

V SPECS VERIFIED SPEC NOTE: The affixed digital V SPECS VERIFIED Seal indicates this Product Master Specification has been 3rd-Party Verified to meet guidelines published by North American Specification Associations, and signifies contents within the Section appear complete, and ready for Tender, once all edits and selections have been made, and SPEC NOTES have been removed.

V SPECS VERIFIED SPEC NOTE: This Section has been scored against "Industry Standard Practices", using V SPECS proprietary 35pt Inspection and Scoring Methodology within its Product Master Specification Report Card.

*V SPECS VERIFIED Seal is Valid for 12 months beginning: **March 1, 2026***



CEDRAL PREFACE SPEC NOTE: This Product Master Specification Section includes CEDRAL SPEC NOTES for information purposes and to assist the Editor in making appropriate decisions. CEDRAL SPEC NOTES are colour-coded, identifying type and responsibility or action requirements, and always immediately precede the text to which they refer.

CEDRAL PREFACE SPEC NOTE: Optional text within this Section is identified by square brackets. The Editor shall review each bracketed item for project applicability and delete unused optional content prior to tender issuance. Delete all CEDRAL SPEC NOTES in the final tender documents.

CEDRAL PREFACE SPEC NOTE: This Specification Section follows the recommendations of the Construction Specifications Canada (CSC) Manual of Practice, including MasterFormat names and numbers, SectionFormat layout structure, and PageFormat paragraph numbering.

CEDRAL PREFACE SPEC NOTE: Cedral does not practise architecture or engineering. Design responsibility remains with the Architect, Consultant, or Engineer of Record. Information provided by the manufacturer is based on data considered accurate at the time of publication and is offered for consideration, investigation, and verification by the design team.

CEDRAL PREFACE SPEC NOTE: The system covered by this Section consists of mineral-fibre cement shingles intended as a complete roof covering assembly, including associated components required to form a cohesive, integrated roofing system within the building envelope.

CEDRAL PREFACE SPEC NOTE: Mineral-fibre cement shingles are intended for use on sloped roof applications where a fibre-cement shingle appearance and construction approach is desired, and is typically applied to residential, multi-residential, and light commercial buildings as part of a coordinated roof assembly.

CEDRAL PREFACE SPEC NOTE: CEDRAL is a European manufacturer of fibre-cement building envelope products with established operations and market presence, supplying roofing and cladding systems for residential and commercial construction across multiple regions, including Canada.

CEDRAL PREFACE SPEC NOTE: CEDRAL manufactures fibre-cement roofing products within controlled production facilities using standardized processes intended to promote consistency, quality control, and repeatability across product lines, with documented internal procedures governing production and product handling.

CEDRAL PREFACE SPEC NOTE: The specified mineral-fibre cement shingle system is positioned as an alternative to traditional roofing materials by offering a factory-finished fibre-cement solution intended to deliver a consistent appearance, dimensional stability, and long-term material integrity as part of a complete roofing assembly.

CEDRAL PREFACE SPEC NOTE: The system is positioned for use where designers seek the visual character of traditional roofing forms combined with a fibre-cement material approach, and is commonly selected for projects requiring a coordinated, non-combustible roof covering solution compatible with contemporary building envelope strategies.

CEDRAL ENVIRO PREFACE SPEC NOTE: This Section specifies environmentally responsible material choices and includes ENVIRO SPEC NOTES that immediately precede text related to environmental practices, approaches, and rating system considerations. Delete all CEDRAL ENVIRO SPEC NOTES in the final tender documents.

CEDRAL ENVIRO PREFACE SPEC NOTE: CEDRAL maintains a corporate commitment to responsible manufacturing and environmental stewardship, with an organizational focus on reducing environmental impact while supporting durable, long-life building envelope solutions.

CEDRAL ENVIRO PREFACE SPEC NOTE: CEDRAL operates manufacturing facilities using documented environmental management practices that support efficient energy use, controlled production processes, and measures intended to reduce waste, emissions, and operational impacts over the manufacturing lifecycle.

CEDRAL ENVIRO PREFACE SPEC NOTE: CEDRAL sources raw materials and fibres through established supply chains aligned with responsible material stewardship principles, with an emphasis on traceability, ethical sourcing practices, and long-term resource availability.

CEDRAL ENVIRO PREFACE SPEC NOTE: CEDRAL operates under recognized environmental management frameworks, including certification to ISO 14001, reflecting a formalized approach to environmental responsibility, regulatory compliance, and continuous improvement within its manufacturing operations.

CEDRAL ENVIRO PREFACE SPEC NOTE: CEDRAL supports transparency in environmental performance through the publication of manufacturer-level environmental information and participation in third-party documentation frameworks that communicate environmental practices and corporate commitments to project teams.

CEDRAL ENVIRO PREFACE SPEC NOTE: Through its documented manufacturing controls, environmental management systems, and long-term stewardship approach, CEDRAL's corporate environmental practices align with responsible construction objectives that prioritize durability, resource efficiency, and reduced environmental impact at the manufacturer level.

1. GENERAL

1.1 GENERAL REQUIREMENTS

- .1 The General Conditions, the Supplementary Conditions, the Instructions to Bidders and Division 1 General Requirements shall be read in conjunction with and govern this section.

CEDRAL SPEC NOTE: Edit the following paragraph to select either Contractor or Construction Manager, and Subcontractor or Trade Contractor, depending on the Contract Type used on the Project.

CEDRAL SPEC NOTE: When Tendering this Section to a Contractor, select both Contractor and Subcontractor. When issuing this Section for Pricing, Select both Construction Manager and Trade Contractor. Delete the title references not required on the Project.

