Part 1 General

1.1 WORK INCLUDED

.1 Stud System for exterior infill walls

.2 Stud System for parapets

Part 2 Products

2.1 MATERIALS

.1 Non-load bearing interior wall framing system: to ASTM C64576; stud sizes as indicated; roll formed from core thickness as indicated, electro-galvanized steel sheet; for screw attachment of gypsum board. Knockout service holes at 450mm o/c.

Part 3 Execution

3.1 ERECTION

.1 Provide partition tracks at base and deck. Align accurately. Secure at 600 mm o.c. maximum.

.2 Erect studs to tolerance of 1:1000

.3 Place studs vertically at 400 mm spacing or as indicated and not more than 50 mm from abutting walls, and at each side of openings and corners. Position studs in tracks at base and deck. Cross brace steel studs as required to provide rigid installation to manufacturer's instructions.

.4 Coordinate simultaneous erections of studs with installation of service lines. When erecting studs ensure web openings are aligned.

END OF SECTION

Part 1 General

1.1 WORK INCLUDED

.1 Provide all labour, materials, methods, equipment, accessories to complete exterior wall stucco systems.
- .1 Exterior stucco systems with coloured finish coats
- .2 Metal suspension system, metal lath, metal furring, reinforcing mesh.
- .3 Metal accessories, trims, control joints.

1.2 RELATED DOCUMENTS

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

1.3 SAMPLES

.1 Submit samples of any and all materials, stucco finishes requested, 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.

1.4 CODES/STANDARDS

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

1.5 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 weather tight 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.

1.6 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 5^0C, below 38^0C 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 5^0C within 4 weeks after application.

Part 2 Products

2.1 MATERIALS

.1 Water: to CSA A 179-M1976, clean, fresh, potable, free of acid, alum, oils, alkalis, 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 Base coat: Imasco “great coat” system c/w reinforcing fibres

.5 Finish Coat: ‘Knock-down’ Finish, Custom colour additives: pre-manufactured precision formulated custom colour pigments in dry powder form for addition to Imasco Premix 1000 stucco finish coat mixes, (2) colours to be selected by Contract Administrator.

.6 Metal lath: to ASTM C841, CSA A82.30-M1980, Table 1 self-furring, diamond mesh, 3.4lb./sq yd., galvanized.

.7 Tie wire: No. 16 gauge galvanized soft annealed steel.

.8 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 stud, steel furring systems, to securely retain lath to Contract Administrator approval.

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

.8 Weather Barrier – Spun – bond Olefin, “Tyvec” commercial grade.

2.2 STUCCO, CEMENT PARGING MIXES

.1 Mix stucco, cement plaster parging in accordance with CSA A82.30-1980.

.2 Mechanically mix exterior wall stucco systems base coats, finish coats in strict accordance with manufacturer instructions, their field representative directions.

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 form marking, staining, other damage, etc. use non-staining covers.

.2 Provide adequate protection from contaminates 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 METAL LATH

.1 Apply metal lath horizontally over building paper, secure to Insulok channels of insulation system where indicated with approved metal screw fasteners 24” o.c. horizontally, 6” o.c. vertically, at each bearing.

.2 Apply metal lath horizontally over Tyvec, to wood stud framing through sheathing with approved metal screw fasteners 16” o.c. horizontally, 6” o.c. vertically, at each bearing.

.3 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. 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.

3.4 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.

3.5 CONTROL, EXPANSION JOINT INSTALLATION

.1 Locate control/expansion joints at dis-similar materials, building expansion/control joints, wall spacing indicated, as required by Contract Administrator.

3.6 STUCCO INSTALLATION

.1 Apply stucco system to clean, adequately prepared surfaces free from dust, dirt or other deleterious substances.

.2 Apply scratch coat to completely embed lath to minimum thickness 1/2", allow 1/8" shallow scoring of surface. Allow to stiffen on wall surfaces, hard and rigid on horizontal soffit surfaces.

