



## Gypsum Board Installation--Guidelines

### Overview

Edges and ends of gypsum board and gypsum panel products shall occur on the framing members, except those edges and ends that are perpendicular to the framing members. Edges and ends of gypsum board and gypsum panel products shall be in **moderate contact** except in concealed spaces where fire-resistance-rated construction, shear resistance or diaphragm action is not required. Section 2508 of the IBC contains the requirements for gypsum construction<sup>1</sup>

### Moderate Contact

Joints between boards in fire-rated assemblies must be in “*moderate contact*,” meaning that the gypsum boards should be touching and gaps minimal. All gaps and joints in such assemblies must be properly taped and filled with compound. Around electrical boxes, the UL Fire Resistance Directory references no more than a 1/8” gap/joint, though in the field this can be difficult to attain and measure. All gaps must be filled with **joint compound, fire-rated caulking or other materials/means suitable**, per the local code authority. In non-rated construction, joints up to 1/4” tolerances are acceptable when filled with setting type, all-purpose joint compound. Note that the type of compound used to prefill gaps in the joints must be compatible with the compounds used to tape and finish the walls and/or ceiling.

### Non-Rated or Rated Gypsum Assemblies

Gypsum board systems can either be non-rated or rated for fire, sound or shear resistance. Tolerances are set in many of the products and systems manufactured today. There are set tolerances for the installation of gypsum board. For many years, the construction standards for joints between adjacent panels of gypsum board have required the board edges and ends to be “in moderate contact”. *Moderate contact* means that the board edges are essentially touching each other. It is possible for board edges to be in *moderate contact* yet not touch the entire length of the joint.

### Non-Rated Construction (1/4 Inch Maximum)

Although good construction practices dictate that *moderate contact* should be the goal in both rated and non-rated systems, it has long been recognized that tolerances are needed for gypsum board joints in non-rated systems. The [Gypsum Association](#) has determined that joints in non-rated systems are permitted to be up to 1/4- inch in width at the widest point and must be pre-filled with joint compound. Up to 1/8-inch wide gaps can be filled with all-purpose or taping compound, either ready-mixed or setting type. Joints from 1/8 to 1/4- inch must be filled with setting type all-purpose or taping compound.

### Fire Rated Systems (1/8th Inch Maximum)

Joints between gypsum boards in systems rated for fire must be constructed with the gypsum board edges and ends “in *moderate contact*”. This means the gypsum panels should be touching each other. Small gaps can be present along the joint, this is due in part to an allowable width tolerance in the manufacture of gypsum panels as stated in ASTM C-36<sup>2</sup> and that complete contact along the joint is near impossible. Further evidence is that the Underwriters Laboratory (UL) also allows for a 1/8-inch gap around electrical boxes in fire-rated partitions per the Fire Resistance Directory. The proper treatment of joints in fire-rated systems shall follow this guidance and be constructed in accordance with IBC Section 2508.5-Joint Treatment.<sup>3</sup>

<sup>1</sup> [2018 IBC 2508.3 Gypsum Construction--Single-Ply Application.](#)

<sup>2</sup> [ASTM C-36-STANDARD SPECIFICATION FOR GYPSUM WALLBOARD](#)

<sup>3</sup> [2018 IBC 3608.5 Gypsum Construction--Joint Treatment.](#)