

PART I GENERAL**1.1 SECTION INCLUDES**

1. Geopanel Grille Wood Ceiling Panels and Connection Hardware
2. Coordination with other trades that have parts attached to, penetrate through or positioned above the wood panels of this section.

1.2 PRODUCTS INSTALLED BUT NOT SUPPLIED UNDER THIS SECTION

1. Sound absorbing black glass fiber blanket 50 kg/m³ density.
2. Ceiling suspension system & components.

1.3 RELATED SECTIONS

1. Drawings and general provisions of Contract including General and Supplementary Conditions.
2. Section [____] – LEED Requirements.
3. Section [07 21 16] – Blanket Insulation
4. Section [09 51 10] – Acoustic Tile
5. Section [21 13 00] – Sprinklers: Sprinkler heads in ceiling systems.
6. Section [23 37 00] – Air Outlets and Inlets: Air diffusion devices in ceiling systems
7. Section [26 51 13] – Interior Luminaries: Light fixtures in ceiling systems.
8. Section [28 31 00] – Fire Alarm: Fire Alarm components in ceiling system.

1.4 REFERENCES

1. ASTM A 641: Standard Specification for Zinc Coated (Galvanized) Carbon Steel Wire: 1992.
2. ASTM C 423: Standard Test Method for Sound Absorbing and Sound Absorbing Coefficient by Reverberation Room Method; 1990.
3. ASTM C 635: Standard Specifications for Metal Ceiling Systems for Acoustic Tile and Lay-In panels.
4. ASTM C636/C636M-06 – Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels.
5. ASTM E580/E580M-06 – Application of Ceiling Suspension Systems for Acoustic Tile and Lay-in Panels in Areas requiring Moderate Seismic Restraints.

6. ASTM E-1264-98(2005) – Classification of Acoustical Ceiling Products.
7. CAN/ULC S702-97 – Thermal Insulation Mineral Fiber for Buildings.
8. ASTM E 84: Standard Test Method for Surface Burning Characteristics of Building Materials; 1991.
9. CAN/ULC S102: Canadian Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Covering, and Miscellaneous Materials and Assemblies
10. AWI (QSI): Architectural Woodwork Quality Standard Illustrated; 2003
11. CISCA: Ceiling Systems Handbook.
12. Local Building Code – Current Edition.

1.5 QUALITY ASSURANCE

1. Manufacturer Qualifications:
 1. Manufacturers other than those listed in Paragraph 2.1 are required to submit for approval prior to bidding per Section 1.
 2. Proposed substitutions should be submitted to the architect no later than ten working days prior to the bid due date.
 3. Substitution request should be accompanied with complete information including
 1. Product details showing design, size, edge condition, standard penetrations, mounting hardware with suspension grid;
 2. Sample [12" x 18"] showing veneer, finish, edge condition etc.
 3. Acceptance of substituted products is contingent of the architect's approval and compliance with the specified criteria.
2. Installer Qualifications: Engage an experienced installer, approved by wood ceiling manufacturer, who has completed panel ceilings similar in design and extent to that which is indicated for this project and with a record of successful in-service performance.
3. Inspection: All work must pass inspection and approval of architect, as well as the local codes and regulations or authorities having jurisdiction.
4. Single-Source Responsibility for Wood Ceiling Panels: Obtain each type of Wood Ceiling Panels from a single fabricator, with in-house shop drawing capabilities, in-house assembly and finishing capabilities, and with resources to provide products of consistent quality in appearance and physical properties without delaying the project.

1.6 REGULATORY REQUIREMENTS

1. Fire Performance Characteristics: Provide wood ceiling components that are identical to those tested for following fire performance characteristics, according to ASTM test indicated:

1. Surface Burning Characteristics: as follows, tested per ASTM E84.
 1. Flame Spread: 25 or less
 2. Smoke developed: 50 or less.

1.7 LEED REQUIREMENTS

1. Credit MR 4.1 & 4.2: For product having recycled content, documentation indicating percentages by weight of post-consumer and pre-consumer recycled content. Include statement indicating cost of each product having recycled content **[insert if applicable]**.
2. Credit MR 5.1 & 5.2: List of proposed regionally manufactured materials and regionally extracted, harvested or recovered materials **[insert if applicable]**.
 1. Identify each regionally manufactured material, its source, and cost.
 2. Included map or other similar documentation, confirming the following:
 1. Driving distance between location of manufacture and Project site.
 2. Driving distance between location of extraction, harvesting, or recovery and Project site.
3. Credit MR 7: Provide Manufacturer's Forest Stewardship Council chain of custody certificate, issued by certified FSC Body for wood panels supplied for the project. Indicate input credit (Pure or Mixed) on the packing slips & invoices **[insert if applicable]**.
4. Credit EQ 4.2: Submit manufacturer's product data for paints and coatings. Indicate VOC limits of the product **[insert if applicable]**.
5. Credit EQ 4.4: For engineered wood products provide documentation that composite wood and agrifiber products contain no added formaldehyde **[insert if applicable]**.
 1. ANSI A208.1 – 1999, Particleboard
 2. ANSI A208.2 – 2002, Medium Density Fiberboard (MDF) for Interior Applications.

