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DEFINITIONS OF AND BASIC REQUIREMENTS FOR ENCLOSURES FOR ELECTRIC AND ELECTRONIC EQUIPMENT

FSC MISC.

DEPARTMENT OF DEFENSE

WASHINGTON, D.C. 20301

Definitions of and Basic
Requirements for Enclosures for
Electric and Electronic Equipment

MIL-STD-108E

1. This Military Standard is mandatory for use by all Departments and Agencies of the Department of Defense.

2. Recommended corrections, additions, or deletions should be addressed to Commander, Naval Ship Engineering Center, Washington, D.C. 20360.

FOREWORD

An enclosure is a mechanical item which wholly or partly surrounds some electrical or electronic item or group of items and is an integral part of the equipment. It is used herein in a general sense to include such items as cabinet and housing which are defined in the Federal Item Identification Guide for Supply Cataloging. It may perform any or all of the following functions:

(a) Provide physical protection to the enclosed items.

(b) Provide physical protection from items within the enclosure to personnel or objects outside the enclosure.

(c) Provide means for ventilating items within the enclosure.

(d) Provide means for cooling items within the enclosure.

(e) Provide external facilities for mounting on, or securing to, a structure, such as a wall or bulkhead.

(f) Provide interior support for subassemblies, parts and similar items.

(g) Provide reduction of radiated audible noise or radio interference.

This standard defines the enclosure by the environmental protection that it provides to its contents. In some cases, this standard covers physical protection to the equipment or to personnel. Specific requirements for ventilation, cooling, mounting, support and reduction of audible noise or radio interference should be covered by equipment specifications.

CONTENTS

		Pa
1.	SCOPE	
2.	REFERENCED DOCUMENTS	
3.	REQUIREMENTS	1
3.1	Definitions, basic requirements and tests	1
3.2	Supplementary enclosure identification by cooling method	2
3.3	Design requirements for hazardous atmospheres	3
3.3.1	Dust-ignition proof	3
3.3.2	Explosionproof	3
3.4	Protection against contact with external fans	3
3.5	Construction	3
4.	TESTS AND DEFINITIONS	3
4.1	Procedures	3
4.2	Airtight	3
4.3	Dripproof (15 degrees) and dripproof (45 degrees)	3
4.4	Dust-ignition proof	4
4.5	Dustproof	4
4.6	Dust-tight	4
4.7	Explosionproof	4
4.8	Hermetic	5
4.9	Splashproof	5
4.10	Spraytight	5
4.11	Submersible and open-submersible	5
4.12	Totally enclosed	10
4.13	Watertight	10
5.	NOTES	11
5.1	Use of definitions for parts	11
5.1.1	Test of parts	11
6.	INTERNATIONAL	11
6.1	International standardization agreement	11

TABLES

Table I — Definitions, design requirements and tests 5
Table II — Water repellent tests using hose 8
Table III — Submergence tests 1(

DEFINITIONS OF AND BASIC REQUIREMENTS FOR ENCLOSURES FOR ELECTRIC AND ELECTRONIC EQUIPMENT

1. SCOPE

1.1 This standard establishes definitions and basic requirements for enclosures for environmental protection of electrical and electronic equipment. The use of these definitions for parts intended for mounting in enclosures is also described (see 6.1).

2. REFERENCED DOCUMENTS

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

SPECIFICATIONS

MILITARY

MIL-E-2036 — Enclosures for Electric and Electronic Equipment, Naval Shipboard.

STANDARDS

MILITARY

MIL-STD-810 — Environmental Test Methods.

2.2 **Other publications.** The following documents form a part of this standard to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

NATIONAL FIRE PROTECTION ASSOCIATION

National Electric Code

(Application for copies should be addressed to the National Fire Protection Association, 60 Batterymarch Street, Boston 10, Massachusetts.)

AMERICAN STANDARDS ASSOCIATION

International Electrotechnical Commission Publication 144

(Application for copies should be addressed to American Standards Association, 10 East 40th Street, New York 10016, New York.)

