

Part 1 General

1.1 WORK INCLUDED

- .1 Stud System for interior unit non-demising walls and bulkheads.

1.2 RELATED SECTIONS

- .1 Gypsum Board: Section 09250

Part 2 Products

2.1 MATERIALS

- .1 Non-load bearing interior wall framing system: to ASTM C64576; stud size to be 92mm, 18 guage; thickness electro-galvanized steel sheet; for screw attachment of gypsum board.
- .2 Furring bars and channels to be sized and spaced as per drawings, similar construction to steel studs.

Part 3 Execution

3.1 MATERIALS

- .1 Provide partition tracks at floor and beam. Align accurately. Provide double 'nested tracks under structural beams. Secure at 600 mm o/c maximum.
- .2 Erect studs to tolerance of 1:1000.
- .3 Place studs vertically at 400 spacing or as indicated flush to inside face of structural steel members.
- .4 Cross brace steel studs as required to provide rigid installation to manufacturers instructions.
- .5 Maintain movement clearance in nested tracks.

END OF SECTION

Part 1 - General

1.1 RELATED DOCUMENTS

- .1 Drawings, General Conditions and Division 1 General Requirements.

1.2 SECTION INCLUDES

- .1 Provide all labour, materials, methods, equipment, accessories to complete exterior wall stucco systems.
 - .1 Exterior suspended cement plaster soffit removal & reprovision
 - .2 Metal suspension system, metal lath, metal furring, reinforcing mesh.
 - .3 Metal accessories, trims, control joints.

1.3 CODES/STANDARDS

- .1 Design, detail, fabricate to National Association of Architectural Metal Manufacturers (NAAMM) Standards.
- .2 Comply with requirements National Building Code of Canada 1980, local authority having jurisdiction.

1.4 SAMPLES

- .1 Submit samples of any and all materials, stucco finishes required, prepaid to Contract Administrator's office.
- .2 Submit sample panels of stucco pattern, colours, finish for Contract Administrator approval prior to application, as finished work standard.

1.5 CODES/STANDARDS

- .1 Perform lath, stucco, cement plaster parging work to CSA A82.30-M1980.

1.6 MATERIAL DELIVERY, STORAGE, AND HANDLING

- .1 Deliver, store cement, lime, other manufactured materials in unbroken bags, barrels, packages, suitable containers, plainly marked prevent, labeled with manufacturer's name and brand.
- .2 Deliver, handle materials to prevent inclusion of foreign material, damage of materials by water, or breakage.
- .3 Protect perishable materials, store in weathertight structures on floors maximum 12" above adjoining grade.
- .4 Store aggregates in clean bins, on platforms having hard clean surfaces. Use positive means to prevent inclusion of foreign materials.

- .5 Remove hardened or partially set cement, other cementitious materials from site.
- .6 Thaw frozen aggregates before using. Permit aggregates (and aggregates produced or manipulated by hydraulic methods) to drain for 12 hours before use.

1.7 ENVIRONMENTAL REQUIREMENTS

- .1 Use only unfrozen materials. Apply cement stucco only to substrates free of frost.
- .2 Perform, maintain cement stucco work at ambient and substrate temperature above 5°C, below 38°C minimum 24 hours prior, during application and for 24 hours after.
- .3 Stop cement stucco, parging work when ambient temperature might be expected to drop below 5°C within 4 weeks after application.

Part 2 Products

2.1 MATERIALS

- .1 Water: to CSA A179-M1976, clean, fresh, potable, free of acid, alum, oils, alkalies, salts, organic or mineral matter, other deleterious substances.
- .2 Portland cement: to CAN/CSA-A5/A8/A362-M88, normal, type 10.
- .3 Sand aggregate: to ASTM C897, CSA A82.57-M1977 (R9184), Table 1, approved colour, natural or manufactured, fresh water washed.
- .4 Bonding agent: to ASTM C932, non-oxidizing, non-crystallizing, to improve bond strength, adhesion.
- .5 Suspension system: to CSA A82.30-M19890.
 - .1 Channel runners: 7/16" x 1-1/2" deep, 16 gauge, 475#/M lin. Ft., cold rolled, galvanized.
 - .2 Channel furring: 7/16" x 3/4" deep, 16 gauge, 300#/M lin. Ft., cold rolled, galvanized.
 - .4 Tie wire: No. 16 gauge galvanized soft annealed steel.
 - .5 Rod hangers: minimum 1/4" diam., galvanized mild steel.
- .11 Metal lath: to ASTM C841, CSA A82.30-M1980, Table 1, self-furring, diamond mesh, 3.4 lb./sq.yd., galvanized.
- .12 Tie wire: No. 16 gauge galvanized soft annealed steel.
- .13 Fasteners: to CSA B111, screw type, corrosion resistant, galvanized, minimum 1/2" dia., sizes required to secure lath, sufficient length to penetrate insulation thickness, gypsum wallboard, 1" into steel studs, steel furring systems, to securely retain lath to Contract Administrator approval.

- .14 Metal accessories, trim: to CSA A82.30, base screeds, cornerite, casing beads, control/expansion joints, perimeter vented reveal edge moldings, perforated embedment flanges, interior corner reinforcement, weep and drip screeds, reveals, etc. as required to complete stucco installations.

