



Designation: **C1063—18 C1063 – 18a**

Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster¹

This standard is issued under the fixed designation C1063; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope*

1.1 This specification covers the minimum technical requirements for lathing and furring for the application of exterior and interior portland cement-based plaster, as in Specifications **C841** or **C926**. These requirements do not by default define a unit of work or assign responsibility for contractual purposes, which is the purview of a contract or contracts made between contracting entities.

1.2 Where a fire resistance rating is required for plastered assemblies and constructions, details of construction shall be in accordance with reports of fire tests of assemblies that have met the requirements of the fire rating imposed.

1.3 Where a specific degree of sound control is required for plastered assemblies and constructions, details of construction shall be in accordance with official reports of tests conducted in recognized testing laboratories in accordance with the applicable requirements of Test Method **E90**.

1.4 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.5 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*²

~~A641/A641M Specification for Zinc-Coated (Galvanized) Carbon Steel Wire~~

~~A653/A653M Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process~~

~~B69 Specification for Rolled Zinc~~

~~B221 Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes~~

~~C11 Terminology Relating to Gypsum and Related Building Materials and Systems~~

~~C841 Specification for Installation of Interior Lathing and Furring~~

~~C847 Specification for Metal Lath~~

~~C926 Specification for Application of Portland Cement-Based Plaster~~

~~C933 Specification for Welded Wire Lath~~

~~C954 Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness~~

~~C1002 Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs~~

~~C1032 Specification for Woven Wire Plaster Base~~

~~C1280 Specification for Application of Exterior Gypsum Panel Products for Use as Sheathing~~

¹ This specification is under the jurisdiction of ASTM Committee **C11** on Gypsum and Related Building Materials and Systems and is the direct responsibility of Subcommittee **C11.03** on Specifications for the Application of Gypsum and Other Products in Assemblies.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

*A Summary of Changes section appears at the end of this standard

~~D1784~~C1861 Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds Lathing and Furring Accessories, and Fasteners, for Interior and Exterior Portland Cement-Based Plaster
~~D4216~~ Specification for Rigid Poly(Vinyl Chloride) (PVC) and Related PVC and Chlorinated Poly(Vinyl Chloride) (CPVC) Building Products Compounds
 E90 Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
 2.2 US Department of Commerce (DOC) Standards
 PS 1 Voluntary Product Standard PS 1, Structural Plywood
 PS 2 Voluntary Product Standard PS 2, Performance Standard for Wood-Based Structural Use Panels

3. Terminology

3.1 *Definitions*—For definitions relating to ceilings and walls, see Terminology C11.

3.1 Definitions:

3.1.1 For definitions relating to ceilings and walls, see Terminology C11.

3.1.2 For definitions relating to lathing accessories, furring accessories and fasteners, see Specification C1861.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *building enclosure, n*—system of building assemblies and materials designed and installed in such a manner as to provide a barrier between different environments.

3.2.2 *control joint, n*—a joint that accommodates movement of plaster shrinkage and curing along predetermined, usually straight, lines.

3.2.3 *expansion joint, n*—a joint that accommodates movement beyond plaster shrinkage and curing.

NOTE 1—For design consideration of control and expansion joints, see Annex A2.3.1.2 of Specification C926.

3.2.4 *framing member, n*—studs, joist, runners (track), bridging, bracing, and related accessories manufactured or supplied in wood or light gauge steel.

3.2.5 *hangers, n*—wires or steel rods or straps used to support main runners for suspended ceilings beneath floor or roof constructions.

3.2.6 *inserts, n*—devices embedded in concrete framing members to provide a loop or opening for attachment of hangers.

3.2.7 *saddle tie, n*—see Figs. 1 and 2.

3.2.8 *self-furring, adj*—a metal plaster base manufactured with evenly-spaced indentations that hold the body of the lath approximately 1/4 in. (6 mm) away from solid surfaces to which it is installed.

3.2.9 *water resistive barrier, n*—a material that resists the infiltration of liquid moisture through the building enclosure system.

