PART 1 GENERAL

1.1 Reference Standards

.1 Standard hardware location dimensions in accordance with Canadian Metric Guide for Steel Door and Frames (Modular Construction) prepared by Canadian Steel Door and Frame Manufacturers' Association.

1.2 Requirements of Regulatory Agencies

.1 Use ULC listed and labelled hardware for doors in fire separations and exit doors.

1.3 Hardware Schedule

.1 A Hardware Schedule shall be prepared and submitted to the Consultant by the Contractor's hardware supplier following the award of Contract, for the Consultant's approval.

.2 Clearly indicate manufacturer's name, catalogue identification description, purpose, location and finish for each item.

1.4 Templates

.1 Upon award of the Contract, furnish promptly to applicable trades any patterns, templates, template information and manufacturer's literature required for proper preparation for and application of hardware, in ample time to facilitate the progress of work.

1.5 Delivery and Storage

.1 Store hardware in locked, clean and dry area. Maintain inventory list with Hardware Schedule.

.2 Package each item of hardware separately or in like groups of hardware, and label each package as to item definition and location.

1.6 Maintenance Data

.1 Provide maintenance data, parts list, and manufacturer's instructions for door closers, locksets, door holders, and panic devices for incorporation into maintenance manual specified in Section 01730.

.2 Brief maintenance staff regarding proper care of hardware including cleaning, and general maintenance.

1.7 Maintenance Materials

.1 Provide two sets of wrenches for door closers and locksets. Include keys for panic devices with dogging feature.

1.8 **Cash Allowance**

.1 A cash allowance is included in the Contract for the purchase of finishing hardware by the Contractor on the instructions of the Consultant. The Contractor shall make his own allowance for the handling and installation.

.2 The cash allowance covers the supply of hardware for all doors including butts, locks, latches, electric strikes, pulls, push plates, kickplates, closers, holders, panic devices, weatherstripping, thresholds, masterkeying as required, and key control cabinet. The allowance covers, as well, all hardware required for cabinetwork and closets such as rollers, guides, drawer pulls, catches, locks, adjustable shelf track and brackets, coat rods and hooks.

PART 2 PRODUCTS

2.1 **Quality**

.1 In every case, hardware shall be of quality, design and finish suitable for purpose to which it is intended, to the complete satisfaction of the Consultant.

2.2 **Finishes**

.1 Type and finish of hardware shall be in accordance with, and equal in all respects, to samples of hardware and finishes approved by the Consultant.

.2 Metal finishes shall be free from defects, clean and unstained, and of uniform colour and finish for each type of finish required.

2.3 **Fastenings**

.1 Hardware shall be complete with screws, bolts, expansion shields and other fastening devices as required for satisfactory installation and operation of hardware.

.2 Fastening devices shall be of same finish as hardware which is to be fastened.

.3 Use countersunk oval head screws for fastening push, pull and kickplates.

.4 Where pull is scheduled on one side of door and push plate on other side, supply fastening devices and install so pull can be secured through door from reverse side. Install push plate to cover fasteners.

.5 Use fasteners compatible with material through which they pass.

2.4 **Keying**

.1 Lay out keying system in consultation with the Owner. Keying system shall include keying alike, keying differently, keying in groups, submaster keying and grand master keying locks as necessary to meet the requirements of the Owner.

.2 Keying chart and related explanatory data shall be prepared and submitted to the Owner for approval, and lock work shall not be commenced until written confirmation of keying arrangements is received from the Owner.

.3 Provide keys in duplicate for every lock.

.4 Provide three masterkeys for each MK or GMK group.

.5 Stamp keying code numbers on keys and cylinders.

.6 Provide cabinet for key control with two tag security system complete with key loan register, three-way cross reference index, and cabinet door locking device.

2.5 **Construction Cylinder Cores**

.1 All locks shall be operated by a construction master key in construction cylinder cores while the building is under construction, but shall not operate when the temporary construction cores are replaced with permanent master keyed cylinders at completion of the building.

