

MIL-W-6729A

10 SEPTEMBER 1963

SUPERSEDING

MIL-T-6729

9 JUNE 1950

MILITARY SPECIFICATION**WATERTIGHTNESS OF AIRCRAFT,
GENERAL SPECIFICATION FOR TESTING**

This specification has been approved by the Department of Defense and is mandatory for use by the Departments of the Army, the Navy, and the Air Force.

1. SCOPE

1.1 This specification covers testing for watertightness of aircraft.

2. APPLICABLE DOCUMENTS

2.1 The following documents, of the issue in effect on date of invitation for bids, form a part of this specification to the extent specified herein:

SPECIFICATIONS**MILITARY**

MIL-R-18136 — Reports, Format and General Requirements.

BUREAU OF NAVAL WEAPONS

SD-24 — General Specifications for Design and Construction of Aircraft Weapon Systems, Volume I — Fixed Wing Aircraft.

SD-24 — General Specification for Design and Construction of Aircraft Weapon Systems, Volume II — Rotary Wing Aircraft.

(Copies of specifications, standards, drawings, and publications required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

3. REQUIREMENTS

3.1 Watertightness (flight test). The aircraft shall satisfy the watertightness requirements when subjected to the test specified in 4.5.1.

3.2 Watertightness (ground test). The aircraft shall remain watertight when tested as specified in 4.5.2.

4. QUALITY ASSURANCE PROVISIONS

4.1 Inspection responsibility. The supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may utilize his own or any other inspection facilities and services acceptable to the Government. Inspection records of the examination and tests shall be kept complete and available to the Government as specified in the contract or order. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Classification of tests. All the tests required herein for the testing of aircraft are classified as acceptance tests, for which methods of testing are specified in this section.

4.3 Inspection. The number of aircraft to be inspected shall be as specified by the procuring activity.

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4.4 Test reports. Upon completion of the tests, a report shall be submitted to the procuring activity, giving full details of the test, the results obtained, and any corrective measures taken. Test reports to be submitted to the procuring activity shall conform to Specification MIL-R-18136.

4.5 Tests.

4.5.1 *Watertightness (flight test)*. The aircraft shall be flown in a heavy rain for a sufficient length of time to thoroughly check for watertightness. During the test all com-

Publication	Title
SD-24 vol. I	SD-24 vol. II
Paragraph No.	Paragraph No.
3.2.4.1.2.3	3.2.4.1.2.1
3.7.1.3.1, 3.7.2.3.1	3.7.1.3.1
3.7.1.3.1.1	3.7.1.3.1.1
3.7.1.7	3.7.1.6
3.7.1.7.2	3.7.1.6.2
3.7.1.7, 3.7.1.7.5	3.7.1.6.3
3.7.1.9	3.7.1.8
3.7.1.10	3.7.1.9
3.11.6.1	3.11.6.1
3.12.5.2.1	3.12.5.2.1

4.5.2 *Watertightness (ground test)*. The aircraft shall be parked in a heavy rain, or subjected to a water spray system simulating a heavy rain of one of the following intensities:

- 4 \pm 1 inches per hour for 20 minutes
- 3 \pm 1 inches per hour for 40 minutes
- 2 \pm 1 inches per hour for 60 minutes

The rain or simulated rain shall be measured at the surface of the aircraft by a U. S. Weather Bureau type gage. The spray system shall be capable of variation up to 45 degrees from the vertical. All hatches, canopies, access or inspection doors, etc., shall be closed as in flight. During or immediately following the spray or rain test, as applicable, the aircraft shall be inspected for watertightness in accordance with the procedure specified in 4.5.1.

5. PREPARATION FOR DELIVERY (Not applicable to this specification).

partments accessible in flight, such as cockpits and cabins, shall be inspected for leaks around canopies, windshields, escape hatches, cockpit ventilators and other inspection or access doors. Immediately following the flight, those interior areas of the aircraft accessible through access and inspection doors, or other removable sections shall be thoroughly inspected to determine compliance with applicable design requirements of Bureau of Naval Weapons Specification SD-24, Vols. I and II, relative to watertightness, drainage, and for entrapment of moisture, particularly paragraphs titled as follows:

Corrosion protection
Pilots cockpit (drainage)
Cockpit and canopies and cabin enclosures (watertightness)
Doors and hatches (watertightness)
Cargo doors (watertightness)
Hatches (watertightness)
Windows and ports (watertightness)
Flooring (general requirements watertightness drainability)
Cowling design (drainability)
Air intakes (reciprocating engines) (moisture entrapment of intake)

6. NOTES

6.1 Intended use. Procedures for testing aircraft described herein are intended to insure watertightness when the aircraft is exposed to heavy rainfall.

Notice. When Government drawings, specifications or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no responsibility nor any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

Custodians:
Army—TC
Navy—Wep

Preparing activity:
Navy—Wep