



Designation: F1667 – 11a<sup>ε1</sup>

# Standard Specification for Driven Fasteners: Nails, Spikes, and Staples<sup>1</sup>

This standard is issued under the fixed designation F1667; 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 ( $\epsilon$ ) 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.*

<sup>ε1</sup> NOTE—The fastener description on the first page of Table 33 was editorially updated in March 2012.

## 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 3-65.

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 standard. No other units of measurement are included in this standard.

1.4 Fasteners in this specification are sold in bulk (loose) form and are collated for loading into the magazine of an application tool. Other than as covered in Section 9, Workmanship, cohering materials (including, but not limited to, plastic, adhesive bond, paper tape, plastic strip, plastic carrier, wire, etc.) and relative orientation of collated fasteners are not within the scope of this standard.

1.5 *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:*<sup>2</sup>

A153/A153M Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware

A510M Specification for General Requirements for Wire

<sup>1</sup> 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.

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<sup>2</sup> 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.

- Rods and Coarse Round Wire, Carbon Steel (Metric)
- A641/A641M Specification for Zinc-Coated (Galvanized) Carbon Steel Wire
- B695 Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel
- F547 Terminology of Nails for Use with Wood and Wood-Base Materials
- F592 Terminology of Collated and Cohered Fasteners and Their Application Tools
- F680 Test Methods for Nails
- F1575 Test Method for Determining Bending Yield Moment of Nails

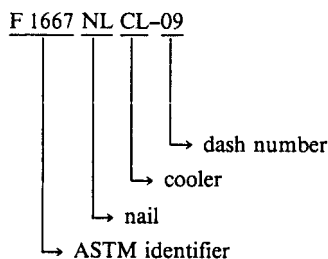
## 3. Terminology

3.1 *Definitions*—The definitions used in this specification are those of common commercial acceptance and usage and also appear in Terminologies F547 and F592.

## 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 3-65, identifies dimensions specifically and establishes a PIN (part identifying number) system when preceded by the F1667 ASTM designator of this specification. For example:



Identifies a cooler nail with a length of 2<sup>7</sup>/<sub>8</sub>, a shank diameter of 0.120, and a head diameter of 0.297 (See Table 10).<sup>4</sup>

<sup>4</sup> All dimensions are given in inches.

4.2 The trade designation, S, pennyweight, used in commercial practice is referenced in Tables 3-64 wherever it applies.

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

**TABLE 1 Classification and Identification Index**

Type	Style	Style Identification	Table	
I—Nails (NL)	1. Brads	BR	3	
	2. Barrel	BL	4	
	3. Boat	BTH/BTL	5	
	4. Box A	BXA	6	
		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	
		Common	CMC	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	
		LHH	23	
	17. Masonry	MR/MRH	24	
	18. Pallet	PL	25	
	19. Gypsum wallboard	GWS	26	
		GWM	27	
	20. Roofing	RFA	28	
		RFS	29	
		RFC	30	
		RFL	31	
		RFR	32	
RFD		33		
RFNS/RFND		34		
SHAD/SHAS		35		
SHSS/SHNSB		36		
SDF/SDC/SDK		37		
23. Slatting	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		
30. Post frame	PF	45		
II—Cut nails (CN)	1. Common	CM	46	
	2. Basket	BK	47	
	3. Clout	CL	48	
	4. Trunk	TR	49	
	5. Cobblers	CB	50	
	6. Extra-iron clinching	EC	51	
	7. Hob	HB	52	
III—Spikes (SP)	1. Common	CM	53	
	2. Gutter	GRF/GRO	54	
	3. Round	RDC/RDF	55	
	4. Barge and boat	BB	56	
IV—Staples (ST)	1. Fence	FN	57	
	2. Poultry netting	PN	58	
	3. Flat top crown	FC	59	
		FCC	60	
	4. Round or V crown	RC	61	
	5. Preformed	PC	62	
	6. Electrical	RE	63	
	7. Preformed hoop	PH	64	
8. Cap	STC	65		

**TABLE 2 Bend Angles for Fasteners Using the Test Methods F680 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

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.

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**

## 5. Ordering Information

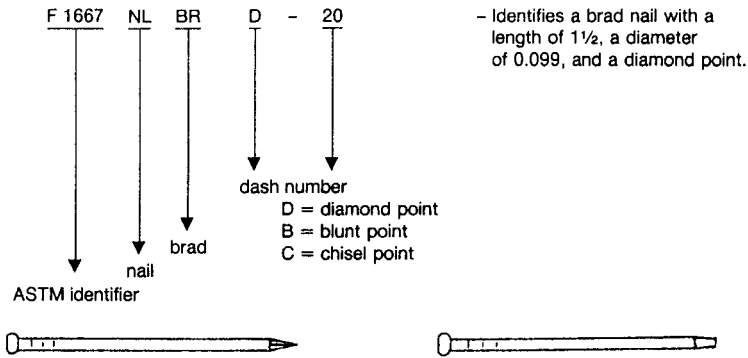
5.1 Orders for driven fasteners under this specification shall include the following information:

