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Canadian General
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Series 1
Série des 1

WITHDRAWAL

October 2011

Selected standards in the series Paints, pigments and related products

These CGSB standards and National Standards of Canada are hereby withdrawn due to limited use and support for their revision.

The Standards Council of Canada requires that accredited Standards Development Organizations, such as the CGSB, regularly review a consensus Standard to determine whether to re-approve, revise or withdraw. The review cycle is normally five years from the publication date of the latest edition of the Standard.

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RETRAIT

Octobre 2011

Sélection de normes de la série Peintures, pigments et produits connexes

Ces normes de l'ONGC et ces Normes nationales du Canada sont retirées par le présent avis en raison de leur utilisation limitée et du manque de support pour leur révision.

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CAN/CGSB-1.5-M91

Low Flash Petroleum Spirits Thinner
(ICS 87.040)

CAN/CGSB-1.28-98

Exterior Alkyd House Paint (ICS 87.040)

CAN/CGSB-1.36-97

General Purpose Interior Alkyd Varnish
(ICS 87.040)

CAN/CGSB-1.38-2000

Interior Enamel Undercoater (ICS 87.040)

CAN/CGSB-1.40-97

Anticorrosive Structural Steel Alkyd Primer
(ICS 87.040)

CAN/CGSB-1.57-2003

Interior Alkyd Semigloss Enamel
(ICS 87.040)

CAN/CGSB-1.59-97

Alkyd Exterior Gloss Enamel (ICS 87.040)

CAN/CGSB-1.60-97

Interior Alkyd Gloss Enamel (ICS 87.040)

cette information. Ces normes doivent être consultées à des fins archivistiques seulement puisque leur contenu a été révoqué à la date du présent avis de retrait.

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CAN/CGSB-1.5-M91

Diluant, essence minérale à faible point
d'éclair (ICS 87.040)

CAN/CGSB-1.28-98

Peinture aux résines alkydes d'extérieur
pour bâtiments (ICS 87.040)

CAN/CGSB-1.36-97

Vernis d'intérieur aux résines alkydes
d'usage général (ICS 87.040)

CAN/CGSB-1.38-2000

Peinture-émail d'intérieur, pour couche de
fond (ICS 87.040)

CAN/CGSB-1.40-97

Peinture pour couche primaire
anticorrosion, aux résines alkydes, pour
acier de construction (ICS 87.040)

CAN/CGSB-1.57-2003

Peinture-émail, d'intérieur, semi-brillante,
aux résines alkydes (ICS 87.040)

CAN/CGSB-1.59-97

Peinture-émail, d'extérieur, brillante, aux
résines alkydes (ICS 87.040)

CAN/CGSB-1.60-97

Peinture-émail brillante d'intérieur aux
résines alkydes (ICS 87.040)

CAN/CGSB-1.61-2004

Exterior and Interior Marine Alkyd Enamel
(ICS 87.040)

CAN/CGSB-1.69-98

Aluminum Paint (ICS 87.040)

1-GP-71 (Oct 1983)

Methods of Testing Paints and Pigments
(ICS 87.040)

1-GP-71

Methods of Testing Paints and Pigments

No. 5-96

Drying Times of Paints and Related
Coatings (ICS 87.040)

No. 38-96

Blushing Resistance of Lacquer
Finishes (ICS 87.040)

No. 73-96

Beilstein Test for Chlorinated Solvents
(ICS 87.040)

CAN/CGSB-1.73-97

Exterior and Interior Enamel for Floors
(ICS 87.040)

CAN/CGSB-1.74-2001

Alkyd Traffic Paint (ICS 87.040)

CAN/CGSB-1.76-2000

Interior and Exterior Heat-Resistant Enamel
(ICS 87.040)

CAN/CGSB-1.81-M90

Air Drying and Baking Alkyd Primer for
Vehicles and Equipment (ICS 87.040)

CAN/CGSB-1.84-M91

Alkyd Primer for Hardwood (ICS 87.040)

CAN/CGSB-1.61-2004

Peinture-émail aux résines alkydes,
d'extérieur et d'intérieur, marine
(ICS 87.040)

CAN/CGSB-1.69-98

Peinture à l'aluminium (ICS 87.040)

1-GP-71 (oct. 1983)

Méthodes d'essai des peintures et pigments
(ICS 87.040)

1-GP-71

Méthodes d'essai des peintures et pigments

N° 5-96

Durée de séchage des peintures et
revêtements apparentés (ICS 87.040)

N° 38-96

Résistance à l'opalescence des
produits-laque de finition (ICS 87.040)

N° 73-96

Détermination de la présence de
solvants chlorés par l'essai de Beilstein
(ICS 87.040)