- .2 The Specification shall be read in its entirety by all parties concerned. Each Section may contain more or less than the complete work of any trade. The [Contractor] [Construction Manager] is solely responsible for making clear to the [Subcontractor] [Trade Contractor] the extent of their work.
- .3 The Consultant and Owner assume no responsibility to act as arbiters or to establish subcontract limits between Sections or Divisions of the Work. Any references to related work items contained in this Section are provided for convenience only.

1.2 SUMMARY

- .1 The Work of this Section includes, but is not limited to the following:
 - .1 Supply and installation of mineral-fibre cement shingles as a complete roof covering system, including all components required to form a functional, durable assembly.
 - .2 Provide all system-related accessories, components, and coordination items, such as underlayment membranes, starter shingles, hip and ridge shingles, fasteners, and related ancillary components required for continuity of the roof covering system.
 - .3 Coordination with roof deck sheathing, roof-to-wall interfaces, penetrations, and adjacent roofing elements directly affecting the continuity and completeness of the roof covering assembly.

CEDRAL SPEC NOTE: Edit the following paragraph to confirm whether project conditions require inclusion of optional system accessories such as snow guards or crickets (saddles). Delete when not required on the project.

- .4 Provision of optional system accessories, where required by project conditions, including snow guards and crickets (saddles) forming part of the mineral-fibre cement shingle roof covering system.

1.3 REFERENCE STANDARDS

- .1 The latest published edition of a reference shall be applicable to this Project unless identified by a specific edition date.
- .2 All reference amendments adopted prior to the bid closing date of this Project shall be applicable to this Project.
- .3 All materials, installation and workmanship shall comply with all applicable requirements and standards.

CEDRAL SPEC NOTE: Edit the following paragraph to reflect reference standards for this Project.

- .4 International Organization for Standardization (ISO):
 - .1 ISO 9001, Quality management systems – Requirements
 - .2 ISO 14001, Environmental management systems – Requirements with guidance for use
 - .3 ISO 45001, Occupational health and safety management systems – Requirements with guidance for use
 - .4 ISO 14025, Environmental labels and declarations – Type III environmental declarations

- .5 European Committee for Standardization (EN / BS EN):
 - .1 EN 492, Fibre-cement

1.4 ADMINISTRATIVE REQUIREMENTS

- .1 Coordination:
 - .1 Coordinate site dimensions affecting work of other Sections and provide data, dimensions and components installed by other Sections in sufficient time for installation of products specified in this Section.
 - .2 Coordinate sizes and locations of framing, blocking, furring, and reinforcements provided by work that is specified in other Sections, ensuring their completeness before starting Work of this Section.

CEDRAL SPEC NOTE: Edit the following paragraph to make the required selections and remove square brackets indicated below.

- .2 Pre-Construction Meeting: Arrange a preconstruction meeting in accordance with [Division 01] [Section 01 31 19 Project Meetings].
- .3 Notification: Notify Consultant and Owner of scheduled meeting dates in advance; minimum 72 hour notice required.

CEDRAL SPEC NOTE: Edit the following paragraph to make the required selections and remove square brackets indicated below.

- .4 Attendees: Attended by [Contractor] [Construction Manager], Consultant, and the [Subcontractor] [Trade Contractor] to discuss the following:
 - .1 Establishing procedures to maintain optimum working conditions and to coordinate Work of this Section with related and adjacent work.
 - .2 Review project scheduling and coordination.
 - .3 Review scope and sequencing of mineral-fibre cement shingles and associated system components.
 - .4 Review coordination requirements at roof deck interfaces, penetrations, and roof-to-wall conditions.
 - .5 Review accessory selection, including starter shingles, hip and ridge shingles, and optional system components where applicable.
 - .6 Review submittal sequencing and coordination with related Sections affecting the roof assembly.
- .5 Reporting: Record significant discussions, agreements, and disagreements, including required corrective measures and actions.
- .6 Distribution: Distribute minutes of the meeting to each party present and to other parties requiring information not more than 72 hours after meeting.

1.5 SUBMITTALS

CEDRAL SPEC NOTE: Provide submittals in accordance with Division 01 requirements and delete options not applicable to the Project.

CEDRAL SPEC NOTE: Edit the following paragraph to make the required selections and remove square brackets indicated below.

- .1 Provide submittals as indicated in [Division 01] [Section 01 33 00 Submittal Procedures].
- .2 Action Submittals: Provide the following submittals before starting work of this Section:
 - .1 Product Data: Submit manufacturer's product data for mineral-fibre cement shingles, including standard product information, accessory components, underlayment materials, fasteners, trims, and system-related materials required for a complete roof covering assembly.
 - .2 Shop Drawings: Submit Shop Drawings consisting of manufacturer's standard details and Shop Drawings, indicating the following:
 - .1 Layout and arrangement of mineral-fibre cement shingles, including coursing and roof area extents.
 - .2 Locations and configuration of starter shingles, hip and ridge shingles, and associated system components.
 - .3 Interface details at roof-to-wall conditions, penetrations, and transitions affecting the roof covering system.
 - .4 Accessory locations, including valley conditions, drip edges, and other system-related flashings integral to the roof covering assembly.
 - .5 Coordination requirements with roof deck sheathing and adjacent roofing components.
 - .6 Identification of optional system accessories where applicable, including snow guards and crickets.

CEDRAL SPEC NOTE: Edit the following paragraphs to reflect Project-specific closeout requirements and delete items not required.

- .3 Closeout Submittals:
 - .1 Closeout Submittals: In accordance with [Division 01] [Section 01 78 00 Closeout Submittals].
 - .2 Operating and Maintenance Data: Submit care and maintenance instructions for mineral-fibre cement shingles to be included in building operation and maintenance manual.
 - .3 Warranty Documentation: Submit copy of manufacturer's warranties specified in this Section.

1.6 SUSTAINABLE DESIGN SUBMITTALS

CEDRAL ENVIRO SPEC NOTE: Include this heading only when sustainability-related project requirements apply. Delete if not required on the project.