3. REQUIREMENTS

3.1 **Definitions, basic requirements and tests.** Degrees of enclosures for environmental protection of electrical and electronic equipment are defined in Table I. The basic design requirements and tests applicable to a particular degree of enclosure shall be as specified in Table I. Enclosures are defined by either of two general methods which are consistent with industry practice:

(a) Enclosures defined solely in terms of protection provided by the enclosure itself; the function of the enclosure being to exclude the undesirable or harmful element. All degrees of enclosure having the suffix "tight" fall in this category.

(b) Enclosures defined in terms of specified environmental conditions under which the enclosed equipment (equipment with its enclosure) will operate satisfactorily. The ability of such enclosed equipment to perform under the specified conditions is not necessarily wholly dependent on the

enclosure itself, but may also depend upon the characteristics of the equipment. All degrees of enclosure having the suffix "proof" fall in this category.

3.2 Supplementary enclosure identification by cooling method. The degrees of enclosure listed in Table I are commonly used without supplementary identification, but it is also a frequent practice to further identify enclosed equipment by the method of cooling. Standard terms used for this purpose are listed below. When these terms are used with reference to enclosures, they should be in combination with and following the degree of environmental protection (example: totally enclosed, fan-cooled).

(a) *Air-to-air cooled.* Equipment is cooled by circulating the internal air through a heat exchanger which, in turn, is cooled by circulating external air. An air-to-air heat exchanger, a fan or fans for circulation of internal air and a fan for circulation of external air are provided.

(b) *Fan-cooled (used for rotating equipment only).* Equipment is cooled by air flow over the enclosed machine. Air flow is produced by a fan or fans attached to the equipment shaft. Protective covers are provided for fans (see 3.4).

(c) *Ventilated.* Equipment is cooled by air passing through the enclosure. Specific terms used to describe ventilated equipment are:

(1) *Natural-convection ventilated.* Air circulation through the enclosure by natural convection.

(2) *Self-ventilated (generally used for rotating machines such as motors and generators).* Air is circulated through the enclosure by a means integral with the equipment.

(3) *Forced-air-ventilated, Forced-draft-ventilated.* (Generally used for other than rotating equipment) Air is circulated through the enclosure by a fan or blower located within the enclosure.

(4) *Separately ventilated.* Equipment is intended for cooling by separately supplied forced air from a source other than the atmosphere surrounding the enclosure. Enclosure is provided with inlet and outlet air duct connections.

(d) *Non-ventilated (generally used for rotating equipment such as motors and generators).* Enclosure has no ventilation openings or provisions for air flow other than natural air convection over the enclosed equipment. Rotating equipment may be provided with an internal fan (or fans) attached to the shaft to recirculate air within the enclosure.

(e) *Water-cooled.* Equipment is cooled by circulating water, the water or water conductors coming in direct contact with parts to be cooled.

(f) *Water-air-cooled.* Equipment is cooled by circulating air which, in turn, is cooled by circulating water. A water-cooled heat exchanger and a fan or fans for circulating the air are provided.

3.3 Design requirements for hazardous atmospheres.

3.3.1 *Dust-ignition proof.* The purchaser shall indicate the type of hazardous dust involved. Applicability of the National Electric Code, if required, shall also be specified by purchaser.

3.3.2 *Explosionproof.* The purchaser shall indicate the specific hazardous gas or vapor involved. In addition, the purchaser shall designate which of the following requirements apply.

(a) National Electric Code.

(b) MIL-STD-810.

(c) Special Naval shipboard requirements (See MIL-E-2036).

3.4 Protection against contact with external fans. Fans which are external to the basic equipment enclosure (example: totally enclosed, fan-colled motor) shall have protective covers, grills or screens to prevent accidental contact with the moving parts. Openings in the covers, grills or screens shall be of such size that a 0.50 inch diameter rod will not pass through. On spraytight, fan-cooled and watertight fan-cooled machines drain holes shall be provided to prevent accumulation of water in the fan housing.