PART 3 EXECUTION

3.1 **Installation**

.1 Carefully follow manufacturer's instructions for installation of finish hardware.

.2 Install hardware to standard hardware location dimensions in accordance with Canadian Metric Guide for Steel Doors and Frames (Modular Construction) prepared by Canadian Steel Door and Frame Manufacturers' Association.

.3 Hardware for access doors provided for the handicapped, and mounting heights, to conform with Code requirements for Barrier Free Design.

.4 Use butts with non-removable pins on exterior outswinging doors.

END OF SECTION

PART 1 GENERAL

1.1 Samples

.1 Submit samples of glass, glazing materials and sealant for approval to the Consultant upon request.

.2 Submit colour samples of sealants and tapes to Consultant for selection of colours.

1.2 Protection

.1 After all glass is set in building, place crossed strips of masking tape on same. Maintain these strips until glass is to be cleaned.

1.3 Breakage

.1 The Glazier shall be responsible for replacement of all broken glass installed under this Section until the satisfactory completion of this work as specified herein, from which time the Contractor shall be responsible for such replacement.

1.4 Warranty

.1 Warrant in writing the insulating glass units specified under this Section to be free of air infiltration, condensation, and film formation or dust collection between the interior glass surfaces, for a period of five years.

PART 2 PRODUCTS

2.1 Glass

.1 Glass shall be of weights and thicknesses as recommended by glass manufacturer to suit application, Code requirements, glazing standards, and as specified herein.

2.2 Float Glass

.1 Conform to CAN/CGSB-12.3-M91, glazing quality.

2.3 Tempered Glass

.1 Conform to CAN/CGSB-12.1-M90.

2.4 Insulated Glazing Units

.1 Insulated glazing units shall consist of double glazed units hermetically sealed by metal to glass bond, and having a dehydrated air space between the glass faces. Conform to CAN/CGSB-12.8-M90. Total thickness to be 25 mm, with each lite minimum 6 mm thick.

.2 Exterior lite equal to PPG Solarban 60 Low-E glass (clear) interior lite clear float glass.

.3 Glazing at doors and sidelites to be tempered.

2.5 **Mirrors**

.1 No.1 quality, float/plate glass, 6 mm thick, with stainless steel frame and moisture resistant backing, complete with stainless steel clips, in sizes indicated on drawings.

2.6 **Glazing Materials**

.1 Sealant for heel air seal, toe bead or butted tape joints, one part acrylic terpolymer sealant conforming to CAN/CGSB-19.0-M77 -5M, such as Mono by Tremco (Canada) Ltd.

.2 Sealant for cap or needle bead, one part high modulus silicone elastomeric sealant conforming to CGSB 19-GP-9Ma, such as Proglaze by Tremco (Canada) Ltd.

.3 Primers, if required, according to sealant manufacturer's recommendations.

.4 Lites of glass under 2540 united mm, tape shall be polyisobutylene butyl, such as Tremco 440 Tape.

.5 Lites of glass over 2540 united mm, tape shall be macro polyisobutylene butyl with built-in EPDM shim, such as Tremco Polyshim Tape.

.6 Colours for sealants and tapes as selected by Consultant from submitted samples.

.7 Setting blocks to be neoprene or EPDM with a Shore "A" hardness of 80-90 durometer. When used in combination with heel or toe bead, they should be first buttered with sealant, then placed prior to installing glass. Length to be 2.5 mm per .09 mof glass, but not less than 102 mm. Width for setting block to be 1.5 mm less than rabbet width and high enough to provide the recommended minimum bite and edge clearance as recommended by glass manufacturer. When thickness of setting block exceeds 18 mm thickness, the glass manufacturer must be consulted for size and configuration.

.8 Glazing gaskets to be continuous extruded neoprene or EPDM design, specifically for use in the window section with a Shore "A" hardness of 60-70 durometer.