CAN/CGSB-1.73-97

Peinture-émail d'extérieur et d'intérieur,
pour sols (ICS 87.040)

CAN/CGSB-1.74-2001

Peinture alkyde de démarcation routière
(ICS 87.040)

CAN/CGSB-1.76-2000

Peinture-émail résistant à la chaleur,
d'intérieur et d'extérieur (ICS 87.040)

CAN/CGSB-1.81-M90

Peinture pour couche primaire aux résines
alkydes, séchant à l'air ambiant et au four,
pour véhicules automobiles et équipement
(ICS 87.040)

CAN/CGSB-1.84-M91

Peinture d'impression aux résines alkydes,
pour bois dur (ICS 87.040)

CAN/CGSB-1.88-92

Gloss Alkyd Enamel, Air Drying and Baking
(ICS 87.040)

CAN/CGSB-1.100-99

Interior Flat Latex Paint (ICS 87.040)

CAN/CGSB-1.104-M91

Semigloss Alkyd Air Drying and Baking
Enamel (ICS 87.040)

CAN/CGSB-1.105-M91

Quick-Drying Primer (ICS 87.040)

CAN/CGSB-1.114-M91

Quick-Drying Flat Enamel (ICS 87.040)

CAN/CGSB-1.118-95

Interior Flat Alkyd Finish (ICS 87.040)

CAN/CGSB-1.119-2000

Interior Latex Primer-Sealer (ICS 87.040)

CAN/CGSB-1.122-99

Anticorrosive Vinyl Primer (ICS 87.040)

CAN/CGSB-1.132-M90

Zinc Chromate Primer, Low Moisture
Sensitivity (ICS 87.040)

CAN/CGSB-1.135-99

Flat Alkyd Enamel for Equipment
(ICS 87.040)

CAN/CGSB-1.138-97

Exterior Latex Flat Paint (ICS 87.040)

CAN/CGSB-1.143-98

Silicone Alkyd Heat-Resistant Aluminum
Enamel (ICS 87.040)

CAN/CGSB-1.88-92

Peinture-émail brillante aux résines alkydes,
séchant à l'air ambiant et au four
(ICS 87.040)

CAN/CGSB-1.100-99

Peinture-émulsion mate d'intérieur
(ICS 87.040)

CAN/CGSB-1.104-M91

Peinture-émail semi-brillante aux résines
alkydes séchant à l'air ambiant et au four
(ICS 87.040)

CAN/CGSB-1.105-M91

Peinture pour couche primaire à séchage
rapide (ICS 87.040)

CAN/CGSB-1.114-M91

Peinture-émail mate à séchage rapide
(ICS 87.040)

CAN/CGSB-1.118-95

Peinture de finition mate d'intérieur aux
résines alkydes (ICS 87.040)

CAN/CGSB-1.119-2000

Peinture-émulsion d'impression d'intérieur
(ICS 87.040)

CAN/CGSB-1.122-99

Peinture pour couche primaire, aux résines
vinyliques, anticorrosion (ICS 87.040)

CAN/CGSB-1.132-M90

Peinture pour couche primaire, au chromate
de zinc, à faible sensibilité à l'humidité
(ICS 87.040)

CAN/CGSB-1.135-99

Peinture-émail mate aux résines alkydes
pour équipement (ICS 87.040)

CAN/CGSB-1.138-97

Peinture-émulsion (latex) mate, d'extérieur
(ICS 87.040)

CAN/CGSB-1.143-98

Peinture-émail aux résines silicones-
alkydes résistante à la chaleur (ICS 87.040)

CAN/CGSB-1.145-97

Solvent-Based Pigmented Stain
(ICS 87.040)

CAN/CGSB-1.146-99

Cold Curing, Gloss Epoxy Coating
(ICS 87.040)

CAN/CGSB-1.150-M91

Clear Lacquer for Wood Furniture
(ICS 87.040)

CAN/CGSB-1.153-2000

High-Build, Gloss Epoxy Coating
(ICS 87.040)

CAN/CGSB-1.154-M89

Latex Type Paint for Concrete Floors
(ICS 87.040)

CAN/CGSB-1.158-M89

Cellulose Nitrate Primer, Modified Alkyd
Type (ICS 87.040)

CAN/CGSB-1.159-92

Acrylic Cellulose Nitrate Gloss Lacquer
(ICS 87.040)

CAN/CGSB-1.160-93

Low Gloss Acrylic Cellulose Nitrate
Lacquer (ICS 87.040)

CAN/CGSB-1.162-2004

Emulsion Coating for Stucco and Masonry
(ICS 87.040)

CAN/CGSB-1.165-2004

Cold-Curing Epoxy Primer (ICS 87.040)

