

1-GP-91b
November 1968
CANCELLATION
March 1980

CANADIAN GOVERNMENT SPECIFICATIONS BOARD

Standard
for

PAINT, BINDER, MARINE, ANTICONDENSATION, FIRE RETARDANT

This standard is hereby cancelled on the basis of unsatisfactory performance in actual use.

1-GP-91b
8 November 1968
AMENDMENT NO. 1
December 1969

CANADIAN GOVERNMENT SPECIFICATIONS BOARD

Specification
for

PAINT: BINDER, MARINE, ANTICONDENSATION, FIRE RETARDANT

5. DETAIL REQUIREMENTS

5.3 Drying Time - Insert an asterisk beside Method 5.1 and add the following footnote at the bottom of the page:

"* Except that the dry film thickness shall be 2 ± 0.2 mils.

5.8 Phthalic Anhydride - Change the minimum from 23% to 22%.

APPENDIX

Change heading to read "Appendix A"

1. Definition - Change to read: Vermiculite is a micaceous mineral that, when heated, expands to the exfoliated form.



CANADA

CANADIAN GOVERNMENT SPECIFICATIONS BOARD

350
275

SPECIFICATION

FOR

PAINT: BINDER, MARINE, ANTICONDENSATION,
FIRE RETARDANT

1-GP-91b

8 NOVEMBER 1968

SUPERSEDES 1-GP-91A

15 DECEMBER 1961

THIS SPECIFICATION HAS BEEN PREPARED BY A GOVERNMENT -
INDUSTRY COMMITTEE TO COMPLY WITH THE SPECIFIC REQUIREMENTS
OF THE FEDERAL GOVERNMENT. IT IS INTENDED FOR USE IN A PRO-
CUREMENT SYSTEM THAT INCLUDES INSPECTION PROCEDURES TO
ENSURE COMPLIANCE WITH THE REQUIREMENTS OF THE SPECIFICA-
TION AND ITS USE WITHOUT SUCH INSPECTION PROCEDURES MAY
NOT BE ADVISABLE.

THIS SPECIFICATION APPLIES TO MARINE PAINT INTENDED TO ACT AS A BASE COAT
FOR THE SUBSEQUENT APPLICATION OF VERMICULITE FOR THE PRODUCTION OF A
COATING ON PRIMED METAL SURFACES TO PREVENT OR REDUCE THE
CONDENSATION OF MOISTURE.

DEPARTMENT OF DEFENCE PRODUCTION, OTTAWA, CANADA

COMMITTEE ON PAINTS, PIGMENTS AND RELATED COMMODITIES

and

Marine Subcommittee

(Membership at date of approval by the Committee)

Anderton, W.A.	Pacific Naval Laboratories/DND
Armstrong, W.N.B.	Ontario Research Foundation
Ashton, H.E.	National Research Council
Attendu, M.C.	Québec Hydro
Barry, E.	Canadian Paint Manufacturers Association
Brunet, Lt. (N) A.R.	Department of National Defence
Buchanan, L.B.	Department of National Defence
Chivers, Capt. G.G.	Department of National Defence
Conley, R.J. (Subcommittee Chairman)	Department of National Defence
Delamater, K.	Sico Inc.
Downing, D.D.	Corrosion Service Company Limited
Flesher, G.	Department of Defence Production
Gallant, Capt. J.A.	Department of Transport
Gareau, A.	Ministère de l'Industrie et du Commerce, Qué.
Gee, W.R.	Interchem of Canada Limited
Giltrow, F.	General Paint Corporation
Girard, J.G.	Department of National Defence
Hargrave, D.	The Sherwin-Williams Co. of Canada Limited
Harrington, J.M.	Department of Forestry
Head, E.M.	Canadian Pittsburgh Industries Limited
Hebdige, B.A.	International Paints (Canada) Limited
Honsberger, G.F.	Roxalin of Canada Limited
Horrocks, D.	Mobil Paint Company
Hughes, L.	Interchem of Canada Limited
Kelly, B.W.	Department of National Defence
Kemp, W.E.	Koppers Products Limited
Kowalchuk, Lt. Cdr. (N) T.	Department of National Defence
Krayer-Krauss, E.	Crown Diamond Paint Company
Latham, W.A.	Canadian Penitentiary Service
Laycraft, N.E. (Chairman)	Department of Public Works
McCarthy, J.	The Standard Manufacturing Company Limited
Nickells, R.G.	British America Paint Company Limited
McVean, J.A.	General Smelting of Canada Limited
Michell, Dr. J.H.	Canadian Industries Limited
Nowak, R.E.	Amercoat of Canada Limited
Rubec, P.	Department of Public Works
Shipley, A.	British Paints (Canada) Limited
Smith, Lt. (N) D.G.	Department of National Defence
Steele, F.L.	The Glidden Company Limited
Stubbs, K.E.	Department of Public Works
Tate, H.W.	Department of National Defence
Thomas, B.	Roxalin of Canada Limited
Watt, J.S.	National Harbours Board