.9 Edge block shall be a material and hardness to provide proper edge clearance according to glass manufacturer's recommendations.

.10 Cleaning material for surfaces to receive sealant to be xylol, methylethylketone, toluol or as recommended by sealant manufacturer.

.11 Ensure that glazing sealants used are compatible with insulating glass sealant.

PART 3 EXECUTION

3.1 Installation

.1 Install materials in accordance with manufacturer's specifications, ensuring that each material in the glazing system is compatible with the others. Cut all glass accurately to have equal bearing at all sides of the sheet.

.2 All surfaces receiving glazing materials shall be thoroughly wiped with a clean cloth and dampened with the appropriate cleaner, as approved by the sealant manufacturer. Special precautions must be taken in cold weather to ensure the surfaces are free from frost.

.3 Glazing to be undertaken at temperatures recommended by manufacturer of glazing materials.

.4 Install mirrors in locations where supplied by this section.

3.2 Glazing

.1 Size glass units to accurately fit openings with clearances according to glass manufacturer's recommendations.

.2 Tape shall be cut to proper length prior to application.

.3 If the butt joint in the sash is in the vertical direction, the glazier shall run the tape initially on the head and sill members going directly over this joint. Should the butt joint in the sash run horizontally, tapes must first be applied to the jambs so that it crosses over the joint.

.4 Each tape section shall butt the adjoining tape and be united with a tool or coin to eliminate any opening. Dab the butted tape joint with sealant for maximum leakproof security.

.5 Do not overlap the adjoining length of tape or rubber shim, as this will prevent full contact around the perimeter of glass.

.6 Where the glazing channel is offset, the difference in the rabbet width should be compensated by employing different sizes of exterior glazing material. The difference should be equal to size of the offset.

.7 Immediately prior to setting glass, paper backing shall be removed from the glazing tape. Dab the butted joint with sealant.

.8 Locate setting blocks in the sill member at quarter points. Setting blocks must be set equal distance from centreline of the glass and 1.5 mm less than full rabbet width and high enough to provide the recommended bite and edge clearances.

.9 Set glass. The glass shall be pressed firmly against the tape to achieve full contact. Tape compression can be achieved with a compression tool prior to installing the interior stop

or with a PVC wedge after the interior stop has been placed. This is mandatory when Polyshim tape is used to obtain full compression of the unit to the shim.

.10 A cap bead of silicone is required when using banded sealed units.

.11 Glass units under 2450 united mm:

.1 440 Tape shall be cut to proper length prior to application.

.2 In an unvented system, after tape is applied, a toe bead of sealant is placed below the glazing tape prior to sighting the unit. Sufficient sealant must be used to allow for a minimum 5 mm bite onto the glass surrounding its perimeter. When a cap bead of sealant is used around the perimeter, then the toe bead is not required.

.3 Tapered 440 Tape and a cap bead of silicone are required when using banded sealed units.

.4 In a vented system, apply a heel bead (air seal) of sealant around the perimeter of glass, maintaining 5 mm minimum bite onto the glass and positive bond to the sash. The bed of sealant shall be large enough so that some of it will partially fill the channel between the glass and removal stops when they are set. Caution must be exercised not to block the weepholes during the installation.

.5 Tapered 440 Tape and a cap bead of silicone, along with a heel bead of sealant, are required when using banded sealed units in a vented system.

.12 Glass units over 2450 united mm:

.1 Polyshim Tape shall be cut to the proper length prior to application.

.2 In an unvented system, the four corners must be sealed with a toe bead of sealant for a distance of 150 mm from each corner, vertically and horizontally.

.3 In a vented system, apply a heel bead (air seal) of sealant around the perimeter of glass, as outlined under 3.2.11.4.

.4 Cap bead shall extend 4 mm below the stop sight line. It should extend above the sight line 4 mm and struck away to shed water.

