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Designation: F 1667 – 02a3

Standard Specification for Driven Fasteners: Nails, Spikes, and Staples¹

This standard is issued under the fixed designation F 1667; 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 Department of Defense. The Commercial and Government Entity (Cage) Code for ASTM: 81346.

1. Scope*

1.1 This specification covers nails, spikes, staples, and other driven fasteners, as listed in Table 1.

Note 1-Fastener ductility information is presented in Table 2 and dimensional information in Tables 3-63.

1.2 Fasteners described in this specification are driven by hand tool, power tool, or mechanical device in single or multiple strikes and are positioned by hand, tool, or machine.

1.3 The values stated in inch-pound units are to be regarded as the standard.

1.4 This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

2. Referenced Documents

2.1 ASTM Standards:

A 153/A 153M Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware²

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

¹ This specification is under the jurisdiction of ASTM Committee F16 on Fasteners and is the direct responsibility of Subcommittee F16.05 on Driven and Other Fasteners. Current edition approved—Dee: May 10, 20023. Published—February June 2003. Originally approved in 1995. Last previous edition approved in 2002 as F 1667–02a.

- ∰ F 1667 02a<u>3</u>
- A 510<u>M</u> Specification for General Requirements for Wire Rods and Coarse Round Wire, Carbon Steel [Metric]³
- A 641/A 641M Specification for Zinc-Coated (Galvanized) Carbon Steel Wire²
- B 695 Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel⁴
- F 547 Terminology of Nails for Use with Wood and Wood-Base Materials⁵
- F 592 Terminology of Collated and Cohered Fasteners and Their Application Tools⁵
- F 680 Test Methods for Nails⁵
- F 1575 Test Method for Determining Bending Yield Moment of Nails⁵

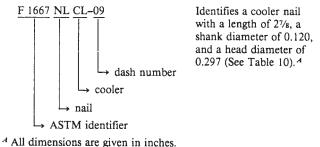
3. Terminology

3.1 *Definitions*—The definitions used in this specification are those of common commercial acceptance and usage and also appear in Terminologies F 547 and F 592.

4. Classification

4.1 The fasteners and their Table 1 classification are identified as follows:

NOTE 2—The identification of fasteners, classified by style and type (alpha indicators) followed by a dash number (numerical code) based on Tables 3-63, identifies dimensions specifically and establishes a PIN (part identifying number) system when preceded by the F 1667 ASTM designator of this specification. For example:



4.2 The trade designation, S, pennyweight, used in commercial practice is referenced in Tables 3-63 wherever it applies.

5. Ordering Information

5.1 Orders for driven fasteners under this specification shall include the following information:

- 5.1.1 Quantity or weight;
- 5.1.2 Part identifying number (PIN) or product description (see 4.1 and appropriate table);
- 5.1.3 Special material requirements, if specified, including coatings or finishes;
- 5.1.4 ASTM designation;
- 5.1.5 Packaging requirements;

5.1.6 A producer's or supplier's certification that the material and the finished fastener are in compliance with this specification, furnished only when specified in the purchase order;

- 5.1.7 Supplementary requirements, if any; and
- 5.1.8 Any additions agreed upon between the purchaser and the supplier.

6. Material Requirements

6.1 Steel wire used in the manufacture of driven fasteners shall be of low carbon, medium-low carbon, or medium-high carbon.

6.2 Stainless steel wire used in the manufacture of driven fasteners shall be of Types 302, 304, 305, or 316.

6.3 Carbon steel wire for the manufacture of hardened steel nails shall be suitable for heat treatment to a minimum hardness of 37 HRC.

6.4 Sheet steel used in the manufacture of cut nails (Type II) and cut spikes (Type III) shall be a medium-carbon sheet steel.6.5 Copper used in the manufacture of driven fasteners shall contain a minimum of 98 % pure copper.

6.6 Copper-clad steel wire used in the manufacture of driven fasteners shall contain not less than 20 % copper by weight. The average thickness of copper on the steel wire shall be not less than 10 % of the radius of the clad wire; the minimum thickness of copper on the steel wire shall be not less than 8 % of the radius of the clad wire.

² Annual Book of ASTM Standards, Vol 01.06.

³ Annual Book of ASTM Standards, Vol 01.03.

⁴ Annual Book of ASTM Standards, Vol 02.05.

⁵ Annual Book of ASTM Standards, Vol 01.08.

TABLE 1	Classification	and	Identification	Index
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TABLE 1	Classification and identification index									
Туре		Style	Style Identification	Table						
I-Nails (NL)	1.	Brads	BR	3						
	2.	Barrel	BL	4						
	3.	Boat	BTH/BTL	5						
	3. 4.	Box A	BXA	6						
	4.									
	_	Box B	BXB	7						
	5.	Broom	BM	8						
	6.	Casing	CN	9						
	7.	Cooler	CL	10						
	8.	Sinker	SK	11						
	9.	Corker	CK	12						
	10.	Common	CMA	13						
	10.		CMC							
		Common		14						
		Common	CMS	15						
		Common	CMM	16						
	11.	Concrete	CTS/CTM	17						
	12.	Double-headed	DH	18						
	13.	Fine	FN	19						
	14.	Finishing	FH	20						
		•								
	15.	Flooring	FL	21						
	16.	Lath	LHF	22						
		Lath	LHH	23						
	17.	Masonry	MR/MRH	24						
	18.	Pallet	PL	25						
	19.	Gypsum wallboard	GWS	26						
		Gypsum wallboard	GWM	27						
	20.	Roofing	RFA	28						
	20.	0								
		Roofing	RFS	29						
		Roofing	RFC	30						
		Roofing	RFL	31						
		Roofing	RFR	32						
		Roofing	RFD	33						
		Roofing	RFNS/RFND	34						
	21.	Shingle	SHAD/SHAS	35						
	21.	•								
		Shingle	SHSS/SHNSB	36						
	22.	Siding	SDF/SDC/SDK	37						
	23.	Slating	SLA/SLC/SLS	38						
	24.	Rubber heel	RH	39						
	25.	Underlayment	UL	40						
	26.	Square-barbed	SB	41						
	27.	Masonry drive	MD	42						
	28.	Escutcheon	ES	43						
	29.	Glulam rivet	GR	44						
II—Cut nails (CN)	1.	Common	CM	45						
	2.	Basket	BK	46						
	3.	Clout	CL	47						
	4.	Trunk	TR	48						
	5.	Cobblers	СВ	49						
		Extra-iron clinching								
	6.	0		50						
	7.	Hob	HB	51						
III—Spikes (SP)	1.	Common	CM	52						
	2.	Gutter	GRF/GRO	53						
	3.	Round	RDC/RDF	54						
	4.	Barge and boat	BB	55						
IV—Staples (ST)	1.	Fence	FN	56						
	2.		PN							
		Poultry netting		57						
	3.	Flat top crown	FC	58						
		Flat top crown	FCC	59						
	4.	Round or V crown	RC	60						
	5.	Preformed	PC	61						
	6	Flectrical	KF							
	6. 7.	Electrical Preformed hoop	RE PH	62 63						

6.7 Aluminum alloy wire used in the manufacture of fasteners shall conform to Alloy 2024, 5056, 6061, or 6110 and have a minimum ultimate tensile strength of 60 000 psi.

NOTE 3—Smooth shank nails are sometimes chemically treated to remove grease, oil, and foreign matter and to roughen the surface microscopically. Mechanically deformed nails are sometimes cleaned to remove grease and foreign matter.

6.8 Brass wire used in the manufacture of fasteners shall be of good commercial quality suitable for the purpose.

7. Physical Properties

7.1 *Ductility*—The fasteners shall be sufficiently ductile to withstand cold bending without fracture, as specified in Table 2 for various materials used in the manufacture of fasteners utilizing the conventional bend test described in Test Methods F 680.



TABLE 2 Bend Angles for Fasteners Using the Test Methods F 680 Bend Test

	Fastener Material	Bend Angle, °
1.	Steel wire: (low-carbon, medium-low carbon, medium-carbon) (unhardened)	180
2.	Stainless steel wire	180
3.	Hardened steel fasteners	20
4.	Sheet steel for cut nails, Type II, and cut spikes, Type III	90
5.	Copper (min 98 %)	180
6.	Copper clad wire (min 20 %)	180
7.	Aluminum alloy wire	90
8.	Brass wire	180

Mandrel diameter used in this test shall not exceed nail/wire diameter. The cold bend test shall not apply to unhardened nails with deformed shanks.

7.2 *Tensile Strength*—Finished driven fasteners are not normally subject to tension testing. However, the wire or sheet used to manufacture the fastener is tested as required for control in the production process during manufacture.

8. Dimensions and Tolerances

8.1 Nominal dimensions of nails and spikes shall be as shown in Tables 3-55. The following dimensional designations shall apply:

- S = trade designation (reference in penny weight),
- L = length, in.,
- H = head diameter or width, in.,
- D = shank diameter, in.,
- B = head separation, in. (Table 18), and
- No./lb = approximate count per pound.

8.1.1 The lengths, *L*, of nails and spikes with flat heads or parallel shoulders under the head shall be measured from under the head or shoulder to the tip of the point. All other nails and spikes shall be measured overall.

8.1.2 The diameter, D, of smooth shank nails and spikes shall be measured away from the gripper marks. The diameter, D, of formed or deformed shanks shall be measured before deformation, or, if specified, the thread crest diameter after deformation, or both. All diameter dimensions shall be taken prior to the application of or after the removal of any coatings or finish.

8.2 Tolerances on Nominal Dimensions for Nails and Spikes:

8.2.1 Length tolerances shall be $\pm \frac{1}{32}$ in. for lengths up to and including 1 in.; $\pm \frac{1}{16}$ in. for lengths over 1 in., up to and including $2\frac{1}{2}$ in.; $\pm \frac{3}{32}$ for lengths over $2\frac{1}{2}$ in., up to and including 7 in.; and $\pm \frac{1}{8}$ in. for all lengths over 7 in.

8.2.2 Shank diameter tolerances shall be ± 0.002 in. for diameters smaller than 0.076 in. and ± 0.004 in. for diameters 0.076 in. and larger.

8.2.3 Head Diameter Tolerances:

8.2.3.1 *Hand Driven*—Tolerances on head diameters of roofing nails shall be ± 0 , -10 % of the nominal head diameter (the mean of two readings 90° apart). For other brads, nails, and spikes, the tolerance shall be ± 10 % of the nominal head diameter (individual measurement). The difference in diameter across the long axis of a roofing nail shall not exceed that across the short axis by more than 20 %. For other brads, nails, and spikes, the difference in diameter across the long axis shall not exceed that across the short axis by more than 10 %. A fillet shall be provided under the head if not otherwise specified.

8.2.3.2 *Power Driven*—Tolerances on head diameters of power-driven nails shall comply with the manufacturer's specifications and shall be suitable for use in the make and model of the tool specified.

8.3 Nominal dimensions of staples shall be as shown in Tables 56-63, and the following dimensional designations shall apply: 8.3.1 *Hand Tool–Driven Nominal Dimensions*:

L = leg length, inside, in.,

- D = round leg diameter, in.,
- C = crown width, inside, in., and
- No./lb = approximate count per pound.
- 8.3.2 Power Tool–Driven Nominal Dimensions:

D = round leg diameter, in.,

🕼 F 1667 – 02a<u>3</u>

L = leg length, outside, in.,

T = leg thickness, in. (see Tables 578 and 59),

W = leg width, in. (see Tables 578 and 59),

C = crown width, outside, in., and

G = steel wire gage.

