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DRAFT EAST AFRICAN STANDARD

Mild steel nails — Specification

EAST AFRICAN COMMUNITY

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Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in the East African Community. It is envisaged that through harmonized standardization, trade barriers that are encountered when goods and services are exchanged within the Community will be removed.

The Community has established an East African Standards Committee (EASC) mandated to develop and issue East African Standards (EAS). The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the public and private sector organizations in the community.

East African Standards are developed through Technical Committees that are representative of key stakeholders including government, academia, consumer groups, private sector and other interested parties. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the Principles and procedures for development of East African Standards.

East African Standards are subject to review, to keep pace with technological advances. Users of the East African Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

The committee responsible for this document is Technical Committee EASC/TC 35, *Steel and steel products*.

Mild steel nails — Specification

1 Scope

1.1 This East African Standard specifies requirements, sampling and test methods for, tolerance on dimensions, finish and surface coating, for the mild steel nails for general applications.

The types of nails covered are listed in 1.1.1 and 1.1.2.

NOTE: The nearest former standard wire gauge (swg) numbers are included in a separate column in each table for convenience only. They should not form part of the specification.

1.1.1 Wire nails include:

- a) convex head roofing nails (chisel or diamond points);
- b) pipe nails (chisel point);
- c) hardboard panel pins (round shank);
- d) hardboard panel pins (square shank);
- e) lath nails;
- f) plasterboard nails (jagged shank);
- g) tile pegs;
- h) tram nails with flat or raised head with chisel point;
- i) square twisted shank flat head nails;
- j) dowels;
- k) tenterhooks;
- l) annular ringed shanked flat head nails;
- m) helical threaded shank flat head nails;
- n) duplex head nails; and
- o) Round checkered / plain head nails.

1.1.2 Cut nails include:

- a) cut clasp nails; and
- b) cut floor brads.

1.2 The following types of nails are illustrated in the diagrams accompanying tables in Annex A:

- a) round plain head nails;
- b) round lost head nails;
- c) clout or slate head nails;
- d) extra-large head clout or felt nails;
- e) panel pins;
- f) oval brad head nails;
- g) oval lost head nails;
- h) spring head twisted shank nails; and
- i) wash head slab nails.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 1461, *Hot dip galvanized coatings on fabricated iron and steel articles — Specification and test methods*

ISO 2081, *Electroplated coatings of zinc on steel*

ISO 7989 (all parts), *Steel wire and wire products — Non-ferrous metallic coatings on steel wire*

ISO 16120 (all parts), *Non-alloy steel rod for drawing and/or cold rolling*

3 Symbols

The following symbols apply to nails specified in this standard and are illustrated in Figure 1:

d - nominal characteristic diameter;

d_h - diameter of head; and

l - nail length including head and point.

NOTE For spring head twisted shank nails the nail length, l , does not include the head.

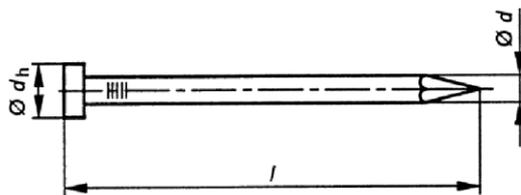


Figure 1 — Symbols for nails

4 Requirements

4.1 Materials and manufacture

Nails shall be produced from wire drawn from rods produced in accordance with ISO 16120. Nails produced in accordance with this standard shall not be subjected to heat treatment after fabrication except for that incurred during surface coating. Where heat treatment is applied after fabrication, the purchaser shall be informed.

The nails shall be manufactured from mild steel wire having a minimum tensile strength of 600 N/mm².

Note: 1 MPa = 1 N/mm².

Cut nails shall be made from black rolled steel.

4.2 Surface finish

The surface of the wire nails shall comply with one of the following:

- a) uncoated; the surface of the nails shall be free from rust;
- b) zinc coated or zinc alloy coated, with a minimum zinc purity of 98.5 % in the outer surface of the coating, by one of the following alternatives:
 - i) hot dipped to provide a minimum coating of 300 g/m² at an Acceptable Quality Level (AQL) of 10 %;
 - ii) barrel coated to provide a minimum coating of 300 g/m² at an AQL of 10 % of nails with shank diameter greater than 2.6 mm;
 - iii) electroplated zinc coatings in accordance with ISO 2081;
 - iv) other zinc or zinc alloy coating methods such as sheradizing or mechanical zinc plating as agreed between purchaser and supplier; and
- c) lacquered, cement coated or phosphate coated.

4.3 Form and dimensions

4.3.1 General

The form and dimensions are given in Annex A.

NOTE Other lengths having incremental steps usually of 5 mm are possible subject to agreement between purchaser and supplier.

4.3.2 Nail point

The following types of nail points shall be used:

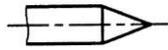
- a) diamond point;



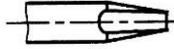
- b) diamond point offset;



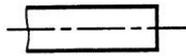
c) round point;



d) chisel point; and



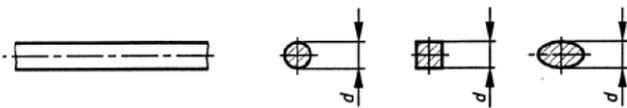
e) cut point.



4.3.3 Nail shank

The following forms of nail shank shall be used:

a) plain shank;



b) indented shank;



c) spiral rolled shank;



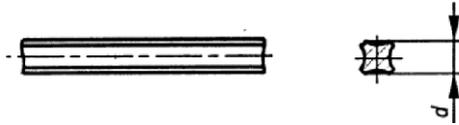
d) ring rolled shank;



e) twisted shank; and



f) grooved shank.



Nominal nail characteristic dimensions for indented, spiral rolled and ring rolled shanks are as for plain shank.

