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These CGSB standards and National Standards of Canada are hereby withdrawn due to limited use and support for their revision.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

The information contained in these Standards was originally developed pursuant to a voluntary standards development initiative of the CGSB. The information contained therein may no longer represent the most current, reliable, and/or available information on these subjects. CGSB hereby disclaims any and all claims, representation or warranty of scientific validity, or technical accuracy implied or expressed respecting the information therein contained. The CGSB shall not take responsibility nor be held liable for any errors, omissions, inaccuracies or any other liabilities that may arise from the provision or subsequent use of such information. These Standards are

## 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.

Le Conseil canadien des normes exige que les organismes accrédités d'élaboration de normes, tel que l'ONGC, effectue régulièrement un examen des normes consensuelles afin de déterminer s'il y a lieu d'en renouveler l'approbation, de les réviser ou de les retirer. Le cycle d'examen d'une norme est généralement de cinq ans à partir de la date de publication de la dernière édition de celle-ci.

L'information contenue dans ces normes a été élaborée initialement en vertu d'une initiative volontaire d'élaboration de normes de l'ONGC. Elle peut ne plus représenter l'information disponible et/ou l'information la plus actuelle ou la plus fiable à ce sujet. L'ONGC décline par la présente toute responsabilité à l'égard de toute affirmation, déclaration ou garantie de validité scientifique ou d'exactitude technique implicite ou explicite relative à l'information contenue dans ces normes. L'ONGC n'assumera aucune responsabilité et ne sera pas tenu responsable quant à toute erreur, omission, inexactitude ou autre conséquence pouvant découler de la fourniture ou de l'utilisation subséquente de

to be referred to for archival purposes only as their content has been repealed as of the date on this withdrawal notice.

Archived copies of withdrawn standards for historic or archival purposes are still available from the CGSB Sales Centre by telephone at 819-956-0425 or 1-800-665-2472, by fax at 819-956-5740, by Internet at [www.tpsgc-pwgsc.gc.ca/ongc-cgsb/](http://www.tpsgc-pwgsc.gc.ca/ongc-cgsb/), by e-mail at [ncr.CGSB-ONGC@tpsgc-pwgsc.gc.ca](mailto:ncr.CGSB-ONGC@tpsgc-pwgsc.gc.ca) or by mail at Sales Centre, Canadian General Standards Board, 11 Laurier Street, Gatineau, Canada K1A 1G6.

**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.

Des copies archivées des normes retirées peuvent être obtenues à des fins historiques ou archivistiques auprès du Centre des ventes de l'ONGC. Il suffit d'en faire la demande par téléphone au 819-956-0425 ou 1-800-665-2472, par télécopieur au 819-956-5740, par Internet à : [www.tpsgc-pwgsc.gc.ca/ongc-cgsb/](http://www.tpsgc-pwgsc.gc.ca/ongc-cgsb/), par courriel à [ncr.CGSB-ONGC@tpsgc-pwgsc.gc.ca](mailto:ncr.CGSB-ONGC@tpsgc-pwgsc.gc.ca), ou par courrier adressé au Centre des ventes, Office des normes générales du Canada, 11, rue Laurier, Gatineau, Canada K1A 1G6.

**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 polyuréthannes (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'amiant  
(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-1.213-2004**

Supersedes CAN/CGSB-1.213-95

# **Etch Primer (Pretreatment Coating or Tie Coat) for Steel and Aluminum**

ICS 87.040

**National Standard of Canada**

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CGSB standards are subject to review and revision to ensure that they keep abreast of technological progress. Suggestions for their improvement, which are always welcome, should be brought to the notice of the standards committees concerned. Changes to standards are issued either as separate amendment sheets or in new editions of standards.

An up-to-date listing of CGSB standards, including details on latest issues and amendments, and ordering instructions, is found in the CGSB Catalogue, which is published annually and is available without charge upon request. An electronic version, ECAT, is also available. More information is available about CGSB products and services at our Web site — [www.ongc-cgsb.gc.ca](http://www.ongc-cgsb.gc.ca).

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.

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. CGSB neither assumes nor accepts any responsibility for any injury or damage that may occur during or as the result of tests, wherever performed.

Attention is drawn to the possibility that some of the elements of this Canadian standard may be the subject of patent rights. CGSB shall not be held responsible for identifying any or all such patent rights. Users of this standard are expressly advised that determination of the validity of any such patent rights are entirely their own responsibility.

