safety Data Sheets and related literature on products before specification and/or installation.

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