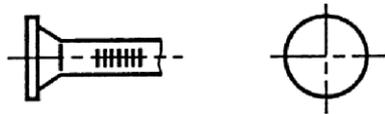
4.3.4 Nail head

The top surface of the nail head shall be smooth or chequered.

NOTE The top surface of the head may be marked by using raised or sunken letters, signs or numbers.

The following types of head shall be used:

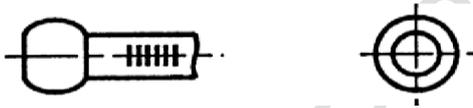
- a) circular flat head;



- b) countersunk head;



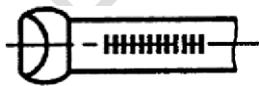
- c) lost round head;



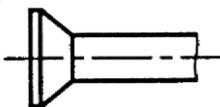
- d) lost oval head;



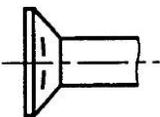
- e) brad oval head;



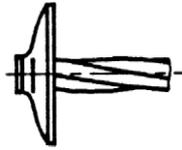
- f) flat countersunk;



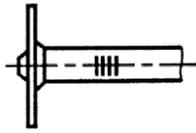
- g) cup head;



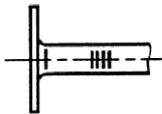
- h) spring head;



i) washer head; and

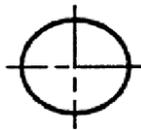


j) clout head.

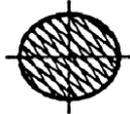


The following surface of the head may be smooth or chequered:

a) smooth head; and



b) chequered head.



4.4 Workmanship

Nails shall be straight and true in shape. The head and tip should conform to the different nail geometries referred in Annex A.

4.5 Finish

4.5.1 Oxidation

The surface of all nails shall be free from rust at the time of selling.

To prevent oxidation nails shall be stored in dry place at all time.

4.5.2 Wire nails

The finish of wire nails shall be one of the following:

- a) bright;
- b) galvanized;
- c) cement-coated (resin-coated);

- d) an alternative finish such as sherardized, cadmium plated or, as agreed between purchaser and supplier;
- e) bright polished; and
- f) Unpolished.

4.5.3 Cut nails

The finish of cut nails shall be one of the following:

- a) in the “as rolled” condition, except for those sides which are made bright by the cutting process; and
- b) galvanized.

4.5.4 Galvanizing

The coating of galvanized wire and cut nails shall comply with the requirements of ISO 1461 except the minimum coat weight shall be 300 g/m^2 at a maximum Acceptable Quality Level (AQL) of 10 %.

5 Dimensions and tolerances

5.1 General

The dimensions of nails shall be in accordance with tables A.1 to A.29, subject to the tolerances in 5.2 to 5.4.

5.1.1 Sharpness/Tip length

For the following nail points (diamond point, diamond point offset, round point and chisel point) the sharpness or tip length, s shall range from shank diameter, d to $2d$ as shown in figure 2.

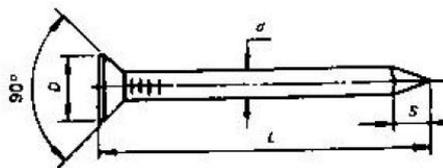


Figure 2: Common dimensions of steel nails

Sharpness/ tip length, $s = d$ to $2d$, where:

- d – shank diameter,
- D – Head diameter,
- L – Length, and
- s – sharpness or tip length.

5.1.2 Eccentricity

The eccentricity, e of the centre of the head to the axis of the shank is an offset distance from the centre of the head to the centre of the shank (axis of the shank). The eccentricity, e shall not be more than 12% of the diameter of the shank as shown in figure 3.

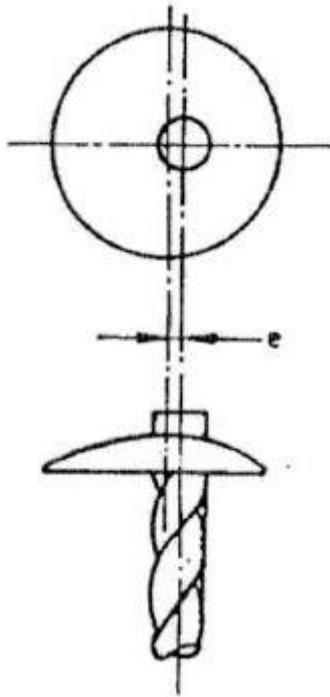


Figure 3: Eccentricity of the head

5.1.3 Bend of shank or Straightness

The bend of shank shall not be more than 1% of the overall length, L of the nail as shown in Figure 4.

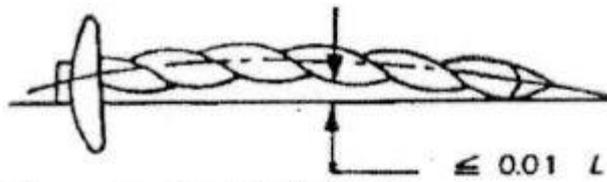


Figure 4: Bend of shank or Straightness

5.2 Head diameter tolerance

The head diameter tolerance for round wire nails and cut nails shall be $\pm 5\%$ except for an extra-large head clout or felt nails which have a minimum of shank diameter of 11 mm.

5.3 Shank diameter tolerance

The following tolerances shall apply for:

a) round wire nails:

- for all round nails, $\pm 2.5\%$

b) cut nails:

- for all cuts nails, $\pm 2.5 \%$;

5.4 Length tolerance

The following tolerances shall apply for:

a) wire nails:

- for all round nails $\pm 2.5 \%$;

b) cut nails:

- for all cut nails $\pm 2.5 \%$;

5.5 Nominal dimension

The tolerance on the nominal dimensions (including shank diameter, head diameter, length, tip length/sharpness etc.) applies to the nail before coating.