1.8 ADMINISTRATIVE REQUIREMENTS

1. Section **[01 31 00]**: Project management and coordination procedures.
2. Sequencing: sequence work to ensure wood acoustic panels are not installed until building is enclosed, sufficient heat is provided, dust generating activities have terminated, ambient temperature and humidity conditions are being maintained at the levels indicated for Project when occupied for its intended use and overhead work is completed, tested and approved.
3. Install wood acoustic panels after interior wet work is dry. Heating and cooling systems shall be fully operational and running prior to installation.
4. Maintain uniform temperature of minimum 20 degrees C, and maximum humidity of 55 percent prior to, during, and after wood acoustic panel installation.

1.9 SUBMITTALS

1. Submit each item in this Section according to the Conditions of the Contract and

Section [01 33 00]: Submittal Procedures.

2. Product data: Submit manufacturer's product specifications and installation instructions for each acoustical ceiling material required. Include manufacturer's recommendations for cleaning and refinishing acoustic wood panels, including precautions against materials and methods which may damage finish and acoustical performance.
3. Shop Drawings: When required, manufacturer shall supply shop drawings showing sizes and location of wood ceiling panels. Set of shop drawings should consist of RCP, standard installation details, manufacturer's special installation requirements, including perimeter conditions requiring special attention. The Contractor should verify site conditions with dimensions on shop drawings.
4. Samples: a [12" x 18"] sample for each type of Geopanel Grille, showing full range of exposed color and grain variation to be expected in completed work will be submitted by the manufacturer. Sample will be labeled to fully identify wood species and selected finish.

1.10 DELIVERY, STORAGE AND HANDLING

1. Delivery and unloading: Coordinate crate sizes, weights, unloading options, and delivery schedule with manufacturer prior to fabrication. Deliver wood panels to Project site in original, unopened packages and store them flat and level in a fully enclosed space where they will be protected against damage from moisture, direct sunlight, surface contamination, and other mistreatment.
2. Climatization: Before installing wood panels, permit them to reach room temperature and stabilized moisture content (at least 72 hours) per AWI standards.
3. Handling: Handle Wood Panels carefully to avoid chipping edges or damaging units in any way.

1.11 EXTRA MATERIALS / WARRANTIES

1. [Extra or Owners stock] Materials: Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with label clearly describing content.
 1. Wood Panels: Furnish quantity of full size units equal to [2.0] percent of amount installed.
2. Warranties: Provide owner with a one year warranty for materials and workmanship on all installed products.
 1. Manufacturers: All materials supplied by the wood panel manufacturer shall be guaranteed against manufacturing defects for one (1) year. Because of differing site conditions, wood stains and coloring can vary with age, and are excluded from this warranty.
2. Contractor: All work shall be guaranteed for one (1) year from final acceptance of completed work.

PART 2 PRODUCTS

2.1 WOOD GRILLE CEILING PANELS, GENERAL

1. Standard for Wood Grille Panels: Provide manufacturer's standard units of configuration indicated which are prepared for mounting method designated and which comply with those indicated by reference to type, form, pattern, grade, edge detail.
2. Colors, Texture and Patterns: Provide acoustical wood panels to match appearance characteristics or if not otherwise indicated, as selected by Architect from manufacturer's standard finishes, veneer and pattern available for Wood Grille Ceiling Panels.

2.2 MANUFACTURERS – WOOD GRILLE CEILING PANELS

1. Base of design:
Geometrik Manufacturing Inc.
1449 Velocity Street, Kelowna, BC V1V 3C2
Ph. 1-888-306-0024 or 250-769-1500, fax: 250-769-1520, www.geometrik.com
2. **Product: Geopanel Grille** **Model: [as specified by Architect]**
3. **[Optional]** Other acceptable manufacturers offering functionally equivalent products.
[_____] [Model] [Style] [_____]
[_____] [Model] [Style] [_____]
4. **[Optional]** Substitution: Not permitted.

