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Standard Terminology of Nails for Use with Wood and Wood-Base Materials¹

This standard is issued under the fixed designation F547; 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 reappraisal. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reappraisal.

INTRODUCTION

The terms included in these definitions are listed in alphabetical order under nine headings to facilitate quick reference and in certain cases are sub-categorized. They are intended to apply to metal nails. Omitted are terms relating to tacks, pins, drift pins, dowels, studs, spikes, staples, and other fasteners, such as nail plates. Also omitted are terms relating to the testing and the performance of nails, that is, their drivability, withdrawal resistance, lateral load transmission, creep, protrusion resistance, and splitting; and methods of use, such as face, toe, side, and end-nailing, spacing, loading conditions, etc. These subject matters will be covered in a separate definition of terms relating to mechanical fasteners.

Common acceptance and usage are the basis for most of the definitions listed. In some instances, this common usage results in more than one definition for a given term. In other cases, registered trademarks have become generic in nature; hence, they are included among the terms listed.

Any such listing cannot be complete. As additional terms are referred to the Society's attention, they will be included.

An asterisk (*) behind the name of a nail indicates that this particular nail type is described in Specification **F1667/F1667M**.

Whereas dimensions are normally not part of a definition, they are included in this standard because they are essential in fully describing the fastener under consideration. Nail size designations are shown as length x shank diameter (example 3 x 0.131). All nail and wire dimensions referenced in this standard are in inches only. For SI dimension, reference **F1667/F1667M** where applicable.

The definitions are listed under the following headings:

- 2.1 Nail
- 2.2 Nail Types used in Engineered and Non-Engineered Building Construction
 - 2.2.1 Framing Nails
 - 2.2.2 Roofing (Shingles, Tile, Underlayment) Nails
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- 2.5 Material Terminology
- 2.6 Nail Heads Terminology
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- 2.8 Nail Shank Terminology
- 2.9 Miscellaneous Terms

1. Referenced Documents

1.1 *ASTM Standards*:²

A510/A510M Specification for General Requirements for

¹ This terminology is under the jurisdiction of ASTM Committee F16 on Fasteners and is the direct responsibility of Subcommittee F16.05 on Driven and Other Fasteners.

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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.

Wire Rods and Coarse Round Wire, Carbon Steel, and Alloy Steel

A1040 Guide for Specifying Harmonized Standard Grade Compositions for Wrought Carbon, Low-Alloy, and Alloy Steels

A1059/A1059M Specification for Zinc Alloy Thermo-Diffusion Coatings (TDC) on Steel Fasteners, Hardware, and Other Products

F1667/F1667M Specification for Driven Fasteners: Nails, Spikes, and Staples

2. Terminology

2.1 NAIL

nail—straight, slender fastener, usually pointed and headed; normally 6 in. or less in length; designed to be driven; to hold two or more pieces together or to act as support. (See **screw nail**; **drive screw**.)

DISCUSSION—In contrast to screw—fastener, usually pointed and headed; designed to be turned with a screwdriver or other device;

having in its simplest form one or two continuous spiral threads (such as a wood screw thread) or a helical thread (such as a machine screw thread) or combinations thereof (such as a sheet-metal screw thread).

2.2 NAIL TYPES USED IN ENGINEERED AND NON-ENGINEERED BUILDING CONSTRUCTION

2.2.1 FRAMING NAILS

box nail*—carbon steel bright, zinc coated or other coating as specified, stainless steel or aluminum, smooth or deformed shank 1 × 0.058 to 5 × 0.162 nails, made of lighter-gage wire than common nails and sinkers, with flat $1\frac{1}{64}$ to $1\frac{3}{32}$ head and medium diamond point.

cooler nail*—carbon steel or stainless steel, round smooth or deformed shank, bright or zinc coated or other coating as specified 1 × 0.062 to $2\frac{7}{8}$ × 0.120 nails with flat $1\frac{1}{64}$ to $1\frac{9}{64}$ head and medium diamond point, with head diameter same as or smaller than that of common wire nail of same length.

metal hardware nail*—carbon steel- bright or zinc coated, or stainless steel, smooth or ring shank $1\frac{1}{4}$ × 0.131 to $3\frac{1}{2}$ × 0.162 flat round head 0.281, diamond point meeting the minimum bending yield requirements of Supplementary section S1 and Table S1.1 and S1.2 of Specification **F1667/F1667M**.

