

INCH-POUND

FF-T-276C  
 16 December 2013  
 SUPERSEDING  
 FF-T-276B  
 April 5, 1967

## FEDERAL SPECIFICATION

## THIMBLES, ROPE

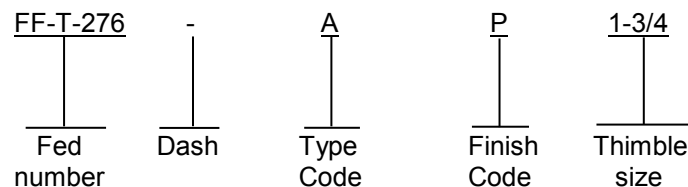
The General Services Administration has authorized the use of this federal specification by all federal agencies

## 1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers mechanical thimbles, rope for mechanical ropes used in rigging, hoisting, towing, stowage, excavating, logging and stump removing equipment, and marine applications.

1.1.1 Federal specification coverage. This Federal specification does not include all types, finishes and classes of the commodities indicated by the title of the specification, or which are commercially available, but are intended to cover the types, finishes, and classes which are suitable for Federal Government requirements.

1.2 CLASSIFICATION: This Federal Specification classification uses a Part Identifying (PIN) system as shown in the following example:



1.2.1 Types. Thimbles covered by this specification shall be furnished in the following types, as specified (see 6.2):

Code A -	Type I -	Thimbles for fiber rope.
Code B -	Type II -	Thimbles, light, for fiber and wire ropes.
Code C -	Type III -	Thimbles, heavy for wire rope

1.2.2 Finish. Finish be as specified as follows:

Code Z -	Zinc as specified in ASTM-A153/A153
Code Z1 -	Zinc as specified in ASTM-B633, type VI, Fe/Zn 25
Code Z2 -	Zinc as specified in SAE-AMS-C-81562, type 1, zinc class 2
Code P -	Cadmium-tin as specified in SAE-AMS-C-81562

Beneficial comments, recommendations, additions, deletions, clarifications, etc., and any data that may improve this document should be sent to: DLA Land and Maritime, ATTN: VAI, P.O. Box 3990, Columbus OH 43218-3990, or email [fluidflow@dlamail](mailto:fluidflow@dlamail). Since contact information can change you may want to verify the currency of the address information using the ASSIST Online database at <https://assist.dla.mil/>.

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## 2 APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3, 4, or 5 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements cited in sections 3, 4, or 5 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications, standards and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

## FEDERAL REGULATIONS

FAR – Federal Acquisition Regulations (FAR)

(Copies of these documents are available online at [www.acquisition.gov/comp/far/index.html](http://www.acquisition.gov/comp/far/index.html) or from the U.S. Government Printing Office, 732 North Capital Street, NW, Washington D.C. 20401.)

## FEDERAL SPECIFICATIONS:

QQ-S-698 - Steel, Sheet and Strip, Low-Carbon.

## MILITARY STANDARDS:

MIL-STD-129 - Marking for Shipment and Storage.

(Copies of these documents are available online at <http://quicksearch.dla.mil> or from the Standardization Documents Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.3 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

## ASTM INTERNATIONAL

ASTM-A153/A153 - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware  
ASTM-B633 - Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel

(Copies of these documents are available online at <http://www.astm.org> or from the ASTM International, P.O. Box C700, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.)

## SAE INTERNATIONAL

SAE-AMS-C-81562 - Coatings, Cadmium, Tin-Cadmium and Zinc (Mechanically Deposited)

(Copies of these documents are available on line at [www.sae.org](http://www.sae.org) from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, and Tel: 877-606-7323 [inside USA and Canada] or 724-776-4970 [outside USA], email at [CustomerService@sae.org](mailto:CustomerService@sae.org).)