.3 Apply brown coat to 1/2" thickness over fine spray dampened scratch coat with sufficient pressure to ensure tight, uniform bond to scratch coat, to bring combined total thickness to 3/4".

.4 Rod brown coat to true, even plane, filling surface defects. Trowel float surfaces uniformly after it has set, when moisture still present.

.5 Moist cure stucco base coats if required by climatic conditions to maintain uniformly moist for minimum 48 hours. Provide adequate protection to retard evaporation when extreme conditions, hot, dry, windy weather occur. Use plastic sheets, other approved coverings.

.6 Prepare, mix, apply stucco finish coat systems in strict accordance with Imasco Minerals Inc. written instructions, recommendation.

.7 Install finish coat systems with enough worker to apply material in one continuous operation to finish entire sections of wall, soffit areas at one time. Interrupt applications only at natural breaks, expansion joints, change of plane, etc.

.8 Avoid application of separate batches of finish side by side, in direct sunlight or excessive wind, late in day if dew imminent, temperature below 5^0 C in 24 hours.

.9 Spread on even coat of finish coat material using a trowel, always working away from a wet edge.

.10 Use pairs of applicators with first person applying finish, second person floating or trowelling finish to desired texture.

.11 Cure applied finish coat materials in strict accordance with Imasco Minerals Inc. system requirements.

.12 Provide adequate protection, including plastic sheet coverings, to retard evaporation when extreme conditions occur.

.13 Allow finish coat “Premix 1000” a minimum of 24 hours to set, with sufficient moisture retained, applied for proper hydration, prevent shrinkage.

3.7 CLEAN – UP

.1 Clean up rubbish, debris, resulting from work promptly as proceeds, at conclusion, at other times directed by Contractor. Remove from job site.

END OF SECTION

Part 1 General

1.1 REFERENCES

.1 Architectural Painting Specifications Manual, Master Painters Institute (MPI).

.2 Systems and Specifications Manual, SSPC Painting Manual, Volume Two, Society for Protective Coatings (SSPC).

.3 National Fire Code of Canada.

1.2 QUALITY ASSURANCE

.1 Contractor shall have a minimum of five years proven satisfactory experience. When requested, provide a list of last three comparable jobs including, job name and location, specifying authority, and project manager.

.2 Qualified journeymen who have a "Tradesman Qualification Certificate of Proficiency" shall be engaged in painting work. Apprentices may be employed provided they work under the direct supervision of a qualified journeyman in accordance with trade regulations.

.3 Conform to latest MPI requirements for exterior painting work including preparation and priming.

.4 Materials (primers, paints, coatings, varnishes, stains, lacquers, fillers, thinners, solvents, etc.) shall be in accordance with Section 05 12 23 for metal primers and paint of same manufacturer as primers. All products shall be from a single manufacturer for each system used.

.5 Other paint materials such as linseed oil, shellac, turpentine, etc. shall be the highest quality product of an approved manufacturer listed in MPI Painting Specification Manual and shall be compatible with other coating materials as required.

.6 Retain purchase orders, invoices and other documents to prove conformance with noted MPI requirements when requested by Contract Administrator.

.7 Standard of Acceptance:

.1 Walls: No defects visible from a distance of 1000 mm at 90^0 to surface.

.2 Final coat to exhibit uniformity of colour and uniformity of sheen across full surface area.

1.3 SCHEDULING OF WORK

.1 Submit work schedule for various stages of painting to Contract Administrator for approval. Submit schedule minimum of 48 hours in advance of proposed operations.

.2 Obtain written authorization from Contract Administrator for changes in work schedule.

.3 Schedule painting operations to prevent disruption of occupants in and about the building.

1.4 SUBMITTALS

.1 Submit product data and manufacturer's installation/application instructions for paints and coating products to be used.

.2 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 number(s).
.4 Manufacturer's Material Safety Data Sheets (MSDS).

1.5 SAMPLES

.1 Submit samples:

.1 Submit duplicate 200 x 300 mm sample panels of each paint with specified paint or coating in colours, gloss/sheen and textures required to MPI Painting Specification

.2 When approved, samples shall become acceptable standard of quality for appropriate on-site surface with one of each sample retained on-site.

