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CANADIAN GENERAL STANDARDS BOARD

GUIDE TO THE SELECTION OF PAINT STANDARDS ON USE BASIS

This standard is hereby withdrawn because of the lack of funding needed to maintain it. Its content is covered in part by CAN/CGSB-85.100-93, Painting.

OFFICE DES NORMES GÉNÉRALES DU CANADA

GUIDE POUR LE CHOIX DES NORMES DE PEINTURES, BASÉ SUR L'USAGE

Cette norme est retirée par le présent avis parce que le manque de financement ne permet plus de la maintenir en vigueur. Son contenu fait en partie l'objet de CAN/CGSB-85.100-93, Peinturage.

Canada

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GUIDE TO THE SELECTION OF PAINT STANDARDS ON USE BASIS

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FOREWORD

This Guide lists the standards for paints and related materials that have been prepared by the Canadian General Standards Board, and describes each material and its intended uses. This information will assist the user in the correct selection of a solvent, a coating or a coating system for a particular application. In addition, the Guide supplements the information provided in the CGSB Painting Standards (85-GP series), which deal with surface preparation and paint application in a number of environments and over various substrates.

Correspondence regarding this Guide should be addressed to the Canadian General Standards Board, Ottawa, Canada K1A 1G6.

Withdrawn/Retirée

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SECTION 1

USE OF GOVERNMENT PAINT STANDARDS

Standards for paint and related materials, for use across Canada by various institutions, organizations, companies, municipal and provincial governments as well as the Federal Government, are issued by the Canadian General Standards Board.

Each standard consists of a group of requirements relating to chemical composition, physical properties and performance characteristics. The requirements are established by paint technologists representing government agencies, testing laboratories and the paint industry, and are approved by the Committees on Paint, Pigments and Related Commodities. The complete standards are then issued after ratification by the Board.

Paint standards are intended for use in a procurement system that includes inspection procedures to ensure compliance with the requirements outlined in the standard. Systematic sampling and testing therefore becomes an essential part of the procurement process.

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SECTION 2

SAMPLING OF PAINT AND PAINT MATERIALS

1. GENERAL CONDITIONS

1.1 Sampling is the first step in the testing of paint materials. Unless this is carried out in a manner that will yield a truly representative sample, all subsequent analysis is of very little use.

1.2 Some testing organizations have their own inspectors to take samples at the plant where the product is being manufactured and packaged. This is usually a satisfactory system since it is comparatively easy to obtain a representative sample. The sample obtained is sealed and then dispatched to the testing laboratory while the sampled material is held pending the laboratory report.

1.3 Often it is not possible to have a representative at the plant, so samples are taken from the already packaged material. In other cases material is obtained that has been in stock for a considerable time. It is in these last instances that particular attention must be paid to the details of proper sampling.

1.4 The person selected to do the sampling should be one who appreciates the importance of obtaining a representative sample, and who has had instruction in sampling with particular stress on thorough mixing of material, size of sample required and cleanliness of container.

2. PROCEDURE

2.1 **Filled Containers** — Select at random a single unopened container from each batch*. When containers are of less than 4.5 L capacity, take a sufficient number to provide not less than 2.3 L (unless otherwise specified) from each batch. When the capacity of the containers exceeds 4.5 L, or 4.5 kg for powders, procure the sample by opening a container, removing any surface skin, thoroughly mixing the contents and withdrawing 2.3 L of material, or other specified amount. Place immediately in air-tight containers, completely filling them. Pay particular attention to the thorough mixing of the material in the container before withdrawing the sample. When powdered material cannot be conveniently mixed, take a cored sample. Samples must be representative of the contents of containers.

2.2 **Bulk Sampling of Liquids** — Mix the material in the tank thoroughly before completely filling two 1.1 L containers. If the containers are to be filled from a valve on the bottom or side of the tank, mix the material, draw off at least 22.7 L through the valve and return to the tank before taking the sample.

2.3 **Sampling of Putty** — Select at random a single unopened container from each batch* of 450 kg or less. When the capacity of the container exceeds 4.5 L, procure the sample by opening a container, removing any surface skin, thoroughly mixing the remaining material and withdrawing sufficient to fill a 0.6 L can. Prior to any test, remove surface skin from the sample and mix thoroughly if there is evidence of exudation.

Withdrawn/Retired

* A batch is defined as the end product of all the raw materials processed in a single grinding operation, a single mixing operation, or a combined grinding and mixing operation.

SECTION 3

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Alkyd Enamel, Interior, Semigloss	1-GP-57
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1-GP-59	Enamel, Exterior, Gloss, Alkyd Type
1-GP-61	Enamel, Alkyd, Marine, Exterior and Interior
1-GP-76	Enamel, Heat Resistant, Interior and Exterior
1-GP-88	Enamel, Alkyd Gloss, Air Drying and Baking
1-GP-98	Enamel, Alkyd, Air Drying and Baking, Gloss (Green 503-101)
1-GP-104	Enamel, Alkyd, Air Drying and Baking, Exterior, Semigloss
1-GP-114	Enamel, Quick-Drying, Flat
1-GP-116	Enamel, Modified Alkyd, Quick-Drying, Gloss (Green 503-101)
1-GP-117	Enamel, Modified Alkyd, Quick-Drying, Semigloss (Green 503-201)
1-GP-135	Enamel, Alkyd, Flat
1-GP-141	Enamel, Aluminum, Alkyd, Baking
1-GP-167	Enamel, Exterior, Basic Lead Silico-Chromate, Alkyd Type
1-GP-191	Enamel, Automotive Refinishing, Fast Drying, Gloss
1-GP-111	Lacquer, Flat, Hot and Cold Spray
1-GP-129	Lacquer, Cellulose Nitrate, for Ammunition Identification
1-GP-134	Lacquer, Cellulose Nitrate, Gloss, for Aircraft
1-GP-159	Lacquer, Acrylic, Cellulose Nitrate, Gloss
1-GP-160	Lacquer, Acrylic, Cellulose Nitrate, Camouflage
1-GP-19	Varnish Vehicle for Aluminum Paint
1-GP-99	Varnish, Phenolic Resin, Exterior and Marine
1-GP-146	Coating, Epoxy, Cold Cured, Gloss
1-GP-153	Coating, Epoxy, High Build, Gloss
1-GP-161	Coating, Coal Tar Base, Cold Application
1-GP-171	Coating, Inorganic Zinc
1-GP-177	Coating, Polyurethane, Two-Package, Resistant to Chalking and Yellowing
1-GP-180	Coating, Polyurethane, Two-Package, General Purpose
1-GP-181	Coating, Zinc-Rich, Organic, Ready-Mixed
1-GP-183	Coating, Zinc-Rich, Epoxy
1-GP-184	Coating, Coal Tar-Epoxy (Black)
1-GP-193	Coating, High-Build, Epoxy, Marine
1-GP-199	Coating, High-Build, Vinyl
1-GP-192	Deck Coating, Nonslip, Epoxy
1-GP-200	Deck Coating, Nonslip, Polyurethane

1.3 **For Light Alloy Surfaces, Exterior**

1-GP-121	Coating, Vinyl, Pretreatment, for Metals (Vinyl Wash Primer)
1-GP-81	Primer, Alkyd for Vehicles and Equipment, Air Drying and Baking
1-GP-132	Primer, Zinc Chromate, Low Moisture Sensitivity
1-GP-158	Primer, Cellulose Nitrate, Alkyd-Modified Type
1-GP-165	Primer, Epoxy, Cold Curing

Withdrawn/Retirée

1-GP-69	Paint, Aluminum
1-GP-93	Paint, Aluminum, Marine
1-GP-148	Paint, Camouflage, Removable, Flat
1-GP-169	Paint System, High Visibility (Fluorescent), Removable
1-GP-182	Paint, Vinyl, Exterior
1-GP-61	Enamel, Alkyd, Marine, Exterior and Interior
1-GP-76	Enamel, Heat Resistant, Interior and Exterior
1-GP-88	Enamel, Alkyd, Gloss, Air Drying, and Baking
1-GP-98	Enamel, Alkyd, Air Drying and Baking, Gloss (Green 503-101)
1-GP-104	Enamel, Alkyd, Air Drying and Baking, Exterior Semigloss
1-GP-114	Enamel, Quick-Drying, Flat
1-GP-116	Enamel, Modified Alkyd, Quick-Drying, Gloss (Green 503-101)
1-GP-117	Enamel, Modified Alkyd, Quick-Drying, Semigloss (Green 503-201)
1-GP-135	Enamel, Alkyd, Flat
1-GP-141	Enamel, Aluminum, Alkyd, Baking
1-GP-143	Enamel, Aluminum, Heat Resistant, Silicone-Alkyd
1-GP-111	Lacquer, Flat, Hot and Cold Spray
1-GP-129	Lacquer, Cellulose Nitrate, for Ammunition Identification
1-GP-134	Lacquer, Cellulose Nitrate, Gloss, for Aircraft
1-GP-159	Lacquer, Acrylic Cellulose Nitrate, Gloss
1-GP-160	Lacquer, Acrylic Cellulose Nitrate, Camouflage
1-GP-146	Coating, Epoxy, Cold Cured, Gloss
1-GP-153	Coating, Epoxy, High Build Gloss
1-GP-177	Coating, Polyurethane, Two-Package, Resistant to Chalking and Yellowing
1-GP-180	Coating, Polyurethane, Two-Package, General Purpose
1-GP-183	Coating, Zinc-Rich, Epoxy
1-GP-193	Coating, High-Build, Epoxy, Marine

1.4 For Miscellaneous Surfaces, Exterior

1-GP-102	Sealer, Clear, Alkyd Type
1-GP-142	Sealer, Clear, Alkali Resistant
1-GP-74	Paint, Traffic, Alkyd
1-GP-108	Paint, Acid and Alkali Resistant, Black
1-GP-138	Paint, Flat, Exterior, Latex Type
1-GP-149	Paint, Traffic, Reflectorized, Alkyd, White and Yellow
1-GP-182	Paint, Vinyl, Exterior
1-GP-144	Coating, Stucco and Masonry, Alkyd Type
1-GP-146	Coating, Epoxy, Cold Cured, Gloss
1-GP-153	Coating, Epoxy, High Build, Gloss
1-GP-162	Coating, Stucco and Masonry, Emulsion Type
1-GP-163	Coating, Stucco and Masonry, Dampproofing or Moisture Resistant
1-GP-177	Coating, Polyurethane, Two-Package, Resistant to Chalking and Yellowing
1-GP-180	Coating, Polyurethane, Two-Package, General Purpose
1-GP-184	Coating, Coal Tar-Epoxy (Black)
1-GP-193	Coating, High-Build, Epoxy, Marine

2. FOR INTERIOR USE

2.1 For Wood Surfaces, Interior

1-GP-102	Sealer, Clear, Alkyd Type
1-GP-103	Filler, Wood, Paste
1-GP-84	Primer, Alkyd, for Hardwood

Withdrawn/Retirée

1-GP-125	Paint, Priming, Marine, for Wooden Hulls
1-GP-38	Undercoater, Enamel, Interior
1-GP-69	Paint, Aluminum
1-GP-108	Paint, Acid and Alkali Resistant, Black
1-GP-195	Paint, Interior, Latex Type, Semigloss
1-GP-118	Finish, Interior, Alkyd, Flat
1-GP-52	Enamel, Alkyd, Marine, Interior, Fire Retardant
1-GP-57	Enamel, Interior, Semigloss, Alkyd
1-GP-59	Enamel, Exterior, Gloss, Alkyd Type
1-GP-60	Enamel, Interior, Gloss, Alkyd
1-GP-73	Enamel, Exterior and Interior, for Floors
1-GP-101	Enamel, Alkyd, Semigloss, for Machinery
1-GP-202	Enamel, Interior, Low Gloss, Alkyd
1-GP-150	Lacquer, Clear, for Wood Furniture
1-GP-16	Shellac Varnish
1-GP-145	Stain, Pigmented, Solvent Based
1-GP-19	Varnish, Vehicle for Aluminum Paint
1-GP-36	Varnish, General Purpose, Interior
1-GP-146	Coating, Epoxy, Cold Cured, Gloss
1-GP-151	Coating, Interior, Intumescent, Fire Retardant
1-GP-153	Coating, Epoxy, High Build, Gloss
1-GP-175	Coating, Polyurethane, Oil Modified, Interior, Clear, Gloss and Satin
1-GP-176	Coating, Polyurethane, Interior, Moisture Cured, Clear
1-GP-177	Coating, polyurethane, Two-Package, Resistant to Chalking and Yellowing
1-GP-180	Coating, Polyurethane, Two-Package, General Purpose
1-GP-152	Overcoat, for Fire Retardant Coating

2.2 **For Steel Surfaces, Interior**

1-GP-40	Primer, Structural Steel, Oil Alkyd Type
1-GP-48	Primer, Marine, for Steel
1-GP-81	Primer, Alkyd, for Vehicles and Equipment, Air Drying and Baking
1-GP-105	Primer, Quick-Drying
1-GP-140	Primer, Red Lead, Iron Oxide, Oil-Alkyd Type
1-GP-165	Primer, Epoxy, Cold Curing
1-GP-38	Undercoater, Enamel, Interior
1-GP-69	Paint, Aluminum
1-GP-93	Paint, Aluminum, Marine
1-GP-108	Paint, Acid and Alkali Resistant, Black
1-GP-182	Paint, Vinyl, Exterior
1-GP-195	Paint, Interior, Latex Type, Semigloss
1-GP-52	Enamel, Alkyd, Marine, Interior, Fire Retardant
1-GP-57	Enamel, Interior, Semigloss, Alkyd
1-GP-59	Enamel, Exterior, Gloss, Alkyd Type
1-GP-60	Enamel, Interior, Gloss Alkyd
1-GP-76	Enamel, Heat Resistant, Interior and Exterior
1-GP-88	Enamel, Alkyd, Gloss, Air Drying and Baking
1-GP-98	Enamel, Alkyd, Air Drying, and Baking, Gloss (Green 503-101)

Withdrawn/Retirée

1-GP-101	Enamel, Alkyd, Semigloss, for Machinery
1-GP-104	Enamel, Alkyd, Air Drying and Baking, Exterior, Semigloss
1-GP-114	Enamel, Quick-Drying, Flat
1-GP-116	Enamel, Modified Alkyd, Quick-Drying, Gloss (Green 503-101)
1-GP-117	Enamel, Modified Alkyd, Quick-Drying, Semigloss (Green 503-201)
1-GP-141	Enamel, Aluminum, Alkyd, Baking
1-GP-143	Enamel, Aluminum, Heat Resistant, Silicone-Alkyd
1-GP-111	Lacquer, Flat, Hot and Cold Spray
1-GP-129	Lacquer, Cellulose Nitrate, for Ammunition Identification
1-GP-134	Lacquer, Cellulose Nitrate, Gloss, for Aircraft
1-GP-128	Shellac and Shellac Solutions for Use in Ammunition
1-GP-16	Varnish, Shellac
1-GP-99	Varnish, Phenolic Resin, Exterior and Marine
1-GP-131	Compound, Waterproofing, Electrical Ignition
1-GP-300	Applied Coating System, Semigloss, Baked, for Metal Office Furniture
1-GP-152	Overcoat, for Fire Retardant Coating
1-GP-127	Coating, Internal, for Fresh-Water Storage Tanks
1-GP-146	Coating, Epoxy, Cold Cured, Gloss
1-GP-151	Coating, Interior, Intumescent, Fire Retardant
1-GP-153	Coating, Epoxy, High Build, Gloss
1-GP-161	Coating, Coal Tar Base, Cold Application
1-GP-171	Coating, Inorganic Zinc
1-GP-176	Coating, Polyurethane, Interior, Moisture Cured, Clear
1-GP-177	Coating, Polyurethane, Two-Package, Resistant to Chalking and Yellowing
1-GP-180	Coating, Polyurethane, Two-Package, General Purpose
1-GP-181	Coating, Zinc-Rich, Organic, Ready-Mixed
1-GP-187	Coating Compound, Anticondensation
1-GP-193	Coating, High-Build, Epoxy, Marine
1-GP-199	Coating, High-Build, Vinyl

2.3 **For Light Alloy Surfaces, Interior**

1-GP-121	Coating, Vinyl, Pretreatment, for Metals (Vinyl Wash Primer)
1-GP-81	Primer, Alkyd, for Vehicles and Equipment, Air Drying and Baking
1-GP-132	Primer, Zinc Chromate, Low Moisture Sensitivity
1-GP-165	Primer, Epoxy, Cold Curing
1-GP-69	Paint, Aluminum
1-GP-93	Paint, Aluminum, Marine
1-GP-148	Paint, Camouflage, Removable, Flat
1-GP-169	Paint System, High Visibility (Fluorescent), Removable
1-GP-182	Paint, Vinyl, Exterior
1-GP-61	Enamel, Alkyd, Marine, Exterior and Interior
1-GP-76	Enamel, Resistant, Interior and Exterior
1-GP-88	Enamel, Alkyd, Gloss Air Drying and Baking
1-GP-98	Enamel, Alkyd, Air Drying and Baking, Gloss (Green 503-101)
1-GP-104	Enamel, Alkyd, Air Drying and Baking, Exterior, Semigloss
1-GP-114	Enamel, Quick-Drying, Flat
1-GP-116	Enamel, Modified Alkyd, Quick-Drying, Gloss (Green 503-101)
1-GP-117	Enamel, Modified Alkyd, Quick-Drying, Semigloss (Green 503-201)
1-GP-135	Enamel, Alkyd, Flat
1-GP-141	Enamel, Aluminum, Alkyd, Baking
1-GP-143	Enamel, Aluminum, Heat Resistant, Silicone Alkyd

Withdrawn/Retirée

1-GP-111	Lacquer, Flat, Hot and Cold Spray
1-GP-129	Lacquer, Cellulose Nitrate, for Ammunition Identification
1-GP-134	Lacquer, Cellulose Nitrate, Gloss, for Aircraft
1-GP-152	Overcoat, for Fire Retardant Coating
1-GP-146	Coating, Epoxy, Cold Cured, Gloss
1-GP-151	Coating, Interior, Intumescent, Fire Retardant
1-GP-153	Coating, Epoxy, High Build, Gloss
1-GP-176	Coating, Polyurethane, Interior, Moisture Cured, Clear
1-GP-177	Coating, Polyurethane, Two-Package, Resistant to Chalking and Yellowing
1-GP-180	Coating, Polyurethane, Two-Package, General Purpose
1-GP-187	Coating Compound; Anticondensation
1-GP-193	Coating, Vinyl Build, Epoxy, Marine

2.4 For Wallboard, Plaster and Concrete Surfaces, Interior

1-GP-68	Primer-Sealer, Wall, Interior, Solvent Type
1-GP-119	Primer-Sealer, Wall Interior, Latex Type
1-GP-69	Paint, Aluminum
1-GP-100	Paint, Interior, Latex Type, Flat
1-GP-118	Paint, Interior, Alkyd, Flat
1-GP-154	Paint, Latex Type, for Concrete Floors
1-GP-195	Paint, Interior, Latex Type, Semigloss
1-GP-57	Enamel, Interior, Semigloss, Alkyd
1-GP-60	Enamel, Interior, Gloss Alkyd
1-GP-66	Enamel, Interior, for Concrete Floors
1-GP-73	Enamel, Exterior and Interior, for Floors
1-GP-202	Enamel, Interior, Low Gloss, Alkyd
1-GP-144	Coating, Stucco and Masonry, Alkyd Type
1-GP-146	Coating, Epoxy, Cold Cured, Gloss
1-GP-153	Coating, Epoxy, High Build, Gloss
1-GP-162	Coating, Stucco and Masonry, Emulsion Type
1-GP-163	Coating, Stucco and Masonry, Dampproofing or Moisture Resistant
1-GP-176	Coating, Polyurethane, Interior, Moisture Cured, Clear
1-GP-177	Coating, Polyurethane, Two-Package, Resistant to Chalking and Yellowing
1-GP-180	Coating, Polyurethane, Two-Package, General Purpose
1-GP-186	Coating System, Interior, High-Build, Glazed
1-GP-187	Coating Compound, Anticondensation
1-GP-193	Coating, High-Build, Epoxy, Marine

3. MISCELLANEOUS RELATED MATERIALS

3.1 Cements

1-GP-168	Cement, Cashew Copolymer, Lead Free

3.2 Finishes for Aircraft Fabric

1-GP-155	Dope, Tautening, for Aircraft Fabric

3.3 Marking and Obliterating Inks and Paints

1-GP-47	Paint, Obliterating
1-GP-106	Ink, Stencil, for Marking Porous Surfaces
1-GP-107	Ink, Stencil, for Marking Nonporous Surfaces
1-GP-115	Ink, Paste

Withdrawn/Retirée

1-GP-112	Lacquer, Stencil
1-GP-157	Marking Material, Black, Quick-Drying

3.4 Protective Coatings and Compounds

1-GP-120	Coating, Strippable, Protective
1-GP-121	Coating, Vinyl, Pretreatment, for Metals (Vinyl Wash Primer)
1-GP-127	Coating, Internal, for Fresh-Water Storage Tanks
1-GP-156	Coating, Clear, Quick Drying, for Ammunition
1-GP-161	Coating, Coal Tar Base, Cold Application
1-GP-187	Coating Compound, Anticondensation
1-GP-131	Compound, Waterproofing, Electrical Ignition
1-GP-147	Luting, Ammunition
1-GP-196	Preservative, Inorganic Zinc, Preconstruction
1-GP-137	Putty, Chromate, Corrosion Inhibiting
1-GP-128	Shellac and Shellac Solutions for Use in Ammunitions

3.5 Web Equipment Dressing

1-GP-15	Paint, Web Equipment Dressing, Waterproof

4. PAINT INGREDIENTS

4.1 Pigments

1-GP-9	Paste in Oil, White Lead, Basic Carbonate
1-GP-22	Aluminum Pigment for Paint, Powder
1-GP-24	Aluminum Pigment for Paint, Paste

4.2 Oils

1-GP-1	Oil, Linseed, Raw
1-GP-2	Oil, Linseed, Boiled

4.3 Thinners and Solvents

1-GP-164	Solvent for Vinyl Pretreatment Coating
1-GP-4	Thinner, Petroleum Spirits
1-GP-5	Thinner, Petroleum Spirits, Low Flash
1-GP-50	Thinner, Ester Type, for Lacquer Finishes
1-GP-70	Thinner, High Solvency
1-GP-94	Thinner, Xylene (Xylol)
1-GP-110	Thinner, General Purpose, for Lacquers
1-GP-124	Thinner for Vinyl Coatings
1-GP-136	Thinner, Antiblush, for Cellulose Nitrate Lacquer
1-GP-197	Thinner for Epoxy Coatings

Withdrawn/Retirée

5. PAINT COLOR SCALES AND STANDARDS

1-GP-12 Standard Paint Colors

- Part I — Color Identification and Selection
- Part II — Complete Set of 3 x 5 inch chips of all colors in Part I, assembled in individual envelopes and boxed
- Part III — Chromaticities and Luminous Reflectances

6. PAINT TEST METHODS

1-GP-71 Methods of Testing Paints and Pigments
1-GP-500 Methods of Test for Toxic Trace Elements in Protective Coatings

Withdrawn/Retirée

SECTION 5

GUIDE TO THE SELECTION OF PAINT STANDARDS

Withdrawn/Retirée

OIL, LINSEED, RAW

1. SCOPE

1.1 This standard applies to linseed oil, obtained by the expression or extraction of commercial quality flaxseed, and which is free from admixture with any other oils.

2. INTENDED USES

Raw linseed oil may be used in the manufacture of primers, varnishes, putty (19-GP-1M) and other protective coating materials. It can also be used for certain specialized applications such as lubrication of metals like anchor chains to prevent corrosion.

Withdrawn/Retired

OIL, LINSEED, BOILED

1. SCOPE

1.1 This standard applies to the product obtained by the treatment of raw linseed oil with heat and suitable drying agents.

2. INTENDED USES

Boiled linseed oil may be used in the manufacture of primers, varnishes, putty (19-GP-1M) and other protective coating materials. It can also be used for certain specialized applications such as lubrication of metals like anchor chains to prevent corrosion.

Withdrawn/Retiree

THINNER, PETROLEUM SPIRITS

1. SCOPE

1.1 This standard applies to mineral or white spirits type of petroleum distillate suitable for general use as a paint and varnish thinner.

2. INTENDED USES

2.1 Thinner complying with this standard is suitable for general use as a thinner for paint, varnish, and similar types of coating materials which do not require special thinners such as high solvency, or low flash thinners.

2.2 This thinner may be used to clean out brushes and spraying equipment where it is the specified reducer for the materials being supplied. Brushes should not be stored in this thinner.

Withdrawn/Retired

THINNER, PETROLEUM SPIRITS, LOW FLASH

1. SCOPE

1.1 This standard applies to a VMP Naphtha type petroleum distillate for use as a paint thinner, and other purposes where a product of higher volatility than 1-GP-4M thinner is suitable, and where no minimum flash point is stipulated.

2. INTENDED USES

2.1 Petroleum spirits complying with this standard may be used as a thinner for paint, varnish and similar types of coating materials that do not require special thinners; where a product of higher volatility than 1-GP-4M thinner is suitable; and where a low flash point does not constitute a hazard.

2.2 This thinner may be used to clean brushes and spraying equipment where it is a specified reducer for the materials being supplied. Brushes should not be stored in this thinner.

Withdrawn/Retirée

PASTE IN OIL, WHITE LEAD, BASIC CARBONATE

1. SCOPE

1.1 This standard applies to basic carbonate white lead ground in pure linseed oil.

2. INTENDED USES

2.1 White lead paste to this standard is intended for use as a bedding compound in the construction or repair of wooden boats, and for the protection of freshly machined ferrous surfaces.

2.2 The paste may be used as a threading compound for water and other service pipe lines.

2.3 The paste may also be used for bolt threads of removable units, such as anchor bolts for outdoor machines.

Withdrawn/Retirée

STANDARD PAINT COLORS

1. SCOPE

1.1 CGSB 1-GP-12c, Standard Paint Colors, is a collection of standard colors, each color identified with its own code. These colors are used (1) as the color reference in Paint and other CGSB Standards, (2) as a color selection guide, (3) as color reference in regulations, safety codes, highway signs and for other similar uses.

1.2 This standard has three parts as follows:

PART I: Color Identification and Selection Chart, being a collection of color chips measuring 9.5 x 32 mm and arranged on a heavy stock sheet folding to 21.6 x 28 cm. These color chips are suitable for identification and selection of colors.

PART II: The same collection of standard color chips, each chip measuring 76 x 127 mm and contained in a separate envelope. These larger chips are intended for detailed checking and color matching.

PART III: Chromaticities and Luminous Reflectances. These are the CIE chromaticity co-ordinates and luminous reflectances of each of the colors in 1-GP-12c and are intended for reference purposes and as a means of detecting gradual changes in color chips due to aging.

Withdrawn/Retired

PRIMER, RED LEAD IN OIL

1. SCOPE

1.1 This standard applies to a ready-mixed red lead linseed oil paint for use as a primer on structural steel.

2. INTENDED USES

2.1 This primer is intended for use on structural steel and other surfaces exposed to rural, industrial and marine atmospheres perticularly where surface preparation is limited.

3. METHODS OF APPLICATION

3.1 Owing to the high content of raw linseed oil, this primer is recommended for surfaces where preparation has been limited to scraping and wire brushing or which are difficult to clean properly. In such cases it must be applied by brush to ensure complete wetting of areas from which rust could not be removed. Better surface preparation will result in longer life.

3.2 The primer is suitable for application in the field or shop priming but its long drying time may interfere with shop work schedules. The primer should not be recoated with oil paints in less than 36 h nor with alkyds in less than 72 h under good drying conditions.

3.3 Although the primer whitens and chalks on long exposure prior to field coating, these surface changes do not affect its durability. It gives reasonably good performance in fresh or salt water immersion if first allowed to dry for several months. It is not recommended for galvanized surfaces.

3.4 Materials meeting the following standards are suitable topcoats for application over 1-GP-14M primer:

1-GP-28M – Paint, Exterior, Alkyd, House
1-GP-59M – Enamel, Exterior, Gloss, Alkyd Type.

Withdrawn/Retirée

PAINT, WEB EQUIPMENT DRESSING, WATERPROOF

1. SCOPE

1.1 This standard applies to coating material suitable for use as a waterproof dressing for web equipment.

2. DESCRIPTION

2.1 This material shall consist of suitable pigment mixtures adequately dispersed in a latex vehicle and shall be homogeneous upon chalking and shall be capable of being uniformly applied by brush, cloth or roller without lapping or streaking.

2.2 When evenly applied, the coating material should cleanse or cover marks on web equipment, and when dry, should present and retain an even, consistent color under ordinary conditions of wear. The coating material should not rub off on uniforms.

2.3 The material shall not contain wax, not be flammable, or give off disagreeable fumes or odors during or after application, and should not injure the skin.

3. INTENDED USES

3.1 Coating material complying with this standard is intended for use on web equipment (personal issue) as a dressing and waterproof protective coating.

Withdrawn/Retirée

SHELLAC VARNISH

1. SCOPE

1.1 This standard applies to a solution of shellac in suitable alcohols for use where a clear protective coating for wood is required.

2. DESCRIPTIVE

2.1 The shellac shall be the product manufactured from the secretion of the Tachardia lacca and shall be free from added resins and other adulterants.