4. Delivery and Storage of Materials

4.1 Delivery of Materials:

4.1.1 All materials shall be delivered in the original packages, containers, or bundles bearing the brand-name and manufacturer's (or supplier's) identification.

4.2 Storage of Materials:

4.2.1 All materials shall be kept dry. Materials shall be stacked off the ground, supported on a level platform, and protected from the weather and surface contamination.

4.2.2 Materials shall be neatly stacked with care taken to avoid damage to edges, ends, or surfaces.

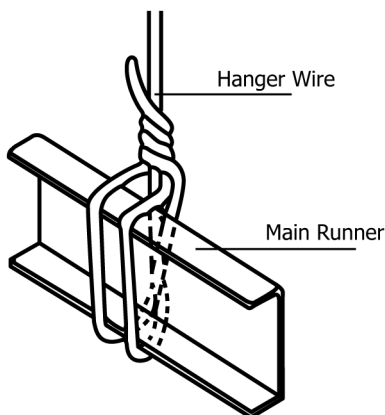


FIG. 1 Saddle Tie

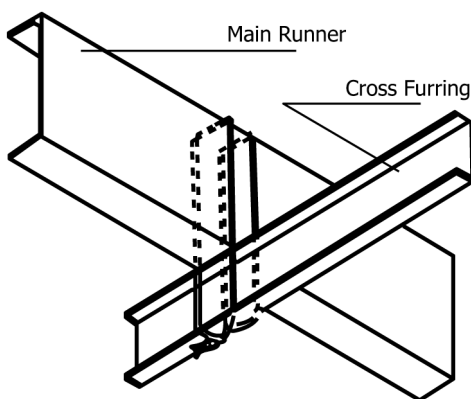


FIG. 2 Saddle Tie

4.2.3 Paper backed metal plaster bases shall be handled carefully in delivery, storage, and erection to prevent puncturing or removal of paper.

5. Materials

5.1 Metallic materials including lathing, lath accessories, lathing accessories, furring, furring accessories, and fasteners shall be selected for compatibility to minimize galvanic corrosion between adjacent metallic materials installed in the cement plaster cladding assembly.

5.2 Metal Plaster Bases:

5.2.1 Expanded Metal Lath—Specification C847, galvanized.

5.2.2 Wire Laths:

5.2.2.1 Welded Wire Lath—Specification C933.

5.2.2.2 Woven Wire Lath—Specification C1032.

5.2.2.3 Paper Backed Plaster Bases—Specification C847.

5.3 Accessories—Lathing Accessories, Furring Accessories and Fasteners:

5.3.1 General—All accessories shall have perforated or expanded flanges or clips shaped to permit complete embedment in the plaster, to provide means for accurate alignment, and to secure attachment of the accessory to the underlying surface. Accessories shall be designed to receive application of the specified plaster thickness.

5.3.1 Lathing Accessories, Furring Accessories and Fasteners—Accessories shall be fabricated from Zinc Alloy (99% pure zinc), galvanized (zinc-coated) steel, rigid PVC or CPVC plastic, or anodized aluminum alloy (see Specification B221C1861). Accessories shall be free of deleterious amounts of rust, oil, or other foreign matter, which could cause bond failure or unsightly discoloration. (See Table 1 for minimum allowable thicknesses.)

5.3.2 The selection of an appropriate type of material for lathing accessories shall be based upon applicable surrounding climatic and environmental conditions specific to the project location, such as salt air, industrial pollution, high moisture, or humidity.

5.3.4 Steel—Specification A653/A653M and shall have a G60 coating.

5.3.5 PVC Plastic—Specification D1784 or D4216.

5.3.6 Zinc Alloy—Specification B69, 99% pure zinc.

5.3.7 Thickness of base material shall be as shown in Table 1.

5.3.8 Cornerite—1.75 lb/yd² (0.059 kg/m²), galvanized expanded metal lath, 1.7 lb/yd² (0.057 kg/m²) galvanized woven or welded wire fabric of 0.0410 in. (1.04 mm) wire. When shaped for angle reinforcing, it shall have outstanding flanges (legs) of not less than 2 in. (51 mm):