5.1.1 Quantity or weight;

5.1.2 Part identifying number (PIN) or product description (see 4.1 and appropriate table);

TABLE 3 Type I, Style 1—Brads<sup>A</sup>

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

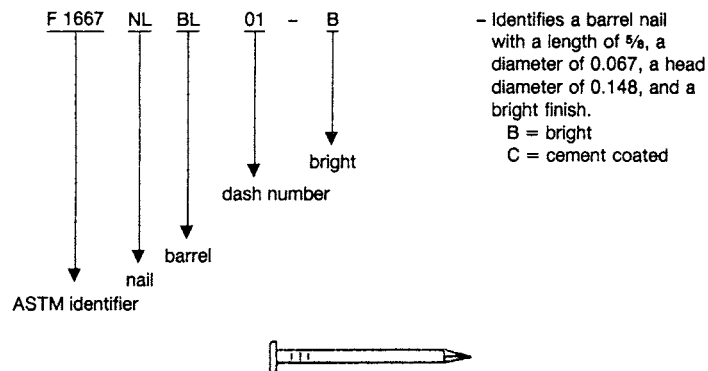
<sup>A</sup> All dimensions are given in inches.

ASTM F1667-11ae1

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TABLE 4 Type I, Style 2—Barrel Nails<sup>A</sup>

NOTE 1—Steel wire, flat head, diamond point, round smooth shank, bright, zinc or cement coated as specified.

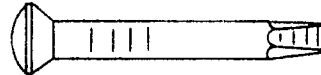
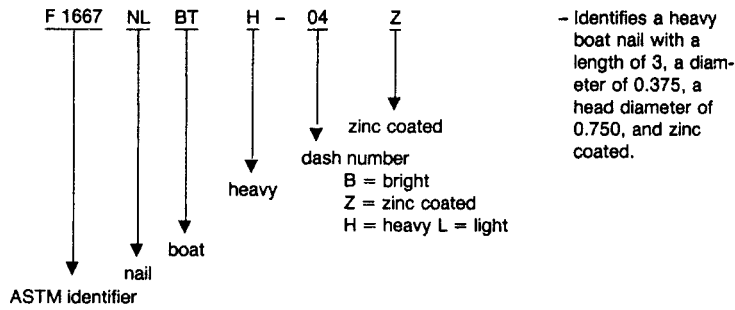


Dash No.	L	D	H	No./lb	Dash No.	L	D	H	No./lb
01	5/8	0.067	0.148	1,550	05	1 1/8	0.076	0.177	670
02	3/4	0.067	0.148	1,300	06	1 1/4	0.080	0.188	540
03	7/8	0.076	0.177	850	07	1 3/8	0.092	0.219	380
04	1	0.076	0.177	750	08	1 1/2	0.092	0.219	350

<sup>A</sup> All dimensions are given in inches.

TABLE 5 Type I, Style 3—Boat nails<sup>A</sup>

NOTE 1—Steel wire, oval countersunk head, chisel point, round smooth shank, bright or zinc coated as specified.

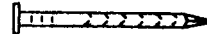
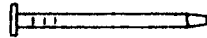
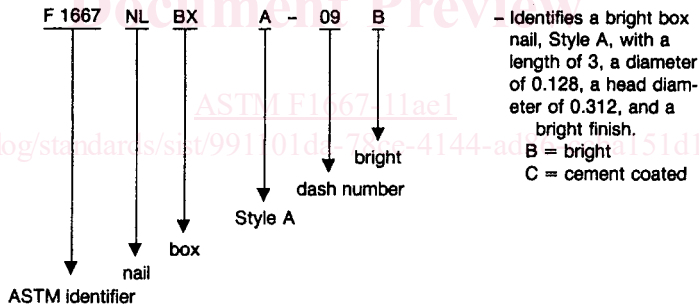


F 1667 NLBTL						F 1667 NLBTH					
Dash No.	S	L	D	H	No./lb	Dash No.	S	L	D	H	No./lb
01	4d	1½	0.188	0.406	82	01	4d	1½	0.250	0.500	47
02	6d	2	0.188	0.406	62	02	6d	2	0.250	0.500	36
03	8d	2½	0.188	0.406	50	03	8d	2½	0.250	0.500	29
04	10d	3	0.250	0.500	24	04	10d	3	0.375	0.750	11
05	12d	3¼	0.250	0.500	22	05	12d	3¼	0.375	0.750	10
06	16d	3½	0.250	0.500	20	06	16d	3½	0.375	0.750	9
07	20d	4	0.250	0.500	18	07	20d	4	0.375	0.750	8

<sup>A</sup> All dimensions are given in inches.

TABLE 6 Type I, Style 4A—Box Nails<sup>A</sup>

NOTE 1—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.