CEDRAL ENVIRO SPEC NOTE: Confirm all sustainability documentation requirements with project-specific rating system criteria before retaining submittals.

- .1 Embodied Carbon / Environmental Product Declarations (EPDs):

*CEDRAL SPEC NOTE: CEDRAL has a product-specific EPD for its products available at:
<https://www.cedral.world/EPDs>*

CEDRAL SPEC NOTE: Confirm whether project documentation requires submission of a copy of the manufacturer's EPD. Delete when not required on the project.

- .1 Submit the manufacturer's third-party verified Environmental Product Declaration for mineral-fibre cement shingles in accordance with EN 15804 + A2.
- .2 Submit documentation confirming declared unit, system boundaries, and environmental impact indicators as published in the verified EPD.
- .2 Material Ingredient Disclosure:

CEDRAL ENVIRO SPEC NOTE: Retain this article only when ingredient disclosure reporting is required by the project.

- .1 Submit manufacturer-published material composition information identifying cement binder, mineral fillers, fibres, and factory-applied surface coatings.
- .2 Submit ingredient disclosure documentation only when required for project-specific transparency, certification, or material-health pathways.
- .3 Regional Material Verification:

CEDRAL ENVIRO SPEC NOTE: Retain this article only when regional material sourcing contributes to project sustainability pathways.

- .1 Submit manufacturer-published sourcing information identifying production location and supply-chain region for mineral-fibre cement products.
- .2 Submit supporting documentation only when required to demonstrate compliance with project-specific regional content criteria.

1.7 QUALITY ASSURANCE

- .1 Manufacturer Qualifications:
 - .1 Provide products for work of this Section by a manufacturer with at least five (5) years' experience manufacturing such materials.
 - .2 Manufacturer shall maintain ISO 9001 certification for quality management systems and demonstrate ongoing product testing consistent with standards identified in this Specification.

CEDRAL SPEC NOTE: Confirm installer experience requirements and manufacturer-required training applicable to the products specified in this Section.

- .2 Installer Qualifications:
 - .1 Installation of mineral-fibre cement shingles shall be performed by a Contractor or Subcontractor with a minimum of three (3) years demonstrated experience installing similar systems, and who are eligible to obtain the manufacturer's warranty specified in this Section.
 - .2 Installer must have received training in the use of specialized equipment required for the complete installation of products specified in this Section.

.3 Single Source Responsibility:

CEDRAL SPEC NOTE: Select one of the following options below and delete the unused option.

- .1 [Obtain components and accessories for Work of this Section through one source, from a single manufacturer to ensure system component compatibility and warranty requirements are satisfied.] [Obtain primary materials for this Section from a single source by a single manufacturer, and secondary materials from sources recommended by manufacturers of primary materials.]
- .2 Mixing Products across various manufacturers without manufacturer's written permission is not permitted.

CEDRAL SPEC NOTE: Mock-ups are recommended to verify the quality of materials, workmanship, and installation methods prior to full-scale installation. They provide a reference example to ensure that the final installation meets specified expectations.

CEDRAL SPEC NOTE: Delete this heading requirement for small projects or where previous successful installations have been documented and approved by the Consultant.

1.8 MOCK-UPS

- .1 General:
 - .1 Construct mock-ups demonstrating full assembly, detailing, and coordination with adjacent work.
 - .2 Include all components required for a complete representative installation.

CEDRAL SPEC NOTE: Edit the following paragraph to make the required selections and remove square brackets indicated below.

- .3 Arrange review of mock-ups in accordance with [Division 01] [Section 01 43 39 Mockups].

CEDRAL SPEC NOTE: Adjust mock-up size and configuration to suit project conditions. Larger mock-ups may be required to demonstrate critical details for performance and visual finish consistency.

CEDRAL SPEC NOTE: Edit the followings subparagraphs below to reflect the scope and intent of constructing the mock-up on this project.

- .2 Mock-Up Construction:
 - .1 Minimum mock-up size of 2400 mm by 2400 mm (8 feet by 8 feet) or as directed by the Consultant.
 - .2 Include representative conditions such as inside corners, outside corners, joint conditions, termination details, and interfaces with adjacent work.
 - .3 Construct mock-ups using the same installers, tools, fasteners, and materials as intended for the final Work.
 - .4 Obtain Consultant approval of the mock-up location before construction.
 - .5 Include representative mineral-fibre cement shingles, underlayment, fasteners, and system accessories required to demonstrate a complete roof covering assembly.

- .3 Modifications and Interface Adjustments:
 - .1 Document all modifications to construction details or system interfaces needed to correctly sequence the Work or to meet performance obligations.
 - .2 Do not proceed with general installation until modifications have been reviewed and accepted by the Consultant.
- .4 Mock-up Review Meeting:

CEDRAL SPEC NOTE: Edit the following paragraph to make the required selections and remove square brackets indicated below.

- .1 Schedule a mock-up review meeting in accordance with [Division 01] [Section 01 31 19 Project Meetings].
 - .2 Meeting attendance shall include [Contractor] [Construction Manager], Consultant, and the [Subcontractor] [Trade Contractor] responsible for installation, and manufacturer's technical representative when required.
 - .3 Notify the Consultant and manufacturer's representative a minimum of 72 hours prior to the review meeting.
 - .4 Record all meeting outcomes and agreed-upon corrective actions.
 - .5 Review detailing, interfaces, and overall workmanship of the mineral-fibre cement shingles mock-up for consistency with the Contract Documents.
- .5 Acceptance:
- .1 Mock-up shall be reviewed and accepted by the Consultant prior to commencement of general installation.
 - .2 Accepted mock-up shall establish the standard of quality for materials and workmanship for the duration of the project.
 - .3 Do not proceed with general installation until written acceptance of the mock-up is received.
 - .4 Approved mock-ups may remain as part of the completed Work if located in a permanent, acceptable position and approved by the Consultant.