3. INTENDED USES

3.1 Shellac varnish complying with the standard is intended for general use where a clear protective coating for wood is required. Type 1 may be used for knot sealings, but 1-GP-126M sealer is recommended for this purpose as a superior product.

3.2 Type 2 shellac varnish loses its ability to dry when stored, so purchases should be limited to amounts that will be used within six months of manufacture.

4. METHODS OF APPLICATION

4.1 Shellac varnish may be reduced in accordance with the manufacturer's instructions.

Withdrawn/Retirée

VARNISH VEHICLE FOR ALUMINUM PAINT

1. SCOPE

1.1 This standard applies to a durable, water-resistant phenolic varnish, suitable for use as a vehicle for general purpose interior and exterior aluminum paint.

2. INTENDED USES

2.1 Varnish to this standard is intended to be mixed with 1-GP-22M powder or 1-GP-24M paste aluminum pigment in the proportions described below, to yield a first quality general interior and exterior aluminum paint. The mixed paint is suitable for marine applications.

3. METHODS OF APPLICATION

3.1 Exterior metal surfaces should be primed with 1-GP-14M, 1-GP-40M or other suitable primer before application of the aluminum paint.

3.2 Exterior wood surfaces should be primed with 1-GP-55 primer before application of the aluminum paint.

3.3 For use in the temperature range 65-200°C. The varnish should be thinned 15% with 1-GP-4M thinner before mixing with aluminum powder or paste.

3.4 Where more severe heat conditions are encountered, 1-GP-143M aluminum paint should be used.

3.5 **Mixing Proportions** — In preparing aluminum paint, 1 L of 1-GP-19 varnish vehicle, shall be added to the following amounts of aluminum powder or paste pigment:

Class	1-GP-22	1-GP-24
A	100 g	150 g
B	150 g	250 g
C	250 g	375 g

3.6 **Mixing Instructions** — The varnish vehicle should be added to the aluminum pigment; never add the pigment to the vehicle. Use about 10% of the vehicle for the first addition, 10% for the second addition, 20% for the next, and finally the remaining 60%, stirring thoroughly after each addition. The small additions added initially are necessary to ensure development of maximum shearing action, which contributes to dispersion.

Withdrawn/Retiree

ALUMINUM PIGMENT FOR PAINT, POWDER

1. SCOPE

1.1 This standard applies to a paint pigment consisting essentially of finely divided aluminum metal in the form of dry flakes.

2. INTENDED USES

2.1 Aluminum pigment powder to this standard is intended for use as a pigment in preparing aluminum paints, enamels and lacquers, where aluminum paste pigment cannot be used because of incompatibility or other reasons.

2.2 **Class A** (Extra Fine Lining) — For special paint surfaces requiring a very smooth appearance. Since this class does not possess as great a resistance to atmospheric corrosion as Class B and Class C, owning to the extreme fineness of the pigment particles, it is intended for decorative interiors.

2.3 **Class B** (Standard Lining) — This class is considered to be the accepted choice for general purpose aluminum paints for both interior and exterior applications. It contributes maximum moisture impedance, and optimum flexibility and durability.

2.4 **Class C** (Coarse) — For aluminum paint and aluminum bituminous coatings where maximum reflectivity and brightness, both for interior and exterior applications, are required.

2.5 **Mixing Instructions** — The varnish vehicle should be added to the aluminum powder; never add the aluminum powder to the vehicle. Use about 10% of the vehicle for the first addition, 10% for the second addition, 20% for the next, and finally the remaining 60%, stirring thoroughly after each addition. The small additions added initially are necessary to ensure development of maximum shearing action which contributes to dispersion.

Withdrawn/Retiree

ALUMINUM PIGMENT FOR PAINT, PASTE

1. SCOPE

1.1 This standard applies to a paint pigment paste consisting essentially of finely ground aluminum metal in the form of flakes with an appropriate thinner.

2. INTENDED USES

2.1 Aluminum pigment paste to this standard is recommended for use in the preparation of aluminum paints because of its ease in handling and safety features.

2.2 **Class A** (Extra Fine Lining) – Intended for special paint surfaces requiring a very smooth appearance. Since this class does not possess as great a resistance to atmospheric corrosion as Class B and Class C, owing to the extreme fineness of the pigment particles, it is intended for decorative interiors.

2.3 **Class B** (Standard Lining) – This class is considered to be the accepted choice for general purpose aluminum paints for both interior and exterior applications. It contributes maximum moisture impedance and optimum flexibility and durability.

2.4 **Class C** (Coarse) – For aluminum paint and aluminum bituminous coatings where maximum reflectivity and brightness, for both interior and exterior applications, are required.

2.5 **Mixing Instructions** – The varnish vehicle should be added to the aluminum paste; never add the aluminum paste to the vehicle. Use about 10% of the vehicle for the first addition, 10% for the second addition, 20% for the next, and finally the remaining 60%, stirring thoroughly after each addition. The small additions added initially are necessary to ensure development of maximum shearing action which contributes to dispersion.

Withdrawn/Retirée

PAINT, EXTERIOR, ALKYD, HOUSE

1. SCOPE

1.1 This standard applies to an alkyd house paint for general use on properly prepared and primed wood and metal surfaces with the exception of floors.

2. INTENDED USES

2.1 Paint complying with this standard is intended for use as a house paint for general exterior use on properly prepared and primed wood and incidental metal surfaces associated with wood structures. Where a self-cleaning type of oil paint is considered preferable, 1-GP-109M may be used.

2.2 Paints to this standard should not be used as exterior floor paint.

3. METHODS OF APPLICATION

3.1 **Previously Unpainted Wood Surfaces and Painted Wood Surfaces** — Previously unpainted wood surfaces should receive one coat of 1-GP-189M primer followed by two coats of alkyd house paint. On previously painted wood surfaces, apply one or two coats as necessary when there are no film defects. If blistering, cracking or flaking has occured, wire brush or scrape areas of failure and spot prime with 1-GP-55 or 1-GP-189M primer before application of the paint.

3.2 **Galvanized Sheeting** — New galvanized sheeting or galvanized sheeting that has been exposed to the weather must have dirt and grease thoroughly removed with a solvent such as 1-GP-4M mineral spirits. It should then be coated with 1-GP-178M zinc dust/zinc oxide primer or 1-GP-198M cementitious primer and topcoated with 1-GP-28M alkyd paint. Other systems for coating galvanized sheeting, and information on preparation and application, are outlined in 85-GP-16M, Painting Galvanized Steel.

3.3 **Other Metal Surfaces** — Before topcoating with 1-GP-28M, metal surfaces must first be cleaned as in par. 3.2 then coated with 1-GP-40M on 1-GP-140M primer. If sufficient time is available for drying, 1-GP-14M primer may be used.

Withdrawn/Retiree

VARNISH, GENERAL PURPOSE, INTERIOR

1. SCOPE

1.1 This standard applies to alkyd varnish for general interior use on woodwork, including floors.

2. INTENDED USES

2.1 Varnishes complying with this standard are intended for interior use on furniture, wood work and wood floors, but if better wear properties are desired then urethane coatings conforming to 1-GP-175M, 1-GP-176M or 1-GP-180M Type 1 should be used. Type 1 varnish to this standard is for general use whereas Type 2 varnish is for general use except on floors.

3. METHODS OF APPLICATION

3.1 In the finishing of new work, or when the previously finished coats have been completely removed, it may be necessary to consider filling and staining as required before topcoating with this varnish.

3.2 Previously finished surfaces should be washed thoroughly and lightly sanded before application of this varnish. It is particularly important to have all traces of wax removed.

3.3 Varnish to this standard should not be applied over rubber or asphalt floor tiles.

Withdrawn/Retired

UNDERCOATER, ENAMEL, INTERIOR

1. SCOPE

1.1 This standard applies to an undercoater paint for interior use on unprimed wood or on previously painted surfaces, preparatory to finishing with enamel.

2. INTENDED USES

2.1 **New Work** — This undercoater is intended for use on new interior surfaces preparatory to top coating with semigloss or gloss enamel.

2.2 **Old Work** (Previously Painted Surfaces) — The undercoater may be used in refinishing previously painted gloss or semigloss surfaces.

3. METHODS OF APPLICATION

3.1 Undercoater complying with this standard is designed for application by brush or roller-coater. It may also be sprayed when reduced in accordance with the manufacturer's instructions.

3.2 **New Work** — Best results will be obtained if the undercoater, after it has dried 18 h, is lightly sanded before the topcoat is applied.

3.3 **Old Work** (Previously Painted Surfaces) — The previously painted surfaces should be washed until free from dirt, grease and wax, rinsed thoroughly and dried before applying the undercoater. In refinishing previously painted surfaces that may be porous, 1-GP-68M or 1-GP-119M will provide better results.

3.4 **Topcoats** — The following topcoats are normally used with this undercoater:

1-GP-57M Enamel, Interior, Semigloss, Alkyd Type
1-GP-60M Enamel, Interior, Gloss, Alkyd Type
1-GP-100M Paint, Interior, Latex Type, Flat
1-GP-202M Enamel, Interior, Low Gloss, Alkyd

Withdrawn/Retirée

PRIMER, STRUCTURAL STEEL, OIL ALKYD TYPE

1. SCOPE

1.1 This standard applies to zinc chromate-iron oxide primer suitable for use on ferrous surfaces such as structural steel.

2. INTENDED USES

2.1 Primer complying with this standard is intended for use on bridges and similar rough structural steel, either as a shop primer or a field primer, where good durability to atmospheric exposure is required. It is characterized by easy brushing on rough steel, good penetration into voids (rather than bridging the depressions), ability to cling to sharp edges (such as bolt heads) and having good weather resistance.

2.2 The primer is suitable for rural, industrial and marine atmospheres.

3. METHODS OF APPLICATION

3.1 Because 50% of the vehicle of this primer consists of linseed oil, the primer is suitable for application to surfaces where preparation has been limited, and may be applied over hand-cleaned steel. However, such cleaning must be carried out thoroughly because of the reduced wetting and faster drying characteristics imparted by the alkyd resin content. Better surface preparation than hand cleaning will result in better adhesion and longer life.

3.2 Materials to the following standards are suitable topcoats for application over 1-GP-40M primer:

1-GP-28M Paint, Exterior, Alkyd, House
1-GP-59M Enamel, Exterior, Gloss, Alkyd Type

Withdrawn/Retired

PAINT, OBLITERATING

1. SCOPE

1.1 This standard applies to a quick-drying paint to be applied on wood or metal surfaces to obliterate previous markings and provide a surface suitable for application of new stencilling.

2. INTENDED USES

2.1 This paint is intended primarily to cover previous paint or stencil markings on cardboard, wood or metal packaging materials so that new stencilling may be applied within one hour.

2.2 This paint is not intended for use as an enamel undercoat over markings.

3. METHODS OF APPLICATION

3.1 Obliterating paint is applied by brush.

3.2 Previous paint markings are allowed to dry at least 18 h before coating.

3.3 The following stencilling materials may be used with this paint:

1-GP-106 Ink, Stencil, for Marking Porous Surfaces
1-GP-107 Ink, Stencil, for Marking Nonporous Surfaces
1-GP-112 Lacquer, Stencil
1-GP-115 Ink, Paste

Withdrawn/Retirée

PRIMER, MARINE, FOR STEEL

1. SCOPE

1.1 This standard applies to priming paint suitable for interior and exterior use on steel aboard ships under conditions of marine atmosphere and intermittent immersion in salt water.

2. INTENDED USES

2.1 This primer is intended for use on ferrous metals aboard ships.

3. METHODS OF APPLICATION

3.1 This primer is usually applied over 1-GP-121M pretreatment coating.

3.2 It may be used as primer over steel of structural members, machinery and equipment, that has been phosphated, pickled, blasted or mechanically cleaned.

3.3 Information regarding preparation and application, and other available systems, may be obtained by referring to 85-GP-11 Painting Steel for Protection Against Continuous Wetting.

Withdrawn/Retirée

THINNER, ESTER TYPE, FOR LACQUER FINISHES

1. SCOPE

1.1 This standard applies to a solution of organic liquids in which the active solvent portion for lacquer is of the ester type.

2. INTENDED USES

2.1 This thinner is intended for thinning of lacquer finishes to spraying consistency where the odor of other thinners is objectionable.

2.2 This thinner is suitable for general use as a lacquer thinner and is used in thinning 1-GP-111, 1-GP-112, 1-GP-129 and 1-GP-134M lacquers.

3. METHODS OF APPLICATION

3.1 Under high humidity conditions, a suitable portion of 1-GP-136 thinner should be added to prevent blushing.

3.2 Thinners supplied to this standard may be injurious to the operatives and should be used with adequate ventilation.

Withdrawn/Retirée

ENAMEL, ALKYD, MARINE, INTERIOR, FIRE RETARDANT*

1. SCOPE

1.1 This standard applies to semigloss fire-retardant* enamel suitable for use as an interior finish coat on ships under conditions of marine atmosphere.

2. INTENDED USES

2.1 Enamel complying with this standard is intended for use as an interior finish coat aboard ship.

3. METHODS OF APPLICATION

3.1 This enamel may be applied over steel, primed with 1-GP-48M, aluminum, primed with 1-GP-132M, and wood, primed with 1-GP-125M primer.

3.2 For detailed information on the proper methods of application of marine paints, see Canadian Forces Technical Order CFTO C-03-010-016/AM-000, Schedule of Instructions for the Pretreatment and Painting of HMC Ships.

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* The term "fire retardant" indicates that the paint is fire retardant only to the extent that the fully cured paint film will not support combustion.

Withdrawn/Retirée

PRIMER, WOOD, EXTERIOR

1. SCOPE

1.1 This standard applies to ready-mixed pigmented oil paint for use as a primer on exterior woodwork under an oil or latex paint system.

2. INTENDED USES

2.1 Primer complying with this standard is intended for use on unpainted and previously painted exterior wood surfaces.

3. METHODS OF APPLICATION

3.1 This primer may be topcoated with either oil or latex exterior paints.

3.2 Primer made in accordance with this standard is designed for brush application.

3.3 This primer must be allowed to dry at least 24 h at normal temperatures (approximately 21°C) before topcoating.

3.4 **Previously Painted Surfaces** — All blistering, cracking and flaking areas are to be completely removed by wire brushing, scraping or burning off before spot-priming with 1-GP-55 primer. When the previous finish has failed and a blister-resistant paint system is required, all the old paint shall be completely removed before applying 1-GP-55 primer.

3.4.1 When an exterior latex topcoat is to be used, all defects are first treated as in par. 3.4. Following this, a coat of 1-GP-55 primer is applied over the whole area before applying the 1-GP-138 paint. This applies to moderately chalked surfaces. Heavily chalked surfaces must have the bulk of the chalked material removed before applying 1-GP-55 primer.

3.5 Topcoats normally used with this primer are as follows:

1-GP-28M	Paint, Exterior, Alkyd, House
1-GP-109M	Paint, Lighthouse, White
1-GP-138M	Paint, Exterior, Latex Type, Flat

Withdrawn/Retirée

ENAMEL, INTERIOR, SEMIGLOSS, ALKYD

1. SCOPE

1.1 This standard applies to ready-mixed, semigloss enamel suitable for use on primed, sealed or previously painted nonporous interior surfaces, with the exception of floors.

2. INTENDED USES

2.1 This enamel may be used on all suitably prepared interior surfaces, wood, metal, plaster, plasterboard, fiberboard or cement as required. It may be used in dwellings, offices and warehouses where relatively mild, environmental conditions exist. It may not give good service in factory areas or under more severe conditions of exposure.

2.2 This enamel is used for finishing primed, properly sealed or previously painted nonporous interior surfaces with the exception of floors.

3. METHODS OF APPLICATION

3.1 Semigloss enamel made in accordance with this standard is designed for application by brush or roller-coater. It may also be sprayed when reduced in accordance with the manufacturer's instructions.

3.2 Previously painted walls and woodwork should be dry, clean and free from dirt, grease or loose paint. The enamel should not be used over glue sizing, kalsomine or wallpaper; these should be removed. Surfaces that have been sanded through or repaired should be primed or sealed, respectively, before finishing; otherwise proper holdout will not be obtained, resulting in nonuniform finish. Shellac should not be used for spot-priming over patched areas. It should be noted that, in general, flat paints are not proper sealers.

3.3 **New Work (Unpainted)**

Wood: Apply 1-GP-38M, finish with 1-GP-57M.

Walls: Seal with 1-GP-119M; finish with 1-GP-57M.

3.4 **Old Work (Previously Painted)**

Nonabsorbent Wood or Wall Surfaces — Apply directly.
Absorbent Wood Surfaces — Prime with 1-GP-38M; finish with 1-GP-57M.
Absorbent Wall Surface — Seal with 1-GP-119M; finish with 1-GP-57M.

Withdrawn/Retiree

ENAMEL, EXTERIOR, GLOSS, ALKYD TYPE

1. SCOPE

1.1 This standard applies to durable weather-resistant enamel suitable for exterior use on primed metal surfaces and wood surfaces, with the exception of floors.

2. INTENDED USES

2.1 Enamel complying with this standard is intended primarily as a topcoat finish for primed structural steel, or as trim finish for wood, and for use on incidental metal. A particular use is for the identification and marking of fire alarm systems, fire fighting equipment and accessories, for which Red 509-102 is the accepted color.

3. METHODS OF APPLICATION

3.1 For exterior application it is intended for use over steel previously coated with 1-GP-40M or 1-GP-140M primer; if sufficient time can be allowed for drying, 1-GP-14M primer may be used.

3.2 When repainting ferrous surfaces, all loose rust or loose paint should be removed by wire brushing, scraping or other suitable means followed by spot priming with 1-GP-14M, 1-GP-40M or 1-GP-140M primer before topcoating. Galvanized surfaces should first be cleaned and primed with 1-GP-178M zinc dust/zinc oxide alkyd primer.

3.3 For exterior application on previously unpainted wooden surfaces, one coat of 1-GP-189M primer should be applied, followed by two coats of enamel. On previously painted wooden surfaces one or two coats of enamel may be applied, as necessary when there are no film defects. If blistering, cracking or flaking has occured, the areas of failure should be wire brushed or scraped and spot primed with 1-GP-189M primer before application of the enamel. The primer should be allowed to dry at least 18 h before application of the enamel topcoat.

Withdrawn/Retired

ENAMEL, INTERIOR, GLOSS, ALKYD

1. SCOPE

1.1 This standard applies to gloss enamel suitable for use on primed or previously painted interior surfaces, with the exception of floors.

2. INTENDED USES

2.1 Enamels complying with this standard are intended for interior use only, particularly for kitchens, bathrooms, wood trim, dado, etc.

2.2 This enamel may be used on all suitably prepared interior surfaces (except floors), wood, metal, plaster, plasterboard, fiberboard or cement, as required. It may be used in dwellings, offices and warehouses where relatively mild, environmental conditions exist. It may not give good service in factory areas or under more severe conditions of exposure.

3. METHODS OF APPLICATION

3.1 For previously unpainted walls and ceilings, apply one coat of either 1-GP-68M or 1-GP-119M primer-sealer before topcoating with the enamel.

3.2 For previously unpainted wooden surfaces, apply one coat of 1-GP-38M enamel undercoater and sand lightly before topcoating.

3.3 For previously painted gloss or semigloss surfaces, wash down thoroughly and sand lightly before application of topcoat.

3.4 Over previously painted flat surfaces (except 1-GP-100M paint), reseal with 1-GP-68M or 1-GP-119M primer-sealer before topcoating.

3.5 For additional information on the application of 1-GP-60M enamel see 85-GP-33M, Painting of Interior Plaster and Wallboard.

Withdrawn/Retirée

ENAMEL, ALKYD, MARINE, EXTERIOR AND INTERIOR

1. SCOPE

1.1 This standard applies to enamel suitable for use on the exterior or interior of ships under conditions of marine atmosphere and intermittent immersion in sea water.

2. INTENDED USES

2.1 Enamel to this standard is intended for use as an exterior finish on ships, boats, deck machinery and equipment under conditions of marine atmosphere and intermittent immersion in sea water.

2.2 It is also suitable for use as an interior finish aboard ship.

3. METHODS OF APPLICATION

3.1 It is suitable for application by brush or roller and may be sprayed when thinned in accordance with the manufacturer's instructions.

3.2 It may be applied as a finish coat on aluminum over 1-GP-132M primer, on steel over 1-GP-48M primer, and on wood over 1-GP-125M primer.

3.3 The glossy surface of the material is intended to withstand washing with 2-GP-115M or 2-GP-175M detergent.

3.4 Additional information regarding preparation and application and information in respect to other available systems may be obtained by referring to 85-GP-11M Painting Steel for Protection against Continuous Wetting.

Withdrawn/Retiree

ENAMEL, INTERIOR, FOR CONCRETE FLOORS

1. SCOPE

1.1 This standard applies to enamel suitable for use on interior concrete floors.

2. INTENDED USES

2.1 Materials complying with this standard are high-quality alkali-resistant floor enamels for use on dry interior concrete floors, but may also be used on associated interior concrete and masonry surfaces. On fully cured floors 1-GP-73M enamel may be used.

3. METHODS OF APPLICATION

3.1 Two coats of floor enamel are customarily used on floors without a primer, the first coat being reduced in accordance with manufacturers' instructions. When painting of previously painted floors is required, it is recommended that a patch test be made to ascertain that application of 1-GP-66M enamel will not cause lifting of the previous coat.

3.2 With most floors, normal thinning (par. 3.1) of the first coat is sufficient after sweeping; powdery concrete floors may be hardened with a solution of magnesium fluosilicate applied in accordance with the manufacturer's instructions before the enamel is applied.

3.3 Extremely smooth, base concrete should be given a preliminary wash with 10% hydrochloric (muriatic) acid, rinsed thoroughly and dried before the enamel is applied.

3.4 Additional information regarding preparation and application and information in respect to other available systems may be obtained by referring to 85-GP-32M, Painting of Concrete Floors.

3.5 This enamel is not designed to have a high resistance to solvents or to withstand hydrostatic pressure.

3.6 The enamel (normally) has a strong odor and should therefore be used with adequate ventilation.

Withdrawn/Retirée

PRIMER-SEALER, WALL, INTERIOR, SOLVENT TYPE

1. SCOPE

1.1 This standard applies to an interior wall primer-sealer normally used for sealing fully cured plaster or previously painted porous surfaces.

2. INTENDED USES

2.1 This primer-sealer is intended primarily for application over previously unpainted surfaces such as dry fully cured plaster, and over previously painted porous surfaces such as may be encountered when repainting over flat wall finishes. The primer-sealer must be allowed to dry 18 h before top-coating.

3. METHODS OF APPLICATION

3.1 Newly plastered surfaces should not be painted if the moisture content, as indicated by a moisture meter, is more than 16%.

3.2 The primer-sealer may be applied by brush, roller-coater or spray.

3.3 High hiding in a primer-sealer is often undesirable since this normally detracts from sealing qualities. The hiding produced by, or resulting from, one coat of sealer followed by one coat of semigloss enamel should be satisfactory.

3.4 On some types of wall board 1-GP-68M primer-sealer may give rise to so-called "peach fuzz". If this occurs, sand lightly and apply a second coat of primer-sealer. Emulsion sealers of the 1-GP-119M type minimize the occurrence of this problem, and one coat of this type of sealer may be used as an alternative to two coats of 1-GP-68M primer-sealer.

3.5 Where a three-coat system is specified in flat finish, it is desirable to employ a split coat for the second coat, using one part of primer-sealer and two parts of flat paint, provided that the two products are compatible, to eliminate danger of "ghosting" or "flashing."

3.6 Materials meeting the following standards may be used as topcoats with this primer-sealer:

1-GP-57M Enamel, Interior, Semigloss, Alkyd Type
1-GP-60M Enamel, Interior, Gloss, Alkyd Type
1-GP-100M Paint, Interior, Latex Type, Flat
1-GP-118M Finish, Interior, Alkyd, White and Tints, Flat
1-GP-195M Paint, Interior, Latex Type, Semigloss
1-GP-202M Enamel, Interior, Low Gloss, Alkyd.

Withdrawn/Retiree

PAINT, ALUMINUM

1. SCOPE

1.1 This standard applies to ready-mixed aluminum paint suitable for general interior and exterior use on wood or metal surfaces.

2. INTENDED USES

2.1 Aluminum paint complying with this standard is intended for general interior and exterior use on wood and metal surfaces. It is not intended for use under high temperature or marine conditions.

3. METHODS OF APPLICATION

3.1 Exterior wood surfaces should be primed with 1-GP-189M primer before application of aluminum paint.

3.2 Exterior ferrous metal surfaces should be primed with 1-GP-14M, 1-GP-40M, 1-GP-140M or other suitable primer before application of aluminum paint.

3.3 Exterior galvanized surfaces should be primed with 1-GP-121M vinyl wash primer, 1-GP-178M zinc dust/zinc oxide primer or 1-GP-198M cementitious primer before application of aluminum paint.

3.4 Where severe conditions are likely to be encountered, 1-GP-93M marine aluminum paint or 1-GP-143M high temperature aluminum paint should be used.

3.5 For details in respect to surface preparation and other available systems, refer to the following:

85-GP-1M Painting of Exterior Unpainted Wooden Surfaces
85-GP-14M Painting Steel Surfaces Exposed to Normally Dry Weather
85-GP-16M Painting Galvanized Steel.

Withdrawn/Retiree

THINNER, HIGH SOLVENCY

1 SCOPE

1.1 This standard applies to a high-solvency thinner suitable for use with synthetic resin finishes.

2. INTENDED USES

2.1 Thinner complying with this standard is suitable for general thinning of synthetic-resin-base finishes requiring a higher solvent power than provided by 1-GP-4M thinner, but not as high as 1-GP-94M thinner.

2.2 It is particularly suited for thinning materials for spray application because it evaporates faster than 1-GP-4M thinner and the sprayed materials should show less tendency to sag.

Withdrawn/Retirée

METHODS OF TESTING PAINTS AND PIGMENTS

1. SCOPE

1.1 CGSB 1-GP-71 contains physical and chemical methods of testing paints, pigments and related commodities for conformance with the standards issued by the Canadian General Standards Board and with legislation enacted by the Government of Canada. These methods are intended to provide a uniform basis for testing and thus eliminate divergence in results arising from variations in the methods used.

1.2 The responsibility for providing new methods and keeping existing methods up-to-date is vested in the CGSB Committee on Test Methods. The committee has representatives from government, defence establishments, the coatings industry and industrial laboratories.

1.3 A Canadian Co-operative Paint Exchange operated under the direction of the Paint Committee evaluates test methods and is intended to improve them and where feasible, provides results of co-operative work which may be used to develop precision limits for 1-GP-71 Test Methods.

Withdrawn/Retirée

ENAMEL, EXTERIOR AND INTERIOR, FOR FLOORS

1. SCOPE

1.1 This standard applies to a durable water-resistant enamel suitable for exterior and interior use on wooden and fully cured concrete floors.

2. INTENDED USES

2.1 The requirements of this standard relate to high quality exterior and interior floor enamels normally used as a finish coat on wooden floors, porches, other wooden surfaces and fully cured (at least one year old) concrete floors subject to wear by normal foot traffic.

3. METHODS OF APPLICATION

3.1 **New Wood** — For new wood, the surface should be primed with the enamel reduced with 1-GP-4M thinner in accordance with the manufacturer's instructions and finished with a full coat of the enamel.

3.2 **Repainting** — For repainting interior and exterior surfaces, badly worn areas should be spot-primed with reduced enamel, using 1-GP-4M thinner in accordance with the manufacturer's instructions, and finished with a full coat of the enamel.

3.3 **Fully Cured Concrete Floors**

3.3.1 Although the enamel may be used on fully cured interior and exterior concrete floors and on associated interior concrete and masonry surfaces, it is not designed to have a high resistance to solvents or to withstand hydrostatic pressure. For concrete floors that have cured only for a month, 1-GP-66M enamel or 1-GP-154M latex paint may be used.

3.3.2 Two coats of the enamel are customarily used on floors without a primer, the first coat being reduced in accordance with the manufacturer's instructions.

3.3.3 Extremely smooth, bare concrete should be given a preliminary wash with 10% hydrochloric (muriatic) acid, rinsed thoroughly and dried before applying the enamel.

3.3.4 With most floors, normal thinning of the first coat is sufficient after sweeping. Powdery concrete floors may be hardened with a solution of magnesium fluosilicate, applied in accordance with the manufacturer's instructions, before the enamel is applied.

Withdrawn/Retirée

PAINT, TRAFFIC, ALKYD

1. SCOPE

1.1 This standard applies to paint suitable primarily for spray application to bituminous or concrete pavements for the purpose of marking traffic zones, with or without the application of overlay-type reflectorizing beads.

2. INTENDED USES

2.1 This paint is intended for use in marking traffic zones on bituminous or concrete pavements. It may be applied by brush to small areas such as curbs and warehouse markings.

3. METHODS OF APPLICATION

3.1 Thinning is not normally required, but if necessary, the paint may be reduced with 1-GP-5M thinner.

Withdrawn/Retirée

ENAMEL, HEAT RESISTANT, INTERIOR AND EXTERIOR

1. SCOPE

1.1 This standard applies to an air-drying heat-resistant enamel, suitable for use on interior and exterior metal surfaces that are subjected to temperatures not higher than 200°C particularly on motor vehicles, gasoline, diesel and steam engines, and in boiler houses.

