Canadian General Standards Board

Office des normes générales du Canada

CAN/CGSB-1.152-93

WITHDRAWAL

August 1994

CANADIAN GENERAL STANDARDS BOARD

TOPCOAT FOR FIRE-RETARDANT INTERIOR COATING

This standard is hereby withdrawn. It has been determined that the product covered by this standard is no longer used in quantities that warrant the continued maintenance of the standard.

RETRAIT

Août 1994

OFFICE DES NORMES GÉNÉRALES DU CANADA

COUCHE DE FINITION POUR REVÊTEMENT IGNIFUGE INTÉRIEUR

Cette norme est retirée par le présent avis. Il a été constaté que le produit qui fait l'objet de la présente norme n'est plus utilisé en quantité suffisante pour maintenir cette norme en vigueur.

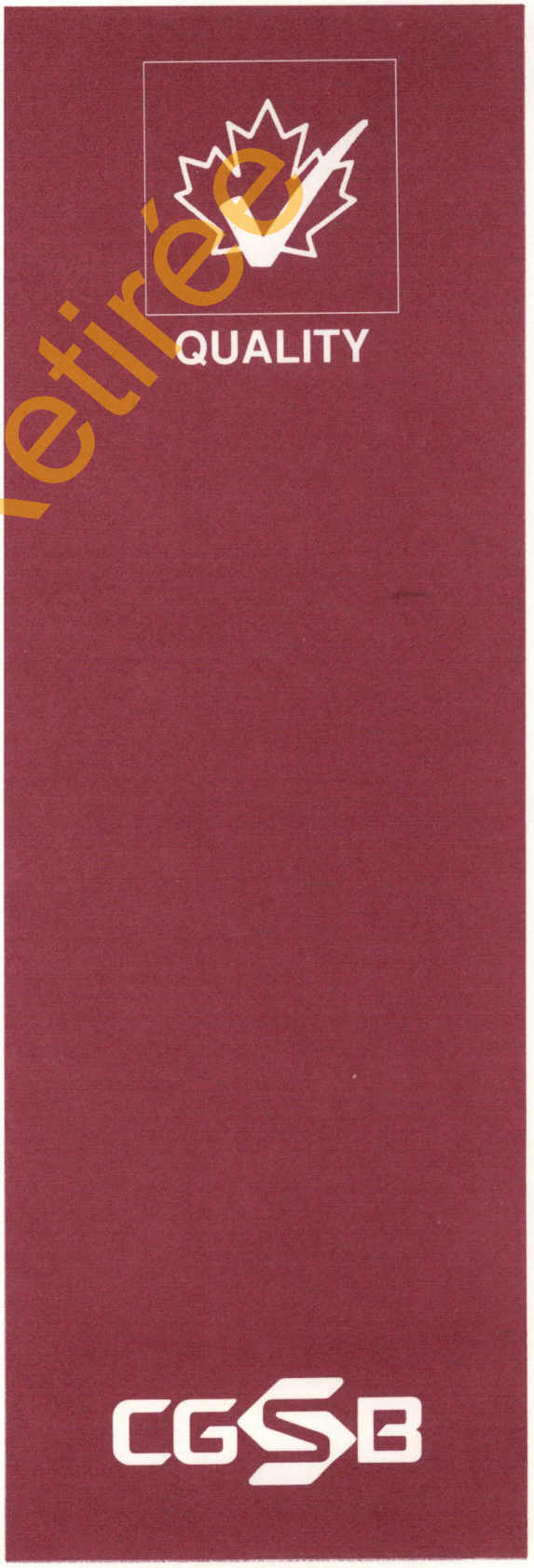
Canada

NATIONAL STANDARD OF CANADA

CAN/CGSB-1.152-93

Supersedes 1-GP-152M

Topcoat for Fire Retardant Interior Coating



Canadian General Standards Board

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Standards Council of Canada
45 O'Connor Street
Suite 1200
Ottawa, Ontario
K1P 6N7

NATIONAL STANDARD OF CANADA

CAN/CGSB-1.152-93

Supersedes 1-GP-152M
March 1980

TOPCOAT FOR FIRE RETARDANT INTERIOR COATING

This new edition supersedes CGSB standard 1-GP-152M, March 1980. Technical changes include revisions of the detailed requirements for colour, scrubbability, accelerated storage stability, fire hazard classification and the procedures for rating the effects or changes.

Prepared by the
Canadian General Standards Board

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.

CAN/CGSB-1.152-93

Supersedes 1-GP-152M
March 1980

CANADIAN GENERAL STANDARDS BOARD

TOPCOAT FOR FIRE RETARDANT INTERIOR COATING

1. SCOPE

1.1 This standard applies to a coating suitable for interior use over a fire retardant base coat from the same manufacturer. It is not by itself fire retardant but is intended for use as a topcoat over a fire retardant interior coating conforming to CAN/CGSB-1.151.

1.2 This coating should not be used by itself where fire retardance is required, but only as a companion topcoat over a fire retardant coating conforming to CAN/CGSB-1.151, in areas of heavier traffic or where moisture resistance and/or higher gloss is required.