1.9 DELIVERY, STORAGE, HANDLING AND PROTECTION

CEDRAL SPEC NOTE: Edit this article to reflect manufacturer specific handling and protection practices. Ensure all storage and delivery provisions align with manufacturer literature and local environmental conditions.

CEDRAL SPEC NOTE: Delete or modify clauses where not applicable to this project.

- .1 Follow packaging, shipping and product handling requirements recommended by the manufacturer.
- .2 Coordinate deliveries to comply with the construction schedule and arrange ahead for off ground, under cover storage locations. Do not load any area beyond the design limits.
- .3 Materials shall be carefully checked, unloaded, stored, and handled to prevent damage. Protect materials with breathable, non-staining waterproof coverings.
- .4 Deliver, store, and handle materials in accordance with manufacturer's written instructions.

- .5 Store materials in original, unopened packaging with labels intact until time of use.
- .6 Protect materials from exposure to moisture, direct sunlight, temperature extremes, and physical damage during transit, storage, and installation.
- .7 Maintain ambient conditions, including temperature and humidity, within manufacturer recommended limits prior to installation.
- .8 Stack and store materials in a stable, level manner that prevents warping, deformation, or contamination.
- .9 Keep materials away from surfaces or conditions that could cause staining, corrosion, or deterioration.
- .10 Inspect materials upon delivery for defects, damage, or contamination. Remove and replace materials that do not meet specification requirements.
- .11 Ensure protective coverings are breathable where required to prevent condensation or moisture entrapment.
- .12 Coordinate storage locations and access with other trades to prevent interference or accidental damage.
- .13 Maintain site protection measures, including barriers, signage, and controlled access, to safeguard materials awaiting installation.
- .14 At completion of installation, remove temporary protection materials and restore adjacent areas to clean condition.

1.10 FIELD CONDITIONS

CEDRAL SPEC NOTE: Review manufacturer literature for environmental limitations prior to editing this article for recommended temperature, humidity, and substrate conditions.

CEDRAL SPEC NOTE: Modify subparagraphs to reflect project specific climatic conditions and construction sequencing when required.

- .1 Site Measurements:
 - .1 Verify that roof geometry, slopes, and layout dimensions are confirmed prior to installation of mineral-fibre cement shingles.
 - .2 Confirm that measured dimensions align with approved drawings to allow consistent coursing, alignment, and exposure.
 - .3 Verify locations of penetrations, edges, and terminations to ensure compatibility with the roofing system configuration.
- .2 Established Dimensions:
 - .1 Confirm that established roof dimensions allow installation of mineral-fibre cement shingles without excessive cutting or modification.
 - .2 Ensure that dimensional tolerances of the supporting structure permit uniform alignment and consistent appearance of installed shingles.
- .3 Ambient Conditions:
 - .1 Install mineral-fibre cement shingles only when substrates are dry and free of moisture that could impair fixing or long-term performance.
 - .2 Maintain ambient conditions suitable for handling, cutting, and fixing of mineral-fibre cement shingles without inducing cracking, edge damage, or surface contamination.

- .4 Weather Conditions:
 - .1 Do not install mineral-fibre cement shingles during precipitation, standing water conditions, or when surfaces are wet or frozen.
 - .2 Schedule installation activities to avoid adverse weather conditions that could affect material integrity, fixing security, or system continuity.
 - .3 Protect partially completed Work from weather exposure until permanent installation and weatherproofing measures are in place.

1.11 MANUFACTURER WARRANTY

CEDRAL SPEC NOTE: Edit the following paragraph to make the required selections and remove square brackets indicated below.

- .1 Provide manufacturer's standard warranty in accordance with [Division 01] [Section 01 78 36 Warranties].

CEDRAL SPEC NOTE: Ensure warranty requirements are acceptable with CEDRAL and the Owner before specifying in Contract Documents.

CEDRAL SPEC NOTE: Edit the following paragraph below to reflect the triggering coverage period start. Delete selections not required and remove all square brackets indicated below.

- .2 Warrant the work of this Section against defects in materials and workmanship in accordance with the General Conditions, but for an extended period of twenty (20) years from date of [Substantial Performance of the Work] [Ready-for-Takeover].
- .3 Defects included but are not limited to the following:
 - .1 Cracking, splitting, or breakage of mineral-fibre cement shingles not caused by impact, mishandling, or improper installation.
 - .2 Warping or distortion of shingles when installed in accordance with manufacturer guidelines.
 - .3 Surface coating failure including peeling, flaking, or blistering of factory-applied finishes.
 - .4 Excessive colour fading beyond normal weathering tolerance for exterior cement-based products.
 - .5 Moisture-related deterioration such as delamination or freeze-thaw damage when installed per manufacturer requirements.

2. PRODUCTS

2.1 MANUFACTURER

- .1 Basis-of-Design Products: Products named in this Section were used as the basis-of-design for the project; additional manufacturers offering similar products may be incorporated into the work of this Section provided they meet the performance requirements established by the named products.
- .2 Acceptable Materials Manufacturers: Subject to compliance with requirements specified in this Section and as established by the Basis-of-Design Materials, manufacturers offering products that may be incorporated into the Work include; but are not limited to, the following:

- .1 CEDRAL, an Etex Company
Distributed by HAUS Architectural Products
7250 Keele Street, Units 269 & 312, Vaughan, Ontario L4K 1Z8
Tel: 1-416-579-4986;
Email: info@haussupply.ca
Web: <https://haussupply.ca/>

CEDRAL SPEC NOTE: Edit the paragraph below based on whether or not Contractor-proposed substitutions are permitted.