post-frame ring shank nail*—carbon steel, hardened carbon steel or stainless steel, bright or zinc coated, ring shank nail, ranging from 3 × 0.135 to 8 × 0.207, with specific dimensional values of ring geometry, flat head and diamond point, meeting minimum bending yield requirements of Supplementary Section S1 and Table S1.1 or Table S1.2 of Specification **F1667/F1667M**.

power-tool driven common nail*—steel-bright, zinc coated or other coating as specified; stainless steel; aluminum, smooth or deformed shank, ranging from $1\frac{1}{4}$ × 0.080 to $4\frac{1}{2}$ × 0.162 flat full, altered heads or T-head; head dimensions as specified in order to be driven by power-tool, diamond, chisel, needle or no point

sinker*—steel-bright or coated as specified, smooth shank, $1\frac{1}{8}$ × 0.067 to $5\frac{3}{4}$ × 0.244 nails with $1\frac{1}{64}$ to $1\frac{1}{2}$ sinker head and medium diamond point, with diameter of head smaller than that of cooler and common nail of same designation.

steel common nail*—steel-bright, zinc coated or other coating as specified, or stainless steel, smooth shank, 1 × 0.072 to 6 × 0.262 nails with flat $1\frac{1}{64}$ to $1\frac{7}{32}$ head and medium diamond point. Diameter is larger than that for sinkers, coolers, corks, and box nails of same length.

2.2.2 ROOFING (SHINGLES, TILE, UNDERLAYEMENT)

aluminum common nail*—smooth or square barbed shank, aluminum-alloy, 1 × 0.099 to 4 × 0.199 nails with flat $\frac{5}{32}$ to 0.460 head and medium diamond point

aluminum roofing nail* —flat head 0.438 diameter, round smooth or deformed shank $\frac{3}{4}$ × 0.120 to $2\frac{1}{2}$ × 0.145 with diamond point.

cap-nail hand-driven roofing nail*—steel-bright or zinc coated, stainless steel, diamond point, smooth or deformed shank $\frac{1}{2}$ × 0.105 to 8 × 0.162 Caps 1.00 round metal or plastic, square 1.00 flat or domed. With metal caps both nail / cap bright or both galvanized. Nail– cap integral units at manufacturing

cap-nail power-driven roofing nail* —steel-bright or zinc coated, stainless steel, diamond point, smooth or deformed shank $1\frac{1}{4}$ × 0.080 to 2 × 0.120 Caps 1.00 round or 1.00 square metal or plastic. With metal caps both nail / cap bright or both galvanized. Nail-cap assembled at point of application.

copper common nail*—bright, solid-copper, $\frac{5}{8} \times 0.065$ to 6×0.284 nails with flat head and medium diamond point.

copper-clad roofing nail*—copper-clad wire, flat head 0.375 diameter, smooth shank 0.120 diameter 1 to $2\frac{1}{4}$ long.

purlin nail,—galvanized, regular-stock-steel, aluminum-alloy or copper, 4 to $16 \times \frac{1}{8}$, 0.135 or 0.148 nails of desired length with flat $\frac{11}{32}$, curved or $\frac{15}{32}$ head, $\frac{9}{16}$ cast lead head or plastic washer and sheared-square or diamond point; for securing corrugated roofing to I-beams.

roofing-tile nail—galvanized, regular-stock-steel, 5 to 7 \times 0.148 nails with flat $\frac{5}{16}$ head and medium diamond point.

shingle nail*—(*Aluminum*) flat head 0.191 to 0.312 diameter, diamond point, smooth or deformed shank $1\frac{1}{4} \times 0.101$ to $1\frac{3}{4} \times 0.113$

(*Steel*) bright or zinc coated, flat head 0.205 to 0.406 diameter, smooth or barbed shank $1\frac{1}{4} \times 0.092$ to 2×0.113 .

shake nail, cedar-shake or shingle nail, wood-shake face nail—hot dip galvanized steel or stainless steel, smooth or ring shank, $1\frac{1}{4} \times 0.080$ to 2×0.092 with flat 0.19 min head, diamond point

slating nail*—galvanized, regular-stock-steel, 1×0.106 to 2×0.148 nails with slightly countersunk $\frac{5}{16}$ to $\frac{7}{16}$ flat head and medium diamond point. Also, aluminum-alloy, 1×0.106 to $1\frac{1}{2} \times 0.135$ nails with large flat $\frac{5}{16}$ to $\frac{3}{8}$ head and medium diamond point. Also, solid copper, $\frac{7}{8} \times 0.109$ to 2×0.135 nails with large flat head and medium diamond point.

steel-reinforced head roofing nail*—steel bright or zinc coated, flat reinforced head 0.625 diameter, smooth round shank $\frac{3}{4}$ to $1\frac{1}{4}$ long and 0.106 and 0.120 diameter.

