

MIL-DTL-5688E
w/AMENDMENT 3
22 March 2021
SUPERSEDING
MIL-DTL-5688E
w/AMENDMENT 2
4 January 2011

DETAIL SPECIFICATION

WIRE ROPE ASSEMBLIES; AIRCRAFT, PROOF TESTING AND PRESTRETCHING OF

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers the proof testing and prestretching of wire rope assemblies.

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 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 of the documents cited in sections 3 and 4 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications. The following specifications 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.

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Comments, suggestions, or questions on this document should be addressed to Defense Logistics Agency Aviation VEB, 8000 Jefferson Davis Highways, Richmond, VA 23297-5616 or emailed to STDZNMGT@dla.mil. Since contact information can change, you may want to verify the currency of this address information using the ASSIST database at <https://assist.dla.mil/>.

DEPARTMENT OF DEFENSE SPECIFICATIONS

- MIL-DTL-781 - Terminal, Wire Rope Swaging, General Specification for
- MIL-DTL-83420 - Wire Rope, Flexible, for Aircraft Control, General Specification for

(Copies of these documents are available online at <https://quicksearch.dla.mil>.)

2.3 Order of precedence. Unless otherwise noted herein or in the contract, in the event of a conflict between the text of this document and the references cited herein, 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 Proof/prestretching load. Loads for proof load testing and prestretching of all wire rope terminal assemblies, including the entire length of the wire rope shall be as specified in table I. Proof load testing may also be used for the prestretching of the wire rope.

TABLE I. Load values.

Cable		Carbon Steel Wire Rope MIL-DTL-83420, Type I and II Composition A		Corrosion-Resistant Steel Cable MIL-DTL-83420, Type I and II Composition B	
		Load (lbs.) <u>1/</u> , <u>2/</u>		Load (lbs.) <u>1/</u> , <u>2/</u>	
Diameter	Construction	Minimum	Maximum	Minimum	Maximum
1/32	3 X 7	66	69	66	69
3/64	7 X 7	162	170	162	170
1/16	7 X 7	288	302	288	302
1/16	7 X 19	288	302	288	302
3/32	7 X 7	552	580	552	580
3/32	7 X 19	600	630	552	580
1/8	7 X 19	1,200	1,260	1,056	1,109
5/32	7 X 19	1,680	1,764	1,440	1,512
3/16	7 X 19	2,520	2,646	2,220	2,331
7/32	7 X 19	3,360	3,528	3,000	3,150
1/4	7 X 19	4,200	4,410	3,840	4,032
9/32	7 X 19	4,800	5,040	4,680	4,914
5/16	7 X 19	5,880	6,174	5,400	5,670
3/8	7 X 19	8,640	9,072	7,200	7,560

1/ Unless otherwise specified, for applications using wire rope other than MIL-DTL-83420, load values shall be 60 (+5, -0) percent of the minimum breaking strength specified in the applicable wire rope specification.

2/ Unless otherwise specified, proof loads for terminals having verified minimum breaking strengths lower than the wire rope, will be 60 percent of the terminal minimum breaking strength.

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3.2 Slippage indicator. The junction of the terminal and wire rope will be marked with a durable, permanent paint or similar media to assist in determining evidence of the slippage. The color of the marking shall be as specified in the contract, order, or drawing. If no color is specified, a color that is clearly visible and contrasting with surrounding elements shall be used.

4. VERIFICATION

4.1 Conformance inspection. Conformance inspection shall be conducted on each assembly. Conformance inspection shall consist of load testing.

4.2 Load testing. The applicable load shall be applied for the period of time specified as follows:

<u>Type of Cable Assembly</u>	<u>Duration of Load Application (Minimum)</u>
Swaged Terminal <u>1/</u>	5 seconds

1/ Applies to swaged terminals conforming to MIL-DTL-781.

4.2.1 Application of load. The load shall be applied evenly by dead load or by any suitable test machine in not less than 3 seconds. The load shall be applied to the fitting end of the terminal in a manner similar to that for which it is designed. For terminals that do not conform to MIL-DTL-781, or in cases where the loading would damage the terminal or cable, terminals shall be loaded by means of a fixture that allows a straight pull to be given to the cable and swage area. Ball bearing type terminals shall be loaded by means of a fixture that allows a straight pull to be given to the cable without loading the bearing or causing distortion to the bearing housing. The release shall be made evenly and gradually.

4.2.2 Rejection. Prior to application of the load, the assembly shall be marked in accordance with 3.2. Any cable terminal assemblies showing any slippage to the unaided eye shall be rejected.

4.2.2.1 Wire rope diameter. Wire rope diameter dimensions are at time of manufacture, not after proof testing or prestretching. Reduction in wire rope diameter below the minimum diameter specified in the relevant wire rope specification after proof testing or prestretching shall not be cause for rejection.

4.2.3 Acceptance. Acceptance of the cable shall be indicated on a removable tag attached to the cable.

5. Packaging. Not applicable.

6. NOTES

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

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6.1 Intended use. This specification covers the proof testing and prestretching of wire rope assemblies.

6.2 Subject term (key word) listing.

Proof load
Swaged terminals
Terminals

6.3 Amendment notations. The margins of this specification are marked with vertical lines to indicate where modifications from this amendment were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations.

Custodians:
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Navy - AS
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Preparing Activity:
DLA - GS5

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Review Activities:
Army - MI

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