



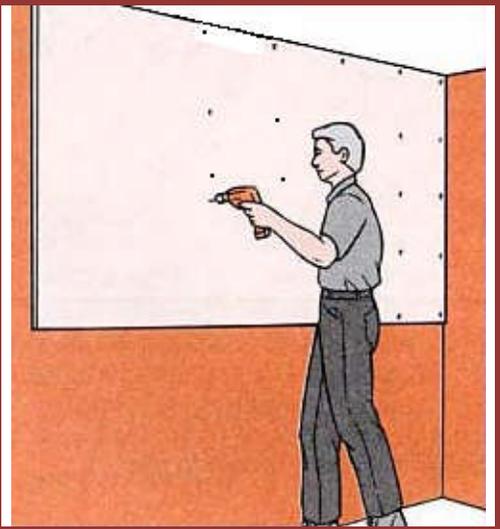
CITY OF
GRAND RAPIDS
IT'S IN MINNESOTA'S NATURE

GYPSUM WALLBOARD

**City of Grand Rapids
Building Safety Division**

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This handout is intended only as a guide and is based in part on the 2015 Minnesota State Building Code, Grand Rapids City ordinances, and good building practice. While every attempt has been made to insure the correctness of this handout, no guarantees are made to its accuracy or completeness. Responsibility for compliance with applicable codes and ordinances falls on the owner or contractor. For specific questions regarding code requirements, refer to the applicable codes or contact your local Building Safety Division.

GENERAL

Gypsum wallboard is required in only four locations in a dwelling. Gypsum wallboard is required on the garage side of the wall between the house and garage (R302.6), in enclosed accessible space under stairs (R302.7), on a wall of a building less than 5 feet from a lot line (R302), and for separations between dwelling units where two or more dwellings exist in the same building (302.3).

Gypsum board may not be installed until adequate weather protection is provided (R701.2). Gypsum wallboard intended for interior use may not be used in areas exposed to the weather.

APPLICATION

Gypsum wallboard may be applied on interior non-bearing 2 X 3 studs spaced not more than 24 inches on center. Exterior or bearing walls must be 2 X 4 minimum and spaced not more than 24 inches on center (R602.5). Other framing supporting gypsum board, such as for soffits or furring may be 2X2's. If the furring is applied against a solid backing such as foam sheathing on a foundation wall, it may be 1X2 (R702.3.2).

All edges and ends of gypsum wallboard must occur on framing members except those edges and ends that are perpendicular to framing members. All edges and ends of gypsum wallboard should be in moderate contact except in concealed spaces where fire resistive construction or diaphragm action is not required.

FASTENERS

Nails used to fasten gypsum wallboard must conform to Table R702.3.5.

Screws for attaching gypsum board to wood framing must be either Type W or Type S, must be approved for drywall application, and must penetrate into the wood a minimum of $\frac{5}{8}$ inch. For $\frac{3}{8}$ inch gypsum board the minimum screw length must be 1 inch, for $\frac{1}{2}$ inch gypsum board the minimum screw length must be $1 \frac{1}{8}$ inch, and for $\frac{5}{8}$ inch gypsum board the minimum screw length must be $1 \frac{1}{4}$ inch. R702.3.6

Nails or screws used to anchor gypsum wallboard should not break the facing paper.

MOISTURE RESISTANT (MR) GYPSUM BOARD

Regular gypsum wallboard may **not** be used as a backer for tile or wall panels for tubs or showers. Fiber-cement boards shall be used as backers for wall tile in tub and shower areas and wall panels in shower areas.

Moisture resistant gypsum board may not be used in the following locations:

1. Over a vapor retarder.
2. In areas subject to continuous high humidity such as saunas or steam rooms.
3. On ceilings where frame spacing exceeds 12 inches for ½ inch gypsum board and 16 inches for ⅝ inch gypsum board.
4. All cut or exposed edges, including those at wall intersections, must be sealed as recommended by the manufacturer. R702.3.8.

FASTENER SCHEDULE FOR GYPSUM BOARD

Table R702.3.5

| Thickness of Gypsum Board | Application | Orientation of Gypsum Board to Framing | Maximum Spacing of Framing Members (inches o.c.) | Maximum spacing of fasteners (inches) | | Size of Fasteners for Application of Gypsum Board to Wood Framing |
|---------------------------|----------------------|--|--|---------------------------------------|--------|--|
| | | | | Nails ^a | Screws | |
| 3/8" ^b | Ceiling ^c | Perpendicular | 16 | 7 | 12 | Nails: 13 gage, 1 ¼" long, ¹⁹ / ₆₄ " head; 0.098 diameter, 1 ¼" long, annular-ringed; or 4d cooler nail, 0.080" diameter, 1 ⅜" long, ⁷ / ₃₂ " head. Screws: Screws shall be Type S or W and penetrate into wood framing a minimum of ⁵ / ₈ inch. |
| | Wall | Either Direction | 16 | 8 | 16 | |
| 1/2 " | Ceiling ^c | Either Direction | 16 | 7 | 12 | Nails: 13 gage, 1 ⅜" long, ¹⁹ / ₆₄ " head; 0.098 diameter, 1 ¼" long, annular-ringed; 5d cooler nail, 0.086" diameter, 1 ⅝" long, ¹⁵ / ₆₄ " head; or gypsum board nail, 0.086" diameter, 1 ⅝" long, ⁹ / ₃₂ " head. Screws: Screws shall be Type S or W and penetrate into wood framing a minimum of ⅝ inch. |
| | Ceiling ^c | Perpendicular | 24 | 7 | 12 | |
| | Wall | Either Direction | 24 | 8 | 12 | |
| | Wall | Either Direction | 16 | 8 | 16 | |
| 5/8" | Ceiling ^c | Either Direction | 16 | 7 | 12 | Nails: 13 gage, 1 ⅝" long, ¹⁹ / ₆₄ " head; 0.098 diameter, 1 ⅜" long, annular-ringed; 6d cooler nail, 0.092" diameter, 1 ⅞" long, ¼" head; or gypsum board nail, 0.0915" diameter, 1 ⅞" long, ¹⁹ / ₆₄ " head. Screws: Screws shall be Type S or W and penetrate into wood framing a minimum of ⅝ inch. |
| | Ceiling ^c | Perpendicular | 24 | 7 | 12 | |
| | Wall | Either Direction | 24 | 8 | 12 | |
| | Wall | Either Direction | 16 | 8 | 16 | |

- a. A pair of nails spaced 2 to 2 ½ inches apart may be used with the pair of nails spaced 12 inches on center.
- b. Three-eighths inch gypsum board may not be used on a **ceiling** in either of the following situations:
 - 1) Where a water-based textured finish is to be applied.
 - 2) Where it will be required to support insulation above a ceiling.
- c. On **ceiling** applications that will receive a water-based textured finish, either hand or spray applied:
 - 1) Gypsum board must be applied perpendicular to the framing.
 - 2) ½ inch thick gypsum board must be used for 16 inch on center framing.
 - 3) ⅝ inch thick gypsum board must be used for 24 inch on center framing.
 - 4) As an alternate to ⅝ inch gypsum board, ½ inch sag-resistant gypsum ceiling board may be used.