2.2 STUCCO, CEMENT PARGING MIXES

- .1 Mix stucco, cement plaster parging in accordance with CSA A82.30-M1980.
- .2 Mechanically mix exterior wall stucco systems base coats, finish coats in strict accordance with manufacturer instructions.

Part 3 - Execution

3.1 PROTECTION

- .1 Do not stucco, plaster adjacent to aluminum, masonry, other finished work until such work is masked. Protect completed work, other sections work from marking, staining, other damage, etc. Use non-staining covers.
- .2 Provide adequate protection from contaminants and weather for substrates prior to stucco applications, to stucco applications. Maintain in place until stucco cured.

3.2 PREPARATION

- .1 Obtain, make ready, prepare all materials. Cause no delay to scheduling.
- .2 Prepare surfaces to receive stucco finishes, cement plaster to CSA A82.30.
- .3 ensure grounds, screeds, beads, accessories, expansion/control joints, etc. in place.
- .4 Ensure insulation properly installed, exterior building paper applied prior to lath application.
- .5 Report any unsatisfactory conditions to Contract Administrator in writing. Commence work when unsatisfactory conditions corrected.

3.3 SUSPENDED SOFFIT FURRING SYSTEM

- .1 Suspend channel runners beneath framing at elevation to match original and adjacent, set at maximum 32" o.c., secure with 1/4" dia. Pencil rod hangers maximum 36" o.c., maximum 6" from ends.

- .2 Attach hangers to construction over with inserts, clips, other approved methods to support total suspended soffit weight. Wire hangers to channel runners with two loops No. 16 gauge tie wire.
- .3 Set channel runners level to tolerance 1/8" over 12"-0".
- .4 Lap channel runners, splices minimum 12", interlock flanges, wire each end with two loops wire ties.
- .5 Frame across channel runners with furring channels set a maximum 16" o.c., within 6" of boundary construction, openings, interruptions, changes in direction.
- .6 Secure to channel runners with minimum two loops No. 16 gauge wire ties, approved metal clips, or other approved method.
- .7 Provide reinforcing for mechanical electrical items, other attachments.

3.4 METAL LATH

- .1 Apply metal lath horizontally over building paper, secure to steel sub-girts insulation system on concrete block with approved metal screw fasteners 16" o.c. horizontally, 6" o.c. vertically, at each bearing.
- .2 Apply metal lath horizontally over building paper, insulation, secure to steel stud framing through gypsum wallboard with approved metal screw fasteners 16" o.c. horizontally, 6" o.c. vertically, at each bearing.
- .3 Apply metal lath horizontally across suspended soffit furring channels over gypsum wallboard, secure to each bearing maximum 6" o.c. with approved metal screw fasteners.
- .4 Apply metal lath horizontally over insulation, wood blocking to depth below grade indicated, minimum 12", secure to concrete grade beams, walls with approved large head nails to wood blocking 16" o.c. horizontally, 6" o.c. vertically.
- .5 Apply lath with long dimension at right angle to bearing, end joints over framing members. Lap all joints not less than 2". Stagger end joints. Wire tie ends joints 4" o.c.
- .6 Reinforce exterior, interior corners diagonally at each corner of openings exceeding one sq. ft. with vertical strips of wire lath. Extend minimum 6" both ways past opening corners, around external, internal corners. Do not use No. 1A expanded corner beads for exterior corners. Lath across dis-similar substrate junctures with minimum 8" wide lath strips.

3.5 STUCCO TRIMS, ACCESSORIES, ETC. INSTALLATION

- .1 Erect trims, accessories, etc. straight, plumb, level, rigid, at proper plane, in full lengths, secure at maximum 8" o.c.
- .2 Install plaster stops, make trowel cuts to provide 1/4" clearance where objects penetrate through, into stucco, cement plaster parging to allow unrestricted shrinkage. Fully seal with back-up rod, approved caulking. Provide plaster stops where stucco, cement plaster parging abuts other materials, surfaces.

3.6 CONTROL, EXPANSION JOINT INSTALLATION

- .1 Divide existing stucco from new stucco with, required with metal control joint screeds. Secure to clocking, metal lath maximum 4" o.c.
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END OF SECTION

Part 1 General

1.1 REFERENCES

- .1 American Society for Testing and Materials International, (ASTM)
 - .1 ASTM C36/C36M-01 Specification for Gypsum Wallboard.
 - .2 ASTM C79/C79M-01] Standard Specification for Treated Core and Non-treated Core Gypsum Sheathing Board.
 - .3 ASTM C442/C442M-01, Specification for Gypsum Backing Board, Gypsum Coreboard, and Gypsum Shaftliner Board.
 - .4 ASTM C475-01, Specification for Joint Compound and Joint Tape for Finishing Gypsum Board.
 - .5 ASTM C840-01, Specification for Application and Finishing of Gypsum Board.
 - .6 ASTM C931/C931M-01, Specification for Exterior Gypsum Soffit Board.
 - .7 ASTM C954-00, Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness.
 - .8 ASTM C1002-[01], Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.
 - .9 ASTM C1280-[99], Specification for Application of Gypsum Sheathing Board.
 - .10 ASTM C1177-[01], Specification for Glass Mat Gypsum Substrate for Use as Sheathing.
- .2 Association of the Wall and Ceilings Industries International (AWEI)

1.2 DELIVERY, STORAGE AND HANDLING

- .1 Deliver materials in original packages, containers or bundles bearing manufacturers brand name and identification.
- .2 Store materials inside, level, under cover. Keep dry. Protect from weather, other elements and damage from construction operations and other causes.
- .3 Handle gypsum boards to prevent damage to edges, ends or surfaces. Protect metal accessories and trim from being bent or damaged.

