CHAPTER 25
GYPSUM BOARD, GYPSUM PANEL PRODUCTS AND PLASTER

User notes:

About this chapter: Chapter 25 contains the provisions and referenced standards that regulate the design, construction and quality of gypsum board, gypsum panel products and plaster and, in addition, addresses reinforced gypsum concrete. These materials are some of the most commonly used interior and exterior finish materials in the building industry. This chapter primarily addresses quality-control-related issues with regard to material specifications and installation requirements. Most products are manufactured in accordance with industry standards. The building official or inspector needs to verify that the appropriate product is used and properly installed for the intended use and location. Proper design and installation of these materials are necessary to provide weather resistance and required fire protection for both structural and nonstructural building components.

Code development reminder: Code change proposals to this chapter will be considered by the IBC—Structural Code Development Committee during the 2022 (Group B) Code Development Cycle.

SECTION 2501
GENERAL

2501.1 Scope.
Provisions of this chapter shall govern the materials, design, construction and quality of gypsum board, gypsum panel products, lath, gypsum plaster, cement plaster and reinforced gypsum concrete.

2501.2 Other materials.
Other approved wall or ceiling coverings shall be permitted to be installed in accordance with the recommendations of the manufacturer and the conditions of approval.

SECTION 2502
PERFORMANCE

2502.1 General.
Lathing, plastering and gypsum board and gypsum panel product construction shall be done in the manner and with the materials specified in this chapter and, where required for fire protection, shall comply with the provisions of Chapter 7.
SECTION 2503
INSPECTION

2503.1 Inspection.
Lath, gypsum board and gypsum panel products shall be inspected in accordance with Section 110.3.6.

SECTION 2504
VERTICAL AND HORIZONTAL ASSEMBLIES

2504.1 Scope.
The following requirements shall be met where construction involves gypsum board, gypsum panel products or lath and plaster in vertical and horizontal assemblies.

2504.1.1 Wood framing.
Wood supports for lath, gypsum board or gypsum panel products, as well as wood stripping or furring, shall be not less than 2 inches (51 mm) nominal thickness in the least dimension.

Exception: The minimum nominal dimension of wood furring strips installed over solid backing shall be not less than 1 inch by 2 inches (25 mm by 51 mm).

2504.1.2 Studless partitions.
The minimum thickness of vertically erected studless solid plaster partitions of \(\frac{3}{8}\)-inch (9.5 mm) and \(\frac{3}{4}\)-inch (19.1 mm) rib metal lath, \(\frac{1}{2}\)-inch (12.7 mm) gypsum lath, gypsum board or gypsum panel product shall be 2 inches (51 mm).

SECTION 2505
SHEAR WALL CONSTRUCTION

2505.1 Resistance to shear (wood framing).
Wood-frame shear walls sheathed with gypsum board, gypsum panel products or lath and plaster shall be designed and constructed in accordance with Section 2306.3 and are permitted to resist wind and seismic loads. Walls resisting seismic loads shall be subject to the limitations in Section 12.2.1 of ASCE 7.

2505.2 Resistance to shear (steel framing).
Cold-formed steel-frame shear walls sheathed with gypsum board or gypsum panel products and constructed in accordance with the materials and provisions of Section 2211.1.1 are permitted to resist wind and seismic loads. Walls resisting seismic loads shall be subject to the limitations in Section 12.2.1 of ASCE 7.
SECTION 2506
GYPSUM BOARD AND
GYPSUM PANEL PRODUCT MATERIALS

2506.1 General.
Gypsum board, gypsum panel products and accessories shall be identified by the manufacturer’s designation to indicate compliance with the appropriate standards referenced in this section and stored to protect such materials from the weather.

2506.2 Standards.
Gypsum board and gypsum panel products shall conform to the appropriate standards listed in Table 2506.2 and Chapter 35 and, where required for fire protection, shall conform to the provisions of Chapter 7.

