Part 1 - GENERAL

1. GENERAL REQUIREMENTS

    1. Division One is a part of this Section and shall apply as if repeated here.

2. DESCRIPTION OF SYSTEMS

    1. Lay-in Wood Tile System: Exposed suspended tee-bar system accommodating 2'-0" x 4'-0" (610 mm x 1220 mm), 2'-0" x 2'-0" (610mm x 610mm), 2'-6" x 5'-0" (762mm x 1524mm) and other sizings of acoustical panels in areas as indicated drawings and reflected ceiling plans as acoustical tile ceiling.

    2. All tile and suspension systems shall comply to U.L.C. Design as indicated on drawings.

3. SAMPLES

    1. Submit for approval, two samples of each type of tile to be used in the project.

4. WORK INCLUDED

    1. This contractor shall supply and install all acoustic tile and required accessories as indicated on the working drawings, room finish schedule, including the following:

        .1 All non-combustible ceiling board.

        .2 All exposed "T" grid suspension systems.

5. MAINTENANCE MATERIALS

    1. Deliver acoustical units in packages for maintenance use amounting to at least 5% of gross ceiling area for each lay-in panel type. Store where directed. Clearly identify packages.

    2. Maintenance materials shall be of same production run as installed materials.

6. ENVIRONMENTAL CONDITIONS

    1. Commence installation only after building has been enclosed and dust generating activities have been completed.

    2. Permit wet work to dry completely before commencement of installation.

    3. Ensure that a uniform minimum temperature of 15 deg. C. and humidity of

20-40% before, during, and after installation is maintained.

7. LETTER OF CERTIFICATION

1. The Contractor, together with manufacturer, shall submit a written confirmation, signed by manufacturer's registered professional engineer, stating that the suspended ceiling system will provide adequate support for electrical fixtures, as required by current bulletin of the ESA of Ontario Hydro. NOTE: all electrical fixtures to have independent supports in fire rated ceilings.

8. WARRANTY

1. Provide 10 year warranty on ceiling tiles for humidity and sag resistance.

Part 2 - PRODUCTS

1. Lay-in Tile System:

1. Hangers: Min. No. 12 (2.5 mm) SWG galvanized mild steel hanger wire - 24" (600 mm) o.c. or galvanized steel wire of size capable of safety supporting anticipated ceiling system and loading.

2. Tees: Armstrong Superfine 9/16" suspension Systems for square tegular tile system

.1 Main Tees: .021" (.53 mm) thick cold rolled steel, double web, with rectangular bulb section at least I 1/2" (38 mm) high. Fabricate with punched cross tee holes at not greater than 16" (400 mm) o.c. and hanger wire holes at 2" (50 mm) o.c. Exposed flange shall be 15/16" (23.8 mm) wide and not less than .009" (.23 mm) thick cold rolled steel.

.2 Cross Tees: Double web design with rectangular bulb; web extending to form a positive inter lock with main tees in same exposed flange width.

.3 See lay-in panel types for width of Tees to be used with each tile type.

3. Provide AXIOM Building Perimeter System, as manufactured by Armstrong Ceilings, at all areas where linear diffusers are shown on plan (along exterior window locations). Refer to drawings for locations. Contractor to coordinate all components of this product as recommended by manufacturer.

4. Accessories:

.1 Miscellaneous approved clips, splicers, screws, nails and other standard types to suit applicable conditions. Provide special

accessories as required. Accessories shall be galvanized after forming.

.2 Standard edge moulding as manufactured by system manufacturer to suit applicable details. Moulding shall be formed of zinc coated steel.

.3 Provide Armstrong Impact Clip System Item No. 414 system at areas where clipped down ceilings are indicated on drawings and at all vestibule entrances. Provide accessible type clips where access is required.

5. Finish:

.1 Tees, edge mouldings, and exposed accessories shall be finished with baked, non-yellowing, low sheen colour. Colour to be black.

6. Lay-in Panels:

.1 Install tile types where acoustic tile is indicated on room finish schedule. Tile types are as listed below:

1. Wood Panels (WP): "WoodWorks Tegular", as manufactured by Armstrong World Industries, or approved equal
Accessories: Item #8200100: 24 inch x 24 inch x 1 inch, Fiberglass Infill Panel, colour to be Black .
Panel Size: Made-to-order sizes, surface texture to be Smooth
Composition: Medium Density Fiberboard
Perforation: W2
Finish: Manufacturer's standard Constants – Vertical Grain finish, color to be Constants Walnut (CWA).

Final color and perforation to be selected by architect from manufacturer's full list of finishes prior to ordering.

7. Tie Wire: 1.2 mm galvanized annealed steel wire.

8. Inserts and attachments to Structure for Hanger Connections: to suit conditions and loadings, galvanized after fabrication.

9. PLENUM SPACE SOUND CONTROL SYSTEM

.1 Provide & install Pre-engineered high performance acoustical extension wall for noise control within the ceiling plenum:

.2 Non-combustible, rigid high density mineral fiber insulation board to ASTM C-612, size 25mm (1") thickness x 610mm (24") x 1220mm (48") having scrim reinforced foil facing vapour retarder both sides to UL 723/ASTM E-84 (FS 10 and SD 0 foil side), density (weight) of 4.4 kg/m² (0.9 lbs/sq. ft.), 24 STC.