3.5 Construction. Enclosures, including protective covers, grills and screens shall be of rigid construction, inflexible to the firm touch.

4. TESTS AND DEFINITIONS

4.1 Procedures. The following test procedures are applicable to specific degrees of enclosure for environmental protection. Tests shall be conducted to the extent specified by the equipment specification or as otherwise required by the contract or order, and when so specified shall form a part of the inspection procedure for the equipment. Tests apply to the enclosed equipment (enclosure with contents) except that dust-tight and watertight enclosures for portable equipment may be tested without the contents, provided that the contents are not to be attached to the enclosure. Failure to meet the specified requirements, including the di-electric and insulation resistance requirements of the equipment specification following enclosure tests described herein shall be cause for rejection.

4.2 Airtight. Tests for airtightness shall be conducted with both of the following initial conditions.

(a) Internal air pressure 10 p.s.i. above external air pressure.

(b) Internal air pressure 10 p.s.i. below external air pressure.

Total time of each test shall be 24 hours minimum. The equipment operating sequence shall be as follows: ON—8 hours, OFF—4 hours minimum, ON—8 hours; OFF—4 hours minimum. A change in pressure difference (internal minus external or external minus internal pressure) of more than 0.6 p.s.i.g. during either test, after corrections for changes in barometric pressure and temperature, shall be cause for rejection

4.3 Dripproof (15 degrees) and dripproof (45 degrees). Visual examination or actual drip test may be used to determine the ability of the enclosed equipment to operate satisfactorily under the defined conditions. If neither method is specified in the equipment specification or by the contract or order, either may be used. Visual examination is intended to determine the ability of the enclosure to exclude falling drops of liquid or solid particles. Such exclusion is not necessarily required of the enclosure (see Table I). If the enclosed is of such design that falling drops of liquid or solid

particles appear to be able to enter, the ability of the enclosed equipment to operate satisfactorily under the defined conditions can be determined only by further examination of equipment within the enclosure or by actual drip test.

(a) *Visual examination.* Enclosed equipment shall be visually examined for the presence of the following features and characteristics when in its normal position or inclined in any direction at angles not exceeding the specified 15° or 45°.

(1) There are no openings directly exposed to falling drops of water or solid particles. Openings where provided on exposed surfaces shall be protected by louvers or suitably covered.

(2) All removable access plates or covers on enclosure surfaces exposed to falling drops of water shall have gaskets. Doors and door openings on exposed enclosure surfaces shall be of such design as to prevent the entry of falling drops of water.

(3) There shall be no paths on the surface of the enclosure which drops of liquid or solid particles will follow and run into the enclosure.

(b) *Drip test.* The enclosed equipment shall be placed below a device that drips or sprinkles water over the entire enclosed equipment. (Examples of suitable test devices are the test equipment described in International Electrotechnical Commission Publication 144 and the rain chamber used for MIL-STD-810, Method 506 tests.) The minimum amount of water shall be 1000 cubic inches per square foot of area covered by the drip or sprinkle in 60 minutes. The dripping or sprinkle rate and distribution shall be approximately uniform. The enclosed equipment shall be oriented in 5 different positions during the test; normal position and inclined at the maximum angle (15° or 45°) forward, backward and to each side. The minimum time in each position shall be 12 minutes; 8 minutes operating and 4 minutes OFF. Failure of the equipment to operate satisfactorily or accumulation of water within the enclosure shall be cause for rejection.

4.4 Dust-ignition proof. Tests shall be as specified by the equipment specification or purchasing activity.

4.5 Dustproof. Tests shall be in accordance with Method 510, Dust test of MIL-STD-810, except that the test at an ambient temperature of 145°F should be omitted for equipment not designed to operate at that temperature. The equipment shall be operated during the test. Failure of the equipment to operate satisfactorily or accumulation of dust within the enclosure that would lead to eventual unsatisfacory operation shall be cause for rejection.

