

PART 1 GENERAL

1.1 WORK INCLUDED

- .1 This Section specifies requirements for providing all labour, tools, equipment and materials to complete all painting including preparation, painting and touch-up.
- .2 Coordinate painting work for piping and equipment as specified under Division 40.

1.2 RELATED WORK

- .1 Manufacturer's coatings of mechanical equipment: Divisions 23 and 44
- .2 Plant piping valves and appurtenances: Section 40 05 10.

1.3 REFERENCES

- .1 Canadian Painting Contractors' Architectural (CPCA).
 - .1 Painting Specifications Manual 1998.
- .2 Canadian General Standards Board (CGSB).
 - .1 CAN/CGSB-1.146-99, Cold Curing, Glass Epoxy Coating.
 - .2 CAN/CGSB-1.38-2000, Interior Enamel Undercoat.
 - .3 CAN/CGSB-1.57-03, Interior Alkyd Semigloss Enamel.
 - .4 CAN/CGSB-1.59-97, Alkyd Exterior Gloss Enamel.
 - .5 CAN/CGSB-1.81-M90 CORR, Air Drying and Baking Alkyd Primer for Vehicles and Equipment.
 - .6 CAN/CGSB-1.188-04, Emulsion Type Filler Masonry Block.
 - .7 CAN/CGSB-1.195-99, Interior Latex Semigloss Paint.
 - .8 CAN/CGSB-1.213-04, Etch Primer (Pretreatment Coating or Tie Coat) for Steel and Aluminium.
 - .9 CAN/CGSB-85.100-93, Painting.
 - .10 CAN/CGSB-85.10-99, Protective Coatings for Metals.
- .3 CAN/CSA 1.119-2000, Interior Latex Primer-Sealer.

1.4 QUALITY ASSURANCE

- .1 Provide affidavits stating only "first-line" products have been used on this Contract.
- .2 Paint manufacturer must be represented by a qualified technical representative, trained as a paint inspector, with a minimum five (5) years' experience.
- .3 The manufacturer's technical representative will make a minimum of one (1) inspection prior to and during application to ensure proper application.
- .4 After inspection the manufacturer's representative will provide a written report to the Departmental Representative within five (5)

working days.

1.5 SURFACE AND ENVIRONMENTAL CONDITIONS

- .1 Apply paint finish only in areas where dust is no longer being generated by related construction operations or when wind or ventilation conditions are such that airborne particles will not affect quality of finished surface.
- .2 Do not apply exterior paint finishes in unsuitable weather conditions.
- .3 Do not apply paint finishes when relative humidity exceeds 85%, when condensation has formed or is likely to form, or immediately following rain, frost, or formation of dew.
- .4 Provide adequate ventilation or isolation measures to protect against toxic fumes.
- .5 Apply paint only to adequately prepared surfaces.
- .6 Apply paint only when previous coat of paint is dry or adequately cured.
- .7 Additional Interior Application Requirements:
 - .1 Apply paint finishes only when temperature at location of installation can be satisfactorily maintained within manufacturer's recommendations.

1.6 DELIVERY, HANDLING AND STORAGE

- .1 Deliver, store and handle materials in accordance with the manufacturer's written instructions.
- .2 Labels to clearly indicate:
 - .1 Manufacturer's name and address.
 - .2 Type of paint or coating.
 - .3 Compliance with applicable standard.
 - .4 Colour number in accordance with established colour schedule.
- .3 Remove damaged, opened and rejected materials from site.
- .4 Provide and maintain dry, temperature controlled, secure storage.
- .5 Observe manufacturer's recommendations for storage and handling.
- .6 Store materials and supplies away from heat generating devices.
- .7 Store materials and equipment in a well ventilated area with temperature range 7°C to 30°C.
- .8 Store temperature sensitive products above minimum temperature as recommended by manufacturer.