1.3 SITE ENVIRONMENTAL REQUIREMENTS

- .1 Maintain temperature minimum 10 degrees C, maximum 21 degrees C for 48 hours prior to and during application of gypsum boards and joint treatment, and for at least 48 hours after completion of joint treatment.
- .2 Apply board and joint treatment to dry, frost free surfaces.
- .3 Ventilation: Ventilate building spaces as required to remove excess moisture that would prevent drying of joint treatment material immediately after its application.

Part 2 Products

2.1 MATERIALS

- .1 Standard board: to ASTM C36/C36M regular 13 mm thick], 1200 mm wide x maximum practical length, ends square cut, edges bevelled.
- .2 Gypsum sheathing board: to ASTM C79/C79M, regular 13 mm thick
- .3 Glass mat gypsum substrate sheathing: to ASTM C1177/C1177M, 13 mm thick, 1200 mm wide x maximum practical length.
- .4 Steel drill screws: to ASTM C1002.
- .5 Casing beads, corner beads, control joints and edge trim: to ASTM C1047, zinc-coated by hot-dip process 0.5 mm base thickness, perforated flanges, one piece length per location.

Part 3 Execution

3.1 ERECTION

- .1 Do application and finishing of gypsum board in accordance with ASTM C840 except where specified otherwise.
- .2 Do application of gypsum sheathing in accordance with ASTM C1280.
- .3 Install work level to tolerance of 1:1200.
- .4 Install 19 x 64mm furring channels parallel to, and at exact locations of steel stud partition header track.
- .5 Furr duct shafts, beams, columns, pipes and exposed services where indicated.

3.2 APPLICATION

- .1 Do not apply gypsum board until bucks, anchors, blocking, sound attenuation, electrical and mechanical work are approved.
- .2 Apply gypsum board to metal furring or framing using screw fasteners. Maximum spacing of screws 300 mm on centre.
 - .1 Single-Layer Application:
 - .1 Apply gypsum board on ceilings prior to application of walls in accordance with ASTM C840.
 - .2 Apply gypsum board horizontally, providing sheet lengths that will minimize end joints.
 - .3 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, in partitions where perimeter sealed with acoustic sealant.
- .4 Install gypsum board with face side out.

- .5 Do not install damaged or damp boards.
- .6 Locate edge or end joints over supports. Stagger vertical joints over different studs on opposite sides of wall.

3.3 **INSTALLATION**

- .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. Secure at 150 mm on centre
- .2 Install casing beads where gypsum board butts against surfaces having no trim concealing junction and where indicated.
- .3 Install insulating strips continuously at edges of gypsum board and casing beads abutting metal window and exterior door frames, to provide thermal break.
- .4 Construct control joints of [preformed units] [two back-to-back casing beads] set in gypsum board facing and supported independently on both sides of joint.
- .5 Provide continuous polyethylene dust barrier behind and across control joints.
- .6 Locate control joints where indicated.
- .7 Install control joints straight and true.
- .8 Gypsum Board Finish: finish gypsum board walls and ceilings to following levels in accordance with Association of the Wall and Ceiling Industries (AWCI) International Recommended Specification on Levels of Gypsum Board Finish:
 - .1 Levels of finish:
 - .1 Level 2: Embed tape for joints and interior angles in joint compound and apply one separate coat of joint compound over joints, angles, fastener heads and accessories; surfaces free of excess joint compound; tool marks and ridges are acceptable.
 - .9 Finish corner beads, control joints and trim as required with two coats of joint compound and one coat of taping compound, feathered out onto panel faces.
 - .10 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.
 - .11 Sand lightly to remove burred edges and other imperfections. Avoid sanding adjacent surface of board.
 - .12 Completed installation to be smooth, level or plumb, free from waves and other defects and ready for surface finish.
 - .13 Apply one coat of white primer sealer over surface to be textured. When dry apply textured finish in accordance with manufacturer's instructions.
 - .14 Mix joint compound slightly thinner than for joint taping.
 - .15 Apply thin coat to entire surface using trowel or drywall broadknife to fill surface texture differences, variations or tool marks.

- .16 Allow skim coat to dry completely.
- .17 Remove ridges by light sanding or wiping with damp cloth.
- .18 Provide protection that ensures gypsum drywall work will remain without damage or deterioration at time of substantial completion.