6 Sampling and test

6.1 Lot

In any consignment, all the packages of nails of the same type and size manufactured under essentially similar conditions shall be grouped together to constitute a lot

6.2 Selection of nails

One sample package shall be selected from five packages or part thereof up to a maximum of 10 samples. From each sample package, 125 g of nails or 50 nails, whichever is greater, shall be taken and form the bulk sample. From the bulk, 125 g of nails or 50 nails in the latter case shall be taken for the test.

6.3 Dimensional and visual characteristics

All samples shall be checked for the following requirements:

- a) nominal length L ;
- b) nominal shank diameter d ;
- c) nominal head diameter d_h ;
- d) eccentricity of head e ;
- e) tip length/sharpness s ;
- f) workmanship;
- g) freedom from burrs, cracks, flaws and other manufacturing defects; and
- h) nail shall be straight and of true shape.

When required by the purchaser, the coating weight of nails shall be tested in accordance with the gravimetric method specified in ISO 7989. The total area shall be taken as [total shank area + 2 × head area].

7 Packaging and marking

7.1 Nails of different sizes and types shall be packed in different packages.

7.2 Nails shall be supplied in any appropriate packing materials and the net mass of each bag shall be 10 kg or 25 kg or 50 kg. May also be packed in small packages of 1 kg or 5 kg.

7.3 The nominal net mass of each package shall have a tolerance of ± 1 %.

7.4 The marking on the package shall give the following information:

- a) manufacturer's name or trade mark;
- b) type of nails;
- c) length of nails;
- d) shank diameter;
- e) net mass of the package;
- f) country of origin; and
- g) batch number.

The nails shall be stored in dry place.

8 Designation for ordering

- a) quantity required by weight;
- b) type of nail;
- c) finish required;
- d) length in mm;
- e) shank diameter in mm;
- f) East African Standard reference number;
- g) type and surface of head;
- h) type of shank;
- i) type of point; and
- j) surface coatings.

Unless otherwise specified, nails shall be supplied with flat smooth circular heads, plain shanks and diamond points.

Note: Examples of designating steel nails in an enquiry or an order include:

- a) 25 kg plasterboard nails jagged shank, galvanized, 40 mm x 2.65 mm; and
- b) 50 kg cut steel floor brads, 50 mm x 2.65 mm.

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Bibliography

- [1] BS 1202-1:2002, *Specification for nails — Part 1: Steel nails.*
- [2] TZS 17:2009, *Steel — Spring head twisted shank nails — Specification.*
- [3] TZS 18:2009, *Steel — Panel pins — Specification.*
- [4] TZS 19:2009, *Steel — Round plain head nails — Specification.*

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Annex A (normative)

Types and dimensions of nails

Table A.1 — Dimensions and approximate count of convex roofing nails (chisel or diamond points)

Length, L mm	Shank diameter, D mm	Approximate number of nails per kg	Nearest former s.w.g.
75	5.60	68	5
65	6.00	66	4
65	5.60	79	5

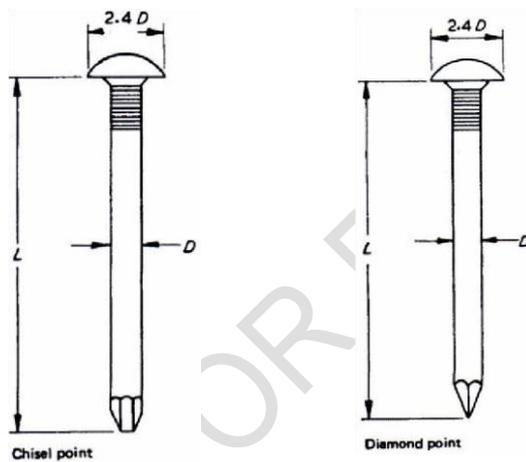


Table A.2 — Dimensions and approximate count of convex roofing nails (chisel points)

Length, L mm	Shank diameter, D mm	Approximate number of nails per kg	Nearest former s.w.g.
100	8.00	24	5/16
90	8.00	26	5/16
75	8.00	31	5/16
65	8.00	35	5/16
50	8.00	44	5/16

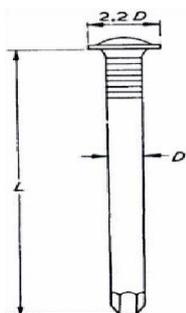


Table A.3 — Dimensions and approximate count of hardboard panel pins (round shank)

Nail Reference	Inches	Length, l			Shank Diameter, d		Head diameter, $1.4 \times d$	
		Min. mm	Nom. mm	Max. mm	Min. mm	Max. mm	Min. mm	Max. mm
MSPPN200	2	47.50	50	51.25	1.8	2	2.50	2.80
MSPPN 150	1 1/2	39.00	40	41.00	1.8	2	2.50	2.80
MSPPN 125	1 1/4	29.25	30	30.75	1.8	2	2.50	2.80
MSPPN100	1	24.38	25	25.63	1.7	1.9	2.30	2.60
MSPPN 75	3/4	19.50	20	20.50	1.6	1.8	2.20	2.50
MSPPN 75A	3/4	19.50	20	20.50	1.37	1.44	1.92	2.02

Key:
MSPPN200: Mild steel panel pins nails 2 inches.