- .3 Substitution Limitations: [No further substitutions are acceptable.] [Submit requests for substitution in accordance with requirements of Section 01 25 00 Substitution Procedures.]

CEDRAL SPEC NOTE: This Article identifies measurable performance criteria applicable to mineral-fibre cement shingles based on verified manufacturer test data and published product standards.

2.2 PERFORMANCE / DESIGN CRITERIA

- .1 General Performance:

CEDRAL SPEC NOTE: Retain this category to establish baseline performance expectations for mineral-fibre cement shingles as a roof covering system.

- .1 Mineral-fibre cement shingles shall be manufactured and tested in accordance with EN 492, Fibre-cement slates and fittings for roofing and cladding.
- .2 Mineral-fibre cement shingles shall be suitable for use as an exterior roof covering system when installed in accordance with manufacturer requirements and applicable design standards.
- .3 Mineral-fibre cement shingles shall be supplied as factory-manufactured units with consistent physical and dimensional characteristics suitable for repetitive installation.
- .2 Fire Performance:

CEDRAL SPEC NOTE: Retain this category when fire performance characteristics are required on the project. Delete the following paragraphs when fire performance is not required.

- .1 Mineral-fibre cement shingles shall be classified as non-combustible or limited-combustible when tested in accordance with applicable fire classification standards referenced by the manufacturer.
- .2 Mineral-fibre cement shingles shall not contribute to flame spread under normal service conditions as demonstrated by manufacturer test documentation.
- .3 Durability Characteristics:

CEDRAL SPEC NOTE: Retain this category to document long-term durability characteristics verified through manufacturer testing and published standards.

- .1 Mineral-fibre cement shingles shall demonstrate resistance to moisture exposure, freeze-thaw cycling, and weathering as evaluated in accordance with EN 492 test methods.

- .2 Mineral-fibre cement shingles shall maintain physical integrity and serviceability when exposed to exterior environmental conditions typical of roofing applications.
- .3 Mineral-fibre cement shingles shall be suitable for long-term exterior exposure without degradation that would impair intended function.

CEDRAL SPEC NOTE: This article defines compatibility requirements between materials specified in this Section, to ensure compliance with the manufacturer's installation standards and warranty provisions identified in this Section.

CEDRAL SPEC NOTE: Retain the following subparagraphs unless the manufacturer's literature or warranty provisions indicate otherwise.

- .4 Material Compatibility: Ensure compatibility between system components and interfacing materials.
 - .1 Products specified within this Section must not adversely affect adjacent materials, resulting in visual and/or physical degradation of either product.

2.3 SUSTAINABILITY CHARACTERISTICS

CEDRAL ENVIRO SPEC NOTE: Include this heading only when Sustainable Design Requirements were retained in Part 1. Delete if not required on the project.

CEDRAL ENVIRO SPEC NOTE: Confirm all sustainability characteristics with verified data sources such as EPDs or third-party documentation. Remove all that do not apply to this project.

- .1 General Sustainability Characteristics:
 - .1 Mineral-fibre cement shingles are manufactured as durable roof covering products intended to provide extended service life, supporting reduced replacement frequency over the building lifecycle.
 - .2 Mineral-fibre cement shingles are composed of stable, inert materials that are resistant to degradation under normal exterior exposure conditions, supporting long-term material integrity.
 - .3 Mineral-fibre cement shingles are designed to require limited ongoing maintenance, reducing material and resource consumption associated with repair, refinishing, or replacement activities.

2.4 MATERIALS

CEDRAL SPEC NOTE: Review the following material composition to ensure alignment with the product series selected for the Project. Delete non-applicable series and colour options based on the project.

- .1 Mineral-Fibre Cement Slate Shingles:
 - .1 4mm (5/32 inch) thick mineral-fibre cement slate shingles manufactured as rigid, factory-formed roofing units composed of a cementitious matrix reinforced with mineral and cellulose fibres.
 - .2 Products are supplied as slate-format shingles intended for exterior pitched roof applications, providing structural integrity and dimensional stability.

- .3 Mineral-fibre cement shingles incorporate integral colour throughout the cementitious body, produced using embedded pigments to retain appearance over time and reduce visibility of surface wear.
- .2 Texture and Finishing:
 - .1 Shingles are manufactured with factory-applied surface treatments designed to enhance weathering resistance, surface durability, and long-term appearance retention.
 - .2 Integral colour is incorporated during production to maintain visual continuity across the finished roofing installation.
 - .3 Provide uniform colour distribution consistent with the manufacturer's published colour ranges.

CEDRAL SPEC NOTE: Rivendale Slate Series is intended to replicate the depth, shadowing, and visual irregularity of natural slate.

CEDRAL SPEC NOTE: Select Rivendale Slate Series where a traditional slate appearance is desired with consistent factory-controlled geometry.

- .4 Moulded Slate-Profile Surface Finish:
 - .1 Mineral-fibre cement shingles with a moulded slate-profile surface finish providing pronounced texture and shadow definition.
 - .2 Slate shingles are manufactured as individual slate-format units with consistent thickness and riven surface character.
 - .3 Factory-Applied Finish: Moulded slate-profile surface with textured appearance.
 - .4 Format: Individual slate-format shingles.
 - .5 Basis of Design Product: Mineral-Fibre Cement Shingles, Rivendale Slate Series by Cedral; Distributed by HAUS Architectural Supply.

CEDRAL SPEC NOTE: Select one of the following colour options and delete the ones not required.

- .6 Colour: [Blue-Black] [Heather] [Cromleigh Graphite].

CEDRAL SPEC NOTE: Thrutone Endurance Smooth Series provides a refined, uniform roof finish.

CEDRAL SPEC NOTE: Select the Thrutone Endurance Smooth Series where a contemporary appearance with minimal surface texture and consistent colour is desired.