END OF SECTION

Part 1 General

1.1 QUALITY CONTROL/SUBMITTALS

- .1 Perform painting Work by applicator with minimum five (5) years of proven, satisfactory and successful painting experience on projects of similar size and nature. Provide qualified crew of painters and full time review of Work by qualified supervisor for duration of Work.
- .2 Submit in writing list of proposed materials prepared by paint manufacturer, for approval at least sixty (30) days before materials are required. List shall bear Manufacturer's official certification that materials listed meet or exceed requirements specified herein. List shall contain following for record:
 - .1 Manufacturer's product number and application instructions
 - .2 Finish formula
 - .3 Product type
 - .4 CGSB number
 - .5 Colour number
 - .6 Maximum VOC classification
- .3 Samples: Submit at least fifteen (15) days prior to painting Work commencing at the Site (and resubmit until approved), two identified (with Project Name, the finish, colour name and number, sheen and gloss values) samples of the following:
 - .1 Each specified colour in each specified finish coat material on minimum 150 mm x 300 mm coated stock card
 - .2 Each natural wood finish on minimum 150 mm x 300 mm samples of each specified wood species to receive the finish

1.2 ENVIRONMENTAL REQUIREMENTS

- .1 Comply with requirements of WHMIS regarding use, handling, storage, and disposal of hazardous materials; and material safety data sheets acceptable to Ministry of Labour.
- .2 Provide paint products certified to meet the requirements of the Environmental Choice Program, Department of the Environment. Provide CSA Certification Reports that products proposed for use are certified under the Environmental Choice Program. Water based paints to be certified to ECP-07-89. Solvent based paints to be certified to ECP-12-89.
- .3 Arrange for ventilation system to be operated during application of paint. Ventilate area of Work by use of approved portable supply and exhaust fans. Provide continuous ventilation during and after application of paint. Run ventilation system 24 hours per day during installation; provide continuous ventilation for 7 days after completion of application of paint. Apply paint finishes only when temperature at location of installation can be

satisfactorily maintained within Manufacturer's recommendations. Substrate and ambient temperature shall be within limits prescribed by Manufacturer.

- .4 Maintain minimum interior temperature of 18°C (65°F) during application and drying of paint and maintain until building occupancy occurs. Do not undertake exterior painting if air and surface temperature are expected to fall below 10°C (50°F) before coating has dried. Avoid painting during winds, weather conditions which may affect paint application or following rain. Wait until frost, dew, or condensation has evaporated.
- .5 Provide heating to maintain minimum temperatures recommended by Manufacturers.
- .6 Apply paint finish only in areas where dust is no longer being generated by related construction operations such that airborne particles will not affect the quality of the finished surface. Apply paint only when surface to be painted is dry, properly cured and adequately prepared.
- .7 Protect floors of storage areas by means of tarpaulins and metal pans.
- .8 Provide a fully charged, ULC 10:BC rated, 9 kg carbon dioxide fire extinguisher immediately adjacent to the storage area for the entire time materials are stored in the area.
- .9 Deposit waste rags in metal containers with tight fitting metal lids and remove from the building at the end of each working shift.
- .10 Keep solvents for brush and roller cleaning in tightly sealed containers when not in use. Do not allow brushes and rollers to stand in solvents in open containers overnight.

1.3 PAINTING AND FINISHING WORK STANDARDS

- .1 The best practices specified or recommended in CAN/CGSB-85.100 are to govern for painting methods and procedures, unless specified otherwise in this Section.

1.4 COLOUR SELECTIONS

- .1 The colour will be to match the existing baseboards in hue and gloss (black; semi-gloss).

1.5 EXTRA STOCK

- .1 At date of Substantial Performance, supply and deliver to a designated storage area at the Site, sealed, original, fresh containers of each paint and finish product applied, and in each colour, all labelled as specified in this Section.
- .2 Supply one litre of extra stock for products for which less than 45 litres were used, 4 litres of extra stock when from 45 to 180 litres were used, and 10 litres of extra stock when in excess of 180 litres were used.

Part 2 Products

2.1 PAINTING, FINISHING AND COATING PRODUCTS

- .1 Unless otherwise specified, painting and protective coating products are specified in Part 3 of this Section and are the products of ICI/Glidden.
- .2 Painting and protective coating products fully equivalent to the ICI/Glidden products specified and supplied by the following manufacturers are acceptable:
 - .1 Sherwin Williams
 - .2 Benjamin Moore
 - .3 Pittsburgh Paints
- .3 Unless otherwise specified, paint is to be ready-mixed. Where Site mixing is required for certain products, mix in strict accordance with the manufacturer's instructions to produce smooth flowing materials with an easy-brushing consistency.
- .4 Gloss value will be determined in accordance with ASTM D523, Tentative Method of Test For 60 Deg. Specular Gloss. Gloss values for terminology specified are as follows:
 - .1 Flat - less than 8
 - .2 Eggshell - 25 to 35
 - .3 Semi-gloss - 45 to 55
 - .4 Gloss - in excess of 85
- .5 On walls no defects shall be visible from a distance of 1000 mm at 90 degree to surface. On ceilings no defects shall be visible from floor to surface when viewed using final lighting source. Final coat shall exhibit uniformity of colour and uniformity of sheen across full surface area.
- .6 Paint Colours:
 - .1 Match existing - black

Part 3 Execution

3.1 EXAMINATION OF SUBSTRATE

- .1 Examine surfaces to receive paint or protective coating to ensure that they are in the proper condition to be painted or coated. Commencement of painting and protective coating Work will be interpreted as acceptance of the surface to receive the Work. Correction of defective painting or protective coating Work resulting from application to unsatisfactory surfaces will be the responsibility of the painting Subcontractor.