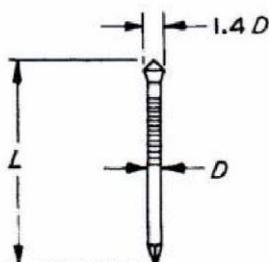


Table A.4 — Dimensions and approximate count of hardboard panel pins (square shank)

Length, L mm	Shank diameter, D mm	Approximate number of nails per kg	Nearest former s.w.g.
20	1.4	3470	17

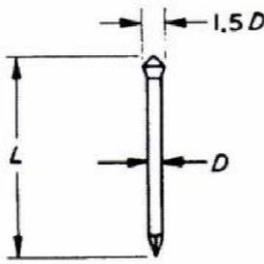


Table A.5 — Dimensions and approximate count of lath nails

Length, L mm	Shank diameter, D mm	Approximate number of nails per kg	Nearest former s.w.g.
40	2.0	970	14
30	2.0	1170	14
25	2.0	1430	14
25	1.8	1740	15
25	1.6	2140	16
20	1.8	1750	15
20	1.6	2370	16

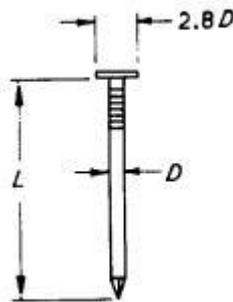


Table A.6 — Dimensions and approximate count of plasterboard nails (Jagged shank)

Length, L mm	Shank diameter, D mm	Approximate number of nails per kg	Nearest former s.w.g.
40	2.65	570	12
30	2.65	700	12

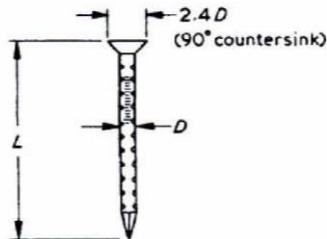


Table A.7 — Dimensions and approximate count of tile pegs

Length, L mm	Shank diameter, D mm	Approximate number of nails per kg	Nearest former s.w.g.
40	6.00	88	4
30	6.00	106	4

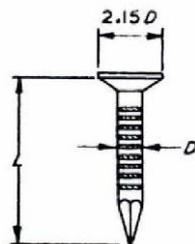


Table A.8 — Dimensions and approximate count of tram nails with flats or raised head and chisel point

Length, L mm	Shank diameter, D mm	Approximate number of nails per kg	Nearest former s.w.g.
65	8.00	37	5/16

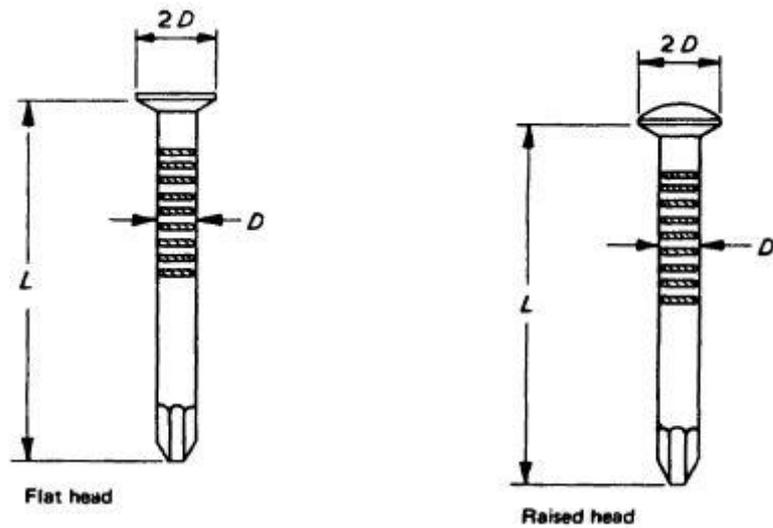
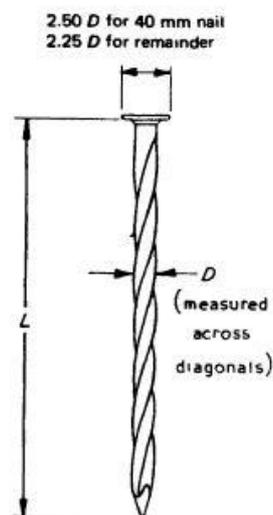


Table A.9 — Dimensions and approximate count of squared twisted shank flat head nails

Length, L mm	Shank diameter, D mm	Approximate number of nails per kg	Nearest former s.w.g.
65	3.35	235	10
50	3.00	415	11
50	2.65	515	12
40	2.36	860	13



NOTE Because of the square twisted shank, the shape of the head will differ from that of a round wire nail.

Table A.10 — Dimensions and approximate count of dowels

Length, L mm	Shank diameter, D mm	Approximate number of nails per kg	Nearest former s.w.g.
50	2.65	455	12
45	2.65	520	12
40	2.65	610	12

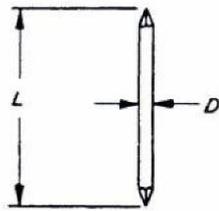


Table A.11 — Dimensions and approximate count of tenterhooks

Length, L mm	Shank diameter, D mm	Approximate number of nails per kg	Nearest former s.w.g.
25	2.36	690	13
20	2.36	740	13

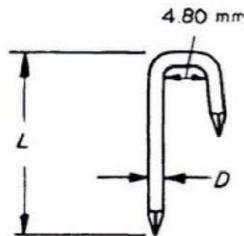
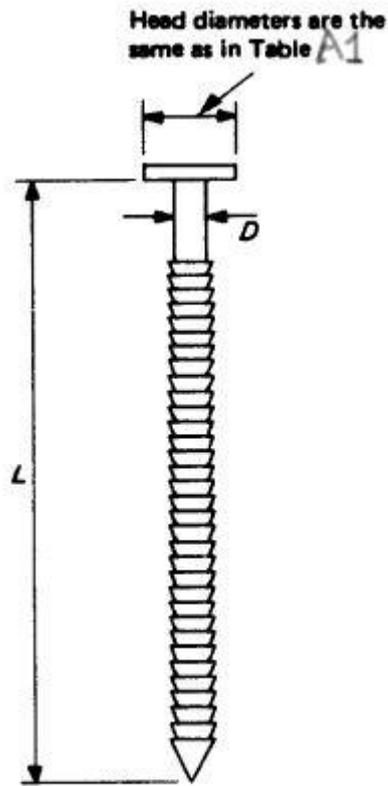