.3 Submit full range of available colours where colour availability is restricted.

1.6 DELIVERY, HANDLING AND STORAGE

.1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.

.2 Deliver and store materials in original containers, sealed, with labels intact.

.3 Labels shall 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.

.4 Remove damaged, opened and rejected materials from site.

.5 Provide and maintain dry, temperature controlled, secure storage.

.6 Observe manufacturer's recommendations for storage and handling.

.7 Store materials and supplies away from heat generating devices.

.8 Store materials and equipment in a well ventilated area with temperature range 7^0C to 30^0C.

.9 Store temperature sensitive products above minimum temperature as recommended by manufacturer.

.10 Keep areas used for storage, cleaning and preparation, clean and orderly to approval of Contract Administrator. After completion of operations, return areas to clean condition to approval of Contract Administrator.

.11 Remove paint materials from storage only in quantities required for same day use.

.12 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling storage, and disposal of hazardous materials.

.13 Fire Safety Requirements:

.1 Provide one 9 kg Type ABC [dry chemical] 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 SITE REQUIREMENTS

.1 Heating, Ventilation and Lighting:

.1 Ventilate enclosed spaces .

.2 Perform no painting work unless adequate and continuous ventilation and sufficient heating facilities are in place to maintain ambient air and substrate temperatures above 10^0C for 24 hours before, during and after paint application until paint has cured sufficiently.

.3 Where required, provide continuous ventilation for .seven. days after completion of application of paint.

.4 Provide temporary ventilating and heating equipment where permanent facilities are not available or supplemental ventilating and heating equipment if ventilation and heating from existing system is inadequate to meet minimum requirements.

.5 Perform no painting work unless a minimum lighting level of 323 Lux is provided on surfaces to be painted. Adequate lighting facilities shall be provided by General Contractor.

.2 Temperature, Humidity and Substrate Moisture Content Levels:

.1 Unless specifically pre-approved by specifying body, Paint Inspection Agency and, applied product manufacturer, perform no painting work when:

.1 ambient air and substrate temperatures are below 10 ^{0}C.

.2 substrate temperature is over 32 ^{0}C unless paint is specifically formulated for application at high temperatures.

.3 substrate and ambient air temperatures are expected to fall outside MPI or paint manufacturer's prescribed limits.

.4 the relative humidity is above 85% or when dew point is less than 3 ^{0}C variance between air/surface temperature.

.5 rain or snow are forecast to occur before paint has thoroughly cured or when it is foggy, misty, raining or snowing at site.

.2 Perform no painting work when maximum moisture content of substrate exceeds:

.1 12% for concrete and masonry (clay and concrete brick/block).

.2 15% for wood.

.3 Conduct moisture tests using a properly calibrated electronic Moisture Meter, except test concrete floors for moisture using a simple "cover patch test".

.4 Test concrete, masonry and plaster surfaces for alkalinity as required.

.3 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 Apply paint only to adequately prepared surfaces and to surfaces within moisture limits noted herein.

.3 Apply paint only when previous coat of paint is dry or adequately cured.

.4 Apply paint finishes only when conditions forecast for entire period of application fall within manufacturer's recommendations.

.5 Do not apply paint when:

.1 Temperature is expected to drop below 10 ^{0}C before paint has thoroughly cured.

.2 Substrate and ambient air temperatures are expected to fall outside MPI or paint manufacturer's limits.

.3 Surface to be painted is wet, damp or frosted.

.6 Provide and maintain cover when paint must be applied in damp or cold weather. Heat substrates and surrounding air to comply with temperature and humidity conditions specified by manufacturer. Protect until paint is dry or until weather conditions are suitable.

.7 Schedule painting operations such that surfaces exposed to direct, intense sunlight are scheduled for completion during early morning.

.8 Remove paint from areas which have been exposed to freezing, excess humidity, rain, snow or condensation. Prepare surface again and repaint.