2. INTENDED USES

2.1 Enamel to this standard is intended for interior and exterior use on primed or previously painted metal surfaces where the temperatures of the painted surfaces are above normal, but not greater than 200°C. Where the surface temperature may rise to 420°C use of 1-GP-143M aluminum paint is recommended.

2.2 The enamel is intended for use on gasoline, diesel and steam engines, steam turbines, pumps, etc., interior structural members of boilers and boiler houses.

3. METHODS OF APPLICATION

3.1 Under the above conditions the enamel can be applied directly to the bare metal providing the surface is free of oil, grease, dirt and rust.

3.2 It is intended that a second coat of the enamel can be applied providing the application is made between 24 and 72 h after application of the first coat.

3.3 Although enamels to this standard may be obtained to any gloss color in 1-GP-12c, it should be noted that all pigments do not have the same degree of heat resistance. Where appearance, as well as protection at elevated temperature (200°C), is important, only colors that can withstand this temperature should be purchased. Bright reds, oranges, yellows and greens generally discolor badly on continued exposure to heat.

Withdrawn/Retired

PRIMER, ALKYD, AIR DRYING AND BAKING, FOR VEHICLES AND EQUIPMENT

1. SCOPE

1.1 This standard applies to red oxide type alkyd-base priming paint suitable primarily for use on steel or aluminum surfaces of motor vehicles and equipment.

2. INTENDED USES

2.1 Primers complying with this standard are intended for use over cleaned and treated metal surfaces of motor vehicles and other equipment. The primers are intended for use over carefully prepared steel that is free from all mill scale or rust. The primers may be used over suitably prepared zinc and aluminum. They are not intended for use on wood.

3. METHODS OF APPLICATION

3.1 Although 1-GP-81M primers may be applied by brush on small areas, they are usually applied by spray. They are intended to be topcoated with 1-GP-98M enamel for Green 503-101; 1-GP-88M enamel for other gloss colors; 1-GP-104M enamel for semigloss; and 1-GP-114 enamel for flat colors. Interior machinery may be topcoated with 1-GP-101M semigloss enamel.

3.2 Usually the materials to this standard are used in the shop and are applied by spraying. However, they may be used for brush touch-up work when desired. If a primer of this type is needed for field use, then Type 1 air drying should be selected since adequate facilities for baking Type 2 are not usually available in the field.

3.3 It is essential that primers of this type be applied to a thoroughly clean surface, since due to their fast-drying properties and reduced oil content, they will not adequately wet a dirty surface. Thus, because structural steel is rarely cleaned free from corrosion products, these primers are not generally intended for such use.

3.4 **Baking Properties of Type 2 Primer** — Type 2 primer is intended to be baked in accordance with the manufacturer's instructions which should include the time and temperature, except that the time shall not exceed 30 min.

Withdrawn/Retiree

PRIMER, ALKYD, FOR HARDWOOD

1. SCOPE

1.1 This standard applies to grey alkyd-base primer suitable for use under enamels on exterior wood such as wood components of motor vehicles and equipment.

2. INTENDED USES

2.1 Primer complying with this standard is intended primarily as an undercoat for enamels on exterior wood surfaces such as motor vehicle bodies and parts of equipment. It is not intended for use on exterior metals or as a primer for house paints but it can be used as an undercoat for trim or other exterior enamels.

3. METHODS OF APPLICATION

3.1 This primer is usually topcoated with 1-GP-98M gloss enamel for green 503-101 or 1-GP-88M gloss enamel for other colors, and with 1-GP-104M semigloss enamel. It may also be topcoated with 1-GP-59M enamel.

3.2 Although 1-GP-84 primer may be applied by brush or dipping, it is usually sprayed. It is intended to have good holdout on bare wood so that a sealer is normally not essential but the use of 1-GP-102M sealer is recommended. Open grained wood should be filled with 1-GP-103M filler.

Withdrawn/Retirée

ENAMEL, ALKYD, AIR DRYING AND BAKING, GLOSS

1. SCOPE

1.1 This standard applies to durable alkyd-base gloss enamel suitable for use on primed surfaces of aircraft, motor vehicles and other equipment.

2. INTENDED USES

2.1 Enamel complying with this standard is intended primarily for use over cleaned and primed metal surfaces of aircraft, motor vehicles and other equipment, and metal furniture. A particular use is for identification and marking of fire alarm systems, fire-fighting equipment and accessories, for which Red 509-102 is the accepted color.

3. METHODS OF APPLICATION

3.1 Type 1 enamel may be used on suitably prepared wooden parts of the equipment. Both types are preferably applied by spray.

3.2 The following systems are recommended:

Type of Coat	On Steel Substrate	On Wood Substrate
Wood Filler	–	1-GP-103M where necessary
Wood Sealer	–	1-GP-102M
Primer	1-GP-81M, Type 1 or Type 2	1-GP-84
Enamel Topcoat	1-GP-88M, Type 1 or Type 2	1-GP-88M, Type 1

3.3 For use over other metal substrates:

3.3.1 Galvanized Steel should first be primed with 1-GP-178M zinc dust/zinc oxide primer.

3.3.2 Aluminum should first be primed with 1-GP-132M zinc chromate primer.

3.4 **Baking Properties of Type 2 Enamel** – Type 2 Enamel is intended to be baked in accordance with the manufacturer's instructions which should include the time and temperature, except that the time shall not exceed 30 min. The user is cautioned that baking by infra red methods may produce slight differences in color and appearance in the enamel finish compared to that produced by convection oven baking. If infra red is used, a preliminary check should be made to assure the user that desired result is obtained.

Withdrawn/Retired

PAINT, ALUMINUM, MARINE

1. SCOPE

1.1 This standard applies to ready-mixed aluminum paint suitable for marine application to the interiors of feed and ballast tanks, and to exterior metal surfaces.

2. INTENDED USES

2.1 Paint complying with this standard is intended for use on exterior surfaces as a topcoat over 1-GP-48M primer. It is also intended for use as the internal coating for reserve feed water, main feed water, overflow and drain tanks. In painting such tanks, the paint may be applied direct to bare, clean metal.

3. METHODS OF APPLICATION

3.1 In some instances this paint may also be used as a topcoat over 1-GP-125M and 1-GP-132M primers.

3.2 Under less severe conditions 1-GP-69M aluminum paint may be used.

3.3 For detailed information on the proper methods of application of marine paints, see BRCN 1100, Schedule of Instructions for the Pretreatment and Painting of HMC Ships.

Withdrawn/Retirée

THINNER, XYLENE (XYLOL)

1. SCOPE

1.1 This standard applies to an industrial grade of xylene, suitable for use as a thinner with synthetic resin finishes.

2. INTENDED USES

2.1 Material complying with this standard is intended for use where a primer, of a somewhat higher solvency power than 1-GP-70M, is required.

2.2 This thinner is particularly specified for reducing the following coatings:

1-GP-105M and 1-GP-132M primers
1-GP-114, 1-GP-116 and 1-GP-117 enamels
1-GP-141 aluminum enamel.

Withdrawn/Retirée

ENAMEL, ALKYD, AIR DRYING AND BAKING, GLOSS (GREEN 503-101)

1. SCOPE

1.1 This standard applies to durable alkyd-base gloss enamel, suitable for use on primed metal surfaces of motor vehicles and equipment.

2. INTENDED USES

2.1 Enamel complying with this standard is intended primarily for use over cleaned and primed metal surfaces of motor vehicles and other equipment.

3. METHODS OF APPLICATION

3.1 Type 1 enamel may be applied to suitably prepared wooden parts of the equipment.

3.2 The following systems are recommended:

Type of Coat	On Steel Substrate	On Wood Substrate
Wood Filler	–	1-GP-103M where necessary
Wood Sealer	–	1-GP-102M
Primer	1-GP-81M, Type 1 or Type 2	1-GP-84
Enamel Topcoat	1-GP-98M, Type 1 or Type 2	1-GP-98M, Type 1

3.3 For use over other metal substrates:

3.3.1 Galvanized steel should first be primed with 1-GP-178M zinc dust/zinc oxide primer.

3.3.2 Aluminum should first be primed with 1-GP-132M zinc chromate primer.

3.4 Enamels are preferably applied by spraying.

3.5 **Baking Properties of Type 2 Enamel** – Type 2 Enamel is intended to be baked in accordance with the manufacturer's instructions which should include the time and temperature, except that the time shall not exceed 30 min. The user is cautioned that baking by infra red methods may produce slight differences in color and appearance in the enamel finish compared to that produced by convection oven baking. If infra red is used a preliminary check should be made to assure that the desired result is obtained.

Withdrawn/Retirée

VARNISH, PHENOLIC RESIN, EXTERIOR AND MARINE

1. SCOPE

1.1 This standard applies to a durable, water-resistant phenolic varnish suitable for marine and general exterior use.

2. INTENDED USES

2.1 Varnish complying with this standard is intended for use as an exterior and interior finish and as a sealer on bare wood in marine atmospheres.

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.

3. METHODS OF APPLICATION

3.1 For detailed information on the proper methods of application of marine paints, see RCN Schedule of Instructions for the Pretreatment and Painting of HMC Ships, BRCN 1100.

Withdrawn/Retirée

PAINT, INTERIOR, LATEX TYPE, FLAT

1. SCOPE

1.1 This standard applies to a latex, flat, interior wall finish suitable for use on all types of wall surfaces, either new or previously painted.

2. INTENDED USES

2.1 Paint complying with this standard is intended for application on walls and ceilings, with the exception of bathrooms and kitchens. It is suitable for application over practically any type of wall surface including wallboard, gypsum-board, dry plaster, cement, brick or concrete block.

3. METHODS OF APPLICATION

3.1 The paint is self-priming and is alkali resistant. Generally, no primers or sealers are required. If difficulty is encountered in obtaining uniformity of finish after two coats, application of one coat of 1-GP-118M paint is recommended.

3.2 Plaster walls must not be neutralized with zinc sulfate prior to painting. As this paint is alkali resistant, this treatment, which may actually be detrimental if used, is not required before its application.

3.3 Usually two coats of material complying with this standard will be adequate for most jobs.

3.4 Normally this paint is not recommended for application on glossy surfaces without previous light sanding to assure adequate adhesion.

3.5 As these paints contain water, they should not be applied at low temperatures. It is recommended that they not be applied at temperatures below 7°C. Care should be taken that the surface on which this paint is applied is also above 7°C and that there is no condensation or free moisture on the surface.

Withdrawn/Retirée

ENAMEL, ALKYD, SEMIGLOSS, FOR MACHINERY

1. SCOPE

1.1 This standard applies to a hard, durable air-drying alkyd enamel, suitable for use on all types of workshop machinery.

2. INTENDED USES

2.1 Enamel complying with this standard is intended primarily for use on all types of workshop machinery.

3. METHODS OF APPLICATION

3.1 The following systems are recommended:

Type of Coat	On Steel Substrate	On Wood Substrate
Filler	—	1-GP-103M where necessary
Sealer	—	1-GP-102M
Primer	1-GP-81M, Type 1	1-GP-84
Enamel	1-GP-101M	1-GP-101M

3.2 Enamels to this standard are preferably applied by spraying.

Withdrawn/Retirée

SEALER, CLEAR, ALKYD TYPE

1. SCOPE

1.1 This standard applies to an unpigmented, nontoxic sealer primarily for use on clean, unpainted wood.

2. INTENDED USES

2.1 The sealer may be used as a first coat on exterior wood surfaces such as wood trim and stake bodies, on wooden floors and as a conditioner on moderately painted masonry surfaces.

3. METHODS OF APPLICATION

3.1 When used on wood trim and stake bodies the sealed surfaces must be suitably topcoated to give adequate protection and durability.

3.2 When used on wooden floors it may be either topcoated with 1-GP-36M varnish or waxed, as desired.

3.3 The sealer used as a conditioner is applied prior to repainting (see also 1-GP-142M, Sealer, Clear, Alkali Resistant).

3.4 The sealer may be applied by brushing, dipping or spraying.

Withdrawn/Retirée

FILLER, WOOD, PASTE

1. SCOPE

1.1 This standard applies to a paste used for filling the pores of open-grain wood subjected to interior or exterior use.

2. INTENDED USES

2.1 Filler complying with this standard is intended for filling pores of open-grain wood such as ash, mahogany and oak prior to the application of a finishing system. It is supplied in natural color so as not to stain light-colored wood.

2.2 For use with colored wood, the filler may be colored by the addition of pigmented stain.

2.3 The following finishing systems are recommended:

2.3.1 *For Furniture:*

1-GP-103M	Filler, Wood, Paste
1-GP-150M	Lacquer, Clear, for Wood Furniture

2.3.2 *For Floors:*

1-GP-103M	Filler, Wood, Paste
1-GP-102M	Sealer, Clear, Alkyd-Type
1-GP-36M	Varnish, General Purpose, Interior, Gloss, Type 1
25-GP-2	Wax, Floor, Paste

2.3.3 *For Vehicles:*

	1-GP-103M	Filler, Wood, Paste
	1-GP-102M	Sealer, Clear, Alkyd Type
	1-GP-84	Primer, Alkyd, for Hardwood
	1-GP-88M	Enamel, Alkyd, Air-Drying and Baking, Gloss
or	1-GP-98M	Enamel, Alkyd, Air-Drying and Baking, Gloss (Green 503-101)

Withdrawn/Retirée

ENAMEL, ALKYD, AIR DRYING AND BAKING, EXTERIOR, SEMIGLOSS

1. SCOPE

1.1 This standard applies to a durable, alkyd-base enamel suitable for use on primed surfaces of motor vehicles and equipment. The enamel is supplied in two types: Type 1 Air Drying, Type 2 Baking.

2. INTENDED USES

2.1 Enamels complying with this standard are intended primarily for use over cleaned and primed metal surfaces of motor vehicles, aircraft and other equipment.

3. METHODS OF APPLICATION

3.1 Type 1 enamel may be applied to suitably prepared wooden parts of the equipment.

3.2 The following systems are recommended.

Type of Coat	On Steel Substrate	On Wood Substrate
Wood Filler	—	1-GP-103M where necessary
Sealer	—	1-GP-102M
Primer	1-GP-81M, Types 1 or 2	1-GP-84
Enamel Topcoat	1-GP-104M, Types 1 or 2	1-GP-104M, Type 1

3.3 For use over other metal substrates.

3.3.1 Galvanized steel should first be primed with 1-GP-178M zinc dust/zinc oxide primer.

3.3.2 Aluminum should first be primed with 1-GP-132M zinc chromate primer.

3.4 Enamels are preferably applied by spraying.

3.5 **Baking Properties of Type 2 Enamel** — The Type 2 enamel shall be baked in accordance with the manufacturer's instructions which shall include the time and temperature except that the time shall not exceed 30 min. The user is cautioned that baking by infra red methods may produce slight differences in color and appearance in the enamel finish compared to that produced by convection oven baking. If infra red baking is used a preliminary check should be made to assure that the desired result is obtained.

Withdrawn/Retirée

PRIMER, QUICK-DRYING

1. SCOPE

1.1 This standard applies to quick-drying priming paint for steel. It is specifically intended for use under a quick-drying enamel topcoat.

2. INTENDED USES

2.1 Primer complying with this standard is intended primarily for use over cleaned and treated metal surfaces of motor vehicles and equipment where the volume of refinishing work requires a quick-drying system.

3. METHODS OF APPLICATION

3.1 It is essential that primer of this type be applied to a thoroughly clean surface since, owing to its fast drying properties, it will not adequately wet dirty surfaces. Because structural steel is rarely cleaned free from corrosion products, this primer is not intended for such use.

3.2 Although it may be dipped, the primer is usually applied by spray. It is intended to be topcoated with 1-GP-114 flat enamel, 1-GP-116 gloss enamel, 1-GP-117 semigloss enamel or 1-GP-191M fast drying automotive enamel. It may be also used with 1-GP-111 flat lacquer or 1-GP-112 stencil lacquer where a primer for steel is required.

Withdrawn/Retirée

INK, STENCIL, FOR MARKING POROUS SURFACES

1. SCOPE

1.1 This standard applies to a stencil ink suitable for application to porous surfaces such as crates, wooden boxes, cardboard cartons and burlap.

2. INTENDED USES

2.1 This ink is suitable for marking identification and other detail on porous surfaces such as crates, wooden boxes, carboard cartons and burlap.

2.2 It may also be applied on surfaces covered with 1-GP-47M obliterating paint.

3. METHODS OF APPLICATION

3.1 Ink complying with this standard is suitable for application by dip type or fountain type stencil brush and stencil boards, as well as in automatic stencilling machines.

Withdrawn/Retirée

INK, STENCIL, FOR MARKING NONPOROUS SURFACES

1. SCOPE

1.1 This standard applies to a stencil ink suitable for application to nonporous surfaces such as metal and glass.

2. INTENDED USES

2.1 This ink is suitable for marking identification and other detail on nonporous surfaces such as metals, glass and porcelain.

2.2 It may also be applied in surfaces covered with 1-GP-47M obliterating paint.

3. METHODS OF APPLICATION

3.1 Ink complying with this standard is suitable for application by dip type or fountain type stencil brush and stencil boards, as well as by automatic stencilling machines.

Withdrawn/Retirée

PAINT, ACID AND ALKALI RESISTANT, BLACK

1. SCOPE

1.1 This standard applies to black, acid-resistant and alkali-resistant asphaltic paint.

2. INTENDED USES

2.1 Paint complying with this standard is intended for use on the assembly of ammunition, military stores and equipment, battery boxes and underground piping to provide protection from corrosion by acids and alkalis. It may also be used for waterproofing concrete foundations below ground level.

2.2 The paint may also be used in battery and low-power rooms in HMC ships, as specified in BRCN 1100, Schedule of Instructions for Pretreatment and Painting of HMC Ships.

Withdrawn/Retirée

PAINT, LIGHTHOUSE, WHITE

1. SCOPE

1.1 This standard applies to a ready-mixed linseed oil paint, suitable for general exterior use on suitably primed surfaces where free chalking is desired.

2. INTENDED USES

2.1 Paint complying with this standard is particularly designed for use on lighthouses and for other applications where the surfaces must retain a high degree of whiteness.

2.2 Due to its free chalking nature it should not be used where chalk run-down is objectionable.

2.3 This paint should not be used as exterior floor paint, or for topcoating structural steel.

3. METHODS OF APPLICATION

3.1 This paint is suitable for general exterior use on wood that has been properly primed with 1-GP-55 primer, on previously painted wood, and on suitably primed incidental metals associated with wooden structures.

3.2 Previously painted wood surfaces should be thoroughly cleaned and one or two coats applied, as necessary, when there are no film defects. If blistering, cracking or flaking has occurred, wire brush or scrape areas of failure and spot prime with 1-GP-55 primer before applying the paint.

3.3 Ferrous metals should first be thoroughly cleaned and coated with 1-GP-14M, 1-GP-40M, 1-GP-48M or 1-GP-140M primer prior to application of this paint.

3.4 **Galvanized Sheeting** — New galvanized sheeting or galvanized sheeting that has been exposed to weather shall have dirt and grease thoroughly removed with a solvent such as 1-GP-4M petroleum spirits. It shall then be coated with 1-GP-178M zinc dust/oxide primer and topcoated with 1-GP-109M paint. Additional details regarding preparation and application, and information in respect to other available systems for galvanized sheeting, may be obtained by referring to 85-GP-16M, Painting Galvanized Steel.

3.5 Where attack by fungus is a problem, consideration should be given to the use of fungicides in accordance with the manufacturer's instructions for preparation of the surface and materials to be employed.

Withdrawn/Retirée

THINNER, GENERAL PURPOSE, FOR LACQUERS

1. SCOPE

1.1 This standard applies to a mixture of organic liquids in which the active solvent portion for the lacquer is of the ketone and/or ester type.

2. INTENDED USES

2.1 Material complying with this standard is intended for thinning of lacquer finishes to spraying consistency.

2.2 This thinner is suitable for general use as a lacquer thinner and is used in thinning 1-GP-111, 1-GP-112, 1-GP-129 and 1-GP-134M lacquers.

3. METHODS OF APPLICATION

3.1 Under high humidity conditions a suitable portion of 1-GP-136 thinner should be added to prevent blushing.

3.2 Thinners supplied to this standard may be injurious to the operators and should be used with adequate ventilation.

Withdrawn/Retirée

LACQUER, FLAT, HOT AND COLD SPRAY

1. SCOPE

1.1 This standard applies to a lacquer that can be applied at normal or elevated temperatures as a finishing coat over primed or phosphated metal.

2. INTENDED USES

2.1 Lacquer complying with this standard is intended for use as a flat finish coat on primed or phosphated surfaces of shells, bombs, grenades, vehicles, other metal equipment and their component parts.

3. METHODS OF APPLICATION

3.1 Although the lacquer may be reduced with 1-GP-50M or 1-GP-110M thinners and sprayed at room temperature, it is intended primarily for hot-spray application. Recommended gun and pressure settings for hot-spray application are given in the standard. Thinning instructions for cold-spray application will be found on the label of the container.

3.2 Primers that are to be used under the lacquer must be of the lacquer type or lacquer resistant; 1-GP-105M primer is suitable for use on steel, and 1-GP-132M primer for use on light alloys. Where the lacquer is to be applied without a primer, satisfactory phosphate coatings for steel are 31-GP-105M Coating, Conversion, Zinc Phosphate for Paint Base and 31-GP-106 Coating, Conversion, Iron Phosphate for Paint Base.

3.3 For severe exposures (automotive) it is recommended that both a pretreatment (such as 1-GP-121M vinyl pretreatment or the phosphate coatings listed above) and a primer be applied prior to the finish coat of lacquer.

Withdrawn/Retirée

LACQUER, STENCIL

1. SCOPE

1.1 This standard applies to a lacquer suitable for application by spray through stencils to painted and unpainted wood and painted metal surfaces.

2. INTENDED USES

2.1 Lacquer complying with this standard is intended for application by spray through stencils onto painted and unpainted surfaces of packing boxes, cases and cartons or equivalent, which may be wood or paper, or painted metal, for identification purposes. It dries rapidly and so avoids ragged and blurred characters, and also permits rapid stencilling.

2.2 This material is especially useful for stencilling ammunition cases and boxes.

3. METHODS OF APPLICATION

3.1 It is not good practice to apply this lacquer to unprotected and unprimed metal surfaces since bond will be lacking in some cases and corrosion will destroy it in others. Galvanized metal should be cleaned with 31-GP-107 metal conditioner and painted with 1-GP-105M or 1-GP-132M primer before stencilling or shall be cleaned and primed with 1-GP-178M zinc dust/zinc oxide primer. Additional details regarding preparation and painting of galvanized metal may be obtained by referring to 85-GP-16M Painting Galvanized Steel. Surfaces to which the lacquer is applied must be free of grease, oil, dirt or loose chalk as well as from flaking, peeling, cracking or other state of deterioration.

3.2 It is intended to be tough, adherent, and durable, and sufficiently resistant to water to provide permanent identification although this permanency will be greatly influenced by the durability of the substrate. It may be applied to painted surfaces without danger of lifting or wrinkling.

Withdrawn/Retirée

ENAMEL, QUICK-DRYING, FLAT

1. SCOPE

1.1 This standard applies to a quick-drying durable enamel based on a suitable synthetic vehicle, for use on metal.

2. INTENDED USES

2.1 This enamel may be used generally for interior and exterior exposure on metal surfaces of light and heavy equipment, vehicles and ammunition, where a flat finish is required. The metal may be steel, copper, zinc, aluminum or magnesium that has been suitably prepared. It is not primarily intended for wood or masonry that may be subject to exterior exposure.

2.2 This enamel is primarily intended for use on ammunition, equipment and vehicles where a flat finish is required for camouflage purposes. It has good chemical corrosion and water resistance when applied at adequate thickness over a good priming system such as 1-GP-81M or 1-GP-105M. It should give good service under normal conditions for a period of five years and more.

2.3 This enamel is not intended for use where gasoline resistance is a prime requisite, such as on automative equipment.

3. METHODS OF APPLICATION

3.1 Application on New Surfaces

3.1.1 The metal should be clean, dry and free from corrosion products, oil and grease.

3.1.2 Steel surfaces should be primed or phosphated. Satisfactory pretreatments are 31-GP-105M and 31-GP-106 phosphate conversion coatings. If not pretreated the steel should be coated with 1-GP-105M primer which may be sanded and wiped with a tack rag to remove dust.

3.1.3 Aluminum and magnesium surfaces should first be coated with 1-GP-132M primer. Chemical pretreatment is recommended for 31-GP-101M aluminum and is necessary for 31-GP-110 magnesium.

3.1.4 Copper and brass may be primed with a noninhibiting hard-drying primer.

3.1.5 Zinc surfaces require treatment before the application of the paint system. If a coating type pretreatment is not used, the zinc must be washed with 31-GP-107 metal conditioner. When dry, the surface can then be coated with 1-GP-105M primer.

3.1.6 For severe exposures it is recommended that both a pretreatment, such as 1-GP-121M vinyl pretreatment or the phosphate coatings given above, and a primer be applied prior to the finish coat of enamel. Where two coats of enamel are used, the second one may be applied without excessive drying periods between coats.

3.2 Application on Old Surfaces

3.2.1 When the painted surface is still intact and requires repainting for appearance only recoating can be done after removal of surface chalking, dirt, or general deposit, grease or oil by wiping, washing or brushing. Washing may be done with water and detergent, soap, or 2.5% sodium phosphate solutions, with thorough rinsing and drying following the wash. Light sanding with 30-GP-9 fine flint paper will remove residual smoothness and provide better tooth for the subsequent coat. One coat of enamel can then be applied directly over the surface. In cases where a change to a lighter shade is taking place, two coats of enamel may sometimes be required.

Withdrawn/Retired

3.2.2 If the paint has deteriorated in certain areas by abrasion, peeling, disintegration or effects of corrosion, the old paint in these areas should be removed to the substrate, which should then be properly cleaned, primed and topcoated. If the entire paint surface has more or less deteriorated through corrosion, cracking, flaking, peeling, etc., the paint should be completely removed to the base metal and recoating carried out as in the case of new metal.

Withdrawn/Retirée

INK, PASTE

1. SCOPE

1.1 This standard applies to a quick-drying ink paste suitable for application by transfer from a rubber mat stencil, by hand or automatic stencilling machines.

2. INTENDED USES

2.1 Ink paste complying with this standard is specifically intended for marking containers such as ammunition and cylindrical ammunition containers.

2.2 It may also be used on primed steel cartridge cases, but is not intended for use on brass cartridge cases.

Withdrawn/Retirée

ENAMEL, MODIFIED ALKYD, QUICK DRYING, GLOSS (GREEN 503-101)

1. SCOPE

1.1 This standard applies to a quick-drying durable enamel based on a modified alkyd vehicle for use on primed metal surfaces, particularly on motor vehicles.

2. INTENDED USES

2.1 Enamels complying with this standard are intended for application to metal which has been coated with 1-GP-105M primer.

3. METHODS OF APPLICATION

3.1 Enamel is applied by spraying.

3.2 The enamel is intended to be recoatable for up to 2 h after application of the first coat. If recoating cannot be carried out within 2 h, the enamel must be allowed to dry at least 72 h before recoating. It is not intended that the enamel be suitable for recoating between 2 and 72 h.

Withdrawn/Retiree

ENAMEL, MODIFIED ALKYD, QUICK-DRYING, SEMIGLOSS (GREEN 503-201)

1. SCOPE

1.1 This standard applies to a quick-drying durable enamel based on a modified alkyd vehicle for use on primed metal surfaces, particularly on motor vehicles.

2. INTENDED USES

2.1 Semigloss enamel complying with this standard is intended as a quick-drying durable enamel for use on primed metal surfaces, particularly on motor vehicles where a semigloss finish is required.

3. METHODS OF APPLICATION

3.1 This semigloss enamel is intended for application primarily by spray over 1-GP-105M quick-drying primer.

3.2 The enamel is intended to be recoatable for up to 2 h after application of the first coat. If recoating cannot be carried out within 2 h, the enamel must be allowed to dry at least 72 h before recoating. It is not intended that the enamel be suitable for recoating between 2 and 72 h.

Withdrawn/Retirée

FINISH, INTERIOR, ALKYD, FLAT

1. SCOPE

1.1 This standard applies to a low odor interior flat alkyd finish suitable as a topcoat on properly prepared plaster, plasterboard and wallboard.

2. INTENDED USES

2.1 Alkyd finish covered by this standard is intended for interior application on walls and ceilings of rooms with the exceptions of kitchens and bathrooms.

3. METHODS OF APPLICATION

3.1 Normally this alkyd finish is applied by brushing and is suitable for roller-coating. When spray application is required, manufacturer's instructions for thinning should be followed implicitly.

3.2 **Preparation of Surface** — Walls and woodwork should be dry, clean and free from dirt, grease and loose paint. Do not use over glue size, kalsomine or wallpaper; these should be removed. Surfaces that have been sanded through, patched or repaired, should be spot-primed with the finish before finishing. Do not use shellac for spot priming over patched areas.

3.3 **New Surfaces (Unpainted)** — No primer nor undercoater is needed unless the surface is exceptionally porous. Where required, the following may be used.

Wood — 1-GP-38M Undercoater
Walls (Dry and alkali-free) 1-GP-68M or 1-GP-119M Primer-Sealer

If there is possible danger from alkalinity, only 1-GP-119M primer-sealer should be used.