3.2 SPECIAL CONDITIONS

- .1 Post "No Smoking" signs and ensure that spark-proof electrical equipment is used in areas where flammable painting products are applied or stored.
- .2 Post "Wet Paint" signs throughout freshly finished areas and remove when finishes are dry.
- .3 Prohibit traffic where possible, from areas where painting is being carried out until paint is cured.
- .4 Provide adequate ventilation. Where building is occupied, provide necessary air barrier to prevent fumes from entering occupied areas.
- .5 Prior to the application of special finishes, arrange for a meeting at the Site with the Contract Administrator and a representative of the special finishes manufacturers to discuss the condition of surfaces to receive painting, special finish, and application procedures.

3.3 PROTECTION

- .1 Cover or mask surfaces adjacent to those receiving treatment and finishing to protect the Work of others from damage and soil. Mask instruction and specification plates and controls attached to equipment being painted.
- .2 Take particular care in storage and mixing areas to ensure that tarpaulins and metal pans protect floors.
- .3 Coordinate with the appropriate trades for the removal from finished surfaces, storage and reinstallation after finish Work is completed of finish hardware, switch and receptacle plates, escutcheons, luminarie frames and similar items.

3.4 PREPARATION OF SURFACES

- .1 General
 - .1 Vacuum clean areas inside the building(s) immediately prior to commencing finishing work.
 - .2 Scrub mildewed surfaces with a solution of trisodium phosphate, bleach with a solution of one part sodium hydrochlorite (Javex) to three parts water, and rinse with clear water.
 - .3 Arrange for finishing hardware, electrical plates, accessories, and similar removable fittings on surfaces to be finished to be removed. Mask any other Work that is not removable.
 - .4 Prepare surfaces to be painted or coated such that the surfaces are thoroughly dry and free of chemicals, mortar splatters, organic matter, oil, grease, rust, scale, loose paint, and any other material, and such that the surfaces are in a proper condition to receive paint, stain, or other specified coating.

- .2 Cleaning Procedures:
 - .1 Surface preparation methods shall remove any contaminant that will interfere with full adhesion of protective painting and coating systems. Level of cleaning shall be based on Steel Structures Painting Council's (SSPC), recommended designations of metal cleaning procedures specified.
 - .2 SSPC-SP1 (Solvent Cleaning): Use of solvents (such as mineral spirits, xylene, toluene) or cleaning action to remove oil, grease, and soil drawing and cutting compounds or similar solvent soluble contaminants. Do not use gasoline or benzene.
- .3 Perform surface preparation work as follows:
 - .1 Woodwork for Painting: Seal all knots and sapwood in surfaces to receive paint with alcohol-based primer-sealer. Sand smooth rough surfaces of all woodwork to be finished and clean surfaces free of dust before applying first coat. Fill nail holes, splits and scratches with non-shrinking filler after first coat are dry. Remove salt deposits that may appear on wood surfaces treated with fire retarder.

3.5 GENERAL APPLICATION OF PAINT AND FINISHES

- .1 Verify by review of other Sections of this Specification, the extent of surfaces primed as part of the Work of other Sections, and include for priming of unprimed surfaces which are scheduled or specified to be painted.
- .2 Back prime fitments and similar Work as soon as it is delivered and before it is installed. Use exterior primer compatible with the finish coat for exterior Work, and enamel undercoat for interior Work to receive paint or enamel finishes. Prevent primer from running over faces.
- .3 Unless otherwise specified, apply paint by brush or rollers. Spray paint ceilings and exposed areas above the ceiling only when requested or approved by the Contract Administrator, and in other areas only when restricted to access and approved by the Contract Administrator. Discontinue spraying if prohibited by the Contract Administrator, because of inadequate coverage, overspray, paint fog drift, or disturbance to other Work.
- .4 Use only brushes for enamels for painting wood.
- .5 Provide finish uniform in sheen, colour, and texture, free from streaks, shiners and brush or roller marks or other defects. Apply materials in accordance with manufacturer' directions and specifications. Do not use adulterants.
- .6 Finishes and number of coats specified hereinafter in Finish Schedule are intended as minimum requirements guide only. Refer to Manufacturer's recommendations for exact instructions for thickness of coating to obtain optimum coverage and appearance. Some materials and colours may require additional coats and deeper colours may require use of Manufacturers' special tinted primers. Unless otherwise specified, provide three coats finish as minimum finish. Obtain colour chart giving colour schemes and gloss value for various areas from City. Colour chart shall give final selection of colours and surface textures of all finishes, and whether finishes are transparent (natural) or opaque (paint).