- .5 Smooth Series Profile Surface Finish:
 - .1 Mineral-fibre cement shingles manufactured with a smooth surface finish and uniform edge definition.
 - .2 Slate shingles are produced as individual slate-format units intended to create a clean, even roof plane.
 - .3 Factory-Applied Finish: Smooth surface.
 - .4 Format: Individual slate-format shingles.
 - .5 Basis of Design Product: Mineral-Fibre Cement Shingles, Thrutone Endurance Smooth Series by Cedral; Distributed by HAUS Architectural Supply.

CEDRAL SPEC NOTE: Select one of the following colour options and delete the ones not required.

- .6 Colour: [Blue-Black] [Heather] [Turf Brown] [Stone Green] [Russet] [Terracotta].

CEDRAL SPEC NOTE: Thrutone Endurance Textured Series introduces subtle surface variation while maintaining consistent shingle geometry.

CEDRAL SPEC NOTE: Select the Thrutone Endurance Textured Series where moderate texture is desired without a pronounced slate profile.

- .6 Textured Series Profile Surface Finish:
- .1 Mineral-fibre cement shingles manufactured with a lightly textured surface finish to introduce visual relief while maintaining uniform dimensions and edge definition.
 - .2 Factory-Applied Finish: Textured surface.
 - .3 Format: Individual slate-format shingles.
 - .4 Basis of Design Product: Mineral-Fibre Cement Shingles, Thrutone Endurance Textured Series by Cedral; Distributed by HAUS Architectural Supply.

CEDRAL SPEC NOTE: Select one of the following colour options and delete the ones not required.

- .5 Colour: [Blue-Black] [Heather] [Turf Brown] [Stone Green] [Russet] [Terracotta].

2.5 ACCESSORIES

CEDRAL SPEC NOTE: Review accessory requirements for compatibility, system completeness, and warranty compliance.

CEDRAL SPEC NOTE: Edit or delete items that do not apply to the specific configuration selected for the project.

- .1 Underlayment and Moisture Protection Layers:
- .1 Accessories required to provide secondary weather protection, substrate separation, and system durability beneath mineral-fibre cement shingles.
 - .2 Primer-less, self-adhered, highly vapour permeable sheet roofing underlayment, tested in accordance with ICC-ES AC 48 criteria to meet IBC and IRC requirements for weather resistive self-adhered membrane or roof underlayments for use as ice barriers.
 - .1 Colour: Black with allowable UV exposure for 180 days, prior to permanent roofing assembly coverage.
 - .2 Thickness: 0.51 mm (20 mil).
 - .3 Service Temperature: minus 40°C (40 °F) - 149°C (300°F)
 - .4 Basis of Design Material: SlopeShield Plus Self-Adhered by VaproShield; Distributed by HAUS Architectural Design.

- .2 Starter and Eaves Components:
 - .1 Provide factory-formed starter components designed to support the first course of mineral-fibre cement shingles and establish consistent exposure and alignment.
 - .2 Basis of Design Material: Eaves Starter Components by Cedral; Distributed by HAUS Architectural Design.
- .3 Fasteners and Fixing Accessories:
 - .1 Provide corrosion-resistant nails suitable for use with mineral-fibre cement shingles, sized and profiled to achieve required embedment without damaging shingle edges.
 - .2 Basis of Design Fasteners: Cedral Slate Fixing Nails by Cedral; Distributed by HAUS Architectural Design.
- .4 Ridge, Hip, and Termination Components:
 - .1 Provide ridge and hip components compatible with mineral-fibre cement shingles to allow secure termination and continuous weather protection at roof apexes.
 - .2 Basis of Design Material: Cedral Ridge and Hip Accessories by Cedral; Distributed by HAUS Architectural Design.
- .5 Verge and Edge Interface Components:
 - .1 Provide proprietary or manufacturer-approved verge and edge components to maintain clean terminations and protect exposed edges of mineral-fibre cement shingles.
 - .2 Basis of Design Material: Cedral Verge and Edge Accessories by Cedral; Distributed by HAUS Architectural Design.
- .6 Flashing Interface Components:
 - .1 Provide flashing accessories compatible with mineral-fibre cement shingles to maintain weather continuity at penetrations, transitions, and junctions.
 - .2 Basis of Design Material: Cedral flashing interface accessories by Cedral; Distributed by HAUS Architectural Design.
- .7 Penetration and Continuity Components:
 - .1 Penetration and continuity components maintain water shedding integrity at roof penetrations and enable system continuity at interfaces with structural or mechanical elements.
 - .2 Pipe boots, collars, or sleeves used at circular and small-diameter penetrations to maintain watertight continuity.
 - .3 Expansion joint separation components used where the roofing system intersects structural movement joints.
- .8 Sealants
 - .1 Sealant components support watertight continuity at flashings, penetrations, transitions, and termination points that require sealed conditions within the roofing assembly.
 - .2 Sealant compatible with mineral-fibre cement shingles and adjoining materials.

2.6 FABRICATION

CEDRAL SPEC NOTE: Review fabrication requirements for alignment with the selected product configuration.

CEDRAL SPEC NOTE: Delete fabrication categories that do not apply to this product system based on manufacturer documentation.

- .1 Factory Fabrication:
 - .1 Mineral-fibre cement shingles shall be factory manufactured as pre-formed slate units, supplied ready for installation without the need for site forming or alteration of basic product geometry.
 - .1 Shingles shall be factory cut, cured, and finished to final dimensions and profiles prior to delivery to the Project site.
 - .2 Surface texture, colour, and finish shall be integral to the factory-manufactured product and shall not require site applied treatments to achieve the specified appearance.
- .2 Field Fabrication:
 - .1 Limited field fabrication is permitted only where required to accommodate site-specific conditions and shall be performed in accordance with manufacturer recommendations.
 - .1 Cutting and trimming of mineral-fibre cement shingles may be performed in the field to suit edge conditions, penetrations, and terminations.
 - .2 Field cutting shall be limited to straight or simple profile cuts necessary to maintain layout continuity and system fit.
 - .3 Field-modified units shall retain structural integrity and shall not compromise the manufactured finish beyond cut edges.
- .3 Edge Preparation:
 - .1 Preparation of cut edges is required to maintain dimensional accuracy and system appearance where field fabrication occurs.
 - .1 Cut edges shall be clean, true, and free of cracking, chipping, or delamination.
 - .2 Damaged or irregular units resulting from fabrication shall not be incorporated into the Work.