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessories for gypsum board</td>
<td>ASTM C1047</td>
</tr>
<tr>
<td>Adhesives for fastening gypsum board</td>
<td>ASTM C557</td>
</tr>
<tr>
<td>Cold-formed steel studs and track, structural</td>
<td>AISI S240</td>
</tr>
<tr>
<td>Cold-formed steel studs and track, nonstructural</td>
<td>AISI S220</td>
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<tr>
<td>Elastomeric joint sealants</td>
<td>ASTM C920</td>
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<tr>
<td>Expandable foam adhesives for fastening gypsum wallboard</td>
<td>ASTM D6464</td>
</tr>
<tr>
<td>Factory-laminated gypsum panel products</td>
<td>ASTM C1766</td>
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<tr>
<td>Fiber-reinforced gypsum panels</td>
<td>ASTM C1278</td>
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<tr>
<td>Glass mat gypsum backing panel</td>
<td>ASTM C1178</td>
</tr>
<tr>
<td>Glass mat gypsum panel 5</td>
<td>ASTM C1658</td>
</tr>
<tr>
<td>Glass mat gypsum substrate</td>
<td>ASTM C1177</td>
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<tr>
<td>Joint reinforcing tape and compound</td>
<td>ASTM C474; C475</td>
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<tr>
<td>Nails for gypsum boards</td>
<td>ASTM C514, F547, F1667</td>
</tr>
<tr>
<td>Steel screws</td>
<td>ASTM C954; C1002</td>
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<tr>
<td>Standard specification for gypsum board</td>
<td>ASTM C1396</td>
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<tr>
<td>Testing gypsum and gypsum products</td>
<td>ASTM C22; C472; C473</td>
</tr>
</tbody>
</table>

2506.2.1 Other materials.
Metal suspension systems for acoustical and lay-in panel ceilings shall comply with ASTM C635 listed in Chapter 35 and Section 13.5.6 of ASCE 7 for installation in high seismic areas.
SECTION 2507
LATHING AND PLASTERING

2507.1 General.
Lathing and plastering materials and accessories shall be marked by the manufacturer’s designation to indicate compliance with the appropriate standards referenced in this section and stored in such a manner to protect them from the weather.

2507.2 Standards.
Lathing and plastering materials shall conform to the standards listed in Table 2507.2 and Chapter 35 and, where required for fire protection, shall conform to the provisions of Chapter 7.

TABLE 2507.2
LATH, PLASTERING MATERIALS AND ACCESSORIES

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>STANDARD</th>
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</thead>
<tbody>
<tr>
<td>Accessories for gypsum veneer base</td>
<td>ASTM C1047</td>
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<td>Blended cement</td>
<td>ASTM C595</td>
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<td>Cold-formed steel studs and track, structural</td>
<td>AISI S240</td>
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<tr>
<td>Cold-formed steel studs and track, nonstructural</td>
<td>AISI S220</td>
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<tr>
<td>Exterior plaster bonding compounds</td>
<td>ASTM C932</td>
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<tr>
<td>Hydraulic cement</td>
<td>ASTM C1157; C1600</td>
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<tr>
<td>Gypsum casting and molding plaster</td>
<td>ASTM C59</td>
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<td>Gypsum Keene’s cement</td>
<td>ASTM C61</td>
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<td>Gypsum plaster</td>
<td>ASTM C28</td>
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<td>Gypsum veneer plaster</td>
<td>ASTM C587</td>
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<td>Interior bonding compounds, gypsum</td>
<td>ASTM C631</td>
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<tr>
<td>Lime plasters</td>
<td>ASTM C5; C206</td>
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<td>Masonry cement</td>
<td>ASTM C91</td>
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<tr>
<td>Metal lath</td>
<td>ASTM C847</td>
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<tr>
<td>Plaster aggregates</td>
<td></td>
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<tr>
<td>Sand</td>
<td>ASTM C35; C897</td>
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<tr>
<td>Perlite</td>
<td>ASTM C35</td>
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<tr>
<td>Vermiculite</td>
<td>ASTM C35</td>
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<td>Plastic cement</td>
<td>ASTM C1328</td>
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<tr>
<td>Portland cement</td>
<td>ASTM C150</td>
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<tr>
<td>Steel screws</td>
<td>ASTM C1002; C954</td>
</tr>
<tr>
<td>Welded wire lath</td>
<td>ASTM C933</td>
</tr>
<tr>
<td>Woven wire plaster base</td>
<td>ASTM C1032</td>
</tr>
</tbody>
</table>
SECTION 2508
GYPSUM CONSTRUCTION

2508.1 General.
Gypsum board, gypsum panel products and gypsum plaster construction shall be of the materials listed in Tables 2506.2 and 2507.2. These materials shall be assembled and installed in compliance with the appropriate standards listed in Tables 2508.1 and 2511.1.1 and Chapter 35.