- .7 Advise when each applied paint coat can be inspected. Do not recoat without inspection. Tint each coat slightly to differentiate between applied coats. Sand smooth enamel and varnish undercoats prior to recoating. Apply primer coat soon after surface preparation is completed to prevent contamination of substrate.
- .8 Maintain at the Site at all times until the Work is completed, a moisture meter, hygrometer, and thermometer to verify surface and environmental conditions.
- .9 Perform painting and coating Work under supervision of an experienced foreman using clean equipment designed for the purpose used.
- .10 Unless otherwise specified, follow the specific instructions of the Manufacturer(s) of the products used.
- .11 Apply finishing products to provide full coverage at a rate not to exceed that stated by the Manufacturer for applicable surface, free from perceptible defects, and with even colour, sheen, and texture. Vary the tone of each coat slightly to permit supervision identity.
- .12 Make clean, true junctions with no overlap between adjoining applications of finish coatings.
- .13 Use products of a single manufacturer in each coating application.
- .14 Apply each coat only after the preceding coat is dry and hard, or as otherwise directed by the product manufacturer.
- .15 Sand wood and metal surfaces lightly with No. 00 sandpaper between coats.
- .16 Use paint or finish thinners only where specified or directed by the paint manufacturer.
- .17 Apply paint and coatings only when the ambient temperature and the temperature of the surface to be painted exceed 4.4°C, except for materials and locations listed below where ambient and surface temperatures must exceed the temperatures stated:
 - .1 Enamels for all surfaces - 21°C.
- .18 Do not:
 - .1 Apply exterior finishes when relative humidity exceeds 85%.
 - .2 Apply finishes when dust is being raised.
 - .3 Apply finishes to cement board products, that contain in excess of 12% moisture, or to wood products that contain in excess of 15%
- .19 Paint the following items:
 - .1 New baseboards

3.6 PAINT FORMULA:

- .1 Apply paint to surfaces with the following:
 - .1 Wood, for Paint Finish:
 - .1 One coat Glidden Alkyd Enamel Undercoat # 9431 at 1.0 to 1.5 mils DFT.
 - .2 Two coats DevGuard 4308 Alkyd Industrial Gloss Enamel at 1.5 to 2.0 mils DFT.

3.7 ADJUSTMENT AND CLEANING

- .1 Touch up and refinish minor defective Work. Refinish the entire surface where the finish is damaged or not acceptable, including areas exhibiting incomplete or unsatisfactory coverage. Patching will not be permitted.
- .2 Remove spilled or splattered finish materials from surfaces of Work performed under other Sections. Do not mar surfaces while removing.
- .3 Clean and make good surfaces soiled or otherwise damaged in connection with work of this Section. Pay the cost of replacing finishes or components that cannot be satisfactorily cleaned.
- .4 Upon completion, remove masking and clean adjacent surfaces free of over spray spatters, drips, smears and over spray.

3.8 DISPOSAL OF PAINT WASTE

- .1 Be responsible for removal and disposal of material and waste generated by this Section.
- .2 Remove empty and partly used containers from Site and recycle or dispose of as Hazardous Waste in accordance with local municipal, provincial, and federal environmental regulations. Provide proof of such action in form of receipts of tipping fees, disposal fees, or bills of lading, as applicable.
- .3 Remove from Site peripheral items, such as clean up solvents, paintbrushes, rags, and similar items and dispose of where necessary in accordance with local municipal, provincial, and federal environmental regulations.
- .4 Do not rinse off of latex paints from brushes and rags under running water tap. While Work is ongoing, whether using latex or alkyd products, rinse off all brushes and rags in container with appropriate solvent (water or paint thinner). Leave such container in well-lit and well-ventilated area, away from any flammable conditions. Dispose of emulsion created in accordance with local municipal, provincial, and federal environmental regulations.
- .5 Wipe or drain clean empty containers. Allow remaining film to dry before disposal. Recycle metal containers and dispose of containers which are not recyclable. Ensure non-recyclable containers are acceptable to disposal recipient authority.
- .6 Dispose paint that cannot be recycled as hazardous waste. Generators of Hazardous Waste shall be registered and disposal shall be in accordance with regulations of authorities. When

handling coating materials, approved vapour/particulate respirator shall be worn as protection from solvent vapours; dust respirators are not acceptable.

- .7 Remove cleanup solvents and recycle if possible.
- .8 Treat non-recyclable thinners and paint sludge as hazardous waste.

3.9 WARRANTY

- .1 Warrant Work against defects in material and quality of performance for a period of two (2) years.

END OF SECTION

Part 1 General

1.1 REFERENCES

- .1 ASTM D 968 (Federal Test Standard 141A Method 6191) Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive.
- .2 ASTM D 2247 (Federal Test Standard 141A Method 6201) Standard Practice for Testing Water Resistance of Coatings in 100% Relative Humidity.
- .3 ASTM D 3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
- .4 ASTM D 4060 Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser.
- .5 ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Materials.
- .6 ASTM E 96 Standard Test Method for Water Vapor Transmission of Materials.
- .7 DSC152, Dryvit Cleaning and Recoating.
- .8 DSC153, Expansion Joints/Sealants.
- .9 DSC159, Dryvit Water Vapor Transmission.
- .10 DSC193, Dryvit ICF Finish System Details.
- .11 DSC194, Dryvit ICF Finish System Specifications.

1.2 DEFINITIONS

- .1 Contractor: The contractor that applies materials to the substrate.
- .2 Dryvit: Dryvit Systems Canada, the manufacturer of the coating materials, a Canadian corporation.
- .3 Lamina: The layer consisting of the reinforced base coat and finish materials.
- .4 Finish: An acrylic based finish, available in a variety of textures and colors, which is applied to the prepared wall surface.
- .5 Reinforced Base Coat: The layer consisting of fiberglass reinforcing mesh fully embedded in the base coat material applied to the outside surface of the substrate.
- .6 Reinforcing Mesh: Glass fiber mesh used to reinforce the base coat.
- .7 Substrate: The material to which Dryvit TAFS are applied.