3.4 **Old Surfaces (previously painted)** — One coat of 1-GP-118M finish is generally sufficient unless a considerable change in color is involved. If a second coat is needed, allow overnight drying between coats. If exceptional porosity is encountered, treat as described in par. 3.3.

3.5 When a low-odor system is required, 1-GP-119M primer sealer should be used under 1-GP-118M alkyd finish.

3.6 If a reasonable degree of stain resistance is required, 1-GP-202M Enamel, Interior, Low Gloss, Alkyd is recommended.

Withdrawn/Retirée

PRIMER-SEALER, WALL, INTERIOR, LATEX TYPE

1. SCOPE

1.1 This standard applies to latex type of primer-sealer for use on interior wall surfaces including plasterboard, dry plaster, concrete or previously painted porous surfaces.

2. INTENDED USES

2.1 Primer-sealer complying with this standard is intended primarily for application over previously unpainted surfaces such as dry plaster (having a moisture content of not more than 16% as indicated by a moisture meter), plasterboard and wallboard, and over previously painted porous surfaces such as may be encountered when repainting over flat wall finishes.

3. METHODS OF APPLICATION

3.1 Normally this primer-sealer can be topcoated 3 h after application.

3.2 Zinc sulphate solution must never be used on plaster prior to the application of this primer-sealer.

3.3 The primer-sealer is normally applied by brush or roller-coater but it may be sprayed using suitable equipment.

3.4 High hiding in a primer-sealer is often undesirable since this normally detracts from sealing qualities. The hiding of one coat of sealer followed by one coat of semigloss paint should be satisfactory.

3.5 As this material contains water, it should not be applied at low temperatures. It should not be applied at temperatures below 7°C. Care should also be taken that there is no condensation or free moisture on the surface to which this primer-sealer is applied, and that the surface is above 7°C.

3.6 Topcoats that may be used with this primer-sealer are as follows:

1-GP-57M Enamel, Interior, Semigloss, Alkyd
1-GP-60M Enamel, Interior, Gloss, Alkyd Type
1-GP-118M Paint, Interior, Alkyd, White and Tints, Flat
1-GP-195M Paint, Interior, Latex Type, Semigloss
1-GP-202M Enamel, Interior, Low Gloss, Alkyd.

Withdrawn/Retirée

COATING, STRIPPABLE, PROTECTIVE

1. SCOPE

1.1 This standard applies to a pigmented, sprayable and strippable coating for use in the preservation of equipment during outside storage and shipment.

2. INTENDED USES

2.1 Coating material to this standard is intended for use in the preservation of equipment during storage and shipment. It is for use on dry, painted or unpainted surfaces of metal, wood, rubber and fabric, but should not be applied to plastic materials.

3. METHODS OF APPLICATION

3.1 The dried coating provides a tough, elastic, waterproof film that is an effective barrier to the passage of moisture. The film can be hand-stripped in large pieces without damaging the protected surface.

3.2 The material should not be solvent-thinned but must be well-agitated before application. It is applied by pressure-feed spray guns equipped with external-mix air nozzles using air pressures of 414 to 690 kPa and fluid pressures of 172 to 276 kPa depending upon the temperature. Minor breaks in the film can be repaired by applying additional material by brush or spray.

3.3 Instructions for Use

3.3.1 *Preparation of Material* — The material will not freeze but will become jelly-like at low temperatures. For best results it should be stored in a warm area before use and should be applied at temperatures above 7°C. The material is used at the supplied consistency and requires no further thinning but must be agitated for 15 - 30 min, or until it reaches the consistency of heavy cream before it can be applied. The material is usually sprayed directly from the container. Continued agitation and circulation during spraying are essential.

3.3.2 *Preparation of Surface* — Surfaces to be coated must be dry and free from grease, oil and dirt. Because the solvents in the material tend to lift paints and enamels which are not thoroughly dry, allow new coatings to dry for at least 24 h (preferably longer) before applying the material. Gaps and holes wider than 13 mm should be covered with tape which extends onto the adjoining surfaces for 13 to 38 mm.

3.4 Equipment

3.4.1 The spray guns must be of the pressure-feed type with an external mix air-cap for proper atomization. The following combinations have been reported to be satisfactory: Binks Model 18 gun with 63B or 66 material nozzle and 63 PA air nozzle; DeVilbiss MBC gun with E or FX fluid tip and 765 air-cap. Equivalent equipment should also be satisfactory.

3.4.2 The material becomes more viscous at lower temperatures so that higher pressures are required for spraying. At 21°C the material will spray at 414 — 552 kPa air (atomizing) pressure and 172 — 207 kPa fluid (pot) pressure, while at 0°C the air pressure may have to be as high as 690 kPa and the tank pressure 242 — 276 kPa.

3.5 Application

3.5.1 With the pressures set for the temperature of the coating, place the nozzle 200 mm from the surface and adjust the fan to spray a 150 — 200 mm band. Hold the gun perpendicular to the surface and with smooth even strokes, apply as heavy a coat as possible without getting runs or sags. Spray top surfaces first to minimize overspray, then vertical surfaces and undersides. Control spray action to reduce spraying of other areas. Use shields or templates to prevent unnecessary overspray. Keep the nozzle 150 — 200 mm from the surface and avoid quick or jerky "fanning" of the gun.

Withdrawn/Retiree

3.5.2 The material should have a shiny, wet appearance when first applied. Each succeeding pass of the gun must overlap the previous pass by not less than 13 mm. Apply additional coats in the same manner so that each coat is uniform and continuous.

3.5.3 A film 75 – 100 μm thick is desirable because it is more impervious to moisture and less likely to be punctured than a thinner film. The thicker film is also easier to peel off without tearing. Three or four passes are usually required to build up a film of the desired thickness.

3.5.4 When covering cracks, the required thickness should extend at least 25.4 mm on either side before tapering off toward the edges. When bridging large gaps and holes which have been taped, spray the material from the center of the tape to the edge and continue onto the adjoining surface for 25 to 37 mm. Avoid blowing the tape loose or creating air pockets under the tape or in the coating. Build up the thickness of the material around the tape until the surface is smooth and continuous.

3.5.5 Smaller gaps, tape separations and holes up to 13 mm wide may be bridged without taping by the following technique. Hold the spray gun 0.6 – 0.9 m from the surface, reduce the spray fan and squeeze the gun trigger slowly until feathers or threads of the coating are produced. Play these feathers across the gap until a bridge is formed that will sustain the succeeding normal wet coats. At no other time should the flow from the gun appear as "feathers" or "threads".

Withdrawn/Retired

COATING, VINYL, PRETREATMENT, FOR METALS
(Vinyl Wash Primer)

1. SCOPE

1.1 This standard applies to a preliminary coating or tie-coat for use on clean, dry, metal surfaces as a treatment prior to the application of a succeeding coating system. The purpose of the material is to increase the adhesion of the coating system. It is not intended as a permanent protective coating in itself.

1.2 Vinyl pretreatment coating is also referred to as vinyl wash primer.

2. DESCRIPTION

2.1 The material required by this standard is supplied in two containers. The resin component consists essentially of basic zinc chromate and extender dispersed in a vinyl-butyral resin solution. The acid component is a solution of phosphoric acid in denatured alcohol. The pretreatment is applied in a thin coat that dries rapidly and may be recoated after 1 h. The individual components are stable for at least 1 year but the mixed material must be used within 8 h.

3. INTENDED USES

3.1 Vinyl pretreatment coating complying with this standard is intended for use as a pretreatment or tie-coat to improve the adhesion of coatings to metals.

3.2 This coating may be used as a tie-coat over 1-GP-171M prior to topcoating.

3.3 This coating may be used under 1-GP-48M and 1-GP-132M primers and under 1-GP-183M coating.

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

4. METHODS OF APPLICATION

4.1 For use in vinyl systems such as an sandblasted or sandwashed ship bottoms, the pretreatment must always be used prior to application of 1-GP-122M primer.

4.2 When necessary, 1-GP-121M mixed coating may be thinned with 1-GP-164M solvent in the proportion necessary to obtain the required film thickness. Equipment used in applying the coating may be cleaned with 1-GP-164M solvent.

4.3 Magnesium parts used with aluminum and other metals must have a pretreatment with 31-GP-110 conversion coating, or other durable washing agent, to prevent direct contact between the primer and magnesium surfaces, before application of 1-GP-121M work primer.

Withdrawn/Retirée

PRIMER, VINYL, ANTICORROSIVE

1. SCOPE

1.1 This standard applies to an anticorrosive vinyl primer for use on metal under corrosive conditions.

2. TYPES OF PRIMER

2.1 The primer shall be supplied in the following types:

Type 1 – Vinyl, Red Lead, for use on ferrous metals
Type 2 – Vinyl, Zinc Chromate, for use on ferrous and nonferrous metals
Type 3 – Vinyl, Aluminum, for use on ferrous and nonferrous metals

3. INTENDED USES

3.1 Primer complying with this standard is intended for application over 1-GP-121M vinyl pretreatment coating (vinyl wash primer) as a protective coating. It is not used directly on metal of any type.

3.2 When vessels are cathodically protected, only Type 3 aluminum vinyl primer is suitable.

4. METHODS OF APPLICATION

4.1 The primer is intended for use on pretreated steel. On ship bottoms the primer should be topcoated with 1-GP-123M antifouling vinyl paint. For other uses, such as the superstructures of submarines or steel exposed to the atmosphere, the primer may be topcoated with other vinyl finishes such as 1-GP-172M, 1-GP-173 and 1-GP-182M.

4.2 For further information on the proper methods of application of marine paints see:

BRCN 1100	Schedule of Instructions for the Pretreatment and Painting of HMC Ships
85-GP-11	Painting Steel for Protection Against Continuous Wetting
85-GP-13	Painting Structural Steel for Protection Against Heavy Industrial Atmospheres

Withdrawn/Retirée

PAINT, VINYL, ANTIFOULING, FOR SHIP BOTTOMS

1. SCOPE

1.1 This standard applies to antifouling paint for use on steel over a system comprising 1-GP-121M vinyl pretreatment coating and 1-GP-122M vinyl primer.

2. DESCRIPTION

2.1 Paint complying with this standard consists essentially of cuprous oxide dispersed in a resin-modified, plasticized polyvinyl chloride-acetate vehicle. This composition is intended to provide a film that will always have a toxic concentration at the surface due to the antifoulant being slowly leached from the resin. The paint dries to touch in 15 min and dries hard in 1 h at 24°C. It is required to remain in good usable condition for one year.

3. INTENDED USES

3.1 Paint to this standard is intended as an antifouling coating for ships' bottoms.

4. METHODS OF APPLICATION

4.1 The metal surfaces must first be properly cleaned and treated with 1-GP-121M vinyl pretreatment coating and then coated with the appropriate type of 1-GP-122M anticorrosive primer (depending on the type of metal surface) before the antifouling paint is applied. New wooden surfaces should be primed with one coat of 1-GP-126M vinyl wood sealer prior to application of the antifouling paint. Such systems should keep the bottom free from fouling for a period of at least two years.

4.2 For maintenance painting, spent antifouling paint should first be removed by sandwashing and the remaining exposed sound film subsequently treated with 1-GP-121M vinyl pretreatment coating prior to application of a fresh coat of 1-GP-122M anticorrosive primer and a coat of this paint.

4.3 Use 1-GP-124M thinner when reduction of 1-GP-123M paint is required.

4.4 For further information on the proper methods of application of marine paints, see RCN Schedule of Instructions for the Pretreatment and Painting of HMC Ships, BRCN 1100.

Withdrawn/Retiree

THINNER FOR VINYL COATINGS

1. SCOPE

1.1 This standard applies to a mixture of organic liquids for use as a solvent or thinner for coatings formulated with vinyl resins.

2. INTENDED USES

2.1 Thinner to this standard is intended for use in reducing 1-GP-122M vinyl anticorrosive primers, 1-GP-123M vinyl antifouling paints, and other vinyl coatings such as 1-GP-172M and 1-GP-182M.

3. METHODS OF APPLICATION

3.1 When using 1-GP-124M thinner for reducing 1-GP-122M primer and 1-GP-123M paint, follow the manufacturer's instructions regarding percentage dilution.

3.2 For detailed information on the proper methods of application of marine paints, see RCN Schedule of Instructions for the Pretreatment and Painting of HMC Ships, BRCN 1100.

Withdrawn/Retiree

PAINT, PRIMING, MARINE, FOR WOODEN HULLS

1. SCOPE

1.1 This standard applies to a grey priming paint suitable for use on wooden hulls of ships and boats both below and above water.

2. INTENDED USES

2.1 Primer complying with this standard is intended for use on bare wood, wood sealed with 1-GP-99M varnish, or wood previously treated with certain wood preservatives, but should not be used on wood treated with nondrying types of wood preservative. It is not intended for use with special underwater hull systems such as the vinyl system, but may be used as a temporary preservative coating on the underwater hull while the ship is being built.

2.2 This primer is also intended for use under 1-GP-93M aluminum paint in the bilge areas of wooden ships and on internal or external wooden boat or ship structures under 1-GP-52M paints and 1-GP-61M enamels.

3. METHODS OF APPLICATION

3.1 For detailed information on the proper methods of application of marine paints see RCN Schedule of Instructions for the Pretreatment and Painting of HMC Ships, BRCN 1100.

Withdrawn/Retired

SEALER, VINYL, FOR WOOD

1. SCOPE

1.1 This standard applies to a synthetic resin sealer for use in sealing wood prior to painting.

2. INTENDED USES

2.1 Sealer complying with this standard is intended for use over knots to prevent resinous material in the knots from bleeding through and discoloring subsequently applied coats of paint.

2.2 This sealer is also intended for use on the hulls of wooden ships under 1-GP-123M vinyl antifouling paint.

3. METHODS OF APPLICATION

3.1 On new work, coat all knots and pitchy streaks with the knot sealer before primer is applied.

3.2 On repaint work, scrape off old paint from knots and pitchy streaks down to the bare wood; bevel edges of paint with sandpaper and coat scraped areas with knot sealer before repainting.

3.3 Brush the knot sealer thoroughly over the knot and surrounding area to ensure complete coverage. Where it is doubtful that one coat is sufficient, brush on two coats of sealer. The sealer will set to touch in 10 to 15 min; however, it should be allowed to dry overnight before paint is applied over it. Do not use sealer under lacquer or apply putty directly over the sealer. Fill cracks and nail holes after primer has been applied.

3.4 For detailed information on the proper methods of application of marine paints see RCN Schedule of Instructions for the Pretreatment and Painting of HMC Ships, BRCN 1100.

Withdrawn/Retirée

COATING, INTERNAL, FOR FRESH-WATER STORAGE TANKS

1. SCOPE

1.1 This standard applies to a tar-base type of self-priming, fast-drying coating material suitable for use as internal protection on steel drinking water storage tanks.

2. INTENDED USES

2.1 Materials to this standard is intended for use as internal protection for steel drinking-water tanks.

3. METHODS OF APPLICATION

3.1 It should be of such a consistency as to provide a minimum dry film thickness of 75 μm in two normal brush coats. It necessary, the material should be reduced with 1-GP-70M thinner in accordance with the manufacturer's instructions. It should be applied under normal conditions and the surface temperature should be not lower than 15°C.

3.2 **New Surfaces** — Prior to application of the coating, all surfaces should be cleaned and all mill scale removed by commercial blast cleaning in accordance with 31-GP-404 or SSPC-SP6 (corresponding to pictorial standards, A, B or CSa 2 of ASTM D 2200 or SSPC-Vis 1) or by pickling in accordance with SSPC-SP8 using 31-GP-108 metal conditioner and rust remover (inhibited) or an approved conditioner. If the condition of the metal is D prior to application of the coating, all surfaces should be blasted to Near White metal (SSPC-SP10) corresponding to pictorial Standard D Sa 2-1/2.

3.3 **Previously Painted Surfaces** — Prior to application of the coating, all loose paint, scale and rust should be removed by power tool cleaning in accordance with SSPC-SP3.

3.4 The coating should not impart any objectionable odor or taste to the water.

Withdrawn/Retirée

SHELLAC AND SHELLAC SOLUTIONS FOR USE IN AMMUNITION

1. SCOPE

1.1 This standard applies to shellac and solutions of orange shellac in suitable alcohols.

2. CLASSIFICATION

2.1 The shellac or shellac solution is supplied in one of the following classes:

Class	% Nonvolatile Matter
Class I	Dry shellac
Class II	60
Class III	50
Class IV	40
Class V	33
Class VI	30
Class VII	20
Class VIII	15.5
Class IX	11
Class X	6

3. INTENDED USES

3.1 Class I Dry shellac is used for preparation of Classes II to X shellac solutions and as an ingredient in primer and pyrotechnic compositions.

3.2 Classes II to X shellac solutions are intended for use in the manufacture of ammunition components such as coating and securing of paper tubes, disks, and metal components. Class VIII shellac solution is particularily intended for varnishing the surface of cap compositions and requires close control for satisfactory sensitivity.

4. METHODS OF APPLICATION

4.1 Before use, the shellac solution should be stirred well to ensure homogeneity.

Withdrawn/Retirée

LACQUER, CELLULOSE NITRATE, FOR AMMUNITION IDENTIFICATION

1. SCOPE

1.1 This standard applies to cellulose nitrate lacquer intended for ammunition identification.

2. INTENDED USES

2.1 Lacquer complying with this standard is intended for identification and sealing purposes in the manufacture of small arms ammunition, delay elements, detonators, percussion primers, artillery primers, ignition cartridges, and supplementary charges.

2.2 It is formulated particularly for application over gilding metal, but is suitable for use on aluminum, brass, copper and other metals.

3. METHODS OF APPLICATION

3.1 This lacquer is supplied in brushing consistency and may be dipped or sprayed after reduction with 1-GP-50 or 1-GP-110M thinner.

3.2 The addition of a small amount of phosphoric acid, either with the lacquer thinner or as a 25% solution in butanol, has been found to improve the adhesion of lacquers to gilding metal. 56.7 g of a 25% solution of phosphoric acid in butanol to 4.5 L of the lacquer is the maximum amount recommended for this purpose.

Withdrawn/Retiree

COMPOUND, WATERPROOFING, ELECTRICAL IGNITION

1. SCOPE

1.1 This standard applies to a clear waterproofing compound suitable for use on electrical wiring and engine parts of internal combustion engines.

2. DESCRIPTION

2.1 Compound complying with this standard is required to be a short to medium length, acrylic-modified styrenated-alkyd resin solution. It is supplied ready for application by brush or spray. The compound sets to touch in 15 min at 25°C and dries in 1 h to form a hard, flexible film. It does not affect the elasticity of rubber, tape or insulation over which it may be applied. The coating has good water and gasoline resistance and good corrosion resistance for an unpigmented material. The compound is free from toxic solvents. While it may have a flash point as low as 25°C, the thoroughly dried film will not flash or burn but will gradually decompose on being exposed to high temperatures. The compound is required to remain in good usable condition for at least one year.

3. INTENDED USE

3.1 Insulating compound complying with this standard is intended for use in protecting electrical circuits and engine parts of internal combustion engines from moisture and corrosion.

3.2 Although the compound is a good heat conductor, it is not a conductor of electricity and should not be applied to disconnected terminals or contacts.

4. METHODS OF APPLICATION

4.1 This compound may be applied by spray or brush to ignition wires, battery cables, connected terminals external surfaces of engines and engine accessories, and to the back of instrument and electrical panels. It dries to a hard flexible finish that does not affect the elasticity of rubber, tape or insulation. The surfaces to which the compound is applied must be dry and free from grease, oil and dirt.

Withdrawn/Retirée

PRIMER, ZINC CHROMATE, LOW MOISTURE SENSITIVITY

1. SCOPE

1.1 This standard applies to a zinc chromate primer for use primarily on light alloy metal surfaces.

2. INTENDED USES

2.1 This primer is intended for use as a corrosion-inhibiting primer on light-alloy metal surfaces, either alone or topcoated.

3. METHODS OF APPLICATION

3.1 This primer is satisfactory for application over a wide range of temperature and humidity conditions and is intended for spray application over bare metal or 1-GP-121M pretreatment coating. For exterior use it is recommended that the primer be applied over 1-GP-121M pretreatment coating. If used for dip or flow-coat application, the stability should be determined by the user. Proper application will give a semitransparent greenish-yellow coat; a hiding coat of full yellow color should be avoided. A wet coat is necessary to secure maximum adhesion and corrosion protection.

3.2 Normal topcoats for this primer are as follows:

1-GP-61M	Enamel, Alkyd, Marine, Exterior
1-GP-88	Enamel, Alkyd, Air Drying and Baking, Gloss
1-GP-98M	Enamel, Alkyd, Air-Drying and Baking, Gloss (Green 503-101)
1-GP-134M	Lacquer, Cellulose Nitrate, Gloss, for Aircraft
1-GP-135M	Enamel, Alkyd, Flat

Withdrawn/Retirée

LACQUER, CELLULOSE NITRATE, GLOSS, FOR AIRCRAFT

1. SCOPE

1.1 This standard applies to cellulose nitrate gloss lacquer primarily intended for use as a finish for aircraft but may be used for other primed interior and exterior metal surfaces where a quick-drying finish is required.

2. INTENDED USES

2.1 Cellulose nitrate gloss lacquer conforming to this standard is intended primarily for use as a finish for aircraft but may be used for other primed interior and exterior metal surfaces.

2.2 This lacquer is not intended for use over bare metal.

2.3 In emergencies only, it may be used for insignia and for marking on doped fabric.

Withdrawn/Retirée

ENAMEL, ALKYD, FLAT

1. SCOPE

1.1 This standard applies to air-drying flat alkyd enamel for use on wooden and primed metal surfaces, particularly where a glare-free finish is required.

2. INTENDED USES

2.1 Enamel complying with this standard is intended for use as an interior or exterior protective coating for ferrous metal surfaces primed with 1-GP-81M primer, and nonferrous metal surfaces primed with 1-GP-132M zinc chromate primer where a glare-free finish is required.

2.2 The enamel may be used as a finish coat on wooden and metal boxes, particularly in the ammunition field where a flat finish is mandatory.

2.3 The enamel is suitable for use on unprimed wooden slat decks of submarines and similar marine applications where a dull finish is required.

Withdrawn/Retiree

THINNER, ANTIBLUSH, FOR CELLULOSE NITRATE LACQUER

1. SCOPE

1.1 This standard applies to thinner that retards the evaporation rate of lacquer solvents to prevent blushing. The thinner is composed of a mixture of organic liquids for use with cellulose nitrate lacquers under conditions of high temperature and humidity.

2. INTENDED USES

2.1 This thinner should not be used where 1-GP-50 and 1-GP-110M thinners give satisfactory freedom from blushing.

3. METHODS OF APPLICATION

3.1 This thinner is normally added, in the proportion of 10 to 15% to 1-GP-50 or 1-GP-110M thinners in amounts sufficient to retard evaporation rate to prevent blushing.

3.2 This material may be injurious to operators and should therefore be used with adequate ventilation.

4. DEFINITIONS

4.1 **Blushing** – is defined in the Glossary of Paint Terms in Section 7 as: "A milky white opalescence that sometimes develops within the top layer of a film of lacquer as it dries, due to the deposition of moisture from the air. It is related to solvent evaporation and relative humidity and cannot be removed by wiping".

Withdrawn/Retirée

PUTTY, CHROMATE, CORROSION INHIBITING

1. SCOPE

1.1 This standard applies to a corrosion-inhibiting putty containing zinc chromate and zinc oxide, for use in joints between dissimilar metals.

2. INTENDED USES

2.1 Putty complying with this standard is intended for use as a corrosion inhibitor in joints between dissimilar metals.

3. METHODS OF APPLICATION

3.1 The putty should be applied in a heavy film and the metals joined before the putty has dried. For brush application the consistency may be reduced with 1-GP-4M thinner.

Withdrawn/Retirée

PAINT, EXTERIOR, LATEX TYPE, FLAT

1. SCOPE

1.1 This standard applies to latex paint for exterior use on primed wood and on masonry surfaces including concrete, brick, stucco, concrete block, and asbestos-cement shingles and siding.

2. INTENDED USES

2.1 **General** – Paint to this standard is intended for use on suitably primed wooden surfaces and on exterior masonry surfaces such as concrete, cinder or cement block, brick, unglazed tile and unglazed asbestos-cement siding.* However, as most asbestos-cement siding is treated with waterproofing material, at least one year should elapse before coating with this paint.

3. METHODS OF APPLICATION

3.1 This paint must not be applied at temperatures lower than 10°C.

3.2 **Masonry Surfaces**

3.2.1 *Masonry Surfaces Not Previously Painted* – This paint may be used on newly constructed masonry surfaces after one week of good drying weather. Masonry surfaces that are firm and free from loose scale, dirt and efflorescence do not require sizing or priming prior to application of the paint. All loose scale and dirt should be removed prior to paint application. When atmospheric conditions are very hot and dry, it may be advantageous to wet the surface before painting, especially if it is porous.

3.2.2 *Previously Painted Masonry Surfaces* – Surfaces must be clean, firm and free from dirt and loose scale. This paint must not be used without prior treatment on surfaces that are chalking or powdering. If the surface has one or two coats of paint that are chalking moderately, it can be treated with 1-GP-102M alkyd sealer unless there are conditions of extreme alkalinity to overcome, in which case 1-GP-142M alkali resistant sealer should be used; both sealers should always be applied by brush only. Where several coats of cement paint or heavy chalking of the surface are involved, good results can be obtained only by sand-blasting.

3.2.3 An estimate of the quantity of paint required for use on masonry surfaces that have considerable roughness should be based on a spreading rate of 5 to 6 m^2/L.

3.3 **Wooden Surfaces**

3.3.1 *Wooden Surfaces Not Previously Painted* – This paint may be used on previously unpainted wooden surfaces after they have been primed with a coat of 1-GP-189M or 1-GP-203M. Two coats of the paint should be applied after 24 h. For best results, the primer should be topcoated after 24 h but before 72 h after application.

3.3.2 *Previously Painted Wood Surfaces* – Surfaces must be clean, firm and free from dirt and loose scale. All blistering, cracking and flaking areas should be completely removed to the bare wood. If the previous finish has failed and a blister-resistant system is required, all the old paint should be removed and the surface coated as in par. 3.3.1. If the previous surface is in good condition but is chalking excessively, a coat of 1-GP-189M primer should be applied first.

3.4 **Metal Surfaces** – Although paint to this standard is not intended for use on metal, it may be used on incidental metal if such surfaces are suitably precoated with 1-GP-40M primer.

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* Magnesite stucco does not provide a suitable surface for application of this type of paint.

Withdrawn/Retiree

3.5 For details in respect to surface preparation and other available systems, refer to the following:

85-GP-1M Painting (New) Exterior Wooden Surfaces
85-GP-31M Painting of Exterior and Interior Stucco, Masonry and Brick Surfaces

4. STORAGE

4.1 This paint is best stored at temperatures between 5 and 30°C and should not be allowed to attain temperatures over 50°C nor be subjected to freezing. Material that has been frozen once or twice should be checked before use.

Withdrawn/Retirée

PRIMER, RED LEAD, IRON OXIDE, OIL-ALKYD TYPE

1. SCOPE

1.1 This standard applies to a red lead, iron oxide primer in an oil-alkyd vehicle for use on structural steel and other ferrous surfaces.

2. INTENDED USES

2.1 Primer complying with this standard is intended for use on structural steel such as bridges and building structures, and other ferrous metal surfaces, where good resistance to the corrosive effects of the usual atmospheric environment is required.

3. METHODS OF APPLICATION

3.1 This primer is designed for use where painting schedules require handling and recoating in 16 h which is sufficient drying time under normal conditions.

3.2 A quantity of free linseed oil is present in the vehicle to promote good adhesion particularly where it has not been practical to remove the last small amounts of corrosion products. This primer should be applied by brush to obtain best adhesion.

3.3 Materials to the following standards are suitable topcoats for application over 1-GP-140M primer:

1-GP-28M Paint, Exterior, House, White and Tints
1-GP-59M Enamel, Exterior, Alkyd Type

3.4 Where reduction of the consistency of the primer is required use 1-GP-4M thinner.

3.5 Because 50% of the vehicle of this primer consists of linseed oil, the primer is suitable for application to surfaces where preparation has been limited and may be applied over hand-cleaned steel. Such cleaning must, however, be carried out thoroughly because of reduced wetting and faster drying characteristics imparted by the alkyd resin content. Better surface preparation than hand cleaning will result in better adhesion and longer life. The primer is suitable for rural, industrial and marine atmospheres.

Withdrawn/Retiree

ENAMEL, ALUMINUM, ALKYD, BAKING

1. SCOPE

1.1 This standard applies to a ready-mixed aluminum baking enamel suitable for use on primed metal surfaces.

2. INTENDED USES

2.1 Enamel complying with this standard is intended for exterior and interior use over cleaned and primed metal surfaces of post boxes and other equipment.

3. METHODS OF APPLICATION

3.1 This enamel is to be applied by spraying.

3.2 Type 2, 1-GP-81M primer is suitable for use as the primer on steel and aluminum. The primer should receive a low bake before application of the enamel. If two coats of enamel are to be applied, the first coat of enamel should also be given a low bake; the complete system receives the full bake.

Withdrawn/Retirée

SEALER, CLEAR, ALKALI RESISTANT

1. SCOPE

1.1 This standard applies to a low-viscosity vehicle suitable for use as a conditioner on moderately chalking painted surfaces prior to repainting and as a sealer for concrete.