TABLE 2508.1
INSTALLATION OF GYPSUM CONSTRUCTION

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gypsum board and gypsum panel products</td>
<td>GA-216; ASTM C840</td>
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<tr>
<td>Gypsum sheathing and gypsum panel products</td>
<td>ASTM C1280</td>
</tr>
<tr>
<td>Gypsum veneer base</td>
<td>ASTM C844</td>
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<tr>
<td>Interior lathing and furring</td>
<td>ASTM C841</td>
</tr>
<tr>
<td>Steel framing for gypsum board and gypsum panel products</td>
<td>ASTM C754; C1007</td>
</tr>
</tbody>
</table>

2508.2 Limitations.
Gypsum wallboard or gypsum plaster shall not be used in any exterior surface where such gypsum construction will be exposed directly to the weather. Gypsum wallboard shall not be used where there will be direct exposure to water or continuous high humidity conditions. Gypsum sheathing shall be installed on exterior surfaces in accordance with ASTM C1280.

2508.2.1 Weather protection.
Gypsum wallboard, gypsum lath or gypsum plaster shall not be installed until weather protection for the installation is provided.

2508.3 Single-ply application.
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.

2508.3.1 Floating angles.
Fasteners at the top and bottom plates of vertical assemblies, or the edges and ends of horizontal assemblies perpendicular to supports, and at the wall line are permitted to be omitted except on shear resisting elements or fire-resistance-rated assemblies. Fasteners shall be applied in such a manner as not to fracture the face paper with the fastener head.

2508.4 Adhesives.
Gypsum board and gypsum panel products secured to framing with adhesives in ceiling
assemblies shall be attached using an approved fastening schedule. Expandable foam adhesives for fastening gypsum wallboard shall conform to ASTM D6464. Other adhesives for the installation of gypsum wallboard shall conform to ASTM C557.

2508.5 Joint treatment.
Gypsum board and gypsum panel product fire-resistance-rated assemblies shall have joints and fasteners treated.

Exception: Joint and fastener treatment need not be provided where any of the following conditions occur:

1. Where the gypsum board or the gypsum panel product is to receive a decorative finish such as wood paneling, battens, acoustical finishes or any similar application that would be equivalent to joint treatment.

2. On single-layer systems where joints occur over wood framing members.

3. Square edge or tongue-and-groove edge gypsum board (V-edge), gypsum panel products, gypsum backing board or gypsum sheathing.

4. On multilayer systems where the joints of adjacent layers are offset.

5. Assemblies tested without joint treatment.

2508.6 Horizontal gypsum board or gypsum panel product diaphragm ceilings.
Gypsum board or gypsum panel products shall be permitted to be used on wood joists to create a horizontal diaphragm ceiling in accordance with Table 2508.6.

**TABLE 2508.6**
SHEAR CAPACITY FOR HORIZONTAL WOOD-FRAME GYPSUM BOARD DIAPHRAGM CEILING ASSEMBLIES

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>THICKNESS OF MATERIAL (MINIMUM) (inches)</th>
<th>SPACING OF FRAMING MEMBERS (inches)</th>
<th>SHEAR VALUE a, b (PLF OF CEILING)</th>
<th>MINIMUM FASTENER SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gypsum board or gypsum panel product</td>
<td>1/2</td>
<td>16 o.c.</td>
<td>90</td>
<td>5d cooler or wallboard nail; 15/64 -inch head c</td>
</tr>
<tr>
<td>Gypsum board or gypsum panel product</td>
<td>1/2</td>
<td>24 o.c.</td>
<td>70</td>
<td>5d cooler or wallboard nail; 15/64 -inch head c</td>
</tr>
</tbody>
</table>

For SI: 1 inch = 25.4 mm, 1 pound per foot = 14.59 N/m.
a. Values are not cumulative with other horizontal diaphragm values and are for short-term wind or seismic loading. Values shall be reduced 25 percent for normal loading.
b. Values shall be reduced 50 percent in Seismic Design Categories D, E and F.
c. 1\(\frac{1}{4}\)-inch, No. 6 Type S or W screws are permitted to be substituted for the listed nails.