F 1667 NLBXA											
Dash No.	S	L	D	H	No./lb	Dash No.	S	L	D	H	No./lb
01	2d	1	0.067	0.188	940	08	9d	2¾	0.113	0.297	120
02	3d	1¼	0.076	0.219	590	09	10d	3	0.128	0.312	90
03	4d	1½	0.080	0.219	450	10	12d	3¼	0.128	0.312	83
04	5d	1¾	0.080	0.219	390	11	16d	3½	0.135	0.344	69
05	6d	2	0.099	0.266	220	12	20d	4	0.148	0.375	50
06	7d	2¼	0.099	0.266	200	13	30d	4½	0.148	0.375	45
07	8d	2½	0.113	0.297	140	14	40d	5	0.162	0.406	34

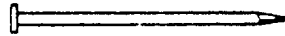
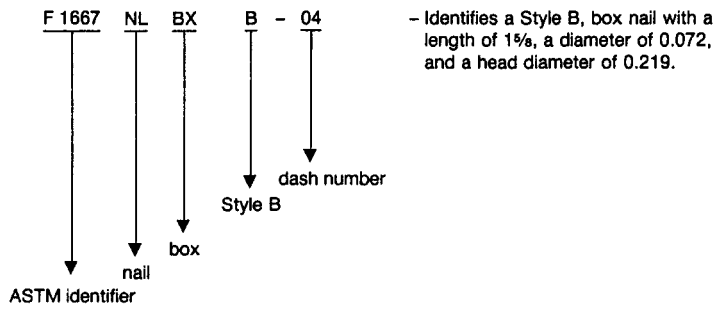
<sup>A</sup> All dimensions are given in inches.

2 for various materials used in the manufacture of fasteners utilizing the conventional bend test described in Test Methods F680. 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.

TABLE 7 Type I, Style 4B—Box Nails<sup>A</sup>

NOTE 1—Steel wire, flat head, diamond point, round smooth shank, cement coated.

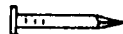
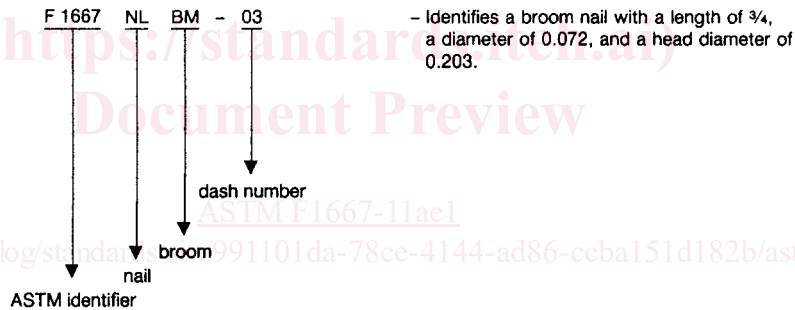


F 1667 NLBXB											
Dash No.	S	L	D	H	No./lb	Dash No.	S	L	D	H	No./lb
01	2d	1	0.058	0.172	1250	06	7d	2 1/8	0.086	0.250	280
02	3d	1 1/8	0.062	0.188	980	07	8d	2 3/8	0.099	0.266	190
03	4d	1 3/8	0.067	0.203	680	08	9d	2 5/8	0.099	0.266	170
04	5d	1 5/8	0.072	0.219	510	09	10d	2 7/8	0.113	0.297	120
05	6d	1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

<sup>A</sup> All dimensions are given in inches.

TABLE 8 Type I, Style 5—Broom Nails<sup>A</sup>

NOTE 1—Steel wire, flat or star head, diamond point, round smooth shank, bright finish, as specified.



Dash No.	L	D	H	No./lb
01	5/8	0.072	0.203	1480
02	5/8	0.080	0.219	990
03	3/4	0.072	0.203	1170
04	3/4	0.080	0.219	840

<sup>A</sup> All dimensions are given in inches.

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.

7.3 *Number per pound*—Number per pound figures are not requirements. Number per pound varies (1) as actual dimensions vary within tolerance ranges, (2) between bright and coated nails, and (3) with zinc coating thickness for galvanized nails. No tolerances have been established for these figures. They are for reference only and shall not be used as product acceptance/rejection criteria.

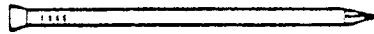
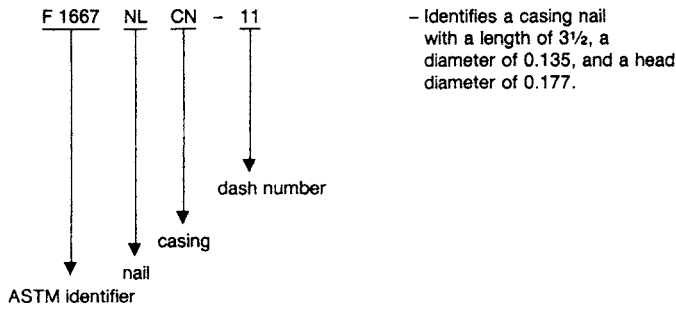
8. Dimensions and Tolerances

8.1 Nominal dimensions of nails and spikes shall be as shown in Tables 3-56. 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.