CAN/CGSB-1.171-98

Inorganic Zinc Coating (ICS 87.040)

CAN/CGSB-1.175-97

Polyurethane Interior Coating (ICS 87.040)

CAN/CGSB-1.145-97

Teinture pigmentée à base de solvant
(ICS 87.040)

CAN/CGSB-1.146-99

Revêtement aux résines époxydiques,
durcissant à froid, brillant (ICS 87.040)

CAN/CGSB-1.150-M91

Vernis-laque pour meubles en bois
(ICS 87.040)

CAN/CGSB-1.153-2000

Revêtement par peinture aux résines
époxydiques, à pouvoir garnissant élevé,
brillant (ICS 87.040)

CAN/CGSB-1.154-M89

Peinture-émulsion (latex) pour sols en béton
(ICS 87.040)

CAN/CGSB-1.158-M89

Peinture-laque pour couche primaire, au
nitrate de cellulose et aux résines alkydes
modifiées (ICS 87.040)

CAN/CGSB-1.159-92

Produit-laque brillant à la résine acrylique et
au nitrate de cellulose (ICS 87.040)

CAN/CGSB-1.160-93

Peinture-laque aux résines acryliques et au
nitrate de cellulose, peu brillante
(ICS 87.040)

CAN/CGSB-1.162-2004

Revêtement de type émulsion pour stuc et
maçonnerie (ICS 87.040)

CAN/CGSB-1.165-2004

Peinture pour couche primaire aux résines
époxydiques, durcissant à froid
(ICS 87.040)

CAN/CGSB-1.171-98

Enduit au zinc minéral (ICS 87.040)

CAN/CGSB-1.175-97

Revêtement de polyuréthane d'intérieur
(ICS 87.040)

CAN/CGSB-1.176-2000

Interior Clear Moisture-Curing Polyurethane Coating (ICS 87.040)

CAN/CGSB-1.177-M91

Two-Component Polyurethane Coating, Resistant to Chalking and Yellowing (ICS 87.040)

1-GP-180Ma (Feb 1996)

Coating, Polyurethane, Two-Package, General Purpose (ICS 87.040)

CAN/CGSB-1.181-99

Ready-Mixed Organic Zinc-Rich Coating (ICS 87.040)

CAN/CGSB-1.183-99

Zinc-Rich Epoxy Coating (ICS 87.040)

CAN/CGSB-1.184-98

Coal Tar-Epoxy Coating (ICS 87.040)

CAN/CGSB-1.188-2004

Emulsion Filler for Masonry Block (ICS 87.040)

CAN/CGSB-1.189-2000

Exterior Alkyd Primer for Wood (ICS 87.040)

CAN/CGSB-1.190-M90

Sanding Type Primer Surfacer (ICS 87.040)

1-GP-191M (Apr 1980)

Enamel, Automotive Refinishing, Fast Drying, Gloss (ICS 87.040)

1-GP-192Ma (Feb 1985)

Deck Coating, Nonslip, Epoxy (ICS 87.040)

CAN/CGSB-1.176-2000

Revêtement de polyuréthane, d'intérieur, durci à l'humidité, non pigmenté (ICS 87.040)

CAN/CGSB-1.177-M91

Revêtement de polyuréthane, à deux constituants séparés, non jaunissant et non farinant (ICS 87.040)

1-GP-180Ma (févr. 1996)

Revêtement de polyuréthane, à deux constituants séparés, pour utilisation générale (ICS 87.040)

CAN/CGSB-1.181-99

Enduit riche en zinc, organique et préparé (ICS 87.040)

CAN/CGSB-1.183-99

Enduit aux résines époxydiques, riche en zinc (ICS 87.040)

CAN/CGSB-1.184-98

Revêtement à base de goudron de houille-résines époxydiques (ICS 87.040)

CAN/CGSB-1.188-2004

Apprêt-émulsion pour blocs de maçonnerie (ICS 87.040)

CAN/CGSB-1.189-2000

Peinture d'impression, d'extérieur, aux résines alkydes, pour le bois (ICS 87.040)

CAN/CGSB-1.190-M90

Peinture pour couche primaire surfaçante de type ponçable (ICS 87.040)

1-GP-191M (avr. 1980)

Peinture-émail brillante, à séchage rapide, pour le repeinturage des carrosseries de véhicules automobiles (ICS 87.040)

1-GP-192Ma (févr. 1985)

Revêtement de pont, antidérapant, aux résines époxydiques (ICS 87.040)

CAN/CGSB-1.193-99

High-Build Epoxy Marine Coating
(ICS 87.040)

CAN/CGSB-1.195-99

Interior Latex Semigloss Paint (ICS 87.040)

CAN/CGSB-1.198-2001

Cementitious Primer for Galvanized
Surfaces (ICS 87.040)