### 2508.6.1 Diaphragm proportions.
The maximum allowable diaphragm proportions shall be 1\(\frac{1}{2}\):1 between shear resisting elements. Rotation or cantilever conditions shall not be permitted.

### 2508.6.2 Installation.
Gypsum board or gypsum panel products used in a horizontal diaphragm ceiling shall be installed perpendicular to ceiling framing members. End joints of adjacent courses of gypsum board shall not occur on the same joist.

### 2508.6.3 Blocking of perimeter edges.
Perimeter edges shall be blocked using a wood member not less than 2-inch by 6-inch (51 mm by 152 mm) nominal dimension. Blocking material shall be installed flat over the top plate of the wall to provide a nailing surface not less than 2 inches (51 mm) in width for the attachment of the gypsum board or gypsum panel product.

### 2508.6.4 Fasteners.
Fasteners used for the attachment of gypsum board or gypsum panel products to a horizontal diaphragm ceiling shall be as defined in Table 2508.6. Fasteners shall be spaced not more than 7 inches (178 mm) on center at all supports, including perimeter blocking, and not more than \(\frac{3}{8}\) inch (9.5 mm) from the edges and ends of the gypsum board or gypsum panel product.

### 2508.6.5 Lateral force restrictions.
Gypsum board or gypsum panel products shall not be used in diaphragm ceilings to resist lateral forces imposed by masonry or concrete construction.

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### SECTION 2509
SHOWERS AND WATER CLOSETS

#### 2509.1 Wet areas.
Showers and public toilet walls shall conform to Section 1210.2.

#### 2509.2 Base for tile.
Materials used as a base for wall tile in tub and shower areas and wall and ceiling panels in shower areas shall be of materials listed in Table 2509.2 and installed in accordance with the manufacturer’s recommendations. Water-resistant gypsum backing board shall be used as a base for tile in water closet compartment walls when installed in accordance with GA 216 or ASTM C840 and the manufacturer’s recommendations. Regular gypsum wallboard is permitted under tile or wall panels in other wall and ceiling areas when installed in accordance with GA 216 or ASTM C840.
TABLE 2509.2
BACKERBOARD MATERIALS

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glass mat gypsum backing panel</td>
<td>ASTM C1178</td>
</tr>
<tr>
<td>Nonasbestos fiber-cement backer board</td>
<td>ASTM C1288 or ISO 8336, Category C</td>
</tr>
<tr>
<td>Nonasbestos fiber-mat reinforced cementitious backer unit</td>
<td>ASTM C1325</td>
</tr>
</tbody>
</table>

2509.3 Limitations.
Water-resistant gypsum backing board shall not be used in the following locations:

1. Over a vapor retarder in shower or bathtub compartments.
2. Where there will be direct exposure to water or in areas subject to continuous high humidity.

SECTION 2510
LATHING AND FURRING FOR CEMENT PLASTER (STUCCO)

2510.1 General.
Exterior and interior cement plaster and lathing shall be done with the appropriate materials listed in Table 2507.2 and Chapter 35.

2510.2 Weather protection.
Materials shall be stored in such a manner as to protect them from the weather.

2510.3 Installation.
Installation of these materials shall be in compliance with ASTM C926 and ASTM C1063.

2510.4 Corrosion resistance.
Metal lath and lath attachments shall be of corrosion-resistant material.

2510.5 Backing.
Backing or a lath shall provide sufficient rigidity to permit plaster applications.

2510.5.1 Support of lath.
Where lath on vertical surfaces extends between rafters or other similar projecting members, solid backing shall be installed to provide support for lath and attachments.