.13 Glazing gasket:

.1 The gasket shall be cut approximately 1.5 mm per 300 mm longer than the respective channel. Cut ends of gasket to be about a 45angle so that top is longer than the base.

.2 In setting the gasket into the channel between the glass and removable stops, the horizontal strips (head and sill) shall be set first, then the vertical (jamb) strips.

3.3 Sealing

.1 Seal all joints between frames and adjacent surfaces and where indicated, provide a completely weathertight and airtight enclosure.

.2 Application of sealant shall be in strict accordance with manufacturer's printed direction. The sealant shall be applied to a clean, dry, grease and oil-free surface. Sealant shall be smooth, free from ridges, wrinkles and embedded foreign materials.

.3 Remove excess sealant droppings which would set up or become difficult to remove from the surfaces. Chemicals, scrapers or other tools which would affect finished surfaces shall not be used for such removal. Finished surfaces damaged due to this work shall be replaced at the Contractor's expense, to the Consultant's satisfaction.

3.4 Completion

.1 After the installation of the work of this Section, all glass and aluminum work shall be cleaned down.

END OF SECTION

Contents

PART 1 GENERAL

1.1 Reference Standards

.1 Do work in accordance with CAN/CSA-A82.31-M91 except where specified otherwise.

1.2 Qualifications

.1 Gypsum board systems shall be installed by experienced workers in strict accordance with the manufacturer's directions and to the complete satisfaction of the Consultant.

1.3 Delivery and Storage

.1 Deliver and store materials undamaged in original wrappings or containers with manufacturer's labels and seals intact. Store in a dry weatherproof enclosure. Store wall board flat, in piles without overhanging boards.

.2 Prevent damage to materials during handling and storage on job site.

PART 2 PRODUCTS

2.1 Gypsum Board

.1 Acceptable sources: Canadian Gypsum Company, Domtar Construction Materials or Consultant-approved equal.

.2 Standard board: to CAN/CSA-A82.27-M91, regular, to thicknesses indicated, 1200 mm wide x maximum practical length, ends square cut, edges tapered.

.3 Fire rated: to CAN/CSA-A82.27-M91 Type X, to thicknesses indicated, 1200 mm wide x maximum practical length, ends square cut, edges tapered.

2.2 Metal Furring and Suspension Systems

.1 Metal furring runners, hangers, tie wires, inserts, anchors: to CSA A82.30-M1980, galvanized. Sizes and spacings recommended by board manufacturer.

.2 Drywall furring channels: to ASTM C 645-99, 22 x 67 mm size, roll formed from 0.53 mm thickness hot-dipped galvanized sheet steel, with 32 mm knurled face for screw attachment of gypsum board.

2.3 Fastenings and Adhesives

.1 Screws and staples: to CAN/CSA-A82.31-M91.

.2 Screw types, sizes and lengths to board manufacturer's recommendations.

.3 Laminating adhesive: to CAN/CSA-A82.31-M91, asbestos-free, for applying gypsum board directly to concrete or masonry surfaces.

2.4 **Accessories**

.1 Metal trim: 0.5 mm base thickness commercial grade sheet steel with Z275 zinc finish to ASTM A 525M-91b, perforated flanges; one piece length per location, where possible:

.1 Casing beads: equal to CGC 200-B.

.2 Corner beads: equal to CGC "DUR-A-BEAD".

.3 Use only metal trim with fill type flanges designed for concealment with joint compound.

.4 Metal trim of the exposed flange type, such as CGC 400 Series, will not be permitted.

.2 Control joints: equal to CGC Control Joint No. 093, roll-formed zinc with removable plastic tape protected opening, and designed for concealment of flanges with joint compound.

.3 Acoustic sealant: to CAN/CGSB-19.21-M87.

.4 Polyethylene: to CAN/CGSB-51.33-M89, Type 2.