8.4 Tolerances on Nominal Dimensions for Staples:

8.4.1 Leg length, L, tolerances shall be $+\frac{1}{32}$, $-\frac{1}{64}$ in. for both hand tool-driven and power tool-driven staples.

8.4.2 Diameter tolerances for hand tool-driven round staples shall be ± 0.002 in. for diameters smaller than 0.076 in. and ± 0.004 in. for diameters 0.076 in. and larger.

8.4.3 Thickness and width tolerances on power-driven staples shall comply with the manufacturer's specification and shall be suitable for use in the make and model tool specified (see Tables 55-62). 58 and 59).

8.4.4 Crown width tolerances are $\pm \frac{1}{32}$ in. unless otherwise specified.

8.5 *Nominal Dimensions for Cut Nails, Type II*—Unless otherwise specified, cut nails shall be sheared from medium carbon sheet steel and shall have a wedge-shaped shank with a sheared square point end narrower than the upset head end. The designation *T* in Tables 45-50 refers to sheet thickness in finished product. Other designations shall be the same as those for nails in 8.1.

8.6 When gage is used for a nominal diameter dimension in the application of this specification, it shall be in accordance with the decimal equivalents as shown in Specification A 510, unless otherwise specified.

9. Workmanship

9.1 Fasteners covered by this specification shall be true to shape, well-finished, free from imperfections, clean, and free of corrosion. Mechanically driven collated items shall be uniform and aligned properly in their assembled form for use in power tools.

10. Protective Coatings and Finishes

10.1 Zinc Coating:

10.1.1 Driven fasteners required to be zinc coated shall be cut and formed from hot-dip, hard-wiped, galvanized steel wire, electrogalvanized steel wire, or zinc flake/chromate dispersion-coated steel wire; or they shall be cut from uncoated (bright) steel wire and shall be hot-dip galvanized, electrodeposited zinc coated, mechanically deposited zinc coated, or zinc flake/chromate dispersion coated after forming. Power-driven staples are not normally zinc coated after forming.

10.1.2 Hot-dip galvanized or electrogalvanized steel wire for the manufacture of fasteners shall have a coating weight in accordance with Specification A 641, Supplementary Requirements, Class 1.

10.1.3 Hot-dip galvanized steel fasteners coated after forming shall have a coating weight in accordance with Specification A 153, Class D, when a heavier coating for exterior use is specified. If not otherwise specified, the coating weight shall be in accordance with Specification A 641, Supplementary Requirements, Class 1.

10.1.4 Mechanically deposited zinc coatings applied to fasteners after forming shall have a thickness in accordance with Specification B 695, Class 40, unless otherwise specified.

10.2 Other Coatings and Finishes (When Specified):

10.2.1 Cement coating shall be applied by tumbling, mechanical dispensing device, or immersion in resin or other similar material and shall not be tacky or gummy. Cement coatings on power-driven fasteners shall be uniform and applied before, during, or after the fasteners are cohered into strips, clips, or coils.

NOTE 4—Cement coatings increase the holding strength in withdrawal of a driven fastener, depending on the fastener size, amount of cement coating applied, and method of driving.

10.2.2 Chemical etching shall remove the polish of fabrication and roughen the surface microscopically.

10.2.3 Blued nails shall be heated to form a thin, colored oxide on the surface.

10.2.4 Miscellaneous finishes, such as tin plating, liquor, brass plating, copper plating, phosphate coating, or oil coating shall be applied.

10.3 Altered Shapes and Deformations :

10.3.1 Mechanically formed or deformed nail shanks shall have barbs, flutes, threads, or angular serrations formed onto the wire from which the nail is manufactured. Mechanically deformed shanks shall have vertical or helical flutes or screw-type or annular (ring)-type deformations rolled onto the shank. Symmetrical helical shank deformations shall be obtained by twisting square wire. The deformations shall pass entirely around the shank body, resulting in expanded ridges and depressions.

10.3.2 Mechanically formed or deformed nail heads shall be round or T-headed; or they shall be altered round for suitable use in a given make and model of a power-driving fastening system.

10.3.3 Staples manufactured for intended use in power tools shall comply with the tool manufacturer's specification or Type IV, Style 3 (Table 58 or Table 59).

11. Certification

11.1 When specified in the purchase order, a producer's or supplier's certification shall be furnished to the purchaser, indicating that the fasteners are in compliance with this specification and the purchase order.



12. Packaging and Package Marking

12.1 Unless otherwise specified, fasteners shall be in substantial commercial containers of the type, size, and kind commonly used for the purpose, so constructed as to preserve the contents in good condition and to ensure acceptance and safe delivery by common or other carriers to the point of delivery. In addition, the containers shall be so made that the contents can be removed partially without destroying the container's ability to serve as a receptacle for the remainder of the contents.

12.2 When specified, individual packages and shipping containers shall be marked with the part-identifying number and type, length, diameter (or gage, as applicable) of the fastener, the name of the manufacturer or distributor, and the quantity or net weight.

13. Keywords

13.1 diameter; driven fasteners; head; length; nails; point; spikes; staples-

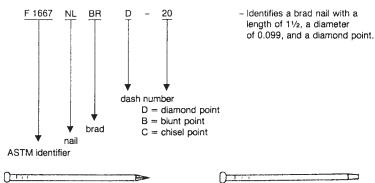






TABLE 3 Type I, Style 1—Brads^A

Note-Steel wire, brad head, diamond point, round smooth shank, bright finish. When specified, brads shall have a modified brad head with a blunt or chiseled point for use with mechanical drivers.



					•					
Dash No.	L	D	S	No./Ib	Dash No.	L	D	S	No./Ib	
01	3/8	0.035		9520	21	13/4	0.062		670	
02	1/2	0.035		7060	22	13/4	0.080		400	
03	1/2	0.048		3990	23	13/4	0.099	5d	270	
04	5/8	0.035		5680	24	2	0.062		580	
05	5/8	0.048		3200	25	2	0.080		350	
06	3/4	0.035		4800	26	2	0.113	6d	180	
07	3/4	0.048		2620	27	21/4	0.080		320	
08	3/4	0.062		1550	28	21/4	0.113	7d	160	
09	7/8	0.035		4220	29	21/2	0.080		290	
10	7/8	0.048		2220	30	21/2	0.131	8d	110	
11	7/8	0.062		1280	31	23/4	0.131	9d	97	
12	1	0.054		1500	32	3	0.148	10d	70	
13	1	0.062		1120	33	31/4	0.148	12d	65	
14	1	0.072		904	34	31/2	0.162	16d	50	
15	11/4	0.054		1210	35	4	0.192	20d	31	
16	11/4	0.062		940	36	41/2	0.207	30d	24	
17	11/4	0.080	3d	560	37	5	0.225	40d	18	
18	11/2	0.054		1040	38	51/2	0.244	50d	14	
19	11/2	0.080		470	39	6	0.262	60d	11	
20	11/2	0.099	4d	320						

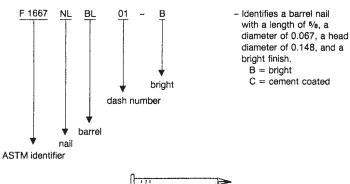
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^A All dimensions are given in inches.

∰ F 1667 – 02a<u>3</u>

TABLE 4 Type I, Style 2-Barrel Nails^A

Note-Steel wire, flat head, diamond point, round smooth shank, bright, zinc or cement coated as specified.

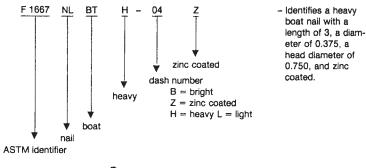


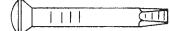
Dash No.	L	D	Н	No./lb	Dash No.	L	D	Н	No./Ib
01	5/8	0.067	0.148	1.550	05	11/8	0.076	0.177	670
02	3/4	0.067	0.148	1.300	06	11/4	0.080	0.188	540
03	7/8	0.076	0.177	850	07	13/8	0.092	0.219	380
04	1	0.076	0,177	750	08	11/2	0.092	0.219	350

A All dimensions are given in inches.

TABLE 5 Type I, Style 3—Boat nails^A

Note-Steel wire, oval countersunk head, chisel point, round smooth shank, bright or zinc coated as specified.



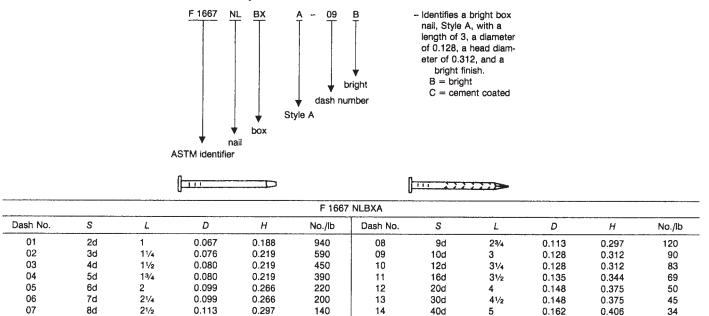


		F 1667	NLBTL			F 1667 NLBTH						
Dash No.	S	L	D	н	No./lb	Dash No.	S	L	D	н	No./lb	
01	4d	11/2	0.188	0.406	82	01	4d	11/2	0.250	0.500	47	
02	6d	2	0.188	0.406	62	02	6d	2	0.250	0.500	36	
03	8d	21/2	0.188	0.406	50	03	8d	21/2	0.250	0.500	29	
04	10d	3	0.250	0.500	24	04	10d	3	0.375	0.750	11	
05	12d	31/4	0.250	0.500	22	05	12d	31/4	0.375	0.750	10	
06	16d	31/2	0.250	0.500	20	06	16d	31/2	0.375	0.750	9	
07	20d	4	0.250	0.500	18	07	20d	4	0.375	0.750	8	

🕼 F 1667 – 02a<u>3</u>

TABLE 6 Type I, Style 4A—Box Nails^A

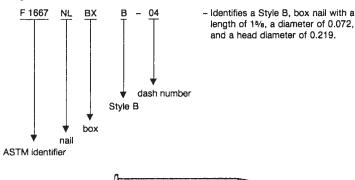
NOTE—Steel wire, flat head, diamond point, round, barbed or smooth shank, bright or cement coated as specified. When specified, box nails shall have an altered or T-head with a diamond, blunt, or chisel point for use with mechanical drivers.



^A All dimensions are given in inches.

TABLE 7 Type I, Style 4B—Box Nails^A

Note-Steel wire, flat head, diamond point, round smooth shank, cement coated.



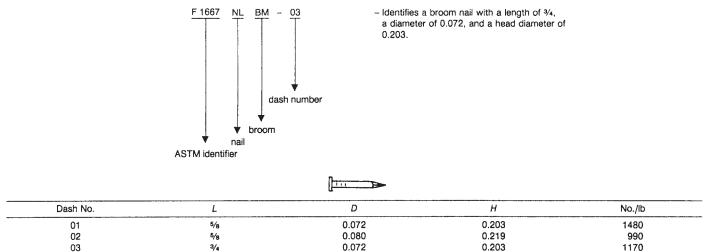
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				····· ·	F 1667	NLBXB					
Dash No.	S	L	D	н	No./lb	Dash No.	S	L	D	н	No./lb
01	2d	1	0.058	0.172	1250	06	7d	21/8	0.086	0.250	280
02	3d	11/8	0.062	0.188	980	07	8d	2 ³ /8	0.099	0.266	190
03	4d	13/8	0.067	0.203	680	08	9d	25/8	0.099	0.266	170
04	5d	15/8	0.072	0.219	510	09	10d	27/a	0.113	0.297	120
05	6d	17/8	0.086	0.250	315						

A All dimensions are given in inches.

here

TABLE 8 Type I, Style 5-Broom Nails^A

NOTE-Steel wire, flat or star head, diamond point, round smooth shank, bright finish, as specified.



