Design Guideline 092116
Gypsum Board Assemblies

Scope

In general, follow the guidelines below when designing and specifying Gypsum Wallboard Assemblies and accessories.

Related Sections

U-M Design Guideline Section:

6.1 079200 Joint Sealants
6.1 093000 Ceramic Tile and Waterproofing
7.2 Interior Finishes in Division 9

Application Review

- Evaluate project application for materials cost vs. benefit.
  - Abuse resistant gypsum products are more expensive than standard gypsum boards. If the standard gypsum is installed in 2 layers it is more expensive than a single layer of the abuse resistant gypsum.
  - Abuse resistant gypsum board shall be installed full height. The finish surface of abuse resistance is slightly different from standard drywall. This finish difference is noticeable in a finished partition.
  - Installing abuse resistant drywall full height, even above the ceiling, is beneficial versus having 2 different board types. It is more cost effective to install full height abuse resistant than to change to another material above the ceiling and risk the wrong product installed.

Design and Installation Requirements

Generally follow design practices outlined in manufacturer's literature and standard industry manuals.

Design non-loadbearing partitions in accordance with steel stud and drywall manufacturer's published recommendations regarding stud depth and gage for each application.

Incorporate steel or plywood sheet backing into gypsum board partitions where required to support equipment, panels, or furnishings, and as otherwise deemed necessary by the Design Manager.

Clearly mark fire-rated and smoke rated assemblies on drawings with either Underwriter'

Laboratories or Gypsum Association design numbers, and with required fire rating in hours.

- Partitions shall be marked with UL designation above ceiling to prohibit unauthorized penetrations of mechanical items or conduits.

Design assemblies to provide sound control ratings established by the Project program or by the Design Manager.

Plastic trim is generally acceptable for interior applications, except specifying metal trim at outside corners and other locations subject to impact damage.

Material Requirements

Gypsum General: Usually specify gypsum board for partition applications a minimum of 5/8-inch thick; and for suspended ceilings, soffits and fascias a minimum of 1/2-inch thick. Thinner units are acceptable where required for bending, compliance with UL or GA Design requirements, or other design requirements.

Abuse Resistant: Abuse Resistant materials are generally designed to withstand abrasion, which typically occurs when hard objects are dragged along or across a surface. Utilize Abuse Resistant gypsum board products in areas of expected high use and abuse. Material selection shall be evaluated based on type of abuse expected, penetration, indentation, scraping etc.

- Utilize in all high cart traffic corridors, residence floor areas and corridors.
  - Certainteed; Air Renew Extreme Abuse.
  - Georgia-Pacific Gypsum DensArmor Plus Abuse Resistant Interior Panel
  - Continental Building Products [Lafarge]; Protecta AR 100 Abuse Resistant Panels
  - National Gypsum Company; Hi-Abuse Brand XP Wallboard (XP= extra protection)
  - United States Gypsum Co.; Fiberrock Brand Abuse-Resistant Gypsum Panels.

Impact Resistance: Impact resistant materials are designed to withstand dents and punctures when directly struck with hard or heavy objects. Product resistant to surface indentation and penetration.

- Utilize in all public and common spaces, lab facilities and corridors.
  - Certainteed; “AirRenew Extreme Impact Gypsum Board”
  - Georgia-Pacific Gypsum; DensArmor Plus Impact Resistant Interior Panels.
  - Continental Building Products [Lafarge]; Protecta HIR 300 High Impact Resistant Panels.
  - National Gypsum Company’ Hi-Impact Brand XP Wallboard
  - United States Gypsum Co.; Fiberrock VHI Brand Abuse-Resistant Gypsum Panels.

Glass Mat Faced: Utilize Glass Mat Faced in wet areas as wall tile backer (toilet or locker rooms with ceramic tile that do not include showers, no pool or sauna areas and not submerged in water). Product is not accepted as a finished product. Verify with each manufacturer if the product can be utilized for tile backing.

- Design professionals shall evaluate project specific applications.
  - Certainteed; “Diamondback Tile Backer”
  - Georgia Pacific Gypsum Corp.; “Dens-Shield Tile Backer”

- National Gypsum Company; “Gold Bond e2XP Tile Backer”
- United States Gypsum Co.; “Fiberrock Auq-Tough Tile Backerboard”

Acoustical Gypsum Wall board: Provide gypsum wall board as part of an overall tested, certified system, including sealant, insulation and framing. Provide for specific program driven applications.

- National Gypsum Company; Soundbreak wallboard
- Certainteed; Silent FX
- Quiet Solutions; Quietrock 530

Cement Board: Utilize cement board for substrate in partitions for showers and toilet rooms directly adjacent to showers that are in high humidity areas to receive full height tile applications.

- Reference Ceramic Tile section for further information regarding cement board products, waterproofing and applications.

Flexible Gypsum Wallboard: Utilize at tight radiused applications.

- Georgia Pacific ToughRock FlexRoc Gypsum Board
- USG; Sheetrock Brand Flexible Gypsum Panels

Metal Stud Framing

Provide framing gauge as needed for partitions on a project specific basis.

- Provide studs with cut outs to accommodate conduit.
- Dimpled studs are acceptable provided they can accommodate deflection criteria established by design professionals.

Metal Stud Framing Size Guidelines:

- Provide 3 5/8” minimum metal studs for interior office partitions and general spaces.
- Provide 4” minimum metal studs for interior partitions where there may be large conduit runs or as required by height requirements for partitions.
- Provide 6” minimum metal studs for interior partitions at locations with mechanical piping / plumbing located within the partitions.