.3 An acceptable product: AcoustiGuard™ Return-Air silencer; 50mm (2") thick with foil exterior, and black absorptive interior liner 0.29mm (11.3 mil) thickness having flame resistance <2.54 cm (<1") to Lydall-TM-033. Supplied by Wilrep Ltd., 1515 Matheson Blvd. East, Unit C-10, Mississauga , ON L4W 2P5., (905-625-8944; toll free 1-888-625-8944), e-mail: info@wilrep.com; Web: www.acoustiguard.com or www.wilrep.com, or acceptable alternate.

Part 3 - EXECUTION

1. WORKMANSHIP

1. Installation shall be by skilled mechanics and in strict accordance with system manufacturer's printed directions to produce a first class, flush finished surface in true plane and free from drooping, warped, uneven joints, damaged tile or panels. Butt joints tightly.

2. Consult with mechanical and electrical trades to co-ordinate and arrange work to accommodate recessed fixtures, diffusers, grilles, and other similar items, where indicated on mechanical and electrical drawings. Recessed items shall replace, or be centred in acoustical units.

3. Frame around recessed fixtures, diffusers, grilles and openings and where normally required in good standard practice.

4. Provide all furring required and construct drywall bulkhead, incorporated as part of best standard practice to Architect's approval.

5. Provide and install protection panels and/or five sided box enclosures at recessed lighting fixtures, speaker boxes, diffusers, duct openings, firestop flaps, etc. as specified in the applicable ULC assembly specification. Approval of enclosures and protection will be by Architect and/or Municipal Authorities.

2. ERECTION

1. Lay-in Tile System

.1 Install ceiling suspension system to ASTM C636-76 and manufacturer's instructions, except where specified otherwise.

.2 Supply hangers and inserts to support the grid in time to be installed in structural system if required.

.3 Hangers for acoustic systems shall be spaced to comply to U.L.C. Design, approximately 4 ft. (1200 mm) centres both ways and where normally required in good standard practice.

.4 Secure hangers firmly.

.5 Erect carrying channels for suspended systems of required elevation and level to tolerance of 1/8" (3.2 mm) over 12 ft. (3650 mm). Frame around recessed fixtures, diffusers, grilles and openings and where normally required in good standard practice. Furr around ducts, beams, bulkheads or the like, as shown or required by U.L.C. Standard.

.6 Ensure that the suspension system supports the completed assembly, including all superimposed loads, such as lighting fixtures, diffusers and grilles, with a maximum deflection of 1/360 of the span. Provide supplemental hangers within 6" (150 mm) of each corner and at maximum 2'-0" (610 mm) around perimeter of light fixtures.

.7 Attach exposed tees at centres required in good standard practice.

.8 Install expansion joints in all main beams as required by U.L.C.

.9 Provide angle wall mouldings at junctions of ceilings and vertical surfaces.

.10 Provide spring clips to ensure tight installation, in rooms having an area less than 20 sq. ft. (1800 mm2).

.11 Provide lay-in tile and grid to meet fire rating at all fire rated ceilings.

.12 Erect ceiling system at required elevation and level to tolerance of 1/8" (3 mm) in 12'-0" (3660 mm).

.13 Cut reveal edges to match factory detail at all reveal edge lay-in ceiling that needs cutting to fit grid size.

3. FIXTURE SUSPENSION

1. Make provisions for carrying flush mounted and recessed fixtures on suspended ceilings, using 4 hangers per fixture. Consult and coordinate with Electrical and Mechanical Trades.

2. The suspended ceiling system must comply with the current bulletin from the Electrical Inspection Department of Ontario Hydro regarding "Lighting Fixtures in Suspended Ceilings".

3. It is the responsibility of this contractor to supply the Architect with a letter stating that the suspension system is capable of holding the electrical fixtures as shown on the electrical drawings and as required by the above bulletin of the Electrical Inspection Department of Ontario Hydro.

4. MITRED JOINTS

    1. "T" bar ceiling grid to be mitred at the outside corners.

5. ACOUSTICAL UNITS

    1. Install acoustical units parallel to building lines to produce uniform borders and with edge units not less than 50% of unit width.

    2. Accurately scribe and cut acoustical units to fit recessed items and adjacent work. Butt joints tight; terminate edges with moulding.

6. SPECIAL CLEANING

    1. Keep acoustical panel installation and all components clean.

    2. Remove and replace damaged or improperly installed units.

7. MECHANICAL EQUIPMENT ACCESS

    1. Install "T" bar system to allow it to be removed easily at areas where mechanical units occur to allow units to be easily removed. NOTE: Stop main "T" on each side of equipment access.

8. IMPACT CLIPS

    1. Install Impact Clip System at all acoustic tile ceiling areas indicated on drawings including rooms less than 20 sq. ft., (1800 sq. mm.) and all vestibules.

9. CERTIFICATION

    1. Provide at completion of work a written certification that all ceiling conform to the requirements of the ULC design criteria for fire rated assemblies and that the suspended ceiling will provide adequate support electrical fixtures as per current bulletin of the ESA of Ontario Hydro.

End of Section 09 51 26