1-GP-200Ma (Jan 1985)

Deck Coating, Nonslip, Polyurethane
(ICS 87.040)

CAN/CGSB-1.202-2003

Interior Alkyd Low Gloss Enamel
(ICS 87.040)

CAN/CGSB-1.203-2003

Exterior Latex Wood Primer (ICS 87.040)

CAN/CGSB-1.204-98

Exterior Latex Pigmented Stain
(ICS 87.040)

CAN/CGSB-1.205-2003

Sealer for Application to Asbestos-Fibre
Releasing Materials (ICS 87.040)

CAN/CGSB-1.207-98

Low-Temperature Curing Epoxy Coating
(ICS 87.040)

CAN/CGSB-1.208-99

Marine Interior Water-Borne Gloss Enamel
(ICS 87.040)

CAN/CGSB-1.209-2003

Interior Latex Low Gloss Paint (ICS 87.040)

CAN/CGSB-1.210-2003

Quick-Drying Alkyd Primer for Structural
Steel (ICS 87.040)

CAN/CGSB-1.193-99

Revêtement aux résines époxydiques, à
pouvoir garnissant élevé, marin
(ICS 87.040)

CAN/CGSB-1.195-99

Peinture-émulsion semi-brillante d'intérieur
(ICS 87.040)

CAN/CGSB-1.198-2001

Peinture primaire additionnée de ciment,
pour surfaces galvanisées (ICS 87.040)

1-GP-200Ma (janv. 1985)

Revêtement de pont, antidérapant, aux
résines polyuréthanes (ICS 87.040)

CAN/CGSB-1.202-2003

Peinture-émail d'intérieur, aux résines
alkydes, peu brillante (ICS 87.040)

CAN/CGSB-1.203-2003

Peinture-émulsion (latex) d'impression
extérieure, pour bois (ICS 87.040)

CAN/CGSB-1.204-98

Teinture-émulsion pigmentée pour extérieur
(ICS 87.040)

CAN/CGSB-1.205-2003

Peinture d'obturation pour matériaux
renfermant des fibres d'amiante
(ICS 87.040)

CAN/CGSB-1.207-98

Revêtement aux résines époxydiques
durcissant à basse température
(ICS 87.040)

CAN/CGSB-1.208-99

Peinture-émail brillante en suspension
aqueuse, marine, d'intérieur (ICS 87.040)

CAN/CGSB-1.209-2003

Peinture-émulsion d'intérieur peu brillante
(ICS 87.040)

CAN/CGSB-1.210-2003

Peinture primaire aux résines alkydes à
séchage rapide pour acier de charpente
(ICS 87.040)

CAN/CGSB-1.211-95

Coating Systems for Marine Floating Navigational Aids (Buoys) (ICS 87.040)

CAN/CGSB-1.212-2004

Heavy-Metal-Free Marine Primer for Steel and Light-Alloy Surfaces (ICS 87.040)

CAN/CGSB-1.213-2004

Etch Primer (Pretreatment Coating or Tie Coat) for Steel and Aluminum (ICS 87.040)

CAN/CGSB-1.214-2004

Heavy-Metal-Free, Water-Borne, Marine Primer for Steel and Light-Alloy Surfaces (ICS 87.040)

CAN/CGSB-1.215-96

Two-Package Epoxy Blockfiller (ICS 87.040)

CAN/CGSB-1.216-97

Exterior Water-Borne Gloss Enamel (ICS 87.040)

CAN/CGSB-1.219-2001

Lead and Chromate-Free Waterborne Traffic Paint (ICS 87.040)

CAN/CGSB-1.220-2001

Lead and Chromate-Free Alkyd Traffic Paint (ICS 87.040)

CAN/CGSB-1.223-2004

Heavy-Metal-Free, Water-Borne Wash Primer-Tie Coat (ICS 87.040)

CAN/CGSB-1.300-2000

Applied Coating System of Semigloss Baked Finish for Metal Office Furniture (ICS 87.040)

CAN/CGSB-1.500-75

Methods for Test for Toxic Trace Elements in Protective Coatings (ICS 87.040)

CAN/CGSB-1.211-95

Systèmes de revêtement pour aides à la navigation flottantes (bouées) (ICS 87.040)

CAN/CGSB-1.212-2004

Peinture primaire sans métal lourd, marine, pour surfaces en acier et en alliage léger (ICS 87.040)

CAN/CGSB-1.213-2004

Peinture primaire réactive (enduit de traitement préliminaire ou couche de liaison) pour l'acier et l'aluminium (ICS 87.040)

CAN/CGSB-1.214-2004

Peinture primaire, sans métal lourd, en suspension aqueuse, marine, pour surfaces en acier et en alliage léger (ICS 87.040)

