

Guide Specification for Imasco Traditional Stucco System

*SPEC NOTE: Use this specification section when a comprehensive specification is required to specify stucco work using the following Imasco **Traditional Stucco System**:*

¾" system with Premix or Premix 1000 colored cement based stucco finish.

See Quality Assurance for limitations when using a single base coat system.

PART 1 - GENERAL

1.1 Description:

- .1 All labour, materials, tools and other equipment, services and supervision required to complete all stucco work as indicated on drawings and as specified herein.
- .2 Work under this Contract shall also include, but not necessarily be limited to the supply and/or installation of the following:

SPEC NOTE: Delete, revise or add below to suit project requirements and provide required information within this specification in accordance with Imasco Minerals Inc. technical literature requirements.

- a. Sheathing (membrane) (paper)
 - b. Self-adhering / self-healing membrane flashing for sheathing paper
 - c. Self-furring galvanized lath
 - d. Flashings, trims and accessories
 - e. Control and expansion joints
- .3 Unless otherwise noted, the following work or conditions are not included under this Section of work and are supplied and/or installed by others:
 - a. Substrates and correction of defects and deficiencies in substrates which may adversely affect stucco work, including small crack repair and patching, except for minimal work performed by this trade
 - b. Surface preparation of substrates as required for acceptance of stucco, including cleaning
 - c. Caulking and sealants
 - d. Painting of stucco work

1.2 Related Sections:

SPEC NOTE: Delete, revise or add below as required. Also list here any specific exclusions.

- .1 Refer to the following Sections for related work:

- a. Section 03300 - Cast-in-place concrete (preparation for applied stucco finish)
- b. Section 04220 - Concrete masonry (preparation for applied stucco finish)
- c. Section 06100 - Rough carpentry (sheathing)
- d. Section 07900 - Caulking and sealants
- e. Section 09240 - Exterior Insulation and Finishing Systems (EIFS)
- f. Section 09900 - Painting (for painted stucco)

1.3 Reference Standards:

- .1 The latest edition (at time of Bidding) of the following 'Reference Standards' shall govern all work:

SPEC NOTE: *Carefully select applicable references and standards to suit project.*

- a. National Building Code of Canada (NBC)
- b. B.C. Building Code
- c. Vancouver Building By-Law
- d. Workers' Compensation Board (WCB) Industrial Health and Safety Regulations
- e. Association of Wall and Ceiling Contractors (AWCC) Specification Manual
- f. British Columbia Wall and Ceiling Association (BCWCA) Stucco Resource Guide
- g. Alberta Wall and Ceiling Bureau (AWCB) Stucco Resource Guide
- h. Canadian Standards Association B111-1974, Wire Nails, Spikes and Staples
- i. Canadian General Standards Board CAN2-51.32-M77, Sheathing Membrane, Breather Type
- j. Federal Specification UU-B-790a, Building Papers
- k. ASTM C1063, Installation of Lathing and Furring for Portland Cement Plaster

1.4 Quality Assurance:

- .1 Only applicators certified by Imasco Minerals Inc. for the appropriate work shall be engaged in such stucco work. Apprentices may be employed provided they work under the direct supervision of certified journeyman applicators.
- .2 For all types of stucco, the applicator shall have a minimum of five (5) years proven satisfactory experience in work similar to that required by this section and shall show proof before commencement of work that he will maintain a qualified crew of stucco applicators throughout the duration of the work.
- .3 Conform to Imasco Minerals Inc. specification and detail requirements contained in the Imasco Manual, latest edition (hereafter referred to as the Manual), for stucco system products including preparation, detailing and application of materials.
- .4 All stucco base and finish materials shall be from Imasco Minerals Inc. or shall be materials approved by Imasco Minerals Inc. for use with specified systems.

1.5 Regulatory Requirements:

- .1 All materials shall be installed in strict accordance with the requirements of local authorities having jurisdiction and Code and Reference Standards noted.
- .2 Installation of a two coat stucco system utilizing a single stucco base coat with a finish coat shall be permitted only where approval exists from local authorities having jurisdiction.

- .3 Conform to WCB safety regulations and precautions for storage, mixing, application and disposal of all stucco related materials and those of local authorities having jurisdiction.

1.6 Samples and Mock-Ups:

- .1 When requested provide two (2) minimum 200 mm (8") square samples of each stucco texture and color specified on acceptable assemblies/surfaces or acceptable facsimiles for review and approval. When approved, samples shall become acceptable standard of quality for appropriate on-site surface with one of each sample retained on-site and the other at the Consultant's office.
- .2 When requested prepare a designated surface area (in each texture / color scheme) to requirements specified herein, with specified system showing workmanship for review and approval. When approved, surface area shall become acceptable standard of finish quality and workmanship for similar on-site work.

