

Canadian General Standards Board



Office des normes générales du Canada



CAN/CGSB-1.99-92
June/Juin 1992

WITHDRAWAL

February 1999

**CANADIAN GENERAL
STANDARDS BOARD**

**EXTERIOR AND MARINE PHENOLIC RESIN
VARNISH**

This standard is hereby withdrawn. As far as can be determined it is no longer being used in quantities that would warrant the continued maintenance of the standard.

RETRAIT

Février 1999

**OFFICE DES NORMES
GÉNÉRALES DU CANADA**

**VERNIS AUX RÉSINES PHÉNOLIQUES,
EXTÉRIEUR ET MARIN**

Cette norme est retirée par le présent avis. Dans la mesure où il est possible de le constater, elle n'est plus utilisée en quantité suffisante pour la maintenir en vigueur.

NATIONAL STANDARD OF CANADA

CAN/CGSB-1.99-92

Supersedes 1-GP-99M

**Exterior and Marine,
Phenolic Resin, Varnish**



QUALITY

Withdrawn/Retired

Canadian General Standards Board

CGSB

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Although the intended primary application of this standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the standard to judge its suitability for their particular purpose.

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The principal objectives of the Council are to foster and promote voluntary standardization as a means of advancing the national economy, benefiting the health, safety and welfare of the public, assisting and protecting the consumer, facilitating domestic and international trade, and furthering international co-operation in the field of standards.

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Those who have a need to apply standards are encouraged to use National Standards of Canada whenever practicable. These standards are subject to periodic review; therefore, users are cautioned to obtain the latest edition from the organization preparing the standard.

The responsibility for approving National Standards of Canada rests with the:

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K1A 1G6

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11 Laurier Street
Hull, Quebec

EXTERIOR AND MARINE, PHENOLIC RESIN, VARNISH

The Department of National Defence administers a Qualification Listing Program for products conforming to the requirements of this standard. Further information on the listing program is available from the Director of Engineering and Maintenance Planning and Standardization (DEMPS 4) Ottawa, Canada K1A 0K2.

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Approved by the
Standards Council of Canada 

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Acknowledgment is made for the French translation of this National Standard of Canada by the Translation Bureau of the Department of the Secretary of State.

CANADIAN GENERAL STANDARDS BOARD

EXTERIOR AND MARINE, PHENOLIC RESIN, VARNISH**1. SCOPE**

- 1.1 This standard applies to durable water-resistant phenolic varnish suitable for marine and general exterior use.
- 1.2 For more detailed information on intended uses, see par. 7.2.
- 1.3 The testing and evaluation of a product against this standard may require the use of materials and/or equipment that could be hazardous. This document does not purport to address all the safety aspects associated with its use. Anyone using this standard has the responsibility to consult the appropriate authorities and to establish appropriate health and safety practices in conjunction with any existing applicable regulatory requirements prior to its use.

2. APPLICABLE PUBLICATIONS

- 2.1 The following publications are applicable to this standard:
 - 2.1.1 Canadian General Standards Board (CGSB)
 - 1-GP-4 — Thinner, Petroleum Spirits
 - 1-GP-71 — Methods of Testing Paints and Pigments
 - 1-GP-88 — Enamel, Alkyd, Air Drying and Baking, Gloss.
 - 2.1.2 Department of Consumer and Corporate Affairs
Hazardous Products Act.
 - 2.1.3 ASTM
 - D 1544 — Test Method for Color of Transparent Liquids (Gardner Color Scale)
 - D 1545 — Test Method for Viscosity of Transparent Liquids by Bubble Time Method
 - D 1644 — Test Methods for Nonvolatile Content of Varnishes.
- 2.2 Reference to the publications in par. 2.1.1 and 2.1.3 and to other related standards is to the latest issues, unless otherwise specified by the authority applying this standard. The sources of all publications are shown in the Notes section.

3. GENERAL REQUIREMENTS

- 3.1 Varnish to this standard shall be of 60 to 70% oil content and shall consist of tung oil and other suitable oils compounded with 100% paraphenyl-phenolic or paratertiary butyl phenolic resins. It shall also contain a minimum of 5% U.V. absorber.
- 3.2 The varnish shall dry to a smooth glossy finish suitable for use on wood or steel and on contact surfaces between wood and aluminum.
- 3.3 The varnish shall be reducible with the thinner conforming to CGSB standard 1-GP-4.
- 3.4 The varnish shall not skin or thicken excessively in the original unopened container for one year from date of shipment when stored at temperatures not exceeding 40°C. At the end of this time, it shall be readily mixed to a uniform condition by stirring and shall meet the requirements for applicability and appearance as specified in par. 4.11.