2510.5.2 Use of gypsum backing board.
Gypsum backing for cement plaster shall be in accordance with Section 2510.5.2.1 or 2510.5.2.2.
2510.5.2.1 **Gypsum board as a backing board.**
Gypsum lath or gypsum wallboard shall not be used as a backing for cement plaster.

**Exception:** Gypsum lath or gypsum wallboard is permitted, with a water-resistive barrier, as a backing for self-furred metal lath or self-furred wire fabric lath and cement plaster where either of the following conditions occur:

1. On horizontal supports of ceilings or roof soffits.
2. On interior walls.

2510.5.2.2 **Gypsum sheathing backing.**
Gypsum sheathing is permitted as a backing for metal or wire fabric lath and cement plaster on walls. A water-resistive barrier shall be provided in accordance with Section 2510.6.

2510.5.3 **Backing not required.**
Wire backing is not required under expanded metal lath or paperbacked wire fabric lath.

2510.6 **Water-resistive barriers.**
Water-resistive barriers shall be installed as required in Section 1403.2 and, where applied over wood-based sheathing, shall comply with Section 2510.6.1 or 2510.6.2.

2510.6.1 **Dry climates.**
One of the following shall apply for dry (B) climate zones:

1. The water-resistive barrier shall be two layers of 10-minute Grade D paper or have a water resistance equal to or greater than two layers of water-resistive barrier complying with ASTM E2556, Type I. The individual layers shall be installed independently such that each layer provides a separate continuous plane and any flashing, installed in accordance with Section 1404.4 and intended to drain to the water-resistive barrier, is directed between the layers.

2. The water-resistive barrier shall be 60-minute Grade D paper or have a water resistance equal to or greater than one layer of water-resistive barrier complying with ASTM E2556, Type II. The water-resistive barrier shall be separated from the stucco by a layer of foam plastic insulating sheathing or other nonwater absorbing layer, or a drainage space.

2510.6.2 **Moist or marine climates.**
In moist (A) or marine (C) climate zones, water-resistive barrier shall comply with one of the following:

1. In addition to complying with Item 1 or 2 of Section 2510.6.1, a space or drainage material not less than \( \frac{3}{16} \) inch (4.8 mm) in depth shall be applied to the exterior side of the water-resistive barrier.
2. In addition to complying with Item 2 of Section 2510.6.1, drainage on the exterior side of the water-resistant barrier shall have a minimum drainage efficiency of 90 percent as measured in accordance with ASTM E2273 or Annex A2 of ASTM E2925.

2510.7 Preparation of masonry and concrete.
Surfaces shall be clean, free from efflorescence, sufficiently damp and rough for proper bond. If the surface is insufficiently rough, approved bonding agents or a Portland cement dash bond coat mixed in proportions of not more than two parts volume of sand to one part volume of Portland cement or plastic cement shall be applied. The dash bond coat shall be left undisturbed and shall be moist cured not less than 24 hours.

SECTION 2511
INTERIOR PLASTER

2511.1 General.
Plastering gypsum plaster or cement plaster shall be not less than three coats where applied over metal lath or wire fabric lath and not less than two coats where applied over other bases permitted by this chapter.

Exception: Gypsum veneer plaster and cement plaster specifically designed and approved for one-coat applications.

2511.1.1 Installation.
Installation of lathing and plaster materials shall conform to Table 2511.1.1 and Section 2507.

TABLE 2511.1.1
INSTALLATION OF PLASTER CONSTRUCTION

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cement plaster</td>
<td>ASTM C926</td>
</tr>
<tr>
<td>Gypsum plaster</td>
<td>ASTM C842</td>
</tr>
<tr>
<td>Gypsum veneer plaster</td>
<td>ASTM C843</td>
</tr>
<tr>
<td>Interior lathing and furring (gypsum plaster)</td>
<td>ASTM C841</td>
</tr>
<tr>
<td>Lathing and furring (cement plaster)</td>
<td>ASTM C1063</td>
</tr>
<tr>
<td>Steel framing</td>
<td>ASTM C754; C1007</td>
</tr>
</tbody>
</table>

2511.2 Limitations.
Plaster shall not be applied directly to fiber insulation board. Cement plaster shall not be applied directly to gypsum lath or gypsum plaster except as specified in Sections 2510.5.1 and 2510.5.2.
2511.3 Grounds.
Where installed, grounds shall ensure the minimum thickness of plaster as set forth in ASTM C842 and ASTM C926. Plaster thickness shall be measured from the face of lath and other bases.