1.7 Submittals:

- .1 Submit manufacturer's product technical literature and specifications including proprietary components, installation instructions and recommendations for review.
- .2 Submit texture and color samples for review and/or selection.
- .3 Submit two sets of Material Safety Data Sheets (MSDS) prior to commencement of work for review and for posting at job site as required.

1.8 Delivery, Storage and Handling:

<p><i>SPEC NOTE: General Contractor to provide suitable site for delivery, storage and handling of materials as well as a suitable site for plastering operation.</i></p>

- .1 Deliver all packaged manufactured stucco materials in original sealed and labelled containers.
- .2 Keep materials dry, off the ground, under cover, free from exposure, dampness and freezing and in accordance with manufacturer's requirements.
- .3 Remove any wet or deteriorated materials unsatisfactory for installation from the site.

1.9 Project / Site Requirements:

- .1 UNLESS specifically pre-approved by the specifying body and Imasco Minerals Inc., perform no stucco work when the ambient air and substrate temperatures are below 4°C (39°F) or above 38°C (100°F) for 24 hours before, during and after stucco application.
- .2 Do not use frozen materials or apply stucco materials to frozen surfaces or surfaces containing frost.
- .3 Apply stucco to clean, adequately prepared surfaces free from dust, dirt or other deleterious substances.

- .4 Provide adequate protection from contaminants and the weather for substrates prior to application of stucco and for stucco coat applications. Maintain in place until stucco is adequately cured.
- .5 Protect stucco surfaces from uneven and excessive evaporation during hot, dry or windy weather.
- .6 Take necessary care to identify and protect adjacent surfaces from damage from stucco application and promptly remove all droppings.
- .7 Report any unsatisfactory conditions in writing to the Consultant. Commencement of work shall imply acceptance of surfaces or conditions.

1.10 Cooperation:

- .1 Cooperate with other trades to identify all areas of conflict or requirements for stucco preparatory and installation work.

1.11 Warranty:

- .1 When specified materials are provided and installed in strict accordance with Imasco **Traditional Stucco System** requirements by an Imasco Minerals Inc. certified installer a written ten (10) year extended limited material defect warranty will be provided by Imasco Minerals Inc.

PART 2 - PRODUCTS

2.1 General:

SPEC NOTE: Delete, revise or add to the example selections below to suit project requirements.

- .1 All materials and components shall meet Imasco Manual requirements.
- .2 The contractor will be responsible in determining that the type and condition of the substrate meets Imasco Minerals Inc.'s requirements prior to applying the **Traditional System**.

2.2 Substrates:

- .1 All substrate shall be engineered and manufactured by corporations other than Imasco Minerals Inc.
- .2 The contractor will be responsible in determining that the type and condition of the substrate meets Imasco Minerals Inc.'s requirements prior to applying the **Traditional System**.
- .3 Recommended substrates:
 - a. Weather-resistant glass mat faced gypsum sheathing
 - b. Weather-resistant exterior cement board
 - c. Poured-in-place concrete, cleaned and free of contaminants
 - d. Exterior grade gypsum sheathing (Not recommended and only to be used where the registered professional having authority for the project has selected exterior gypsum and where minimum exposure to weather is expected. i.e. – soffits, covered loading docks, etc.)

- e. Unit masonry (contact Imasco Minerals Inc. for proper application)
- f. Plywood
- g. OSB
- h. Breather board

2.3 Backing Materials:

SPEC NOTE: *Select appropriate flashing materials to meet project requirements.*

- .1 Flashing paper (around windows and all wall penetrations) to Federal Specifications UU-B-790a, grade A or B.

SPEC NOTE: *The application of the flashing paper is often not the responsibility of the stucco contractor, but is, however, critical to ensure proper installation.*

- .2 Sheathing paper – water repellent breather type to CGSB CAN2-51.32-M77 meeting 30 or 60 minute rating to Federal Specification UU-B-790a, grade D.

SPEC NOTE: *Imasco Minerals Inc. prefers two layers of specified 30 minute paper.*

- .3 Membrane flashing (over sheathing paper around all window and door openings and wall penetrations) – minimum 1.0 mm (40 mil) thick sheet of self-adhering, self-healing, composite rubberized asphalt having a minimum membrane tensile strength of 177 N/25 mm (40 lb/in), minimum peel adhesion of 8 N/cm to ASTM D903, and maximum permeance of 2.25 ng/Pa s m² (0.001 perms) to ASTM E96.
- .4 Window head flashing – minimum 26 gauge pre-finished galvanized steel or aluminum, color as selected by Consultant, complete with sloping sill and 13 mm (½”) drip edge.