.5 Insulating strip: rubberized, moisture resistant, 3 mm thick closed cell neoprene strip, 12 mm wide, with self sticking permanent adhesive on one face, lengths as required.

.6 Joint compound: to CAN/CSA-A82.31-M91, asbestos-free.

PART 3 EXECUTION

3.1 **Suspended and Furred Ceilings**

.1 Erect hangers and runner channels for suspended gypsum board ceilings in accordance with CAN/CSA-A82.31-M91 except where specified otherwise.

.2 Support light fixtures by providing additional ceiling suspension hangers within 150 mm of each corner and at maximum 600 mm around perimeter of fixture.

.3 Install work level to tolerance of 1:1200.

.4 Frame with furring channels, perimeter of openings for access panels, light fixtures, diffusers, grilles and other penetrations.

3.2 **Ceiling Bulkheads**

.1 Furr for gypsum board faced vertical bulkheads within and at termination of ceilings.

.2 Furr above suspended ceilings for gypsum board fire and sound stops and to form plenum areas, where indicated.

3.3 **Wall Furring**

.1 Install wall furring for gypsum board wall finishes in accordance with CAN/CSA-A82.31-M91, except where specified otherwise.

.2 Furr openings and around built-in equipment, cabinets, access panels, and other penetrations and projections, on four sides. Extend furring into reveals. Check clearances with equipment suppliers.

.3 Furr duct shafts, beams, columns, pipes and exposed services where indicated.

3.4 **Gypsum Board Application**

.1 Do not apply gypsum board until bucks, anchors, blocking, electrical and mechanical work are approved.

.2 Apply single layer gypsum board to metal furring or framing using screw fasteners. Maximum spacing of screws to board manufacturer's recommendations.

.3 Apply single layer gypsum board to concrete or masonry surfaces, where indicated, using laminating adhesive.

.4 Apply water-resistant gypsum board in rooms where indicated on the Drawings. Apply water-resistant sealant to edges, ends, cut-outs which expose gypsum core and to fastener heads. Do not apply joint treatment on areas to receive tile finish.

.5 Where indicated for sound control requirements, apply 12 mm diameter bead of acoustic sealant continuously around periphery of each face of partitioning to seal gypsum board/structure junction where partitions abut fixed building components. Seal full perimeter of cut-outs around electrical boxes, ducts and other equipment, in partitions where perimeter is sealed with acoustic sealant.

.6 Where ceiling tracks with 50 mm legs are provided under beams, decks and structural components, install top line of screws, for attaching gypsum board, at minimum 12.7 mm below bottom of track legs to allow for deflection of overlying structure.

3.5 **Fire Rated Assemblies**

.1 Construct fire rated assemblies where indicated, to appropriate ULC Design numbers to suit application and required time ratings.

3.6 **Accessories**

.1 Erect accessories straight, plumb or level, rigid and at proper plane. Use full length pieces where practical. Make joints tight, accurately aligned and rigidly secured. Mitre and fit corners accurately, free from rough edges.

.2 Reinforce all vertical and horizontal external corners with corner bead fastened at maximum 230 mm o.c. on both flanges along entire length of bead.

.3 Install casing beads around perimeter of suspended ceilings.

.4 Install casing beads where gypsum board butts against surfaces having no trim concealing junction and where indicated. Seal joints with sealant.

.5 Install insulating strips continuously at edges of gypsum board and casing beads abutting metal window and exterior door frames, to provide thermal break.

3.7 **Control Joints**

.1 Construct control joints of preformed unit set in gypsum board facing and supported independently on both sides of joint.

.2 Provide continuous polyethylene dust barrier behind and across control joints.

.3 Locate control joints at changes in substrate construction, at approximate 10m spacing on long corridor runs and at approximate 15m spacing on ceilings, unless otherwise indicated.

.4 Install control joints straight and true.

3.8 **Expansion Joints**

.1 Construct expansion joints as detailed, at building expansion and construction joints. Provide continuous dust barrier.

