

Introduction to Gypsum Installation

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Key concepts, tools, step-by-step procedures, and best practices

1. What Is Gypsum?

Property	Details
Composition	Calcium sulfate dihydrate (CaSO ₄ ·2H ₂ O) with additives for fire-resistance, moisture control, or strength.
Forms	- Drywall (sheetrock/gypsum board) – most common for walls & ceilings. - Plaster – pre-mixed or powder that is mixed on site. - Gypsum blocks – larger, often used for partition walls.
Advantages	• Fire-resistant (up to 1-hour rating) • Easy to cut & finish • Good acoustic damping • Lightweight, reduces structural load • Recyclable

2. Types of Gypsum Board

Type	Typical Thickness	Typical Use	Special Features
Standard (Regular) Board	1/4-1/2 in (6-12 mm)	Residential walls & ceilings	Economical, easy to finish
Moisture-Resistant (MR) / Green Board	1/2 in (12 mm)	Bathrooms, kitchens, basements	Water-repellent core
Fire-Resistant (FR) / Type-X	1/2-5/8 in (12-15 mm)	Fire walls, garages, multi-family units	Glass-fibers in core, 1-hour rating
Sound-Control (Acoustic) Board	1/2-5/8 in	Home theaters, offices	Higher density, dampens sound
Impact-Resistant Board	1/2-5/8 in	High-traffic corridors, schools	Reinforced surface

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3. Tools & Materials

Category	Items	Purpose
Cutting	Utility knife, drywall saw, rotary cutter, jab saw	Scoring & trimming sheets
Fastening	Drywall screws (coarse & fine thread), nails (ring shank), screw gun or drill	Secure board to studs/joists
Finishing	Joint tape (paper or fiberglass), joint compound (all-purpose, topping, setting), taping knives (6"12" in), sanding pole, drywall sander	Create seamless joints
Measuring & Layout	Tape measure, T-square, chalk line, level, laser level	Accurate placement
Safety	Dust mask/respirator, safety glasses, ear protection, gloves, knee pads	Protect the installer
Ancillary	Corner beads, backer board, adhesive (if required), stud finder, utility light	Edge protection, special installations

4. Preparation Before Installation

1. Inspect the Structure

- Verify that studs/joists are plumb, spaced 16" in or 24" in oc.
- Check for moisture, rot, or damage; repair as needed.

2. Plan the Layout

- Start on the longest, unobstructed wall.
- Stagger vertical joints at least 16" in apart (like brickwork) to improve strength.
- Mark stud locations on the floor/ceiling with a chalk line.

3. Gather Materials

- Order ½" in board for walls, 5⁄8" in for ceilings (reduces sag).
- Have extra sheets for waste (10%)