SPEC NOTE: *Flashing and sealants used with stucco shall conform to Code articles 9.27.3 and 9.27.4, except that if aluminum flashing is used, it shall be separated from the stucco by an impervious membrane or coating.*

- .5 Sealants – non-hardening exterior type as recommended by stucco manufacturer and in accordance with Section 07900.

2.4 Furring and Lathing Materials:

SPEC NOTE: *Select / provide appropriate furring and lathing materials to meet project requirements.*

- .1 Provide furring and lathing materials, including runner and cross-furring channels, furring channels, hanger and tie wire, in accordance with Reference Standard requirements.
- .2 Self-Furring Welded Wire Lath – galvanized wire lath to ASTM C841 and C933 of following types:
 - a. 16 gauge lath with openings not to exceed 2” (50 mm)
 - b. 17 gauge lath with openings not to exceed 1.5” (38 mm)
 - c. 20 gauge lath with openings not to exceed 1” (25 mm)

- .3 Self-Furring Paperback Lath (for use over a vertical concrete or concrete masonry surface if the construction documents require a water-resistant barrier for these surfaces) – combination of lath and grade D 60-minute water-resistant barrier.
- .4 Self-Furring Diamond-Mesh Metal Lath (for horizontal surfaces) – 2.5 or 3.4 pounds per square yard galvanized lath to ASTM C841 and C847. Use 2.5 lb lath for sheathed framed construction with supports at 16" (400 mm) o/c or for attachment directly to concrete or concrete masonry.
- .5 Rib Lath (for horizontal surfaces) – $\frac{3}{8}$ " (10 mm) galvanized lath to ASTM C841 and C847 for use in soffits with open-frame construction with supports 24" (600 mm) o/c.

2.5 Accessories:

SPEC NOTE: *Select appropriate accessories and trim materials to meet project requirements (i.e., delete those not applicable).*

- .1 Provide all stucco accessories and/or trim such as expansion and control joints, stops (casing beads), internal corner reinforcement, weep and drip screeds, reveals, etc., as detailed on drawings and/or as required to complete the work in accordance with best trade practices and Reference Standards noted as well as Imasco Manual requirements.
- .2 Provide accessories fabricated from hot dipped galvanized steel, zinc alloy, extruded exterior grade PVC or aluminum of types and of materials pre-approved by the design authority, and to Reference Standard and Imasco Manual requirements. Use pre-finished materials where required or noted.
- .3 Use only PVC or zinc alloy accessories in areas where exposure to corrosive elements or salt is a concern.
- .4 Provide accessories with an embedment flange to key into cement plaster with depth (grounds) of accessories dependent on the required thickness of base coat, without the finish coat.
- .5 Use welded wire external corner reinforcement for maximum embedment of base coat.

SPEC NOTE: *The use of No. 1A expanded corner beads for exterior corners is not permitted.*

2.6 Fasteners:

- .1 Fasteners – to (CSA B111-1974)(FS FF-N-105) (nails and staples) and ASTM C646 (screws), of suitable corrosion resistant material (electro and/or hot dipped galvanized steel, aluminum, stainless steel) compatible with material, sheathing, framing or other substrate being fastened and meeting Reference Standard requirements noted.
- .2 Fasteners shall be selected to suit material and substrate condition and shall bear tight against attachment item and penetrate into wood or steel framing members through sheathing.
- .3 Fasteners shall be placed in the crotch of trim accessory flanges and/or nailing loops of wire accessories as applicable.

2.7 Stucco Materials:

- .1 Water – potable, clean and free from injurious amounts of oil, acid, alkali, organic matter or other deleterious substances.
- .2 Sand – to ASTM C897, natural or manufactured, clean, sharp and free of loam, clay, silt, soluble salts and organic matter, freshwater washed. Sampling and testing to conform to ASTM C144.
- .3 Bonding Agent – non-oxidizing, non-crystallizing, and non-re-emulsifiable type conforming to ASTM C932, used to improve bond strength and adhesion.
- .4 BaseCoat - As per Building Code or a pre-manufactured proprietary mixture of portland cement, sand and proprietary additives, such as Quikrete QUIKRETE® Base Coat Stucco - Pump Grade (No. 1139-86) or equivalent. Please contact Imasco Minerals Inc. for any other basecoat product.