.2 Install expansion joint straight and true.

3.9 **Access Doors**

.1 Install access doors to electrical and mechanical fixtures specified in respective Sections.

.2 Rigidly secure frames to furring or framing systems.

3.10 **Taping and Filling**

.1 Finish face panel joints and internal angles with joint system consisting of joint compound, joint tape and taping compound installed according to manufacturer's directions and feathered out onto panel faces.

.2 Finish corner beads, casing beads, control joints and trim as required with two coats of joint compound and one coat of taping compound, feathered out onto panel faces.

.3 Fill screw head depressions with joint and taping compounds to bring flush with adjacent surface of gypsum board so as to be invisible after surface finish is completed.

.4 Sand lightly to remove burred edges and other imperfections. Avoid sanding adjacent surface of board.

.5 Completed installation to be smooth, level or plumb, free from waves and other defects and ready for surface finish.

END OF SECTION

PART 1 GENERAL

1.1 Samples

.1 Submit samples of manufacturer's complete range of standard colours for each of the finishing materials specified, to the Consultant for selection of colours.

1.2 Maintenance Data

.1 Provide maintenance data for resilient flooring for incorporation into Operation and Maintenance Manual specified in Section 01730.

1.3 Maintenance Materials

.1 Deliver 2% of area of each colour, pattern and type flooring material required for project for maintenance use. Identify each roll. Store where directed.

.2 Maintenance materials to be same production run as installed materials.

1.4 Environmental Requirements

.1 Maintain air temperature and structural base temperature at flooring installation area above 20C for 48 hours before, during and 48 hours after installation.

PART 2 PRODUCTS

2.1 Acceptable Manufacturers

.1 Acceptable sheet flooring manufacturer: Armstrong World Industries Ltd., or Consultant-approved equal.

2.2 Sheet Vinyl

.1 Marmoleum, 2.0 mm overall thickness, non-layered, non-backed, and pattern extending uniformly through the entire thickness of the flooring, in 1830 mm wide rolls, and conforming to CAN/CSA-A126.6-M87, Type A Specifications.

.2 Colours as selected by Consultant from submitted samples.

2.3 Materials

.1 Feature strips: of same material and thickness as adjacent work of width and colour indicated.

.2 Resilient base: to CAN/CSA-A126.5-M87, top set coved rubber minimum 1200 mm length and 102 mm high x 3.2 mm thick, including premoulded end stops and external corners, in colour selected by the Consultant.

.3 Primers and adhesives: waterproof, of types recommended by resilient flooring manufacturer for specific material on applicable substrate, above, on, or below grade.

.4 Sub-floor filler and leveller: white premix latex requiring water only to produce cementitious paste as recommended by flooring manufacturer for use with their product.

.5 Metal edge strips: aluminum extruded, smooth, polished, with lip to extend under floor finish, shoulder flush with top of adjacent floor finish.

.6 Sealer and wax: type recommended by resilient flooring material manufacturer for material type and location.

.7 Pre-moulded stair treads - 3 mm thick rubber to full width of stair with integral nosing. Surface to be textured/non-slip

PART 3 EXECUTION

3.1 Inspection

.1 Ensure concrete floors are dry by using test methods recommended by flooring manufacturer.

3.2 Sub-floor Treatment

.1 Remove sub-floor ridges and bumps. Fill low spots, cracks, joints, holes and other defects with sub-floor filler.

.2 Clean floor and apply filler; trowel and float to leave smooth, flat hard surface. Prohibit traffic until filler cured and dry.

.3 Prime concrete slab to resilient flooring manufacturer's printed instructions.

3.3 Flooring Application

.1 Apply adhesive uniformly using recommended trowel. Do not spread more adhesive than can be covered by flooring before initial set takes place.

.2 Lay flooring with seams parallel to building lines to produce a minimum number of seams. Border widths minimum 1/3 width of full material.