CAN/CGSB-1.215-96

Apprêt pour blocs aux résines époxydiques en deux constituants (ICS 87.040)

CAN/CGSB-1.216-97

Peinture-émail brillante d'extérieur en suspension aqueuse (ICS 87.040)

CAN/CGSB-1.219-2001

Peinture à l'eau de démarcation routière sans plomb ni chromate (ICS 87.040)

CAN/CGSB-1.220-2001

Peinture alkyde de démarcation routière sans plomb ni chromate (ICS 87.040)

CAN/CGSB-1.223-2004

Peinture primaire réactive – Couche de liaison, sans métal lourd, en suspension aqueuse (ICS 87.040)

CAN/CGSB-1.300-2000

Système de revêtement de finition semi-brillant, cuit au four, pour meubles métalliques de bureau (ICS 87.040)

CAN/CGSB-1.500-75

Méthodes d'essai des éléments toxiques à l'état de trace dans les revêtements protecteurs (ICS 87.040)

CAN/CGSB-1.501-M89

Method for Permeance of Coated
Wallboard (ICS 87.040)

CAN/CGSB-1.501-M89

Méthode de détermination de la perméance
des panneaux muraux revêtus (ICS 87.040)



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CAN/CGSB-1.61-2004

Supersedes CAN/CGSB-1.61-99

Exterior and Interior Marine Alkyd Enamel

ICS 87.040

National Standard of Canada

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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.

A National Standard of Canada is a standard which has been approved by the Standards Council of Canada and one which reflects a reasonable agreement among the views of a number of capable individuals whose collective interests provide, to the greatest practicable extent, a balance of representation of producers, users, consumers and others with relevant interests, as may be appropriate to the subject in hand. It normally is a standard that is capable of making a significant and timely contribution to the national interest.

Approval of a standard as a National Standard of Canada indicates that a standard conforms to the criteria and procedures established by the Standards Council of Canada. Approval does not refer to the technical content of the standard; this remains the continuing responsibility of the accredited standards-development organization.

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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EXTERIOR AND INTERIOR MARINE ALKYD ENAMEL

Prepared by the
Canadian General Standards Board 

Approved by the
Standards Council of Canada 

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EXTERIOR AND INTERIOR MARINE ALKYD ENAMEL

1. SCOPE

- 1.1 This standard applies to enamel for use as a finish coat on the exterior and interior of ships and boats, and on the exterior of deck machinery and equipment exposed to marine atmospheres and intermittently immersed in seawater.
- 1.2 The enamel may be applied over the following substrates:
- a. aluminum primed with a primer conforming to CAN/CGSB-1.132;
 - b. suitably primed wood;
 - c. steel primed with a primer conforming to CAN/CGSB-1.212 or CAN/CGSB-1.213;
 - d. steel that has a coating conforming to CAN/CGSB-1.183 or CAN/CGSB-1.184, providing a suitable tie-coat (between the coating and the enamel) is used.
- 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 applicable regulatory requirements prior to its use.

2. REFERENCED PUBLICATIONS

- 2.1 The following publications are referenced in this standard:
- 2.1.1 Canadian General Standards Board (CGSB)
- CAN/CGSB-1.4 — Petroleum Spirits Thinner
 - 1-GP-71 — Methods of Testing Paints and Pigments
 - CAN/CGSB-1.132 — Zinc Chromate Primer, Low Moisture Sensitivity
 - CAN/CGSB-1.183 — Zinc-Rich Epoxy Coating
 - CAN/CGSB-1.184 — Coal Tar-Epoxy Coating
 - CAN/CGSB-1.212 — Chromate and Lead Free Marine Primer for Steel and Light Alloy Surfaces
 - CAN/CGSB-1.213 — Etch Primer (Pretreatment Coating) for Steel and Aluminum
 - CAN/CGSB-2.115 — Built Powder Laundry Detergent
 - CAN/CGSB-2.175 — Concentrated Nonionic, Unbuilt Liquid Detergent.
- 2.1.2 Health Canada
- Surface Coating Materials Regulations
 - Consumer Chemicals and Containers Regulations, 2001
 - Controlled Products Regulations (WHMIS)¹.
- 2.1.3 ASTM International
- D 1210 — Standard Test Method for Dispersion of Pigment-Vehicle Systems by Hegman-Type Gage
 - D 2486 — Standard Test Methods for Scrub Resistance of Wall Paints

¹ WHMIS: Workplace Hazardous Materials Information System.

D 3960 — Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings

D 4587 — Standard Practice for Fluorescent UV-Condensation Exposures of Paint and Related Coatings.

2.1.4 Commission Internationale de l'Éclairage (CIE)

Publication No. 15.2 — Colorimetry.