TABLE 9 Type I, Style 6—Casing Nails<sup>A</sup>

NOTE 1—Steel wire, flat countersunk cupped head, diamond point, round smooth shank, bright finish.

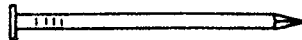
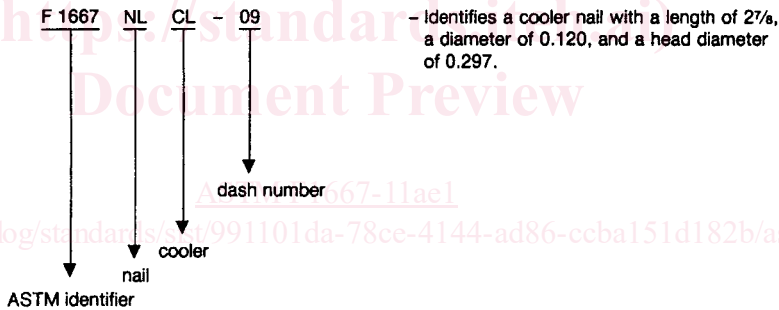


Dash No.	S	L	D	H	No./lb	Dash No.	S	L	D	H	No./lb
01	2d	1	0.067	0.099	1090	07	8d	2½	0.113	0.155	150
02	3d	1¼	0.076	0.113	650	08	9d	2¾	0.113	0.155	135
03	4d	1½	0.080	0.120	490	09	10d	3	0.128	0.170	95
04	5d	1¾	0.080	0.120	415	10	12d	3¼	0.128	0.170	90
05	6d	2	0.099	0.142	245	11	16d	3½	0.135	0.177	75
06	7d	2¼	0.099	0.142	215	...	...	...	...	...	...

<sup>A</sup> All dimensions are given in inches.

TABLE 10 Type I, Style 7—Cooler Nails<sup>A</sup>

NOTE 1—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	H	No./lb	Dash No.	S	L	D	H	No./lb
01	2d	1	0.062	0.172	1110	06	7d	2⅞	0.099	0.266	210
02	3d	1⅞	0.067	0.188	840	07	8d	2⅞	0.113	0.281	140
03	4d	1¾	0.080	0.219	490	08	9d	2⅞	0.113	0.281	130
04	5d	1⅞	0.086	0.234	370	09	10d	2⅞	0.120	0.297	100
05	6d	1⅞	0.092	0.250	280	...	...	...	...	...	...

<sup>A</sup> All dimensions are given in inches.

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.

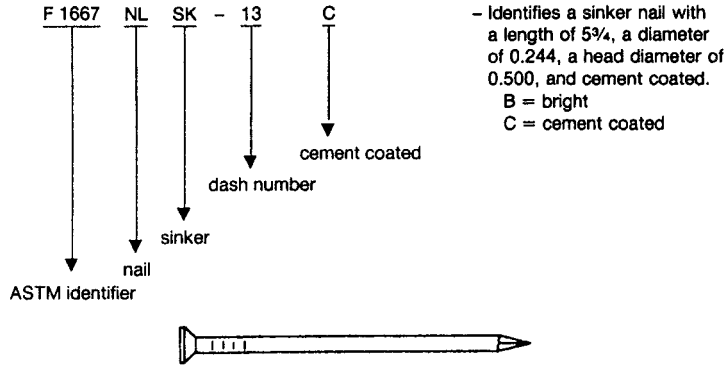
8.1.2 The diameter, *D*, of smooth shank nails and spikes shall be measured away from the gripper marks. The diameter, *D*, of formed or deformed shanks shall be measured before

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:*

TABLE 11 Type I, Style 8—Sinker Nails<sup>A</sup>

NOTE 1—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.

