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1-GP-82P
CANCELLATION
26 October 1956

CANADIAN GOVERNMENT SPECIFICATIONS BOARD

Specification
for

PRIMER; ANTI-CORROSION, FOR STEEL, FIRE RETARDANT
(ENGINE AND BOILER ROOM BILGES AND CHAIN LOCKERS)

CGSB specification 1-GP-82P, dated 31 December 1951 is cancelled as of
26 October 1956.

31 December 1951

1-GP-82P

AMENDMENT NO. 1
6 November 1952

CANADIAN GOVERNMENT SPECIFICATIONS BOARD

Provisional Specification
for

PRIMER; ANTI-CORROSION FOR STEEL, FIRE-RETARDANT
(ENGINE AND BOILER ROOM BILGES AND CHAIN LOCKERS)

Clause 19(b): Qualification

Lines 5 and 6. Delete the sentence "Failure to
meet the one year underwater test
will disqualify the manufacturer."

1-GP-82
31 December 1951
AMENDMENT NO. 2
23 July 1954

CANADIAN GOVERNMENT SPECIFICATIONS BOARD

Provisional Specification
for

PRIMER; ANTI-CONDENSATION FOR STEEL, FIRE-RETARDANT
(ENGINE AND BOILER ROOM BILGES AND CHAIN LOCKERS)

TEST METHOD FOR CORROSION RESISTANCE on page 6.

Make the following alterations:

1. 1st paragraph, 1st line: Change "Two panels...." to read "Three panels...."
2. 1st paragraph, 4th line, after the word "primer" add the following "so as to yield a dry film thickness of 30 to 40 microns."
3. 3rd paragraph, 5th line: Change "vase" to "case".

31 December 1951

1-GP-82P*

CANADIAN GOVERNMENT SPECIFICATIONS BOARD

*Provisional Specification
for

PRIMER; ANTI-CORROSION FOR STEEL, FIRE-RETARDANT
(ENGINE AND BOILER ROOM BILGES AND CHAIN LOCKERS)**

1. Definition

(a) This specification forms a part of Specification 1-GP-87P: Paint; Fire-Retardant, for Steel (Engine and Boiler Room Bilges and Chain Lockers), and applies to priming paint suitable for use as a base coat under materials described by specification 1-GP-87P. When the two materials are applied, the system shall be suitable for the protection of ship bilges and chain lockers under conditions of high humidity, and intermittent or continuous immersion in bilge water. The system shall also have good abrasion and impact resistance.

(b) The priming paint shall be suitable as a primer alone for use on steel plates, steel parts either assembled into partial or complete units and component parts prior to integration, under conditions of continuous weather exposure. It shall have fire retardant properties, good abrasion and impact resistance.

2. General

(a) The primer shall consist of a pigment or pigment mixture, adequately milled with a suitable vehicle meeting the requirements of this specification.

(b) The primer shall be supplied prepared for use either by brushing or spraying as specified by the purchaser. Alternatively, the primer may be supplied as a paint base with a suitable amount and type of reducer. In the latter case, there shall be a clear statement on the label of each container regarding the proportions by volume of the components to be used.

* This provisional specification has been issued for the immediate procurement needs of the Naval Service. It has not been formally approved by the Committee on Specifications for Paints, Pigments and Related Commodities nor the Canadian Government Specifications Board.

** For detailed information on the proper methods of application of marine paints, see 1-GP-62: Manual of Instructions for the Pretreatment and Painting of H.M.C. Ships (Formerly designated NCC 109).

(c) The primer when supplied prepared for use or as a paint base with suitable amount and type of reducer shall be in such a condition that stirring easily produces a uniform paint of good spraying* or brushing consistency as required.

(d) The dried primer film shall have a smooth matte or semi-gloss finish free from wrinkling or sagging, and shall be suitable for the subsequent application of other paint coatings.

(e) Reference to other CGSB specifications in this specification shall be the issue in effect on the date of invitation for bids.

3. Flash Point

The Pensky-Martens flash point of the primer shall be not lower than 26.7°C. (80°F).

Method 3.1

4. Consistency

The consistency of the primer after being reduced in accordance with the manufacturer's instructions shall not be less than 45 Krebs Units nor more than 52 Krebs Units as determined by the Stormer Viscosimeter.

Method 4.5

5. Drying Time

The primer shall dry in not more than 4 hours.

Method 5.1

6. Color

The color shall be characteristic of red iron oxide.

7. Hiding Power

The primer shall hide a contrasting surface entirely when applied at a coverage of 500 square feet per gallon.

Method 14.1

* The requirements of this specification apply to the primer of spraying consistency, unless otherwise specified.

8. Coarse Particles

The primer shall not contain more than 0.2 per cent by weight of material retained on a 74 micron sieve, nor more than 2.0 per cent retained on a 44 micron sieve.

Method 15.1

9. Fineness

The fineness shall be not less than 5 when measured by the specified gauge.

Method 16.1

10. Total Volatile Matter

The total volatile matter of the primer after being reduced in accordance with the manufacturer's instructions shall be not more than 50 per cent of the reduced primer.