- .9 Keep areas used for storage, cleaning and preparation, clean and orderly to approval of the Departmental Representative. After completion of operations, return areas to clean condition to approval of the Departmental Representative.
- .10 Remove paint materials from storage only in quantities required for same day use.
- .11 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling storage, and disposal of hazardous materials.
- .12 Fire Safety Requirements:
 - .1 Provide fire extinguisher adjacent to storage area.
 - .2 Store oily rags, waste products, empty containers and materials subject to spontaneous combustion in ULC approved, sealed containers and remove from site on a daily basis.
 - .3 Handle, store, use and dispose of flammable and combustible materials in accordance with the National Fire Code of Canada.

1.7 SUBMITTALS

- .1 Submit product data and manufacturer's installation/application instructions for each paint and coating product to be used in accordance with Section 01 33 00.
- .2 Submit the names of paint manufacturers and local supplier. Confirm painting requirements and submit colour schedule for approval as per Section 01 33 00 prior to ordering of products
- .3 Upon completion, submit records of products used. List products in relation to finish system and include the following:
 - .1 Product name, type and use.
 - .2 Manufacturer's product number.
 - .3 Colour numbers.
 - .4 Manufacturer's Material Safety Data Sheets (MSDS).

PART 2 PRODUCTS

2.1 MATERIALS

- .1 Paint products as manufactured by Glidden/Devoe Coating, and Pittsburgh Paint Ltd (PPG) or approved equivalent.
- .2 Use only "first line" products produced by the manufacturer. Use only products of manufacturer whose best quality lines meet or exceed CGSB specifications for finishing materials as specified in the Paint Formulae, except where otherwise specified.
- .3 Paint materials for each coating formula to be products of a single manufacturer.

PART 3 EXECUTION

3.1 WORKMANSHIP

- .1 Apply painting in strict accordance with the recommendation of the applicable CGSB Standards, manufacturer's instructions and subject to the approval of the Departmental Representative.
- .2 Do not paint when temperature is below 10°C.
- .3 Before painting equipment mask manufacturer's name plates and any other name plates carrying informational data pertaining to equipment. Do not paint nameplates.
- .4 Keep paint well mixed and stirred while applying. Do not thin paint unless approved by the Departmental Representative, and only with such materials and to such extent as not to damage paint.
- .5 Spread paint to coverage not greater than that recommended by paint manufacturer.
- .6 Force paint into pores, angles and crevices of well cleaned surfaces and in such manner as will assure a continuous even coat making contact with all parts of the surface and producing a film free of air bubbles, skips and thin spots.
- .7 Paint thickness for each coat to be minimum as recommended by the applicable CGSB specifications or as recommended by the manufacturer of the material subject to approval of the Departmental Representative.
- .8 Defective painting and finishing Work resulting from application to unsatisfactory surfaces will be considered the responsibility of those performing the Work of this Section.

3.2 PREPARATION OF SURFACES

- .1 In general:
 - .1 Vacuum clean interior areas immediately before finishing Work commences.
 - .2 Remove from surfaces grease, oil, dirt, dust, ridges, and other soil and materials that would adversely affect the adhesion or appearance of finish coatings.
 - .3 Remove rust on surfaces primed under Work of other Sections and the areas reprimed under the Work of those Sections.
 - .4 Finish, patch and smooth surfaces to remove cracks, holes, ridges, and similar blemishes.
 - .5 Touch up damaged prime coats on shop primed metals with same priming material.
 - .6 Neutralize high alkaline surfaces to receive latex paints. Remove residue before painting.
 - .7 Scrub mildewed surfaces with a bleach solution and rinse with clean water.

- .8 In the case of existing coatings, hand tool clean to remove all loose flaking point and rust and feather sand edges.
- .9 Degloss existing paint coatings by scuff sanding.

- .2 Investigate existing substrates for problems related to proper and complete preparation of surfaces to be painted. Report to the Departmental Representative damages, defects, unsatisfactory or unfavourable conditions before proceeding with work.

- .3 Touch up shop paint primer on steel with same type primer as originally used.

- .4 Prepare galvanized steel and zinc coated surfaces to CAN/CGSB-85-10.