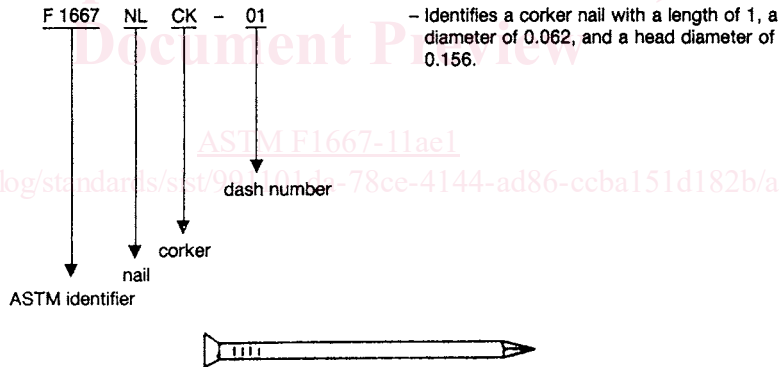


Dash No.	S	L	D	H	No./lb	Dash No.	S	L	D	H	No./lb
01	3d	1½	0.067	0.172	940	08	12d	3½	0.135	0.312	81
02	4d	1¾	0.080	0.203	530	09	16d	3¼	0.148	0.344	64
03	5d	1⅝	0.086	0.219	390	10	20d	3⅜	0.177	0.375	40
04	6d	1⅞	0.092	0.234	290	11	30d	4¼	0.192	0.406	30
05	7d	2⅛	0.099	0.250	220	12	40d	4¾	0.207	0.438	23
06	8d	2¾	0.113	0.266	150	13	60d	5¾	0.244	0.500	14
07	10d	2⅞	0.120	0.281	110	...	...	...	...	...	...

<sup>A</sup> All dimensions are given in inches.

TABLE 12 Type I, Style 9—Corker Nails<sup>A</sup>

NOTE 1—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.



Dash No.	S	L	D	H	No./lb	Dash No.	S	L	D	H	No./lb
01	2d	1	0.062	0.156	1220	09	10d	2⅞	0.135	0.312	89
02	3d	1¼	0.072	0.188	720	10	12d	3⅞	0.135	0.312	81
03	4d	1½	0.086	0.219	420	11	16d	3⅝	0.148	0.344	62
04	5d	1⅝	0.086	0.219	320	12	20d	3⅞	0.177	0.375	38
05	6d	1⅞	0.099	0.250	250	13	30d	4⅝	0.192	0.406	29
06	7d	2⅛	0.099	0.250	220	14	40d	4⅞	0.207	0.438	22
07	8d	2¾	0.120	0.281	130	15	50d	5⅝	0.226	0.469	17
08	9d	2⅞	0.120	0.281	120	16	60d	5⅞	0.244	0.500	13

<sup>A</sup> All dimensions are given in inches.

8.2.1 Length tolerances shall be  $\pm 1/32$  in. for lengths up to and including 1 in.;  $\pm 1/16$  in. for lengths over 1 in., up to and including 2½ in.;  $\pm 3/32$  for lengths over 2½ in., up to and including 7 in.; and  $\pm 1/8$  in. for all lengths over 7 in.

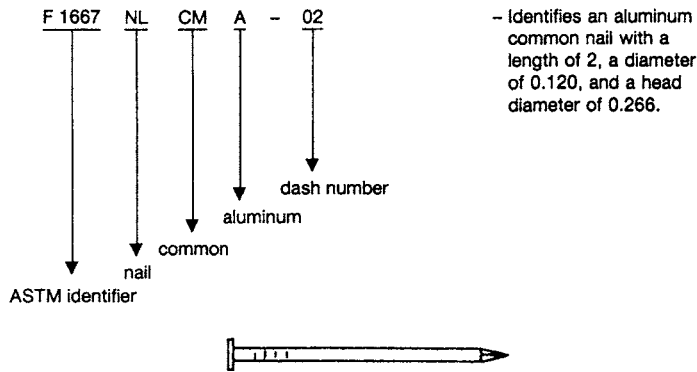
8.2.2 Shank diameter tolerances shall be  $\pm 0.002$  in. for diameters smaller than 0.076 in. and  $\pm 0.004$  in. for diameters 0.076 in. and larger.

8.2.3 Head Diameter Tolerances:



TABLE 13 Type I, Style 10—Common Nails<sup>A</sup>

NOTE 1—Aluminum alloy wire, flat head, diamond point, round smooth shank, or, when specified, square barbed shank.

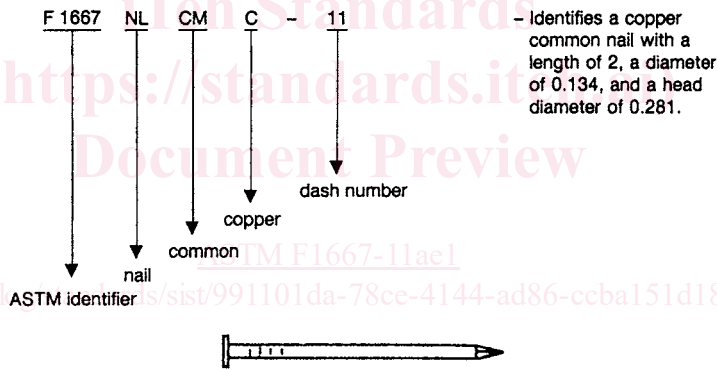


F 1667 NLCMA						F 1667 NLCMA					
Dash No.	S	L	D	H	No./lb	Dash No.	S	L	D	H	No./lb
01	4d	1½	0.099	0.250	830	04	10d	3	0.162	0.312	170
02	6d	2	0.120	0.266	430	05	16d	3½	0.177	0.344	120
03	8d	2½	0.148	0.281	220	06	20d	4	0.199	0.406	78

<sup>A</sup> All dimensions are given in inches.

