

MIL-W-83420D  
AMENDMENT 3  
30 October 1987  
SUPERSEDING  
AMENDMENT 2  
18 JULY 1985

MILITARY SPECIFICATION

WIRE ROPE, FLEXIBLE, FOR AIRCRAFT CONTROL

This amendment forms a part of MIL-W-83420D, dated and is approved for use by all Departments and Agencies of the Department of Defense.

PAGE 1

1.1, Line 5, change "experience" to "experiences".

1.2, Delete Composition A (entire line) and replace with "Composition A-Carbon steel, zinc or tin and zinc coated."

Add new paragraph:

"1.2.1 Application limitations.

1.2.1.1 Lubricant leak-out. Leak-out and evaportaion of the lubricant applied to the wire rope during fabrication and preparation for shipment can be expected. Upon installation and periodically throughout the service, the wire rope shall therefore be re-lubricated. The method of lubrication, frequency, and identity of the approved military standard lubricant should be included in the appropriate aircraft maintenance manuals."

Beneficial comments, line 3, change address to read "San Antonio ALC/MMIRAD, Kelly AFB, TX 78241-5000,"

PAGE 2

Add new slash sheets specification after MIL-H-83282:

"MIL-W-83420/1 Wire Rope, Type I, Composition A  
MIL-W-83420/2 Wire Rope, Type I, Composition B  
MIL-W-83420/3 Wire Rope, Type II, Composition A  
MIL-W-83420/4 Wire Rope, Type II, Composition B"

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PAGE 4

3.2.3.2, Add, "over zinc" after "tin coating".

PAGE 5

3.2.4, Delete the fourth sentence.

3.3.1.3, First sentence, delete and substitute: "All splices or joints in wires less than 0.008 inch may be longitudinally twisted, but all wire sizes of 0.008 inch or more shall be brazed or welded."

PAGE 6

3.3.3.3, Fifth and sixth sentences, delete and substitute: "The lay length of core strand shall not exceed 60 percent of the lay of the outside layer of 12 wires in each of the 6 outside strands and the core strand lay shall not exceed 50 percent of the lay of the finished wire rope. The length of lay of the finished wire rope shall not be more than 8 times nor less than 6 times the nominal rope diameter."

PAGE 8

4.3.1, Delete and substitute:

"4.3.1 Qualification inspection samples. When conducting qualification test specified herein, one sample lot for each size and construction of wire rope listed in Tables I and II, for which qualification is desired, shall be taken after any discard has been removed from the head or starting end of the first manufacturing reel for each lot of wire rope."

4.3.2, Delete and substitute:

"4.3.2 Qualification testing. Qualification tests shall be performed for each size and construction of wire rope for which qualification is desired as specified in Table V."

PAGE 10

4.4.3, 4.4.4 and 4.4.5, renumber to "4.4.4, 4.4.5 and 4.4.6"

PAGE 12

4.5.5, First sentence, delete and substitute: "The test set-up for the endurance tests of Type II nylon jacketed wire rope shall conform to Figure 1."

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4.5.6, Second and third sentences at top of page, delete and substitute:  
 "The specimen shall be loaded to one percent minimum breaking strength shown in Table I to straighten the wire rope and, while the specimen is under tension, a gauge length not less than 10 inches shall be marked on the wire rope between the end fitting of the testing specimen."

4.5.6, Formula, delete and substitute:

$$\text{"Percent stretch"} = \frac{\text{Elongation of gauge length under load} \times 100}{\text{Original gauge length}} \leq 1.5\%$$

4.5.7, Fourth line, delete "increases" and substitute "increase".

4.5.8.1.1, First sentence, delete and substitute: "For qualification, three specimens not less than 12 inches long shall be cut from the wire before the wire rope is fabricated."

PAGE 16

5.3.1.f., Delete and substitute: "Type of wire rope composition, protective coating for composition A, and specification number (MIL-W-83420)."

6.1, Delete and substitute:

"6.1 Intended use. The wire rope covered by this specification is intended for use in aircraft control systems applications where high resistance is needed against corrosion, abrasion and fatigue wear."

PAGE 17

6.2.2, Under Paragraph No., change 4.4.4, 4.4.5 to "4.4.5 and 4.4.6" for certificate of compliance.

PAGE 23

Table V, Revise "Quality conformance para" column as follows:

Endurance for type I	4.5.4, 4.5.4.2
Endurance for type II	4.5.5, 4.5.5.2

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PAGE 24

Table VI, Second line in column C, delete "0.703" and replace with "0.814"

PAGE 30

6.4, Change address to read "San Antonio ALC/MMIRAD, Kelly AFB, TX  
78241-5000."

Custodians:

Army - AV  
Navy - AS  
Air Force - 99

Review activities:

Air Force - 11  
DLA-IS

Preparing activity:

Air Force - 82

Agent:

DLA-IS

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