5.4 Channels—Shall be cold-formed from steel with minimum 33 000 psi (228 MPa) yield strength and 0.0538 in. (1.37 mm) minimum bare steel thickness. Channel shall have a protective coating conforming to Specification A653/A653M—G60, or have a protective coating with an equivalent corrosion resistance for exterior applications, or shall be coated with a rust inhibitive paint, for interior applications, and shall have the following minimum weights in pounds per 1000 linear ft (kg/m):

Sizes, in. (mm)	Weight, lb/1000 ft (kg/m)	Flange Width, in. (mm)
3/4 (19)	277 (0.412)	1/2 (13)
1 1/2 (38)	414 (0.616)	1/2 (13)
2 (51)	506 (0.753)	1/2 (13)
2 1/2 (64)	597 (0.888)	1/2 (13)

NOTE 2—Channels used in areas subject to corrosive action of salt air shall be hot-dipped galvanized, G60 coating.

~~5.4.1 External Corner Reinforcement—Expanded lath, welded wire, or woven wire mesh bent to approximately 90° used to reinforce portland cement stucco at external corners. This accessory shall be fully embedded in the stucco.~~

~~5.4.2 Weep Screed—Accessory used to terminate portland cement based stucco at the bottom of exterior framed walls. This accessory shall have a sloped, solid, or perforated, ground, or screed flange to facilitate the removal of moisture from the wall cavity, and a vertical attachment flange not less than 3½ in. (89 mm) long.~~

~~5.5 Wire—As specified in Specification **A641/A641M** with a Class I zinc-coated (galvanized), soft-temper steel. Wire diameters (uncoated) specified herein correspond with United States Steel Wire Gauge numbers as follows:~~

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Wire Gauge (US Steel Wire Gauge)	Diameter (in.)	mm
No. 20	0.0348	—.88
No. 19	0.0410	1.04
No. 18	0.0475	1.21
No. 17	0.0540	1.37
No. 16	0.0625	1.59
No. 14	0.0800	2.03
No. 13	0.0915	2.32
No. 12	0.1055	2.68
No. 11	0.1205	3.06
No. 10	0.1350	3.43
No. 9	0.1483	3.77
No. 8	0.1620	4.12

5.6 *Rod and Strap Hangers*—Mild steel, zinc or cadmium plated, or protected with a rust-inhibiting paint.

5.7 *Clips*—Form from steel wire, Specification **A641/A641M** zinc-coated (galvanized), Specification **A641/A641M** or steel sheet, Specification **A653/A653M**, depending on use and manufacturer's requirements.

5.8 *Fasteners*:

5.8.1 *Nails*—For attaching metal plaster bases to wood framing members, 0.1205-in. 11 gauge (3.06 mm) diameter, 7/16-in. (11 mm) head, barbed, galvanized roofing nails or galvanized common nails.

5.8.1.1 Nails for attaching metal plaster bases to solid substrates shall be not less than 3/4 in. (19 mm) long.

5.8.2 Screws for attaching metal plaster base shall be fabricated in accordance with either Specification **C954** or **C1002**, and shall have a 7/16 in. (11 mm) diameter pan wafer head and a 0.120 in. (3 mm) diameter shank. Screws used for attachment to metal framing members shall be self-drilling and self-tapping. Screws used for attachment to wood framing members shall be sharp-point.

5.8.3 *Staples*—For attaching metal plaster bases to wood framing members, staples shall have crowns 3/4 in. (19 mm) wide minimum."

6. Requirements for Substrates to Receive Metal Lathing and Furring

6.1 *Framed, or Framed and Sheathed Substrates*:

6.1.1 Framing member deflection shall not exceed $L/360$ ($L/360$ (0.33 in. in 10 ft)).

6.1.2 Plywood and oriented strand board sheathing panels shall be marked in accordance with DOC PS1 or DOC PS 2.

6.1.3 Plywood and oriented strand board sheathing panels shall be installed with 1/8 in. (3 mm) minimum panel edge gaps, and panel edges shall be offset 4 in. (10 cm) minimum from reentrant wall opening reentrant corners.