1.3 DESCRIPTION

- .1 Dryvit TAFS Option 1:
 - .1 Dryvit TAFS Option 1 consisting of a Dryvit acrylic primer and Dryvit finish applied to various substrates.
- .2 Substrate
 - .1 13 mm reinforced cement board
- .3 Deflection of substrate systems shall not exceed 1/240 times the span.
- .4 Substrate systems shall be designed to meet all local building code requirements and shall be approved for use on this project.
- .5 The substrate shall be clean, smooth, planar and free of surface imperfections that would interfere with application of a surface coating.
- .6 Sealants
 - .1 Shall be manufactured and supplied by others
 - .2 Shall be compatible with Dryvit TAFS materials. Refer to current Dryvit publication DSC153 for listing of sealants tested by sealant manufacturers for compatibility.

- .3 The sealant backer rod shall be closed cell.
- .7 Performance Requirements: As a minimum the Dryvit materials shall be tested as follows:
- .1 Durability:
 - .2

TEST	TEST METHOD	CRITERIA	RESULTS
Abrasion Resistance	ASTM D 968	No deleterious effects after 500 liters (528 quarts)	No deleterious effects after 1000 liters (1056 quarts)
Accelerated Weathering	ASTM G 155 Cycle 1	No deleterious effects after 2000 hours	No deleterious effects after 5000 hours
	ASTM G 154 Cycle 1 (QUV)		No deleterious effects after 5000 hours
Freeze-Thaw	EIMA 101.01	No deleterious effects after 60 cycles	Passed - No deleterious effects after 90 cycles
	ASTM C 67 modified	No deleterious effects after 60 cycles	Passed - No deleterious effects after 60 cycles
	ICC ES Procedure	No deleterious effects after 10 cycles	Passed - No deleterious effects after 10 cycles
Mildew Resistance	ASTM D 3273	No growth during 28 day exposure period	No growth during 60 day exposure period
Moisture Resistance	ASTM D 2247	No deleterious effects after 14 days exposure	No deleterious effects after 42 days exposure
Taber Abrasion	ASTM D 4060	N/A	Passed 1000 cycles
Salt Spray Resistance	ASTM B 117	No deleterious effects after 300 hours exposure	No deleterious effects after 1000 hours exposure
Water Penetration***	ASTM E 331 ICC ES (AC219)	No water penetration beyond the inner-most plane of the wall after 2 hours at 300 Pa (6.24 psf)	Passed
Alkali Resistance of Reinforcing Mesh	ASTM E 2098 (formerly EIMA 105.01)	> 21dN/cm (120 pli) retained tensile strength after exposure	Passed
Water Vapor Transmission	ASTM E 96	Vapor permeable	EPS 5 perm-inch Base Coat* 40 Perms Finish** 40 perms
* Based on Dryvit Genesis® ** Based on Dryvit Quarzputz® *** TAFS Option 2			

.8 Impact Resistance: In accordance with EIMA Standard 101.86

Reinforcing Mesh/Weight g/m ² (oz/yd ²)	Minimum Tensile Strengths	EIMA Impact Classification	EIMA Impact Range		Impact Test Results	
			Joules	(in-lbs)	Joules	(in-lbs)
Standard - 146 (4.3)	27 g/cm (150 lbs/in)	Standard	3-6	(25-49)	4	(36)
Standard Plus™ - 203 (6)	36 g/cm (200 lbs/in)	Medium	6-10	(50-89)	6	(56)

Intermediate® - 407 (12)	54 g/cm (300 lbs/in)	High	10-17	(90-150)	12	(108)
Panzer® 15 * - 509 (15)	71 g/cm (400 lbs/in)	Ultra High	>17	(>150)	18	(162)
Panzer 20 * - 695 (20.5)	98 g/cm (550 lbs/in)	Ultra High	>17	(>150)	40	(352)
Detail® Short Rolls - 146 (4.3)	27 g/cm (150 lbs/in)	n/a	n/a	n/a	n/a	n/a
Corner Mesh™ - 244 (7.2)	49 g/cm (274 lbs/in)	n/a	n/a	n/a	n/a	n/a
*Shall be used in conjunction with Standard Mesh Values based on testing over EPS substrate						

.9 Fire performance

TEST	TEST METHOD	CRITERIA	RESULTS
Flame Spread	ASTM E 84	All components shall have a Flame Spread Index ≤ 25 Smoke Developed Index ≤ 450	Passed

1.4 SUBMITTALS

- .1 Product Data: The contractor shall submit to the owner/architect manufacturer's product data sheets describing products, which will be used on the project.
- .2 Samples: The contractor shall submit to the owner/architect two samples of each finish, texture, and color to be used on the project. The same tools and techniques proposed for the actual installation shall be used to prepare the samples. Samples shall be of sufficient size to accurately represent each color and texture to be utilized on the project.
- .3 Test Reports: When requested, the contractor shall submit to the owner/architect copies of selected test reports verifying the performance of the system materials.