steel roofing nail*—steel bright or zinc coated, stainless steel nail, flat head 0.375 to 0.500 diameter, round smooth or ring shank 0.106 to 0.162 diameter $\times \frac{3}{4}$ to $4\frac{1}{2}$ long, with diamond point. and 1×0.120 to $1\frac{3}{4} \times 0.135$ for stainless steel.

steel shingle nail*—steel bright or zinc coated, flat head 0.250 to 0.406 diameter, diamond point, with $1\frac{1}{4} \times 0.092$ to 2×0.113 smooth or ring round shank.

umbrella head roofing nail*—zinc coated steel, leak resistant umbrella head, diamond point, round smooth or deformed shanks $1\frac{3}{4} \times 0.135$ to 3×0.148 .

underlay nail, underlayment nail*—bright, stiff-stock or hardened-steel, annularly threaded, 1×0.080 to 3×0.148 nails with flat or slightly countersunk $\frac{3}{16}$ to $\frac{5}{16}$ head and medium diamond point.

washed aluminum roofing nail*—0.438 diameter flat head with neoprene washer under head, diamond point, smooth or deformed shank $1\frac{3}{4} \times 0.135$ to $2\frac{1}{2} \times 0.145$.

washed steel roofing nail*—steel bright or zinc coated nail, 0.438 diameter flat head with elastomer washer under head, diamond point, smooth or ring shank $1\frac{3}{4} \times 0.135$ to $2\frac{1}{2} \times 0.145$

2.2.3 ROOF SHEATHING, WALL SHEATHING, WALL SIDING NAILS

Sheathing Nails

diaphragm/sheathing nail—bright, galvanized, hardened steel or stainless steel, smooth or deformed shank, 2×0.113 to 3×0.148 with 0.266 to 0.312 diameter flat head and diamond point. Length dependent upon sheathing thickness and minimum penetration requirements.

fiberboard nail—bright or electroplated, regular-stock-steel or hardened-steel 1×0.054 to 2×0.062 nails with flat $\frac{3}{32}$ or $\frac{7}{64}$ head and medium needle point.

hardboard nail—slender, usually colored (baked-lacquer finished), stiff-stock or usually hardened-steel, usually annularly threaded, 1 to $1\frac{5}{8} \times 0.058$ nails with small flat head and long needle point for fastening plain or prefinished $\frac{1}{8}$ and $\frac{1}{4}$ hardboard for interior applications. Also, slender bright or colored (baked-lacquer finished), galvanized, stiff-stock, or usually hardened-steel, usually helically threaded, 2 to 3×0.105 and 0.120 nails with countersunk $\frac{3}{16}$ or $\frac{13}{64}$ head and pilot needle point for fastening hardboard for exterior applications.

roof sheathing ring shank nail*—bright, galvanized or stainless steel ring shank nail, ranging from $2\frac{3}{8} \times 0.113$ to 3×0.131 , with specific dimensional values of ring geometry, flat head, diamond point, meeting minimum bending yield requirements of Supplementary Section S1 and Table S1.2 of Specification **F1667/F1667M**.

roof-deck nail—galvanized, steel and bright steel, hardened steel, smooth or annularly threaded shank, 3×0.135 to $4\frac{1}{2} \times 0.177$ nails with flat or slightly countersunk $\frac{9}{32}$ to $\frac{25}{64}$ head and medium diamond point.

Siding Nails

aluminum-siding nail—smooth shank or helically threaded, aluminum-alloy 1×0.099 to $2\frac{1}{2} \times 0.135$ nails with flat $\frac{1}{4}$ to $\frac{5}{16}$ flat head and medium diamond point

common siding nail—bright or colored (baked-lacquer finished), galvanized, regular-stock-steel or hardened-steel, smooth shank or threaded, $1\frac{3}{4} \times 0.080$ to 3×0.128 nails with flat $\frac{5}{32}$ to $\frac{19}{64}$ head and medium diamond point.

insulated-siding nail—bright or colored (baked-lacquer finished) aluminum-alloy, $1\frac{1}{2} \times 0.113$ to $2\frac{1}{2} \times 0.135$ nails with flat $\frac{7}{32}$ to $\frac{9}{32}$ flat head and medium diamond point.

wood-siding nail—bright and colored (baked-lacquer finished), smooth shank or helically threaded, aluminum-alloy, $1\frac{7}{8} \times 0.106$ to $2\frac{7}{8} \times 0.148$ nails with $\frac{9}{64}$ to $\frac{1}{32}$ casing or $\frac{17}{64}$ to $\frac{5}{16}$ sinker head and medium or blunt diamond point. Also, bright or colored (baked-lacquer finished), stainless steel, annularly threaded, $2\frac{1}{8}$ and $2\frac{3}{8} \times 0.083$ and 0.095 nails with slightly countersunk $\frac{3}{16}$ head and medium diamond point. (See **common siding nail**.)