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2.4 Order of precedence. In the event of a conflict between the text of this document and the references cited herein (except for related specification sheets), the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

### 3. REQUIREMENTS

3.1 First Article Test. First article test or certification is required with the approval of the procuring activity.

3.2 Material. The thimbles shall be made of cold-rolled or hot-rolled steel conforming to QQ-S-698.

3.2.1 Recycled, virgin and reclaimed materials. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR)."

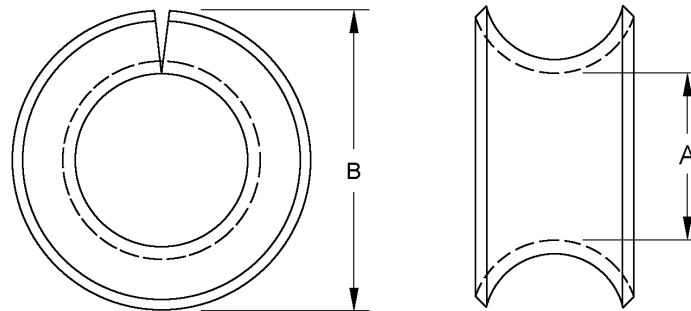
3.2.2 Finish. The thimbles shall be hot-dip galvanized in accordance with ASTM-A153/A153 or have electrodeposited coating in accordance with ASTM-B633, Type VI, Fe/Zn 25 or mechanically deposited in accordance with SAE-AMS-C-81562, type 1, zinc class 2. The zinc coating shall be adherent, smooth, and free from uncoated spots, injurious lumps, blisters, gritty areas, acid spots, black spots, and dross or flux. The zinc coating shall be free from any area of paint or other coating, such as aluminum, which indicates the hiding or disguise of any repair, blemish, or other defect.

3.2.4 Cadmium. Cadmium as specified in SAE-AMS-C-81562. Cadmium is harmful to the environment and shall not be used unless zinc plating cannot meet application needs.

3.3 Construction. The thimbles shall be furnished closed and shall be constructed as follows:

3.3.1 Type I. Fiber rope thimbles shall be of split round construction conforming to the design and dimensions shown on [figure 1](#). The width of score shall be greater than the nominal size by 1/32 inch for sizes smaller than 1/2 inch and by 1/16 inch for sizes 1/2 inch and larger.

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Thimble size, see note 3			Circumference		
Nominal diameter					
Inches fractions	Inches decimal	(mm)	Inches Fractions	Inches decimal	mm
5/16	.312	7.8	3/4 to 1	.75 to 1.0	19.1 to 25.4
3/8	.375	9.5	1-1/8	1.13	28.7
7/16	.438	11.1	1-1/4	1.25	31.8
1/2	.500	12.7	1-1/2	2.50	64
9/16	.563	14.3	1-3/4	1.75	44.5
5/8	.625	15.9	1-7/8	1.88	47.8
11/16	.687	17.4	2	2.0	51
3/4	.750	19.1	2-1/4	2.25	57.2
7/8	.875	22.2	1-1/2 to 2-3/4	1.5 to 2.75	38.1 to 69.9
1.00	1.00	25.4	3	3.0	76.2
1-1/8	1.125	28.6	3-1/4 to 3-1/2	3.25 to 3.5	82.6 to 88.9
1-1/4	1.250	31.8	3-3/4	3.75	95.3
1-3/8	1.378	35.0	4	4.0	102
1-1/2	1.500	38.1	4-1/2	4.5	114.3
1-3/4	1.750	44.5	5 to 5-1/2	5 to 5.5	127 to 139.7
2.00	2.00	51	6	6.0	152.4

See notes at end of figure.

FIGURE 1. Type 1, split round fiber rope thimbles.