- .5 Equipment pads, concrete floor surfaces preparation: clean and etch with muriatic acids.

- .6 PVC piping surfaces preparation: scuff sand, clean soiled surfaces, and remove dust and dirt.

- .7 Interior steel, ductwork, piping:
 - .1 Vacuum clean to remove all dust, dirt and other contaminants from all surfaces.
 - .2 Remove from surfaces grease, oil, dirt, dust, ridges and other soil and materials that would adversely affect the adhesion or appearance of finish coating.
 - .3 Hand tool clean SSPC-SP2 to remove any, dirt, rust, loose paint, etc.
 - .4 In all areas where rust is encountered, use a rust inhibitor covering prior to applying finish coat.
 - .5 Prepare and prime black iron piping (i.e. Sprinkler lines, mains, etc.) prior to finish coat of paint.

3.3 APPLICATION

- .1 Sand and dust between each coat to remove defects visible from distance up to 1500 mm.

- .2 Finish bottoms, edges, tops and cutouts of doors after fitting as specified for door surfaces.

- .3 Finish all surfaces exposed to view, requiring finish for preservation of material, or to facilitate maintenance.

- .4 Apply number of coats of specified paints to designated surfaces as indicated in Painting Formulae and manufacturer's recommendations.

- .5 Protect and cover machinery and equipment and adjacent surfaces during painting operations.

- .6 Take special care during paint application to ensure disconnects and unions remain properly operable once painting operations completed.

3.4 MECHANICAL, ELECTRICAL AND PROCESS EQUIPMENT

- .1 Leave factory-finished electrical and process equipment in original finish except for touch-up as required, supplied as primed only unless otherwise indicated under Division 26.
- .2 Paint exposed equipment, conduits, pipes, fittings, fasteners and hangers. Colour to match adjacent surfaces, except as noted otherwise. Paint pipe hangers to match piping.
- .3 Paint valves and miscellaneous devices to match adjacent piping. Where adjacent piping is not painted, paint valves to match adjacent machinery, as directed by the Departmental Representative.
- .4 Paint both sides and edges of plywood backboards for electrical equipment before installation.
- .5 Do not paint over nameplates.

3.5 PAINTING FORMULAE

- .1 Formula 1: for ductile iron piping coated with manufacturer's asphalt sealer:

1 coat BIN pigmented white shellac sealer
2 coats semi-gloss enamel CAN/CGSB-1.59
(Glidden 4308, PPG 54 line)

- .2 Formula 2: for interior copper and black iron piping and fittings, including insulated piping:

1 coat tinted enamel undercoat CGSB-1.38
(Glidden 250, PPG 6-6)
2 coats semi-gloss enamel CAN/CGSB-1.57
(Glidden 9440-0, PPG 6-90)

- .3 Formula 3: touch-up of exterior galvanized and zinc coated ferrous metals:

1 coat galvanized steel primer to CGSB-1.213 (Devoe 4120, PPG 97-687), 2 coats of Urethane Modified Industrial Enamel - gloss oil base (Pittsburg Paints).

- .4 Formula 4: for interior concrete block walls (unless noted otherwise), Dry Areas, apply:

1 coat block filler CAN/CGSB-1.188
(Glidden 36250, PPG 6-7 B/F)

2 coats semi-gloss enamel CAN/CGSB-1.57
(Glidden 94410-0, PPG 6-90)

- .5 Formula 5: for interior concrete block walls exposed to moist environments (shower areas), apply:

1 coat block filler
(Devoe 4010, PPG 16-90)
2 coats semi-gloss industrial enamel, 3 mil DFT
(Devoe 4216HP, Pitt-Tech 90-474 Series)

3.6 COLOUR SCHEDULE

- .1 Colours are based on PPG Canada Inc. paint system. Other manufacturers will provide paint to match their colours as closely as possible.
- .2 Colours to be selected by the Departmental Representative from the manufacturer's standard colour range.

END OF SECTION