2.2.4 INTERIOR AND FLOORING NAILS

brad*—small nail with small head.

brad, common wire—slender, regular-stock-steel, $\frac{3}{8} \times 0.035$ to 6×0.262 wire nails with brad 0.050 to 0.331 head and medium diamond point.

brad, cut—slender, usually small, regular-stock-steel nails of same thickness throughout, but tapering in width; with slight projection on one side serving as head. Also, tapering, square-bodied, finishing nail with countersunk head.

casing nail*—bright or galvanized, slender, regular-stock-steel, 1×0.067 to $3\frac{1}{2} \times 0.135$ nails with flat or cupped 0.099 to 0.177 casing head and medium diamond point for countersinking where concealment is important.

fine nail*—slender, bright steel or copper, $1\frac{1}{8} \times 0.072$ with flat 0.172 head, diamond point.

finishing nail*—slender, bright, regular-stock-steel, 1×0.058 to 4×0.135 nails with flat or cupped 0.086 to 0.177 brad head and medium diamond point for countersinking where concealment of head is important. (See also, **fine nail, moulding and trim nails, wallboard nails.**)

flooring brad—bright, regular-stock-steel, 2×0.120 to 4×0.192 nails with deep (32°) countersunk flat or cupped 0.162 to 0.244 head and medium diamond point. Also, slender, bright, regular-stock-steel, $1\frac{1}{4} \times 0.076$ to $2\frac{1}{2} \times 0.113$ nails with deep (32°) countersunk flat or cupped or brad 0.128 to 0.155 head and blunt diamond point.

machine flooring brad—bright, regular stock-steel, 1×0.072 nail with special 0.113 brad head with cylindrical rim and medium diamond point.

flooring nail*—bright, stiff-stock or hardened-steel, helically and annularly threaded, 1×0.072 to $3\frac{1}{2}$ by 0.148 nails with flat or checkered $\frac{9}{64}$ to $\frac{3}{32}$ countersunk or casing head and blunt diamond point.

furring nail, self-furring nail—galvanized, regular-stock-steel, $1\frac{1}{4}$ to $2\frac{1}{2} \times 0.106$ nails with $\frac{3}{8}$ flat head, medium diamond point, and washer or spacer on shank; for fastening reinforcing wire mesh and spacing it from nailing member.

moulding and trim nail—bright zinc-plated, slim, hardened-steel, $1\frac{1}{4} \times 0.054$ to $2\frac{1}{2} \times 0.083$ nails with blunt point and button head. (See **finishing nail, fine nail, hardboard nail, insulation building-board nail, tileboard nail, wallboard nail.**)

parquet flooring nail—hardened-steel, annularly threaded, $1\frac{1}{8} \times 0.062$ to $1\frac{1}{4} \times 0.072$ nails with deep countersunk 0.080 to 0.113 casing head and diamond or needle point.

wallboard nail—slender, bright and colored (baked-lacquer finished), hardened-steel, smooth or annularly threaded, $1\frac{1}{8} \times 0.062$ to 2×0.083 nails with slightly countersunk 0.109 to 0.181 head and medium diamond or long needle point.

2.2.5 MISCELLANEOUS CONSTRUCTION NAILS

brick-siding nail—galvanized, colored (baked-lacquer finished), smooth shank barbed or annularly threaded, regular-stock-steel, $\frac{7}{8} \times 0.092$ to $2\frac{1}{2} \times 0.099$ nails with flat checkered $\frac{3}{16}$ or $\frac{1}{4}$ head and medium diamond point.

common cut nail*—normally, wedge-shaped, $\frac{1}{2}$ to 6 nails of various types sheared from stiff-stock-sheet steel, with sheared-square point end narrower than upset head end.

concrete nail*—hardened-steel, smooth or deformed shank round or square $\frac{1}{2} \times 0.148$ to 3×0.181 nails with flat countersunk $\frac{5}{16}$ to 0.284 head and medium diamond point.

corker nail*—usually coated, slender, regular-stock-steel, 1×0.062 to $5\frac{7}{8} \times 0.244$ nails with $\frac{5}{32}$ to $\frac{1}{2}$ sinker head and medium diamond point.

