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PART 1. GENERAL

1.01 SUMMARY

- A. Comply with Division 1, General Requirements.
- B. Refer to Colour Schedule in this Section for items to be painted.

1.02 REFERENCES

- A. Comply with the latest edition of the following statutes codes and standards and all amendments thereto.
 - 1. ASTM D523 Standard Test Method for Specular Gloss.
 - 2. Steel Structures Painting Manual Vol. 2 - Systems and Specifications.
 - 3. National Fire Code of Canada.

1.03 SUBMITTALS

- A. Shop Drawings
 - 1. Submit as per Section 01300.
 - 2. Submit list with name of manufacturer, number, grade and quality of materials proposed for use on this project.
 - 3. Submit WHIMIS MSDS – Material Safety Data Sheets for each paint system.
 - 4. Submit colour samples.

1.04 QUALITY ASSURANCE

- A. Prior to commencement of painting operations meet at Site with the Contract Administrator to review these Specifications, painting Work to be done and following related items:
 - 1. Equipment use and servicing
 - 2. Material storage and application techniques
 - 3. Surface preparation and ambient temperature
 - 4. Inspection requirements
 - 5. Inspection reports
 - 6. Hold points or check points
 - 7. Safety requirements during application
 - 8. Mock ups or samples of coatings in highly corrosive environment
- B. Arrange with the paint manufacturer to visit the Site at intervals during the surface preparation and painting operations to insure that the proper surface preparation has been completed, the specified paint products are being used, the proper number of coats and thickness are being applied and the agreed finishing procedures are being used, and that the paint manufacturer regularly submits written reports.

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- C. Regulatory Requirements:
 - 1. Meet regulatory requirements limiting the emission of volatile organic compounds.
 - 2. Perform surface preparation and painting in accordance with recommendations of the following:
 - a. Paint manufacturer's instructions.
 - b. SSPC PA 3, Guide to Safety in Paint Applications.
 - c. Federal, provincial, and local agencies having jurisdiction.

1.05 SITE CONDITIONS

- A. Do not paint exterior surfaces at temperatures below 3 degrees C above dewpoint nor in rainy or high humidity weather. Avoid painting surfaces exposed to direct sun. Follow manufacturer's product data for application conditions.
- B. Do not paint interior surfaces at temperatures below 3 degrees C above dewpoint or on surfaces where condensation has or will form due to presence of high humidity and lack of proper ventilation.
- C. Follow manufacturer's product data for application conditions.

PART 2. PRODUCTS

2.01 MATERIALS

- A. Paint and related materials: Akzo Nobel Coatings Ltd. (Canada) (Glidden Devoe Brands).
- B. Protective coating system is based on materials manufactured by Akzo Nobel Coatings Ltd. (Canada) and represents standard of quality. Comparable systems by PPG Canada Inc., Sherwin-Williams Company are acceptable.

PART 3. EXECUTION

3.01 EXAMINATION

- A. Examine surfaces which are to be finished including existing surfaces that require refinishing.
- B. Report surfaces which are defective, or which cannot be prepared by usual sanding and cleaning. Report unsatisfactory Site and environmental conditions.
- C. Commence Work after corrective Work has been completed.

3.02 PREPARATION

- A. Commencement of Work means acceptance of job Site and substrate conditions.
- B. Protect Work performed under separate Sections from paint splatter, overspray and

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accidental spill.

