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1-GP-87P
CANCELLATION
26 October 1956

CANADIAN GOVERNMENT SPECIFICATIONS BOARD

Specification
for

PAINT; FIRE RETARDANT FOR STEEL (ENGINE AND BOILER ROOM BILGES AND CHAIN LOCKERS)

CGSB Specification 1-GP-87P, dated 31 December 1951 is cancelled as of 26 October 1956.

1-GP-87P
31 December 1951
AMENDMENT NO. 1
11 February 1955

CANADIAN GOVERNMENT SPECIFICATIONS BOARD

Provisional Specification
for

PAINT; FIRE RETARDANT FOR STEEL
(ENGINE AND BOILER ROOM BILGES AND CHAIN LOCKERS)

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2. GENERAL

Delete clauses (b) and (c) and substitute the following:

(b) The paint shall be supplied as a paint base which when reduced with stipulated amounts of thinner to specification 1-GP-94P shall be suitable for application by spray or brush. There shall be a clear statement on the label of the container regarding the proportions by volume of thinner (1-GP-94P) to be used to produce suitable consistencies for spraying or brushing as may be required.

(c) The paint base as supplied shall be in such condition that after adding the thinner it shall be easily stirred to produce a uniform paint.

Withdrawn/Retirée

REFERENCE COPY

31 December 1951 1-GP-87P*

CANADIAN GOVERNMENT SPECIFICATIONS BOARD

*Provisional Specification
for

PAINT; FIRE RETARDANT FOR STEEL (ENGINE AND BOILER ROOM BILGES AND CHAIN LOCKERS)**

1. Definition

This specification applies to paint suitable for use over primer to Specification 1-GP-82P. 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 fire retardant properties and good abrasion and impact resistance.

2. General

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

(b) The paint shall be supplied, for use either by spraying or brushing, as a paint base with a suitable amount and type of reducer. There shall be a clear statement on the label of each container regarding proportions by volume of the components to be used.

(c) The paint as supplied shall be in such condition that stirring easily produces a uniform paint of good spraying*** consistency as required.

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* 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).

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

Withdrawn/Retirée

(d) The dried paint film shall be free from wrinkling or sagging.

(e) References to other C.G.S.B. 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 paint shall be not lower than 26.7°C (80°F).

Method 3.1

4. Consistency

The consistency of the paint after being reduced in accordance with the manufacturer's instructions shall not be less than 40 Krebs Units nor more than 47 Krebs Units as determined by the Stormer Viscosimeter.

Method 4.5

5. Drying Time

The paint shall dry in not more than 2 hours.

Method 5.1

6. Color

Any of the colors defined in Schedule 1-GP-12 are applicable to this specification.

7. Hiding Power

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

Method 14.1

8. Coarse Particles

The paint 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

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10. Total Volatile Matter

The total volatile matter of the paint after being reduced in accordance with the manufacturer's instructions shall be not more than 58 per cent of the reduced paint.

Method 17.3

11. Non-Volatile Vehicle

The content of non-volatile vehicle shall be not less than 65 per cent of the total solids.

Method 19.1

12. Resistance to Lifting

A single coat of the paint applied to a steel surface primed 4 hours previously with primer to Specification 1-GP-82P, shall cause no lifting or appreciable softening of the primer.

Method 34.3

13. Pigment Composition

Any pigment composition that will meet the color requirements of this specification may be used.

14. Chlorinated Rubber Content

The chlorinated rubber content of the non-volatile vehicle shall not be less than 25 per cent nor more than 35 per cent by weight.

Method attached

15. Hardness

When applied over the primer to 1-GP-82P, and allowed to dry 96 hours, the dried paint film shall withstand the scratch test under a load of 2500 grams, without exposing the metal through the scratch in the film.

Method 116.6

16. Flame Resistance

When applied over primer to 1-GP-82P, the dry 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 118.3

Withdrawn/Retirée

17. Flexibility

When applied over the primer to 1-GP-82P, the dried paint 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 and two hours drying between the two top coats.

Method attached

18. Salt Spray Resistance

When applied over the primer to 1-GP-82P, and tested in accordance with the prescribed method for 21 days, corrosion shall not exceed No. 9-1 ASTM rust standard.

Method 129.2

19. Impact Resistance

When applied over the primer to 1-GP-82P, the dried paint film, when subjected to the impact test using a one-pound steel ball, shall not crack, flake, peel or show bare metal at the point of impact or the surrounding area.

Method attached

20. 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.

21. Long Term Performance

Long term performance of the primer and paint system shall be considered satisfactory if after one year exposure at specified test sites at Halifax and Esquimalt corrosion does not exceed No. 9-1 ASTM rust standard.

22. Qualification

(a) The paint shall be considered satisfactory and given complete approval after it has successfully complied with all of the requirements of this specification.

(b) A paint shall become eligible for Interim Approval if it conforms to all of the requirements of this specification except the long Term Performance (Clause 21) of one year weather exposure.

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* This is not an inspection requirement.

Withdrawn/Retirée

Failure to meet the requirement of Long Term Performance will disquality the manufacturer.

Information as to the procedure for the qualification of paints under this specification may be obtained from the Secretary, Canadian Government Specifications Board, National Research Council, Ottawa, Canada.

(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 disqualified product or a previously qualified product in which any change is made must be qualified as a new product.

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

23. 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.

Withdrawn/Retiree

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

TEST METHODS

METHOD FOR DETERMINING CHLORINATED RUBBER CONTENT

Weigh a 10 gram sample of the paint into a centrifuge jar and after adding 50 ml. of benzene with thorough stirring, centrifuge for 30 minutes at 4000 RPM. Decant and pour the supernatant liquid into a weighed beaker containing 150 ml. of mineral spirits. Evaporate off the benzene on steam bath and decant off the mineral spirits. Evaporate the remaining liquids to dryness and weigh the precipitate as chlorinated rubber.

Calculate per cent chlorinated rubber in the non-volatile vehicle by the following equation:

$$\text{per cent Chlorinated Rubber} = \frac{\text{Weight Precipitate} \times 100}{\text{Weight Sample} \times \text{per cent non-volatile content.}}$$

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 specified 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 two coats of the material being tested is applied to yield a second dry film thickness of 30 to 40 microns. The specified length of drying shall be allowed between coats and the system allowed to dry 48 hours. The panel is then 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 with the primer to give a dry film thickness of 30 to 40 microns. It is allowed to dry 24 hours (Section 103.1). The primed panel is coated with a single coat of the paint being tested to give a dry film thickness of 30 to 40 microns and allowed to dry (Section 103.1) an additional 48 hours. It is then baked (Section 103.2) for 2 hours at 150°F and allowed to dry (Section 103.1) an additional 48 hours. The panel with the coated side uppermost is then placed on a soft pine block of at least two inches thickness and a steel ball of specified weight is 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.

Withdrawn/Retired