double-headed*, duplex-head, dual-head, nail—bright or coated, regular-stock-steel, $1\frac{3}{4} \times 0.113$ to 4×0.207 nails with double $\frac{3}{16}$ to $\frac{7}{16}$ head, medium diamond point, and $\frac{1}{4}$ to $\frac{7}{16}$ distance between head to be struck by hammer and bearing head. Length of nails measured from bearing surface of head.

glulam rivet nail*—bright or galvanized, flat, hardened-steel, $2\frac{3}{8} \times \frac{1}{4}$ nail with sheared V-shaped point and flat upset wedge-shaped head; designed to be driven through undersize truncated apertures in regular-stock-steel connector plates from which nails cantilever into wood.

gypsum-lath nail—bright or blued, regular-stock-steel, 1×0.092 to $1\frac{1}{4} \times 0.166$ and $1\frac{3}{4} \times 0.092$ nails with large flat $\frac{19}{64}$ to $\frac{3}{8}$ head and long diamond point. Also, regular-stock-steel, 1×0.120 to $1\frac{1}{2} \times 0.148$ nails with flat $\frac{1}{2}$ head and medium diamond point. Also, aluminum-alloy, $1\frac{1}{8} \times 0.099$ to $1\frac{1}{2} \times 0.105$ nails with flat $\frac{19}{64}$ or $\frac{5}{14}$ head and medium diamond point.

gypsum-wallboard nail*, gypsumboard nail*, drywall nail*—bright or blued, regular-stock-steel, annularly threaded, $1\frac{1}{8} \times 0.098$ to 2×0.105 nails with flat, nub, or crossed slightly countersunk $\frac{1}{4}$ to $\frac{19}{64}$ head and long diamond point. Also, slender, colored (baked-lacquer finished), regular-stock-steel, smooth or annularly threaded, $1\frac{1}{8}$ by 0.062 to 2×0.083 nails with slightly countersunk 0.181 head and medium diamond or long needle point.

insulation building-board nail, tileboard nail—galvanized, electro-galvanized or cadmium or nickel-plated, regular-stock-steel, $1\frac{1}{4}$ and $1\frac{3}{4} \times 0.054$ nails with flat $\frac{3}{32}$ head and medium needle point. Also, bright or colored (baked-lacquer finished) hardened-steel, smooth or annularly threaded, $1\frac{1}{4} \times 0.054$ to $1\frac{3}{4} \times 0.062$ nails with slightly countersunk 0.109 head and medium diamond or long needle point.

insulation-lath nail—blued, regular-stock-steel, $1\frac{1}{8}$ and $1\frac{3}{4} \times 0.092$ nails with flat $\frac{3}{8}$ head and long diamond point. (See **gypsum-lath nail.**)

insulation-sheathing nail—galvanized, barbed, regular-stock-steel, $1\frac{3}{4}$ and 2×0.115 or 0.120 nails with flat $\frac{7}{16}$ or $\frac{1}{2}$ head and medium diamond point.

lath nail*, metal-lath nail, hook-head metal-lath nail*—*straight*—bright or blued steel 1×0.058 to $1\frac{1}{2} \times 0.080$ shank, 0.141 to 0.218 flat round head, diamond point.

*hooked head**—bright, blued or zinc coated steel, $1\frac{1}{8} \times 0.106$ nail with thin flat $\frac{7}{16}$ or $\frac{1}{2}$ hook head and medium diamond point.

masonry nail*—bright, electro-zinc-plated or galvanized, hardened-steel, knurled (longitudinally or nearly longitudinally threaded or fluted), $\frac{1}{2}$ to 4×0.148 or up to 0.250 nails with flat or checkered $\frac{5}{16}$ to $\frac{9}{16}$ head and medium diamond point.

masonry stub nail*—smooth shank, zinc coated, 0.375 diameter flat or beveled flat head, $\frac{3}{8}$ to $2\frac{1}{2} \times 0.148$ diameter

sheet-metal nail—nail stamped out of sheet metal and formed to desired shape. (See **roofing nail**.)

tile nail—*acoustical-tile nail* slender, electroplated, regular-stock-steel or stiff-stock, 1 to $1\frac{3}{4} \times 0.062$ nails with $\frac{1}{4}$ projection head with 0.135 collar and sharp, blunt, or medium diamond point.

wood-lath nail—blued, regular-stock-steel, 1 and $1\frac{1}{8} \times 0.054$ and 0.072 nails with flat $\frac{1}{8}$ to $\frac{1}{4}$ head and medium diamond point.