Further information on CGSB and its services and standards may be obtained from:

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Strategic Standardization Division  
Canadian General Standards Board  
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# ETCH PRIMER (PRETREATMENT COATING OR TIE COAT) FOR STEEL AND ALUMINUM

Prepared by the

Canadian General Standards Board



Approved by the

Standards Council of Canada



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## CANADIAN GENERAL STANDARDS BOARD

**ETCH PRIMER (PRETREATMENT COATING OR TIE COAT)  
FOR STEEL AND ALUMINUM****1. SCOPE**

- 1.1 This standard applies to an etch primer (vinyl wash primer) for use as a pretreatment on bare metal or as a tie coat over zinc-coated steel before applying topcoats.
- 1.2 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-1.61 — Exterior and Interior Marine Alkyd Enamel  
1-GP-71 — Methods of Testing Paints and Pigments  
CAN/CGSB-1.164 — Solvent for Vinyl Pre-treatment Coating  
CAN/CGSB-1.212 — Chromate and Lead Free Marine Primer for Steel and Light Alloy Surfaces.
- 2.1.2 Health Canada  
Surface Coating Materials Regulations  
Consumer Chemicals and Containers Regulations, 2001  
Controlled Products Regulations (WHMIS)<sup>1</sup>.
- 2.1.3 Transport Canada  
Transportation of Dangerous Goods Act and Regulations.
- 2.1.4 ASTM International  
D 185 — Standard Test Methods for Coarse Particles in Pigments, Pastes and Paints  
D 209 — Standard Specification for Lampblack Pigment  
D 304 — Standard Specification for *n*-Butyl Alcohol (Butanol)  
D 605 — Standard Specification for Magnesium Silicate Pigment (Talc)  
D 1210 — Standard Test Method for Fineness of Dispersion of Pigment-Vehicle Systems by Hegman-Type Gage.
- 2.1.5 U.S. Military Specification  
MIL-M-3171C — Coating Compound, Metal Pre-Treatment, Resin-Acid.
- 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.

<sup>1</sup> WHMIS: Workplace Hazardous Materials Information System.

### 3. CLASSIFICATION

3.1 This primer shall be supplied in the following types as specified (par. 8.1):

#### 3.1.1 *Types*

Type 1 — Chromate-containing

Type 2 — Chromate-free

### 4. GENERAL REQUIREMENTS

4.1 The primer shall be supplied as a two-component system. The components (i.e. resin and acid) shall be packaged in separate containers and in accordance with the applicable regulations of the *Transportation of Dangerous Goods Act and Regulations*.

4.2 The raw material of the resin component shall be mixed and adequately dispersed to produce a product that is uniform, stable, free from grit. The ingredients of the acid component shall be uniform in composition.

4.3 The resin component shall be capable of being broken up with a paddle to a smooth, uniform consistency and shall not liver, thicken, curdle or gel.

4.4 **Mixing and Application Properties** — When mixed slowly together with constant agitation and in the proper proportion according to the manufacturer's instructions, the acid and resin components shall form a smooth homogeneous mixture and shall show no signs of gelling after storage for 8 h. The components shall be readily mixed at any temperature between 5 and 35°C, and shall be suitable for spray application within that temperature range without further dilution.

4.5 The primer shall exhibit good adhesion when applied to cleaned aluminum, steel and galvanized steel panels to a dry film thickness of 5 to 12 µm.

4.6 When stored in their respective original unopened containers for one year from date of shipment at temperatures not exceeding 40°C, the components shall be readily mixed to a uniform condition by stirring.

4.7 Type 2 primer should be similar to Type 1, i.e. an acid component based on phosphoric acid and a resin component based on the polyvinyl-butylal resin, but the inhibiting pigments must not contain chromates. Examples of possible formulae for Types 1 and 2 are given in Appendix A.

4.8 Instructions for use shall be included with the coating product and shall contain the following information and directives:

4.8.1 **Coating** — Vinyl wash primer (pre-treatment) is an etch primer for unpainted and untreated metals such as aluminum, cadmium, silver, steel, zinc, nickel, galvanized steel, copper, brass.

4.8.2 **Surface Preparation** — The surface shall be clean, dry and free from rust and grease. Any passivating treatments shall first be removed by mechanical means.

4.8.3 **Material Preparation** — Stir the base thoroughly and add the acid component slowly with constant agitation in the proportions recommended by the manufacturer.