2.1.5 International Organization for Standardization (ISO)

ISO 7724-3 — Paints and varnishes — Colorimetry — Part 3: Calculation of colour differences.

2.1.6 U.S. General Services Administration

Federal Standard

595B — Colors Used in Government Procurement.

2.2 A dated reference in this standard is to the issue specified. An undated reference in this standard is to the latest issue, unless otherwise specified by the authority applying this standard. The sources are given in the Notes section.

3. GENERAL REQUIREMENTS

3.1 The enamel shall consist of a pigment or a pigment mixture milled in an alkyd vehicle together with the necessary thinners and driers.

3.2 The enamel shall be suitable for brushing and roller coating and shall be satisfactory for spraying when reduced with a thinner conforming to CAN/CGSB-1.4, in accordance with the manufacturer's instructions.

3.3 When stored at temperatures not exceeding 40°C, the enamel shall not skin, gel, thicken excessively or cake in the original unopened container for 24 months from the date of shipment. At the end of this time it shall be readily mixed to a uniform condition by stirring.

3.4 The glossy surface of the enamel is intended to withstand washing with a detergent conforming to CAN/CGSB-2.115 or CAN/CGSB-2.175.

3.5 **Toxic Elements** — The enamel shall conform to the requirements of the *Surface Coating Materials Regulations*, the *Consumer Chemicals and Containers Regulations*, 2001, and the *Controlled Products Regulations* (WHMIS), for designated toxic elements.

4. DETAILED REQUIREMENTS

The enamel 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	38	—	3.1	—
4.2	Consistency, Krebs Units	—	99	4.5	—
4.3	Drying time				
	Dry hard, h	—	18	5, Method A	—
	Set-to-touch, h	—	16	5, Method A	—
4.4	60° gloss, units	80	—	13.2	—
4.5	Hiding power, m ² /L	10	—	14.1	—
4.6	Fineness of grind, Hegman	6	—	—	D 1210

4.8 **Skinning Properties** — The enamel shall be non-skinning in accordance with CGSB standard 1-GP-71, Method 10.1.

4.9 **Colour**

4.9.1 The enamel shall conform to gloss tint colours of U.S. Federal Standard 595B or to an adequately defined commercial colour as specified (par. 7.1).

4.9.2 When the colour grey (Federal standard 595B, colour number 16480) is required for supply to the Canadian Forces Navy, the CIELAB lightness difference, ΔL^* , chroma difference, ΔC^* , and hue difference, ΔH^* of the colour, relative to a colour having tristimulus values X, Y, and Z or 42.67, 46.56, and 47.96 respectively, shall be within the following limits when measured in accordance with the requirements of par. 6.2.1 and 6.2.2:

ΔL^*	−0.40 to +0.30
ΔC^*	−0.40 to +0.40
ΔH^*	−0.60 to +0.30

4.10 **Scratch Resistance** — The dried enamel film, applied to abraded panels, shall withstand the scratch hardness test under a load of 900 g without exposing the metal through the scratch of the film when tested in accordance with CGSB standard 1-GP-71, Method 116.5³.

4.11 **Flexibility** — The dried enamel film, after accelerated aging, shall not crack or peel when subjected to the bending test at 23°C using a 3.2 mm mandrel when tested in accordance with CGSB standard 1-GP-71, Method 119.1.

4.12 **Accelerated Weathering Resistance** — There shall be no checking or cracking when the enamel is tested in accordance with CGSB standard 1-GP-71, Method 122.1 (see par. 6.2.2). The 60° gloss shall not have dropped to less than 65 units on unwashed panels when the enamel is tested in accordance with CGSB standard 1-GP-71, Method 13.2.

4.13 **Scrubbability** — A film applied over a black Leneta panel with a primer conforming to CAN/CGSB-1.212 and dried 7 d shall withstand 1000 cycles in the washability machine with no appreciable colour change⁴ (see par. 4.9) and only slight surface markings due to the brush. The gloss of the washed film shall not fall below 70 units when tested in accordance with CGSB standard 1-GP-71, Method 125.3⁵.

4.14 **Behaviour Toward Applied Films** — A single coat of the enamel applied to a steel surface primed 18 h previously with a primer conforming to CAN/CGSB-1.212 shall not cause lifting or appreciable softening of the primer when examined immediately after application of the enamel and 24 h thereafter and when tested in accordance with CGSB standard 1-GP-71, Method 131.2.