A All dimensions are given in inches.

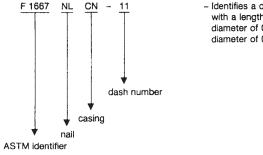
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TABLE 9 Type I, Style 6—Casing Nails^A

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Note-Steel wire, flat countersunk cupped head, diamond point, round smooth shank, bright finish.

3/4



 Identifies a casing nail with a length of 3½, a diameter of 0.135, and a head diameter of 0.177.

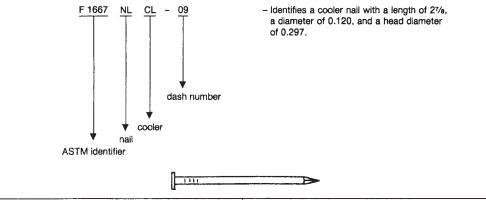
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840

Dash No.	S	L	D	н	No./Ib	Dash No.	S	L	D	н	No./lb
01	2d	1	0.067	0.099	1090	07	8d	21/2	0.113	0.155	150
02	3d	11/4	0.076	0.113	650	08	9d	23/4	0.113	0.155	135
03	4d	11/2	0.080	0.120	490	09	10d	3	0.128	0.170	95
04	5d	13/4	0.080	0.120	415	10	12d	31/4	0.128	0.170	90
05	6d	2	0.099	0.142	245	11	16d	31/2	0.135	0.177	75
06	7d	21/4	0.099	0.142	215						

TABLE 10 Type I, Style 7—Cooler Nails^A

Note-Steel wire, flat head, diamond point, round smooth shank, cement coated. When specified, coolers shall have an altered or T-head for use with mechanical drivers.

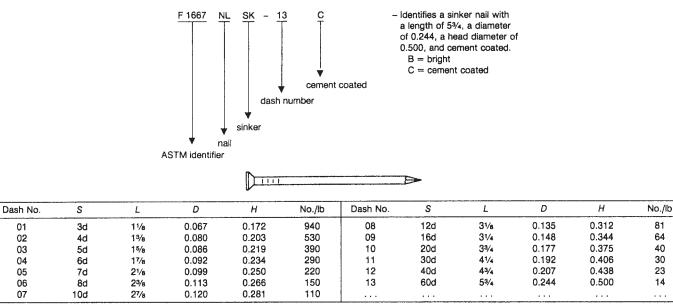


Dash No.	S	L	D	н	No./lb	Dash No.	S	L	D	н	No./Ib
01	2d	1	0.062	0.172	1110	06	7d	21/8	0.099	0.266	210
02	3d	11/8	0.067	0.188	840	07	8d	23/8	0.113	0.281	140
03	4d	13/8	0.080	0.219	490	08	9d	25/s	0.113	0.281	130
04	5d	15/8	0.086	0.234	370	09	10d	27/8	0.120	0.297	100
05	6d	17⁄a	0.092	0.250	280						

All dimensions are given in inches.

TABLE 11 Type I, Style 8—Sinker Nails^A

Note-Steel wire, flat countersunk head, diamond point, round smooth shank, bright or cement coated. When specified, sinkers shall have an altered or T-head for use with mechanical drivers.



81

64

40

30

23

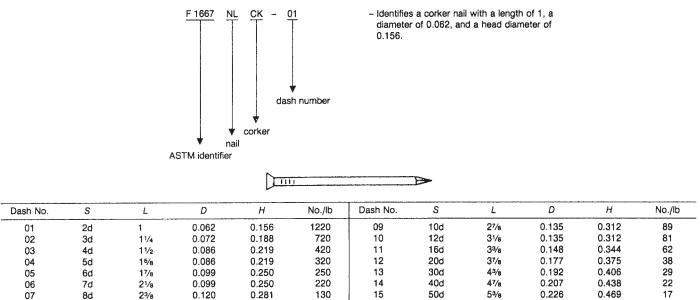
14

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🕼 F 1667 – 02a<u>3</u>

TABLE 12 Type I, Style 9—Corker Nails^A

Note-Steel wire, flat countersunk head, diamond point, round smooth shank, cement coated. When specified, corkers shall have an altered or T-head for use with mechanical drivers.



9d A All dimensions are given in inches.

25/8

08

TABLE 13 Type I, Style 10-Common Nails^A

16

60d

57/s

0.244

0.500

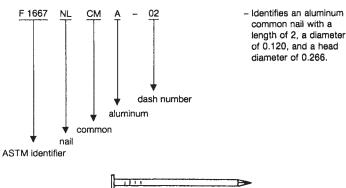
13

120

Note-Aluminum alloy wire, flat head, diamond point, round smooth shank, or, when specified, square barbed shank.

0.281

0.120

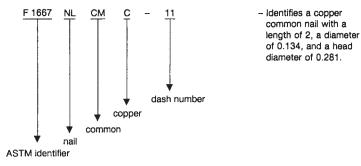


	F 1667 NLCMA											
Dash No.	S	L	D	н	No./Ib	Dash No.	S	L	D	Н	No./Ib	
01	4d	11/2	0.099	0.250	830	04	10d	3	0.162	0.312	170	
02	6d	2	0.120	0.266	430	05	16d	31/2	0.177	0.344	120	
03	8d	21/2	0.148	0.281	220	06	20d	4	0.199	0.406	78	

^A All dimensions are given in inches.

TABLE 14 Type I, Style 10-Common Nails^A

NOTE-Copper wire, flat head, diamond point, round smooth shank.



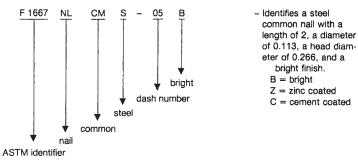
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	P P	
E	and the second se	-

		····		F 1667	NLCMC				
Dash No.	L	D	н	No./Ib	Dash No.	Ļ	D	Н	No./Ib
01	5/8	0.065	0.156	1380	10	2	0.120	0.266	130
02	3/4	0.065	0.156	1160	11	2	0.134	0.281	
03	3/4	0.072	0.172	960	12	21/2	0.134	0.281	86
04	7/8	0.072	0.172	810	13	3	0.148	0.312	56
05	1	0.072	0.172	700	14	31/2	0.165	0.344	40
06	11/4	0.083	0.203	420	15	4	0.203	0.406	23
07	11/2	0.109	0.250	210	16	41/2	0.220	0.438	18
08	13/4	0.109	0.250	180	17	5	0.238	0.469	14
09	13/4	0.120	0.266	140	18	6	0.284	0.531	8

A All dimensions are given in inches.

TABLE 15 Type I, Style 10-Common Nails^A

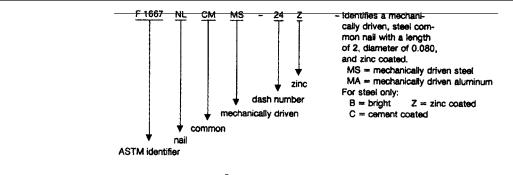
Note-Steel wire, flat head, diamond point, round smooth shank, bright, zinc or cement coated as specified.



					F 1667	NLCMS					
Dash No.	S	L	D	н	No./lb	Dash No.	S	L	D	н	No./Ib
01	2d	1	0.072	0.172	850	09	10d	3	0.148	0.312	66
02	3d	11/4	0.080	0.203	540	10	12d	31/4	0.148	0.312	61
03	4d	11/2	0.099	0.250	290	11	16d	31/2	0.162	0.344	47
04	5d	13/4	0.099	0.250	250	12	20d	4	0.192	0.406	30
05	6d	2	0.113	0.266	170	13	30d	41/2	0.207	0.438	23
06	7d	21/4	0.113	0.266	150	14	40d	5	0.226	0.469	17
07	8d	21/2	0.131	0.281	100	15	50d	51/2	0.244	0.500	14
08	9d	23/4	0.131	0.281	92	16	60d	6	0.262	0.531	11

TABLE 16 Type I, Style 10-Common Nails^A

Note—Aluminum alloy wire, or steel wire, (bright, zinc coated or cement coated), altered or T-head, diamond or chisel point, round smooth shank, as specified. For use with mechanical drivers.



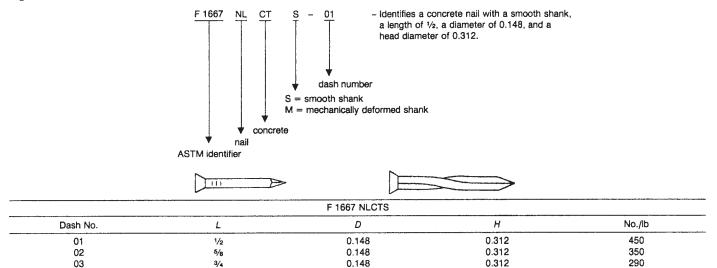
(<u>_____</u>

								F 1667	NLCMM								
Dash No.	Ŀ	<u>D</u>	Dash No.	Ŀ	<u>D</u>	Dash No.	L	<u>D</u>	Dash No.	Ŀ	<u>D</u>	Dash No.	Ŀ	<u>D</u>	Dash No.	Ŀ	<u>D</u>
<u>01</u>	<u>11/4</u>	0.080	<u>15</u>	13⁄4	0.086	<u>29</u>	2	0.148	<u>43</u>	13⁄4	0.120	57	<u>23/8</u>	0.113	<u>71</u>	3	0.131
02	<u>11/4</u>	0.086	16	13⁄4	0.092	30	21/4	0.092	44	17⁄8	0.120	58	23/8	0.120	72	3	0.148
<u>03</u>	11/4	0.092	17	13⁄4	0.099	<u>31</u>	21/4	0.099	<u>45</u>	17⁄8	0.131	59	23/8	0.131	73	31/4	0.120
04	11/4	0.099	18	13⁄4	0.113	32	21/4	0.113	46	17⁄8	0.148	60	23/8	0.148	74	31/4	0.131
05	11/2	0.080	19	17⁄8	0.080	33	21/2	0.092	47	2	0.120	61	21/2	0.120	75	31/4	0.148
05 06 07	11/2	0.086	20	17⁄8	0.086	<u>34</u> 35	21/2	0.099	48	2	0.131	62	21/2	0.148	76	31/2	0.135
07	11/2	0.092	21	17⁄8	0.092	35	21/2	0.113	49	21/8	0.099	63	21/2	0.162	77	31/2	0.148
08 09	11/2	0.099	22	17/8	0.099	<u>36</u> 37	21/ 2	0.131	50	21/8	0.113	64	25/8	0.148	78	31/2	0.162
09	11/2	0.113	23	17⁄8	0.113	37	31/2	0.131	51	21/8	0.120	65	23/4	0.120	79	4	0.148
10	15⁄8	0.080	24	2	0.080	38	11/2	0.120	52	21/8	0.131	66	23/4	0.131	80	4	0.162
11	15⁄8	0.086	25	2	0.086	39	11/2	0.131	53	21/8	0.148	67	23/4	0.148	81	41/2	0.148
12	15⁄8	0.092	26	2	0.092	40	11/2	0.148	54	21/4	0.120	68	27/8	0.120	82	41/2	0.162
13	15⁄/8	0.099	27	2	0.099	41	11/2	0.162	55	21/4	0.131	69	3	0.120	<u> </u>		<u></u>
14	13/4	0.080	28	2	0.113	42	15⁄/8	0.113	56	21/4	0.148	70	3	0.128		<u></u>	<u></u>

🕼 F 1667 – 02a<u>3</u>

TABLE 17 Type I, Style 11-Concrete Nails^A

NOTE—Harded steel, flat countersunk head, diamond point, smooth or mechanically deformed shank formed from round or square stock, as specified, bright finish.