4.6 Dust-tight. Testing shall be in accordance with MIL-STD-810, except that the test at an ambient temperature of 145°F should be omitted on equipment not designed to operate at that temperature. Entry of any dust, revealed by subsequent disassembly and examination, shall be cause for rejection.

4.7 Explosionproof. Testing shall be in accordance with the applicable enclosure or environmental testing specification (see

3.3.2) or as specified by the equipment specification or the purchasing activity.

4.8 Hermetic. A helium spectrometer-type instrument shall be used to detect leakage. The test procedure, sensitivity of the leakage detector and basis for rejection of the enclosed equipment shall be as required by the equipment specification or as specified by the purchasing activity.

4.9 Splashproof. Testing in accordance with Table II shall be conducted with the enclosed equipment placed or mounted in a position typical of that for which it is designed. The surface upon which the equipment is placed or mounted (supporting surface) shall extend at least 3 feet beyond the equipment on all sides so that splashing may be produced by directing the water stream on that surface. The water stream shall be played upon both the equipment and supporting surface from all directions on the equipment side of the surface. Equipment shall be operated during the test. Failure of the equipment to operate satisfactorily or accumulation of water within the enclosure shall be cause for rejection.

4.10 Spraytight. Testing in accordance with Table II shall be considered as the standard test. At the option of the contractor, however, the submergence test of Table III may be substituted. The submergence test shall not be used for fan-cooled machines unless the design is such that the fan can be removed for the test and replaced afterward without difficulty. Entry of water during test by either method shall be cause for rejection, except the leakage of water less than 0.25 cubic inch per inch of shaft diameter into the bearing housing is permissible.

4.11 Submersible and open-submersible. Equipment shall be submergence tested in accordance with Table III. Failure to operate satisfactorily shall be cause for rejection. For enclosures of submersible equipment, leakage of water into any part of the enclosure, including terminal boxes, as revealed by subsequent disassembly and examination shall be cause for rejection. Also the enclosure, as a result of the test, shall not exhibit any structural weaknesses that could be detrimental to equipment performance.

TABLE I. *Definitions, design requirements and tests*

Degree of Enclosure	Definition	Enclosure Design Requirements	Test Procedure
Airtight [2]	Enclosure prevents transmission of air between interior and exterior.	Designed for internal and external pressure differences up to 10 p.s.i. Pressure change in a 24 hour period shall not exceed 6 percent of the original pressure difference.	4.2
Dripproof (15 degrees) [4] Dripproof 15 degrees) Protected [1] [4] Dripproof (45 degrees) Dripproof (45 degrees) Protceted [1]	Enclosed equipment operates satisfactorily in presence of: (1) Drops of liquid or solid particles falling at angles up to 15 (or 45) degrees from the vertical with enclosed equipment mounted in its normal position, and (2) Drops of liquid or solid	Designed so that drops of water or solid particles falling under defined conditions have no harmful effect on equipment operation. Ventilation openings in bottom of enclosure, and suitable louvers in sides of enclosure are permitted.	4.3

TABLE I. *Definitions, design requirements and tests*—Cont'd.

Degree of Enclosure	Definition	Enclosure Design Requirements	Test Procedure
	particles falling vertically with enclosed equipment inclined at angles up to 15° (or 45°) from its normal mounting position.		
Dust-ignition proof	Enclosed equipment operates satisfactorily, without hazard, in presence of ignitable amounts of a specified dust. The enclosure is designed and constructed to: (1) Exclude ignitable amounts of dust, (2) Exclude amounts of dust that might affect performance or rating, and (3) Prevent ignition of exterior accumulations or atmospheric suspensions of a specific dust on or in the vicinity of the enclosure by arcs, sparks or heat generated or liberated within the enclosure.	No ventilation or other openings are permitted. External temperature of enclosed equipment shall be such that excessive dehydration or gradual carbonization of organic dust deposits will not occur. Special requirements as specified by purchasing activity shall apply (see 3.3.1).	4.4
Dustproof	Enclosed equipment operates satisfactorily in presence of dust.	Designed so that dust will not interfere with equipment operation.	4.5
Dust-tight	Enclosure prevents entry of dust.	Designed to exclude dust. No ventilation or other openings are permitted.	4.6
Explosionproof	Enclosed equipment operates safely in presence of any concentration of a specified gas or vapor. The enclosure is designed and constructed to withstand without distortion or other significant damage, explosions of a specified gas or vapor which may occur within it and prevent ignition of the specified gas or vapor surrounding the enclosure by sparks, flashes or explosion of the gas or vapor within.	No ventilation or other openings are permitted. External temperature of enclosed equipment shall be such that a surrounding explosive atmosphere will not be ignited. Special requirements as specified by purchasing activity shall apply. (See 3.3.2).	4.7