4.15 **Applicability and Appearance**

4.15.1 **Brush Application** — When brushed out on a panel primed with a primer conforming to CAN/CGSB-1.212, the enamel shall show good brushing and lapping properties and shall be free from sagging and wrinkling. When dry, the enamel shall show no evidence of runs and sags or coarse particles, and shall not show more than slight brush marks; it shall appear uniform in texture, colour and gloss. Two coats, with 24 h drying allowed between coats, shall provide complete, uniform hiding when tested in accordance with CGSB standard 1-GP-71, Method 134.3.

4.15.2 **Roller Application** — When applied by roller onto a panel primed with a primer conforming to CAN/CGSB-1.212, foaming during application shall be minimal, and there shall not be any signs of craters or bubbles in the dry film, nor shall there be evidence of colour differences between the brushed and roller-coated areas of the panel. Also, the

² Use the calculation in par. 10.2.1.

³ Except use a drying time of 10 d instead of 7 d.

⁴ See CGSB standard 1-GP-71, Method 143.1 for similar criteria.

⁵ Except use Leneta panels, form P-121-10N held in place in the washability machine as described in ASTM D 2486.

finish shall be uniform in texture, gloss and colour, and shall hide after two coats when tested in accordance with CGSB standard 1-GP-71, Method 134.3⁶.

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 be suitably labelled to show the following information:

Name of material

Standard number: CAN/CGSB-1.61-2004

Manufacturer's batch number

Manufacturer's code number (if applicable)

Date of manufacture

NATO stock number (if applicable)

Instructions for use:

— thinning instructions. When applying the enamel by spraying, a thinner conforming to CAN/CGSB-1.4 shall be used.

Cautionary notes:

— "This is a VOC-compliant product. Thinning, if necessary, shall be done in accordance with the manufacturer's instructions."

6. INSPECTION

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

6.2 Testing

6.2.1 Colour Evaluation

6.2.1.1 **Preparation of Test Panels** — The enamel shall be drawn down using a film applicator in order to achieve a dry film thickness of $50 \pm 10 \mu\text{m}$. Use three Leneta plain white charts, form WB, size $195 \times 285 \text{ mm}$, and a film applicator 150 mm long. Dry the first coat 18 h in accordance with CGSB standard 1-GP-71, Method 103.1; then draw down the second coat over the first. Dry the test panels for 7 d.

6.2.1.2 The colour shall be measured in accordance with standard colorimetric procedures described in CIE publication No. 15.2 and ISO 7724-3, using diffuse illumination and 8° viewing geometry, or vice versa, with specular reflection included. The lightness, chroma and hue differences shall be calculated using the CIE standard illuminant D 65 and supplementary standard 10° observer data. The report shall include: (a) the results of the parameters calculated in accordance with par. 4.9.2, (b) the details of the apparatus used including the illuminant and viewing geometry, and (c) the method of computation of the results including the wavelength intervals employed in the determination of the tristimulus values (see Table 1 and Figure 1).

6.2.2 **Accelerated Weathering Resistance** — Apply (CGSB 1-GP-71, Method 98.4) one coat of the specified primer to clean steel panels (CGSB 1-GP-71, Method 100.1) and dry for the specified time (CGSB 1-GP-71, Method 98.4). Apply (CGSB 1-GP-71, Method 98.4) one coat of the material under test. Conduct the test in accordance with ASTM D 4587 using UVA 340 lamps. The operating cycle shall be 4 h UV at 60°C followed by 4 h condensation at 50°C , continuously for 15 d.

⁶ Except use a 24 h drying time between coats.

TABLE 1
Colour Evaluation

Wavelength nm	Reflectance %	Wavelength nm	Reflectance %
400	31.07	410	40.13
420	42.84	430	43.60
440	44.28	450	44.92
460	45.39	470	45.73
480	45.85	490	45.87
500	46.31	510	48.07
520	49.96	530	50.23
540	49.34	550	47.92
560	46.41	570	45.30
580	44.69	590	44.05
600	43.10	610	42.18
620	41.76	630	41.85
640	42.20	650	42.59
660	43.06	670	43.44
680	43.48	690	43.44
700	43.55		

7. NOTES

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

- a. Colour (par. 4.9.1)
- b. Preparation for delivery, if other than as specified (par. 5.1).

7.2 Recommended Practice

7.2.1 Information on preparation and application, and on other available systems can be found in CAN/CGSB-85.10.

7.3 Related Publication

7.3.1 Canadian General Standards Board (CGSB)
CAN/CGSB-85.10 — Protective Coatings for Metals.

7.4 Sources of Referenced Publications

The following addresses were valid at the date of publication.