.3 Run sheets in direction of traffic. Double cut sheet joints to produce square, straight flat joints without gaps and continuously seal according to manufacturer's printed instructions.

.4 Heat-weld seams of "Medintech" flooring according to manufacturer's printed instructions.

.5 As installation progresses, and after installation, roll flooring with roller weight to manufacturer's recommendations to ensure full adhesion.

.6 Cut flooring neatly around fixed objects.

.7 Install feature strips and floor markings to colours and widths indicated. Fit joints tightly.

.8 Continue flooring over areas which will be under built-in furniture.

.9 Continue flooring through areas to receive movable type partition without interrupting floor pattern.

.10 Terminate flooring at centreline of door in openings where adjacent floor finish or colour is dissimilar.

.11 Install metal edge strips at unprotected or exposed edges where flooring terminates.

3.4 Base Application

.1 Lay out base to keep number of joints at minimum.

.2 Set base in adhesive tightly by using hand roller, against wall and floor surfaces.

.3 Install straight and level to variation of 1:1000.

.4 Scribe and fit to door frames and other obstructions. Use premoulded end pieces at flush door frames.

.5 Cope internal corners. Use premoulded corner units for right angle external corners. Use formed straight base material for external corners or other angles.

3.5 Cleaning and Waxing

.1 Remove excess adhesive from floor, base and wall surfaces without damage.

.2 Clean, seal and wax floor and base surface to flooring manufacturer's printed instructions.

3.6 Protection of Finished Work

.1 After resilient sheet flooring has been inspected and approved by the Consultant and all remedial work carried out as directed, protect finished surfaces with fibre-reinforced non-staining kraft paper secured with gummed tape to prevent drifting and maintain intact until removal is directed by the Consultant.

.2 When directed, remove and dispose of protective materials off the premises.

END OF SECTION

1.0 General

1.1 SCOPE

.1 The following items require painting and/or finishing as detailed in this section:

.1 Steel piping inside building and access vault.

.2 Penetration Flashings and Trim for piping into Water Treatment Plant.

.3 Galvanized components that require touch-up.

.4 Intake access vault.

1.2 REFERENCE DOCUMENTS

.1 Except where otherwise noted, comply with requirements of "Canadian Painting Contractors Association Architectural Painting Specification Manual" (CPCA Manual).

1.3 ACCEPTABLE MANUFACTURERS

.1 General Paint, Sherwin Williams, C-I-L, Glidden, or Benjamin Moore.

1.4 DELIVERY

.1 Deliver materials in sealed original labelled containers bearing manufacturer's name, type of material, brand name, colour designation, MSDS sheets, and where applicable, instruction for mixing and reducing.

1.5 STORAGE

.1 Store paint and other materials at a minimum ambient temperature of 7 C in a well ventilated and heated area.

.2 Take precautionary measures to prevent fire hazards or spontaneous combustion.

2.0 Products

2.1 MATERIALS

.1 Paint, varnish, stain, enamel, lacquer and fillers to be "top line quality" products of the generic types specified.

.2 Thinners: Odourless paint thinner, pure and clean with no deleterious material.

.3 Patching compounds: Spackling compound or oil base putty for surfaces receiving a paint finish. Oil base putty, coloured to match finish, for surfaces receiving a transparent finish.

2.2 MIXING

.1 Except as noted otherwise, paints shall be ready mixed. Field mix materials in paste or powder form, or to be field-catalyzed, in accordance with manufacturer's directions. Pigments shall be fully ground and shall maintain a soft paste consistency in vehicle during storage that can and shall be dispersed readily and uniformly by paddle to a complete homogeneous mixture.

.2 Thinning of materials will be permitted only where specified herein or upon the Engineer's approval. Do not use solvent for thinning.

.3 Thoroughly strain all materials prior to each application.

2.3 COLOURS

.1 Colour selected by Owner.

.2 Penetrations' trim and flashings to be white, or other approved colour.