TABLE I. *Definitions, design requirements and tests*—Cont'd.

Degree of Enclosure	Definition	Enclosure Design Requirements	Test Procedure
Hermetic [2]	Enclosure is permanently sealed to prevent transmission of air, gas or moisture.	Enclose shall be rigid, nonporous material such as metal, glass or ceramic sealed by a fusion process such as soldering or welding.	4.8
Open Open, protected [1]	Enclosure provides no environmental protection and permits free transmission of air.	As a minimum, an open enclosure shall be a structural framework surrounding the equipment and offering impediment only to gross accidental contact by personnel or equipment. An open protected enclosure is intended to provide full protection against accidental contact. Open and open protected enclosures are intended only for equipment that is not subjected to environmental conditions that are harmful to the equipment.	None
Splashproof Splashproof protected [1]	Enclosed equipment, when mounted in its normal manner, operates satisfactorily in presence of liquid (coarse spray) or solid particles directed at it or its mounting surface.	Water (coarse spray) or solid particles directed at the enclosed equipment or its mounting surface shall have no harmful effect on equipment operation.	4.9
Spraytight [1]	Enclosure prevents entry of liquid striking it from any direction.	Designed so that water directed at exterior of enclosure at any angle will not enter (except for insignificant amounts along shaft). No ventilation or other openings are permitted. Gaskets are required for covers and doors. Shall be suitable for weather exposure (i.e., equipment located out-of-doors or above main deck on ships.	4.10
Submersible (15 foot) Submersible (50 foot) Submersible (1600 foot) Open-submersible (15 foot) Open-submersible (50 foot) Open-submersible (1600 foot)	Enclosed equipment operates satisfactorily when submerged in water up to specified depth.	Submersible enclosures shall prevent leakage of water during submergence at specified depth. Open-submersible enclosures permit entry of the liquid	

TABLE I. *Definitions, design requirements and tests*—Cont'd.

Degree of Enclosure	Definition	Enclosure Design Requirements	Test Procedure
		in which the enclosed equipment is designed to operate.	4.11
Totally enclosed	Enclosure prevents circulation of air between the exterior and interior but does not necessarily prevent leakage of air.	Enclosure shall completely enclose equipment. No ventilation or other openings are permitted. Enclosure shall be suitable in nonhazardous environments for protection against dust, dirt, steam, corrosive vapors and water vapor but complete exclusion of such is not required.	4.12
Watertight	Enclosure prevents leakage of water striking or covering enclosure.	Water directed at enclosure from any angle or water covering enclosure shall not enter (except for insignificant amounts along shaft of rotating equipment.) No ventilation or other openings are permitted. Gaskets are required for covers and doors. Shall be suitable for weather exposure and transient submergence (i.e., ship's deck applications).	4.13

[1] Protected, when used as part of an enclosure designation, indicates that ventilation or other enclosure openings, where permitted, are limited in size to prevent accidental contact with live electrical or mechanically moving parts. To afford this protection, openings shall be of such size and shape as to prevent passage of a 0.50 inch diameter rod, except where the distance from the exterior of the opening to the live or moving parts is more than 4 inches, in which case the openings shall be for such size and shape as to prevent passage of a 0.75 inch diameter rod.

[2] Not applicable for rotating electrical equipment such as motors and generators.

[3] Applicable only to rotating electrical equipment such as motors and generators.