- C. Remove soiled and used rags, waste and empty containers from the building daily.
- D. Take precautions to prevent fire.
- E. Comply with instructions on paint manufacturer's Safety Data Sheets.
- F. Related Work: Surface preparation and prime coat of metal surfaces are specified to form part of the permanent protective coating in Division 8 - Doors and Windows, Division 13 - Special Construction, Division 15 - Mechanical, Division 16 - Electrical, including responsibility for surface preparation, shop painting, and field touch-ups after erection. Be responsible for field painting of steel items which will remain exposed, after completion of erection and touch-up of shop primer, including items shop finished with a protective coating, unless specified otherwise.
- G. Provide surface preparation in accordance with SSPC Manual Volume 2 "Systems and Specifications", Chapter 2.
- H. Apply primer within time recommended after surface preparation. Comply with SSPC-PA-1 for application techniques, requirements and precautions.
- I. Remove cover plates of service devices, surface hardware, frames of lighting fixtures and other obstructions and reinstall them after painting Work is completed. Replace units damaged while performing Work under this Contract.
- J. Clean surfaces to be finished from machine, tool or sanding marks, dust, grease, soiling, or any extraneous matter.
- K. Test surfaces for moisture content. Do not apply materials to substrate when moisture content, exceeds 12 percent as determined by accepted moisture testing device.
- L. Ferrous metal surfaces: Prepare in accordance with surface preparation specifications outlined by the "Steel Structures Painting Council". Use method indicated in appropriate Protective Coating System.
- M. Shop welds: Grind smooth and rounded and abrasive blast in accordance with SSPC commercial type blasting SP 6. Remove weld flux and other surface contaminants.
- N. Field welds: Use hand wire brush followed by cleaning with solvent swab in accordance with SSPC SP 1.
- O. Unpassivated galvanized metal and plain aluminum surfaces: Wash thoroughly with Trisodium Phosphate solution mixed in accordance with manufacturers printed instructions. Rinse thoroughly.
- P. Galvanized surfaces that have been passivated: On small areas use abrasive buffing with bronze wool pad SP 2 or power wire brush SP 3 and clean with solvent. On large areas use brush off blast SP 7 and clean with solvent.
- Q. Surfaces primed by item manufacturer: Prepare according to recommendations on Product Data sheets.

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- R. Factory finished surfaces: Sand down for adhesion in accordance with SSPC SP 2.
- S. Copper surfaces: Solvent clean and buff in accordance with SSPC SP-2.

3.03 APPLICATION

- A. Apply paint materials free from defects.
- B. Mask surfaces where necessary, to prevent contamination or marring of adjacent material, or different protective coating system.
- C. Prevent overspray onto adjacent surfaces or properties.
- D. Do not apply paint over sealant.

3.04 APPLICATION OVER SHOP PAINTED METAL SURFACES AND TOUCH UP

- A. Check paint coatings for compatibility with paint with which they are to be overcoated.
- B. Clean areas to be painted using appropriate method.
- C. Minimum coating requirements for touch-up painting:
 1. No rusting but prime coat exposed: Sand lightly and feather edges. Apply 1 to 2 finish coats to regain specified minimum dry film thickness.
 2. No rusting but prime coat damaged: Clean area to base material, sand lightly and feather edges. Apply prime and finish coats. Sand and feather edges between coats.
 3. Rust areas: Clean to original standard of surface preparation. Apply coats as per 2. above. Apply spot finish coat(s) to uniform appearance.

3.05 ITEMS TO BE PAINTED

- A. Building Items:
 1. Paint items not prefinished with complete protective coating system.
 2. Paint shop-primed items.
 3. Do not paint galvanized fabric structure frame and supplemental framing for doors and louvers.
 4. Do not paint stainless steel and aluminum surfaces unless called for in Colour Schedule.
- B. Equipment Items:
 1. Paint shop-primed items.
 2. Do not paint PVC, HDPE, rubber, copper, bronze or brass surfaces.
 3. Do not paint stainless steel and aluminum surfaces unless called for in Colour Schedule.

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- C. Piping (Process and Service):
 - 1. Paint piping, pipe supports, valves, valve operator and appurtenances except:
 - a. Aluminum jacket
 - b. PVC piping or jacket
 - c. Stainless steel
- D. Ducting (HVAC):
 - a. Do not paint HDPE or aluminum ducting.
- E. Paint miscellaneous items listed in Colour Schedule in this Section.
- F. Touch up field-painted building items, equipment, piping and ducting damaged during construction.
- G. Apply protective treatment to surfaces indicated.

3.06 APPLICATION – GENERAL

- A. Apply finish coats of paint in thickness per coat specified.
- B. If minimum dry film thickness (DFT) in micrometres (microns) is not achieved, apply additional coat(s) until required thickness is obtained.
- C. Apply paint in accordance with SSPC Manual Volume 2 – “Systems and Specifications”, Chapter 5.1.
- D. Sand semi gloss, medium and high gloss finishes lightly between coats, unless otherwise approved by the coating manufacturer.
- E. Gloss terms of following values when tested in accordance with ASTM D523 Test for Specular Gloss:

Gloss Term	Gloss Value
Flat	5 to 20
Eggshell	20 to 40
Semi-gloss	40 to 60
Gloss, medium	60 to 80
Gloss, high	80 to 90