1.3 When used as a system, this coating and the fire retardant coating conforming to CAN/CGSB-1.151 should be obtained from the same manufacturer.

1.4 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-12 — Standard Paint Colors, Part III

CAN/CGSB-1.38 — Interior Enamel Undercoater

1-GP-71 — Methods of Testing Paints and Pigments

CAN/CGSB-1.94 — Xylene Thinner (Xylol)

CAN/CGSB-1.151 — Fire-Retardant Intumescent Interior Coating.

2.1.2 Underwriters Laboratories of Canada (ULC)

CAN/ULC-S102-M88 — Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

2.1.3 American Society for Testing and Materials (ASTM)

D 1210 — Test Method for Fineness of Dispersion of Pigment-Vehicle Systems.

2.2 Reference to the above publications is to the latest issues unless otherwise specified by the authority applying this standard. The sources of these publications are shown in the Notes section.

3. GENERAL REQUIREMENTS

3.1 Coating complying with this standard may be supplied as either a solvent-reducible or water-reducible type unless the type is specified (par. 7.1). It shall consist of suitable pigments adequately dispersed in a water-resistant vehicle, together with the necessary additives.

3.2 The coating as supplied shall be suitable for brushing or roller-coating and shall be satisfactory for spraying when reduced, if necessary, in accordance with the manufacturer's instructions.

3.3 The coating shall produce a smooth, uniform film, free from agglomerates, streaks and lap marks.

3.4 The coating shall not skin, settle, thicken excessively nor cake in the original unopened container for one year from date of shipment when stored at temperatures between 5 and 40°C. At the end of this time it shall be capable of being readily mixed to a uniform condition by stirring and shall meet the requirements for applicability and appearance (par. 4.13).

3.5 **Colour** – The colour of the coating shall conform to an adequately defined colour standard as specified (par. 7.1) (Note 1).

4. DETAILED REQUIREMENTS

Coating to this standard shall comply with the following detailed requirements when tested in accordance with the specified test methods:

				Test Method	
		Min.	Max.	CGSB 1-GP-71	ASTM
4.1	Flash point, Pensky-Martens closed cup, °C	35	—	3.1	—
4.2	Consistency, Krebs units	75	—	4.5	—
4.3	Drying time, dry hard, h	—	18	5.1	—
4.4	Fineness of grind, Hegman	5	—	—	D 1210
4.5	60° gloss units	20	50	13.2	—

4.6 **Accelerated Storage Stability**

4.6.1 ***Solvent-Reducible Formulations*** — When subjected to the accelerated storage stability test at 60°C for 96 h, the coatings shall not gel, liver, curdle or change in consistency by more than 5 Krebs units and shall show no evidence of seeding or hard settling. At the end of the heating period the coating shall be capable of being readily mixed to a uniform condition by stirring and shall produce a dry film that is uniform in appearance and free from streaking, mottling and seediness when tested in accordance with CGSB standard 1-GP-71, Method 30.3.

4.6.2 ***Water-Reducible Formulations*** — After three freeze-thaw cycles, the change in consistency shall not exceed 8 Krebs units and the consistency shall not be less than 75. There shall be no sign of coagulation and the product shall be capable of being stirred into a smooth coating of uniform consistency with relative ease when tested in accordance with CGSB standard 1-GP-71, Method 31.1.

4.7 **Flexibility** — When applied at a dry film thickness of 35 ± 5 µm, the coating shall show no cracking nor peeling when subjected to the bending test using a 6.4 mm mandrel, in accordance with CGSB standard 1-GP-71, Method 119.5.

4.8 **Colour Stability (Tints only)** — When applied at a dry film thickness of 35 ± 5 µm, the coating shall not show more than a slight change in colour when exposed 48 h in an accelerated fading machine, in accordance with CGSB standard 1-GP-71, Method 120.1.

4.9 **Scrubbability** — When applied at a dry film thickness of 35 ± 5 µm over an undercoat conforming to CAN/CGSB-1.38, which has been applied at a wet film thickness of 125 ± 10 µm, the system shall withstand 1000 cycles of scrubbing without a change of more than 30% of the gloss measured just prior to the test and without showing other visible defects when tested in accordance with CGSB standard 1-GP-71, Method 125.1.

4.10 **Fire Hazard Classification** — When applied at a spreading rate of not less than 10 ± 0.5 m²/L over the companion base coat applied at a minimum spreading rate of 4 m²/L on Douglas Fir (nominal size 25 × 100 mm) previously coated with white undercoater (CGSB 1-GP-71, Method 150.3) at a spreading rate of 10 ± 0.5 m²/L, the coating shall have a maximum flame spread classification of 25 and a maximum smoke density value of 50, when tested in accordance with CAN/ULC-S102-M88.

Note 1: Because some pigments or excess tint colorant may increase the flame spread, tinting in the field is prohibited.