[4] Dripproof, if used without a specified angle, refers to dripproof (15 degrees).

TABLE II. *Water repellent tests using hose.*

Enclosure	Rate of Water flow (gal/min)	Form of Water flow	Nozzle type	Water head (feet)	Approx. distance from nozzle to enclosure (feet)	Time of test (min)	Test Details [2] [3]
Splashproof	15	coarse spray	as required	10 [1]	6	5	Equipment shall be operating throughout

TABLE II. *Water repellent tests using hose.*—Continued

Enclosure	Rate of Water flow (gal/min)	Form of Water flow	Nozzle type	Water head (feet)	Approx. distance from nozzle to enclosure (feet)	Time of test (min)	Test Details [2] [3]
		(large drops)					test. Water stream shall be directed at all exposed enclosure surfaces and at surface at which enclosed equipment is mounted.
Spraytight						5	Rotating equipment (motors, generators, etc.) shall be operating during the first 1/3 of the test, at standstill during the second 1/3 of the test and operating during the final 1/3 of the test.
	65	solid stream	solid stream nozzle, 1 inch diameter tip opening	as required	10		Non-rotating equipment need not be operated during the test unless movable parts such as switches and solenoids penetrate the enclosure. Where movable parts penetrate the enclosure, each movable part shall be operated at least 3 times during the test.
Watertight (water repellent test optional see 4.13)						60	Water stream shall be directed at all surfaces of enclosed equipment. Enclosed equipment shall be inclined for part of the test if necessary to expose surfaces such as the underside which would not otherwise be accessible to the water stream.

[1] Water head—If the test stream is directed vertically (straight upward) for determination of adequate head, the stream shall rise to a height of not less than 10 feet.

[2] In testing spraytight and watertight equipment, caution shall be observed during the tests and subsequent inspection to avoid conditions that might produce condensation that could be confused with leakage.

[3] Test conditions:

a. Type of water—either fresh or salt.

b. Ambient (air) temperature—between 40°F and 100°F.

c. Water temperature—not to exceed air temperature.

TABLE III. *Submergence Tests.*

Enclosure	Submergence Depth [1] (feet) or Equivalent Pressure (psi)	Time of Test (minimum)	Test Details [3, 4, 5]
Spraytight (submergence test optional see 4.10)	covered	5 minutes	Rotating equipment (motors, generators, etc.) shall be operating during the first 1/3 of the test, at standstill during the second 1/3 of the test and operating during the final 1/3 of the test.
Watertight	3 feet (1.3 psi)	1 hour	Non-rotating equipment need not be operated during the test unless movable parts such as switches and solenoids penetrate the enclosure. Where movable parts penetrate the enclosure, each movable part shall be operated at least 3 times during the test.
Submersible (15 ft.) Open-submersible (15 ft.)	15 feet (6.5 psi)	24 hours	Equipment shall be operating during the first 1/3 of the test, at standstill during the second 1/3 of the test and operating during the final 1/3 of the test.
Submersible (50 ft.) Open-submersible (50 ft.)	50 feet (21.7 psi)		
Submersible (1600 ft.) Open-submersible (1600 ft.)	1600 feet (694 psi)		

[1] For convenience in conducting tests on watertight, submersible and open-submersible enclosed equipment, external pressure, internal vacuum or combination thereof may be employed to create a pressure difference equivalent to the submergence depth or pressure specified. In such cases, the enclosed equipment shall be covered with a minimum of 3 inches of water.

[2] The 24 hour submergence test shall be considered as a design test for proving the ability of a particular equipment design to operate satisfactorily under the specified conditions. For production (quality assurance) testing, once the design has been proven, the minimum time of test shall be 1 hour.

[3] Tests may be conducted in either fresh water or salt water, except that for tests of open-submersible equipment, the water shall be that in which the equipment is designed to operate. Water temperature shall be between 32°F and 75°F.

[4] Before conducting tests, doors and covers on enclosures shall be removed and replaced 3 times.

