

**TO THE SPECIFIER: This is a guide specification for “SWISS PEARL PANELS,” Edit to suit your project, design and sustainability requirements. Swiss Pearl High Density Cement Panels are suitable for both new buildings and retrofits and can be used for façade walls, fascia, soffits.**

**Part 1 GENERAL**

**1.1 SECTION INCLUDES**

- .1 Factory-finished fibre cement siding panel system, including but not limited to shingle, trim, fascia, moulding and accessories.

**1.2 RELATED SECTIONS**

**TO THE SPECIFIER: Coordinated work with other sections in this project. Add, revise or delete sections to suit project specifications.**

- .1 Section 01 11 00 – LEED Midrise Score Card
- .2 Section 01 35 18 - LEED Requirements and Procedures.
- .1 Section 06 10 00 - Rough Carpentry
- .2 Section 07 21 13 – Board Insulation
- .3 Section 07 21 16 – Blanket Insulation
- .4 Section 07 62 00 - Sheet Metal Flashing and Trim
- .5 Section 09 21 16 – Gypsum Board Assemblies

**1.3 REFERENCES**

**TO THE SPECIFIER: Review references and delete them if not applicable delete references of those Sections from the body of the main Specifications.**

- .1 This section references the [latest edition] of the [British Columbia Building Code (BCBC)] [Vancouver Building Bylaws (VBBL)] [National Building Codes of Canada (NBCC)] [Associations and Standards Publications] at the time of [application for Building Permit].
- .2 American Society of Testing and Materials (ASTM) International
  - .1 ASTM D3359, Standard Test Method for Measuring Adhesion by Tape Test, Tool and Tape.
- .3 National Fire Protection Act (NFPA)
- .4 Underwriter’s Laboratories of Canada (ULC)

**1.4 SUBMITTALS**

- .1 Section 01 33 00: Submission procedures.

- .2 Product Data: Provide manufacturer's data on specified products, describing physical and performance characteristics; sizes, patterns and colours available. Submittals to include the following:
  - .1 Preparation instructions and recommendations.
  - .2 Storage and handling requirements and recommendations.
  - .3 Installation method
- .3 Shop Drawings:
  - .1 Prepare shop drawings under the direct supervision of and be stamped and sealed by a Professional Engineer Registered in [Jurisdiction, State or Province].
  - .2 Shop drawings to be reviewed and approved by the manufacturer.
  - .3 Provide detailed drawings of both typical and atypical non-standard applications of High Density Cement Panels.
  - .4 Indicate Air space, Insulation and method of attachment and anchorage.
  - .5 Elevations indicating locations of doors and windows and corelated lines of jambs, heads and sills.
  - .6 Show details of sub-framing and insulation, indicate flashing and drainage.
  - .7 Submit thermal model report of the entire wall/soffit assembly, indicating the total assembly will meet thermal target set out in the project documents.
- .4 Samples: Submit two (2) samples, 195 x 85mm samples illustrating colour and shape for each panel material for each colour and texture specified.
  - .1 [Submit manufacturer's color charts showing full range of colors and finishes available.]

**TO THE SPECIFIER: Edit for LEED requirements. Some LEED consultants provide the specifications to be inserted in the Sections. LEED requirements change from time to time review LEED requirements before editing this article.**

- .5 LEED submittals as per [Section 01 35 18 – LEED Requirements and Procedures]
  - .1 Submit invoices and documentation from manufacturer of the amounts of post-consumer and post-industrial recycled content by weight for products with specified recycled content.
  - .2 Submit invoices and documentation showing manufacturing locations and origins of materials for products manufactured, and those products manufactured and sourced, within 800 km of the building site, or 3500 km if transported by rail.
  - .3 Resource efficient product data: Submit required information concerning project recyclability (packaging), product recycled content, and product recyclability.

**TO THE SPECIFIER: Specify the following article only if extra material is required for future maintenance and replacement otherwise remove it.**

**1.5 MAINTENANCE MATERIAL SUBMITTALS**

- .1 Extra Stock Materials: Provide [10] [20] % of panel material, of each production batch, colour and shape and size selected, for future building maintenance purposes.
- .2 Extra Stock Material shall be from identical production batches.

**1.6 QUALITY ASSURANCE**

- .1 Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section for minimum five (5) years.
- .2 Supplier: Register with the manufacturing company.
- .3 Installer Qualifications: Company specializing in performing the work of this section with minimum three (3) years of documented experience in project of similar size trained and approved by the manufacturer.

**Note to Specifier: The following is based on requirements in Canada other Jurisdictions may have their special requirements. Edit or add as required.**

**1.7 [LETTERS OF ASSURANCE] [LEGAL REQUIREMENTS]**

- .1 Have the Engineer responsible for sealing the engineered shop drawings submit to the Architect, [Schedule B-1 Assurance of Professional Design and Commitment for Field Review and Schedule B-2 Summary of Design and Field Review and other] [documents required by the [Authority Having Jurisdictions (AHJ)]] with the shop drawings.
- .2 Engineer to provide field review of the installation and submit to the Architect and the [Authority Having Jurisdictions (AHJ)] [required documents] [Schedule C-B Assurance of Professional Field Review and Compliance upon completion of the work]

**1.8 PRE-CONSTRUCTION MEETING**

- .1 Arrange a preconstruction meeting [two (2) weeks] [One (1) week] prior to beginning work in this Section.
- .2 The [Contractor] [Construction Manager], the Architect, the manufacturer's representative, the Subcontractor and the Engineer will be present for the meeting.