2511.4 Interior masonry or concrete.
Condition of surfaces shall be as specified in Section 2510.7. Approved specially prepared gypsum plaster designed for application to concrete surfaces or approved acoustical plaster is permitted. The total thickness of base coat plaster applied to concrete ceilings shall be as set forth in ASTM C842 or ASTM C926. Should ceiling surfaces require more than the maximum thickness permitted in ASTM C842 or ASTM C926, metal lath or wire fabric lath shall be installed on such surfaces before plastering.

2511.5 Wet areas.
Showers and public toilet walls shall conform to Sections 1210.2 and 1210.3. Where wood frame walls and partitions are covered on the interior with cement plaster or tile of similar material and are subject to water splash, the framing shall be protected with an approved moisture barrier.

SECTION 2512
EXTERIOR PLASTER

2512.1 General.
Plastering with cement plaster shall be not less than three coats where applied over metal lath or wire fabric lath or gypsum board backing as specified in Section 2510.5 and shall be not less than two coats where applied over masonry or concrete. If the plaster surface is to be completely covered by veneer or other facing material, or is completely concealed by another wall, plaster application need only be two coats, provided that the total thickness is as set forth in ASTM C926.

2512.1.1 On-grade floor slab.
On wood frame or steel stud construction with an on-grade concrete floor slab system, exterior plaster shall be applied in such a manner as to cover, but not to extend below, the lath and paper. The application of lath, paper and flashing or drip screeds shall comply with ASTM C1063.

2512.1.2 Weep screeds.
A minimum 0.019-inch (0.48 mm) (No. 26 galvanized sheet gage), corrosion-resistant weep screed with a minimum vertical attachment flange of \(3 \frac{1}{2}\) inches (89 mm) shall be provided at or below the foundation plate line on exterior stud walls in accordance with ASTM C926. The weep screed shall be placed not less than 4 inches (102 mm) above the earth or 2 inches (51 mm) above paved areas and be of a type that will allow trapped water to drain to the exterior of the building. The water-resistant barrier shall lap the attachment flange. The exterior lath shall cover and terminate on the attachment flange of the weep screed.

2512.2 Plasticity agents.
Only approved plasticity agents and approved amounts thereof shall be added to Portland cement or blended cements. Where plastic cement or masonry cement is used, additional lime
or plasticizers shall not be added. Hydrated lime or the equivalent amount of lime putty used as a plasticizer is permitted to be added to cement plaster or cement and lime plaster in an amount not to exceed that set forth in ASTM C926.

2512.3 Limitations.
Gypsum plaster shall not be used on exterior surfaces.

2512.4 Cement plaster.
Plaster coats shall be protected from freezing for a period of not less than 24 hours after set has occurred. Plaster shall be applied when the ambient temperature is higher than 40°F (4°C), unless provisions are made to keep cement plaster work above 40°F (4°C) during application and 48 hours thereafter.

2512.5 Second-coat application.
The second coat shall be brought out to proper thickness, rodded and floated sufficiently rough to provide adequate bond for the finish coat. The second coat shall not have variations greater than 1/4 inch (6.4 mm) in any direction under a 5-foot (1524 mm) straight edge.

2512.6 Curing and interval.
First and second coats of cement plaster shall be applied and moist cured as set forth in ASTM C926 and Table 2512.6.

<table>
<thead>
<tr>
<th>COAT</th>
<th>MINIMUM PERIOD MOIST CURING</th>
<th>MINIMUM INTERVAL BETWEEN COATS</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>48 hours&lt;sup&gt;a&lt;/sup&gt;</td>
<td>48 hours&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Second</td>
<td>48 hours</td>
<td>7 days&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Finish</td>
<td>—</td>
<td>Note c</td>
</tr>
</tbody>
</table>

<sup>a</sup> The first two coats shall be as required for the first coats of exterior plaster, except that the moist-curing time period between the first and second coats shall be not less than 24 hours. Moist curing shall not be required where job and weather conditions are favorable to the retention of moisture in the cement plaster for the required time period.