2.3 NAIL TYPES USED IN SPECIALIZED APPLICATIONS

broom nail*—bright, regular-stock-steel, $\frac{5}{8}$ to $\frac{3}{4} \times 0.072$ or 0.080 nails with flat $\frac{13}{64}$ or $\frac{7}{32}$ head and medium diamond point.

cleat—L-shaped nail.

cleat nail—bright, regular-stock-steel, $1\frac{1}{8} \times 0.080$ to $1\frac{7}{8} \times 0.106$ nails with oval $\frac{3}{16}$ to $\frac{1}{4}$ head and duckbill or clinch point. (See **clinch nail**.)

clinch nail—any nail designed for clinching after driving. Bright, regular-stock-steel, 1×0.080 to 4×0.177 nails with oval $\frac{3}{16}$ to $\frac{3}{8}$ head and duckbill or clinch point. (See **cleat nail**.)

clout nail—bright, steel, $\frac{3}{4} \times 0.072$ to $1\frac{1}{2} \times 0.092$ nails with large flat 0.225 to 0.262 head and long side point or duckbill point.

conduit nail—bright or copper-plated, steel or hardened steel, $1\frac{3}{4}$ to $3\frac{1}{2} \times 0.161$ nails with annularly threaded shank; bent, curved hook head, and medium needle point. Different types of head designed for fastening $\frac{1}{2}$, $\frac{3}{4}$, or 1 conduit, tubing, pipe, cable, etc.

cork-insulation nail—galvanized, regular-stock-steel, 3 to 9×0.148 nails with flat $1\frac{1}{2}$ head and medium diamond point.

escutcheon pin—small, regular-stock-steel or nonferrous, $\frac{1}{4} \times 0.035$ to 2×0.092 nails with oval head and medium diamond point.

fence nail—stout, bright, regular-stock-steel, $1\frac{3}{4} \times 0.135$ to 4×0.225 nails with large flat $\frac{9}{32}$ to $\frac{15}{32}$ head and medium diamond point.

file-grip nail, file-thread nail—terms applied to helically threaded nails provided with file threads. (See **thread**.)

flattened-shank nail—round wire nail with portion of shank flattened for a certain distance between point and head to facilitate driving of nail between steel members and wrapping of flattened portion of shank around steel rod during driving.

foundry nail, smooth foundry nail—bright, regular-stock-steel, $\frac{3}{4} \times 0.120$ to 9×0.162 nails with large thin flat $\frac{7}{16}$ to $\frac{1}{2}$ head and medium diamond point.

furniture nail—plated, regular-stock-steel or brass, $\frac{3}{8}$ to $\frac{3}{4}$ nails with extra large, decorative head and long diamond or needle point.

hardened nail—heat-treated medium-low or medium-high carbon-steel nail.

hinge nail—light or heavy, bright, regular-stock-steel, $1\frac{1}{4} \times \frac{3}{16}$ to $4 \times \frac{3}{8}$ nails with flat or oval countersunk (95°) or oval $\frac{1}{4}$ to $\frac{1}{2}$ head and long diamond or chisel point.

hob nail—stout, regular-stock-steel, $\frac{3}{8}$ to $\frac{5}{8}$ nails with large decorative (high square, fancy, round bevel, checkered, grooved, etc.) head and sheared-bevel point.

lino-nail—bright, regular-stock-steel, $\frac{5}{8} \times 0.062$ nail with oval head and medium diamond point.

pallet nail*—bright, stiff-stock or hardened-steel, helically threaded (with medium lead angle) or annularly threaded, $1\frac{1}{2} \times 0.105$ to 4×0.177 nails with smooth or checkered flat $\frac{9}{32}$ to $\frac{7}{16}$ head and medium or blunt diamond or blunt chisel point.

peerless cut nail—name for small, regular-stock-steel, cut nails with broad flat circular head and sheared long-tapered square point to facilitate clinching.

ratchet nail—bright, steel, $\frac{3}{4}$ to 2×0.120 nails with single-crest annular ratchet thread, flat $\frac{3}{8}$ head and medium diamond point

roll-grooved nail—bright or plated, helically grooved, round-wire, stiff-stock, 1×0.086 to 4×0.164 drive-screw nails with no clearance between flutes and head, with flat or slightly countersunk head and medium or long diamond point, with crest diameter being referred to as diameter.

shade bracket nail—bright, regular-stock-steel, $\frac{3}{4}$ to 1×0.080 or 0.092 nails with slightly countersunk $\frac{1}{2}$ or $\frac{9}{32}$ head and needle point.