4.8.4 **Application** — Refer to the manufacturer's instructions for spray application.

4.8.5 **Overcoating Time** — The coating shall not be overcoated before 30 min after application and shall be overcoated within 8 h.

4.8.6 **Coverage** — The recommended dry film thickness is 5 to 12 µm. This is a semi-transparent covering that will not hide the substrate.

#### 4.8.7 **Precautions**

— Only enough material should be mixed for use within an 8 h period, since after this time gelling may occur.

— The acid component must not be used as a thinner.

— Adequate ventilation must be provided at all times during the application of the etch primer.

4.8.8 The equipment may be cleaned with a solvent-thinner conforming to CAN/CGSB-1.164.

4.9 **Toxic Elements** — The primer 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.

## 5. DETAILED REQUIREMENTS

5.1 Type 1 primer shall comply with the following detailed requirements:

|       |                                                             | Test Method |      |                   |        |
|-------|-------------------------------------------------------------|-------------|------|-------------------|--------|
|       |                                                             | Min.        | Max. | CGSB<br>1-GP-71   | ASTM   |
| 5.1.1 | Pigment, % by mass                                          | 9.0         | 11.0 | 21.1 <sup>2</sup> | —      |
| 5.1.2 | Non-volatile vehicle, % by mass                             | 8.5         | 10.5 | 19.1              | —      |
| 5.1.3 | Coarse particles, % retained on 45 µm<br>(No. 325) sieve    | —           | 0.5  | —                 | D 185  |
| 5.1.4 | Consistency, Krebs Units                                    | 58          | 75   | 4.5               | —      |
| 5.1.5 | Fineness of grind, Hegman                                   | 6           | —    | —                 | D 1210 |
| 5.1.6 | Solvent content (Gas-liquid<br>chromatographic method)      | —           | —    | 28.5              | —      |
|       | a. <i>n</i> -Butanol, % by mass                             | 18          | —    | 28.5              | —      |
|       | b. Ethanol or isopropanol, % by mass                        | —           | 59   | 28.5              | —      |
| 5.1.7 | Vehicle composition, separate sample of<br>co-polymer resin |             |      |                   |        |
|       | a. Vinyl alcohol, % by mass                                 | 17.5        | 30   | 82.4              | —      |
|       | b. Butyraldehyde, % by mass                                 | 34          | 39   | 82.5              | —      |
| 5.1.8 | Acid component                                              |             |      |                   |        |
|       | a. Phosphoric acid, % by mass                               | 15.0        | 16.5 | 77.1              | —      |
|       | b. Distillation                                             |             |      |                   |        |
|       | Initial boiling point, °C                                   | 64          | 83   | —                 | —      |
|       | Temperature at 105 mL point, °C                             | —           | 83   | 28.4              | —      |
|       | Volume at end point, mL                                     | 130         | —    | —                 | —      |
|       | Maximum temperature during<br>distillation, °C              | —           | 102  | —                 | —      |

5.2 Type 2 primer shall comply with the following requirement:

5.2.1 When tested in accordance with ASTM D185, the percentage of coarse particles retained on a 45 µm (No. 325) sieve shall be a maximum of 0.2.

5.3 Types 1 and 2 primer shall comply with the following requirements:

5.3.1 **Drying Time** — When applied on a steel panel tested in accordance with CGSB 1-GP-71, Method 5.1, the mixed pretreatment coating shall dry hard in not more than 30 min.

<sup>2</sup> Except that ethanol shall be used as extraction fluid.

- 5.3.2 **Metal and Coating Anchorage** — When tested in accordance with par. 7.2.1, the mixed pretreatment coating shall show satisfactory substrate and intercoat adhesion.
- 5.3.3 **Salt-Spray Resistance** — When tested in accordance with CGSB 1-GP-71, Method 129.2, and exposed 8 h in the salt-spray cabinet, the coated steel shall comply with the following requirements:
- 5.3.3.1 **Scored Panels** — Scored panels shall not show more than 2 mm undercreep when examined immediately after the exposure period.
- 5.3.3.2 **Unscored Panels** — Unscored panels shall not show any rusting or evidence of blistering after the panels have dried for 2 h.