SPEC NOTE: *Select from Imasco finishes indicated below to suit project requirements. Refer to Imasco Minerals Inc. literature for additional information.*

- .5 (Premix) (Premix 1000) finish coat – a pre-manufactured proprietary mixture of portland cement, hydrated lime, inert aggregates, and proprietary additives.
- .6 Custom Color additives – pre-manufactured precision formulated custom color pigments in dry powder form for addition to Imasco Premix or Premix 1000 stucco finish coat mixes and Imasco Stucco Sands. Color(s) (to be (_____)) as selected by the Consultant.

SPEC NOTE: *Select color (s) from Imasco Minerals Inc. Custom Color chart and indicate name and number above and/or on drawings and Exterior Finish Schedule, noting location and extent.*

- .7 Primer – a non-oxidizing, non-crystallizing, and non-re-emulsifiable type bonding agent conforming to ASTM C932 (color as selected by the Consultant).

SPEC NOTE: *Use suitable primer project requirements as a bonding agent and/or color coordinated surface primer for application to BaseCoat, concrete, masonry or existing stucco surfaces, as a pigmented primer for use with Imasco finish coat, to enhance color consistency, improve bond strength and coverage, and to increase working time in hot, dry weather. Refer to Imasco Minerals Inc. literature for additional information.*

2.8 Mixing of Cementitious Products:

- .1 Ensure mixer and other equipment are clean and free of contamination during mixing and application of materials.
- .2 All materials and ingredients used shall be clean and uncontaminated.
- .3 Do not use household detergents, plasticizers or other admixtures, except those permitted by Imasco Minerals Inc.
- .4 Do not use frozen, caked or lumpy material and remove all contaminated materials from the job site.

- .5 Mix proportions by volume using standard accurate measuring devices and known volumes for all materials and full bag increments.
- .6 Use shovel count for measuring sand if standardized first.
- .7 Sequential batches to be proportionally alike. Size batches for complete use within one hour after mixing.
- .8 Mix Imasco Minerals Inc. products in strict accordance with manufacturer's written instructions and unless otherwise approved, mechanically mix all ingredients.
- .9 Withhold 10% of mixing water until mixing is nearly complete, then add remainder as required to produce desired working consistency. Do not over water.

PART 3 - EXECUTION

3.1 Examination:

- .1 Prior to commencement of work of this section, review all conditions and thoroughly inspect all substrates and surfaces scheduled to have lath and stucco applied and report in writing to the Contractor and Consultant any conditions or surfaces that will adversely affect proper installation of specified Imasco Minerals Inc. stucco system.
- .2 No work shall commence until all such adverse conditions and defects have been corrected and surfaces and conditions are acceptable.
- .3 Verify that framing, sheathing, flashing paper and flashing assembly meets minimum Reference Standards noted (especially Code) and stucco installation requirements.
- .4 Ensure lath, furring, accessories and trim are tight and fastened securely in place and fixtures, conduits, pipes, cables and outlets are properly plugged, capped or covered before commencing stucco application.
- .5 Protect all adjacent surfaces and areas from stucco application operations and damage by stucco operations and make good any damage caused by failure to provide such protection.

SPEC NOTE: *A pre-construction meeting is recommended with the Owner, primary contractor and representatives responsible for the windows, framing, flashing, roofing, sealants, stucco and any other building components interfacing with the stucco.*

3.2 Installation of Sheathing Paper:

- .1 Install Sheathing paper in accordance with Reference Standard and Imasco Manual requirements.

SPEC NOTE: *It is important to correctly install the sheathing paper such that each successive course (starting from the bottom and going upward) overlaps the previous (lower) course. Special care and attention must be taken to achieve proper shingling in all situations where any flashing, membrane, termination, or penetration exists above the paper (e.g. windows, vents, etc.).*

3.3 Installation of Stucco Trim Accessories:

- .1 Install stucco trim accessories in accordance with Reference Standards, trim manufacturer, and Imasco Manual requirements.

3.4 Installation of Lath:

- .1 Install lath in accordance with Reference Standards, lath / furring manufacturer, and Imasco Manual requirements.

3.5 Application of Stucco Base Coat - General:

- .1 Minimum stucco application standards shall be in accordance with noted Reference Standards and Imasco Manual requirements with application methods in accordance with best trade practices for type and application of materials used.

SPEC NOTE: *Select appropriate one and/or two coat base coat system. Verify acceptance of one coat base coat system with appropriate authorities having jurisdiction before application.*

- .2 Apply ¾" Basecoat in strict accordance with Building Code, Imasco Minerals Inc. and/or other proprietary manufacturers written instructions and recommendations as appropriate.
- .3 Apply stucco base coats to entire wall panel and soffit surfaces interrupted only at junctions of plaster planes, at openings or at control joints in one continuous operation using trowel or machine.