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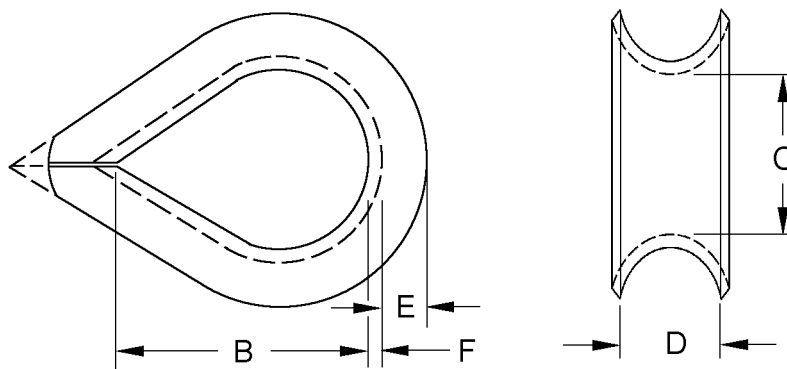
Diameter, minimum						Weight 10 thimbles	
Inside (A)			Outside (B)			Pounds	Grams
Inches Fractions	Inches decimals	mm	Inches Fractions	Inches decimals	mm		
3/8	.375	9.5	3/4	.750	19.1	0.15	68
1/2	.500	12.7	7/8	.875	22.2	0.22	100
5/8	.625	15.9	1.0	1.00	25.4	0.35	159
3/4	.750	19.1	1-1/4	1.250	31.8	0.58	263
3/4	.750	19.1	1-5/16	1.313	33.4	1.00	454
7/8	.875	22.2	1-1/2	1.50	38.1	1.05	476
15/16	.938	23.8	1-1/2	1.50	38.1	1.10	499
1-1/8	1.125	28.6	1-3/4	1.75	44.5	1.60	726
1-3/16	1.188	30.2	2.00	2.00	51	2.00	907
1-1/4	1.250	31.8	2-1/4	2.25	57.2	3.00	1361
1-3/8	1.375	35.0	2-1/2	2.50	64	3.50	1588
1-1/2	1.500	38.1	2-3/4	2.75	69.9	4.80	2177
1-3/4	1.750	44.5	3.00	3.00	76.2	6.00	2722
2.00	2.00	51	3-1/2	3.50	88.9	10.00	4536
2-3/8	2.375	60.3	4.00	4.00	101.6	15.00	6804
2-5/8	2.625	66.7	5.00	5.00	127	25.00	11340

## NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Based on the rope size.
4. Use the thimble size "fractions" for PIN.

FIGURE 1. Type 1, split round fiber rope thimbles - Continued.

3.3.2 Type II. Light thimbles shall be of the split oval construction, semi-circular at the closed ends, with the sides tapering together at the free ends. The free ends shall have a rounded shape. Light thimbles shall conform to the design and dimensions shown on [figure 2](#).



See notes at end of figure.

FIGURE 2. Type II, split oval, light fiber and wire-rope thimbles.

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Thimble size (nominal rope diameter)			B minimum		
Inch fractions	Inch decimals	mm	Inch fractions	Inch decimals	mm
1/8	.125	3.18	1-1/4	1.250	31.75
3/16	.500	12.7	1-1/4	1.250	31.75
1/4	.250	6.35	1-5/16	1.313	33.35
5/16	.313	7.95	1-1/2	1.500	38.1
3/8	.375	9.53	1-9/16	1.563	40
1/2	.500	12.7	1-7/8	1.875	47.63
5/8	.625	15.88	2-1/4	2.250	57.2
3/4	.750	19.05	2-1/2	2.500	63.5
7/8	.875	22.2	3	3.00	76.2
1	1.00	25.4	3-5/16	3.313	84.2
1-1/8	1.125	28.58	3-5/8	3.625	92.08
1-1/4	1.250	31.75	4	4.00	102
1-3/8	1.375	34.93	4-5/16	4.313	110
1-1/2	1.500	38.1	4-5/8	4.625	117.5
1-5/8	1.625	41.28	5	5.00	127
1-3/4	1.750	44.6	5-5/16	5.313	135
1-7/8	1.875	47.63	5-5/8	5.625	143
2	2.00	51	6	6.00	152.4
2-1/4	2.250	57.15	6-5/8	6.625	168.3
2-5/8	2.625	66.7	7-5/8	7.625	193.7
3	3.00	76.2	8-5/8	8.625	219.1
3-1/4	3.250	82.6	9-5/16	9.313	236.6

C minimum			D (see note 3) minimum			E minimum		
Inches Fractions	Inch decimals	mm	Inches Fractions	Inches decimals	mm	Inches Fractions	Inches decimals	mm
11/16	.688	17.48	5/32	.156	4.0	1/8	.125	3.18
11/16	.688	17.48	7/32	.219	5.56	1/8	.125	3.18
11/16	.688	17.48	9/32	.281	7.14	1/8	.125	3.18
13/16	.813	20.7	11/32	.688	17.48	1/8	.125	3.18
15/16	.938	23.83	13/32	.406	10.31	3/16	.188	4.78
1-1/8	1.125	28.58	17/32	.531	13.49	3/16	.188	4.78
1-3/8	1.125	28.58	21/32	.656	16.66	1/4	.250	6.35
1-1/2	1.500	38.1	25/32	.781	19.84	5/16	.313	7.95
1-7/8	1.875	47.63	15/16	.938	24.0	3/8	.375	9.53
2-1/8	2.125	54.0	1-1/16	1.063	27.0	13/32	.406	10.31
2-3/8	2.375	60.33	1-3/16	1.188	30.18	1/2	.500	12.7
2-5/8	2.625	66.7	1-5/16	1.313	33.35	1/2	.500	12.7
2-3/4	2.750	69.9	1-7/16	1.438	36.52	23/32	.719	18.26