- F. Finish Work uniformly as to sheen, gloss, colour and texture free from sags, runs and other defects and under adequate illumination.
- G. Apply materials in accordance with directions and instructions of manufacturers of materials. Do not use adulterants.
- H. Do not paint over identification labels on mechanical and electrical equipment.
- I. Corrosive material concentration: chemically corrosive atmosphere applies to following

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area:

1. Interior of Composting structure.

J. Use applicable protective coating systems for these conditions as specified.

3.07 SCHEDULE - PROTECTIVE COATING SYSTEMS
BY AKZO NOBEL COATINGS LTD. (CANADA) (GLIDDEN AND DEVOE BRANDS)

A. STEEL & CAST IRON

SERVICE USE	PROTECTIVE COATING SYSTEM	SURFACE PREPARATION	NO. OF COATS	MIN. D.F.T. PER COAT IN MICRONS
Chemically corrosive exposure	<u>PRIME:</u> Devguard 203 Waterborne Epoxy Primer	SP-10	1	125-175
	<u>FINISH:</u> Truglaze 4428 High Build Epoxy Coating		1	75-100

B. DUCTILE IRON

SERVICE USE	PROTECTIVE COATING SYSTEM	SURFACE PREPARATION	NO. OF COATS	MIN. D.F.T. PER COAT IN MICRONS
Chemically corrosive atmosphere, fumes, and spills exposure	<u>PRIME:</u> Devran 203 Waterborne Epoxy Primer	SP-10	1	125-175
	<u>FINISH:</u> Truglaze 4428 Waterborne Epoxy Gloss Coating		1	75-100

C. GALVANIZED STEEL – INTERIOR AND EXTERIOR

SERVICE USE	PROTECTIVE COATING SYSTEM	SURFACE PREPARATION	NO. OF COATS	MIN. D.F.T. PER COAT IN MICRONS
Chemically corrosive exposure	<u>PRIME:</u> Devran 203 Waterborne Epoxy Primer	SP-7		75-100
	<u>FINISH:</u> Truglaze 4428 Waterborne Epoxy Gloss Coating		2	75-100

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D. MISCELLANEOUS SURFACES

SERVICE USE	PROTECTIVE COATING SYSTEM	SURFACE PREPARATION	NO. OF COATS	MIN. D.F.T. PER COAT IN MICRONS
Exposed copper piping and tubing	Woodpride 1860 Polyurethane Gloss or Devran 203 Waterborne Epoxy Primer	SP-1 and buff	1	38
Aluminum sheet and aluminum closures and trim	<u>PRIME:</u> Devran 203 Waterborne Epoxy Primer <u>FINISH:</u> Devflex 4216L Waterborne Acrylic Semi-Gloss Enamel	SP-2	1	50-60
			2	50
Aluminum surfaces unless prefinished for corrosive exposure	<u>PRIME:</u> Devran 203 Waterborne Epoxy Primer <u>FINISH:</u> Tru-Glaze WB 4428 Waterborne Epoxy Gloss Coating	SP-1/ SP-7	1	75-100
			1	75-100

3.08 COLOUR SCHEDULE - GENERAL

- A. Colour numbers shown are from current brochures of manufacturers of materials.
- B. Unless otherwise indicated, colour for:
 1. Galvanized electrical conduits including hanger and brackets where suspended in finished areas except where seamless coating occurs and outdoors: Match colour of wall/ceiling.
 2. Exposed surfaces of fans and dampers: Match colour of wall/ceiling.

3.09 COLOUR SCHEDULE - BUILDING ITEMS

- A. Steel Doors and Frames: To later selection.
- B. Structural Steel Door Frames: To later selection.
- C. Exposed Structural Steel: To later selection.

3.10 COLOUR SCHEDULE - EQUIPMENT ITEMS

- A. Electrical Panels: Prefinished ANSI/ASA #61 Grey. For painting refer to Colour Schedule - General.
- B. Galvanized Steel Conduit: Prefinished ANSI/ASA #61 Grey. For painting refer to Colour

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Schedule - General.

3.11 COLOUR SCHEDULE - PIPING (PROCESS AND SERVICE)

- A. Stainless Steel, PVC, HDPE and Aluminum Surfaces: Do not paint. Colour for ferrous appurtenances, such as flanges, valves, couplings, and similar items: Colour to later selection.

3.12 COLOUR SCHEDULE - DUCTING (HVAC)

- A. HDPE and aluminum ducting: Do not paint.
- B. Galvanized Steel Surfaces Exposed to View: Paint full surface of duct.

END OF SECTION