- 7.4.1 The publications referred to in par. 2.1.1 and 7.3.1 may be obtained from the Canadian General Standards Board, Sales Centre, Gatineau, Canada K1A 1G6. Telephone (819) 956-0425 or 1-800-665-2472. Fax (819) 956-5644. E-mail ncr.cgsb-ongc@pwgsc.gc.ca. Web site www.ongc-cgsb.gc.ca.
- 7.4.2 The publications referred to in par. 2.1.2 may be obtained from Health Canada, Consumer Product Safety Bureau, MacDonald Building, 4th floor, 123 Slater Street, Ottawa, Ontario K1A 0K9. Telephone (613) 954-0104. Fax (613) 952-1994. Web site www.hc-sc.gc.ca.
- 7.4.3 The publications referred to in par. 2.1.3 may be obtained from the ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, U.S.A., telephone (610) 832-9585, fax (610) 832-9555, Web site www.astm.org or from IHS Canada, 1 Antares Drive, Suite 200, Ottawa, Ontario K2E 8C4. Telephone (613) 237-4250 or 1-800-267-8220. Fax (613) 237-4251. Web site www.ihs.com.
- 7.4.4 The publications referred to in par. 2.1.4, 2.1.5 and 2.1.6 may be obtained from IHS Canada, 1 Antares Drive, Suite 200, Ottawa, Ontario K2E 8C4. Telephone (613) 237-4250 or 1-800-267-8220. Fax (613) 237-4251. Web site www.ihs.com.

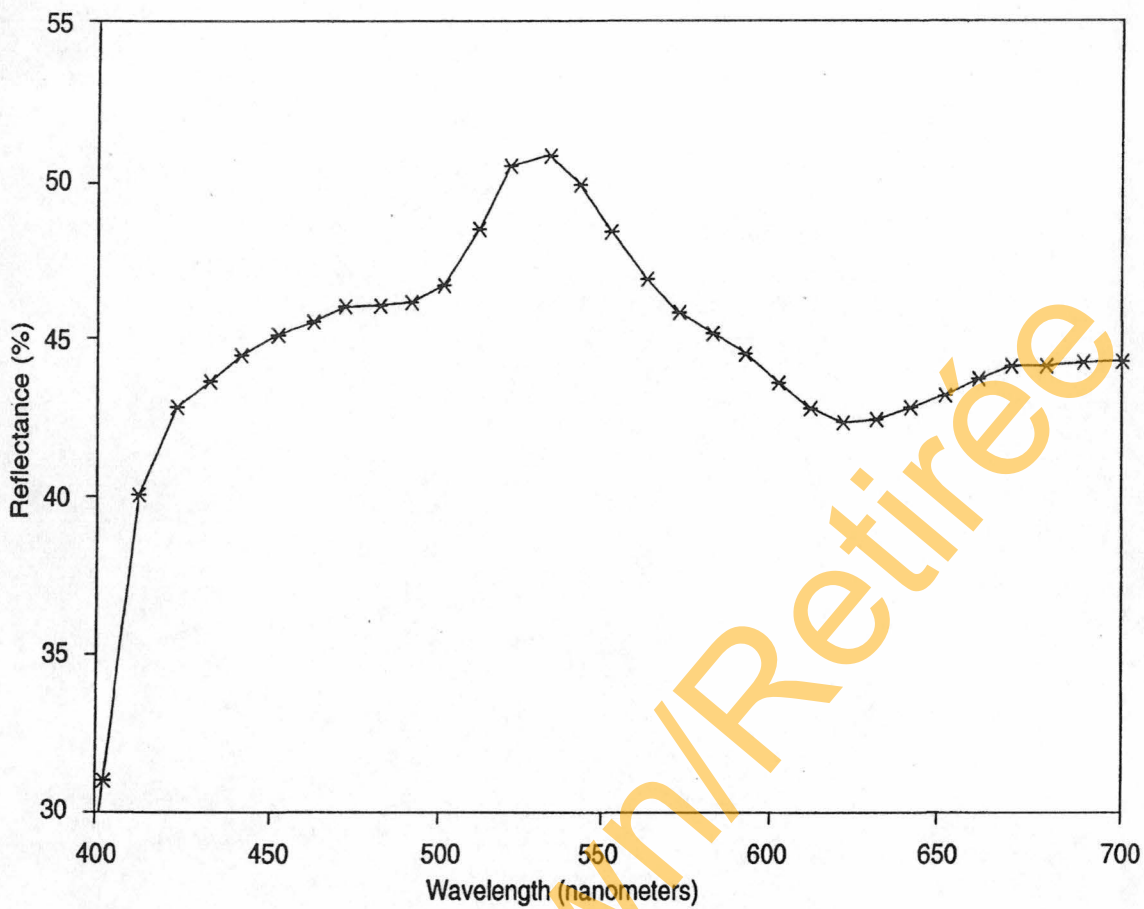


FIGURE 1
Colour Evaluation

Note: The line is to join the data points and is not a fit.



Withdrawn/Retirée