1.5 QUALITY ASSURANCE

- .1 Qualifications
 - .1 Manufacturer: Shall be Dryvit Systems Canada. All materials shall be manufactured or sold by Dryvit and shall be purchased from Dryvit or its authorized distributor.
 - .1 Materials shall be manufactured at a facility covered by a current ISO 9001:2000 certification. Certification of the facility shall be done by a registrar accredited by the American National Standards Institute, Registrar Accreditation Board (ANSI-RAB).
 - .2 Contractor: Shall be knowledgeable in the installation of the Dryvit materials and shall be experienced and competent in the application of Dryvit Textured Acrylic Finishes. Additionally, the contractor shall possess a current trained contractor certificate** from Dryvit for any of its Exterior Insulation and Finish Systems.

1.6 DELIVERY, STORAGE, AND HADLING

- .1 All Dryvit materials shall be delivered to the job site in the original, unopened packages with labels intact.
- .2 Upon arrival, materials shall be inspected for physical damage, freezing, or overheating. Questionable materials shall not be used.

- .1 Materials shall be stored at the job site in a cool, dry location, out of direct sunlight, protected from weather and other sources of damage. Minimum storage temperature shall be as follows:
 - .1 Refer to specific product data sheet.
 - .2 Maximum storage temperature shall not exceed 38 °C (100 °F). NOTE: Minimize exposure of materials to temperatures over 32 °C (90 °F). Finishes exposed to temperatures over 43 °C (110 °F) for even short periods may exhibit skinning, increased viscosity and should be inspected prior to use.
- .3 Protect all products from inclement weather and direct sunlight.

1.7 PROJECT CONDITIONS

- .1 Existing Conditions: The contractor shall have access to electric power, clean water, and a clean work area at the location where the Dryvit materials are to be applied.

1.8 SEQUENCING AND SCHEDULING

- .1 Installation of the Dryvit Textured Acrylic Finishes shall be coordinated with other construction trades.
- .2 Sufficient manpower and equipment shall be employed to ensure a continuous operation, free of cold joints, scaffold lines, texture variations, etc.

1.9 LIMITED MATERIALS WARRANTY

- .1 Dryvit Systems Canada shall provide a written, 10-year limited materials warranty against defective materials, upon written request. Dryvit shall make no other warranties, expressed or implied. Dryvit is not liable for incidental or consequential damages. Dryvit does not warrant workmanship.
- .2 The applicator shall warrant workmanship separately. Dryvit shall not be responsible for workmanship associated with the installation of the Dryvit Textured Acrylic Finishes.

Part 2 Product

3.1 MANUFACTURER

- .1 All Dryvit Textured Acrylic Finishes shall be obtained from Dryvit or its authorized distributors. Substitutions or additions of materials other than specified will void the warranty.

3.2 MATERIALS

- .2 Portland Cement: Shall be Type I or II, meeting ASTM C 150, white or gray in color, fresh and free of lumps.
- .3 Water: Shall be clean and free of foreign matter.

3.3 COMPONENTS

- .1 Primers and Adhesion Promoter
 - .1 Color Prime-W™: A water based acrylic, semi transparent primer for use over cement plaster and other cementitious substrates.
- .2 5. Medallion Series PMR (Proven Mildew Resistance): Water-based acrylic coating with integral color and texture and formulated with PMR chemistry:
 - .1 Quarzputz® PMR
- .3 6. Coatings and Sealers:
 - .1 SealClear™

Part 3 Execution

3.1 EXAMINATION

- .1 Prior to application of Dryvit TAFS, the contractor shall ensure that the substrate is of a type listed in Section 1.04.B.1
- .2 The contractor shall notify the general contractor and/or architect and/or owner of all discrepancies. Work shall not proceed until discrepancies have been corrected.

3.2 SURFACE PREPARATION

- .1 The substrates shall be prepared so as to be free of foreign materials such as oil, dust, dirt, form-release agents, efflorescence, paint, wax, water repellents, moisture, frost and any other materials that inhibit adhesion.
- .2 F. Exterior Cement Board
 - .1 Board surfaces shall be clean, dry and free of dust or other contaminants.
 - .2 All fasteners shall be corrosion resistant and installed in a manner as to be flush with the surface of the board.

3.3 INSTALLATION

- .1 The Dryvit materials shall be mixed and applied in accordance with current Dryvit printed product data sheets.
- .2 Exterior Cement Boards
 - .1 If base coat is not specified, using a brush, roller, or airless spray equipment, apply a coat of Color Prime Color Prime-W, or Primer with Sand over the face of the sheathing board and allow to dry.
 - .2 Apply the finish in accordance with Dryvit's printed installation instructions for the specified finish.

3.4 FIELD QUALITY CONTROL

- .1 The contractor shall be responsible for the proper application of Dryvit TAFS.
- .2 Dryvit assumes no responsibility for on-site inspections or application of its products.
- .3 If required, the contractor shall certify in writing the quality of work performed relative to the substrate system, details, installation procedures, workmanship and as to the specific products used.

- .4 If required, the sealant contractor shall certify in writing that the sealant application is in accordance with the sealant manufacturer's and Dryvit's recommendations.

3.5 CLEANING

- .1 All excess Dryvit materials shall be removed from the job site by the contractor in accordance with contract provisions and as required by applicable law.
- .2 All surrounding areas, where Dryvit TAFS have been installed, shall be left free of debris and foreign substances resulting from the contractor's work.

3.6 PROTECTION

- .3 Dryvit TAFS shall be protected from weather and other sources of damage until dry and permanent protection in the form of flashings, sealants, etc. are installed.

END OF SECTION