05		1		0.148		0.312		210		
				F 1667	V NLCTM			·		
Dash No.	L	D	н	No./Ib	Dash No.	L	D	н	No./Ib	
01	3/4	0.181	0.284	240	05	2	0.181	0.284	93	
02	1	0.181	0.284	204	06	21/2	0.181	0.284	68	

07

08

0.148

0.312

23/4

3

0.181

0.181

250

60

52

0.284

0.284

A All dimensions are given in inches.

11/2

13/4

04

03

04

TABLE 18 Type I, Style 12-Double-Headed Nails^A

Note-Steel wire, flat heads, diamond point, round smooth shank, bright finish or cement coated.

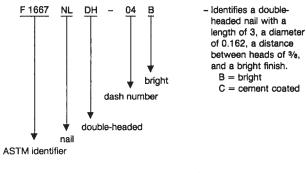
0.284

0.284

7/8

0.181

0.181



116

112

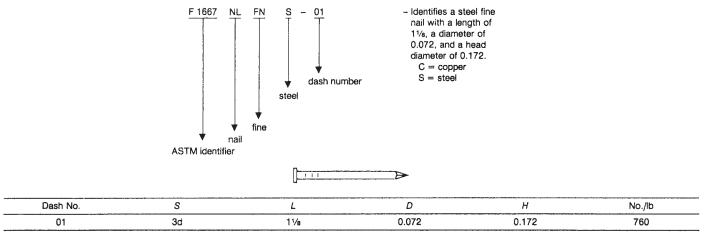
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Ш	111		

Dash No.	S	L	D	B	No./lb	Dash No.	S	L	D	В	No./lb
01	6d	13/4	0.113	1/4	160	04	16d	3	0.162	3/8	45
02	8d	21/4	0.131	1/4	90	05	20d	31/2	0.192	3/8	28
03	10d	23/4	0.148	5/16	59	06	30d	4	0.207	7/18	22

∰ F 1667 – 02a<u>3</u>

TABLE 19 Type I, Style 13—Fine Nails^A

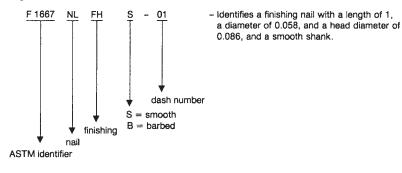
NOTE-Steel or copper wire, flat head, diamond point, round smooth shank, bright finish.



A All dimensions are given in inches.

TABLE 20 Type I, Style 14—Finish Nails^A

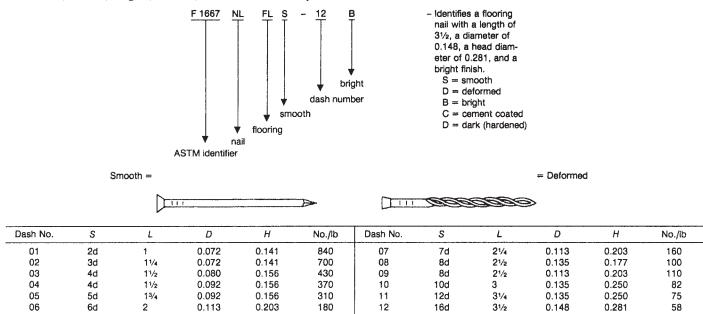
NOTE—Steel wire, brad head, altered or clipped T-head for use with mechanical drivers, diamond or chisel point, smooth or barbed shank formed from round or square stock, as specified, bright finished.



Dash No.	S	L	D	Н	No./lb	Dash No.	S	L	D	H	No./Ib
01	2d	1	0.058	0.086	1.470	07	8d	21/2	0.099	0.142	190
02	3d	11/4	0.067	0.099	880	08	9d	23/4	0.099	0.142	180
03	4d	11/2	0.072	0.106	630	09	10d	3	0.113	0.155	120
04	5d	13/4	0.072	0.106	530	10	12d	31/4	0.113	0.155	110
05	6d	2	0.092	0.135	290	11	16d	31/2	0.120	0.162	93
06	7d	21/4	0.092	0.135	250	12	20d	4	0.135	0.177	65

TABLE 21 Type I, Style 15—Flooring Nails^A

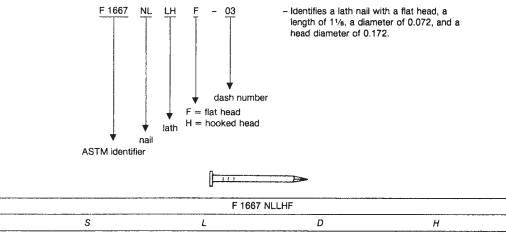
NOTE—Harded steel or steel wire, casing head or flat-cupped countersunk head, diamond or blunt point, round, smooth or mechanically deformed shank, dark (hardened), bright (steel wire) or cement coated, as specified.



A All dimensions are given in inches.

TABLE 22 Type I, Style 16—Lath Nails^A

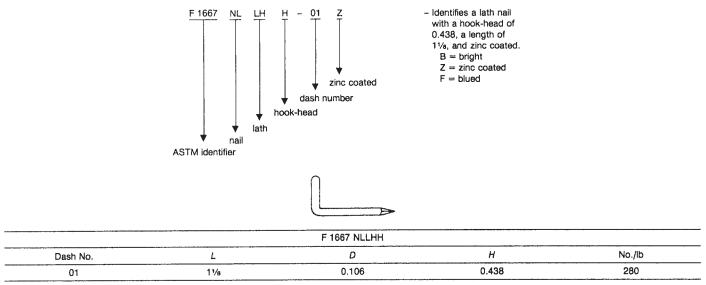
NOTE-Steel wire, flat head, diamond point, round smooth shank, blued finish.



Dash No.	S	L	D	Н	No./lb
01	2d	1	0.058	0.141	1.280
02	3d	11/8	0.062	0.156	980
03	3d	11/8	0.072	0.172	760

TABLE 23 Type I, Style 16-Lath Nails^A

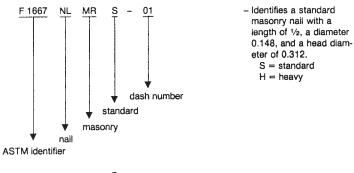
Note-Steel wire, flat hook-head, diamond point, round smooth shank, bright, blued, or zinc coated as specified.



A All dimensions are given in inches.

TABLE 24 Type I, Style 17—Masonry Nails^A

Note-Hardened steel, flat or flat countersunk head, diamond point, mechanically deformed shank, bright finish.

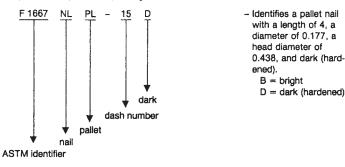




				F 166	7 NLMR				
Dash No.	L	D	Н	No./Ib	Dash No.	L	D	Н	No./lb
01	1/2	0.148	0.312	340	09	21/2	0.148	0.312	76
02	3/4	0.148	0.312	280	10	23/4	0.148	0.312	70
03	1	0.148	0.312	170	11	3	0.148	0.312	67
04	11/4	0.148	0.312	140	12	31/4	0.148	0.312	60
05	11/2	0.148	0.312	130	13	31/2	0.162	0.344	48
06	13⁄4	0.148	0.312	110	14	33/4	0.162	0.344	45
07	2	0.148	0.312	98	15	4	0.177	0.375	35
08	21/4	0.148	0.312	84					
		- <u></u>		F 1667	NLMRH				
Dash No.	L	D	Н	No./Ib	Dash No.	L	D	Н	No./lb
01	1	0.250	0.562	63	05	2	0.250	0.562	34
02	11/4	0.250	0.562	47	06	21/2	0.250	0.562	27
03	11/2	0.250	0.562	43	07	31/2	0.250	0.562	19
04	13/4	0.250	0.562	39	08	3	0.250	0.562	24

TABLE 25 Type I, Style 18—Pallet Nails^A

NOTE—Hardened steel or steel wire (for mechanical drivers), flat head, altered or T-Head (for mechanical drivers), diamond point, round, mechanically deformed shank, bright finish (steel wire), or dark (hardened), as specified.

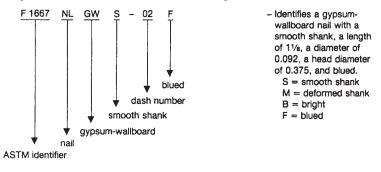


Dash No.	L	D	Н	No./ib	Dash No.	L	D	Н	No./lb			
01	11/2	0.120	0.281	190	11	31/4	0.148	0.312	61			
02	15⁄8	0.120	0.281	170	12	31/2	0.148	0.312	57			
03	2	0.120	0.281	140	13	31/2	0.162	0.375	47			
04	21/4	0.120	0.281	130	14	31/2	0,177	0.438	38			
05	21/2	0.120	0.281	120	15	4	0.177	0.438	35			
06	21/2	0.135	0.312	93	16	4	0.177	0.375	35			
07	3	0.120	0.281	98	17	5	0.177	0.375	27			
08	3	0.135	0.312	79	18	6	0.177	0.375	23			
09	3	0.148	0.312	66	19	7	0.207	0.500	15			
10	31/4	0.135	0.312	73	20	8	0.207	0.500	13			

A All dimensions are given in inches.

TABLE 26 Type I, Style 19—Gypsum-Wallboard, Gypsumboard, and Drywall Nails^A

Note-Steel wire, flat head, diamond point, round smooth or deformed shank, bright or blued finish.





F 1667 NLGWS									
Dash No.	L	D	Н	No./Ib					
01	11/8	0.092	0.297	470					
02	11/8	0.092	0.375	450					
03	11/4	0.092	0.297	420					
04	11/4	0.106	0.375	310					
05	13⁄4	0.092	0.375	290					

^A All dimensions are given in inches.

∰ F 1667 – 02a<u>3</u>

TABLE 27 Type I, Style 19—Gypsum-Wallboard, Gypsumboard, and Drywall Nails^A

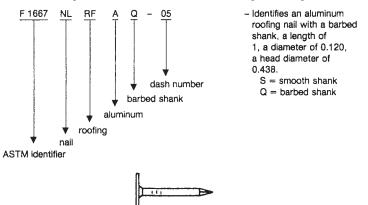
Note-Steel wire, flat slightly countersunk head, long diamond point, round mechanically deformed shank, bright or blued finish.

F 1667 NLGWM									
Dash No.	L	D	Н	No./Ib					
01	11/8	0.099	0.250	380					
02	11/4	0.099	0.250	340					
03	13/8	0.099	0.250	320					
04	11/2	0.099	0.250	290					
05	15/8	0.099	0.250	270					

All dimensions are given in inches.