Table A.12 — Dimensions and approximate count of annular ringed shank flat head nails

Length, <i>L</i> mm	Shank diameter, <i>D</i> mm	Approximate number of nails per kg	Nearest former s.w.g.
200	8.00	13	5/16
180	6.70	740	3
150	6.00	22	4
125	5.60	29	5
115	5.00	35	6
100	5.00	57	6
90	4.00	66	8
90	3.75	106	9
90	3.35	123	10
75	4.00	152	8
75	3.75	121	9
75	3.35	154	10
65	3.75	175	9
65	3.35	230	10
65	3.00	275	11
60	3.35	255	10
60	3.00	310	11
60	2.65	385	12
50	3.35	290	10
50	3.00	340	11
50	2.65	440	12
45	2.65	510	12
45	2.36	640	13
40	2.65	575	12
40	2.36	750	13

30	2.36	840	13
30	2.00	1170	14
25	2.00	1430	14
20	2.00	1900	14



REVIEW

Table A.13 — Dimensions and approximate count of helical threaded shank flat head nails

Length, <i>L</i> mm	Shank diameter, <i>D</i> mm	Approximate number of nails per kg	Nearest former s.w.g.
200	8.00	13	5/16
180	6.70	740	3
150	6.00	22	4
125	5.60	29	5
115	5.00	35	6
100	5.00	57	6
90	4.00	66	8
90	3.75	106	9
90	3.35	123	10
75	4.00	152	8
75	3.75	121	9
75	3.35	154	10
65	3.75	175	9
65	3.35	230	10
65	3.00	275	11
60	3.35	255	10
60	3.00	310	11
60	2.65	385	12
50	3.35	290	10
50	3.00	340	11
50	2.65	440	12
45	2.65	510	12
40	2.65	575	12

Head diameters are
the same as in
Table A.1

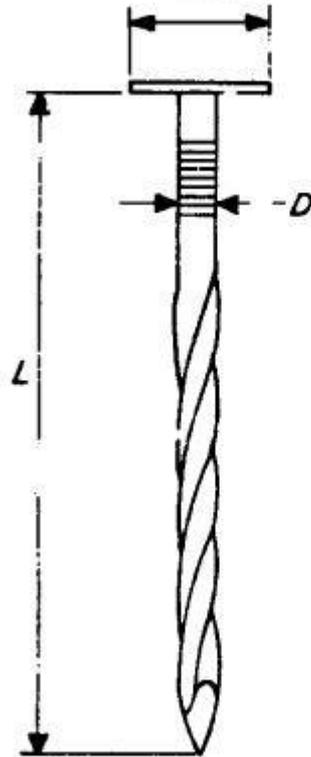


Table A.14 — Dimensions and approximate count of duplex head nail

Length, L mm	Shank diameter, D mm	Lower head diameter	Approximate number of nails per kg	d mm	Nearest former s.w.g.
100	5.60	11.00	46	9.50	5
90	5.00	9.50	62	9.50	6
75	4.00	8.50	100	9.50	8
70	3.75	8.00	130	8.00	9
60	3.35	7.00	200	6.5	10
45	3.00	6.50	345	6.5	11

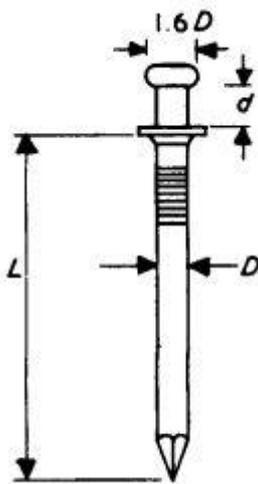


Table A.15 — Dimensions and approximate count of cut clasp nails

Length, L mm	Shank diameter, D mm	Approximate number of nails per kg	Nearest former s.w.g.
200	6.00	11	4
175	5.60	13	5
150	5.60	19	5
125	5.00	30	6
100	4.00	48	8
90	3.75	66	9
75	3.35	103	10
65	3.00	171	11
60	2.65	202	12
50	2.65	286	12
40	2.00	616	14
30	1.80	858	15
25	1.60	1384	16

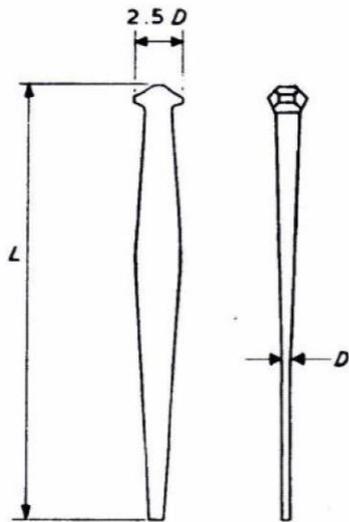
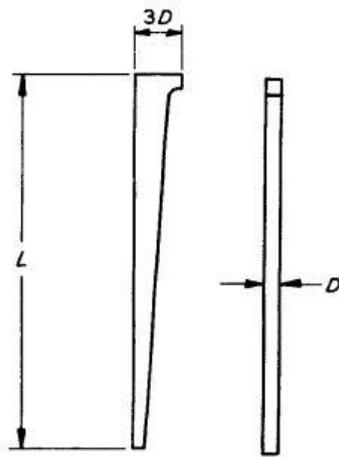


Table A.16 — Dimensions and approximate count of cut clasp nails

Length, L mm	Shank diameter, D mm	Approximate number of nails per kg	Nearest former s.w.g.
75	3.35	100	10
65	3.35	154	10
60	3.00	198	11
50	2.65	264	12
45	2.36	330	13
40	2.36	396	13



Side views

Table A.17 — Dimensions for circular, flat, flat countersunk and cup head, plain shank nails with tolerance of $\pm 2.5\%$

Nail reference	Nominal shank diameter in mm, $d \pm 2.5\%$	Nominal length in mm, $l \pm 2.5\%$	Minimum head diameter in mm, d_h
MSN 1"	2.0	25.4	3.50
MSN 1 1/2"	2.5	38.1	4.37
MSN 2"	3.0	50.8	5.25
MSN 2 1/2"	3.5	63.5	6.12
MSN 3"	4.0	76.2	7.00
MSN 4"	5.0	101.6	8.75
MSN 5"	5.5	127	9.62
MSN 6"	5.9	150.4	10.32

KEY
 MSN represents mild steel nail
 mm represents dimensions in millimeters.