6.1.4 Wood framing members, plywood and oriented strand board sheathing panels shall have a moisture content not to exceed 19% immediately before plastering.

6.1.5 Exterior gypsum sheathing panels shall be installed in compliance with Specification **C1280**.

7. Installation

7.1 *Workmanship*—Metal ~~furring and lathing~~ lathing, lathing accessories, furring, and furring accessories shall be erected so that the finished cement plaster surfaces are true to line (allowable tolerance of 1/4 in. (6 mm) in 10 ft (3 m)), level, plumb, square, or curved as required to receive the specified cement plaster thickness.

7.2 *Hangers and Inserts*:

7.2.1 Hangers shall be of ample length and shall conform to the requirements of **Table 21**, both as to size and maximum cement plaster panel area to be supported, except as modified in this section.

7.2.2 When 1-by-~~strap~~ 3/4-in. (25 by 5 mm) flat inserts and hangers are used, 7/16-in. (11 mm) diameter holes shall be provided on the center line at the ~~lower end of the insert and upper end of the strap~~ hanger to permit the attachment of the ~~hanger to the insert~~ strap hanger. The edge of the holes in ~~both the inserts and the the strap~~ hangers shall be not less than 3/8 in. (10 mm) from the ends.

7.2.3 In concrete, rod or strap hangers shall be attached to inserts embedded in the concrete, or to other attachment devices designed for this purpose, and able to develop full strength of the hanger.

7.2.4 Flat, steel Strap hangers shall be bolted to 1-by-3/4-in. (25 by 5 mm) inserts with 3/8-in. (10 mm) diameter round-head stove machine bolts. (See **Fig. 3**.)

7.2.5 The nuts of the machine bolts shall be drawn up tight.

NOTE 2—Hangers required to withstand upward wind pressures shall be of a type to resist compression. Struts of formed channels shall be permitted.

7.3 *Installation of Hangers for Suspended Ceilings Under Wood Constructions*—Hangers shall be attached to framing members by any of the following methods:

7.3.1 A hole shall be drilled through the wood framing member not less than 3 in. (76 mm) above the bottom, with the upper end of the wire hanger passed through the hole and twisted three times around itself. (See **Fig. 4**.)

TABLE 21 Allowable Support or Hanger Wire Spacing ft-in. (mm) and Cold-Rolled Channel Furring Main Runner Spans, ft-in. (mm)^{†-†01-7}

Note 1 — 1 in. = 25.4 mm; 1 ft² = 0.093 m²

Member Size, in. (mm)	Member Weight, lb/1000 ft (kg/m)	Span Condition ^{9†} _{†06,7}	Uniform Load = 12 psf (0.479 kPa)				
			Member Spacing, in. (mm)				
			24 (610)	36 (914)	48 (1220)	60 (1520)	72 (1830)
			Allowable Hanger Wire or Support Spacing, ft-in. (mm)				
1½ (38)	414 (0.615)	Single	3-6 (1070)	3-1 (940)	2-9 (840)	2-9 (790)	2-5 (740)
		2 or More	4-11 (1500)	4-2 (1270)	3-7 (1090)	3-2 (970)	2-11 (890)
2 (51)	506 (0.753)	Single	3-9 (1140)	3-3 (990)	3-0 (910)	2-9 (840)	2-8 (810)
		2 or More	5-2 (1570)	4-6 (1370)	4-1 (1240)	3-10 (1170)	3-7 (1090)
2½ (64)	597 (0.888)	Single	3-11 (1190)	3-5 (1040)	3-2 (970)	2-11 (890)	2-9 (840)
		2 or More	5-5 (1650)	4-9 (1450)	4-4 (1320)	4.0 (1220)	3-10 (1170)