See notes at end of figure.

FIGURE 2. Type II, split oval, light fiber and wire-rope thimbles - Continued.

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C minimum			D (see note 3) minimum			E minimum		
Inches Fractions	Inch decimals	mm	Inches Fractions	Inches decimals	mm	Inches Fractions	Inches decimals	mm
2-3/4	2.750	69.9	1-9/16	1.563	39.7	5/8	.625	15.9
3-5/16	3.313	84.2	1-3/4	1.750	44.5	13/16	.813	20.7
3-1/2	3.500	88.9	1-7/8	1.875	47.6	27/32	.844	21.4
3-3/4	3.750	95.3	2-1/8	2.125	54	29/32	.906	23.0
3-3/4	3.750	95.3	2-3/32	2.094	53.2	25/32	.781	20
4-1/2	4.500	114.3	2-3/8	2.375	60.33	1	1.00	25.4
5-1/8	5.125	130.2	2-1/4	2.250	57.2	1-3/16	1.188	30.2
5-3/16	5.188	131.8	3-1/8	3.125	79.38	1-3/8	1.375	35
6-5/16	6.313	160.4	3-3/8	3.375	85.73	1-7/16	1.438	37

F minimum			Approx. weight per 100 Pounds	Approx. weight per 100 Grams	Circumference of fiber and wire rope	Circumference of fiber and wire rope	Circumference of fiber and wire rope
Inch Fractions	Inch decimals	mm			Inches Fractions	Inches decimals	mm
3/64	.047	1.19	3.25	1474	---	---	---
3/64	.047	1.19	3.25	1474	---	---	---
3/64	.047	1.19	3.25	1474	3/4	.750	19.05
3/64	.047	1.19	4.10	1860	---	---	---
1/16	.063	1.60	7.40	3357	1 to 1-1/8	1.0 -1.125	25.4 to 28.6
1/16	.063	1.60	13.75	6237	1-1/2 to 1-3/4	1-.500 to 1.750	38.1 to 44.5
3/32	.094	2.39	34.0	15422	2.0	2.00	51
3/32	.094	2.39	50.6	22952	2-1/4	2.250	57.2
1/8	.125	3.18	90.0	40823	2-1/2 to 2-3/4	2.50 to 2.750	63.5 to 69.9
1/8	.125	3.18	105.0	47627	3	3.00	76.2
1/8	.125	3.18	190.0	86183	3-1/4 to 3-1/2	3.250 to 3.500	82.6 to 88.9
5/32	.156	3.96	190.0	86183	3-3/4	3.750	95.3
3/16	.188	4.78	---	---	4	4.00	102
3/16	.188	4.78	340	154221	4-1/2	4.500	114.3
7/32	.219	5.56	---	---	5	5.00	127
1/4	.250	6.35	594	269434	5	5.00	127
1/4	.250	6.35	---	---	5-1/2	5.500	139.7
1/4	.250	6.35	594	269434	6	6.00	152.4
3/8	.375	9.53	---	---	7	7.00	177.8
7/16	.438	11.13	---	---	8	8.00	203.2
1/2	.500	12.7	---	---	9	9.00	228.6
9/16	.563	14.30	---	---	10	10.00	254