SPEC NOTE: *For Proprietary BaseCoat please follow manufacturers specifications, instructions and recommendations.*

- .4 Apply ¾" Basecoat first (scratch) coat to completely embed lath to a minimum thickness of 10 mm (¾") and thick enough to allow for a uniform and shallow scoring (approximately ⅛" (3 mm)) of surface.
- .5 Allow first (scratch) coat to stiffen before applying second (brown) coat. On soffits, first coat to be hard and rigid before application of second coat.
- .6 Apply second (brown) coat to a maximum thickness of 10mm ((3.8") over a dampened first coat with sufficient material and pressure to ensure a tight uniform bond to the first coat but not to deform or crack the first coat. If required, apply a fine spray of clean water to first coat, so as to dampen it only. Do not saturate. Allow water sheen to disappear before applying the second coat.
- .7 Second (brown) coat application to bring the combined total system thickness to 19 mm (¾").
- .8 Rod the second (brown) coat to a true, even plane, filling surface defects with cement plaster and trowel-float surface uniformly after it has set and when moisture is still present in it. (The float should not adhere to the surface that is to be worked).

3.6 Curing of Cementitious Coat:

SPEC NOTE: *Climactic conditions dictate the need for moist-curing of cementitious coats.*

- .1 Moist cure cement based stucco with clean water to maintain plaster uniformly moist for a minimum of 48 hours following applications.
- .2 Provide adequate protection (plastic sheets) to retard evaporation where extreme conditions occur.
- .3 Do not moist cure base coat or coats if they will be subject to freezing.
- .4 Do not spray walls with high pressure water for at least 72 hours.

3.7 Application of Stucco Finish Coats:

- .1 Ensure that the surface temperature of substrate is above 4°C (39°F) for a minimum of 24 hours during and after application of finish coat.
- .2 Install selected finish coat in strict accordance with Imasco Minerals Inc. system requirements, ensuring that enough workers are present to apply material in one continuous operation to finish entire sections of wall and soffit areas at one time. Interrupt application only at natural breaks in construction, i.e., at expansion joints, changes of plane, system termination, etc.
- .3 Avoid application of separate batches of finish side-by-side or application of finish coat materials in direct sunlight and excessive wind.
- .4 Avoid application of finish coat late in the day if dew is imminent or if temperatures below 4°C (39°F) are expected within 24 hours.
- .5 Spread on an even coat of finish coat material using a trowel, always working away from a wet edge.

3.8 Curing of Stucco Finish Coats:

- .1 Cure selected finish coat materials in strict accordance with Imasco Minerals Inc. system requirements and the following:
- .2 Provide adequate protection (plastic sheets) to retard evaporation where extreme conditions occur.
- .3 Allow Premix and Premix 1000 finish coats a minimum of 24 hours to set with sufficient moisture retained or applied to permit proper hydration and to prevent shrinkage.

3.9 Field Quality Control:

- .1 All surfaces, preparation and base coat stucco applications shall be inspected.
- .2 Stucco surfaces shall be considered to lack uniformity and soundness if any of the following defects are apparent to the Inspection Agency inspector:

- .a Cracks resulting from incorrect application methods.
 - .b Evidence of poor coverage (i.e., not applied to thickness specified or shown) on walls and soffits, particularly at joints, corners and re-entrant angles.
 - .c Damage due to or the result of poor application of patching stucco at scaffold fixing points.
 - .d Damage due to touching before stucco is sufficiently dry or any other contributory cause.
 - .e Damage due to application on moist surfaces or caused by inadequate protection from the weather.
 - .f Damage and/or contamination of stucco due to wind blown contaminants (dust, sand blast materials, salt spray, etc.)
- .3 Stucco surfaces rejected by the Inspection Agency and/or Consultant shall be made good. Small affected areas may be touched up; large affected areas or areas without adequate coverage or with cracking shall be removed and redone.

3.10 Protection:

- .1 Ensure that all newly applied stucco surfaces are protected from rain, snow, condensation, contamination, dust, salt spray and freezing temperatures until stucco is completely dry and cured. Curing periods shall exceed the manufacturer's recommended minimum time requirements.
- .2 Ensure that barriers or screens and signs are provided by others to warn of or limit or direct traffic away or around work area and to protect newly applied stucco surfaces from hazardous contact.

3.11 Clean-up:

- .1 Remove all excess materials from the project site.
- .2 Clean equipment and dispose of wash water as well as all other cleaning and protective materials, in accordance with the safety requirement of authorities having jurisdiction.