Method 17.3

11. Non-Volatile Vehicle

The content of non-volatile vehicle shall be not less than 27 per cent of the total solids.

Method 19.1

12. Pigment Composition

The pigment of the primer shall be approximately 40 per cent iron oxide, 12 per cent zinc chromate and 48 per cent extender. The proportions of the ingredients may be varied if necessary so that the product meets all other requirements of this specification.

13. Corrosion Resistance

When a two coat system of the primer is subjected to conditions of high humidity for 21 days corrosion shall not exceed No. 9-1 ASTM rust standard.

Method attached

14. Hardness

The dried primer film shall withstand the scratch test under a load of 2500 grams, without exposing the metal through the scratch in the film.

Method attached

15. Flame Resistance

The dried paint film, when subjected to the flame resistance test, shall not blister, peel, burn or char outside the area actually in contact with the applied flame, and shall have no afterglow.

Method 118.2

16. Flexibility

The dried primer film shall not crack, flake or peel when subjected to the bending test using a 1/4" diameter mandrel. Four hours drying shall be permitted between the two coats of primer.

Method attached

17. Impact Resistance

The dried primer film, when subjected to the impact test using a one pound steel ball, shall not crack, peel, flake or show bare metal at the point of impact or the surrounding area.

Method attached

18. Keeping Qualities*

The material as received and for six months thereafter, shall not be caked in the containers, and shall be readily stirred to a homogeneous condition.

19. Qualification

(a) The primer shall be considered satisfactory and given complete approval after it has successfully complied with all of the requirements of this specification and those applicable requirements of specification 1-GP-87P.

(b) The primer shall become eligible for Interim Approval if it conforms to all the requirements of this specification and the applicable requirements of specification 1-GP-87P except for the Long Term Performance test of one year. Failure to meet the one year underwater test will disqualify the manufacturer. Information as to the procedure for qualification of paints under this specification may be obtained from the Secretary, Canadian Government Specifications Board, National Research Council, Ottawa, Canada.

* This is not an inspection requirement.

(c) The purchaser reserves the right to reject any bids on materials to this specification which have not been subjected to the required qualification tests and found satisfactory.

(d) A previously qualified or disqualified product in which any change has been made must be requalified as a new material.

(e) Failure to meet the Long Term Performance requirements of this Specification will result in cancellation of Interim Approval until the Long Term Performance Test has been passed.

20. Methods of Sampling and Testing

(a) The sampling shall be carried out in accordance with Section 1.1 of Schedule 1-GP-71: Methods of Testing Paints and Pigments.

(b) The methods of testing shall, in all cases, be those described in the same schedule (or attached hereto), using the method specified in each requirement.

Correspondence regarding this specification should be addressed to the Secretary, Canadian Government Specifications Board, National Research Council, OTTAWA, Canada.

TEST METHODSCORROSION RESISTANCE

Two panels of SAE-1010 mild cold rolled steel, 2 3/4 by 5 1/2 inches, properly cleaned and free from grease and oil, are coated with two coats of the specified primer, allowing 24 hours to dry between coats (Section 103.1). The edges and backs of the panels are then suitably protected and the panels are allowed to dry (Section 103.1) for 48 hours.

The panels are suspended vertically in a humidity cabinet in which the relative humidity is maintained at 95 per cent and the temperature controlled at 95°F.

After exposure for the specified length of time, the paint film on the panel faces shall be examined for evidence of corrosion. Corrosion shall be compared with ASTM rust standards. Edge effects are to be neglected. In the case of variance in result, the behavior of two of the three panels shall be taken as the performance of the paint being tested.

HARDNESS

A steel panel of SAE-1010 mild cold rolled steel of approximately 2 inches by 5 inches, properly cleaned and free from grease or oil is painted so as to yield a dry film 30 to 40 microns thick. It is allowed to dry (Section 103.1) in a horizontal position for 96 hours unless otherwise specified. The scratch test is then carried out using the apparatus illustrated on page 116-3 (Schedule No. 1-GP-71).

The steel needle and the procedure used in performing the test shall be as described in the second paragraph of Section 116.2.

FLEXIBILITY

A panel of SAE 1010 mild cold rolled steel of 28 gauge thickness, properly cleaned and free from oil and grease is painted with two coats of the primer so as to yield a dry film thickness of 30 to 40 microns, allowing the specified drying time between coats. After allowing the prepared film to dry (Section 103.1) for 24 hours, the panel is bent rapidly through 180° over the specified mandrel, the coated surface being outermost. The actual time of bending shall not be more than 1 second.

IMPACT RESISTANCE

A panel of SAE-1010 mild cold rolled steel of 28 gauge thickness properly cleaned and free from grease and oil is coated so as to yield a dry film of 30 to 40 microns. It is allowed to dry (Section 103.1) for 48 hours and is then baked (Section 103.2) for 2 hours at 150°F. The panel with the coated side uppermost is then placed on a soft pine block at least 2 inches thick and a steel ball of specified weight is allowed to be dropped from a height of 6 feet so as to strike the approximate middle of the panel. The results of the impact force shall be observed.