.9 Paint occupied facilities in accordance with approved schedule only. Schedule operations to approval of the Contract Administrator such that painted surfaces will have dried and cured sufficiently before occupants are affected.

Part 2 Products

2.1 MATERIALS

.1 Paint primers shall be of appropriate application as per manufacturer's recommendations.

.2 Paint materials for paint systems shall be products of a single manufacturer.

2.2 COLOURS

.1 Contract Administrator will provide Colour Schedule after Contract award Colour schedule will include one trim colour for flashings, trims and door frames, and one colour for doors.

.2 Selection of colours will be from manufacturer's full range of colours.

.3 Where specific products are available in a restricted range of colours, selection will be based on the limited range.

.4 Second coat in a three coat system to be tinted slightly lighter colour than top coat to show visible difference between coats.

2.3 MIXING AND TINTING

.1 Perform colour tinting operations prior to delivery of paint to site. On-site tinting of painting materials is allowed only with Contract Administrator's written permission.

.2 Paste, powder or catalyzed paint mixes shall be mixed in strict accordance with manufacturer's written instructions.

.3 Where thinner is used, addition shall not exceed paint manufacturer's recommendations. Do not use kerosene or any such organic solvents to thin water-based paints.

.4 Thin paint for spraying according in strict accordance with paint manufacturer's instructions. If directions are not on container, obtain instructions in writing from manufacturer and provide copy of instructions to Contract Administrator.

.5 Re-mix paint in containers prior to and during application to ensure break-up of lumps, complete dispersion of settled pigment, and colour and gloss uniformity.

2.4 GLOSS/SHEEN RATINGS

.1 Paint gloss shall be defined as the sheen rating of applied paint, in accordance with the following values:

Gloss Level Category/	Units @ 60E/	Units @ 60E/
G1 - matte finish	0 to 5	max. 10
G2 - velvet finish	0 to 10	10 to 35
G3 - eggshell finish	10 to 25	10 to 35
G4 - satin finish	20 to 35	min. 35
G5 - semi-gloss finish	35 to 70	
G6 - gloss finish	70 to 85	

Gloss Level Category/ G7 - high gloss finish	Units @ 60E/ > 85	Units @ 60E/

.2 Gloss level ratings of painted surfaces shall be 50

2.5 EXTERIOR PAINTING SYSTEMS

.1 Concrete Surfaces:

.1 EXT 3.1K - Latex finish (over alkali resistant primer).

.2 Structural Steel and Metal Fabrications:

.1 EXT 5.1D - Alkyd finish.

Part 3 Execution

3.1 GENERAL

.1 Perform preparation and operations for exterior painting in accordance with MPI Painting Specifications Manual except where specified otherwise.

.2 Apply paint materials in accordance with paint manufacturer's written application instructions.

3.2 EXISTING CONDITIONS

.1 Investigate existing substrates for problems related to proper and complete preparation of surfaces to be painted. Report to Contract Administrator damages, defects, unsatisfactory or unfavourable conditions before proceeding with work.

.2 Conduct moisture testing of surfaces to be painted using a properly calibrated electronic moisture meter, except test concrete floors for moisture using a simple "cover patch test" and report findings to Contract Administrator. Do not proceed with work until conditions fall within acceptable range as recommended by manufacturer.

3.3 PROTECTION

.1 Protect existing building surfaces and adjacent structures from paint spatters, markings and other damage by suitable non-staining covers or masking. If damaged, clean and restore such surfaces as directed by Contract Administrator.

.2 Protect items that are permanently attached such as Fire Labels on doors and frames.

.3 Protect factory finished products and equipment.

.4 Protect passing pedestrians, building occupants and general public in and about the building.

.5 Removal of light fixtures, surface hardware on doors, and other surface mounted equipment, fittings and fastenings shall be done prior to undertaking painting operations

by General Contractor. Items shall be securely stored and re-installed after painting is completed by General Contractor.

.6 Move and cover exterior furniture and portable equipment as necessary to carry out painting operations. Replace as painting operations progress.

.7 As painting operations progress, place "WET PAINT" signs in pedestrian and vehicle traffic areas to approval of Contract Administrator.