**1.9 DELIVERY, STORAGE, AND HANDLING**

- .1 Deliver and unload Small High Density (MDS) cement panels at the project site on pallets and banded using a combination of galvanized steel and nylon in such a manner that no damage occurs to the product during shipping, offloading or handling.
- .2 Deliver, store and handle components in accordance with manufacturer's written instructions.

- .3 Store products in inside dry location away from dampness cover material with tarpaulin
- .4 Retain manufacturer's labels in tact.
- .5 Place stacks horizontally off grade.
- .6 Verify that correct panels, fasteners and accessories have been delivered on site.
- .7 Lift pallets and prevent them from bending.

**1.10 SYSTEM REQUIREMENT**

- .1 System shall be designed by a Professional Engineer Registered in [Jurisdiction, State or Province]
- .2 [Single] [Double] [Multiple] layers overlapping vertically, designed thermally adequate system to deflect rain and moisture with minimum [25] mm air cavity and a rain screen system to drain any water.
- .3 Wind Loads: To resist wind loads of [1.5] [1.3] [1.1] kN/m<sup>2</sup> with [1.5] times the wind on corners and top and bottom edges and as instructed by manufacturer.
- .4 Seismic Loads: Design to [local requirements].
- .5 Design to co-relate to vertical and horizontal lines of window and door sills, heads, jambs and sill lines.

**1.11 WARRANTY**

- .1 Provide manufacturer's standard warranty for ten (10) years manufacturer's standard functional warranty from the date of substantial completion.

**Part 2  
2.1 PRODUCT  
MANUFACTURER**

- .1 ACCEPTABLE MANUFACTURER:
  - Swisspearl – Modular Systems
  - Represented by: John Riley, InterCoast Building Solutions Inc
  - Telephone: (604) 593-5601
  - Email: john@intercoastbuilds.com
- .2 SUBSTITUTION: [Substitution not allowed] [Proposed substitution shall match or exceed the specified product's integral colour, pattern, production and loading requirements or they would be rejected by the Architect].
- .3 Source all modules from manufacturer's authorized dealers.

**Note to Designer/Specifier: Swisspearl is available in different sizes, shapes and can also be custom built to suit. They are available for single layer application (custom sizes shape and design), double layer application (large and medium size) and triple layers (for small size panels). Consult**

**the manufacturer's local representative for availability range of available designs, shapes and colours.**

## 2.2

### MATERIALS

#### .1 PROPERTIES:

- .1 Density: 1.8 g/Cm<sup>3</sup>.
- .2 Thermal Expansion Coefficient: 0.01 mm/meter/K degrees.
- .3 Maximum Shrinkage in 10 years: 1.8 mm/meter.
- .4 Elastic Modulus: 15000 MPa.
- .5 Flexural Strength: 24 MPa.
- .6 Fire Resistance: CAN ULC S114, CAN ULC S134
- .7 UV Resistance: Delta E 0.5 to 2.0.
- .8 Frost Resistance: EN 124678.
- .9 Colour: Integral colour [specify Swisspearl colour] [As selected by Architect from manufacturer's Standard Range of Colours.
- .10 [Shape: As indicated].

#### .2 CUSTOM MADE PANELS:

- .1 [6] [8] mm [Clinar] [Largo] Panels as manufactured by Swisspearl and attached to [metal] [Wood] [Thermally Broken] substrate.
- .2 Provide minimum [25] mm continuous air space behind panel as reviewed in shop drawings and as required by the Architect.
- .3 Shape size [patterns] [,] [perforations] as indicated.
- .4 Colour [as indicated] [selected by the Architect from manufacturer's standard range].

**Note to Designer/Specifier: All panels Large medium and small have a head panel which is smaller in height than the regular panels. See manufacturer's written instruction for details of installation. Large and medium panels.**

#### .3 LARGE AND MEDIUM SIZE PANELS:

- .1 Install large and medium size [6] [8] mm [Clinar] panels to size and locations indicated.
- .2 Provide minimum [25] mm continuous air space behind panel as reviewed in shop drawings and as required by the Architect.
- .3 Shape size [patterns] as indicated.
- .4 Colour [as indicated] [selected by the Architect from manufacturer's standard range].