2. INTENDED USES

2.1 Sealer complying with this standard is intended as a surface conditioner for moderately chalking surfaces before the application of paint (see 1-GP-138M and 1-GP-144M). For this purpose the sealer should be applied by brush at a rate just sufficient that the chalk is fully saturated. When the sealer is dry there should be no evidence of gloss; a glossy surface would indicate that the sealer has been applied too liberally. Conversely, a loose powdery surface after application of the sealer would indicate that the material has been applied too sparingly.

2.2 This is also intended for use as a sealer on concrete.

2.3 Where a sealer for terrazzo floors is required, 25-GP-20M floor sealer may be used.

Withdrawn/Retired

ENAMEL, ALUMINUM, HEAT RESISTANT, SILICONE-ALKYD

1. SCOPE

1.1 This standard applies to ready-mixed aluminum enamel suitable for use on properly cleaned interior and exterior metal surfaces that may be subjected to high temperature.

2. INTENDED USES

2.1 Enamel complying with this standard is intended for interior and exterior use on metal surfaces that may be subjected to temperatures up to 425°C.

2.2 The enamel is intended for use on gasoline, diesel and steam engines, steam turbines, pumps, etc., and interior structural members of boilers and boiler houses.

3. METHODS OF APPLICATION

3.1 The enamel can be applied directly to bare metal which has been blast cleaned to a fine profile in accordance with Steel Structures Painting Council Specification SSPC-SP-6 (Commercial Blast Cleaning) after removal of all oil, grease and dirt.

3.2 Related CGSB Standards (on use basis)

1-GP-69M Paint, Aluminum
1-GP-93M Paint, Aluminum, Marine.

Withdrawn/Retirée

COATING, STUCCO AND MASONRY, ALKYD TYPE

1. SCOPE

1.1 This standard applies to a breathing type of coating intended primarily for exterior use for heavy application over stucco, brick, concrete, masonry blocks and asbestos-cement surfaces where a sand-finish coating of long durability is desired. Because of its texture, the coating may be used to minimize surface irregularities.

2. INTENDED USES

2.1 These coatings are intended for exterior or interior use on all types of porous masonry surfaces such as concrete, brick, block, stucco and asbestos-cement. Type I Coarse Texture is intended primarily for new work; Type II Medium Texture is intended for repainting but may also be used for new work.

2.2 These coatings are particularly suitable for covering irregular or broken surfaces, such as form marks on concrete and spalled or broken brickwork, where such imperfections are of a minor nature. The sand-finish effect minimizes imperfections, and the heavy body of the materials permits filling and bridging of small cracks and depressions in the surface. Major imperfections should be repaired prior to painting.

3. METHODS OF APPLICATION

3.1 These coatings are suitable for brushing, and may be sprayed when applied according to the manufacturer's instructions. As these materials contain a coarse aggregate, care is required in the selection of the spraying equipment. The materials should be stirred occasionally to keep the aggregate in suspension.

3.2 When the coatings are applied to new work and previously unpainted surfaces, such surfaces must be dry and firm, and must have cured at least 28 d. The coatings may also be applied to previously painted surfaces that are firm and not freely chalking. Previously painted surfaces that have chalked should be treated with 1-GP-102M or 1-GP-142M surface conditioners. Some products require reduction with 1-GP-4M thinner; such products may be used unreduced to fill small cracks and imperfections before painting, the patching being allowed to dry before painting. These coatings should not be used on the upper side of horizontal surfaces where water may collect.

3.3 The products are intended primarily to be applied in a single coat, over bare masonry, at a relatively heavy film thickness. For relatively smooth surfaces, such as poured concrete or concrete blocks, the single coat shall be applied at the rate of 1.2 to 1.8 m^2/L. When two coats are specified over the above surfaces, coverage is approximately 2 m^2/L (for Type I) and 3 m^2/L (for Type II) for the first coat. Coverage is approximately 3 m^2/L (for Type I) and 4 m^2/L (for Type II) for the second coat. For medium and coarse open-textured lightweight block, two coats are suggested, and coverage will drop as low as 1.2 m^2/L per coat since it is essential to fill pits and voids to produce a continuous film. With these latter surfaces it is intended that the second coat may follow the first coat after 24 h, and the application shall be by means of a spray-brush-spray method according to the manufacturer's instructions.

Withdrawn/Retirée

STAIN, PIGMENTED, SOLVENT BASED

1. SCOPE

1.1 Stain to this standard applies to solid-hide and semi-transparent stains for exterior or interior use in decorative and protective applications on wood.

2. INTENDED USES

2.1 Stains complying with this standard are for use as decorative and protective finishes for exterior and interior surfaces, according to type, as follows: Type 1 for exterior use and Type 2 for interior use. Some stains may meet the requirements for both Type 1 and Type 2 material.

3. METHODS OF APPLICATION

3.1 For Type 1 material, at least two coats should be applied. If a glossy protective finish is required then use 1-GP-99M or 1-GP-180M.

3.2 For Type 2 material, two coats should normally be applied. It is recommended that a protective finish also be applied and the following are suitable: 1-GP-36M, 1-GP-175M or 1-GP-176M.

3.3 Where attack by fungus is a problem, consideration shall be given to the use of fungicides in accordance with the stain manufacturer's instructions for preparation of the surfaces and materials to be employed.

Withdrawn/Retiree

COATING, EPOXY, COLD CURED, GLOSS

1. SCOPE

1.1 This standard applies to a pigmented cold-curing two-package solution-type epoxy coating for use on properly prepared unpainted surfaces such as plaster, concrete, wood and suitably primed metal.

2. INTENDED USES

2.1 Coatings complying with this standard are intended for use on unpainted surfaces where good impact, superior washability and long life are required, for industrial use where superior chemical resistance is required and for marine atmospheres. They are suitable for application over practically any properly prepared surface such as wallboard, gypsum board, dry plaster, wood, brick, concrete, concrete blocks and metals. They are satisfactory for exterior use, but chalking and yellowing will occur upon weathering.

3. METHODS OF APPLICATION

3.1 This material may be used over 1-GP-153M high film build epoxy coatings but cannot be used over other coatings except as specified in par. 3.2, 3.3 and 3.4.

3.2 Metal surfaces should be clean and dry and free from oil, grease and corrosion products. They should then be treated with 1-GP-165M epoxy primer in accordance with the manufacturer's instructions. When used for finishing the internal surfaces of 3-GP-24M and CAN2-3.25-M77 fuel storage tanks, two coats of 1-GP-165M epoxy primer and two coats of epoxy coating should be applied to provide a total dry film thickness of 150 μm.

3.3 Concrete block, concrete and brick shall have all loose material removed; rough and porous surfaces shall first be coated with a 1-GP-188M block filler, in accordance with the manufacturer's instructions.

3.4 With open-grained wood, 1-GP-103M filler should be used.

4. INSTRUCTIONS FOR USE

4.1 Owing to the possibility of mixing errors, complete units as defined in the standard should be used providing all the material can be applied within 10 h of mixing.

4.2 Coatings should be applied to a wet-film thickness of 50-75 μm per coat, and only at 15 to 40°C and relative humidities below 80% because atmospheric conditions affect the curing time, pot-life and appearance.

4.3 Normally, two coats of the epoxy coating are applied for architectural purposes. For chemical resistance, a minimum of 125 μm of the system recommended by the manufacturer is required. The coating film may be recoated after 6 h. If recoating is carried out after 7 d, the film must first be lightly sanded.

4.4 The epoxy resin mixture should be applied under conditions of adequate ventilation, and hygienic measures should be adopted to protect the worker's skin and health. The manufacturer's instructions shall be strictly adhered to.

4.5 This composition contains volatile flammable solvents, and proper precautions should therefore be taken to eliminate the possibility of sparks or open flame being present during application and while the material is drying. Good ventilation is essential.

4.6 This material is most suitable for application by spraying when thinned in accordance with manufacturer's instructions. It may also be applied by brush and roller but when so applied care must be taken to avoid air entrapment. Brush or roller application of this coating is somewhat difficult and the final finish may be less uniform than when applied by spray. Brushing and rolling should be restricted to areas where spray application is not practical.

Withdrawn/Retiree

4.7 When brushing or roller-coating, natural bristle 22-GP-1M brushes and rollers to 22-GP-42 (Types 1 and 2) are recommended.

4.8 Care should be taken to clean equipment thoroughly at regular intervals and immediately after use with 1-GP-197M epoxy thinner. For brushes and rollers, cleaning with solvents must be followed by a soap and water rinse since the epoxy coating will cure even though immersed in solvents.

Withdrawn/Retirée

LUTING, AMMUNITION

1. SCOPE

1.1 This standard applies to a viscous waterproof composition suitable for sealing joints and special applications in contact with explosives.

2. DESCRIPTION

2.1 The luting complying with this standard consists essentially of polyethylene and polyisobutylene together with plasticizer and a small amount of green pigment.

3. INTENDED USES

3.1 Luting complying with this standard is intended for sealing joints wherever a nonhardening, low adhesive strength sealer compatible with explosives is required for use between –60 and +75°C.

3.2 This luting is primarily intended for sealing joints that must be disassembled or altered at a later date. It is also useful for sealing joints that contain gaps or are subject to thermal distortion.

Withdrawn/Retirée

PAINT, CAMOUFLAGE, REMOVABLE, FLAT

1. SCOPE

1.1 This standard applies to a gasoline-removable camouflage paint for use on military vehicles and equipment.

2. INTENDED USES

2.1 Paint complying with this standard is intended for camouflaging purposes. It combines good durability and color retention with easy removability. It may be removed by rags wetted with gasoline.

3. METHODS OF APPLICATION

3.1 This paint is intended to be applied by spray over a regular vehicle and equipment coating system. It is not intended for direct use over unprimed metal.

Withdrawn/Retirée

PAINT, TRAFFIC, REFLECTORIZED, ALKYD, WHITE AND YELLOW

1. SCOPE

1.1 This standard applies to reflectorized paint suitable for spray application to bituminous or concrete pavement for the purpose of marking traffic zones.

1.2 This standard also covers premix glass beads.

2. INTENDED USES

2.1 This paint is intended for use in marking traffic zones or bituminous or concrete pavements.

3. METHODS OF APPLICATION

3.1 Thinning is not normally required, but if necessary, the paint may be thinned with 1-GP-5M thinner.

4. MIXING INSTRUCTIONS

4.1 To obtain 455 L of reflectionized paint, 386 L of paint and 193 kg of beads are required.

Withdrawn/Retirée

LACQUER, CLEAR, FOR WOOD FURNITURE

1. SCOPE

1.1 This standard applies to cellulose nitrate clear lacquer for use on wood furniture.

2. DESCRIPTION

2.1 Lacquers complying with this standard are supplied in the following types and classes:

Type 1 Ready to Spray at normal room temperature

Class A — Gloss (Rubbing)
Class B — Satin (Nonrubbing)

Type 2 For Hot Spray, suitable for spraying when heated to 70 ± 3°C

Class A — Gloss (Rubbing)
Class B — Satin (Nonrubbing)

2.2 The lacquer consists essentially of cellulose nitrate and modifying resins dissolved in suitable solvents. Class A lacquer shall be high-gloss material and shall be suitable for rubbing with light mineral oil and pumice stone or any other suitable rubbing compound, when a satin finish is desired. Class B lacquer shall be formulated with flatting agents so that it will dry to a satin finish without rubbing.

3. INTENDED USES

3.1 This lacquer is intended primarily for use on interior wood furniture but may also be used for other wood surfaces such as wood panelling, doors, etc.

4. METHODS OF APPLICATION

4.1 Where rubbing is not intended, Class B lacquer should be used.

4.2 For application on metal, 1-GP-134M cellulose nitrate lacquer should be used.

4.3 The following system is recommended:

Nongrain-raising, light-fast, solvent-type stain where desired (e.g., U.S. Federal Specifiation TT-S-720: Stain, Wood, Nongrain-raising, Solvent-dye Type)

Wash-coat of Thinned Lacquer	1-GP-150M
Paste Wood Filler	1-GP-103M
Clear Lacquer	1-GP-150M

Withdrawn/Retirée

COATING, INTERIOR, INTUMESCENT, FIRE RETARDANT

1. SCOPE

1.1 This standard applies to an intumescing fire retardant coating suitable for interior use on suitably prepared combustible and noncombustible surfaces including structural steel.

2. INTENDED USES

2.1 Coating complying with this standard is intended for use as an interior fire retardant coating on combustible surfaces in possible hazard areas such as stairways, halls and corridors, kitchens, bedrooms, basements, storage and supply areas, etc.

3. METHODS OF APPLICATION

3.1 This coating can be used alone or in conjunction with a 1-GP-152M topcoat. A topcoat is normally used over this material in areas where better washability is required. When a topcoat is used, a 1-GP-152M overcoat from the same manufacturer should be used.

3.2 To get the expected or required degree of fire retardancy, it is important to have the coating applied at the same application rate (4 m^2/L) as that used when the material was evaluated for the fire hazard classification, as described in the standard.

3.3 **Use on Wood** — Bare wood should receive a coat of 1-GP-38M undercoater which is allowed to dry 24 h prior to application of the fire retardant coating. Previously painted surfaces should have all loose paint, dirt and grease removed and bare areas spot primed with 1-GP-38M undercoater. The coating should then be applied allowing 48 h drying between coats.

3.4 **Use on Steel** — Steel should receive a coat of 1-GP-40M primer which is allowed to dry 24 h prior to application of the fire retardant coating. The coating should then be applied allowing 48 h drying between coats.

3.5 **Use on Other Surfaces** — When the coating is applied to surfaces other than wood and metal, a coat of 1-GP-119M primer-sealer should first be applied.

Withdrawn/Retiree

COATING, INTERIOR, OVERCOAT FOR FIRE RETARDANT COATING

1. SCOPE

1.1 This standard applies to a coating suitable for interior use over a companion fire retardant base coat from the same manufacturer. This coating is not, by itself, a fire retardant coating but is intended to be used as a topcoat for 1-GP-151M fire retardant interior coating.

2. INTENDED USES

2.1 Coating complying with this standard is intended for use as a topcoat over 1-GP-151M fire retardant coating.

3. METHODS OF APPLICATION

3.1 This overcoat coating should not be used by itself where fire retardancy is required, but only as a companion topcoat over 1-GP-151M fire retardant coating in areas of heavier traffic or where moisture resistance and or higher gloss is required.

3.2 When used together as a system, 1-GP-151M fire retardant coating and 1-GP-152M overcoat should be obtained from the same manufacturer.

Withdrawn/Retirée

COATING, EPOXY, HIGH BUILD, GLOSS

1. SCOPE

1.1 This standard applies to a cold-curing, high-solids type, epoxy resin coating, two-package system, for use on unpainted surfaces such as plaster, concrete, wood and metal, and can also be used as a laminating resin.

2. INTENDED USES

2.1 Coatings complying with this standard are intended for high film build application on unpainted surfaces. They are recommended where good impact resistance, water resistance, superior washability and long life are required. They are suitable for application over practically any properly prepared surfaces such as wallboard, gypsum board, dry plaster, brick, concrete, concrete blocks and metals. The coatings may also be used on wood. They are satisfactory for exterior use, but chalking and yellowing will occur upon weathering.

2.2 This coating may also be used in preparing fiberglass epoxy laminates. This material cannot be used over other paints except as indicated in the standard.

3. METHODS OF APPLICATION

3.1 Metal surfaces should be clean, dry and free from oil, grease and corrosion products. They should then be treated with 1-GP-165M cold curing epoxy or other suitable anticorrosive primer in accordance with the manufacturer's instructions.

3.2 Concrete block, concrete and brick shall have all loose material removed and any large holes or cracks should be filled with 1-GP-188M block filler.

3.3 Where high film build is not required, consideration should be given to the use of 1-GP-146M epoxy coating.

3.4 When additional chemical resistance is required, consideration should be given to topcoating with 1-GP-146M epoxy coating, making sure that any slick that may have appeared is first removed.

4. INSTRUCTIONS FOR USE

4.1 Epoxy coatings complying with this standard shall be used as directed by the manufacturer. Regardless of stated pot-life, fresh material should not be mixed with previously mixed material.

4.2 Coatings shall be applied to a wet film thickness of 125-150 μm per coat and only when the ambient or substrate temperature is between 10 and 35°C and the relative humidity below 85%, as atmospheric conditions affect the curing time, pot-life and appearance. Blushing may occur if the relative humidity at time of application is above 85%.

4.3 With these coating slick* may sometimes appear. This should be washed off with a solution of 1 part methyl alcohol in 9 parts of water, but care should be taken to prevent staining of adjacent areas. Washing to remove the slick does not impair surface properties of the coating. Removal of the slick is especially important before recoating.

4.4 To protect the worker's skin and health the epoxy resin mixture should be applied under conditions of adequate ventilation and hygienic measures strictly according to the manufacturer's instructions.

4.5 These materials contain volatile flammable solvents and proper precautions should therefore be taken to eliminate the possibility of sparks or flame being present during application and while the material is drying. Good ventilation is essential.

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* Slick is an oilness or stickiness of the surface of the film.

Withdrawn/Retired

4.6 Brush application of epoxy coatings is somewhat difficult and the final finish may be less uniform than when applied by roller. Brushing should be restricted to small areas when application by roller is not practical.

4.7 When applying this coating by brush or roller, care must be taken to avoid air entrapment.

4.8 Whether this material is applied as a laminate system or as a coating, it is essential that an experienced applicator be used to perform the work. Application should be in exact accordance with the manufacturer's directions.

5. STORAGE

5.1 The epoxy coating components should be stored between 5 and 30°C and under no circumstances should they be subjected to temperatures above 50°C.

6. EQUIPMENT

6.1 Natural bristle brushes (22-GP-1M) and mohair rollers are recommended since most synthetic materials are attacked by the solvents used in the epoxy coatings.

6.2 Caution should be taken to clean equipment thoroughly at regular intervals and immediately after use with 1-GP-197M thinner. Cleaning with solvents should be followed by a soap and water rinse to remove any residual material since the epoxy coating will cure even though immersed in solvents.

Withdrawn/Retirée

PAINT, LATEX TYPE, FOR CONCRETE FLOORS

1. SCOPE

1.1 This standard applies to latex type paint for interior use on concrete, particularly floors.

2. INTENDED USES

2.1 Paint complying with this standard is intended for application to interior masonry and concrete surfaces, particularly floors, where a low gloss is satisfactory.

3. METHODS OF APPLICATION

3.1 This paint is self-priming and is alkali resistant. However newly constructed masonry and concrete surfaces should be allowed to cure 30 d before painting.

3.2 Surfaces that are firm, clean and free from efflorescence do not require sizing or priming prior to application of the paint. Acid etching is recommended on extremely smooth steel-trowelled bare concrete, but extreme care must be taken to remove all traces of acid before the paint is applied. Previously painted surfaces must be clean, firm and free from dirt and loose scale. This paint cannot be used over surfaces that are chalking, powdery, or not free from any acid, oily or greasy substances. Glossy surfaces must be sanded to ensure adequate adhesion.

3.3 Paints to this standard must not be applied on surfaces at temperatures lower than 10°C. Two coats of this paint are normally required. A minimum of 4 h should be allowed between coats. Over porous or rough surfaces the first coat should be applied by brush. On floors freshly painted with this material a drying time of at least 4 h should be allowed before opening the area to light foot traffic, and 24 h to heavy traffic. An estimate of the quantity of paint required should be based on a spreading rate of 5 to 6 m^2/L for the first coat on unpainted porous concrete, and 12.3 m^2/L on previously painted surfaces. When atmospheric conditions are very hot and dry and the surface is porous, it may be advantageous to wet the surface before painting. Dampness and high humidity conditions do not interfere with application, but if excessive, may prolong drying and curing time.

Withdrawn/Retirée

DOPE, TAUTENING, FOR AIRCRAFT FABRIC

1. SCOPE

1.1 This standard applies to pigmented and nonpigmented cellulose-nitrate tautening dope for application by brush and spray on fabric covered aircraft components.

2. CLASSIFICATION

2.1 This dope is supplied in the following two types:

Type 1 — Nonpigmented, Clear
Type 2 — Pigmented, Gloss

3. INTENDED USES

3.1 Type 1 Dope is intended for use as a tautening undercoat on aircraft fabric covered components and for making repairs to doped fabric surfaces.

3.2 Type 2 Dope is intended primarily as a topcoat pigmented finish where a tautening dope is indicated, and also as a tautening pigmented undercoat.

3.3 These dopes may be used on cotton or linen fabric, but should not be used on rubberized fabric.

Withdrawn/Retirée

COATING, CLEAR, QUICK DRYING, FOR AMMUNITION

1. SCOPE

1.1 This standard applies to quick-drying clear coating for the protection of ammunition fuzes.

2. INTENDED USES

2.1 Materials complying with this standard are intended for use as coatings on ammunition fuzes to protect them during storage and transportation from the effects of condensation, weather, wetting with salt solution and marine spray.

3. METHODS OF APPLICATION

3.1 The coatings are designed to be applied by dipping or spraying.

Withdrawn/Retired

MARKING MATERIAL, BLACK, QUICK-DRYING

1. SCOPE

1.1 This standard applies to quick-drying black marking material for use on brass cartridge cases.

2. INTENDED USES

2.1 In addition to marking brass cartridge cases, the material may also be used for marking small arms.

3. METHODS OF APPLICATION

3.1 It should be applied by means of a rubber stamp, and will normally not require thinning before use.

Withdrawn/Retirée

PRIMER, CELLULOSE NITRATE, ALKYD-MODIFIED TYPE

1. SCOPE

1.1 This standard applies to corrosion-inhibiting, fast-drying, spray-type lacquer primer for use over 1-GP-121M vinyl pretreatment coating.

2. INTENDED USES

2.1 Cellulose-nitrate lacquer complying with this standard is intended for use as a fast-drying, spray-type, corrosion-inhibiting primer. The primer acts as a tie coat between a pretreatment coating and topcoating of cellulose nitrate or acrylic-cellulose nitrate lacquer, and is satisfactory for use with pretreatment coating on new or previously painted metal that has been stripped clean.

3. METHODS OF APPLICATION

3.1 A thin wet coat should be applied over the 1-GP-121M vinyl pretreatment to give a film with a greenish yellow on color. A heavy binding coat of a full yellow color should be avoided.

3.2 Normal topcoats for this primer are:

1-GP-159M	Lacquer, Acrylic Cellulose Nitrate, Gloss
1-GP-160	Lacquer, Acrylic Cellulose Nitrate, Camouflage

Withdrawn/Retirée

LACQUER, ACRYLIC CELLULOSE NITRATE, GLOSS

1. SCOPE

1.1 This standard applies to acrylic cellulose nitrate gloss lacquer for use as a general purpose exterior protective coating for metal surfaces, particularly where resistance to diester lubricating oil is required.

2. CLASSIFICATION

2.1 Gloss lacquer complying with this standard is applied in the following types:

Type 1 — Clear
Type 2 — Pigmented

3. INTENDED USES

3.1 Acrylic cellulose nitrate lacquer conforming to this standard is intended for general use as an exterior protective coating for metal surfaces, particularly for aircraft application where resistance to diester lubricating oil is required.

4. METHODS OF APPLICATION

4.1 It is designed primarily for spray application.

4.2 The lacquer is intended for use over 1-GP-158M primer and shall not be applied directly over 1-GP-121M vinyl pretreatment coating.

Withdrawn/Retirée

LACQUER, ACRYLIC CELLULOSE NITRATE, CAMOUFLAGE

1. SCOPE

1.1 This standard applies to acrylic cellulose nitrate camouflage lacquer for use as a general exterior protective coating for metal surfaces, particularly where resistance to diester lubricating oil is required.

2. INTENDED USES

2.1 Acrylic cellulose nitrate lacquer complying with this standard is intended for general use as an exterior protective camouflage coating for metal surfaces, particularly where resistance to diester lubricating oil is required.

2.2 It is designed primarily for use on aircraft.

3. METHODS OF APPLICATION

3.1 This lacquer is designed primarily for spray application.

3.2 The lacquer is intended for application over 1-GP-158M primer and shall not be applied directly over 1-GP-121M vinyl pretreatment coating.

Withdrawn/Retiree

COATING, COAL TAR BASE, COLD APPLICATION

1. SCOPE

1.1 This standard applies to cold-application coal tar base compound for the protection of steel structures and compartments from corrosion.

2. INTENDED USES

2.1 Coating compound complying with this standard is intended to be used for the protection of steel structures and compartments from corrosion, including but not limited to chainlockers, rudder interiors and the like, whose interior parts must be flow-coated and where the degree of surface preparation obtainable is limited.

3. METHODS OF APPLICATION

3.1 This coating is applicable by brush, spray or floor coating to provide complete coverage.

Withdrawn/Retired

COATING, STUCCO AND MASONRY, EMULSION TYPE

1. SCOPE

1.1 This standard applies to a breathing type of coating intended primarily for exterior use for heavy application over stucco, brick, concrete, masonry blocks and asbestos-cement surfaces, where a sand-finish coating of long durability is desired. Because of its texture, the coating may be used to minimize surface irregularities.

2. INTENDED USES

2.1 Coatings complying with this standard are intended for exterior or interior use on all types of masonry surfaces such as concrete, brick, block and stucco.

2.2 These coatings are particularly suitable for covering irregular or broken surfaces such as form marks in concrete and spalled or broken brickwork where such imperfections are minor. The sand-finish effect minimizes the imperfections, and the heavy body of materials permits filling and bridging of smaller cracks and depressions in the surface.

3. METHODS OF APPLICATION

3.1 They are suitable for brushing, and may be sprayed when applied according to the manufacturer's instructions. If reduction is required, water may be used. As these materials contain a coarse aggregate, conventional spraying equipment cannot be used and care is required in the selection of such equipment. Information regarding specialized equipment required should be obtained from the coating supplier or equipment manufacturers. The materials should be stirred occasionally to keep the aggregate in suspension.

3.2 If an aggregate-free filler is desired or required, 1-GP-188M emulsion type block filler may be used.

3.3 White 513-301 may be used, and Yellow 505-308 should only be used on asphalt and concrete airport runways. However when surfaces are coated with an emulsion slurry coat, at least two weeks of normal drying shall be allowed prior to applying the 1-GP-162M coating.

3.4 These coatings are fast-drying so that two coats may be applied in one day. Type 1 is intended primarily for new work; Type 2 is intended for repainting, but may also be used for new work.

3.5 Small cracks and imperfections may be filled with unreduced material before applying the coating. Water-soluble fillers should not be used under these coatings. Major imperfections should be repaired prior to painting.

3.6 The coatings must be applied to firm surfaces. Chalking surfaces should be treated with 1-GP-102M or 1-GP-142M surface sealers. They may be applied to previously painted surfaces that are firm and not freely chalking.

3.7 These products are intended primarily to be applied in a single coat, over bare masonry, at a relatively heavy film thickness. For relatively smooth surfaces, such as poured concrete or concrete blocks, the single coat should be applied at the rate of 1.2 to 1.8 m^2/L. When two coats are specified over the above surfaces, coverage is approximately 2 m^2/L for Type 1 and 3 m^2/L for Type 2 for the first coat. Coverage is approximately 3 m^2/L for Type 1 and 4 m^2/L for Type 2 for the second coat. For medium and coarse open-textured lightweight block, two coats are suggested and coverage will drop as low as 1.2 m^2/L per coat since it is essential to fill pits and voids to produce a continuous film. With these latter surfaces it is intended that the second coat may follow the first coat after 2 h, and the application shall be by means of a spray-brush-spray method according to the manufacturer's instructions.

3.8 These paints must not be applied at temperatures lower than 10°C. When atmospheric conditions are very hot and dry, it may be advantageous to wet the surface before painting.

Withdrawn/Retiree

4. STORAGE

4.1 These paints are best stored at temperatures between 5 and 30°C and should not be allowed to attain temperatures over 50°C nor be subjected to freezing. Materials that have been frozen once or twice should be checked before use.

Withdrawn/Retirée

COATING, STUCCO AND MASONRY, DAMPPROOFING OR MOISTURE RESISTANT

1. SCOPE

1.1 This standard applies to two ready mixed cementitious coatings, one of which is intended to impart dampproofing properties and the other is intended primarily for use as a moisture resistant coating on exterior walls.

2. CLASSIFICATION

2.1 Coatings to this standard are supplied in two types and classes as specified:

Type 1 – Nontextured (Dampproofing, for interior and exterior use)
Type 2 – Textured (Moisture Resistant, primarily for exterior use)

Class A – Coarse
Class B – Medium

3. INTENDED USES

3.1 Coatings complying with this standard are intended for exterior and interior application to masonry surfaces such as stucco, block, brick, concrete and asbestos-cement.

3.2 Type 1 covers a nontextured paint which may be used for interior walls below grade of formed concrete, concrete block, cinder block and masonry which have been properly prepared.

3.3 Type 2 coating applies to material intended primarily for exterior use for heavy applications over stucco, brick, concrete, and masonry surfaces where a sand-finish coating of long durability is desired. Because of its texture, the coating may be used to minimize surface irregularities and to bridge small cracks and depressions in the surface.

4. METHODS OF APPLICATION

4.1 The products are primarily intended to be applied in a single coat over bare masonry at 1.8 m^2/L for Type 1 and 1.2 m^2/L for Type 2. Because cement is an integral part of the formulation, the coatings may be applied over damp surfaces and, in fact, under such conditions better curing of the film will occur.