4.11 **Impact Resistance** — When a 0.45 kg steel ball is dropped 1 m, the coating shall not flake, lose adhesion or expose the CAN/CGSB-1.151 base coat or undercoat. Fine cracks that do not expose the undercoat or substrate shall not be cause for rejection when tested in accordance with the procedures described in par. 6.3.1.

4.12 **Behaviour Towards CAN/CGSB-1.151 Base Coat** — The coating shall not cause lifting, wrinkling nor other defects when applied over the companion base coat conforming to CAN/CGSB-1.151 and tested in accordance with the procedures described in par. 6.3.2.

4.13 **Applicability and Appearance** — When applied by brush or roller as specified, the coating shall meet the following requirements when tested in accordance with CGSB standard 1-GP-71, Method 134.7.

4.13.1 ***Brush Application*** — When applied by brush as specified, the coating shall show good brushing and lapping properties with no sagging. When dry, the coating shall not show any runs, sags, coarse particles nor more than slight brush marks. The appearance shall be uniform in texture, colour and gloss after 18 h drying, and the application of a second coat shall provide complete uniform hiding with no evidence of lifting, wrinkling, lack of uniformity or other film defects.

4.13.2 ***Roller Application*** — When applied by roller as specified, there shall be a minimum of foaming during application. If any foam is present, there shall be no cratering nor bubbles in the dry film nor any colour difference between the brushed and roller-coated areas of the panel. The finish shall be uniform in texture, gloss and colour and shall provide good hiding in two coats.

4.13.3 During application, the odour of the coating shall not be more objectionable than the characteristic odour of the thinner conforming to CAN/CGSB-1.94.

5. PREPARATION FOR DELIVERY

5.1 Unless otherwise specified (par. 7.1), preparation for delivery shall conform to normal commercial practice.

5.2 **Labelling** – In addition to complying with the labelling requirements of any relevant Acts or Regulations, each container shall bear a single label showing the following information:

Name of material

Standard number: CAN/CGSB-1.152-93

CGSB standard 1-GP-12 colour and number or commercial colour identification as applicable

Manufacturer's name and address

Manufacturer's batch number

Manufacturer's code number

Date of manufacture

Fire Hazard Classification Rating (Flame Spread, Fuel Contributed, Smoke Density) by a nationally recognized laboratory acceptable to the authority having jurisdiction.

Cautionary note to indicate that this coating is in itself not a fire retardant coating and is to be used only with a fire retardant coating conforming to CAN/CGSB-1.151 and that the material should be kept from freezing.

6. INSPECTION

6.1 **Sampling** — Sampling shall be carried out in accordance with CGSB standard 1-GP-71, Method 1.1.

6.2 The procedures for rating the effects or changes in CGSB standard 1-GP-71, Method 143.1 shall be used, as applicable, for evaluating performance.

6.3 **Testing**

6.3.1 ***Impact Resistance*** — Coat either side of a 50 × 100 × 150 mm clear white pine panel (CGSB 1-GP-71, Method 97.1) with one coat of undercoater conforming to CAN/CGSB-1.38 at a dry film thickness of 35 ± 5 µm and allow it to dry for 72 h (CGSB 1-GP-71, Method 103.1). Then apply a fire retardant coating conforming to CAN/CGSB-1.151 to give a wet film thickness of 125 ± 10 µm and allow it to dry 72 h. Apply the topcoat being

tested to a dry film thickness of 35 ± 5 µm and allow it to dry 7 d. Support the panel on a non-resilient base, coated side up, and allow a 0.45 kg steel ball to drop freely on to the approximate centre from a height of 1 m. Examine the panel for defects at the point of impact with the unassisted eye.

6.3.2 ***Behavior Toward CAN/CGSB-1.151 Base Coating*** — Apply (CGSB 1-GP-71, Method 98.2) one coat of the companion base coating conforming to CAN/CGSB-1.151 from the same manufacturer over a clean steel panel (Method 100.1) at a wet film thickness of 125 ± 10 µm, and allow it to dry 48 h (Method 103.1). Then apply a coat of the material being tested to an additional dry film thickness of 35 ± 5 µm and allow to dry 24 h. Examine the panel for defects.

7. NOTES

7.1 **Options** — The following options must be specified in the application of this standard:

a. Where a particular type of coating is required, the type shall be specified (par. 3.1)

b. Colour (par. 3.5)

c. Preparation for delivery, if other than as specified (par. 5.1).

7.2 **Sources of Referenced Publications**

7.2.1 The publications referred to in par. 2.1.1 may be obtained from the Canadian General Standards Board, Sales Centre, Ottawa, Canada K1A 1G6. Telephone 1-800-665-CGSB. Fax (613) 941-8705.

7.2.2 The publication referred to in par. 2.1.2 may be obtained from Underwriters Laboratories of Canada, 7 Crouse Road, Scarborough, Ontario M1R 3A9.

7.2.3 The publication referred to in par. 2.1.3 may be obtained from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103, U.S.A., or photocopies are available from the CGSB Sales Centre (par. 7.2.1).