#### .4 SMALL SIZE PANELS:

**Note to Designer/Specifier: Available in different shapes, sizes, thickness and forms. The top or starter boards are normally smaller in shape and height than the other panels. Normally applied in multiple layers. Contact local supplier for full range of colours, shapes(like rectangular rounded, rhombus and many more) and sizes available.**

- .1 Install small size [4] [6] mm Clinar panels to size and locations indicated.
- .2 Provide minimum [25] mm continuous air space behind panel as reviewed in shop drawings and as required by the Architect.
- .3 Shape size [patterns] as indicated.
- .4 Colour [as indicated] [selected by the Architect from manufacturer's standard range].
- .5 **END PANELS**
  - .1 At corners and openings cut end panels to suit but not to exceed 500 mm in length

## **2.3 SUB – FRAMING**

### **.1 METAL SUB FRAMING:**

**Multiple Metal Subframe are manufactured by Swisspearl select the correct sub-frame. Consult the manufacturer's representative for Swisspearl subframes.**

- .1 Designed by a Professional Engineer in good standing and registered in [Jurisdiction].
- .2 Provide continuous and uninterrupted air circulation in minimum 25 mm air space.
- .3 Use anodized or powder coated aluminum sub – framing or shop painted or shop galvanized steel framing.
- .4 Colour as selected by the Architect.
- .5 Thickness as designed by Professional Engineer but not less than 2 mm.
- .6 Design channel framing with mm 100 mm flanges on vertical edge to accommodate two panels and vertical z-girt with 40 mm flange in the middle of the panel.
- .2 **WOOD SUB FRAMING:**

**Note to Designers/Specifiers: May provide wood sub-framing for noncombustible buildings.**

- .1 Designed by a Professional Engineer in good standing and registered in [Jurisdiction].
- .2 Provide continuous and uninterrupted air circulation in minimum 25 mm air space.
- .3 Use pressure treated wood vertical exposed to weather.

## **2.4 ACCESSORIES**

- .1 To include but not be limited to the following (Use only manufacturer's recommended accessories):
  - .1 Rivets: Aluminum, AlMg3 4.0 x 15 K9 mm (4 mm body x 15 mm length x 9 mm head) with grip range 7.5 to 14 mm. Use number and location of rivets as per manufacturer's instructions. Place rivets 30 to 50 mm from bottom edge and 40 to 60 mm from side edge.
  - .2 Nails: Galvanized Nails with grooved shaft, 2.5 x 35 mm long, head 0.6 mm.
  - .3 Clips: Clinar or Ekosal Clips with stainless steel screws, 0.12 mm saucer head with T20 drive, [blank] [coloured] [as indicated] [as selected by Architect] size to suite. **Clips are available in 4.8 x 30 mm, 4.8 x 38 mm and 4.8 x 60 mm.**
  - .4 Channel and Corner Profiles: As necessary for the design, as instructed by the manufacturer. Shall include but not be limited to jamb profile, inner and exterior corner profiles, lintel profiles, lintel profiles for shutters and ventilation profiles as supplied by Swisspearl.
  - .5 Concealed attachments: Use Swisspearls Sigma-8 concealed attachments
  - .6 Depth Gauge: Depth gauge recommended by manufacturer.
  - .7 Spacers as required and as recommended by manufacturer.
  - .8 Masking Tape: Use only UV resistant masking tapes that do not leave residue if removed.
  - .9 Sealants: Use only compatible hybrid polymer polyurethane or acrylic sealants as recommended by the manufacturer.

**Part 3**  
**3.1 Execution**  
**EXAMINATION**

- .1 Verify that subsurface is adequate and is ready to receive work.
- .2 Inform the architect of any area not adequate for installing High Density Cement Panels.
- .3 Do not install panels unless the subsurface is acceptable.

**3.2 PREPARATION**

- .1 Pre punch holes for clips.
- .2 Cut panels on site to suite.
  - .1 For site cutting use circular hand saw with diamond coated or carbide blade. Equipped with guide rail and dust extractor.
  - .2 For small cuts use jig saw,
  - .3 Use guillotine type cutter for up to 900 mm thickness.

- .3 Use only power tools which are equipped with vacuum.
- .4 Use tools recommended by the manufacturer.
- .5 Avoid tools producing fine dust.
- .6 Comply with all manufacturer's written instructions.

### **3.3 INSTALLATION**

- .1 Install Swisspearl panels with all vertical joints 4 mm.
- .2 Panels shall be installed in [staggered] [continuous vertical] arrangement.
- .3 Attach Swisspearl top panel at its fixed and gliding points as instructed by manufacturer.

### **3.4 CLEANING**

- .1 Keep area clean daily, remove all dust and debris.
- .2 Clean cement stains immediately.
- .3 Clean dry dust immediately after fabrication and installation of modules. Vacuum clean and wipe with clean dry soft cloth brush.
- .4 Clean wet dust immediately and remove immediately using water with sponge brush.
- .5 Wash panels with high pressure cold water minimum 300 mm from surface.
- .6 Clean Calcium based stains:
  - .1 Mix 10% acetic acid with 90% water.
  - .2 Mist spray the mixture.
  - .3 Leave for 4 to 8 minutes, do not let it dry out.
  - .4 Use high pressure cold water minimum 300 mm from surface. .5 Repeat procedure for obstinate stains.
  - .6 Do not use glass cleaning detergent or alkaline/acid cleaners.

**END OF SECTION**