4.2 **Type 1**

4.2.1 IMPERATIVE: REPAIR ALL HOLES, CRACKS OR CHIPS IN THE SURFACE WITH A PROPER MORTAR COMPOUND. REMOVE ALL SCALING PAINT.

On porous or coarse surfaces or when conditions warrant, two or even three coats may be required. All pores must be filled, as well as voids and pinholes, which may allow water seepage. With a good wall and proper preparation as mentioned above and proper application the coating should resist a 2.7 m head of hydrostatic pressure. NOTE: This product is not intended to repair structural defects.

4.3 The coatings shall be ready-mixed. Type 1 coating shall be satisfactory for brushing, rolling or spraying in accordance with manufacturers' instructions. Type 2 shall be suitable for rolling or spraying with appropriate equipment.

Withdrawn/Retirée

SOLVENT FOR VINYL PRETREATMENT COATING

1. SCOPE

1.1 This standard applies to solvent-thinner for use with 1-GP-121M vinyl pretreatment coatings.

2. INTENDED USES

2.1 Solvent complying with this standard is intended primarily for cleaning the equipment used in applying 1-GP-121M vinyl pretreatment coating.

3. METHODS OF APPLICATION

3.1 When necessary, 1-GP-121 mixed coating may be thinned with 1-GP-164M solvent in the proportion necessary to obtain the required film thickness.

Withdrawn/Retirée

PRIMER, EPOXY, COLD CURING

1. SCOPE

1.1 This standard applies to cold-curing, two-package solution-type, polyamide epoxy primer for use on unpainted metal.

2. TYPES

2.1 The primer is supplied in two types:

Type 1 – Red Lead Primer, for use on ferrous metals
Type 2 – Zinc Chromate Yellow, for use on nonferrous metals

3. INTENDED USES

3.1 This primer is intended for use on metal under 1-GP-146M and 1-GP-153M topcoats. Type 1 is intended for use on ferrous metals; Type 2 primarily for nonferrous metals.

3.2 Metal surfaces should be clean, dry and free from oil, grease and corrosion products.

3.3 Steel and iron surfaces intended for immersion service, and where optimum chemical resistance is required, must be sandblasted to white metal (31-GP-404). For other types of service, commercial sandblasting is acceptable. If sandblasting is not possible, all rust and other surface contamination should be removed by power tool (SSPC Method No. 3 – Power Tool Cleaning) or hand cleaning (SSPC Method No. 2 – Hand Tool Cleaning) methods. Adhesion to power tool or hand cleaned surfaces is normally adequate for most industrial environments, although the life expectancy is reduced.

3.4 **Instructions for Use**

3.4.1 Primers complying with this standard should be used by units, as defined in the standard. Only sufficient material for 10 h use should be prepared.

3.4.2 Epoxy primers should preferably be applied by brushing, but may be sprayed in accordance with the manufacturer's instructions. When it is intended to spray the primer on ferrous metal, the surface must first be sandblasted. For optimum protection, the two coats of primer should be applied to obtain a minimum dry film thickness of 76 µm for Type 1 and 28 µm for Type 2. When a second coat is required, the second coat must be tinted as outlined in the standard to ensure that all areas are covered.

3.4.3 This primer should be applied only when the ambient or substrate temperature is between 10 and 35°C and the relative humidity below 85%, as atmospheric conditions affect the curing time, pot-life and appearance. If the relative humidity at the time of application is above 85%, blushing may occur.

3.4.4 When used for finishing the internal surfaces of 3-GP-24M and CAN2-3.25-M77 fuel storage tanks, two coats of primer must be used (see par. 8.1.3 of 1-GP-146M).

3.4.5 The primers should be topcoated within 16 h and 7 d after application. If topcoating within 7 d is not possible, the primer film should be given a light sanding before topcoating.

3.4.6 The primers should be applied under conditions of adequate ventilation and hygienic measures to protect the worker's skin and health. These should be strictly adhered to according to the manufacturer's instructions.

3.4.7 The primers contain volatile flammable solvents; proper precautions should therefore be taken to eliminate the possibility of sparks or open flame being present during application and while the material is drying. Good ventilation is essential.

Withdrawn/Retirée

3.5 **Storage** — The epoxy primer components should be stored between 5 and 30°C and under no circumstances should they be subjected to temperatures above 50°C.

3.6 **Equipment**

3.6.1 Natural bristle 22-GP-1M brushes are recommended since most synthetic materials are attacked by the solvents used in the epoxy primers.

3.6.2 Care should be taken to clean equipment thoroughly at regular intervals, and immediately after use, with thinner supplied by the manufacturer or 1-GP-124M thinner. For brushes, cleaning with solvents must be followed by a soap and water rinse, since the epoxy coating will cure even though immersed in solvents.

Withdrawn/Retirée

PRIMER, BASIC LEAD SILICO-CHROMATE, OIL ALKYD TYPE

1. SCOPE

1.1 This standard covers three types of basic lead silico-chromate primers for use on structural steel and other ferrous surfaces.

2. INTENDED USES

2.1 Type 1 primer is intended for use on structural steel, such as bridges and building structures, and other ferrous metal surfaces. It is suitable for use as the first priming coat on bare metal where good resistance to the corrosive effects of the usual atmospheric environment is required. It may be used wherever painting schedules do not demand recoating in less than 48 h. The vehicle solids, being principally linseed oil, offer the best opportunity to wet the metal surface and therefore obtain an intimate bond of the paint with the surface despite the presence of small amounts of corrosion products found impractical to remove.

2.2 Type 2 primer is intended for use as a first field coat on bridges and other building structures, and may be applied over the shop coat of Type 3 primer on new work or over Type 1 primer on repaint work.

2.3 Type 3 primer is intended for use as a shop coat on sand- or grit-blasted steel surfaces. It may be applied over previously painted but sound and clean surfaces where faster drying is required than is obtainable with Types 1 and 2 primers.

3. METHODS OF APPLICATION

3.1 **Type 1** — The steel surface should be hand-cleaned by scraping or wire brushing, or preferably machine-cleaned or sandblasted, to remove loosely adherent rust and mill scale before application of the primer.

3.2 **Type 2** — Under normal field conditions, Type 2 primer should be suitable for topcoating after 24 h.

3.3 **Type 3** — Under normal field conditions, Type 3 primer should be suitable for topcoating after 18 h.

3.4 Although intended primarily as an undercoat for 1-GP-167M enamel, primers complying with the requirements of this standard may be also used with other enamels.

3.5 These primers should be applied to a dry film thickness of 35 to 50 μm; the surface to be painted should be dry and the temperature not lower than 5°C.

3.6 Primers as supplied are suitable for brushing. They are satisfactory for spraying when reduced with not more than 10% by volume 1-GP-4M thinner, in accordance with the manufacturer's instructions.

Withdrawn/Retirée

ENAMEL, EXTERIOR, BASIC LEAD SILICO-CHROMATE, ALKYD TYPE

1. SCOPE

1.1 This standard applies to durable weather-resistant enamel intended for exterior use on suitably primed metal surfaces.

2. INTENDED USES

2.1 Enamels complying with this standard are intended for use as topcoats on suitably primed structural steel where good durability and weather resistance are required.

3. METHODS OF APPLICATION

3.1 1-GP-166M primer is intended to be a suitable primer for use under this enamel.

3.2 When repainting ferrous surfaces, remove all loose rust or loose paint by wire brushing, scraping or other suitable means, followed by spot priming with a primer designed for use on exterior structural steel.

Withdrawn/Retirée

CEMENT, CASHEW POLYMER, LEAD FREE

1. SCOPE

1.1 This standard applies to chemically setting two-pack lead-free cement used mainly for sealing screw threads.

2. ADVICE AND GUIDANCE TO USER AND CONTRACTOR

2.1 Advice to User of the Cement

2.1.1 Cashew polymer cement, lead free, is self-setting. The liquid and powder constituents are delivered in separate containers or in containers with two compartments. When the cement is required for use, the liquid and powder must be mixed together thoroughly, in the proportions by mass of 100:6, care being taken to ensure that none of the powder remains unwetted by the liquid. (Constituents packed in two-component packs are provided in the correct proportions, and the containers for the liquid portion are sufficiently large to allow for the addition and admixture of the powder.)

2.1.2 The cement shall be stirred frequently during use and shall not be allowed to come into contact with moisture. It may be used from the container in which it is mixed, providing not more than 0.45 kg is mixed at one time.

2.1.3 In no circumstances may additional liquid component, or any solvent, be added during use.

2.1.4 The cement, once mixed, will have a limited period of use, depending on the ambient temperature, and only such quantities shall be mixed at a time as can be used within this period. The following approximate equivalent periods of use are given as a guide.

Temperature, °C	25	20	15
Pot Life, h	1.5	2.5	5

2.2 Advice to Contractors Regarding Special Two-Component Packs

2.2.1 Cashew polymer cement is, strictly speaking, composed of the two ingredients in the ratio:

Cashew Polymer	100 parts by mass
Paraformaldehyde	6 parts by mass

2.2.2 So far as two-component packs containing preweighed quantities of each component are concerned, variations in the relative proportions of these components are acceptable provided that:

a. the gelation time of the resultant cement satisfies the requirements of 1-GP-168, par. 5.3.

b. the mean mass of the cashew polymer in the packs is in accordance with the amount called for in the contract.

2.2.3 For the guidance of contractors it has been found that if the amount of paraformaldehyde in a pack lies within the mass range 6 ± 0.6 parts for each 100 parts of cashew polymer, the gelation time of the cement should be within acceptable limits.

2.2.4 It is realized that in the packing operation the actual ratio of the masses of the components will vary from pack to pack.

2.2.5 It is therefore suggested that the accuracy of the method of packing one component be determined and, from the figures so obtained, the permissible variation in the mass of the other component be calculated.

2.2.6 If the individual components are measured by a weighing method that involves the masses of the containers, any variation in the latter will have to be taken into consideration.

Withdrawn/Retiree

2.2.7 *Example* — A contract calls for two-component packs, each containing 113 g of cashew polymer and the appropriate amount of paraformaldehyde. Thus, to provide the ideal proportions (i.e., 100 parts cashew polymer and 6 parts paraformaldehyde), each pack should contain 113 g polymer and 6.8 g paraformaldehyde.

2.2.8 It is determined that the method the contractor intends to use for packing the paraformaldehyde provides never more than 7.15 g nor less than 6.55 g; these masses are equivalent to not more than 6.3 parts nor less than 5.8 parts by mass since 6.8 g are equivalent to 6 parts by mass.

2.2.9 The extreme porperties of the cement will be obtained when the maximum mass of paraformaldehyde is used with the minimum mass of cashew polymer, and vice versa.

2.2.10 The workable extremes are in the ratios (see above) 100:6.6 and 100:5.4. These convert to 95.5:6.3 and 107:5.8.

2.2.11 Thus, to comply with the tolerances stated, the amounts of cashew polymer packed must all lie between 95.5 and 107 parts, which are equivalent to 108 g and 121 g in this particular example, since 100 parts are equivalent to 113 g.

Withdrawn/Retirée

COATING SYSTEM, HIGH VISIBILITY (FLUORESCENT), REMOVABLE

1. SCOPE

1.1 This standard applies to a high-visibility, durable, exterior, fluorescent coating system capable of being removed without softening the permanent undercoats. The system consists of fluorescent pigmented lacquer and a clear overcoating.

2. INTENDED USES

2.1 The paint system conforming to this standard is intended for use as a high-visibility finish that can be readily removed without impairing the underlying permanent protective finish. Fluorescent finishes gradually fade and lose brightness after exposure to sunlight. This effect occurs sooner in some colors than others. The Orange 608-401 fades faster than the Red 609-401.

3. METHODS OF APPLICATION

3.1 This material is attacked by most solvents, greases and oils. In applying it to aircraft, avoid areas likely to come in contact with these materials.

3.2 Cleaning materials containing organic solvents should not be used. Use aqueous solutions of water-base cleaning compound (e.g., MIL-C-25769, Cleaning Compound, Aircraft Surface, Alkaline Waterbase).

Withdrawn/Retirée

COATING, INORGANIC ZINC

1. SCOPE

1.1 This standard applies to an inorganic coating for use on steel superstructures, decks and hulls of vessels, bridges, towers, offshore drilling rigs, tank linings and reconditioned equipment.

2. INTENDED USES

2.1 This standard applies to an inorganic zinc coating for use on steel construction of superstructures, decks and hulls of vessels, tank lining, bridges, towers and offshore drilling rigs which are exposed to aggressive environments, marine atmospheres, and to intermittent immersion* in fresh or salt water. This coating is designed particularly for use in areas where recoating is difficult, expensive, abnormally time consuming or where the life of conventional coatings has been found to be too short.

2.2 The coated steel is intended to withstand exposure up to a temperature of 400°C. Being a zinc-containing coating, it is not resistant to acids and alkalis, but may be used as a tank liner for hydrocarbon solvents and under conditions of continuous wetting.

2.3 Both Class A and B materials may be used on superstructures and in open areas. In restricted spaces Class A, high flash material should be used to reduce fire hazard.

3. METHODS OF APPLICATION

3.1 Unless otherwise specified by the manufacturer, the dry film thickness of the coating should be 75 ± 10 μm.

3.2 This coating is intended for use as a system in itself, or, as a primer under suitable topcoats. If this coating is used in areas of aggressive environments, coatings such as 1-GP-184M Coating, Coal Tar-Epoxy, 1-GP-193M Coating, Epoxy, High Build, or a topcoat recommended by the manufacturer should be used. When a topcoat is desired for less severe environments, alkyds are suitable (See par. 3.5 and 3.6).

3.3 Caution should be exercised in lap-in areas and in double-coat applications, to ensure that sufficient time is permitted for curing the first coat.

3.4 Probable climatic conditions at time of application will dictate whether Type 1 or Type 2 coating will be employed.

3.5 When alkyds are being used, 1-GP-121M vinyl wash primer should be used as a tie-coat. When epoxies or other topcoats are being used, a tie-coat such as 1-GP-121M may be required as recommended by the manufacturer.

3.6 Selection of topcoats and the method of application should be in accordance with the manufacturer's recommendations.

3.7 **Surface Preparation**

3.7.1 Metal surfaces should be clean, dry and free from oil, grease and corrosion products. For immersion service, the surface shall be blast cleaned to white metal in accordance with 31-GP-404 (Method 1) or SSPC-SP5 and the resultant surface appearance shall be as outlined in Pictorial Standard A, B, C or D Sa 3 of SSPC Vis 1. (ASTM D 2200) For less critical exposures, the surface shall be blast cleaned to near-white metal in accordance with 31-GP-404 (Method 2) or SSPC-SP 10 as a minimum, and the resultant surface appearance shall be as outlined in Pictorial Standard A, B, C, or D Sa 2-1/2 of SSPC Vis 1. For less critical exposures, and where circumstances do not permit blasting, it is permissible to power disc sand general areas to bright metal and power brush bolt heads, nuts and rivets to bright metal if agreed between the contracting parties.

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* This coating may be used for total immersion conditions in sea water subject to the manufacturer's recommendations.

Withdrawn/Retiree

3.7.2 For further details in respect to surface preparation, see CGSB 85-GP-11, Painting Steel for protection Against Continuous Wetting or 85-GP-13, Painting Structural Steel for Protection Against Heavy Industrial Atmospheres.

Withdrawn/Retirée

ENAMEL, VINYL-ALKYD, EXTERIOR, FLAT BLACK

1. SCOPE

1.1 This standard applies to flat black enamel for use over a system consisting of 1-GP-121M vinyl pretreatment and 1-GP-122M vinyl anticorrosive primer.

2. INTENDED USES

2.1 This vinyl alkyd enamel is intended primarily for exterior use on hulls (above water line) and superstructures of submarines.

3. METHODS OF APPLICATION

3.1 This enamel should be used over a system consisting of 1-GP-121M vinyl pretreatment coating and 1-GP-122M vinyl anticorrosive primer.

Withdrawn/Retiree

COATING, POLYURETHANE, OIL-MODIFIED, INTERIOR, CLEAR, GLOSS AND SATIN

1. SCOPE

1.1 This standard applies to one-package pre-reacted type polyurethane coating for general interior use on woodwork, including floors.

2. INTENDED USES

2.1 Polyurethane coatings complying with this standard are intended for interior use only, particularly for wood furniture, panelling, woodwork. Type 1 (Gloss) is recommended for floors but where a satin finish is desired Type 2 coating may be used as the final coat.

3. METHODS OF APPLICATION

3.1 In the finishing of new work, or when the previously finished coats have been completely removed, it may be necessary to consider filling and staining as required before topcoating with 1-GP-175M coating.

3.2 Prior to applying this coating over aged polyurethane finish, special care shall be taken to remove dirt and particularly wax, and thoroughly sand the finish to obtain the necessary adhesion.

3.3 Under normal drying conditions, these materials may be recoated after 6 h, with sanding between coats optional, depending on manufacturer's instructions. If recoating is carried out after 30 h, the film shall first be lightly sanded.

3.4 Polyurethane coatings to this standard should not be applied over rubber, asphalt floor tiles, or shellac. Wood fillers and sealers containing stearates should be avoided; if filling or sealing is required, this should be done in accordance with the manufacturer's instructions.

Withdrawn/Retirée

COATING, POLYURETHANE, INTERIOR, MOISTURE CURED, CLEAR

1. SCOPE

1.1 This standard applies to a clear "oil-free" polyurethane coating system containing an isocyanate-terminated polymer that is cured or hardened by reaction with atmospheric moisture, resulting in a finish suitable for general interior use.

2. INTENDED USES

2.1 These coatings are intended for application on a variety of properly prepared new and previously finished interior surfaces such as brick, concrete, concrete blocks, plaster, metals and wood. Both types are suitable for use where outstanding resistance to physical abuse and chemical attack are required. Type 1, being a general purpose material, may be used in areas where some yellowing is not objectionable as this coating will yellow if exposed to strong light containing a high proportion of ultra-violet rays. If nonyellowing properties are desired, only Type 2 (Nonyellowing) is suitable. It should however be noted, that, because of its increased cost, Type 2 material should be used only where nonyellowing is important.

3. METHODS OF APPLICATION

3.1 Wood Surfaces

3.1.1 Normal oil-base or water-base wood fillers, or those containing stearates are not recommended since they may act to impair adhesion. The coating manufacturer's recommendations should be obtained regarding suitable fillers.

3.1.2 Nonporous woods such as maple or pine should be sealed with a coat of 1-GP-176M polyurethane coating that has been reduced with recommended urethane thinner according to manufacturer's recommendations. Subsequent topcoats should be applied as received.

3.2 **Metal Surfaces** — such as aluminum, stainless steel or stain resisting steel should be clean, dry and free from oil, grease and corrosion products.

3.3 **Masonry Surfaces** — Concrete block, concrete and brick should have all loose materials removed and any large holes or cracks should be filled with a suitable filler such as 1-GP-188M Filler, Masonry Block, Emulsion Type.

3.4 Oil Painted Surfaces

3.4.1 Before surfaces previously painted with a conventional paint or varnish based on drying oils are recoated, a patch test should be made. If there is lifting, the old finish must be completely removed. If the test shows no interaction, within 24 h, it can be assumed that the system is compatible. The surface to be repainted should then be thoroughly sanded and cleaned. No attempt should be made to coat a surface that has cured for less than 12 months.

3.4.2 Prior to applying this coating over aged polyurethane finishes, special care shall be taken to clean and sand the finish to obtain maximum adhesion. Normally two coats should be applied for architectural purposes. The second coat should be applied within 24 h; if this is not possible, the first coat should be given a light sanding prior to coating.

3.5 Instructions for Use

3.5.1 Polyurethane coatings complying with this standard shall be used as directed by the manufacturer. Since this product cures or hardens by reaction with atmospheric moisture, only sufficient material for the immediate job should be poured into a separate container and the original can tightly resealed. Regardless of stated pot life, unused material should not be returned to the original container, nor should fresh material be mixed with material that has been exposed to air for any length of time.

Withdrawn/Retire

3.5.2 To reduce the coating, thin only as much as is required, just prior to use, to minimize effects of trace moisture in the solvents or atmosphere during mixing.

3.5.3 Coatings shall be applied to a wet film thickness of 75-125 μm per coat and at temperatures between 16 to 32°C and a minimum relative humidity of 30%, as atmospheric conditions will affect the curing time, pot life, and appearance. Increased relative humidity will shorten the curing time.

3.5.4 To protect the worker's skin and health, the polyurethane coating should be applied under conditions of adequate ventilation and hygienic measures strictly according to the manufacturer's instructions.

3.5.5 These materials contain volatile flammable solvents, and proper precautions should therefore be taken to eliminate the possibility of sparks or open flame being present during application and while the material is drying. Good ventilation is essential.

3.5.6 When applying this coating by brush, care must be taken to avoid air entrapment.

3.6 **Storage** — The polyurethane coating should be stored between 5 and 30°C.

3.7 **Equipment**

3.7.1 Natural bristle brushes (22-GP-1M) and lamb's wool applicators are recommended since most synthetic materials are attacked by the solvents used in the polyurethane coatings.

3.7.2 Care should be taken to clean equipment thoroughly at regular intervals, and immediately after use, with thinner as recommended by the manufacturer. Do not place equipment or brushes in water since this will accelerate hardening of the residual polyurethane material.

Withdrawn/Retirée

COATING, POLYURETHANE, TWO-PACKAGE, RESISTANT TO CHALKING AND YELLOWING

1. SCOPE

1.1 This standard applies to a two-package, pigmented polyurethane coating for interior and exterior use on metal, wood, glass-fiber-reinforced plastic and concrete where superior durability and resistance to chemicals, abrasion, impact, water, corrosion, yellowing and chalking are desired.

2. INTENDED USES

2.1 **Intended Uses** — This coating is intended to be applied primarily by spray, over practically any properly prepared surface, such as wood, metal, concrete blocks, bricks, and glass-fiber reinforced plastic where a durable water, abrasion, impact and corrosion resistant finish is required. It is most suitable for exterior use in view of its excellent weatherability, and resistance to chalking and yellowing.

3. METHODS OF APPLICATION

3.1 Only sufficient material for one day's use should be mixed at one time. Regardless of stated pot life, fresh material should not be mixed with material that has stood for more than 4 h.

3.2 Normally two topcoats of the material should be applied for architectural purposes. The second coat should be applied within 24 h; if this is not possible, the first coat should be given a light sanding prior to coating. Where these polyurethane coatings are to be applied over aged or weathered polyurethane finishes, special care shall be taken concerning cleaning and sanding of the finish to obtain maximum adhesion of the new coatings.

3.3 This coating is intended to be applied primarily by spray, but may be applied by brush, roller or applicator where small areas are involved.

3.4 Material to this standard should be applied only when the relative humidity is under 80% and at temperatures ranging between 5 and 30°C as atmospheric conditions affect pot life, curing time and appearance.

3.5 These coatings may be used over surfaces that have been previously finished with varnishes and paints, but before such application a small area should always be tested to determine if lifting, wrinkling or discolouration will occur. The surface must be properly sanded and must always be free from dust, greases, oil or wax.

3.6 **Wood Surfaces** — When wood filling is necessary, follow the coating manufacturer's recommendations.

3.7 **Metal Surfaces** — Metal surfaces shall be clean, dry and free from oil, grease and corrosion products. They should then be treated with suitable anticorrosive primers according to the manufacturer's instructions. These polyurethane coatings may be used over 1-GP-165 epoxy primer.

3.8 **Masonry Surfaces** — Concrete block, concrete and brick should have all loose materials removed and any large holes or cracks should be filled with a suitable block filler, according to manufacturer's instructions. New concrete shall have cured for 28 d and should be thoroughly dry before application of the polyurethane coating. If the surface is extremely smooth and nonporous, and acid-etch is recommended and shall be carried out according to manufacturer's instructions.

3.9 **Glass-Fiber-Reinforced Plastic** — These surfaces should be sanded and given a solvent wash according to manufacturer's instructions.

3.10 **Storage** — Material to this standard should be stored at temperatures between 5 and 30°C and under no circumstances should they be subjected to temperatures above 40°C.

Withdrawn/Retirée

3.11 **Equipment** – Care should be taken to clean equipment thoroughly at regular intervals, and immediately after use, with thinner as recommended by the manufacturer. Do not place equipment in water since this will accelerate the hardening of the residual polyurethane material.

Withdrawn/Retirée

PRIMER, ZINC DUST/ZINC OXIDE, ALKYD (FOR GALVANIZED SURFACES)

1. SCOPE

1.1 This standard applies to a two-package zinc dust/zinc oxide alkyd primer for use on galvanized metal surfaces, except immersed surfaces. It is not intended for use on the inside of drinking-water tanks.

2. INTENDED USES

2.1 This primer is intended for use as a priming coat on new or old hot-dipped or zinc-coated metal under ordinary atmospheric exposure conditions. It may also be used in marine atmospheres. The primer is also satisfactory as a finish coat and may be used in one or more coats. One coat hides completely and is adequate for many service conditions on new galvanized iron.

2.2 The primer is not intended for use on the inside of drinking-water tanks.

3. METHODS OF APPLICATION

3.1 This is a semiprepared primer, with the zinc oxide dispersed in the entire vehicle in one container. The components should be mixed in accordance with manufacturer's instructions. The proportions of zinc dust and of zinc oxide-vehicle required for preparing 1 L of ready-to-use paint are approximately 950 g of zinc dust and 970 g of zinc oxide-vehicle.

3.2 No chemical treatment of the galvanized metal prior to application of the primer is necessary, but standard accepted treatments may be used if it seems desirable. Dirt and greasy material must be removed by cleaning with a solvent such as 1-GP-4M mineral spirits, and then wiping with clean, dry rags, before pretreating or painting. If the galvanized surface has weathered for 12 months or longer, application of 1-GP-178M is not required.

3.3 If the surface is somewhat rusted, remove the rust thoroughly before applying this primer. For further information regarding surface preparation and recommended systems, refer to 85-GP-16M, Painting Galvanized Steel.

Withdrawn/Retirée

COATING, POLYURETHANE, TWO-PACKAGE, GENERAL PURPOSE

1. SCOPE

1.1 This standard applies to a two-package polyurethane coating for interior and exterior use on metal, wood, glass-fiber-reinforced plastic, and concrete where excellent resistance to abrasion, impact, water and corrosion are desired and where some yellowing and chalking are not objectionable.

2. TYPES

2.1 The coating is supplied in two types:

Type 1 — Clear, Gloss
Type 2 — Pigmented, Gloss

3. INTENDED USES

3.1 Type 1 polyurethane coatings are intended for use on interior wooden floors and woodwork where outstanding abrasion resistance, high flexibility and hardness are desired; and on concrete floors and walls as abrasion, water and chemical resistant coatings.

3.2 Type 1 polyurethane coatings are not recommended for use over exterior wood siding.

3.3 Type 2 polyurethane coatings are intended for application over practically any properly prepared surface, such as wood, metal, concrete, concrete blocks, bricks and glass-fiber-reinforced plastic where a durable water, abrasion, impact and corrosion resistant finish is required. They are suitable for exterior use but some chalking and yellowing will occur upon weathering. Topcoating with 1-GP-177M polyurethane coating will minimize these effects.

4. METHODS OF APPLICATION

4.1 Only sufficient material for one day's use should be mixed at one time. Regardless of stated pot life, fresh material should not be mixed with material that has stood for more than 4 h.

4.2 Normally two topcoats of the material should be applied for architectural purposes. The second coat should be applied within 24 h; if this is not possible, the first coat should be given a light sanding prior ot coating. Where these polyurethane coatings are to be applied over aged or weathered polyurethane finishes, special care shall be taken concerninq cleaning and sanding the finish to obtain maximum adhesion of the new coatings.

4.3 These coatings are intended to be applied primarily by spraying but may be applied by brush, roller or applicator where small areas are involved.

4.4 Material to this standard should be applied only when the relative humidity is under 80% and at temperatures ranging between 5 to 30°C as atmospheric conditions affect pot life, curing time and appearance.

4.5 These polyurethane coatings may be used over surfaces that have been previously finished with varnishes and paint but, before such application, a small area should always be tested to determine if lifting, wrinkling or discoloration occur. The surface must be properly sanded and must always be free from dust, grease, oil and wax.

4.6 **Wood Surfaces** — When wood staining or filling is necessary, follow the coating manufacturer's recommendations.

Withdrawn/Retirée

4.7 **Metal Surfaces** — Metal surfaces should be clean, dry and free from oil, grease and corrosion products. They should then be treated with suitable anticorrosive primers according to the manufacturer's instructions. These polyurethane coatings may be used over 1-GP-165 primer.

4.8 **Masonry Surfaces**

4.8.1 All loose materials should be removed from concrete block, concrete and brick, and any large holes or cracks should be filled with a suitable block filler according to manufacturer's instructions.

4.8.2 New concrete shall have been cured for 28 d and should be thoroughly dry before application of the polyurethane coating. If the surface is extremely smooth and nonporous, an acid-etch is recommended ans shall be carried out in accordance with the manufacturer's instructions.

4.9 **Glass-Fiber-Reinforced Plastic** — These surfaces should be sanded and given a solvent wash according to manufacturer's instructions.

4.10 **Storage** — Materials to this standard should be stored at temperatures between 5 and 30°C and under no circumstances should they be subjected to temperatures above 40°C.

4.11 **Equipment** — Care should be taken to clean equipment thoroughly at regular intervals, and immediately after use, with thinner as recommended by the manufacturer. Do not place equipment in water since this will accelerate hardening of the residual polyurethane material.