TABLE 14 Type I, Style 10—Common Nails<sup>A</sup>

NOTE 1—Copper wire, flat head, diamond point, round smooth shank.



F 1667 NLCMC					F 1667 NLCMC				
Dash No.	L	D	H	No./lb	Dash No.	L	D	H	No./lb
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	2½	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	3½	0.165	0.344	40
06	1¼	0.083	0.203	420	15	4	0.203	0.406	23
07	1½	0.109	0.250	210	16	4½	0.220	0.438	18
08	1¾	0.109	0.250	180	17	5	0.238	0.469	14
09	1¾	0.120	0.266	140	18	6	0.284	0.531	8

<sup>A</sup> All dimensions are given in inches.

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 %.

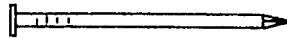
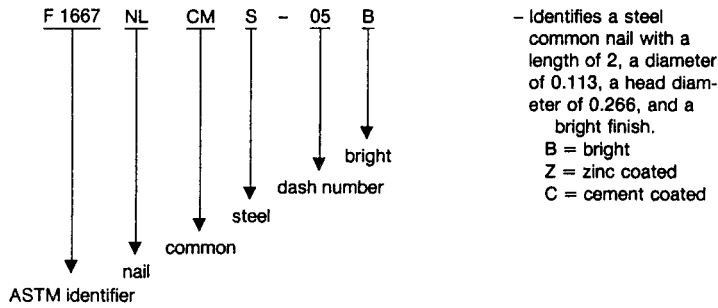
and spikes, the difference in diameter across the long axis shall not exceed that across the short axis by more than 10 %. A fillet shall be provided under the head if not otherwise specified.

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.



TABLE 15 Type I, Style 10—Common Nails<sup>A</sup>

NOTE 1—Steel wire, flat head, diamond point, round smooth shank, bright, zinc or cement coated as specified.

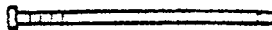
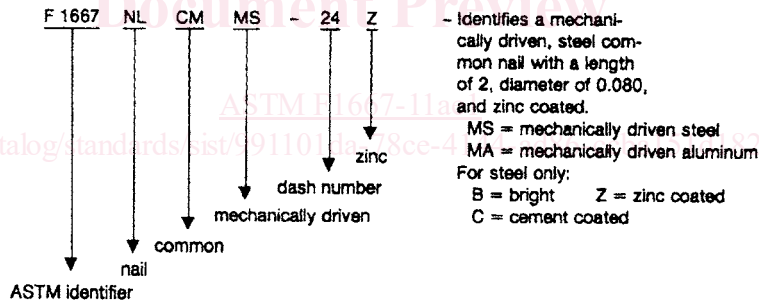


F 1667 NLCMS											
Dash No.	S	L	D	H	No./lb	Dash No.	S	L	D	H	No./lb
01	2d	1	0.072	0.172	850	09	10d	3	0.148	0.312	66
02	3d	1¼	0.080	0.203	540	10	12d	3¼	0.148	0.312	61
03	4d	1½	0.099	0.250	290	11	16d	3½	0.162	0.344	47
04	5d	1¾	0.099	0.250	250	12	20d	4	0.192	0.406	30
05	6d	2	0.113	0.266	170	13	30d	4½	0.207	0.438	23
06	7d	2¼	0.113	0.266	150	14	40d	5	0.226	0.469	17
07	8d	2½	0.131	0.281	100	15	50d	5½	0.244	0.500	14
08	9d	2¾	0.131	0.281	92	16	60d	6	0.262	0.531	11

<sup>A</sup> All dimensions are given in inches.

TABLE 16 Type I, Style 10—Common Nails<sup>A</sup>

NOTE 1—Aluminum alloy wire, stainless steel or steel wire, (bright, zinc coated or cement coated), altered or T-head, diamond or chisel point, round smooth or deformed shank, as specified. For use with mechanical drivers.