4. DETAILED REQUIREMENTS

Varnish to this standard shall comply with the following detailed requirements:

		Test Method			
		Min.	Max.	CGSB	ASTM
				1-GP-71	
4.1	Flash point, Pensky-Martens Closed Cup, °C	30	—	3.1	—
4.2	Drying time, h			5.1	—
	Set-to-touch	—	4		
	Dry hard	—	18		
4.3	Viscosity, at 25°C			—	D 1545*
	mm ² /s	100	140		
	Gardner-Holdt	D	F		
4.4	Colour, Gardner units	—	16	—	D 1544
4.5	Non-volatile matter, % by mass	50	—	—	D 1644

*To convert stokes to mm²/s multiply by 100.

- 4.6 **Skinning Properties** — The varnish shall be non-skinning when tested in accordance with CGSB standard 1-GP-71, Method 10.1.
- 4.7 **Alkali Resistance** — The dried varnish film shall withstand the action of 1% sodium hydroxide solution for 24 h at 23 ± 2°C without showing any whitening, blistering, cracking, wrinkling or other visible defects when tested in accordance with CGSB standard 1-GP-71, Method 106.2.
- 4.8 **Water Resistance** — A film of varnish immersed 72 h in water at 23 ± 2°C, and a second film of varnish immersed 6 h in boiling water, shall show no blistering, peeling, wrinkling, cracking nor lifting. After subsequent drying for 2 h, the films shall show no whitening, dulling, softening, loss of adhesion nor other visible defects when tested in accordance with CGSB standard 1-GP-71, Method 110.1.
- 4.9 **Sealing Properties** — When coated with the standard undercoat and the enamel, type 1, conforming to CGSB standard 1-GP-88, the sealed area of a Douglas fir panel shall be superior in gloss, fullness and smoothness to the nonsealed area, and shall have a gloss reading of not less than 65. The gloss of the sealed area shall be at least 10 units higher than that of the unsealed area when tested in accordance with CGSB standard 1-GP-71, Method 123.2.
- 4.10 **Accelerated Storage Stability** — When subjected to the storage stability test for 14 d at 60°C, the viscosity of the varnish shall not increase by more than 50 mm²/s (2 bubble tubes). The varnish shall then still meet the drying time requirements conforming to par. 4.2, when tested in accordance with CGSB standard 1-GP-71, Method 30.3.
- 4.11 **Applicability and Appearance**
- 4.11.1 The varnish shall have suitable consistency and good brushing properties. The dry film shall show no ridges, sagging nor brush marks.
- 4.11.2 The varnish shall not have an objectionable odour and shall have satisfactory recoat and drying time. There shall be no lifting, wrinkling, lack of uniformity nor other visible defects.
- 4.11.3 The resultant film shall be free from coarse particles and shall be uniform in appearance and gloss when tested in accordance with CGSB standard 1-GP-71, Method 134.13.

5. PREPARATION FOR DELIVERY

- 5.1 Unless otherwise specified (par. 7.1), normal commercial packaging, packing and marking shall be acceptable.
- 5.2 **Toxic Elements** — This varnish shall be labelled to conform to the requirements of the Hazardous Products Act in respect to designated toxic elements.

- 5.3 **Labelling** — In addition to the labelling requirements of any relevant Acts or Regulations, each container shall be suitably labelled to show the following information:
- Name of material
 - Standard number: CAN/CGSB-1.99-92
 - NATO stock number (when required)
 - Manufacturer's name and address
 - Manufacturer's batch number
 - Manufacturer's code number
 - Date of manufacture
 - Thinning instructions for spraying using the thinner conforming to CGSB standard 1-GP-4.
6. **INSPECTION**
- 6.1 **Sampling** — Sampling shall be carried out in accordance with CGSB standard, 1-GP-71, Method 1.1.
7. **NOTES**
- 7.1 **Option** — The following option must be specified in the application of this standard:
- a. Packaging, packing and marking details, if normal commercial practice is not suitable (par. 5.1).
- 7.2 **Intended Uses**
- 7.2.1 Varnish to this standard is intended for use as an exterior and interior finish, and as a sealer on bare wood, in marine atmospheres.
- 7.2.2 Varnish to this standard may also be used for general exterior construction and maintenance purposes, providing the user is aware of its short life and the need for increased maintenance of all clear finishes on exterior wood.
- 7.3 **Related Publication**
- U.S. Federal Specification TT-V-119 — Varnish, Spar, Phenolic Resin.
- 7.4 **Sources of Referenced Publications**
- 7.4.1 The publications referred to in par. 2.1.1 may be obtained from the Canadian General Standards Board, Sales Unit, Ottawa, Canada K1A 1G6. Telephone (819) 956-0425 or 956-0426. Fax (819) 956-5644.
- 7.4.2 The publication referred to in par. 2.1.2 may be obtained from the Canada Communication Group, Publishing, Ottawa, Canada K1A 0S9. Telephone (819) 956 4802.
- 7.4.3 The publications referred to in par. 2.1.3 may be obtained from ASTM, 1916 Race Street, Philadelphia, PA 19103, U.S.A. or from the Standards Council of Canada, Standards Sales Branch, 45 O'Connor Street, Suite 1200, Ottawa, Ontario K1P 6N7.
- 7.4.4 The publication referred to in par. 7.3 may be obtained from the Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, PA 19120, U.S.A.
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