Standards Officer — P.B. Balon, CGSB

CANADIAN GOVERNMENT SPECIFICATIONS BOARD

Specification for

PAINT: BINDER, MARINE, ANTICONDENSATION, FIRE RETARDANT

1. DEFINITION

1.1 This specification applies to marine paint intended to act as a base coat for the subsequent application of vermiculite* for the production of a coating on primed metal surfaces to prevent or reduce the condensation of moisture.

1.2 For more detailed information on uses, see par 8.1.

2. APPLICABLE PUBLICATIONS

2.1 The following publications are applicable to this specification:

2.1.1 CGSB 1-GP-71, Methods of Testing Paints and Pigments.

2.1.2 ASTM Standards on Paint, Varnish, Lacquer and Related Products.

2.2 Reference to the above publications, to test methods therein, and to other specifications is to the issues in effect on the date of invitation to tender, unless otherwise specified.

3. CLASSIFICATION

3.1 The paint shall be supplied in one class.

4. GENERAL REQUIREMENTS

4.1 Paint complying with this specification shall consist of antimony oxide and calcium carbonate adequately dispersed in a suitable alkyd vehicle together with the necessary thinners and driers.

4.2 The paint as supplied shall be suitable for application by brush and shall be satisfactory for spraying when reduced with 1-GP-4 thinner in accordance with the manufacturer's instructions.

4.3 The paint shall be free from toxic or noxious fumes, and toxic solvents such as benzene are prohibited.

4.4 The paint shall not skin or thicken, and the pigment shall not settle or cake unduly in the original unopened container for one year from the date of shipment, when stored at temperatures not exceeding 100°F (38°C). At the end of this time it shall be readily mixed to a uniform condition by stirring and shall meet the requirements for drying time (par. 5.3).

* See Appendix A.

5. DETAIL REQUIREMENTS

Paint to this specification shall comply with the following detail requirements:

				Test Method	
		Min	Max	1-GP-71	ASTM
5.1	Flash Point, P.M. °F	95	—	3.1	
	°C	35	—		
5.2	Consistency, Krebs Units	90	100	4.5	
5.3	Drying Time			5.1	
5.3.1	Dry-to-touch, hr	0.5	2		
5.3.2	Dry-Hard, hr	—	18		
5.4	Fineness of Grind, Hegman	4	—		D1210
5.5	Volatile Matter, % by wt	—	18	17.1	
5.6	Nonvolatile Vehicle, % by wt	15	—	19.1	
5.7	Pigment Content, % by wt	65	—	21.1	
5.8	Phthalic Anhydride, % of NVV	23	—	57.1	
5.9	Pigment Composition, %				
5.9.1	Antimony Trioxide, Sb ₂ O ₃	11	—		D 215
5.9.2	Calcium Carbonate, CaCO ₃	83	—		D 215
5.9.3	Soluble Lead Compounds, as Pb	—	1	50.9	
5.10	Rosin and Rosin Derivatives, % by wt of NVV	—	3	60.2	
5.11	Chlorinated Solvents boiling below 257°F (125°C)	—	NIL	73.1	

5.12 **Skinning Properties** — The paint shall be nonskinning.

Method 10.1

5.13 **Water Resistance** — A dry film of the paint, 2.0 ± 0.2 mils thick, shall withstand immersion in water for 24 hours at $73 \pm 3.5^\circ\text{F}$ ($23 \pm 2^\circ\text{C}$) without blistering, peeling or lifting immediately after removal. After subsequent drying for 2 hours, the film shall show no softening, blistering nor loss of adhesion.