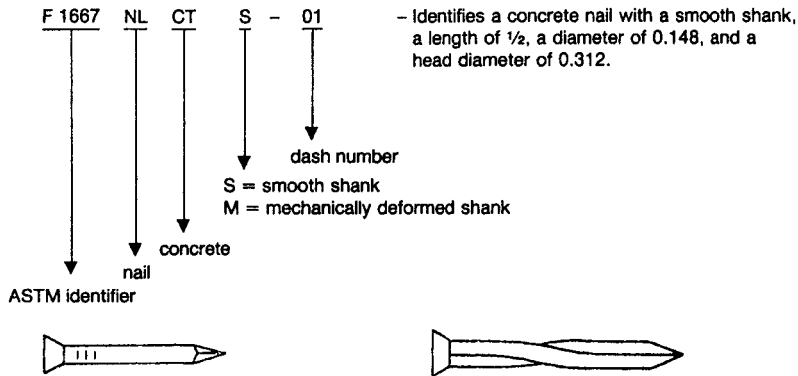


F1667 NLCMM														
Dash No.	L	D	Dash No.	L	D	Dash No.	L	D	Dash No.	L	D	Dash No.	L	D
01	1¼	0.080	15	1¾	0.086	29	2	0.148	43	1¾	0.120	57	2¾	0.113
02	1¼	0.086	16	1¾	0.092	30	2¼	0.092	44	1⅞	0.120	58	2¾	0.120
03	1¼	0.092	17	1¾	0.099	31	2¼	0.099	45	1⅞	0.131	59	2¾	0.131
04	1¼	0.099	18	1¾	0.113	32	2¼	0.113	46	1⅞	0.148	60	2¾	0.148
05	1½	0.080	19	1⅞	0.080	33	2½	0.092	47	2	0.120	61	2½	0.120
06	1½	0.086	20	1⅞	0.086	34	2½	0.099	48	2	0.131	62	2½	0.148
07	1½	0.092	21	1⅞	0.092	35	2½	0.113	49	2⅞	0.099	63	2½	0.162
08	1½	0.099	22	1⅞	0.099	36	2½	0.131	50	2⅞	0.113	64	2⅞	0.148
09	1½	0.113	23	1⅞	0.113	37	3½	0.131	51	2⅞	0.120	65	2¾	0.120
10	1⅝	0.080	24	2	0.080	38	1½	0.120	52	2⅞	0.131	66	2¾	0.131
11	1⅝	0.086	25	2	0.086	39	1½	0.131	53	2⅞	0.148	67	2¾	0.148
12	1⅝	0.092	26	2	0.092	40	1½	0.148	54	2¼	0.120	68	2⅞	0.120
13	1⅝	0.099	27	2	0.099	41	1½	0.162	55	2¼	0.131	69	3	0.120
14	1¾	0.080	28	2	0.113	42	1⅝	0.113	56	2¼	0.148	70	3	0.128
												71	3	0.131
												72	3	0.148
												73	3¼	0.120
												74	3¼	0.131
												75	3¼	0.148
												76	3½	0.135
												77	3½	0.148
												78	3½	0.162
												79	4	0.148
												80	4	0.162
												81	4½	0.148
												82	4½	0.162
												...	...	...

<sup>A</sup> All dimensions given in inches.

TABLE 17 Type I, Style 11—Concrete Nails<sup>A</sup>

NOTE 1—Harded steel, flat countersunk head, diamond point, smooth or mechanically deformed shank formed from round or square stock, as specified, bright finish.



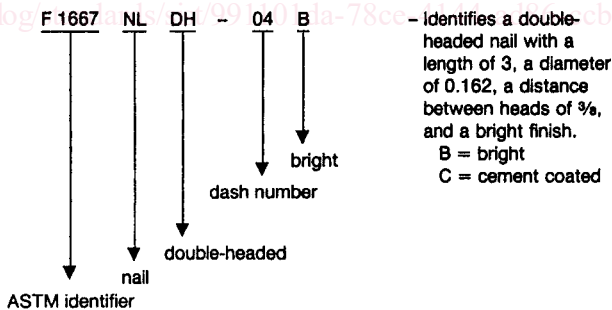
F 1667 NLCTS				
Dash No.	L	D	H	No./lb
01	1/2	0.148	0.312	450
02	5/8	0.148	0.312	350
03	3/4	0.148	0.312	290
04	7/8	0.148	0.312	250
05	1	0.148	0.312	210

F 1667 NLCTM									
Dash No.	L	D	H	No./lb	Dash No.	L	D	H	No./lb
01	3/4	0.181	0.284	240	05	2	0.181	0.284	93
02	1	0.181	0.284	204	06	2 1/2	0.181	0.284	68
03	1 1/2	0.181	0.284	116	07	2 3/4	0.181	0.284	60
04	1 3/4	0.181	0.284	112	08	3	0.181	0.284	52

<sup>A</sup> All dimensions are given in inches.

TABLE 18 Type I, Style 12—Double-Headed Nails<sup>A</sup>

NOTE 1—Steel wire, flat heads, diamond point, round smooth shank, bright finish or cement coated.

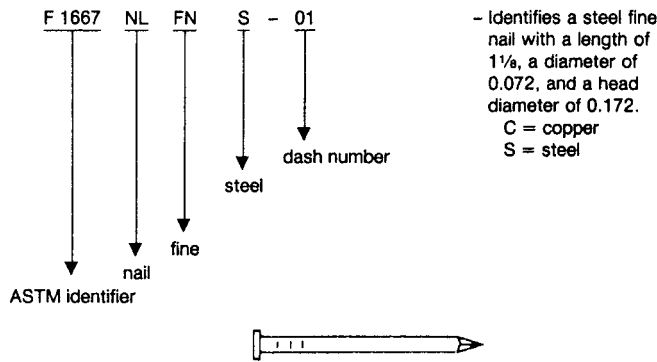


Dash No.	S	L	D	B	No./lb	Dash No.	S	L	D	B	No./lb
01	6d	1 3/4	0.113	1/4	160	04	16d	3	0.162	3/8	45
02	8d	2 1/4	0.131	1/4	90	05	20d	3 1/2	0.192	3/8	28
03	10d	2 3/4	0.148	5/16	59	06	30d	4	0.207	7/16	22

<sup>A</sup> All dimensions are given in inches.