Member Size, in. (mm)	Member Weight, lb/1000 ft (kg/m)	Span Condition ^{9,†0} _{†6,7}	Uniform Load = 15 psf (0.287 kPa)				
			Member Spacing, in. (mm)				
			24 (610)	36 (914)	48 (1220)	60 (1520)	72 (1830)
1½ (38)	414 (0.616)	Single	3-3 (990)	2-10 (860)	2-7 (790)	2-4 (710)	2-2 (660)
		2 or More	4-6 (1370)	3-8 (1120)	3-2 (970)	2-10 (860)	2-7 (790)
2 (51)	506 (0.753)	Single	3-6 (1070)	3-1 (940)	2-10 (880)	2-7 (790)	2-5 (740)
		2 or More	4-10 (1470)	4-3 (1300)	3-10 (1170)	3-6 (1070)	3-3 (990)
2½ (64)	597 (0.888)	Single	3-8 (1120)	3-3 (990)	2-11 (890)	2-9 (840)	2-7 (790)
		2 or More	5-0 (1520)	4-5 (1350)	4-0 (1220)	3.9 (1140)	3-6 (1070)

- Allowable Spans Notes:
- ¹ Bare metal thickness of cold-rolled main runners shall be not less than 0.0538 in. (1.367 mm).
 - ² Inside corner radii shall not be greater than ¼ in. (3 mm).
 - ³ Spans based on upper flange of main runners laterally unbraced.
 - ¹ Spans based on upper flange of main runners laterally unbraced.
 - ⁴ Maximum deflection limited to 1/360 of the span length.
 - ² Maximum deflection limited to 1/360 of the span length.
 - ⁵ Steel yield stress, F_y, shall be not less than 33 000 psi (228 MPa).
 - ⁶ Uniform load 12 psf (dry density) shall be used for portland cement plaster ceilings with plaster thicknesses up to ⅞ in. (22 mm) and 15 psf shall be used for ceilings with plaster thicknesses over ⅞ in. (22 mm) and not more than 1¼ in. (32 mm).
 - ³ Uniform load 12 psf (dry density) shall be used for portland cement plaster ceilings with plaster thicknesses up to ⅞ in. (22 mm) and 15 psf shall be used for ceilings with plaster thicknesses over ⅞ in. (22 mm) and not more than 1¼ in. (32 mm).
 - ⁷ "2 or More" spans refers to two or more continuous, equal spans.
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 - ⁸ For the "2 or More" span condition, listed spans represent the center-to-center distance between adjacent framing members.
 - ⁵ For the "2 or More" span condition, listed spans represent the center-to-center distance between adjacent framing members.
 - ⁹ These tables are designed for dead loads. Specific conditions such as exterior installations in high wind areas require additional engineering.
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 - ¹⁰ Where uplift resistance is required for suspended ceilings to resist negative forces, the architect or engineer of record shall select the method to be used.
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TABLE 42 Spans and Spacing of Cold-Rolled Channel Cross-Furring Members^{A, B, C, D, E, F}

Member Depth	Spacing, in. (mm)	Allowable Span, Main Runners or Supports Ft-in. (mm)	
		Simple Span	Two or More Spans ^{G, H}
¾ (19)	13.5 (343)	2-9 (840)	3-5 (1040)
	16 (406)	2-7 (790)	3-3 (990)
	19 (483)	2-7 (740)	3-0 (910)
	24 (610)	2-3 (690)	2-10 (860)
1½ (38)	13.5 (343)	4-6 (1370)	5-8 (1730)
	16 (406)	4-3 (1300)	5-5 (1650)
	19 (483)	4-0 (1220)	5-1 (1550)
	24 (610)	3-8 (1120)	4-9 (1450)

- ^A Bare metal thickness of cold-rolled members shall not be less than 0.0538 in. (1.367 mm).
- ^B Inside corner radii shall not be greater than ¼ in. (3 mm).
- ^A Spans based on upper flange of cross-furring laterally unbraced.
- ^B Maximum deflection limited to 1/360th of span length unbraced.
- ^E Steel yield stress, F_y, shall not be less than 33 000 psi (228 MPa).
- ^C Tabulated spans apply only to cross-furring with webs oriented vertically.
- ^D "Two or more" spans refers to two or more continuous, equal spans.
- ^E For the "two or more" span conditions, listed spans represent the center-to-center distance between adjacent framing members.