Withdrawn/Retirée

COATING, ZINC-RICH, ORGANIC, READY-MIXED

1. SCOPE

1.1 This standard applies to ready-mixed zinc-rich organic coating for general use on steel surfaces.

2. INTENDED USES

2.1 This coating is intended to be used as a primer on new steel construction and for repair and maintenance of steel construction that is subjected to normal and marine atmospheric exposures up to a maximum temperature of 95°C. Being a zinc-containing coating, it is not resistant to acids and alkalis.

3. METHODS OF APPLICATION

3.1 The coating, as received, should be applied by brush and may be sprayed when reduced with 1-GP-94M thinner or 2-ethoxy ethyl acetate (ASTM D 343), in accordance with manufacturer's instructions. Spray application should be from an agitated pressure pot and the material constantly agitated during deposition. Coatings should be applied in a single continuous wet film to a dry thickness of 75 to 125 μm.

3.2 When topcoats are required, they should be applied only in accordance with recommendations of the manufacturer.

Withdrawn/Retired

PAINT, VINYL, EXTERIOR

1. SCOPE

1.1 This standard applies to vinyl paint suitable for use as an exterior and interior finish coat under conditions of marine and industrial environments and immersion in sea water.

2. INTENDED USES

2.1 Vinyl coating is intended primarily for exterior use in the protection of metals exposed to marine environments when applied over 1-GP-121M vinyl pretreatment and 1-GP-122M vinyl anticorrosive primer. It should not be used directly on bare metal of any type. This coating may also be used for interior use.

2.2 Vinyl coating, in conjunction with 1-GP-121M and 1-GP-122M, is intended for wharves and naval equipment subjected to total immersion, intermittent immersion or frequent splashing by sea water. The final finish coat is intended to provide additional protection from atmospheric weathering. Black 512-101 is suitable for use in the boot-top areas of naval vessels having the underwater outerbottom coated with a vinyl system.

2.3 Vinyl coating is suitable for fresh-water immersion, industrial atmospheres and chemical exposure except that Aluminum 515-101 is not resistant to strong alkali or acid. The coating has poor resistance to ketones, esters and aromatic solvents.

2.4 Vinyl coating, in conjunction with 1-GP-121M and 1-GP-122M can be used for the coating of the interior of potable water storage tanks.

3. METHODS OF APPLICATION

3.1 For normal atmospheric exposures, the system shall consist of 1 coat of 1-GP-121M, 2 coats of 1-GP-122M and 2 coats of 1-GP-182M for a minimum total dry film thickness of 109 μm. For immersion conditions, the system shall consist of 1 coat of 1-GP-121M, 5 coats of 1-GP-122M and 2 coats of 1-GP-182M for a minimum total dry film thickness of 178 μm.

3.2 This system for immersion conditions can be used for the coating of the interior of potable water storage tanks providing 1-GP-122M Type 2, Primer is not used.

3.3 For details in respect to surface preparation and other available systems, refer to 85-GP-11: Painting Steel for Protection against Continuous Wetting or 85-GP-13: Painting Structural Steel for Protection against Heavy Industrial Atmospheres.

Withdrawn/Retiree

COATING, ZINC-RICH, EPOXY

1. SCOPE

1.1 This standard applies to a cold-curing two or three component epoxy polyamide, zinc-rich coating for use on unpainted ferrous metal as a primer or as a system.

2. INTENDED USES

2.1 This coating is intended for use on ferrous metals as a primer under suitable topcoats, or, as a single- or double-coat system by itself.

3. METHODS OF APPLICATION

3.1 When used as the sole protection, it should be applied in at least two coats to yield a minimum dry film thickness of 125 μm.

3.2 When used as a weldable primer, the coating should be applied to yield a dry film thickness of 15 to 20 μm. This coating is not recommended as a weldable primer on high tensile steel.

3.3 When used as a primer, under suitable topcoats, one application of the coating should be applied to yield a minimum dry film thickness of 65 μm. This should be followed by one of the following topcoat systems:

a. 1-GP-146M Coating, Epoxy, Cold Cured, Gloss
b. 1-GP-121M Vinyl Wash-Primer; 1-GP-122M Primer, Vinyl, Anticorrosive; and
   1-GP-123M Paint, Vinyl, Antifouling, for Ships' Bottoms
c. 1-GP-121M Vinyl Wash Primer and 1-GP-61M Enamel, Alkyd, Marine, Exterior
d. 1-GP-121M Vinyl Wash Primer; 1-GP-122M Primer, Vinyl, Anticorrosive and
   1-GP-182 Paint, Vinyl, Exterior.

3.4 Being a zinc-containing coating, this material is not suitable for use where appreciable amounts of acids or alkalis are likely to be encountered.

3.5 Oil or alkyd paints should not be used directly on this coating.

Withdrawn/Retiree

COATING, COAL TAR-EPOXY (BLACK)

1. SCOPE

1.1 This standard applies to cold-curing two-component coal tar-epoxy coating for the protection of clean steel or concrete surfaces exposed to severely corrosive conditions.

2. INTENDED USES

2.1 Coal tar-epoxy coating covered by this standard is intended for interior and exterior use as a protective coating on substrates exposed to environments involving fresh or sea water immersion, tidal and splash zone exposures, high humidity, condensation, burial in soil and exposure to brine, crude oil, alkalies, chemical fumes, chemical splashings by moderately strong sulfuric and muriatic acids. This coating is suitable for exterior use but chalking will occur upon weathering. Durability can be further improved by applying other finishes suitable for the intended end use.

2.2 The coating is mainly intended for use on steel surfaces but may also serve as a protective coating on suitably treated galvanized steel, suitably treated aluminum, and for timber, masonry and concrete surfaces.

3. METHODS OF APPLICATION

3.1 This coal tar-epoxy coating is suitable for application in thick coats by spray, brush or roller.

3.2 This coating performs best when the steel is well cleaned by blasting. The commercial grade of cleaning conforming to SSPC-SP6-63 (corresponding with pictorial standards Sa2 of ASTM D 2200-67 or SSPC-Vis 1-67) is considered to be entirely adequate in the great majority of exposure situations. Surfaces subject to very severe chemical exposures should be blast-cleaned to the near white grade SSPC-SP10-63T (corresponding with Sa 2-1/2 of ASTM D 2200-67 or SSPC-Vis 1-67) and surfaces exposed to total immersion should be blast-cleaned to white metal SSPC-SP5-63 (corresponding with pictorial standards Sa3 of ASTM D 2200-67 or SSPC-Vis 1-67). Other surfaces should be free from dirt, grease and loose materials.

3.3 Primers are not required in normal usage, but if it appears necessary to use a primer, the manufacturer's advice regarding a suitable primer should be obtained.

3.4 Coal tar-epoxy coatings complying with this standard should be used as directed by the manufacturer. Regardless of stated pot-life, fresh material should not be mixed with previously mixed material. The coating should be applied only at temperatures between 15 and 30°C and relative humidities below 80%.

3.5 A minimum of two coats should be applied, preferably by spray, to yield a minimum dry film thickness of 400 µm. A minimum of 12 h and a maximum of 96 h drying time between coats should be allowed under normal painting conditions. Long drying times between coats might cause poor intercoat adhesion and it is advisable, in very warm weather, to reduce the maximum interval between coats to as little as 36 h. If the application is by brush, it should be with a stiff natural bristle brush heavily loaded with the coating. The coating should be applied quickly and smoothly, and excessive brushing should be avoided.

3.6 With these coatings, slick (an oiliness or stickiness of the surface of the film) may sometimes appear. This should be washed off with a solution of 1 part methyl alcohol in 9 parts of water, but care should be taken to prevent staining of adjacent areas. Washing to remove the slick does not impair surface properties of the coating. Removal of the slick is especially important before recoating.

3.7 The coating should be applied under conditions of adequate ventilation and hygiene to protect the worker's skin and health. The manufacturer's instructions should be strictly adhered to.

3.8 The coating contains volatile flammable solvents, and proper precautions should therefore be taken to eliminate the possibility of sparks or open flame being present during application and while the material is drying. Good ventilation is essential.

Withdrawn/Retired

3.9 **Storage** — The coal tar-epoxy coating components should be stored between 5 and 30°C and under no circumstances should they be subject to temperatures above 50°C.

3.10 **Equipment**

3.10.1 Natural bristle brushes (22-GP-1M) and mohair or cotton rollers are recommended since most synthetic materials are attacked by the solvents used in the coal tar-epoxy coatings.

3.10.2 Care should be taken to clean equipment thoroughly at regular intervals, and immediately after use, with thinner supplied by the manufacturer or 1-GP-197M thinner. Cleaning with solvents must be followed by a soap and water rinse to remove residual material since the coal tar-epoxy coating will cure even though immersed in solvents.

Withdrawn/Retirée

COATING SYSTEM, INTERIOR, HIGH BUILD, GLAZED

1. SCOPE

1.1 This standard applies to a coating system consisting of a cementitious or noncementitious filler, a high-solids pigmented base component, and a high or semigloss, clear or pigmented glaze. For smooth, nonporous surfaces, a filler may not be required. The system is intended for use on interior walls and ceilings to provide a high-build glaze finish resistant to moisture, staining and fire.

2. INTENDED USES

2.1 This coating system is intended as an interior decorative and protective coating primarily on poured concrete and concrete blocks, but may also be used on cement board, cement plaster, dry-wall, hardboard, metal and previously painted surfaces; it should not be applied over perlite plaster. It is intended particularly for use in corridors, washrooms and stairways, where good washability and mar resistance characteristics are desired.

2.2 This coating is intended for areas that are generally dry, and also for areas such as shower stalls, toilets and bathrooms, which are frequently exposed to water or dampness.

2.3 The system is not intended for application to damp surfaces, and is not recommended for uses involving continual immersion in water or where backing is continuously damp.

3. METHODS OF APPLICATION

3.1 For concrete blocks and concrete, to achieve a smooth surface free from holes and imperfections, application of a filler or two base coats may be necessary in accordance with the manufacturer's instructions. The smoothness test, par. 4.4.11, may be used as a field test by inspecting authorities for establishing the number of coats required to attain the desired profile, or for determining whether the system being used is of the required smoothness.

3.2 Substrates must be sound, clean, free from oil or grease, and dry.

3.3 Emulsion systems should not be applied at temperatures below 10°C.

3.4 The coating system is intended to be applied at a total dry film thickness of 370 – 1250 µm depending on the profile of the substrate and whether filler is required.

3.5 Walls below grade should first be waterproofed from the outside.

3.6 It is recommended that this system be applied by an experienced applicator.

Withdrawn/Retirée

COATING COMPOUND, ANTICONDENSATION

1. SCOPE

1.1 This standard applies to a compound suitable for antisweat protection of primed or sealed surfaces subjected to condensation.

2. INTENDED USES

2.1 This coating compound is intended for application on previously primed or sealed surfaces such as concrete, plaster, asbestos sheeting, iron, steel, galvanized or zinc coated metal, aluminum, copper and brass tubing, and bituminous coated surfaces that are subjected to intermittent condensation.

2.2 The compound is not intended to be used where condensation is continuous or where there is no opportunity of a recovery period.

3. METHODS OF APPLICATION

3.1 Surfaces should be free from all dirt, grease, rust and loose particles.

3.2 Prior to application of this coating compound, substrates should be primed as follows:

Substrate	Prime Coat
Plaster or wallboard	1-GP-119M
Galvanized or zinc coated metal	1-GP-178M
Ferrous metal	1-GP-48M

3.3 **Brushing** – When brushing the coating compound, a thick coat should be applied without any attempt to obtain a smooth surface. Additional coats should be applied at right angles to the direction of the previous coat.

3.4 **Spraying**

3.4.1 *Pot-Type Air Pressure Spray* – The compound should be thinned according to the manufacturer's instructions. The nozzle and pot pressures should be 276-344 kPa and 103-138 kPa respectively. The type of equipment used should be that recommended by the manufacturer.

3.4.2 *Airless Spray* – Airless spray has been found more economical for large areas. Thinning is not normally required unless otherwise stipulated in the manufacturer's instructions.

Withdrawn/Retiree

FILLER, BLOCK, EMULSION TYPE

1. SCOPE

1.1 This standard applies to an emulsion type of filler for interior and exterior use on rough surfaces such as cinder block, concrete block, concrete and stucco prior to topcoating.

2. INTENDED USES

2.1 Fillers complying with this standard are intended for filling and bridging depressions, voids and smaller cracks on new and painted porous surfaces such as cinder blocks, concrete blocks, concrete and stucco surfaces that have been properly prepared.

3. METHODS OF APPLICATION

3.1 Surface preparation consists of having all loose powdery dirt, loose particles and flaking material removed by wire brushing and scraping.

3.2 The filler should be allowed to dry 24 h prior to topcoating with gloss, semigloss or flat enamels, emulsion finishes, epoxies and urethane coatings.

3.3 These fillers are intended primarily for application in a single coat at a relatively heavy spreading rate of 1.0 to 4.0 m^2/L, depending on the surface texture. For relatively smooth surfaces, a single coat is normally adequate, whereas for medium or coarse opentextured surfaces, two coats are suggested to provide a continuous film. It two coats are required, the second coat may be applied within 4 h of the first coat. The application shall be as recommended in the manufacturer's instruction.

3.4 These fillers should not be applied at temperatures lower than 7°C. When atmospheric conditions are very hot and dry, it may be advantageous to wet the surface before filling.

3.5 **Storage** — These fillers are best stored at temperatures between 5 and 30°C and should never be allowed to attain temperatures over 50°C or be subjected to repeated freezing.

Withdrawn/Retirée

PRIMER, ALKYD, WOOD, EXTERIOR

1. SCOPE

1.1 This standard applies to an alkyd-base primer for exterior use on wood under alkyd house paints, enamels and latex paints.

2. INTENDED USES

2.1 Primer complying with this standard is intended for exterior use on wood under alkyd house paints, enamels and latex paints.

3. METHODS OF APPLICATION

3.1 This primer is designed primarily for brush and roller application, but may also be applied by spray when reduced with 1-GP-4M thinner in accordance with the manufacturer's instructions.

3.2 Under normal conditions this primer dries overnight and, weather permitting, the topcoat should be applied the next day. However, if weather conditions delay topcoating for several days, the primer should be lightly sanded.

3.3 Any cracked boards should be repaired or replaced and knots spot primed with 1-GP-93M aluminum paint or 1-GP-126M vinyl sealer. A full coat of 1-GP-189M primer is then applied at a coverage of approximately $12 m^2/L$, (80 μm wet film thickness).

3.4 **Previously Painted Wood** — All areas of blistering, cracking and flaking must be completely removed by brushing, scraping or burning before spot priming. Dirt, particularly under the eaves, and chalk should be removed by washing with detergent and water, rinsing and drying. Heavily chalked surfaces should have the bulk of the chalk removed. A full coat of the primer is then applied to the properly prepared surfaces.

3.5 Topcoats normally used with this primer are as follows:

1-GP-28M	Paint, Exterior, Alkyd, House
1-GP-59M	Enamel, Exterior, Gloss, Alkyd Type
1-GP-88	Enamel, Alkyd, Air Drying and Baking, Gloss
1-GP-138M	Paint, Exterior, Latex Type, Flat

Withdrawn/Retirée

PRIMER SURFACER, SANDING TYPE

1. SCOPE

1.1 This standard applies to a sanding type primer surfacer for use primarily on automobile bodies over a suitably prepared surface prior to application of an enamel topcoat. Its main purpose is to obliterate scratches or slight imperfections and provide a smooth level surface for the topcoat.

2. INTENDED USES

2.1 Primer surfacer covered by this standard is intended for use as a surfacing coat prior to the application of the enamel topcoat. When applied as directed, it assists in obliterating scratches and other slight surface imperfections and provides a smooth level surface for the topcoat.

3. METHODS OF APPLICATION

3.1 The primer surfacer is intended primarily for use with 1-GP-191M Enamel, Automotive Refinishing, Fast Drying, Gloss, but may be topcoated with one of the following enamels:

1-GP-88	Enamel, Alkyd, Air Drying and Baking, Gloss
1-GP-98M	Enamel, Alkyd, Air Drying and Baking, Gloss (Green 503-101)
1-GP-104M	Enamel, Alkyd, Air-Drying and Baking, Exterior, Semigloss.

Withdrawn/Retirée

ENAMEL, AUTOMOTIVE REFINISHING, FAST DRYING, GLOSS

1. SCOPE

1.1 This standard applies to a durable fast-drying gloss enamel suitable for maintenance refinishing on primed or previously painted surfaces of motor vehicles and related equipment.

2. INTENDED USES

2.1 This standard covers a durable high-gloss fast-drying enamel, intended for use in refinishing vehicles and related equipment.

3. METHODS OF APPLICATION

3.1 The enamel is intended for spray application over all types of previously painted vehicles that have been cleaned and suitably prepared in accordance with the manufacturer's instructions.

3.2 The enamel is intended for refinishing areas that have been filled, primed and surfaced in accordance with the manufacturer's instructions.

Withdrawn/Retiree

DECK COATING, NONSLIP, EPOXY

1. SCOPE

1.1 This standard applies to epoxy-type nonslip deck coating for use on metal and wood decks or platforms of vessels.

2. INTENDED USES

2.1 This deck coating material is suitable for general use on traffic lanes of all-weather wood and metal carrier flight decks where heavy-duty service is required. Also, it is suitable for use in magazines and hazardous working areas where a higher flash material is essential. The material is intended to resist accidental spillage of lubricating oil, jet fuel, hydraulic fluid and similar common solvents or fuels. These items, if spilled, should be mopped up as soon as possible.

3. METHODS OF APPLICATION

3.1 Prior to application of this material, old deck covering, rust, alkyd and oil paints, grease and other contaminants should be removed.

3.2 The coating performs best when steel decks are first blast cleaned and primed as follows:

a. Blast cleaning to white metal in accordance with 31-GP-404, Type 1, or SSPC-SP-5-63 to conform to visual standard A, B, C or D Sa 3 of SSPC Vis 1 or ASTM D 2200, followed by application of 1-GP-171M, Type 1, inorganic zinc coating.

b. Blast cleaning as above followed by application of 1-GP-171M, Type 2, inorganic zinc coating and 1-GP-121M vinyl wash primer.

c. Blast cleaning to near-white metal in accordance with 31-GP-404, Type 1, or SSPC-SP-10 so as to conform to visual standard A, B, C or D Sa 2-1/2 of SSPC Vis 1 or ASTM D 2200, followed by application of 1-GP-165 epoxy primer.

3.3 The coating should be applied when the ambient and/or substrate temperatures are in the range of (10 to 40°C) and the relative humidity below 80% because atmospheric conditions affect curing time, pot life and appearance.

3.4 The coating should be mixed and applied in accordance with the manufacturer's instructions. It may be applied by trowelling, or spraying as recommended by the manufacturer and may also be applied by brush for touch-up purposes. Total dry film thickness should be 1.5 to 2.0 mm.

3.5 **Storage** — The individual components should be stored between 5 and 30°C and under no circumstances should they be subjected to temperatures above 50°C.

Withdrawn/Retire

COATING, HIGH-BUILD EPOXY, MARINE

1. SCOPE

1.1 This standard applies to a high-build epoxy coating for application over epoxy or inorganic zinc-rich primer to provide protection to steel and other surfaces, except wood, under marine atmosphere in severe industrial environment conditions.

2. INTENDED USES

2.1 This coating is intended for interior and exterior use. It is intended primarily for the protection of steel surfaces but may also be used to protect suitably treated galvanized steel, suitably treated aluminum, masonry and concrete surfaces.

2.2 When applied over inorganic zinc 1-GP-171, it is intended to provide excellent protection in environments involving fresh-water, sea water, tidal and splash zone exposure, exposure to high humidity and condensation, exposure to brine, alkalies and chemical fumes.

3. METHODS OF APPLICATION

3.1 This coating is intended for low temperature curing conditions and is suitable for application, in thick coats, by spray.

3.2 **Types of Primers** — Metal surfaces should first be primed with one of the following primers as recommended by the manufacturer:

3.2.1 *Low Temperature Conditions*

1-GP-171M Coating, Inorganic Zinc.

3.2.2 *Normal Conditions*

1-GP-165 Primer, Epoxy, Cold Curing
1-GP-171M Coating, Inorganic Zinc
1-GP-181M Coating, Zinc Rich, Organic, Ready Mix
1-GP-183M Coating, Zinc Rich, Epoxy
1-GP-196 Preservative, Inorganic Zinc, Preconstruction

3.2.3 Concrete block, concrete and brick should have all loose material removed and any large holes or cracks filled with 1-GP-188M Filler, Masonry Block, Emulsion Type.

3.2.4 Epoxy coatings complying with this standard should be used as directed by the manufacturer. Regardless of stated pot-life, fresh material should not be mixed with previously mixed material.

3.2.5 Coatings should be applied to a dry film thickness of 100 – 150 μm per coat and when the ambient or substrate temperature is between 5 and 30°C and the relative humidity below 85%, as atmospheric conditions affect the curing time, pot-life and appearance. If the relative humidity, at time of application, is above 85%, blushing may occur.

3.2.6 With these coatings, slick* may sometimes appear. This should be washed off with a solution of 1 part methyl alcohol in 9 parts of water, but care should be taken to prevent staining of adjacent areas. Washing to remove the slick does not impair surface properties of the coating. Removal of the slick is especially important before recoating.

3.2.7 To protect the worker's skin and health, the epoxy coating should be applied under conditions of adequate ventilation and hygienic measures stricly according to the manufacturer's instructions.

Withdrawn/Retiree

3.2.8 These materials contain volatile flammable solvents. Proper precautions should, therefore, be taken to eliminate the possibility of sparks or open flame being present during application and while the material is drying. Good ventilation is essential.

3.2.9 Roll or brush application of epoxy coatings is somewhat difficult and the final finish will be less uniform than when applied by spray. Rolling or brushing should be restricted to small areas when application by spray is not practical. When applying this coating by brush or roller, care must be taken to avoid air entrapment.

3.3 **Storage** – The epoxy coating components should be stored between 5 and 30°C. Under no circumstances should they be subjected to temperatures above 50°C.

3.4 **Equipment and Cleaning**

3.4.1 This material is normally applied with natural bristle brushes conforming to 22-GP-1M, rollers conforming to 22-GP-42M, Type 1, or spray equipment as recommended by the manufacturer. Selection of equipment is important as some synthetic materials are attacked by the solvents used in epoxy coatings.

3.4.2 Caution should be taken to clean equipment thoroughly at regular intervals, and immediately after use, with 1-GP-50 or 1-GP-197M thinner.

3.5 For further information on the proper methods of preparing and applying of marine coatings, see:

85-GP-11 – Painting Steel for Protection Against Continuous Wetting
85-GP-13 – Painting Structural Steel for Protection Against Heavy Industrial Atmosphere.

*Slick is an oiliness or stickiness of the surface of the film.

Withdrawn/Retirée

PAINT, INTERIOR, LATEX TYPE, SEMIGLOSS

1. SCOPE

1.1 This standard applies to interior semigloss latex paint suitable for use on all types of wall surfaces, either new or previously painted.

2. INTENDED USES

2.1 Paint complying with this standard is intended for application on all interior walls, ceilings and trim.

3. METHODS OF APPLICATION

3.1 **New Work** – This paint is suitable for application without primer over wall board or dry wall construction. New plaster and masonry should be primed with a primer-sealer, wood should be primed with an undercoat and metal should be primed with a metal primer.

3.2 **Conditions for Painting** – This paint should be applied only when:

a. The temperature of the air or the substrate is in the range of 10°C to 30°C, and this condition can be maintained for at least a 2 h drying period.

b. The relative humidity is in the range of 40 to 80%

c. There is no condensation of free moisture on the surface to be painted

d. All dirt, oil, grease or other contaminants have been removed

e. Previously painted semigloss or gloss surfaces have been sanded and all loose paint is removed.

Withdrawn/Retirée

PRESERVATIVE, INORGANIC ZINC, PRECONSTRUCTION

1. SCOPE

1.1 The standard applies to a thin film inorganic zinc rich material for use as a preservative for abrasive blasted steel before and during construction. The material is intended to protect plate or structural steel for at least one year during construction. After construction is completed, inorganic zinc or conventional coatings may be applied over the preservative.

2. CLASSIFICATION

2.1 The preservative to this standard is supplied in the following types:

2.1.1 *Types*

Type 1 — Water Based

Type 2 — Solvent Based

3. INTENDED USES

3.1 This standard applies to thin film inorganic zinc rich material for use as a preconstruction preservative for abrasive blasted steel. This preservative is for use on steel construction of ships, bridges, towers, tanks and offshore structures where protection is required for a minimum of one year, before and through the construction cycle. Being a zinc rich coating, this preservative is not suitable for use where appreciable amounts of acids or alkalis are likely to be encountered or where cathodic protection is used.

4. METHODS OF APPLICATION

4.1 This preservative is particularly designed for use with automatic abrasive blasting equipment.

4.2 This preservative is intended for use on clean steel that has been freed from oils, greases and mill scale, and has been abrasive blasted to near-white metal in accordance with SSPC SP-10 to achieve a general profile of 38 μm and conform with visual standard A, B, C, or D Sa 2-1/2 in SSPC Vis 1 or ASTM D 2200.

4.3 The preservative is formulated to be applied at a film thickness in the range of 25 μm as specified by the manufacturer.

4.4 **Topcoating** — This preservative is suitable for accepting 1-GP-171M inorganic zinc topcoats, and also a 1-GP-121M wash primer — 1-GP-48M marine primer system.

Withdrawn/Retirée

THINNER FOR EPOXY COATINGS

1. SCOPE

1.1 This standard applies to a mixture of organic liquids for use as a solvent or thinner for coatings formulated with epoxy resins. It may also be used as a thinner for acrylic nitrocellulose lacquers.

2. INTENDED USES

2.1 Thinner to this standard is intended for use in reducing 1-GP-146M, 1-GP-165 epoxy coatings, 1-GP-148M coal tar-epoxy coatings, and 1-GP-159M, 1-GP-160 acrylic cellulose nitrate lacquers and other similar formations. It is also suitable for use as a clean-up solvent for such coatings.

Withdrawn/Retired

PRIMER, CEMENTITIOUS (FOR GALVANIZED SURFACES)

1. SCOPE

1.1 This standard applies to an oil based cementitious primer for use on galvanized metal surfaces.

2. INTENDED USES

2.1 Primer complying with this standard is intended for application on new or old galvanized metal under ordinary atmospheric exposure conditions.

3. METHODS OF APPLICATION

3.1 Topcoats normally used with this primer are as follows:

1-GP-28M Paint, Exterior, House, White and Tints

1-GP-59M Enamel, Exterior, Gloss, Alkyd Type

1-GP-138M Paint, Exterior, Latex Type, Flat

3.2 The recommended dry film thickness for this primer should be in the range of 45-60 μm.

Withdrawn/Retirée

COATING, HIGH-BUILD, VINYL

1. SCOPE

1.1 This standard applies to a high-build vinyl coating suitable for use in marine atmospheres including immersion in sea water.

2. INTENDED USES

2.1 It is intended for interior and exterior use as a protective coating on substrates exposed to environments involving fresh and sea water exposure, tidal and splash zones, high humidity, condensation, brine, and alkaline, acidic and chemical atmosphere.

2.2 The coating is mainly intended for use on suitably primed steel surfaces but may also serve as a protective coating on suitably treated and primed galvanized steel.

3. METHODS OF APPLICATION

3.1 High-build vinyl coating can be applied to obtain a dry film thickness of 200 to 250 μm and is intended to be applied by conventional or airless spray equipment over 1-GP-171M inorganic zinc coating or 1-GP-121M vinyl wash primer systems if recommended by the manufacturer. Where practical, it is desirable to use the topcoat and the 1-GP-171M inorganic zinc coating from the same manufacturer.

3.2 The coating may also be applied over a primer system consisting of one coat of 1-GP-121M vinyl wash primer and two coats of 1-GP-122M vinyl anticorrosive primer. Total minimum dry film thickness of the above primer system is 50 μm.

Withdrawn/Retirée

DECK COATING, NONSLIP, POLYURETHANE

1. SCOPE

1.1 This standard applies to polyurethane-type nonslip deck coating for use on metal and wood decks or platforms of vessels except in hazardous areas.

2. INTENDED USES

2.1 This material is for application on aircraft-carrier landing runout areas in which the arresting wire purchase cables are exposed to wear, and to helicopter landing platforms and exterior decks, but not to magazines and areas considered hazardous. It is intended to resist accidental spillage of lubricating oil, jet fuel, hydraulic fluid and similar common solvents or fuels. These items, if spilled, should be mopped up as soon as possible.

3. METHODS OF APPLICATION

3.1 Prior to application of this material, old deck covering, rust, alkyd and oil paints, grease and other contaminants shall be removed.

3.2 The coating performs best when steel decks are first cleaned by blasting and priming as follows:

a. Blast cleaning to white metal in accordance with 31-GP-404, Type 1, or SSPC-SP-5-63 so as to conform to visual standard A, B, C, or D Sa 3 of SSPC Vis 1 or ASTM D 2200, followed by application of 1-GP-171M, Type 1, inorganic zinc coating.

b. Blast cleaning as above followed by application of 1-GP-171M, Type 2, inorganic zinc coating and 1-GP-121M vinyl wash primer.

c. Blast cleaning to near white metal in accordance with 31-GP-404, Type 1, or SSPC-SP-10 so as to conform to visual standard A, B, C, or D Sa 2-1/2 of SSPC VIS 1 or ASTM D 2200, followed by application of 1-GP-165 epoxy primer.