smooth-edge carpet plywood strip nail—hardened-steel, $\frac{1}{16} \times 0.105$ nail with countersunk flat $\frac{7}{32}$ head and long diamond point.

square-wire nail—bright, diagonally barbed, square-wire, regular-stock-steel, 2×0.113 to 4×0.192 common nails with $\frac{1}{4}$ to $\frac{3}{8}$ flat head and medium diamond point; also, 2×0.099 and $2\frac{1}{2} \times 0.113$ box nails with $\frac{1}{4}$ and $\frac{17}{64}$ flat head and medium diamond point; also, 2×0.091 and $2\frac{1}{2} \times 0.099$ finish nails with 0.124 and 0.131 flat head and medium diamond point; also, $1\frac{1}{2} \times 0.131$ truss nail with $\frac{9}{32}$ flat head and medium diamond point.

stout nail—nails with shank diameter usually at least one gage larger than common nails of same length.

strap nail—bright, regular-stock-steel, $1\frac{1}{4} \times 0.092$ to 2×0.113 nails with oval $\frac{15}{64}$ to $\frac{17}{64}$ head and short diamond point.

strip nail—steel, $1\frac{1}{4}$ to $2\frac{1}{2}$ nails spot welded to disposable metal strip that feed nails into nailing machine provided with staple-type magazine. During punching of nail from strip, small washer is formed under head. Also, nail stored in special strip to serve as magazine for feeding nailing machine.

T nail—bright, etched, coated, galvanized, aluminum-coated, plastic-coated, knurled or annularly threaded, stiff-stock or aluminum-alloy, round-wire, 1×0.080 to $2\frac{1}{2} \times 0.131$ nails of T shape with $\frac{5}{32}$ or $\frac{17}{64}$ round, square or oval-finish head of sinker, with or without heavy fillet, and with diamond or chisel point; driven with special nailing machine provided with staple-type magazine.

toothed nail—flat, L-shaped, $\frac{1}{2}$ to $1\frac{5}{16}$ cleats, sheared from 16-gage steel sheet; provided with toothed serrations along

narrow sides of long shank and with slightly tapered, dull point; driven with special nailing machine provided with staple-type magazine.

twisted nail—helically twisted, squarewire, $\frac{1}{2} \times 0.072$ to 6×0.250 drivescrew nails, usually of tempered stiff-stock, with flat or countersunk head and medium diamond point, with crest diameter being referred to as diameter.

twist nail—slender, copper or aluminum nails with flat head and medium needle point for twist clinching, that is, for having part of nail shank twisted to form a clinched point.

upholstery nail—bright, regular-stock-steel, two-piece nails with extra-large specially formed head and medium diamond or needle point.

“V” nail—headless nails with central V-shaped slot at head end.

wire nail—nail manufactured from metal wire or rod.

2.4 FINISH, COATING, AND GALVANIZATION TERMS

2.4.1 FINISH AND COATING TERMS

aluminized—dipped in molten aluminum for coating purposes resulting in smooth, continuous, and adherent aluminum coating.

anodized aluminum—natural-colored or surfacecolored aluminum having increased anodic corrosion resistance.

blued—heated to result in oxidized bluish surface of steel nail.

bright, bright finish—term applied to nails with natural bare surface resulting from cleaning of nails which have not undergone treatments affecting finish, such as hardening, bluing, coating, plating, etching, painting, etc. Also applied to polished appearance after plating.

cement-coated—surface coated by tumbling or immersion in natural resin or shellac to produce a limited temporary bond between driven nail and surrounding wood, provided coating is not removed during driving, and to reduce rusting during storage.

clad—surface sheathed.

coated—covered fully or partially with natural resin or any other material that is retained on the surface to add lubricity, conversion coating to provide ease of driving, increased holding power, corrosion resistance, enhance installed appearance or a combination of these.

coppered, copper-washed—all surfaces chemically plated with copper, usually by chemical rather than electrolytic process. (See electroplated.)

electroplated—surface provided with usually thin electrochemical deposit of brass, cadmium, copper, nickel, tin, zinc, etc., as a result of immersion in electrolytic bath.

enameled—coated with enamel of desired color and often baked.

lacquer-finished—coated with lacquer and often baked, usually in such colors as to match or blend with color of item to be fastened.

liquor finish—very thin wire coating produced by wire immersion in metallic salts, usually copper, offering very limited corrosion resistance.

oxidized—darkened or dulled by surface treatment or by the natural oxidizing of metal.

painted—coated with paint or plastic by dipping or barrel-tumbling.

phosphate-coated, phosphatized—chemically treated to provide iron and steel with protective ferricphosphate or zinc-phosphate coating that can enhance nail holding or coating adhesion.

polymer coated—covered fully or partially with polymer to provide ease of driving, increased holding power, or corrosion resistance, or a combination of these.

resin-coated—covered with natural resin to provide ease of driving, increased holding power, or corrosion resistance, or a combination of these.