TABLE 19 Type I, Style 13—Fine Nails<sup>A</sup>

NOTE 1—Steel or copper wire, flat head, diamond point, round smooth shank, bright finish.

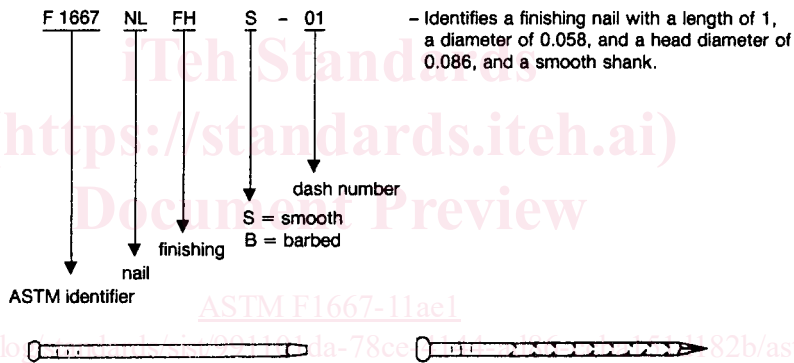


Dash No.	S	L	D	H	No./lb
01	3d	1 1/8	0.072	0.172	760

<sup>A</sup> All dimensions are given in inches.

TABLE 20 Type I, Style 14—Finish Nails<sup>A</sup>

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

<sup>A</sup> All dimensions are given in inches.

8.3 Nominal dimensions of staples shall be as shown in Tables 57-65, 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:

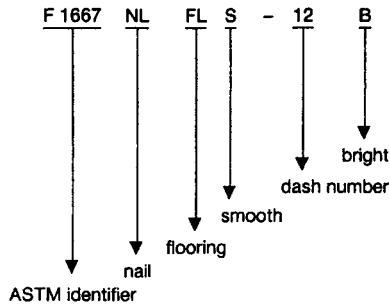
- D = round leg diameter, in.,
- L = leg length, outside, in.,
- T = leg thickness, in. (see Tables 59 and 60),
- W = leg width, in. (see Tables 59 and 60),
- C = crown width, outside, in., and
- G = steel wire gage.

8.4 Tolerances on Nominal Dimensions for Staples:

8.4.1 Leg length, L, tolerances shall be +1/32, -1/64 in. for both hand tool-driven and power tool-driven staples.

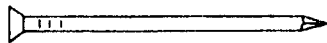
TABLE 21 Type I, Style 15—Flooring Nails<sup>A</sup>

NOTE 1—Hardened 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.



- Identifies a flooring nail with a length of 3½, a diameter of 0.148, a head diameter of 0.281, and a bright finish.  
 S = smooth  
 D = deformed  
 B = bright  
 C = cement coated  
 D = dark (hardened)

Smooth =



= Deformed

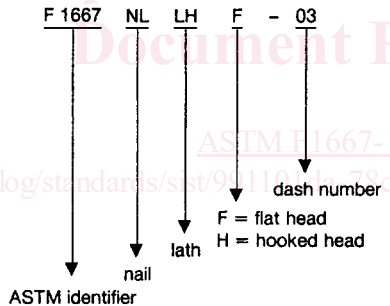


Dash No.	S	L	D	H	No./lb	Dash No.	S	L	D	H	No./lb
01	2d	1	0.072	0.141	840	07	7d	2¼	0.113	0.203	160
02	3d	1¼	0.072	0.141	700	08	8d	2½	0.135	0.177	100
03	4d	1½	0.080	0.156	430	09	8d	2½	0.113	0.203	110
04	4d	1½	0.092	0.156	370	10	10d	3	0.135	0.250	82
05	5d	1¾	0.092	0.156	310	11	12d	3¼	0.135	0.250	75
06	6d	2	0.113	0.203	180	12	16d	3½	0.148	0.281	58

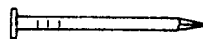
<sup>A</sup> All dimensions are given in inches.

TABLE 22 Type I, Style 16—Lath Nails<sup>A</sup>

NOTE 1—Steel wire, flat head, diamond point, round smooth shank, blued finish.



- Identifies a lath nail with a flat head, a length of 1½, a diameter of 0.072, and a head diameter of 0.172.



F 1667 NLLHF					
Dash No.	S	L	D	H	No./lb
01	2d	1	0.058	0.141	1,280
02	3d	1½	0.062	0.156	980
03	3d	1½	0.072	0.172	760

<sup>A</sup> All dimensions are given in inches.

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 59 and 60).

8.4.4 Crown width tolerances are ±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