[5] Caution shall be observed during tests and subsequent inspection to avoid conditions that might produce condensation which could be confused with leakage.

4.12 Totally enclosed. Enclosure shall be visually examined for absence of openings. Joints need not be sealed or provided with gaskets; however joined parts shall fit as tightly as expected with good manufacturing practice and workmanship.

4.13 Watertight. Testing shall be in accordance with Table III, except that at the option of the contractor, the water repellent test of Table II may be substituted in the following cases, unless submergence testing

is specifically required by the equipment specification or the contract or order.

(a) For convenience in testing equipment having one or more dimensions (length, width or height) exceeding 5 feet.

(b) For testing motors, generators and similar rotating equipment (note: Fans of fan-cooled watertight motors must be removed if submergence testing is used.)

Entry of water during test by either method shall be cause for rejection except that for rotating equipment, water leakage of less than 0.25 cubic inch per inch of shaft diameter into any bearing housing is permissible.

5. NOTES

5.1 Use of definitions for parts. The definitions of this standard may be applied to parts (example: fuseholders) designed for mounting in, and projecting through, an equipment enclosure wall or panel. A part so defined is intended for use in a similarly defined enclosure (example: a watertight fuseholder in a watertight enclosure) and when properly installed shall prevent the entry of the undesirable or harmful environmental element into the enclosure and the enclosed portions of the part.

5.1.1 *Testing of parts.* Testing of parts shall be conducted to the extent required by the parts specification. Where parts specifications do not cover test conditions and procedures, the test conditions and procedures, the test conditions and procedures of this standard apply to the part when mounted in a test enclosure that, except for the openings for part mounting, is known to prevent the entry of the undesirable or harmful environmental element (water, dust, etc.). In the case of dripproof parts, the following accelerated test shall apply instead of the drip test described in 4.3(b):

Drip source: Sprinkler discharging water vertically downward at a minimum rate of 2 gallons per minute.

Sprinkling pattern: Circular pattern not more than 12 inches in diameter, 3 feet below sprinkler.

Sprinkling distribution: Approximately uniform.

Distance from sprinkler to part: 3 feet below.

Orientation of part: Mounting surface inclined 15° from vertical maximum exposure of part at that angle.

Total test time: 5 minutes.

6. INTERNATIONAL

6.1 International standardization agreement. Certain provisions of this standard are the subject of international standardization agreement ABC-NAVY-21. When revision or cancellation of this standard is proposed, the departmental custodians will inform their respective Departmental Standardization Offices so that appropriate action may be taken respecting the international standardization concerned.

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

Custodians:

Army—MO

Navy—SH

Air Force—11

Review activities:

Army—MO, EL, MU

Navy—SH, EC

Air Force—11

User activities:

Navy—MC, CG, YD, AS, OS

International Interest

(see Sec. 6)

Preparing activity:

Navy—SH

Project No. MISC. 0156

SPECIFICATION ANALYSIS SHEET

Form Approved
Budget Bureau No. 119-R004

INSTRUCTIONS

This sheet is to be filled out by personnel either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner, and send to preparing activity *(as indicated on reverse hereof)*.

SPECIFICATION

ORGANIZATION *(Of submitter)*

CITY AND STATE

CONTRACT NO.

QUANTITY OF ITEMS PROCURED

DOLLAR AMOUNT
$

MATERIAL PROCURED UNDER A

☐ DIRECT GOVERNMENT CONTRACT ☐ SUBCONTRACT

1. HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?

A. GIVE PARAGRAPH NUMBER AND WORDING.

B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES.

2. COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID

3. IS THE SPECIFICATION RESTRICTIVE?

☐ YES ☐ NO IF "YES", IN WHAT WAY?

4. REMARKS *(Attach any pertinent data which may be of use in improving this specification. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity)*

SUBMITTED BY *(Printed or typed name and activity)*

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DD FORM 1 APR 63 1426 REPLACES NAVSHIPS FORM 4863, WHICH IS OBSOLETE 0101-807-2000

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