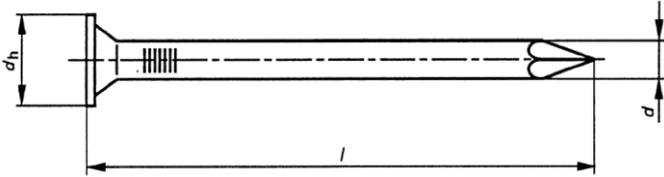
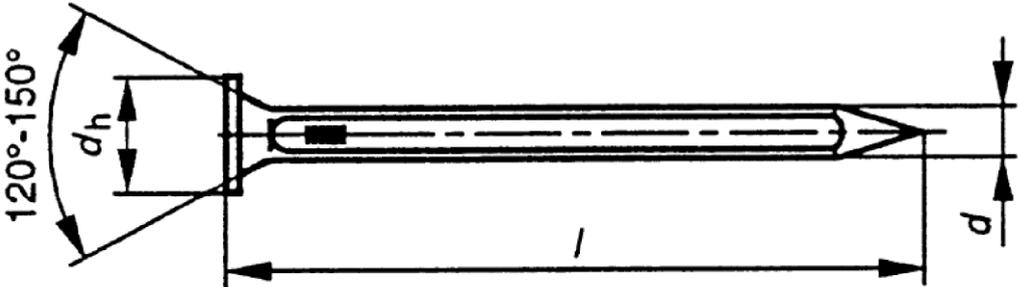


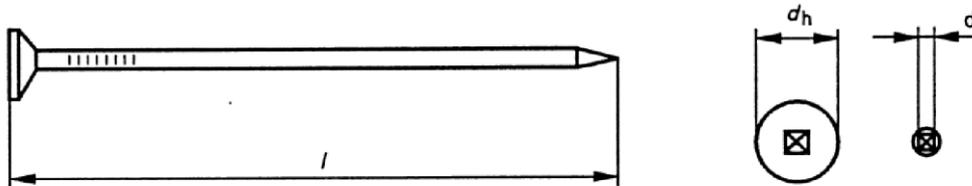
Table A.18 — Dimensions for circular, flat and flat countersunk head, grooved shank nails



Shank Diameter, <i>D</i> mm	1.4	1.6	1.8	2.0	2.2	2.4	2.7	3.0	3.4	3.8	4.2	4.6	5.0	5.5	6.0	7.0	8.0
Nail Length, <i>l</i> mm	20																
	25																
	30	30	30														
		35	35														
		40	40	40													
				50	50	50											
					60	60	60	60	60								
							70	70	70	70							
							80	80	80	80							
								90	90	90	90	90					
									100	100	100	100	100				
										110	110						
											120	120	120	120			
												130					
													140	140	140		
														150		150	
																160	
															170		
																	180
																200	200
																	220
																	250
																	280

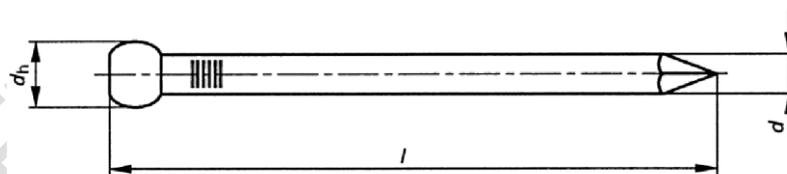
																		300
Head diameter, d_h mm	3.2	3.6	4.0	4.5	5.0	5.5	5.9	6.8	7.7	7.7	8.4	9.2	10	11	12	14	16	

Table A.19 — Dimensions for circular, flat and flat countersunk head, square shank nails



Shank Diameter, D mm	1.0	1.2	1.4	1.6	1.7	1.8	2.0	2.2	2.5	2.8	3.1	3.4	3.8	4.2	4.6	4.8	5.5	6.0	7.0
Nail Length, l mm	15	20	25	25	30	35	40	45	55	65	80	90	100	125	130	150	160	180	210
			35	35	35	40	50	50	60	75		95	125				175	190	260
					40			55	65	90		100					200		
Head diameter, d_h mm	2.5	3.0	3.5	4.0	4.3	4.5	5.0	5.5	6.3	7.0	7.8	8.5	9.5	10.5	11.5	12.0	13.8	15.0	17.5

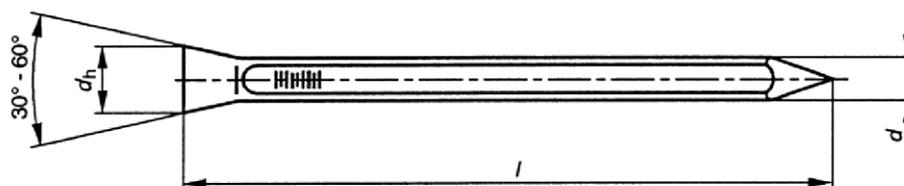
Table A.20 — Dimensions for lost round head, plain shank nails



Shank Diameter, D mm	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.7	3.0	3.4	3.8	4.2	4.6	5.0
Nail Length, l mm	10														
		15	20												
			25	25											
				30	30	30	30	30							