3. EXECUTION

3.1 EXAMINATION

- .1 Examination activities include the following:
 - .1 Verify actual site conditions and location of adjacent materials prior to commencing work.

CEDRAL SPEC NOTE: Edit the following examination requirements necessary to confirm that substrate conditions, environmental readiness, and adjacent work meet installation and warranty prerequisites. Delete all which are not applicable on the project.

- .2 Verify that roof deck substrates are complete, secure, and capable of supporting mineral-fibre cement shingles without deflection or movement.
- .3 Verify that underlayment and eaves protection components are installed, continuous, and free of damage prior to installation of mineral-fibre cement shingles.
- .4 Verify that penetrations, flashings, and adjacent construction interfaces affecting the roofing system are in place and coordinated to receive mineral-fibre cement shingles.
- .2 Notify Consultant in writing of any conditions which would be detrimental to the installation.
- .3 Commencement of work implies acceptance of previously completed work.

3.2 PREPARATION

- .1 Preparation activities include the following:
 - .1 Prepare surfaces using the methods recommended for achieving the best results under project conditions.

CEDRAL SPEC NOTE: Edit the following preparation requirements necessary to ensure the substrate and related components meet installation and warranty prerequisites. Delete all which are not applicable on the project.

- .2 Ensure surfaces receiving the work are clean, dry, free of debris, and in a condition suitable for installation.
- .3 Ensure surface conditions comply with manufacturer preparation criteria for the specified product.
- .4 Perform additional preparation procedures as required by the manufacturer's written instructions.
- .2 Substrate Preparation:

CEDRAL SPEC NOTE: Maintain Section specific substrate preparation requirements only where supported by manufacturer documentation or Verified Masters. Delete if not applicable.

- .1 Ensure substrate surfaces are smooth, clean, dry, free of defects, and structurally sound.
- .2 Ensure substrate defects are corrected by responsible parties before installation begins.
- .3 Protect building surfaces from damage or contamination during preparation and installation operations. Prevent materials from entering drains, blocking exits, or creating safety hazards.

3.3 INSTALLATION

- .1 General Installation Requirements:

CEDRAL SPEC NOTE: Maintain installation requirements necessary to align sequencing, fixing, layout methods, and coordination steps with manufacturer instructions and warranty prerequisites.

- .1 Install mineral-fibre cement shingles in accordance with manufacturer written instructions, reviewed shop drawings, and accepted mock ups.
 - .2 Install shingles only on continuous, structurally sound roof substrates capable of supporting imposed loads and maintaining fixing integrity.
 - .3 Do not commence installation until examination and preparation activities have been completed and accepted.
 - .4 Install shingles in a manner that maintains required laps, exposures, fixing locations, and drainage paths to ensure long term weather resistance.
- .2 Layout and Setting Out:

CEDRAL SPEC NOTE: Edit the following subparagraphs based on roof pitch and selected slate series.

- .1 Set out shingle courses to maintain consistent exposure across roof planes.
 - .2 Maximum exposure shall not exceed 260 mm (10 1/4 inches) unless otherwise permitted by manufacturer documentation for specific roof pitches.
 - .3 Minimum head lap shall be 100 mm (4 inches).
 - .4 Adjust exposure where required to accommodate roof pitch, ensuring water shedding performance is maintained.
 - .5 Align vertical joints in a broken bond pattern to avoid continuous vertical joints across adjacent courses.
- .3 Primary Component Installation:

CEDRAL SPEC NOTE: Maintain fixing, lap, and dimensional requirements necessary to preserve weather resistance and warranty eligibility.

- .1 Install mineral-fibre cement shingles measuring 600 mm x 300 mm (23 5/8 inches x 11 13/16 inches) nominal.
 - .2 Install shingles from eaves upward in horizontal courses.
 - .3 Provide minimum side laps of 60 mm (2 3/8 inches) between adjacent shingles.
 - .4 Fix each shingle with two corrosion resistant nails located a minimum of 20 mm (3/4 inch) from side edges and positioned above the head lap line to ensure concealed fixing.
 - .5 Drive fixings flush with the shingle surface without overdriving or fracturing the material.
 - .6 Do not rely on sealants or adhesives as primary fixing methods unless explicitly permitted by manufacturer documentation.
- .4 Accessory Installation:

CEDRAL SPEC NOTE: Coordinate accessory installation with shingle layout to maintain continuous weather protection.

- .1 Install underlayment continuously beneath mineral-fibre cement shingles, extending to eaves, ridges, hips, and penetrations in accordance with accessory manufacturer requirements.

- .2 Install eaves starter components to establish correct first course alignment and exposure.
- .3 Secure starter components to provide continuous support along the eaves and maintain straight course alignment.
- .4 Install ridge and hip components after completion of adjacent shingle courses, ensuring overlap and fixing patterns maintain weather continuity.
- .5 Install verge and edge components to protect exposed shingle edges and maintain clean terminations.
- .5 Interface Installation:

CEDRAL SPEC NOTE: Maintain clearances and overlaps necessary to accommodate movement and prevent moisture intrusion.