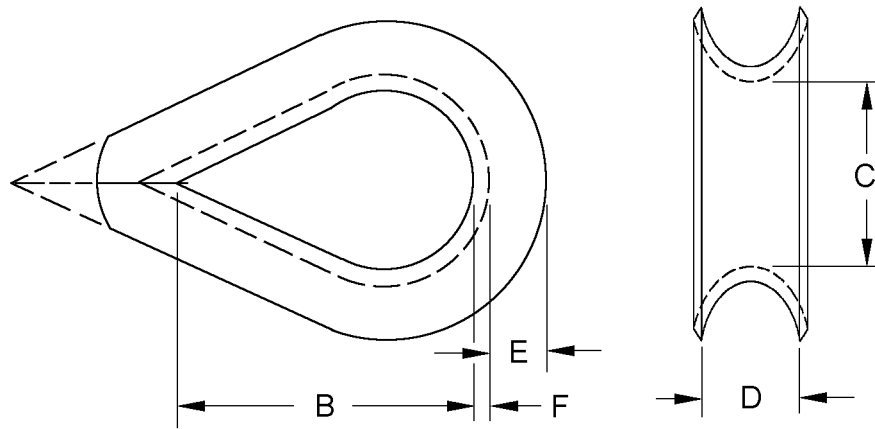
## NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Tolerance - plus 1/32 inch up to an including 3/4-inch rope size and plus 1/16 inch above 3/4-inch rope size.
4. Use the thimble size "fractions" for PIN.

FIGURE 2. Type II, split oval, light fiber and wire-rope thimbles - Continued.

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3.3.3 Type III. Heavy-wire rope shall be of the split oval construction, semicircular at the closed ends with the sides tapering together at the free ends. The free ends shall have a rounded shape. Heavy wire rope thimbles shall conform to the design and dimensions shown on [figure 3](#).



Thimble size (nominal wire-rope diameter) Inches			B minimum			C		
Inch	Inch decimals	mm	Inches	Inch decimals	mm	minimum Inches	Inch decimals	mm
1/4	.25	6.4	1-5/8	1.63	41.4	3/4	.75	19.1
5/16	.313	8.0	1-7/8	1.88	47.8	1	1.00	25.4
3/8	.375	9.5	2-1/8	2.13	54.1	1-1/8	1.13	28.7
7/16	.438	11.2	2-1/4	2.25	57.2	1-1/4	1.25	31.8
1/2	.50	12.7	2-5/8	2.63	66.8	1-1/2	1.50	38.1
9/16	.563	14.3	2-3/4	2.75	69.9	1-1/2	1.50	38.1
5/8	.625	16	3-1/4	3.25	82.6	1-3/4	1.75	44.5
3/4	.75	19.1	3-3/4	3.75	95.3	2	2.00	51
7/8	.875	22.2	4-1/4	4.25	108	2-1/4	2.25	57.2
1	1.00	25.4	4-1/2	4.50	114.3	2-1/2	2.50	63.5
1-1/8	1.13	28.7	5	5	127	2-7/8	2.88	73.2
1-1/4	1.25	31.8	5-1/3	5.33	135.4	2-7/8	2.88	73.2
1-3/8	1.38	35.1	6-1/4	6.25	158.8	3-1/2	3.50	88.9
1-1/2	1.50	38.1	6-1/4	6.25	158.8	3-1/2	3.50	88.9
1-5/8	1.63	41.4	8	8.00	203	4	4.00	101.6
1-3/4	1.75	44.5	9	9.00	229	4-1/2	4.50	114.3
1-7/8	1.88	47.8	10	10.00	254	5	5.00	127
2	2.00	51	10-15/16	10.94	278	6	6.00	152.4

See notes at end of figure.

FIGURE 3. Type III, split oval heavy wire-rope thimbles.



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D			D maximum			E minimum		
minimum Inches	Inch decimals	mm	Inches	Inch decimals	mm	Inches	Inch decimals	mm
9/32	.28	7.1	5/16	.31	7.9	3/16	.19	4.8
11/32	.34	8.6	3/8	.38	9.7	9/32	.28	7.1
13/32	.41	10.4	7/16	.44	11.2	17/64	.27	6.9
5/32	.16	4.1	1/2	.50	12.7	5/16	.31	7.9
17/32	.53	13.5	5/8	.63	16	3/8	.38	9.7
19/32	.59	15	5/8	.63	16	3/8	.38	9.7
21/32	.66	16.8	11/16	.69	17.5	13/32	.41	10.4
25/32	.78	20	13/16	.81	20.6	1/2	.50	12.7
15/16	.94	24	1	1.00	25.4	9/16	.56	14.2
1-1/16	1.06	27	1-5/32	1.16	29.5	23/32	.72	18.3
1-3/16	1.19	30.2	1-3/8	1.38	35.1	13/16	.81	20.6
1-5/16	1.31	33.3	1-13/32	1.41	35.8	13/16	.81	20.6
1-7/16	1.44	36.6	1-5/8	1.63	41.4	1	1.00	25.4
1-9/16	1.56	40	1-11/16	1.69	43	1	1.00	25.4
1-23/32	1.72	44	1-13/16	1.81	46	1-1/8	1.13	28.7
1-27/32	1.84	46.7	1-15/16	1.94	49.3	1-1/4	1.25	31.8
1-31/32	1.97	50.0	2-3/16	2.19	55.6	1-5/16	1.31	33.3
2-3/32	1.09	28	2-3/16	2.19	55.6	1-1/4	1.25	33.3