2.3 MATERIALS – WOOD GRILLE CEILING PANELS

1. Wood Specie: **[Insert wood specie required & solid wood or wood veneer]**
2. Panel size: Standard 1' wide x up to 10' long (or as shown on the drawings) or Custom **[refer to RCP for panel sizes]**
3. Blades: One continuous length - no finger joints.
4. Blade size: **[Insert size required]**
5. Quantity: **[Insert number of blades required]**
6. Backer: Cross Wood Backer Painted Black

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| 7. | Acoustical Backer: | Black Acoustical Woven Material [Optional] |
| 8. | Fire Rating: | [Optional = Class A [Class 1] or Class C] |
| 9. | Installation: | [Direct screw to wood furring or Backer Clips] |
| 10. | Core Substrate: | [Req'd if veneer] Industrial grade medium density fiberboard manufactured from pre-consumer recycled wood from sustainably managed forests [optional] with formaldehyde-free adhesive system [optional]; certified Class A [Class 1] flame retardant panel with flame spread less than 25 and smoke development less than 50 when tested in accordance with ASTM E-84 [optional]; FCS© certified [optional]; 48 lbs/cu ft; Medite® FR. [Optional = Particleboard] |
| 11. | Finish: | 20 sheen clear – manufacturer's standard finish
[Optional Opaque or transparent stains] |

2.4 SUSPENSION SYSTEM

1. 15/16" Prelude XL HD (heavy duty) #7301 Main T-Bar by AWI: Installer shall provide and install standard suspension T-Grid system using Main Runners, Cross Tess, Wall Angle or Shadow Mouldings of types, structural classifications, and black finishes indicated and that comply with applicable ASTM 635 requirements, seismic codes and ordinances. A #12 gauge wire hanger shall be installed on 4' centers along each main runner. All wire hangers are to be attached to an industry standard connecting device meeting recommended loading requirements (i.e., inserts, screw eyes, etc.)
2. The Geopanel Grille ceiling panels shall be suspended using direct screw attachment through wood backer to wood furring (15/16" heavy duty T-Bar) or Geometrik wood backer clip to 15/16" heavy duty T-Bar (Ceilings only), according to project design.
3. The installer is responsible for supplying main runners, cross tees, wall angles, and other related hardware as specified by the architect and installing with compliance with applicable ASTM C635 standards, seismic codes and local construction codes.

2.5 ACCESSORIES

1. Matching perimeter trim to be supplied by wood ceiling manufacturer. [Insert if applicable]
2. Touch-up Paint: Type and colour to match acoustic wood panels.
3. Optional Wood Backer Clips, if required for installation.
4. Acoustic Batt Insulation: Specified in Section [07 21 16] 1 inch thick [Thickness determined by desired NRC rating] supplied and installed by Contractor. [Insert if applicable]

2.6 FINISH

1. Shop Finishing: Panels shall be shop-finished with selected stain and clear, semi-gloss post-catalyzed lacquer per color selection by architect.
2. Due to the nature of real wood (variation in grain, texture and color) the finished product may range from light to dark affecting the look of the panels.

PART 3 EXECUTIONS**3.1 PREPARATION**

1. Ceiling Layout: Measure each ceiling area and establish the layout of wood ceiling panels conforming to the layout shown on reflected ceiling plans, in accordance with wood ceiling manufacturer's approved Shop Drawings. For custom factory cut to size panels: field dimension shall be verified prior to manufacture of wood ceiling panels.
2. Coordination: The Contractor shall furnish the layout for supports that shall be installed for suspension of ceilings. Contractor shall furnish concrete inserts, steel deck hanger clips, or similar devices for installation, in time to coordinate the work. The contractor shall coordinate the installation of the ceiling panels with other construction elements that penetrates ceiling; including light fixtures, HVAC equipment, fire-suppression system components, partition assemblies and all perimeter conditions. Positioning of such elements shall be located and cut in the field.

3.2 INSTALLATION

1. Install in compliance with local building code.
2. General: Comply with manufacturer's instructions and CISCA "Ceiling Systems Handbook".
3. Install wood ceiling panels in accordance with manufacturer's installation instructions and in compliance with all local codes and regulations. Install with undamaged edges and fitted accurately to suspension system. Scribe and cut panels at borders and penetrations to provide a neat, precise fit, as required.
4. Light fixtures and HVAC penetrations: all mechanical and electrical installations integral to the ceiling must be suspended and supported independently of all wood ceiling elements.

3.3 CLEANING

1. General: Clean exposed wood surfaces of wood ceiling panels. Comply with manufacturer's instructions for cleaning and touchup of minor finish damage. Remove and replace wood ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

3.4 INSPECTION

1. When Geometrik wood ceiling panels have been completely installed, the owner and/or his representative shall inspect all finished surfaces of the wood ceiling system to validate that the work has been completed in compliance with these specifications. Any defect in meeting installation specifications shall be corrected by the installing contractor at no additional cost to the owner and/or to Geometrik Manufacturing Inc.

END OF SECTION