2.4.2 GALVANIZATION TERMS

dipped, hot-dipped, hot-dip galvanized, hot-dipped zinc-coated—dipped in bath of molten zinc for coating purposes, with excess zinc removed; resulting in coating essentially free from blisters, lumps, gritty areas, acid spots, dross warts, and flux.

electro-galvanized, electro-zinc plated—surface provided with electrochemical deposit of zinc as a result of immersion in electrolytic bath.

hot-galvanized, barrel-galvanized, flake-galvanized, tumbler-galvanized, wean-galvanized—zinc coating applied in heated tumbling barrel containing zinc-flakes

thermo diffusion galvanization, TDG, thermo-diffused coating, TDC—a dry coating process carried out by immersing the parts in a zinc or zinc alloy powder at elevated temperature for a period of time, causing a metallurgical diffusion process of zinc and iron (Specification [A1059/A1059M](#)).

mechanically plated, peen-coated, peen-galvanized—covered with coat of zinc through peen-coating that is, by tumbling in a container holding powdered zinc and numerous glass beads

zinc coated, galvanized—generic terms covering barrel-galvanized, dipped, electro-galvanized, electrozinc-plated, flake-galvanized, hot-dipped, hot-dip galvanized, hot-dipped zinc coated, hot-galvanized, mechanically plated, peen-coated, peen galvanized, tumbler-galvanized, and wean-galvanized.

zinc-plated—surface provided with electrochemical deposit of zinc as a result of immersion in electrolytic bath or with mechanical deposit of zinc as a result of peen coating.

2.5 MATERIAL TERMINOLOGY

aluminum—a metallic element that can be used to make wire. Alloys 2024, 5056, 6061 or 6110 are the only aluminum alloys recognized for use in the manufacture of nails (Specification [F1667/F1667M](#))

annealed—heated and subsequently cooled to provide increased ductility.

case-hardened, surface-hardened—surface of steel nail carburized and subsequently hardened, by suitable heat treatment, such that the surface (case) has greater hardness than the core.

copper—a ductile malleable metallic element that can be used to make wire. Nails manufactured from copper shall be 98% pure copper (Specification [F1667/F1667M](#))

hardened—heat-treated medium-carbon or medium-high-carbon steel, with treating process resulting in toughened nail with greater stiffness at high flexural loads. (See [heat-treated](#).)

heat-treated—heated above critical temperature and subsequently quenched, which may be followed by tempering for the purposes of obtaining certain desirable conditions or properties, such as hardness, toughness, and stiffness at high flexural loads.

oil-tempered—heated above the critical temperature, quenched in oil, and tempered.

water-hardened—quenched in water after heating to critical temperature.

steel grades—steel is classified by carbon content Specification [F1667/F1667M](#), section 6.1. The following grades are generally used for wire or raw material purchase; but do not restrict nails to specific analysis. When the steel grade is

referred to in the definition of a nail type, it is intended only as a general indication of the likely material used. Any steel of suitable analysis may be used in nail manufacture unless specified otherwise in the product standard.

low-carbon steel—a grade of steel produced to (Specifications [A510/A510M](#) and [A1040](#)) wherein the maximum of the carbon range is up to and including 0.15 %.

medium low-carbon steel—a grade of steel produced to (Specifications [A510/A510M](#) and [A1040](#)) wherein the maximum of the carbon range exceeds 0.15 % up to and including 0.23 %.

medium high-carbon steel—a grade of steel produced to (Specifications [A510/A510M](#) and [A1040](#)) wherein the maximum of the carbon range exceeds 0.23 % up to and including 0.44 %.

high-carbon steel—a grade of steel produced to (Specifications [A510/A510M](#) and [A1040](#)) wherein the maximum of the carbon range exceeds 0.44 %.

stainless steel—steel classified by the addition of minimum of 10.5% chromium by mass. Stainless steel is used for corrosion resistance. Only types 302, 304, 305 and 316 are recognized for use in the manufacture of nails (Specification [F1667/F1667M](#))

stock steel—standard steel of regular or stiff stock. regular—bright, non-hardened, usually low or medium low-carbon steel.

stiff—bright, non-hardened, usually medium low or medium high-carbon steel, having higher hardness, toughness, and stiffness than regular steel.