F minimum			Approx. weight per 100 pounds	grams
Inch	Inch decimals	mm		
1/16	.063	1.60	7.5	3401
5/64	.078	2.0	14	6350
7/64	.109	2.77	25	11340
1/8	.125	3.18	36	16329
9/64	.141	3.58	51	23133
9/64	.141	3.58	51	23133
5/32	.156	4.0	75	34019
7/32	.219	5.6	147	66678
7/32	.219	5.6	186	84368
1/4	.25	6.35	300	136078
1/4	.25	6.35	410	185973
1/4	.25	6.35	410	185973
1/2	.50	12.7	1200	544311
1/2	.50	12.7	1200	544311
1/2	.50	12.7	1625	737088
1/2	.50	12.7	1800	816466
1/2	.50	12.7	2600	1179340
1/2	.50	12.7	2600	1179340

## NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Use the thimble size "fractions" for PIN.

FIGURE 3. Type III, split oval heavy wire-rope thimbles - Continued.

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3.4 Workmanship. The thimbles shall be free from sharp edges, seams, pipes, flaws, cracks, fins, porosity, hard spots, excessive nonmetallic inclusion and segregations. The thimbles shall also be free from all other defects of material and workmanship which may affect their strength and serviceability or that of the rope used therewith. The thimbles shall meet the dimensions as specified in this specification.

## 4 QUALITY ASSURANCE PROVISIONS

4.1 Classification of inspections. The inspection requirements specified herein are classified as follows:

- a. First article inspection (see [4.1.1](#)).
- b. Conformance inspection (see [4.8](#)).

4.1.1 First article inspection. First article inspection, if not done by the manufacturer, shall be performed at a laboratory acceptable to the procuring activity on sample units produced with equipment and procedures used in production.

4.1.2 Conformance inspection. All finished shackles shall be carefully examined to determine conformance problems with the specification with respect to workmanship, form, and dimensions.

4.1.3 Certification. Certification must be done with the procuring activity approval. The contractor shall certify that the product offered meets the requirements of this document and manufactured to industry standards, and quality assurance practices, and is the same as the product offered for sale in the commercial marketplace. The government reserves the right to require proof of such conformance prior to first delivery and thereafter as may be otherwise provided for under the provisions of the contract

4.1.4 Responsibility for compliance. All items shall meet all requirements of sections [3](#), [4](#), and [5](#). The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

4.1.5 Inspection conditions. Unless otherwise specified, all inspections shall be performed in accordance with the applicable test procedures.

4.2 Lot records. Manufacturers shall keep lot records for 3 years minimum. Manufacturers shall monitor for compliance to the prescribed procedures, and observe that satisfactory manufacturing conditions and records on lots are maintained for these thimbles. The records, including as a minimum, an attributes summary of all quality conformance inspections conducted on each lot, shall be available to review by customers at all times.

4.3 Samples for first article. Samples for first article shall be random and representative of the products proposed to be furnished to this specification. Sampling shall be in accordance with [4.8.1.1](#).

4.3.1 First article inspection routine. All samples shall be subjected to first article testing in accordance with [table I](#). Sequence is manufacturing's discretion.

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TABLE I. First article inspection.