## 6. PREPARATION FOR DELIVERY

- 6.1 Unless otherwise specified (par. 8.1), preparation for delivery shall conform to normal commercial practice.
- 6.2 **Labelling** — In addition to complying with the labelling requirements of any relevant acts or regulations, each container of acid and resin components shall be suitably labelled stating the proportions of each to be used, and the following information:

Name of material

Standard number: CAN/CGSB-1.213-2004

NATO stock number (when required)

Manufacturer's name and address

Manufacturer's batch number

Manufacturer's code number

Date of manufacture

Instructions for use:

— thinning instructions

— instructions for cleaning brushes, spray equipment and tools

Cautionary notes:

— This material shall not be used over galvanized steel surfaces that have been previously treated with hexavalent chromium or other passivating treatments.

— The acid component shall not be stored in direct sunlight or at temperatures exceeding 40°C.

— The components shall not be mixed by shaking in a closed container.

— Materials more than one-year old shall be checked for serviceability before use.

— This is an acid-containing material and shall therefore be handled with care. Users shall refer to the Material Safety Data Sheet (MSDS) documentation for detailed instructions.

— Type 1 primer contains chromates.

## 6.3 Packaging

- 6.3.1 The acid component shall be packaged in suitable non-metallic containers.

## 7. INSPECTION

- 7.1 **Sampling** — Sampling shall be carried out in accordance with CGSB standard 1-GP-71, Method 1.1, except that 1 L samples of the resin and acid component shall be placed in separate, clean, dry suitable non-metallic containers.
- 7.2 **Testing**
- 7.2.1 **Metal and Coating Anchorage** — Coat (CGSB 1-GP-71, Method 98.2) a 100 × 300 mm prepared aluminum panel (CGSB 1-GP-71, Method 99.1), to a dry film thickness of 5 to 12 µm, with etch primer that has been previously

prepared according to the manufacturer's instructions. After air drying for 30 min, spray on the lower half of the panel one single wet coat of primer (CAN/CGSB-1.212) to an additional dry film thickness of  $37 \pm 3 \mu\text{m}$ . After the primer has air dried for 60 min, topcoat the lower half of the panel (which was previously primed) with one coat of enamel (CAN/CGSB-1.61) to a dry film thickness of  $50 \pm 3 \mu\text{m}$ . After the enamel has dried for 7 d, determine the adhesion of the pretreatment coating to the panel and to the outercoat system (CGSB 1-GP-71, Method 135.1).

### 3. NOTES

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

- a. Type of primer (par. 3.1)
- b. Preparation for delivery (par. 6.1).

### 3.2 Recommended Practices

3.2.1 Types 1 and 2 primers may be used as a tie-coat over a coating conforming to CAN/CGSB-1.171 or CAN/CGSB-1.183 and over clean galvanized steel surfaces that previously did not have a passivating treatment. They may also be used as a preliminary coat under a primer conforming to CAN/CGSB-1.212 with a non-ferrous substrate.

### 3.3 Compatibility of Coating

3.3.1 Although the vinyl pretreatment coating is compatible with bituminous coatings, it need not be used with bituminous materials that have good adhesion by themselves.

3.3.2 Type 2 primer may not be compatible with some polyurethane topcoats. A test panel should be used to confirm compatibility.

### 3.4 Related Publications

- 3.4.1 Canadian General Standards Board (CGSB)  
CAN/CGSB-1.171 — Coating, Inorganic Zinc  
CAN/CGSB-1.183 — Zinc Rich Epoxy Coating.

### 3.5 Sources of Referenced Publications

*The following addresses were valid at the date of publication.*

3.5.1 The publications referred to in par. 2.1.1 and 8.4.1 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.

3.5.2 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.

3.5.3 The publication referred to in par. 2.1.3 may be obtained from the Canadian Government Publishing, Communication Canada, Ottawa, Ontario K1A 0N5. Telephone 1-800-635-7943. Fax 1-800-565-7757. Web site <http://www.tc.gc.ca>.

3.5.4 The publications referred to in par. 2.1.4 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](http://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](http://www.ihs.com).

3.5.5 The publication referred to in par. 2.1.5 may be obtained from the Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, PA 19120, U.S.A.

(This appendix does not form a mandatory part of the standard.)