3.3 The coating should be applied when the ambient and/or substrate temperatures are in the range 10 to 38°C and the relative humidity below 80% because atmospheric conditions affect curing time, pot life and appearance.

3.4 The coating should be mixed and applied in accordance with the manufacturer's instructions. It may be applied by trowelling and spraying as recommended by the manufacturer and may also be applied by brush for touch-up purposes. Total dry film thickness should be 0.75 to 1.0 mm.

3.5 **Storage** — The individual components should be stored between 5 and 30°C and under no circumstances should they be sujbected to temperature above 50°C.

Withdrawn/Retiree

ENAMEL, INTERIOR, LOW GLOSS, ALKYD

1. SCOPE

1.1 This standard applies to interior flat and eggshell alkyd enamel suitable as topcoat on primed, sealed or previously painted nonporous surfaces, with the exception of floors.

2. INTENDED USES

2.1 Alkyd enamel covered by this standard is intended for use on primed, sealed or previously painted nonporous interior walls and woodwork (except floors) where better cleansability and stain resistance can be attained than with 1-GP-118M. For ceilings, where a dead flat finish is required, 1-GP-118M finish is the preferred material.

3. METHODS OF APPLICATION

3.1 Normally, this enamel is applied by brushing or roller-coating. When spray application is required, manufacturer's instructions for thinning shall be followed implicitly.

3.2 **Preparation of Surface** — Walls and woodwork should be dry, clean and free from dirt, grease and loose paint. The enamel should not be used over glue size, kalsomine or wallpaper; these should be removed. Surfaces that have been sanded through, patched or repaired, should be spot-primed with the finish or a primer-sealer before finishing. Shellac shall not be used for spot-priming over patched areas.

3.3 **New Surfaces (Unpainted)** — New surfaces should first be primed with the following:

Wood: 1-GP-38M Undercoater, Enamel, Interior

Walls (dry and alkali-free) — 1-GP-68M Primer-Sealer, Wall, Interior, Solvent Type or 1-GP-119M Primer-Sealer, Wall, Interior, Latex Type. If there is possible danger from alkalinity, only 1-GP-119M primer-sealer should be used.

3.4 **Old Surfaces (Previously Painted)** — One coat of 1-GP-202M enamel is generally sufficient unless a considerable change in color or porosity is involved. If a second coat is needed, allow overnight drying between coats. If exceptional porosity is encountered, treat as in par. 3.3.

Withdrawn/Retirée

PRIMER, EXTERIOR, LATEX TYPE

1. SCOPE

1.1 This standard applies to a quick drying latex primer for exterior use on unpainted and previously painted wood.

2. INTENDED USES

2.1 This primer is intended for use on unpainted and previously painted wood.

3. METHODS OF APPLICATION

3.1 Primer to this standard is designated primarily for brush and roller application, but may also be applied by spray when reduced with water in accordance with the manufacturer's instructions.

3.2 Primer to this standard is intended for use on wooden surfaces and should not be applied at temperatures lower than 10°C. Normally one coat of primer is sufficient but two coats may be preferable where serious staining problems are anticipated. The primer may normally be recoated after two h drying.

3.3 **Wooden Surfaces Not Previously Painted** — This primer may be used on previously unpainted wooden surfaces. For details in respect to surface preparation and other available systems, refer to the following:

85-GP-1M Painting (New) Exterior Wooden Surfaces

3.4 **Previously Painted Wood Surfaces** — Surfaces must be clean, firm and free from dirt and loose scale. All blistering, cracking and flaking areas should be completely removed to the bare wood. If the previous finish has failed and a blister-resistant system is required, all the old paint should be removed and a complete latex system applied. For details in respect to surface preparation and other available systems, refer to the following:

85-GP-2M Painting (Maintenance) of Exterior Painted Wooden Surfaces.

3.5 **Top Coats** — Materials to the following standards are suitable for use as top coats over primer to this standard:

1-GP-28M Paint, Exterior, Alkyd, House
1-GP-59M Enamel, Exterior, Gloss Alkyd Type
1-GP-138M Paint, Exterior, Latex Type, Flat

3.6 **Storage** — This paint is best stored at temperatures between 5 and 30°C, and should never be allowed to attain temperatures over 50°C or be subjected to repeated freezing.

Withdrawn/Retirée

STAIN, PIGMENTED, EXTERIOR, LATEX TYPE

1. SCOPE

1.1 This standard applied to opaque, latex stain for exterior use on unpainted or previously stained wood.

2. INTENDED USES

2.1 Stain complying with this standard is intended for use as a decorative and protective finish for exterior wood surfaces. The stain hides the color of the wood but the texture of its grain should be apparent.

3. METHODS OF APPLICATION

3.1 Two coats of stain either unreduced or reduced with water according to the manufacturer's instructions should be applied to bare wood. The stain may also be used as an overcoat on previously stained wood.

3.2 Where attack by fungus is a problem, consideration should be given to the use of fungicides in accordance with the stain manufacturer's instructions for preparation of the surface and materials to be employed.

3.3 Stain complying with this standard is not necessarily intended to prevent wood stain bleeding. For this reason light colors may not be desirable for use. If bleeding is a problem, 1-GP-203M exterior latex primer should be considered with 1-GP-138M top coat.

3.4 **Storage** — This stain is best stored at temperatures between 5 and 30°C, and should not be allowed to attain temperatures over 50°C nor be subjected to freezing. Material that has been frozen once or twice should be checked before use.

Withdrawn/Retiree

APPLIED COATING SYSTEM, SEMIGLOSS, BAKED, FOR METAL OFFICE FURNITURE

1. SCOPE

1.1 This standard applies to an applied coating system of serviceable semigloss baked enamel on metal office furniture and related equipment.

2. INTENDED USES

2.1 The semigloss baked enamel applied coating system complying with this standard is intended for use over steel office furniture, including some components of desks, run-offs, credenzas, filing cabinets, card files, modular shelving, costumers and waste baskets, and related office equipment.

3. METHODS OF APPLICATION

3.1 Unless otherwise specified the steel shall first be chemically treated as described in 31-GP-105M or 31-GP-106 before the enamel finish is applied.

3.2 This standard does not cover maintenance refinishing of old metal furniture.

4. CGSB STANDARDS RELATED ON USE BASIS

4.1 44-GP-Series on Furniture, Furnishings and Related Items.

4.2 112-GP-Series on Containers.

Withdrawn/Retirée

METHODS OF TEST FOR TOXIC TRACE ELEMENTS IN PROTECTIVE COATINGS

1. SCOPE

1.1 This standard described methods of test for determining toxic elements in low concentration in protective coatings, employing wet chemical and atomic absorption and visible-ultraviolet spectrophotometric techniques.

2. This standard contains the following methods of test:

Method	
1-GP-500.1	Determination of Lead (Pb) in Low Concentration
1-GP-500.2	Determination of Leachable Cadmium (Cd) in Low Concentration
1-GP-500.3	Determination of Leachable Barium (Ba) in Low Concentration
1-GP-500.4	Determination of Leachable Antimony (Sb) in Low Concentration
1-GP-500.5	Determination of Leachable Selenium (Se) in Low Concentration
1-GP-500.6	Determination of Leachable Mercury (Hg) in Low Concentration
1-GP-500.7	Determination of Leachable Arsenic (As) in Low Concentration
1-GP-500.8	Determination of Leachable Chromium (Cr) in Low Concentration

Withdrawn/Retirée

SECTION 6

GLOSSARY OF PAINT TERMS

ABRASION RESISTANCE – The resistance of a coating surface to wearing away as a result of friction.

ACCELERATED WEATHERING – Laboratory tests designed to simulate but at the same time to intensify and accelerate the destructive action of natural outdoor weathering on paint films. The tests involve exposure to artificially produced components of natural weather, e.g., light, heat, cold, water vapor, rain, etc., which are arranged and repeated in a given cycle. There is no universally accepted test and different investigators use different cycles.

ADHESION – The degree of attachment between a coating film and the underlying material with which it is in contact. The latter may be another film (intercoat adhesion) or any other material such as wood, metal or plaster (adhesion between a coating and substrate).

AFTER-GLOW – The incandescence, exclusive of flame, that persists in a coating or coating residue after removal of the heat source.

AFTER-TACK – A retained or persistent stickiness of a coating film evident after the specified "dry-hard" stage has been reached.

ANTICORROSIVE – A general term applied to coatings used for preventing the corrosion of metals.

ANTIFOULING – The inhibition of undesirable marine growth, such as barnacles on submerged surfaces.

ANTISKINNING AGENT – Any material added to a liquid coating to prevent or retard the processes that result in the formation of an insoluble skin on the surface in an unopened container.

BLEEDING – The process of diffusion of a soluble colored substance into and through a coating from beneath, thus producing an undesirable staining or discoloration. Examples of materials that may give rise to this defect are certain types of the following classes of materials: bituminous paints, wood, wood preservatives, pigment dyestuffs and stains.

BLISTERING – The formation of dome-shaped projections or blisters in coating films by local loss of adhesion to the underlying surface and lifting of the film. Such blisters may contain liquid or vapor.

BLOOM – A dull, milky appearance on the surface of a coating film causing a loss of gloss and lightening of the color. Bloom can be removed by wiping or washing.

BRUSHING – A milky opalescence that sometimes develops within the top layer of a film of lacquer as it dries, due to the deposition of moisture from the air. It is related to solvent evaporation and relative humidity, and cannot be removed by wiping.

BREATHING-TYPE COATING – A coating that is sufficiently permeable to permit transmission of water vapor without detrimental effect to itself.

BUBBLING – A film defect, temporary or permanent, in which bubbles of air, or solvent vapor, or both, are present in the applied film.

CAKING – The settling of pigment particles of a paint into a compact mass that is not easily redispersed by stirring.

CALCIMINE (also Kalsomine) – Water-based coating produced from whiting and color pigments bound together with glue or other highly water-soluble ingredients.

CASEIN PAINT – Water-based coating produced from pigments bound together with casein.

CHALKING – The formation of a friable, powdery coating on the surface of a paint film, caused by disintegration of the binding medium due to action of the weather.

CHECKING – *see* CRACKING

Withdrawn/Retirée

CHROMATICITY CO-ORDINATES – The ratios of each of the tristimulus values of a color to the sum of the tristimulus values (chromaticity co-ordinates in the CIE system of a color specification are designated by x, y and z).

COBWEBBING – The production of fine filaments when some liquid coatings are sprayed. Although cobwebbing is ordinarily considered a defect, use is made of the property to provide a protective coating called "cocooning."

COCOONING – A cocoon formed around an article by the controlled cobwebbing action of a specially formulated coating. A durable continuous coating is then sprayed over the support cocoon to protect the equipment.

CONSISTENCY – The apparent viscosity of a non-Newtonian (*see* VISCOSITY) material when shearing forces of varying degrees are applied to it in various ways; e.g., when it is stirred in the can, poured from one vessel to another, brushed or otherwise spread out over a surface.

CRACKING – A general term for the splitting or breaking of a dry coating. The following specific terms are used to denote the nature and extent of this defect and are arranged in order of increasing severity:

Hair-lines – Very fine discontinuities in a film that may occur internally or at the surface but without apparent disruption of the surface.

Checking – Fine randomly distributed cracks that do not extend through the topcoat.

Crazing – Fine cracks that may extend in a network or under the surface of a film (*see* ASTM D 660 and ASTM D 661 for photographic illustrations).

Cracking – Specifically, larger breaks in the film that extend through at least one coat.

Grain Cracking – Individual cracks that either follow the grain or are perpendicular to it.

Mud Cracking – Sharply defined wide cracks usually occurring in a pattern and associated with shrinkage of pigmented coatings upon drying.

Alligatoring – A drastic type of cracking in which the topcoat contracts at the bottom as well as the top of the crack, exposing significant areas of the undercoat. In the extreme case the contracted areas increase in thickness and become wrinkled, thus resembling the hide of an alligator.

CRATERING – The formation in a wet coating film of small bowl-shaped depressions that persist after drying.

CRAWLING – A defect in which a wet coating film recedes from areas of the surface leaving them uncoated.

CROWSFOOTING – A type of film defect where small wrinkles occur in a pattern resembling that of a crow's foot. (*See also* WRINKLING).

CURING – The toughening or hardening of a coating film as a result of elevated temperature or significant reaction other than simple oxidation.

CURING AGENT – A material that reacts with a soluble resin to form an insoluble coating (sometimes erroneously called a catalyst).

DIPPING – The process of applying liquid coatings by immersing therein an object to be coated and allowing it to drain during and after removal.

DRIERS – Additives that in small amounts accelerate the drying of drying-oils and drying-oil-based coatings.

DRYING – The process of change of the liquid coating to the solid state, due to evaporation of solvent, chemical reactions of the binding medium, or a combination of these. When the drying process takes place during exposure to air at normal temperatures, it is called 'air-drying'; if it is accelerated by the application of a moderate degree of heat (normally not exceeding 65°C, it is termed 'forced-drying' as distinct from baking at higher temperatures. Various stages in the drying of a film are described in CGSB 1-GP-71.

DRYING OIL – An oil that possesses to a marked degree the property of readily taking up oxygen from the air and changing to a relatively hard, tough, elastic substance when exposed in a thin film to the air. There is no definite line of demarcation between drying and semidrying oils.

Withdrawn/Retirée

DRYING TIME – The time that elapses between the application of a liquid coating and the attainment of a specified state of tackiness or hardness.

DURABILITY – The degree to which coatings withstand the destructive effect of the conditions to which they are subjected.

EFFLORESCENCE – The deposition of salts on a surface due to water containing soluble salts coming to the surface and evaporating. The deposit may be formed on the top of any paint film present, but usually the film is pushed up and broken by the efflorescence under the coat. (*See illustration.*)

EMULSION – An apparently homogeneous dispersion of fine droplets of one liquid in another, the two liquids being normally immiscible. The term is commonly, though incorrectly applied to suspensions of a solid organic binder in water, e.g., polyvinyl acetate emulsion.

ENAMEL – A coating material formed by dispersion of pigments in a varnish or resin vehicle, characterized by the ability to form an especially smooth, hard film. Enamels may be obtained in a full range of gloss.

EROSION – The gradual wearing away of the surface of a coating presumably due to weathering.

EXTENDER – Inert inorganic materials in powder form that have little hiding power, incorporated in coatings to adjust gloss, reduce cost and for other specific reasons depending upon the intended use of the coating.

FEATHERED

Feather Edging – Mechanical reduction of the thickness of the edge of a dry film, e.g., the edge of a damaged area, prior to repainting.

Feathering – The tapering of the edge of a coating of paint during application by laying off with a comparatively dry brush.

FILLER – A composition used for filling fine cracks, pores and indentations to obtain a smooth, even surface preparatory to application of other finishes. Use of the term "filler" as a synonym for "extender" is to be discouraged.

FINENESS OF GRIND – A numerical assessment of the degree of dispersion or of the presence of coarse particles in pigmented coatings as determined by the protrusion of particles or agglomerates through the wet film at a given thickness.

FLAKING – Detachment of film fragments from the underlying surface usually preceded by cracking. (*See illustration.*)

FLASH-OFF TIME – The time allowed between the spray application of successive wet-on-wet coats or for the evaporation of the bulk of the solvent before baking.

FLASH POINT – Minimum temperature of a liquid at which the vapors given off are sufficient to form a flammable mixture with air, under specified conditions of test. The flash point is an arbitrary figure and depends on the method of test.

FLASHING – Uneven gloss in a dry film due to variations in thickness of the coating or in the porosity of the substrate.

FLAT – *See* GLOSS.

FLATTING AGENT – A material incorporated into coating materials to reduce the gloss of the dried film.

FLOATING – A separation of one or more pigments during the drying of the wet film resulting in a patterned nonuniform color in the dry film.

FLOCCULATION – The development of loosely bound solid aggregates in a pigment-vehicle dispersion.

FLOODING – A separation of pigments during the drying of the wet film resulting in a surface layer of color, which, though uniform over the whole surface area, is markedly different from the underlying layer of dry film.

FLOW – The ability of a coating to spread during application and to level out after application so as to produce a uniform smooth surface on drying.

FROSTING – The formation of a translucent, finely wrinkled surface on a clear film during drying.

Withdrawn/Retiree

GELLING – Apart from its general meaning (conversion of a liquid to a jelly) this term is used specifically to denote the deterioration of a paint or varnish owing to the partial or complete changing of the vehicle into an insoluble jelly-like condition that is unworkable even with the addition of solvent. (*See also* LIVERING.)

GHOSTING – A visual defect in flat finishes where certain areas of the finish differ in appearance from the surrounding areas because they are very slightly lighter in color or because of a slight variation in sheen but where there is no clear demarcation lines between the areas.

GLOSS – The property of a coating surface in reflecting light in a mirror-like manner (specular reflection). The following ranges, in increasing order of gloss, are generally recognized:

Flat (or Matte) – Practically free from sheen even when viewed from oblique angles.
Eggshell
Semigloss
Full or High Gloss – Smooth and almost mirror-like surface when viewed from all angles.

HARDNESS – The ability of a coating film, as distinct from its substrate, to resist indentation or penetration by a hard object.

HIDING POWER – The ability of a coating to obliterate a surface to which it is applied.

HOLD-OUT – The ability of a primer to seal porous surfaces so that the finish coat is uniform; or the ability of a finish coat to dry to its normal uniform gloss when applied over a somewhat porous or nonuniform surface.

HUE – The attribute of a color that determines whether it is red, yellow, green, blue, purple, etc.

INTUMESCENCE – The puffing up of a coating on contact with high heat (fire) which results in a foam-like structure that insulates the substrate.

IODINE VALUE (Oil) – The amount of iodine that reacts with oil under specified conditions of test indicating degree of unsaturation and its air-drying properties.

LACQUER – A fast-drying coating composition, the resin portion of which is in solution, that dries solely by evaporation of the volatile matter rather than by oxidation, polymerization or other means.

LAP – The merging of successive portions of areas during application of a coating material.

LATEX – Originally, a natural rubber dispersion; now applied to aqueous dispersions of various synthetic resins. (*See also* PAINT *and* LATEX.)

LEAFING – The action of particles of certain metallic and other pigments in the form of thin flat flakes in aligning themselves with or floating on or near the surface of the vehicle.

LEVELING – The ability of a coating to distribute itself uniformly so as to overcome characteristic application patterns. (*See also* FLOW.)

LIFTING – Softening, or separation from the substrate, of a dry film when recoated with the same or other material.

LIVERING – An advanced stage of gelling in which the material forms a rubbery mass unsuitable for application.

LUMINOUS REFLECTANCE – *See* REFLECTANCE, LUMINOUS.

MATTE FINISH – *See* FLAT.

MILL SCALE – The black oxide of iron layer produced during the hot rolling of steel. The composition of the layer varies from Fe_3O_4 at the surface, to FeO at the metal interface.

MOTTLING – Random patterns on a painted surface due to differences in color or gloss.

NATURAL RESIN – A resin produced either in the metabolism of tree growth, (e.g., congo copal) or by insects, (e.g. shellac). The former may be obtained as exudations from growing trees or dug up from the ground (fossil resin). With the exception of some fossil resins, natural resins are generally soluble in organic solvents but insoluble in water.

Withdrawn/Retirée

NONDRYING OIL – An oil that does not of itself possess to a perceptible degree the power to take up oxygen from the air and lose its liquid characteristics.

NONVOLATILE MATTER – That portion of a coating that does not evaporate after application comprising the nonvolatile vehicle and pigment, if present.

NONVOLATILE VEHICLE – The film-forming portion of a coating exclusive of the pigment.

OIL-GLOSS APPEARANCE – The appearance of a freshly dried film of an oil paint which shows a moderately high specular gloss but not a sharp distinctness of image.

OIL LENGTH – The ratio of oil to resin in a varnish medium.

ORANGE PEEL – Surface irregularity of a film resembling the dimpled skin of an orange.

PAINT – A general term referring to a pigmented liquid composition that is converted to an opaque, solid film after application as a thin layer.

OIL PAINT – A paint that contains drying oil or long-oil varnish as the basic vehicle ingredient.

PASTE PAINT – A paint of high consistency in which the nonvolatile ingredients are usually sufficiently concentrated to require a substantial reduction before use.

WATER-BASED PAINTS

Emulsion Paint – A paint whose vehicle is a stable emulsion of binder in water. The binder may be oil, oleoresinous varnish, resin or other emulsifiable binder.

Latex Paint – A paint whose vehicle is a stable aqueous dispersion of a solid, high molecular weight resin produced by emulsion polymerization.

Water Paint – A paint whose vehicle is a water dispersion or water solution, or consists of ingredients that react chemically with water.

PEELING – Detachment of the film from the underlying surface or undercoating, in ribbons or sheets, generally accompanied by curling of the edges.

PIGMENT – Fine solid particles used in the preparation of coatings substantially insoluble in the vehicle. Pigments, except for extenders, provide color and whiting power; they also to some extent control gloss and durability. Asphaltic materials are not pigments except when they contain substances substantially insoluble in the vehicle in which they are used.

PLASTICIZER – A relatively nonvolatile substance incorporated in coatings to impart flexibility to the dried film.

POT LIFE – The period after mixing during which a multiple-component coating remains usable with no decrease in desirable properties.

PRIMER – The first complete coat of a system applied to an uncoated substrate prior to application of intermediate coats.

PRINT RESISTANCE – The ability of a coating to resist taking on the imprint of another surface placed on it under normal conditions of practical use or under defined conditions of experiment.

REFLECTANCE, DIRECTIONAL – The reflectance of a specimen under specified conditions of illumination and viewing.

REFLECTANCE, LUMINOUS – The ratio of light reflected by a specimen to that incident upon it.

REFLECTANCE, SPECULAR – The directional reflectance measured at an angle equal to the angle of incidence.

REFLECTANCE, TOTAL – The integrated summation of reflectance from all angles.

Withdrawn/Retiree

ROLLER-COATING – (a) A process by which a film is applied mechanically to sheet material; the sheet is passed between horizontal rollers, one of which is kept coated with a film of liquid varnish, enamel or lacquer.

(b) The application of paint by means of a hand-operated roller to wall surfaces, etc.

ROSIN – A natural resin obtained from pine oleoresin, after removal of the volatile fractions, the chief ingredients of which are abietic and pimelic acids.

RUBBING – The process of lowering the gloss of a final dried film by rubbing it, either wet or dry, with such abrasives as abrasive paper, pumice or steel wool.

RUNS – The result of narrow sagging; may be caused by the collection of excess quantities of paint at irregularities in the surface, e.g., cracks, holes, etc., the excess materials continuing to flow after the surrounding surface has set. (*See illustration.*)

RUST – The coating of red or yellow oxides of iron produced when iron or steel is exposed to a humid atmosphere; not to be confused with 'white rust', a term loosely used to describe corrosion products of certain nonferrous metals.

SAGGING – A downward movement of a wet film between the times of application and setting, resulting in an uneven coating having a thick lower edge. The resulting sags are usually restricted to local areas of a vertical surface and may have the characteristic appearance of a draped curtain, hence the synonymous term 'curtaining'. (*See illustration.*)

SAPONIFICATION – This term normally refers to the formation of a soap by the reaction between a fatty acid ester and an alkali. In painting practice saponification refers to the decomposition of the medium of a paint or varnish film by alkali and moisture in a substrate, e.g., new concrete or plaster. Saponified paint or varnish films may become sticky and discolored. In very severe cases the film may be completely liquified by saponification.

SAPONIFICATION NUMBER – Number of milligrams of potassium hydroxide (KOH) required for the saponification of the saponifiable matter contained in one gram of material, determined under specified conditions.

SEALER – A clear or pigmented liquid composition used to prevent excessive absorption of subsequent coats into porous surfaces, to prevent bleeding, or to act as a binder on chalked surfaces.

SEEDING – Formation of nondispersable aggregates of pigment or vehicle particles that produce a "sandy" or granular appearance in the applied film.

SEMIDRYING OIL – An oil that dries more slowly than a drying oil (q.v.). There is no definite line of demarcation between drying and semidrying oils.

SET – The condition of a coating film when it has dried to a point where for all practical purposes it cannot flow.

SILKING – Parallel striations left on or in the dried surface of a clear or pigmented film, producing the appearance of silk. In dipping or flow coating, the irregularities appear in the direction of the flow; in brushing, in the direction in which the film was finally brushed.

SKINNING – The formation of an insoluble film on coating materials in the container.

SPAR VARNISH – *See* VARNISH.

SPRAYING – A method of application in which the coating material is broken up into a fine mist that is directed on to the surface to be coated. Atomization is generally effected by compressed air, but other methods are direct pressure (airless spray), centrifugal and other mechanical or electrostatic forces.

SPREADING RATE – The average area covered by a specified volume of coating when applied over a normal surface in a manner appropriate for that paint coating. Spreading rate will vary with the operator, the method of application, and the nature of the surface being coated.

STAIN – A solution or suspension of coloring matter in a vehicle, designed to color a surface by penetration without hiding it or leaving a continuous film. True stains are classified as water stains, nongrain-raising stains, oil stains, and spirit stains, according to the nature of the vehicle.

Withdrawn/Retirée

STIPPLING – Producing a broken color or textured effect, either by applying spots of a different color or by systematically dabbing the surface of the coating.

STREAKING – Long, narrow, irregular lines or bands or layer-edges, especially ones distinguished by color, visible on a surface.

SUSPENSION AID – A substance incorporated in coatings to prevent hard settling in the container during storage and to prevent pigment separation during painting operations.

SYNTHETIC RESIN – A resin built up from simpler compounds by one or several chemical reactions such as condensation and/or polymerization.

TACKINESS – Slight stickiness of the surface of an incompletely dried film when pressed with the finger.

THICKENING – An increase in the consistency of a paint or varnish.

THINNER – Volatile liquid used to adjust consistency or to modify other properties of paint, varnish and lacquer.

TINT – A color produced by mixing a small proportion of colorant with a large proportion of a base, usually white. The tint of a color is therefore, much lighter and much less saturated than the tinting color itself.

TINTING COLOR OR COLORANT – Colored pigment ground in media compatible with paint vehicles added in relatively small proportions to already prepared paints to modify their color.

TINTING – The final adjustment of the color of a paint to the exact shade required.

UNDERCOAT – A coat applied in preparation for a finish coat to be applied over it. In the case of an unpainted surface, the undercoat is normally a middle coat, having been preceded by a priming coat; for previously painted surfaces, however, the undercoat is preceded by an older system.

UNSAPONIFIABLE MATTER – That portion of the nonvolatile vehicle that does not saponify, i.e., does not react with sodium or potassium hydroxide to form a soap.

VARNISH – A liquid composition that dries, through reaction, to a transparent or translucent adherent film after application as a thin layer.

VARNISH, OIL OR OLEORESINOUS – A varnish that contains resin and drying oil as the basic film-forming ingredients and is converted to a solid film primarily by chemical reactions.

VARNISH, SPAR – A term originally applied to varnishes for use on ship spars, but now used to designate exterior wood varnishes generally.

VARNISH, SPIRIT – A term improperly applied to lacquers that contain alcohol as the principal solvent, e.g., shellac.

VARNISH STAIN – Varnish stains are varnishes colored with a dye and do not have the same power of penetration as the true stains, leaving a colored coating on the surface.

VEHICLE – The volatile and nonvolatile liquid portion of paint, in which the pigment and other insolubles are dispersed.

VISCOSITY – The internal resistance to flow set up within a liquid to any shearing force applied to it. It is determined by measuring the force required to shear the liquid, i.e., to move one layer over another in orderly flow without turbulence at a defined rate. Most paint solvents, and many oils and varnishes, are Newtonian liquids; that is, when they are tested at a fixed temperature, their rate of flow (shear) is proportional to the shearing force. The viscosity of these liquids at a fixed temperature is thus a constant called the "absolute viscosity."

Newtonian Liquids – Viscosities are usually determined in Ns/m^2. In some types of viscometers (e.g., the Ostwald) where the liquid falls under its own mass, the rate of flow is determined by the ratio of viscosity to density, termed kinematic viscosity. The results of this type of measurement are often reported in m^2/s, the units of kinematic viscosity. The relation between the two units, i.e., m^2/s and Ns/m^2, is:

$$\text{Kinematic viscosity } (m^2/s) = \frac{\text{dynamic viscosity } (Ns/m^2)}{\text{density } (kg/m^3)} \times 10^6$$

Withdrawn/Retirée

Non-Newtonian Liquids – For most paints and other pigmented materials the rate of flow (shear) is not proportional to the shearing force, but may vary with the time and rate of shearing force. For these materials only an apparent viscosity (*see* CONSISTENCY) that refers only to the behavior of the material under the particular circumstances and precise conditions of measurement can be determined.

VOLATILE MATTER – That portion of a coating that evaporates after application.

WHITENING (IN THE GRAIN) – Also known as "grayness". A fault that sometimes develops in varnished or polished open-grained, filled or unfilled woods. It is manifested as a streaky white or hazy dull appearance in a rubbed film, usually caused by the finish being oil-rubbed too soon after application.

WRINKLING – Development of wrinkles in a film during drying due to the initial formation of a surface skin.

Withdrawn/Retirée



Efflorescence



Flaking

Withdrawn/Retiréo