TABLE 28 Type I, Style 20—Roofing Nails^A

Note-Aluminum alloy wire, flat head, diamond point, round smooth shank, or, when specified, square-barbed shank.



	F 1667 NLRFA											
Dash No.	L	D	н	No./lb	Dash No.	L	D	н	No./lb			
01	3/4	0.120	0.438	940	08	11/4	0.120	0.438	620			
02	3/4	0.135	0.438	750	09	11/4	0.135	0.438	490			
03	7/8	0.120	0.438	830	10	11/2	0.120	0.438	520			
04	7/8	0.135	0.438	660	11	11/2	0.135	0.438	420			
05	1	0.120	0.438	700	12	13⁄4	0.135	0.438	370			
06	1	0.135	0.438	600	13	2	0.135	0.438	340			
07	1	0.135	0.438	580	14	21/2	0.145	0.438	230			

TABLE 29 Type I, Style 20-Roofing Nails^A

NOTE—Steel wire, flat head, diamond point, round, smooth or barbed shank, bright or zinc coated, as specified, for hand driving or for use with mechanical drivers.

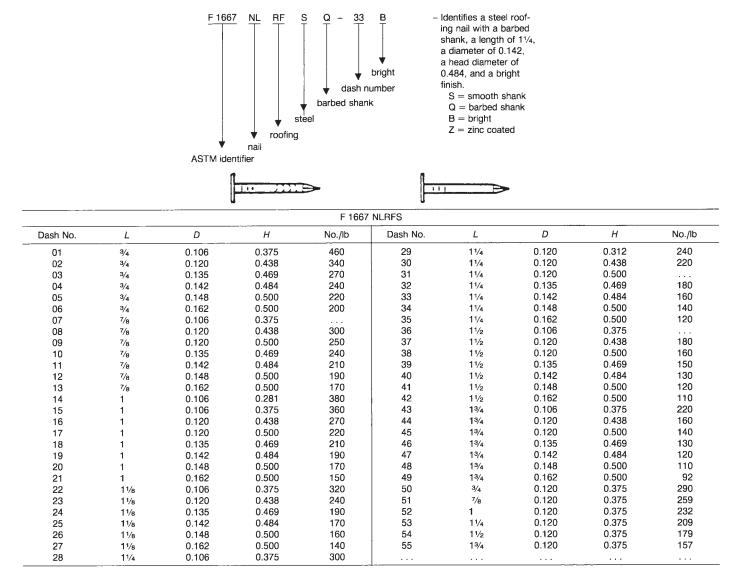
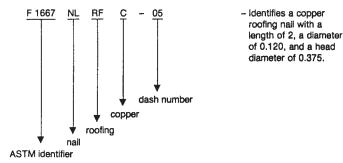


TABLE 30 Type I, Style 20-Roofing Nails^A

Note—Copper-clad wire, flat head, diamond point, round smooth shank.

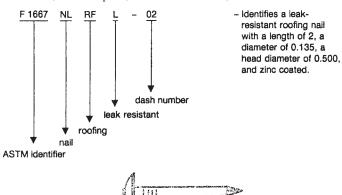


	F 1667 NLRFC										
Dash No.	S	L	D	н	No./lb	Dash No.	S	L	D	Н	No./lb
01	2d	1	0.120	0.375	280	04	5d	13/4	0.120	0.375	160
02	3d	11/4	0.120	0.375	220	05	6d	2	0.120	0.375	140
03	4d	11/2	0.120	0.375	190	06	7d	21/4	0.120	0.375	130

All dimensions are given in inches.

TABLE 31 Type I, Style 20—Roofing Nails^A

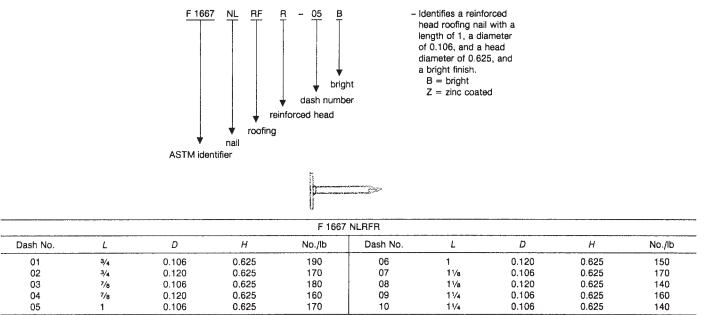
NOTE-Steel wire, leak-resistant convex head, diamond point, round smooth shank, zinc coated.



	F 1667 NLRFL								
Dash No.	L	D	Н	No./lb					
01	13⁄4	0.135	0.500	110					
02	2	0.135	0.500	98					

TABLE 32 Type I, Style 20-Roofing Nails^A

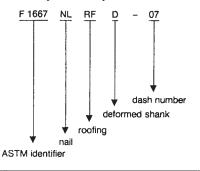
Note-Steel wire, flat reinforced head, needle or diamond point, round smooth shank, bright or zinc coated, as specified. (For prepared felt roofing.)



A All dimensions are given in inches.

TABLE 33 Type I, Style 20—Roofing Nails^A

Note-Steel wire, 1-in. flat integral steel cap, diamond point, round mechanically deformed shank, bright finish for roofing felts.



D

 Identifies a 1-in. steel cap roofing nail with a length of 1¼, a diameter of 0.106, and a deformed shank.

L

D

No./Ib

01	1/2	0.106	130	07	11/4	106	100
02	5/8	0.106	120	08	11/2	106-120	96-84
03	3/4	0.106	115	09	13/4	106-120	94-85
04	7/8	0.106	110	10	2	106-120	90-74
05	1	0.106	110	11	21/2	106-120	80-61
06	1 1⁄a	0.106	110	12	3	106	70

No./Ib

F 1667 NLRFD

Dash No.

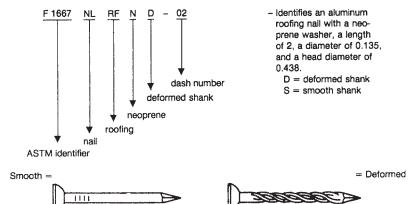
^A All dimensions are given in inches.

L

Dash No.

TABLE 34 Type I, Style 20-Roofing Nails^A

Note—Aluminum alloy wire, flat head with neoprene washer (for aluminum roofing sheet), diamond point, round, smooth, or mechanically deformed shank, as specified.

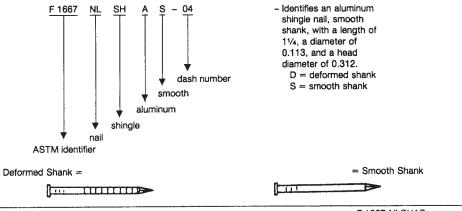


		F 1667 NLRFNS	;		F 1667 NLRFND					
Dash No.	L	D	Н	No./lb	Dash No.	L	D	Н	No./lb	
01	13/4	0.135	0.438	320	01	13/4	0.145	0.438	290	
02	2	0.135	0.438	280	02	2	0.145	0.438	260	
03	21/4	0.135	0.438	240	03	21/4	0.145	0.438	230	
04	21/2	0.135	0.438	210	04	21/2	0.145	0.438	210	

All dimensions are given in inches.



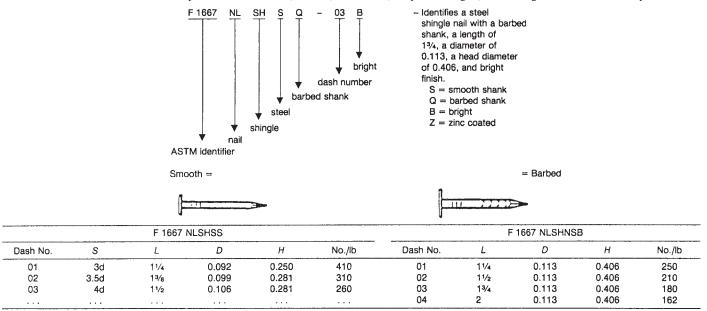
Note-Aluminum Alloy wire, flat head, diamond point, round, smooth or mechanically deformed shank, as specified.



		F 1667 NLSHAD)		F 1667 NLSHAS					
Dash No.	L	D	н	No./lb	Dash No.	L	D	Н	No./lb	
01	11/4	0.101	0.191	1060	01	7/8	0.099	0.281	1310	
02	11/2	0.101	0.191	860	02	11/4	0.080	0.219	1480	
03	13/4	0.105	0.191	720	03	11/4	0.099	0.281	1010	
04	2	0.105	0.191	610	04	11/4	0.113	0.312	780	
05	21/4	0.113	0.200	180	05	11/2	0.113	0.312	660	
06	21/2	0.113	0.200	130	06	13⁄4	0.113	0.312	610	

TABLE 36 Type I, Style 21—Shingle Nails^A

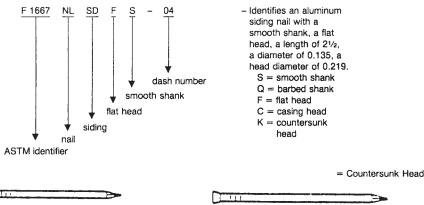
Note-Steel wire, flat head, diamond point, round, smooth (standard) or barbed (for special shingles) shank, bright or zinc coated, as specified.



^A All dimensions are given in inches.

TABLE 37 Type I, Style 22—Siding Nails^A

NOTE—Aluminum alloy wire, flat head (insulated), casing or countersunk head (wood), as specified, diamond point, round smooth shank or, when specified, square-barbed shank.



					F 1667	NLSDF					
Da	sh No.		L			н д				No./Ib	
	01		11/2		0.	0.219				700	
	02		11/2		0.	113 0.312				660	
	03		2		0.	113 0.219				490	
	04 21/2			0.	135		0.219		290		
F 1667 NLSDC							F 1667	NLSDK			
Dash No.	S	L	D	Н	No./lb	Dash No.	S	L	D	н	No./Ib
01	6d	17/8	0.106	0.141	600	01	6d	17/8	0.106	0.266	600
02	7d	21/8	0.113	0.141	470	02	7d	21/8	0.113	0.266	470
03	8d	23/8	0.128	0.156	320	03	8d	2 ³ /8	0.128	0.297	320
04	9d	2 ⁵ /8	0.148	0.189	200	04	9d	25/a	0.148	0.312	200

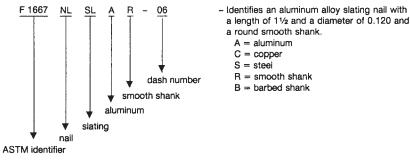
A All dimensions are given in inches.

Flat Head =

ſ

TABLE 38 Type I, Style 23—Slating Nails^A

Note—Aluminum alloy, copper or steel wire as specified. Aluminum and copper nails shall have a flat head (0.312 to 0.375–in. diameter), diamond point, and round smooth shank or, when specified, square-barbed shank. Steel nails shall have a flat, slightly countersunk head, diamond point, round smooth shank, zinc coated.