Inspection	Requirement	Test method
Visual	3.4	4.8.2.1
Dimensional	3.4	4.8.2.1
Weights	Table I, table II, and table III	4.8.2.2

4.3.2 Acceptance of first article inspection. Required first article tests may be eliminated if documented approval has been obtained from the procuring activity. A first article test cannot be waived by DLA unless the contractor has delivered the same item within the last three years, has no unfavorable quality history, and has not proposed changes to the processes or changed any subcontractors. DLA will not accept first article test results outside the stated requirements. All waivers or deviations shall be approved by the procuring activity.

4.3.3 Failures. All samples must meet all of the contract requirements. Failure of a sample unit to pass any test shall be cause for rejection of the entire lot and to grant first article approval.

4.3.4 First article samples. Samples shall be random and representative of the construction, workmanship, components, and materials to be used during production. When a manufacturer is in continuous production of the shackles from one contract to another, submission of additional first article samples for a new contract may be waived at the discretion of the acquiring activity (see 6.2).

4.3.5 First article information. Upon completion of first article inspection, the Government activity responsible for conducting the inspection program (see 6.2), shall report the results of the inspection, with appropriate recommendation, to the contracting officer. Approval of the first article samples or the waiving of first article inspection does not preclude the requirements for performing conformance inspection.

4.3.6 Disposition of samples. First article samples shall be furnished to the Government as directed by the contracting officer (see 6.2).

4.8 Conformance inspection. Manufacturers that have successfully passed first article inspections and are continuously producing shackles to this specification, shall consist of conformance inspection (see table II). If first article is waived due to prior successful first article inspection the manufacturer's in-house inspection procedures shall continue to be used. Results may be requested by government as part of a contract.

TABLE II. Conformance.

Inspections	Requirement paragraph	Inspection paragraph	Number of samples
Visual	3.4	4.8.2.1	4.8.1.1

4.8.1 Inspection lot.

4.8.1.1 Lot and sample. The inspection lot shall be product selected at random from the production lot without regard to quality and shall be the sample size specified in table III.

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TABLE III. Lot and sample size.

Production lot size	Sample size
1 to 20	2
21 to 50	10
51 to 100	15
101 to 500	20

4.8.2 Tests.

4.8.2.1 Visual and mechanical. Perform a visual and dimensional check in accordance with [3.4](#).

4.8.2.2 Weight. Type I less than specified minimum weight. Type II and type III, 10 percent less than the specified approximate weights.

4.8.2.3 Dimensions. The thimbles shall meet the dimensions as specified in [table I](#), [II](#) and [III](#).

## 5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see [6.2](#)). When actual packaging of materiel is to be performed by DoD or in- house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activities within the Military Service or Defense Agency, or within the Military Service System Commands. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

## 6. NOTES.

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. Type I thimbles are intended for use with fiber rope only. Type II thimbles, light, are intended for use where the full tension of the rope is not developed in normal use and for fiber rope. Type III thimbles, heavy, are intended for use with high-grade plow wire rope where heavy commercial thimbles of the weight and specified dimensions are considered satisfactory. Shackles that are cadmium and heavy zinc plated are military unique where applications would expose them to salt laden applications, commercial shackles would are not designed for such applications.

6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. PIN (see [1.2](#)).
- c. First article or certification required (see [3.1](#)).
- d. Packaging requirements (see [5.1](#)).

6.3 Additional reference information. American National Standard M11.1, "Wire Ropes for Mines", may be consulted as a safety standard for the proper usage of items covered by this specification.

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6.4 Subject term (key word) listing.

Cadmium  
Fiber  
Plow-steel  
Wire  
Zinc

6.5 Environmentally preferable material. Environmentally preferable materials should be used to the maximum extent possible to meet the requirements of this specification. As of the dating of this document, the U.S. Environmental Protection Agency (EPA) is focusing efforts on reducing 31 priority chemicals. The list of chemicals and additional information is available on their website at <http://www.epa.gov/osw/hazard/wastemin/priority.htm>. Included in the EPA list of 31 priority chemicals are cadmium, lead and mercury. Use of these materials should be minimized or eliminated unless needed to meet the requirements specified herein (see section 3).

6.6 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

## CONCLUDING MATERIAL

## Custodians:

Army - AR  
Navy - SH  
Air Force - 99  
DLA - CC

## Preparing activity:

DLA - CC

(Project 4030-2014-002)

## Reviewers:

Army - CR4, EA, MI  
Navy - MC, YD

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil>.