- .1 Install flashing components at valleys, penetrations, roof to wall intersections, and terminations to maintain continuous water shedding.
- .2 Maintain minimum clearance of 5 mm (3/16 inch) between mineral-fibre cement shingles and adjacent rigid elements to accommodate movement.
- .3 Ensure flashings extend beneath shingles a minimum of 150 mm (6 inches) where required to maintain drainage continuity.
- .4 Coordinate interface detailing with adjacent materials to prevent differential movement damage.
- .6 Finishing and Completion:

CEDRAL SPEC NOTE: Delete subparagraphs not applicable to the selected project configuration.

- .7 Replace damaged, cracked, or improperly installed shingles prior to completion.
- .8 Ensure completed roof surfaces are uniform in appearance with consistent exposure and alignment.
- .9 Remove debris and loose materials from roof surfaces and drainage paths at completion of work.
- .10 Protect completed roofing from damage by subsequent construction activities.

3.4 FIELD QUALITY CONTROL

- .1 Manufacturer Field Inspections:
 - .1 Allow the manufacturer's technical site representative to carry out periodic visual observations during installation when requested by the Consultant or Owner.
 - .2 Review substrate readiness, fixing locations, interface conditions, ventilation pathways, and general conformance with documented installation requirements.
 - .3 Observe flashing integration at abutments, penetrations, ridges, hips, and edges to confirm compatibility with the roofing system.
 - .4 Review coursing alignment, exposure gauge, and joint offset for consistency with approved layout and detailing.

- .2 Installer Field Verification:
 - .1 Verify fixing patterns comply with required lap dimensions, fastener spacing, and placement locations.
 - .2 Inspect mineral-fibre cement shingles for correct seating, alignment, and engagement throughout installation.
 - .3 Confirm supporting components, underlayment, and ventilation elements remain correctly positioned and unobstructed.
 - .4 Review cut edges and trimmed mineral-fibre cement slate shingles for clean workmanship and appropriate placement within the roof assembly.
 - .5 Inspect installation of verge, ridge, hip, and termination components for secure fixing and uniform appearance.
 - .6 Confirm ventilation pathways remain continuous and free of obstructions during installation.
- .3 System Specific Field Quality Control:
 - .1 Inspect transitions at changes in roof geometry to confirm coursing continuity and alignment are maintained.
 - .2 Review detailing at penetrations to confirm integration of penetration components with adjacent shingles and flashings.
 - .3 Verify enhanced fixing patterns where required for exposure conditions are correctly implemented.
 - .4 Confirm completed work exhibits consistent alignment, uniform exposure, and an overall appearance consistent with approved details.

3.5 CLEANING

CEDRAL SPEC NOTE: Retain all standard subparagraphs unless manufacturer-specific instructions require additional or modified cleaning procedures.

CEDRAL SPEC NOTE: Edit the following two paragraphs to make the required selections and remove square brackets indicated below.

- .1 Perform cleaning operations in accordance with manufacturer's written instructions and [Division 01] [Section 01 74 00 Cleaning and Waste Management].
- .2 Clean all exposed surfaces and touch-up, repair or replace damaged products before [Substantial Completion of the Work] [Ready-for-Takeover].
- .3 Clean exposed surfaces of mineral-fibre cement slate shingles using methods recommended by the manufacturer.
- .4 Remove dust, cutting residue, sealant residue, and installation-related debris from finished surfaces.
- .5 Use only cleaning materials and methods that do not cause surface damage, discoloration, or finish degradation.
- .6 Do not use solvents, harsh chemical agents, pressure washing, or abrasive tools on installed mineral-fibre cement slate shingles.

- .7 Interim Cleaning:
 - .1 Remove accumulated debris from roof surfaces at regular intervals during installation to prevent surface staining or damage.
 - .2 Keep drainage paths, flashings, and interfaces free of construction debris throughout installation.
- .8 Final Cleaning:
 - .1 Upon completion of installation, remove all loose debris, dust, and construction residue from the roofing surface.
 - .2 Leave mineral-fibre cement shingles clean, uniform in appearance, and free of visible damage.
- .9 Waste Management and Disposal:
 - .1 Sort waste materials for reuse, recycling, or disposal as required.
 - .2 Remove waste materials, containers, and debris from the site and dispose of them at approved facilities.
 - .3 Maintain site cleanliness throughout installation activities to prevent contamination of completed work.

3.6 PROTECTION

CEDRAL SPEC NOTE: This article defines the protection requirements necessary to preserve the condition and performance of installed products specified until final acceptance.

CEDRAL SPEC NOTE: Protection measures are critical to warranty validation and should remain in place until the Consultant and manufacturer confirm completion of post-installation inspections.

- .1 General Protection:
 - .1 Protect installed mineral-fibre cement shingles and related components from damage, defacement, and contamination during subsequent construction operations.
 - .2 Prevent traffic, storage of materials, or placement of equipment on completed roofing assemblies that could impair alignment, surface condition, or weather integrity.
- .2 Temporary Protection:
 - .1 Provide temporary coverings, barriers, or protective measures where required to shield installed mineral-fibre cement shingles from impact, debris, or construction related damage.
 - .2 Maintain temporary protection in place until risk of damage from adjacent work has passed.
- .3 Environmental Control:
 - .1 Protect installed mineral-fibre cement shingles from prolonged exposure to standing water, construction debris accumulation, or conditions that could impair surface appearance prior to final acceptance.
 - .2 Maintain protection measures to prevent contamination from airborne dust, mortar splatter, sealants, coatings, or other materials generated by adjacent work.

- .4 Damage Repair and Restoration:
 - .1 Inspect protected work periodically to confirm the condition of coverings and protection measures.
 - .2 Immediately repair or replace any components showing signs of damage, staining, cracking, or deterioration.
 - .3 Do not remove protection until final inspection and acceptance by the Consultant.
 - .4 Restore affected areas to match adjacent undamaged work in appearance, alignment, and condition.

END OF SECTION