## A1. FORMULA TYPE 1

| Ingredients of Resin Component (250 L per 500 L of material) | Kg    | L     |
|--------------------------------------------------------------|-------|-------|
| Polyvinyl-butyril resin <sup>a</sup>                         | 19.1  | 17    |
| Zinc tetroxychromate <sup>b</sup>                            | 18.7  | 4.5   |
| Magnesium silicate (ASTM D 605)                              | 2.72  | 1.0   |
| Lampblack (ASTM D 209)                                       | 0.2   | 0.13  |
| Butanol, normal (ASTM D 304)                                 | 42.5  | 50.3  |
| Ethanol                                                      | 132.0 | 152.0 |
|                                                              |       |       |
| Requirements of Resin Component                              | Min.  | Max.  |
| Polyvinyl alcohol, % by mass                                 | 18.0  | 20.0  |
| Polyvinyl acetate, % by mass                                 | —     | 1.0   |
| Viscosity, 6% methanol, mPa at 20°C                          | 13    | 18    |
| Relative density at 20°C                                     | 1.05  | 1.15  |
|                                                              |       |       |
| Ingredients of Acid Component (250 L per 500 L of material)  | Kg    | L     |
| Phosphoric acid, 85% technical grade                         | 9.5   | 40.5  |
| Water, maximum                                               | 8.5   | 8.55  |
| Ethanol                                                      | 178.3 | 211.1 |

<sup>a</sup> The resin shall be a polyvinyl partial resin containing only polyvinyl butyral, polyvinyl alcohol and polyvinyl acetate in the molecule.

<sup>b</sup> The zinc chromate shall be the low-solubility type, containing 16 to 19% CrO<sub>3</sub>, 67 to 72% ZnO, and not more than 1% water soluble salts.

## A2. FORMULA FOR TYPE 2

| Ingredients of Resin (Pigment) Component                                                | Density | By Weight | By Volume |
|-----------------------------------------------------------------------------------------|---------|-----------|-----------|
| PVBR.B-76 or B-90                                                                       | 1.100   | 6.416     | 5.206     |
| Busan 11-M1                                                                             | 3.300   | 2.150     | 0.582     |
| Heucophos ZPO                                                                           | 3.700   | 0.720     | 0.174     |
| Firebrake ZB                                                                            | 3.640   | 0.720     | 0.177     |
| Nyral 200                                                                               | 2.800   | 1.600     | 0.510     |
| Yellow iron oxide 1150A                                                                 | 4.060   | 0.900     | 0.198     |
| Carbon Black-Sterling R                                                                 | 1.900   | 0.140     | 0.066     |
| Aerosil R-972                                                                           | 1.800   | 0.390     | 0.194     |
| Duomeen TDO                                                                             | 0.890   | 0.040     | 0.040     |
| Silane coupling agent A-1100                                                            | 0.950   | 0.510     | 0.479     |
| <i>n</i> -Butanol                                                                       | 0.811   | 21.604    | 23.777    |
| Isopropanol                                                                             | 0.786   | 64.810    | 73.590    |
| Total                                                                                   | —       | 100.000   | 105.000   |
| Ingredients of Acid (Catalyst) Component                                                | Density | By Weight | By Volume |
| 85% Phosphoric acid                                                                     | 1.682   | 13.540    | 7.380     |
| Water                                                                                   | 1.000   | 12.030    | 11.029    |
| Isopropanol                                                                             | 0.786   | 68.230    | 79.582    |
| <i>n</i> -Butanol                                                                       | 0.811   | 6.200     | 7.009     |
| Total                                                                                   | —       | 100.00    | 105.00    |
| <i>Note: The ratio of pigmented component to catalyst component is 85:15 by weight.</i> |         |           |           |
| Ingredients of Diluant (Thinner or Cleaner) <sup>a</sup>                                | Density | By Weight | By Volume |
| <i>n</i> -Butanol                                                                       | 0.811   | 25.00     | 25.683    |
| Isopropanol                                                                             | 0.786   | 75.00     | 79.362    |
| Total                                                                                   | —       | 100.00    | 105.00    |

<sup>a</sup> The required dilution of the product prior to application by spray is 15 parts by weight of diluant to 100 parts by weight of pigmented component. By incorporating the diluant in the catalyst, the ratio of pigmented component to the catalyst can be varied.