Steel =

Pa

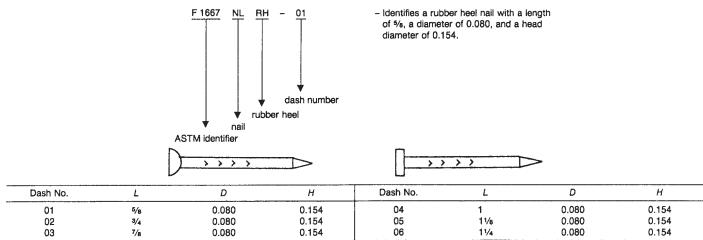
= Aluminum or Copper

F 1667 NLSLA Dash No. D No./Ib L 01 7/8 0.106 1170 02 0.106 1150 1 03 0.106 670 11/4 04 0.120 620 11/4 05 0.135 520 11/4 06 11/2 0.120 530 07 11/2 0.135 430 F 1667 NLSLC 01 1 0.109 290 02 11/4 0.109 240 0.120 03 210 11/4 04 11/4 0.135 160 05 11/2 0.109 200 06 0.120 160 11/2 07 0.135 130 11/2 120 08 13/4 0.135 09 2 0.135 110 F 1667 NLSLS Dash No. S L D Н No./Ib 01 2d 1 0.106 0.312 420 02 3d 0.128 0.375 220 11/4 03 4d 0.128 0.375 190 11/2 04 5d 13/4 0.135 0.406 140 05 6d 2 0.148 0.438 100

^A All dimensions are given in inches.

TABLE 39 Type I, Style 24—Rubber Heel Nails^A

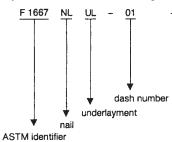
Note-Steel wire, flat or countersunk head, as specified, needle point, round smooth shank, bright finish.



All dimensions are given in inches.

TABLE 40 Type I, Style 25—Underlayment Nails^A

Note-Steel wire, flat or flat, slightly countersunk head, diamond point, round, mechanically deformed shank, bright finish.

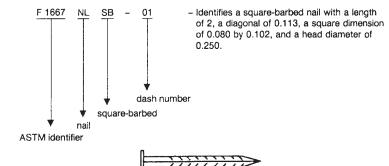


 Identifies an underlayment nail with a length of 1, a diameter of 0.080, and a head diameter of 0.188.

Dash No.	L	D	н	No./lb	Dash No.	L	D	Н	S	No./lb
01	1	0.080	0.188		07	11/2	0.099	0.250		330
02	11/4	0.080	0.188	600	08	15⁄8	0.099	0.250		300
03	11/4	0.099	0.250	400	09	13/4	0.099	0.250		280
04	13/8	0.080	0.188	540	10	17/a	0.106	0.266	6d	170
05	13/8	0.099	0.250	360	11	21/8	0.109	0.266	7d	170
06	11/2	0.080	0.188	500	12	23/8	0.113	0.297	8d	140

TABLE 41 Type I, Style 26—Barbed Nails^A

NOTE-Steel wire, flat head, diamond point, square barbed shank, bright finish.

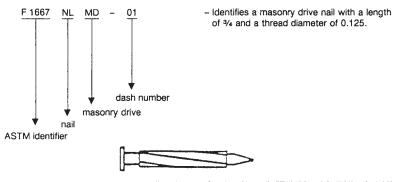


Dash No.	S	Style	L	Diagonal	Square Dimension	Н	No./Ib
01	6d	common	2	0.113	0.080 × 0.102	0.250	200
02	8d	common	21/2	0.131	0.092×0.120	0.266	120
03	10d	common	3	0.148	0.105 × 0.135	0.281	84
04	16d	common	31/2	0.162	0.113 × 0.149	0.312	59
05	20d	common	4	0.192	0.135 × 0.170	0.375	39
06	6d	box	2	0.099	0.072×0.089	0.250	260
07	8d	box	21/2	0.113	0.080×0.102	0.266	150
08	6d	finish	2	0.092	0.062×0.083	0.124	320
09	8d	finish	21/2	0.099	0.072×0.089	0.131	230
10		truss	11/2	0.131	0.092×0.120	0.281	190

^A All dimensions are given in inches.

TABLE 42 Type I, Style 27—Masonry Drive Nails^A

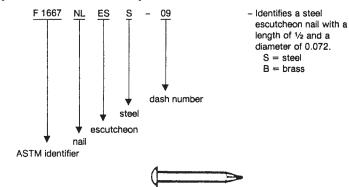
NOTE—Hardened steel, flat head, cone pilot point, round, high pitch, multiple-start threaded shank, bright finish. When specified, masonry drive nails shall be proof lead tested.



Dash No.	S	L	Thread Diameter	Dash No.	S	L	Thread Diameter
01	3/32	3/4	0.125	4	3/16	11/4	0.215
02	1/8	3/4	0.156	5	1/4	11/2	0.258
03	5/32	1	0.188	6	5/18	2	0.330

TABLE 43 Type I, Style 28—Escutcheon Nails^A

NOTE-Steel or brass wire, as specified, oval head, diamond point, round smooth shank.

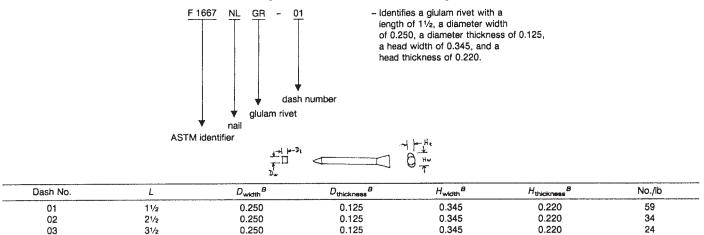


Dash No.	L	D	Dash No.	L	D	Dash No.	L	D
01	1/4	0.035	14	3/4	0.072	27	2	0.080
02	1/4	0.048	15	3/4	0.080	28	2	0.092
03	1/4	0.062	16	3/4	0.092			
04	1/4	0.072	17	1	0.048			
05	1/4	0.080	18	1	0.062			
06	1/2	0.035	19	1	0.072			
07	1/2	0.048	20	1	0.080			
08	1/2	0.062	21	1	0.092			
09	1/2	0.072	22	11/4	0.062			
10	1/2	0.080	23	11/4	0.080			
11	1/2	0.092	24	11/4	0.092			
12	3/4	0.048	25	11/2	0.080			
13	3/4	0.062	26	11/2	0.092			

All dimensions are given in inches.

TABLE 44 Type I, Style 29-Glulam Rivet^A

Note-Hardened steel, flat countersunk head, diamond point, smooth shank, zinc coated, as specified.

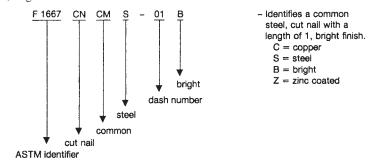


A All dimensions are given in inches.

^B Tolerances: $D_{w} = \pm 0.010$, $D_{t} = \pm 0.005$, $H_{w} = \pm 0.010$, and $H_{t} = \pm 0.010$.

TABLE 45 Type II, Style 1—Common Cut Nails^A

Note-Steel or copper, flat head, bright finish.



Dash No.	S	L	Dash No.	S	L	Dash No.	S	L	
01	2d	1	07	7d	21/4	13	20d	4	
02	3d	11/4	08	8d	21/2	14	30d	41/2	
03	31/2d	13/8	09	9d	23/4	15	40d	5	
04	4d	11/2	10	10d	3	16	50d	51/2	
05	5d	13/4	11	12d	31/4	17	60d	6	
06	6d	2	12	16d	31/2				

All dimensions are given in inches.

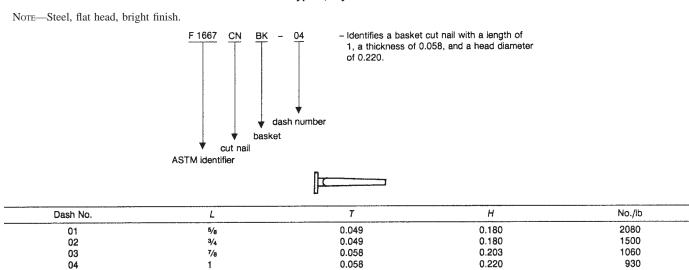
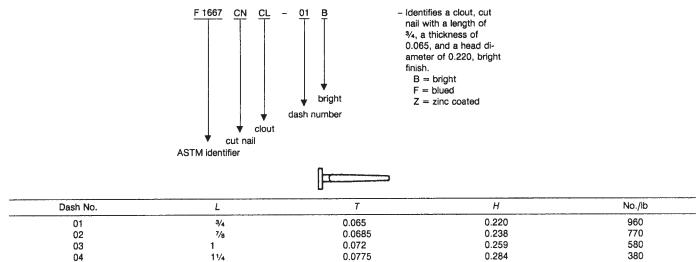


TABLE 46 Type II, Style 2—Basket Cut Nails^A

TABLE 47 Type II, Style 3—Clout Cut Nails^A

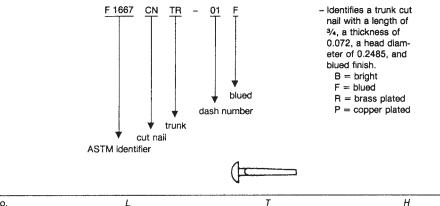
NOTE—Steel, flat head, bright finish, blued or zinc coated, as specified (see 5).



All dimensions are given in inches.

TABLE 48 Type II, Style 4—Common Cut Nails^A

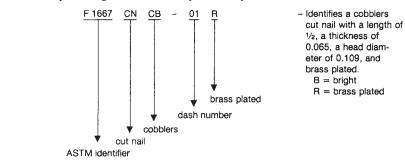
NOTE-Steel, oval head, bright finish, blued, brass or copper plated, as specified.



Dash No.	L	Т	Н	No./lb
01	3/4	0.072	0.2485	670
02	7/8	0.072	0.2485	610
03	1	0.083	0.2715	450
04	11/4	0.083	0.2715	350

TABLE 49 Type II, Style 5—Cobblers Cut Nails^A

NOTE—Steel casing head, clinch point, bright finish or brass plated, as specified.

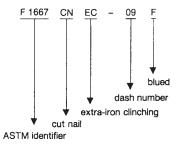


Dash No.	L	Т	Н	No./lb
01	1/2	0.065	0.109	1950
02	5/8	0.065	0.109	1500
03	3/4	0.065	0.109	1340

A All dimensions are given in inches.

TABLE 50 Type II, Style 6—Extra-Iron Clinching Cut Nails^A

NOTE-Steel, casing head, clinch point, bright finish or blued, as specified.



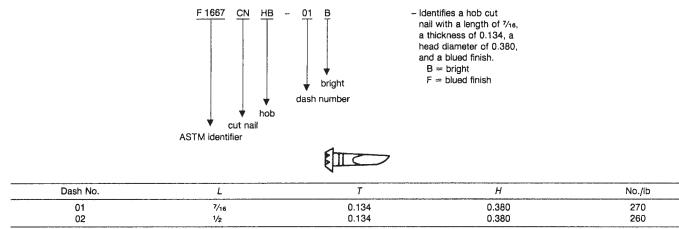
 Identifies an extrairon clinching cut nail with a length of 7/s, a thickness of 0.0535, a head diameter of 0.101, and a blued finish.
B = bright F = blued finish

Dash No.	L	Т	н	No./Ib	Dash No.	L	T	Н	No./lb
01	3/8	0.049	0.093	4.130	06	11/18	0.049	0.093	2000
02	7/18	0.049	0.093	3.400	07	3/4	0.0535	0.101	1640
03	1/2	0.049	0.093	3.040	08	13/18	0.0535	0.101	1600
04	9/16	0.049	0.093	2.864	09	7/8	0.0535	0.101	1520
05	5/8	0.049	0.093	2.260					

1.11

TABLE 51 Type II, Style 7—Hob Cut Nails^A

NOTE-Steel, square grooved head, clinch point, bright finish, or blued, as specified.