.3 Any galvanized components where the surface becomes scratched shall be touched up with an approved zinc rich paint for base. The colour then shall be matched to original component colour. Standard of zinc rich paint, Zinga, or approved equivalent.

.4 Plywood backboarding to be painted white.

2.4 SPECIFIED COATINGS

.1 Exterior Woodwork:

- 1st coat: Exterior Latex Primer.
- 2nd coat: Exterior Latex Gloss.
- 3rd coat: Exterior Latex Gloss.

.2 Factory Primed Structural Steel:

- 1st coat: Structural Steel Primer.
- 2nd coat: Latex Gloss Exterior.
- 3rd coat: Latex Gloss Exterior.

.3 Galvanized Metal:

- 1st coat: Galvanized Iron Primer.

- 2nd coat: Exterior Latex Gloss.
- 3rd coat: Exterior Latex Gloss.

.4 Aluminum:

- 1st coat: Etch Type Primer.
- 2nd coat: Latex Gloss.
- 3rd coat: Latex Gloss.

.5 Equipment Bases:

- 1st coat: Catalyzed Epoxy Enamel or Special Primer.
- 2nd coat: Catalyzed Epoxy Enamel.
- 3rd coat: Catalyzed Epoxy Enamel, rough textured anti-slip surface.

.6 Miscellaneous Steel:

- 1st coat: Zinc Chromate Primer.
- 2nd coat: Latex Gloss Enamel.
- 3rd coat: Latex Gloss Enamel.

3.0 Execution

3.1 ENVIRONMENTAL REQUIREMENTS

.1 Interior:

.1 Temperature: Maintain temperature at minimum 8 C for at least twenty-four (24) hours before and during application and until coatings have cured after application.

.2 Ventilation: Adequately ventilate areas where coatings are being applied and maintain a reasonably dust free atmosphere.

.3 Lighting: Maintain bright and uniform levels of lighting in areas where coatings are being applied.

.2 Exterior:

.1 Temperature: Apply coatings only when temperature is above 10 C.

.2 Precipitation: Do not apply coatings during periods of precipitation nor when precipitation is imminent.

.3 Wind: Do not apply coatings under high wind conditions resulting in wind blown dust and debris.

3.2 PROTECTION

.1 Provide sufficient quantity of clean drop cloths and take necessary protective measures to prevent spray, splashings, and droppings from fouling adjacent surfaces

.2 Remove electrical plates, surface hardware, fittings and fastenings prior to painting and finishing operations. Carefully store and replace these items on completion of work in each area.

.3 Place cotton waste, cloths and material which may constitute a fire hazard in metal containers and remove from site daily.

3.3 EXAMINATION

.1 Examine surfaces scheduled to receive coatings.

.2 Do not apply coatings to surfaces whose condition will adversely affect execution, permanence, or quality of work and which cannot be put into an acceptable condition through preparatory work specified herein.

3.4 CONDITION OF SUBSTRATES

.1 Sound, non-dusting, and free of grease, oil, dirt and other matter detrimental to adhesion and appearance of coatings.

.2 Temperature: minimum 8 C.

.3 Moisture Content: Maximum 15% for wood, maximum 12% for other substrates. Test for moisture content using electronic moisture meter.

3.5 PREPARATION OF SUBSTRATES

.1 Prepare substrates in accordance with requirements of Chapter 3, Surface Preparation, of the CPCA Manual and as specified herein.

.2 All Substrates: Thoroughly broom, vacuum and wipe clean as required to produce acceptable surface. Sand lightly and dust prior to application of each coat. Use proper type and grade of sandpaper to avoid scratching or gouging of surfaces.

.3 Bare Ferrous Metal: Remove rust and scale and wash with solvent.

.4 Previously Primed Metal: Remove loose shop paint and rust; make good shop coat, feather out edges of touch-up.

.5 Zinc Coated Metal: Remove surface contaminants and wash with solvent.