A2. FORMULE POUR LE TYPE 2

| Ingrédients du constituant résine (pigmenté)                                        | Densité | En masse | En volume |
|-------------------------------------------------------------------------------------|---------|----------|-----------|
| PVBR.B-76 ou B-90                                                                   | 1.100   | 6.416    | 5.206     |
| Busan 11-M1                                                                         | 3.300   | 2.150    | 0.582     |
| Heucophos ZPO                                                                       | 3.700   | 0.720    | 0.174     |
| Firebrake ZB                                                                        | 3.640   | 0.720    | 0.177     |
| Nytal 200                                                                           | 2.800   | 1.600    | 0.510     |
| Oxyde de fer jaune 1150A                                                            | 4.060   | 0.900    | 0.198     |
| Noir de carbone-Sterling R                                                          | 1.900   | 0.140    | 0.066     |
| Aerosil R-972                                                                       | 1.800   | 0.390    | 0.194     |
| Duomeen TDO                                                                         | 0.890   | 0.040    | 0.040     |
| Agent de pontage Silane A-1100                                                      | 0.950   | 0.510    | 0.479     |
| <i>n</i> -Butanol                                                                   | 0.811   | 21.604   | 23.777    |
| Isopropanol                                                                         | 0.786   | 64.810   | 73.590    |
| Total                                                                               | —       | 100.000  | 105.000   |
|                                                                                     |         |          |           |
| Ingrédients du constituant acide (catalyseur)                                       | Densité | En masse | En volume |
| Acide phosphorique à 85 %                                                           | 1.682   | 13.540   | 7.380     |
| Eau                                                                                 | 1.000   | 12.030   | 11.029    |
| Isopropanol                                                                         | 0.786   | 68.230   | 79.582    |
| <i>n</i> -Butanol                                                                   | 0.811   | 6.200    | 7.009     |
| Total                                                                               | —       | 100.00   | 105.00    |
| <i>Nota: Le rapport de la partie pigmentée au catalyseur est de 85:15 en masse.</i> |         |          |           |
|                                                                                     |         |          |           |
| Ingrédients du diluant (solvant ou agent nettoyant) <sup>a</sup>                    | Densité | En masse | En volume |
| <i>n</i> -Butanol                                                                   | 0.811   | 25.00    | 25.683    |
| Isopropanol                                                                         | 0.786   | 75.00    | 79.362    |
| Total                                                                               | —       | 100.00   | 105.00    |

<sup>a</sup> La dilution requise du produit avant l'application au pistolet est de 15 parties en masse de diluant pour 100 parties en masse du constituant pigmenté. Le rapport du constituant pigmenté au catalyseur peut être modifié par l'incorporation du diluant dans le catalyseur.

(La présente annexe ne constitue pas une partie obligatoire de la présente norme.)

## A1. FORMULE DE TYPE 1

| Ingrédients du constituant résine (250 L par 500 L de produit) | kg    | L     |
|----------------------------------------------------------------|-------|-------|
| Résine de poly (butyral de vinyle) <sup>a</sup>                | 19.1  | 17    |
| Chromate basique de zinc <sup>b</sup>                          | 18.7  | 4.5   |
| Silicate de magnésium (ASTM D 605)                             | 2.72  | 1.0   |
| Noir de lampe (ASTM D 209)                                     | 0.2   | 0.13  |
| Butanol normal (ASTM D 304)                                    | 42.5  | 50.3  |
| Éthanol                                                        | 132.0 | 152.0 |
|                                                                |       |       |
| Exigences relatives au constituant résine                      | Min.  | Max.  |
| Poly (alcool de vinyle), % en masse                            | 18.0  | 20.0  |
| Poly (acétate de vinyle), % en masse                           | —     | 1.0   |
| Viscosité d'une solution à 6% dans du méthanol à 20°C, mPa     | 13    | 18    |
| Densité relative à 20°C                                        | 1.05  | 1.15  |
|                                                                |       |       |
| Ingrédients du constituant acide (250 L par 500 L de produit)  | kg    | L     |
| Acide phosphorique (85 %, technique)                           | 9.5   | 40.5  |
| Eau, maximum                                                   | 8.5   | 8.55  |
| Éthanol                                                        | 178.3 | 211.1 |

<sup>a</sup> La résine doit être une résine polyvinylque dont la molécule est constituée de poly (butyral de vinyle), de poly (alcool de vinyle) et de poly (acétate de vinyle) uniquement.

<sup>b</sup> Le chromate de zinc doit être du type à faible solubilité, révélant à l'analyse une teneur en CrO<sub>3</sub> de 16 à 19 %, en ZnO de 67 à 72 % et d'au plus 1 % en sels solubles dans l'eau.