Method 110.1

5.14 **Flexibility** — The material shall be tested in accordance with the prescribed test method at $73 \pm 3.5^\circ\text{F}$ ($23 \pm 2^\circ\text{C}$) except that the dry film thickness shall be 2.0 ± 0.2 mils. The film shall not crack or peel when subjected to the bending test using a 1/4 inch mandrel.

Method 119.1

6. PREPARATION FOR DELIVERY

6.1 Unless otherwise specified, commercial packaging, packing and marking shall be acceptable.

6.2 **Labelling** — In addition to the labelling requirements of any relevant Acts or Regulations, each container shall be suitably labelled to show the following information:

Manufacturer's Name and Address
Name of Material
CGSB Specification No.
Qualification No. (when required)
Manufacturer's Batch No.
Manufacturer's Code No.
Date of Manufacture
Thinning Instructions for spraying using 1-GP-4 thinner.

7. INSPECTION

7.1 Sampling shall be carried out in accordance with Method 1.1 of CGSB 1-GP-71.

7.2 **Testing** — Unless otherwise specified, the methods of testing shall be those in 1-GP-71 or in ASTM Standards on Paint, Varnish, Lacquer and Related Products, using the method specified with each requirement.

7.3 **Classification of Tests** — Tests for determining compliance with this specification shall be classified as follows:

7.3.1 *Qualification Tests* — Those tests that are performed on samples submitted for qualification as a satisfactory product. They shall consist of the tests necessary to establish compliance with all the requirements of this specification.

7.3.2 *Lot Acceptance Tests* — Those tests that are used to determine the acceptability of a lot or batch of a qualified product. The inspecting authority may request the testing of the material for compliance with any of the requirements of this specification and may reject a lot or batch on the basis of any requirement in the specification.

8. NOTES

8.1 Intended Uses

8.1.1 Paint complying with this specification is intended for use as an anticondensation material in certain areas of ships where condensation is expected but insulation is not being applied.

8.1.2 The paint shall be applied by spray or brush to surfaces that have been pretreated and primed as directed in BRCN 1100, RCN Schedule of Instructions for the Pretreatment and Painting of HMC Ships. The vermiculite chips (Appendix A) shall be applied to the 1-GP-91 paint while the surface is tacky. Application of the chips shall be by throwing the chips against the surface, or by any other approved mechanical method.

8.1.3 When the chips have been applied, the surface shall be topcoated with two coats of 1-GP-52 enamel as directed in BRCN 1100.

8.2 **Ordering Data** — The purchaser should specify packaging, packing and marking details if commercial practice is not suitable; and if a qualified product is required.

8.3 Qualification

- 8.3.1 *Qualification Procedure* — Details regarding the procedure for qualification of 1-GP-91 paints may be obtained from:

Director General,
Quality Assurance Branch,
Department of National Defence.
Ottawa 4, Canada.

The laboratories are located in the Canadian Government Printing Bureau Building, Sacré-Coeur Blvd., Hull, P.Q.

- 8.3.2 *Qualified Products* — Federal Government departments and agencies may also obtain information from the above address regarding availability of qualified products.

- 8.4 The publication referred to in par. 2.1.1 is obtainable from the Canadian Government Specifications Board.

- 8.5 The publication referred to in par 2.1.2 is obtainable from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pa., 19103, USA.

- 8.6 BRCN 1100, RCN Schedule of Instructions for the Pretreatment and Painting of HMC Ships, is obtainable from the Queen's Printer, Department of Public Printing and Stationery, Sacré-Coeur Blvd., Hull, P.Q.

APPENDIX

VERMICULITE

1. DEFINITION

Vermiculite is an expanded or exfoliated mica material produced from a suitable ore by means of heat.

2. PHYSICAL PROPERTIES

The expanded vermiculite shall have the following properties:

- 2.1 Light golden color.
- 2.2 Apparent density of 3 to 4 pounds per cubic foot.
- 2.3 Loss of weight when heated for one hour at 1,800°F (980°C) of not more than 4 per cent.

3. SIEVE ANALYSIS

The vermiculite shall have a particle size distribution according to the following sieve analysis:

Standard Sieve Designation*	Standard Sieve No. *	Min % Retained, Cumulative	Max % Retained
4.76 mm	4	0	Nil
2.38 mm	8	90	—
149 micron	100	99	—

* See CGSB 8-GP-1, Sieves: Testing, Woven Wire.