<sup>b</sup> Twenty-four-hour minimum interval between coats of interior cement plaster. For alternative method of application, see Section 2512.8.

<sup>c</sup> Finish coat plaster is permitted to be applied to interior cement plaster base coats after a 48-hour period.

2512.7 Application to solid backings.
Where applied over gypsum backing as specified in Section 2510.5 or directly to unit masonry surfaces, the second coat is permitted to be applied as soon as the first coat has attained sufficient hardness.

2512.8 Alternate method of application.
The second coat is permitted to be applied as soon as the first coat has attained sufficient rigidity to receive the second coat.
2512.8.1 Admixtures.
Where using this method of application, calcium aluminate cement up to 15 percent of the weight of the Portland cement is permitted to be added to the mix.

2512.8.2 Curing.
Curing of the first coat is permitted to be omitted and the second coat shall be cured as set forth in ASTM C926 and Table 2512.6.

2512.9 Finish coats.
_Cement plaster_ finish coats shall be applied over base coats that have been in place for the time periods set forth in ASTM C926. The third or finish coat shall be applied with sufficient material and pressure to bond and to cover the brown coat and shall be of sufficient thickness to conceal the brown coat.

SECTION 2513
EXPOSED AGGREGATE PLASTER

2513.1 General.
Exposed natural or integrally colored aggregate is permitted to be partially embedded in a natural or colored bedding coat of _cement plaster_ or _gypsum plaster_, subject to the provisions of this section.

2513.2 Aggregate.
The aggregate shall be applied manually or mechanically and shall consist of marble chips, pebbles or similar durable, moderately hard (three or more on the Mohs hardness scale), nonreactive materials.

2513.3 Bedding coat proportions.
The bedding coat for interior or exterior surfaces shall be composed of one part Portland cement and one part Type S lime, or one part blended cement and one part Type S lime; or masonry cement; or plastic cement and not more than three parts of graded white or natural sand by volume. The bedding coat for _interior surfaces_ shall be composed of 100 pounds (45.4 kg) of neat _gypsum plaster_ and not more than 200 pounds (90.8 kg) of graded white sand. A factory-prepared bedding coat for interior or exterior use is permitted. The bedding coat for exterior surfaces shall have a minimum compressive strength of 1,000 pounds per square inch (6895 kPa).

2513.4 Application.
The bedding coat is permitted to be applied directly over the first (scratch) coat of plaster, provided that the ultimate overall thickness is not less than \(\frac{7}{8}\) inch (22 mm), including lath. Over concrete or masonry surfaces, the overall thickness shall be not less than \(\frac{1}{2}\) inch (12.7 mm).

2513.5 Bases.
Exposed aggregate plaster is permitted to be applied over concrete, masonry, _cement plaster_ base coats or _gypsum plaster_ base coats installed in accordance with Section 2511 or 2512.
2513.6 Preparation of masonry and concrete. Masonry and concrete surfaces shall be prepared in accordance with the provisions of Section 2510.7.

2513.7 Curing of base coats. Cement plaster base coats shall be cured in accordance with ASTM C926. Cement plaster bedding coats shall retain sufficient moisture for hydration (hardening) for 24 hours minimum or, where necessary, shall be kept damp for 24 hours by light water spraying.

SECTION 2514
REINFORCED GYPSUM CONCRETE

2514.1 General. Reinforced gypsum concrete shall comply with the requirements of ASTM C317 and ASTM C956.

2514.2 Minimum thickness. The minimum thickness of reinforced gypsum concrete shall be 2 inches (51 mm) except the minimum required thickness shall be reduced to \( \frac{3}{4} \) inches (38 mm), provided that the following conditions are satisfied:

1. The overall thickness, including the formboard, is not less than 2 inches (51 mm).
2. The clear span of the gypsum concrete between supports does not exceed 33 inches (838 mm).
3. Diaphragm action is not required.
4. The design live load does not exceed 40 pounds per square foot (psf) (1915 Pa).