A All dimensions are given in inches.

TABLE 52 Type III, Style 1—Common Spikes^A

Note—These spikes shall be sheared from medium carbon sheet steel and shall have a wedged-shaped shank with a square point end narrower than the upset head end. They shall have a flat head, bright finish, or zinc coated, as specified.

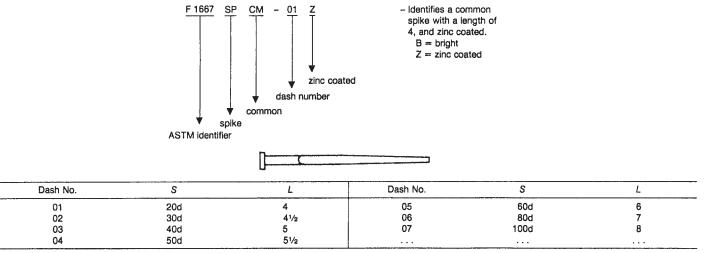
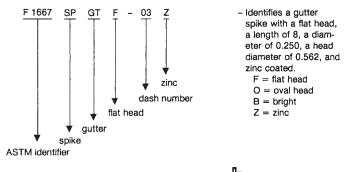


TABLE 53 Type III, Style 2—Gutter Spikes^A

Note-Steel wire, oval head, chisel point, flat head, diamond point, bright finish or zinc coated, as specified.



|--|

	F 1667	SPGTF	
Dash No.	L	D	Н
01	61/2	0.250	0.562
02	7	0.250	0.562
03	8	0.250	0.562
04	81/2	0.250	0.562
05	9	0.250	0.562
06	10	0.250	0.562
07	101/2	0.250	0.562
	F 1667	SPGTO	
Dash No.	L	D	Н
01	61/2	0.250	0.531
02	7	0.250	0.531
03	8	0.250	0.531
04	81/2	0.250	0.531
05	9	0.250	0.531
06	10	0.250	0.531
07	101/2	0.250	0.531

1111

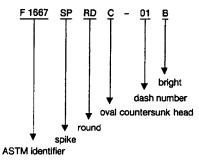
E

^A All dimensions are given in inches.

∰ F 1667 – 02a<u>3</u>

TABLE 54 Type III, Style 3—Round Spikes^A

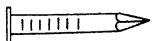
Note-Steel wire, oval countersunk head, chisel point, flat head, diamond point, bright finish or zinc coated, as specified.



-Identifies a round spike with an oval head, a length of 5, a shank diameter of 0.2625, a head diameter of 0.531, and a bright finish. C = oval countersunk headF = flat headB = brightZ = zinc coated



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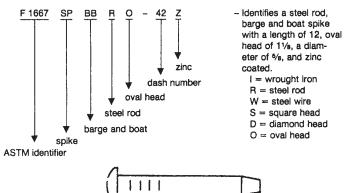
= Flat Head

F 1667 SPRDC ^A					F 1667 SPRDF ^A			
Dash No.	S	L	D	Н	Dash No.	L	D	Н
01	40d	5	0.2625	0.531	01	8	0.312	0.625
02	50d	51/2	0.283	0.562	02	8	0.312	0.750
03	60d	6	0.283	0.562	03	9	0.312	0.750
04		7	0.312	0.625	04	10	0.312	0.750
					05	8	0.375	0.750

^AAll dimensions are given in inches.

TABLE 55 Type III, Style 4—Barge and Boat Spikes^A

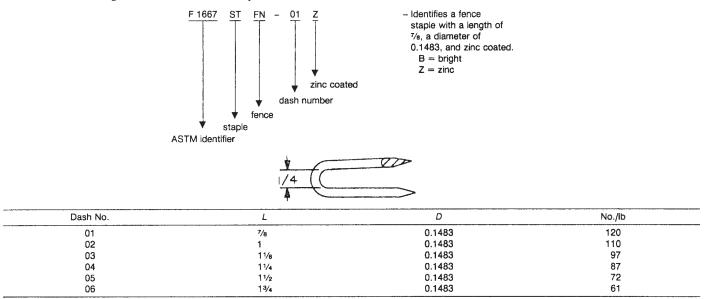
Note-Wrought iron, hot rolled steel rod or steel wire, square, diamond or oval head, chisel point, bright finish or zinc coated, as specified.



F 1667 SPBB							
Dash No.	D-Square	Н	L	Dash No.	D-Square	н	L
01	1/4	17/32	3	26	7/16	13/16	8
02	1/4	17/32	31/2	27	7/16	13/16	9
03	1/4	17/32	4	28	7/16	13/18	10
04	1/4	17/32	5	29	7/18	13/16	11
05	1/4	17/32	6	30	7/18	13/16	12
06	1/4	17/32	7	31	1/2	1	6
07	1/4	17/32	8	32	1/2	1	7
08	5/16	19/32	31/2	33	1/2	1	8
09	5/16	19/32	4	34	1/2	1	9
10	5/16	19/32	5	35	1/2	1	10
11	5/16	19/32	6	36	1/2	1	11
12	5/16	19/32	7	37	1/2	1	12
13	5/16	19/32	8	38	⁵ /8	11/8	8
14	3/8	11/16	3	39	5/8	11/6	9
15	3/8	11/18	31/2	40	5/8	11/8	10
16	3/8	11/18	4	41	5/8	11⁄a	11
17	3/8	11/18	5	42	5/8	11/8	12
18	3/8	11/18	6				
19	3/8	11/18	7				
20	3/8	11/16	8				
21	3/8	11/16	9				
22	3/8	11/16	10				
23	3/8	11/18	11				
24	7/18	13/16	6				
25	7/16	13/16	7				

TABLE 56 Type IV, Style 1—Fence Staples^A

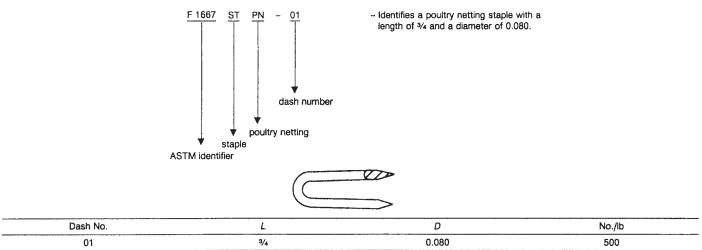
Note-Steel wire, bright finish or zinc coated, as specified.



^A All dimensions are given in inches.

TABLE 57 Type IV, Style 2—Poultry Netting Staples^A

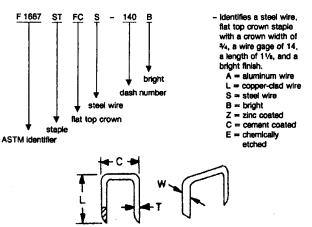
Note-Steel wire, zinc coated.



^A All dimensions are given in inches.

TABLE 58 Type IV, Style 3—Flat Top Crown Staples^A

NOTE—Steel wire, aluminum alloy wire, bright finish, zinc coated, cement coated or chemically etched, as specified. (For use in power tools for fastening wood and other materials to wood.)



F 1667 STFC Dash No. С G₽ L Dash No. С G₽ L 01 18 3/8 1/2 5/8 3/4 1/8 11/8 11/4 $\begin{array}{c} 023405667089901112314151671819021223222222223333333333333341423445467849\\ \end{array}$ 2 21/4 21/2 3/8 1/2 5/8 3/4 7/8 1 11/8 11/4 13/8 11/2 15/6 13/4 3/8 1/2 5/8 3/4 7/8 11/8 11/4 1% 1½ 1% 1% 1% 2 21/4 11/4 114 88 89 90 91 92 21/2 1/2 5/6 3/4 7/6 1 11/2 15% 13/4 3/8 1/2 5% 3/4 7/6 93 94 95 96 97 98 11/2 11/4 13/2 11/2 1 11/8 7/18 11/4 99 1% 50 3/16 13/8 100 1/2 14/4

∰ F 1667 – 02a3

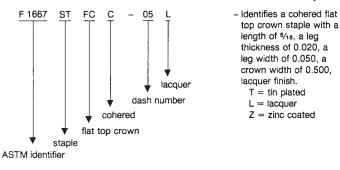
F 1667 STFC							
Dash No.	с	G ⁸	L	Dash No.	С	G#	L
101	1/2	14	17/	164	7/8	14	7/6
102	1/2	14	2	165	7/8	14	1
103	1/2	14	21/4	166	7/8	14	11/8
104	1/2	14	21/2	167	7/8	14	11/4
105	1/2	.15	1/2	168	7/6	14	1%
106	1/2	15	4/8	169	7/8	14	11/2
107	1/2	15	*4	170	7/8	14	15/8
108	1/2	15	7/8	171	7/0	14	194
109	1/2	15	1	172	7/8	14	17/6
110	1/2	15	11/8	173	7/8	14	2
111	1/2	15	11/4	174	7/8	16	1/2
112	1/2	15	1%	175	7/4	16	%
113	1/2	15	11/2	176	7/8	16	44
114	1/2	15	1%	177	7/8	16	7/6
115	1/2	15	13/4	178	7/8	16	1
116	1/2	15	17/6	179	7/8	16	11/4
117	72 1/2	15	2	180	7/4	16	11/4
118	1/2	15	21/4	181	7/8	16	1%
119	1/2	15	21/2	182	7/6	16	11/2
120	1/2	16	1/2	183	7/6	16	14/9
121	1/2	16	5/6	184	7/4	16	144
122	1/2	16	¥4	185	7/6	16	17/0
123	1/2	16	7/6	186	7/0	16	2
124	1/2	16	1	187	15/16	14	1/2
125	1/2	16	1%	188	18/16	14	4
126	1/2	16	1%	189	15/16	14	44
127	V2	16	1%	190	16/18	14	7/8
128	1/2	16	11/2	191	16/16	14	1
129	1/2	16	1%	192	16/16	14	1%
130	1/2	16	144	193	14/16	14	11/4
131	1/2	16	17/6	194	14/18	14	1%
132	1/2	16	2	195	16/18	14	11/2
133	1/2	16	21/4	196	16/10	16	1/2
134	1/2	16	21/2	197	16/18	16	5/8
135	3/4	14	1/2	198	14/18	16	3/4
136	3/4	14	5/8	199	15/16	16	7/8
137	3/4	14	9/4	200	16/16	16	1
138	3/4	14	7/8	201	14/16	16	11/6
139	3/4	14	1	202	16/18	16	11/4
140	3/4	14	11/8	203	15/16	16	1%
141	3/4	14	11/4	204	16/16	16	11/2
142	44	14	13⁄8	205	1	14	1/2
143	\$∕4	14	11/2	206	1	14	5/a
144	3/4	14	1%	207	1	14	3/4
145	3/4	- 14	13/4	208	4	14	7/8
146	44	14	17/8	209	1	14	1
147	3/4	14	2	210	1	14	1%
148	3/4	16	1/2	211	1	14	11/4
149	4	16	4/8	212	1	14	13/8
150	3/4	16	3/4	213	1	14	11/2
151	3/4	16	7/8	214	1	16	1/2
152	4	16	1	215	1	16	5/8
153	*4	16	11/1	216	1	16	44
154	¥4	16	11/4	217	1	16	7/4
155	3/4	16	1%	218	1	16	1
156	3/4	16	11/2	219	1	16	1%
157	¥4	16	1%	220	1	16	11/4
158	\$4	16	1%	221	1	16	1%
159	\$4	16	17/6	222	i	16	11/2
160	9/4	16	2	223	13/0	12	¥4
161	7/8	14	1/2	224	117/32	12	44
162	7/6	14	5/8	225	21/0	10	1
163	7/8	• •				• •	