3.4 CLEANING AND PREPARATION

.1 Clean and prepare exterior surfaces in accordance with MPI Painting Specification Manual requirements. Refer to the MPI Manual in regard to specific requirements and as follows:

.1 Remove dust, dirt, and other surface debris by brushing, wiping with dry, clean cloths or compressed air.

.2 Wash surfaces with a biodegradable detergent (and bleach where applicable) and clean warm water using a stiff bristle brush to remove dirt, oil and other surface contaminants.

.3 Rinse scrubbed surfaces with clean water until foreign matter is flushed from surface.

.4 Allow surfaces to drain completely and allow to dry thoroughly.

.5 Prepare surfaces for water-based painting, water-based cleaners should be used in place of organic solvents.

.6 Use trigger operated spray nozzles for water hoses.

.7 Many water-based paints cannot be removed with water once dried. However, minimize the use of kerosene or any such organic solvents to clean up water-based paints.

.2 Prevent contamination of cleaned surfaces by salts, acids, alkalis, other corrosive chemicals, grease, oil and solvents before prime coat is applied and between applications of remaining coats. Apply primer, paint, or pretreatment as soon as possible after cleaning and before deterioration occurs.

.3 Clean metal surfaces to be painted by removing rust, loose mill scale, welding slag, dirt, oil, grease and other foreign substances in accordance with MPI requirements. Remove traces of blast products from surfaces, pockets and corners to be painted by [brushing with clean brushes blowing with clean dry compressed air, or brushing/vacuum cleaning.

.4 Touch up of shop primers with primer as specified in applicable section. Major touch-up including cleaning and painting of field connections, welds, rivets, nuts, washers, bolts, and damaged or defective paint and rusted areas, shall be by supplier of fabricated material.

.5 Do not apply paint until prepared surfaces have been accepted by the Contract Administrator.

3.5 APPLICATION

.1 Method of application to be as approved by Contract Administrator. Apply paint by brush, roller. Conform to manufacturer's application instructions unless specified otherwise.

.2 Brush and Roller Application:

.1 Apply paint in a uniform layer using brush and/or roller of types suitable for application.

.2 Work paint into cracks, crevices and corners.

.3 Paint surfaces and corners not accessible to brush using spray, daubers and/or sheepskins. Paint surfaces and corners not accessible to roller using brush, daubers or sheepskins.

.4 Brush and/or roll out runs and sags, and over-lap marks. Rolled surfaces shall be free of roller tracking and heavy stipple unless approved by Contract Administrator.

.5 Remove runs, sags and brush marks from finished work and repaint.

.3 Use dipping, sheepskins or daubers only when no other method is practical in places of difficult access and only when specifically authorized by Contract Administrator.

.4 Apply coats of paint as a continuous film of uniform thickness. Repaint thin spots or bare areas before next coat of paint is applied.

.5 Allow surfaces to dry and properly cure after cleaning and between subsequent coats for minimum time period as recommended by manufacturer.

.6 Sand and dust between coats to remove visible defects.

.7 Finish surfaces both above and below sight lines as specified for surrounding surfaces, including such surfaces as projecting ledges.

.8 Finish top, bottom, edges and cutouts of doors after fitting as specified for door surfaces.

3.6 FIELD QUALITY CONTROL

.1 Advise Contract Administrator when each surface and applied coating is ready for inspection. Do not proceed with subsequent coats until previous coat has been approved.

3.7 RESTORATION

.1 Clean and re-install all hardware items removed before undertaken painting operations.

.2 Remove protective coverings and warning signs as soon as practical after operations cease.

.3 Remove paint splashings on exposed surfaces that were not painted. Remove smears and spatter immediately as operations progress, using compatible solvent.

.4 Protect freshly completed surfaces from paint droppings and dust to approval of Contract Administrator. Avoid scuffing newly applied paint.

.5 Restore areas used for storage, cleaning, mixing and handling of paint to clean condition as approved by Contract Administrator.

END OF SECTION