					40	40										
						45	40	40	40							
							50	50	50	50						
									60	60	60					
										70	70	70				
										80	80	80				
											90	90	90	90		
												100	100	100	100	
													110			
														120	120	
																140
Head diameter, d_h mm	1.4	1.7	2.0	2.2	2.5	2.8	3.1	3.4	3.8	4.2	4.8	5.3	5.9	6.4	7.0	

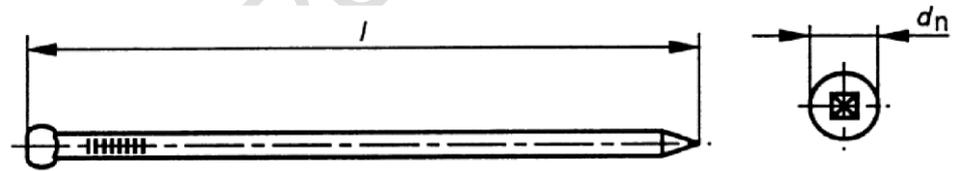
Table A.21 — Dimensions for lost round head, grooved shank nails



Shank Diameter, D mm	1.4	1.6	1.8	2.0	2.2	2.4	2.7	3.0	3.4	3.8	4.2	4.6	5.0			
Nail Length, l mm	20															
	25															
	30	30	30													
		35	35													
		40	40	40												

				50	50	50							
					60	60	60	60	60				
							70	70	70	70			
							80	80	80	80			
								90	90	90	90	90	
									100	100	100	100	100
										110	110		
										120	120	120	120
											130		
												140	140
													150
Head diameter, d_h mm	2.0	2.2	2.5	2.8	3.1	3.4	3.8	4.2	4.8	5.3	5.9	6.4	7.0

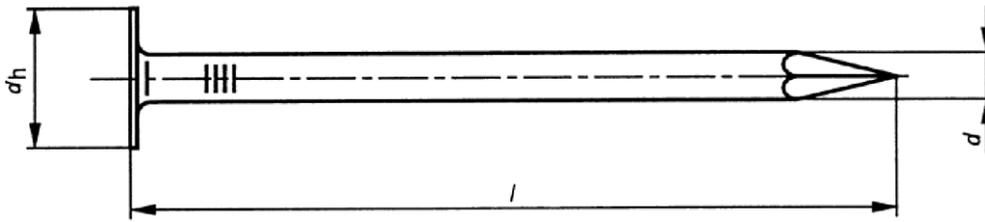
Table A.22 — Dimensions for lost round head, plain shank nails



Shank Diameter, D mm	1.0	1.2	1.4	1.6	1.7	1.8	2.0	2.2	2.5	2.8	3.1	3.4	3.8	4.2
Nail Length, l mm	15	20	25	25	30	35	40	45	55	65	80	90	100	125
			35	35	35	40	50	50	60	75		95	125	
					40			55	65	90		100		
Head diameter, d_h mm	2.5	3.0	3.5	4.0	4.3	4.5	5.0	5.5	6.3	7.0	7.8	8.5	9.5	10.5

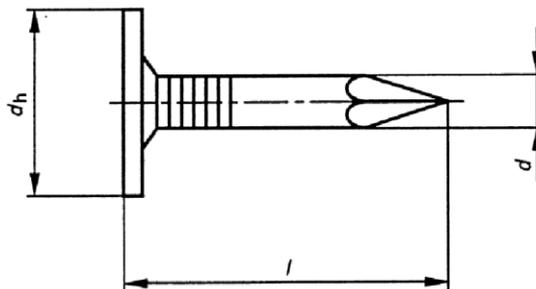
Table A.23 — Dimensions for clout head, plain shank nails

Nominal diameter the tolerance to be taken as $\pm 2.5\%$ and head diameter to be calculated as $d_h = d \times 1.75$.



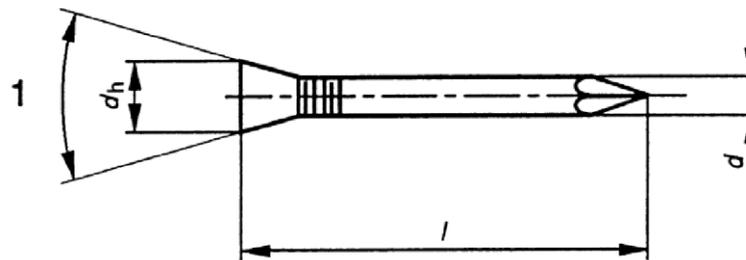
Shank Diameter, D mm	2.2	2.4	2.7	3.0	3.4	3.8	4.6
Nail Length, l mm	20		20			100	125
	25	25	25			125	
	30	30	30	30			
		35					
	40	40	40	40	40		
		45			45		
		50	50	50	50	50	
			65			65	
						75	
Head diameter, d_h mm	7.3	7.9	8.9	9.9	11.2	11.8	13.1

Table A.24 — Dimensions for extra-large clout head nails



Shank Diameter, D mm	2.0	2.2	2.4	2.7	3.0
Nail Length, l mm					15
	20	20	20	20	20
		25	25	25	25
		30		30	30
				35	35
				40	40
				50	50
				60	
Head diameter, d_h mm	≥ 7.5	≥ 7.7	≥ 8.4	≥ 9.4	≥ 11

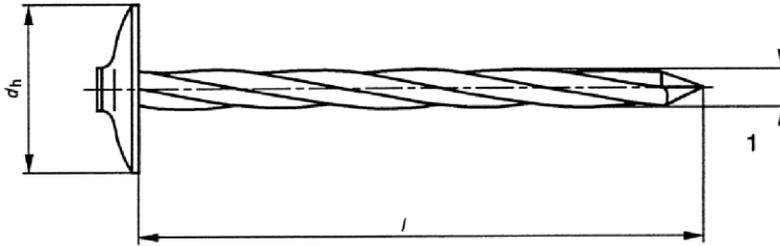
Table A.25 — Dimensions for countersunk panel pin head, plain shank nails