^A All dimensions are given in inches.
^B Dimensions and tolerances for gages of flat top crown staples:

Nominal Maximum Minimum Tolerance	±	<u>10 Gage</u> <u>T</u> <u>W</u> .1250 .1400 .1290 .1440 .1210 .1360 .0040 .0040	$\begin{array}{c c} \underline{12 \ Gage} \\ \underline{T} & \underline{W} \\ .0935 & .1120 \\ .0975 & .1160 \\ .0895 & .1080 \\ .0040 & .0040 \end{array}$	<u>14 Gage</u> <u>T</u> <u>W</u> .0735 .0855 .0775 .0895 .0695 .0815 .0040 .0040	Nominal Maximum Minimum Tolerance	±	<u>15 Gage</u> <u>T</u> <u>W</u> .0673 .073 .0731 .076 .0615 .070 .0058 .003	<u>16 Gage</u> <u>T</u> <u>W</u> .0563 .064 .0626 .068 .0500 .060 .0063 .004	<u>18 Gage</u> <u>T</u> <u>W</u> .038 .050 .0415 .0532 .0345 .0468 .0035 .0032
			· · · ·		•				

TABLE 59 Type IV, Style 3—Flat Top Crown Staples^A

NOTE—Steel wire, chisel point, tin plated, zinc coated or lacquer finish, as specified, cohered together in strips. (For use in staple tackers or machines.) The number per strip shall be as specified and shall be suitable for use in the make and model of tool specified.



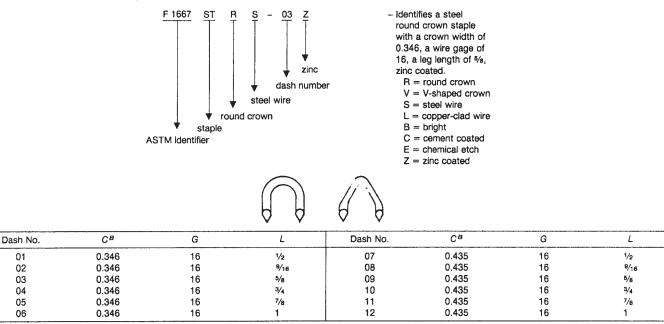
	F 1667 STFCC								
Dash No.	L	$T \times W$	Св	Dash No.	L	T × W	C ^B		
01	3/16	0.020 × 0.030	0.500	10	9/18	0.020×0.050	0.437		
02	1/4	0.020×0.030	0.500	11	3/8	0.030×0.050	0.164		
03	5/16	0.020×0.030	0.500	12	1/2	0.030×0.050	0.164		
04	1/4	0.020×0.050	0.500	13	5/8	0.030×0.050	0.164		
05	5/18	0.020×0.050	0.500	14	3/4	0.030×0.050	0.164		
06	3/8	0.020×0.050	0.500	15	7/8	0.030×0.050	0.164		
07	1/2	0.020×0.050	0.500	16	1	0.030×0.050	0.164		
08	3/8	0.020×0.050	0.437	17	11/8	0.030×0.050	0.164		
09	1/2	0.020×0.050	0.437	18	11/4	0.030×0.050	0.164		

A All dimensions are given in inches.

^B Crown width, C, tolerances: 0.500 ± 0.015, 0.437 ± 0.010, and 0.164 ± 0.015.

TABLE 60 Type IV, Style 4—Round or "V" Crown Staple A

Note—Steel wire or copper-clad wire, bright finish, zinc coated, cement coated or chemically etched, as specified. (For use in power tools for fastening wood and other materials to wood.)

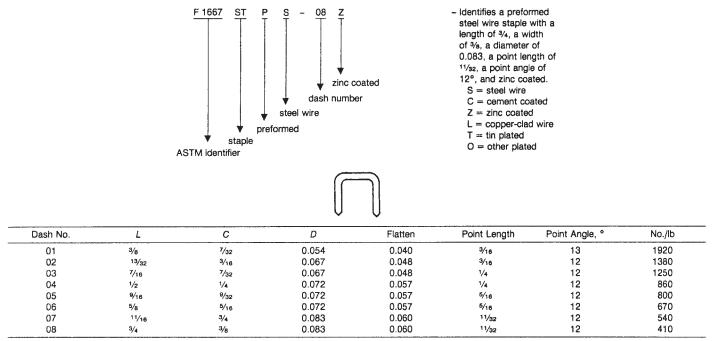


All dimensions are given in inches.

^B Crown width tolerances: +0.015 and -0.000.

TABLE 61 Type IV, Style 5—Preformed Staples^A

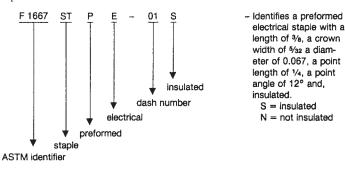
NOTE-Steel wire, chisel point, zinc or cement coated, as specified. Copper-clad wire, chisel point, tinned or other plated finish, as specified. (Hand driven.)



All dimensions are given in inches.

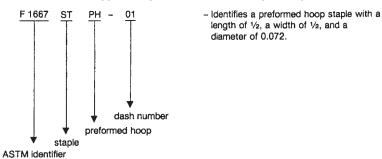
TABLE 62 Type IV, Style 6—Electrical Staples^A

Note-Insulated or uninsulated, as specified.



Dash No.	L	С	D	Flatten	Point Length	Point Angle	No./Ib
01	3/8	5/32	0.067	0.048	1/4	12	1440
02	1/2	3/18	0.072	0.057	1/4	12	990
03	5/8	1/4	0.072	0.057	5/16	12	740
04	3/4	3/16	0.083	0.060	11/32	12	480
05	3/4	1/4	0.083	0.060	11/32	12	450
06	7/8	1/4	0.083	0.060	11/32	12	400
07	7/8	7/18	0.083	0.060	11/32	12	370
08	1	1/2	0.120	0.050×0.215	3/8	18	
09	11/4	5/8	0.120	0.050×0.215	3/8	18	

TABLE 63 Type IV, Style 7—Preformed Hooped Staple^A



Dash No.	L	С	D	Flatten	No./lb
01	1/2	1/2	0.072	0.057	720
02	1/2	1/2	0.083	0.060	470
03	5/8	1/2	0.072	0.057	580
04	5/8	1/2	0.083	0.060	430
05	3/4	1/2	0.072	0.057	490
06	3/4	1/2	0.083	0.060	370
07	1/2	5/8	0.072	0.057	670
08	1/2	⁵ /8	0.083	0.060	470
09	5/8	5/8	0.072	0.057	530
10	5/8	⁵ /8	0.083	0.060	400
11	3/4	5/8	0.072	0.057	460
12	3/4	5/8	0.083	0.060	340
13	1/2	3/4	0.072	0.057	580
14	1/2	3/4	0.083	0.060	430
15	1/2	3/4	0.109	0.083	260
16	5/8	3/4	0.072	0.057	490
17	5/8	3/4	0.083	0.060	370
18	5/8	3/4	0.109	0.083	220
19	3/4	3/4	0.072	0.057	430
20	3/4	3/4	0.083	0.060	320
21	3/4	3/4	0.109	0.083	190
22	1	3/4	0.072	0.057	350
23	1	3/4	0.083	0.060	260
24	1	3/4	0.109	0.083	150
25	1/2	7/8	0.072	0.057	530
26	1/2	7/B	0.083	0.060	400
27	5/8	7/8	0.072	0.057	460
28	5/8	7/8	0.083	0.060	340
29	3/4	7/a	0.072	0.057	410
30	3/4	7/8	0.083	0.060	300
31	7/8	7/8 7/8	0.072	0.057	360
32	7/8	7/8 7/8	0.083	0.060	270
33	5/8 5/8	1	0.083	0.060	320
34	-78 5/8	1	0.109	0.083	200
35	-78 3/4	1	0.083	0.060	290
36	3/4	1	0.109	0.083	180
37	7/8	4	0.083	0.060	260
38	7/8 7/8	1	0.109	0.083	160
39	7/8 1	1	0.083	0.060	240
39 40		1			
	1	-	0.109	0.083	140
41	3/4	11/4	0.083	0.060	220
42	3/4	11/4	0.109	0.083	130
43 44		11/4	0.083 0.109	0.060	180

A All dimensions are given in inches.

SUPPLEMENTARY REQUIREMENTS

The following supplementary requirements shall apply only when specified in the order or contract (5.1.7). Details of these supplementary requirements shall be agreed upon in writing between the manufacturer and the purchaser.

S1. Nail Bending Yield Strength

S1.1 When specified as a supplementary requirement for nails used for engineered construction, the nail's average bending yield

strengths shall meet, as a minimum, the yield strengths used in determining the lateral design loads tabulated in the AF&PA National Design Specification⁶ for Wood Construction, NDS,⁶ Part XII: Nails and Spikes.

S1.2 The minimum average bending yield strengths used by the NDS⁶ as a function of the material and diameter of the nail are given in Table S1.1 and Table S1.2.

S1.3 *Test Method for Yield Strength*—In order to conform with the supplementary requirements of S1, the procedure of Test Method F 1575 shall be conducted on nail samples.

S1.4 At least five nails from each lot of 100 individual containers shall be examined and tested to determine conformance with this supplementary requirement.

S1.5 When labeled "Engineered Construction Nails, ASTM F 1667," nails must meet all requirements of F 1667 including Supplementary Requirements.

⁶ Available from American Forest and Paper Association (AF&PA), 1111 19th Street, NW, Suite 800, Washington, DC 20036, National Design Specification[®], (NDS[®]), for Wood Construction.

TABLE S1.1 Low to Medium C	Carbon Steel Nails and Spikes
Nominal Diameter, in.	Bending Yield, psi
$0.099 \le 0.142$	100 000
>0.142 ≤ 0.177	90 000
>0.177 ≤ 0.254	80 000
>0.254 ≤ 0.273	70 000
>0.273 ≤ 0.344	60 000
>0.344 ≤ 0.375	45 000



TABLE 51.2 Medium Carbon Steel Nams—Hardened	n Steel Nails—Hardened
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Nominal Diameter, in.	Bending Yield, psi
$0.120 \le 0.142 \\ > 0.142 \le 0.192 \\ > 0.192 \le 0.207$	130 000 115 000 100 000

SUMMARY OF CHANGES

Subcommittee F16.05 has identified the location of selected changes to this standard since the last issue (F 1667 - 02) that may impact the use of this standard <u>(approved December 10, 2002)</u>.

(1) Wording which might be considered "permissive" was deleted from paragraphs 1.2, 10.2.1, and 10.3.1.(2) Note B at the bottom of Table 58 was revised so that staple leg cross section dimensions would reflect industry practice.

Subcommittee F16.05 has identified the location of selected changes to this standard since the last issue (F 1667 - 02a) that may impact the use of this standard (approved May 10, 2003).

(1) Table references in Section 8.3.2 and 8.4.3 were revised. (2) Added dash numbers 38 through 82 to Table 16.

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