1. 32° included angle

Shank Diameter, D mm	1.0	1.4	1.6	1.8
Nail Length, l mm	15			
		20	20	20
		25		25
		30	30	30
			40	40
Head diameter, d_h mm	1.4	2.0	2.2	2.5

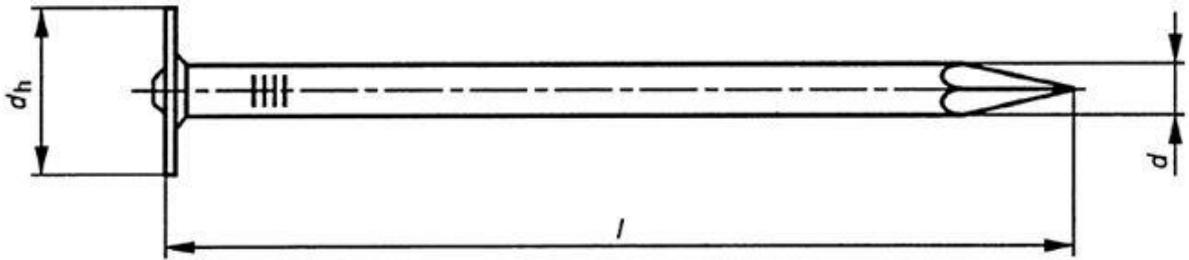
Table A.26 — Dimensions for springhead, square twisted shank nails



1) d measured over the diagonals

Shank Diameter, D mm	3.4	3.8
Nail Length, l mm	50	50
	60	60
	70	70
	75	75
	80	80
		90
	100	100
Head diameter, d_h mm	≥ 18	≥ 18
NOTE: The nail length is measured under the head.		

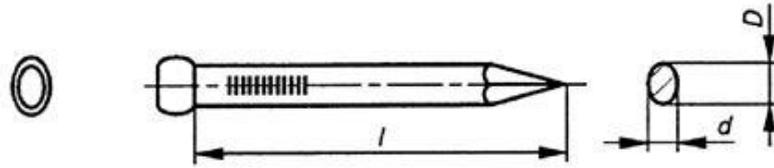
Table A.27 — Dimensions for washer head plain shank nails



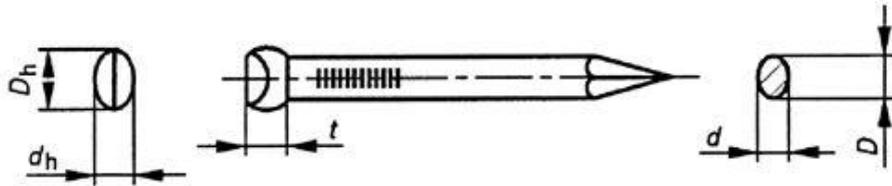
Shank Diameter, D mm	3.0	3.4
Nail Length, l mm	40	
	50	
	60	70
		80
		90
		100
Head diameter, d_h mm	≥ 18	≥ 18
NOTE: The heads are usually manufactured by using plain washers but other shapes are permitted.		

Table A.28 — Dimensions for lost oval head and brad oval head oval plain shank nails

Lost oval head

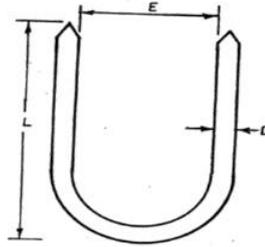


Brad oval head



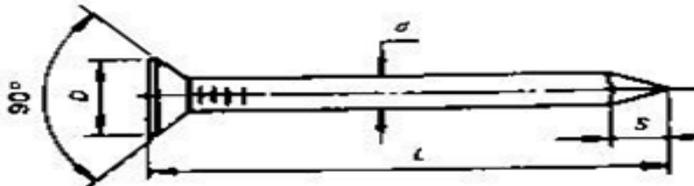
Shank Diameter, mm	d	1.2	1.6	2.0	2.4	2.7	3.4	3.8	4.2	4.6	5.0
	D	2.0	2.7	3.4	3.8	4.2	5.0	5.5	6.0	6.5	7.0
Nail Length, l mm	20										
	25										
	30										
	40										
	45										
	50										
	60										
	65										
	75										
	90										
	100										
	125										
150											
Head diameter, mm	$d_h = 1.6d$	1.9	2.6	3.2	3.8	4.3	5.4	6.1	6.7	7.4	8.0
	$D_h = 1.4D$	2.8	3.8	4.8	5.3	5.8	7.0	7.7	8.4	9.1	9.8

Table A.29 — Dimensions for U- nails



Length, <i>L</i>		Shank diameter, <i>d</i>		Dimension, <i>E</i>	
Nominal (mm)	Tolerance (%)	Nominal (mm)	Tolerance (%)	Nominal (mm)	Tolerance (mm)
25	± 2.5	2.7	± 2.5	11	1
32	± 2.5	3.5	± 2.5	11	1
40	± 2.5	3.5	± 2.5	11	1
40	± 2.5	3.8	± 2.5	11	1
50	± 2.5	3.8	± 2.5	11	1

Table A.30 — Dimension for round chequered/plain head nails



Length, <i>L</i> (mm)	Shank diameter, <i>d</i> (mm)	Dimension, <i>E</i> (mm)
25.4	2	5
38.1	2.5	5.9
50.8	3	6.8
63.5	3.5	7.7
76.2	4	8.4
101.6	5	10
127	5.5	11
152.4	5.9	12

Tolerances: Nail length = ± 1 mm, **Shank diameter** = diameter less than 2.65mm it's ± 0.03 mm. When diameter is more than 2.65 its ± 0.05 mm.

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