

TECTUM® Direct-Attach Ceiling and Wall Panels for Indoor Swimming Pool Applications

Assembly and Installation Instructions for 1-1/2" and 2" Thick Direct-Attach Ceiling and Wall Panels

1. GENERAL

1.1 Description

Tectum® panels are highly impact-resistant panels made of Aspen wood fibers held together with a cementitious binder. Tectum Direct-Attach panels for walls in indoor swimming pool wall applications are to be 1-1/2" or 2" thick and available in nominal sizes up to 47-3/4" x 96". Panels are available with beveled or square edges and ends.

Panels are available in two standard colors: White and Natural, plus custom colors. Please note, Natural and White panels will show normal color variation due to the wood fibers. Tectum Direct-Attach panels are installed using corrosive resistant screws on pressure treated wood furring with fasteners intended for indoor swimming pool environments. Dependent on mounting method, custom panel options can provide an NRC of up to 1.0. Panels can be field-cut and field-painted up to six times without impacting acoustic or fire performance (see section 3.8).

1.2 Safety

Tectum is made of wood fibers with a cementitious binder. Sawing, sanding, or machining these products can produce wood dust and crystalline silica. Airborne dust can cause respiratory, eye, and skin irritation. Respirable wood dust and crystalline silica are classified as carcinogens. Personal protective equipment includes safety glasses or goggles, and impervious gloves. Respiratory protection may be required and depends on how the product is being cut and handled. Job site environmental conditions must be evaluated in determining what type of respiratory protection is required.

In all cases, cutting is to be performed in a well-ventilated area and power tools must be equipped with a dust collection system. Refer to the Material Safety Data Sheet at: www.armstrongceilings.com/tectum for additional information.

1.3 Warranty

Failure to follow the Armstrong Ceilings recommended installation instructions in effect at the time of installation may void the product and warranty.

1.4 Surface Finish

Tectum panels are made of wood fibers with a cementitious binder. White panels are finished with a latex-based paint. Due to the unique porous composition of Tectum panels, they can be field-painted up to six times without negatively impacting acoustic or fire performance.

NOTE: The edges of Tectum panels are not fully painted. For installations where finished painted edges are required see section 3.8 for field-painting guidance.

1.5 Storage & Handling

Panels should be stored in a dry interior location and shall be protected to avoid damage. The panels should be stored in a flat, horizontal position. Proper care must be taken when handling to avoid damage and soiling.

1.6 Site Conditions

Tectum panels are required to reach room temperature and have stabilized moisture content for a minimum of 72 hours before installation.

1.7 HVAC Design & Operation, Temperature & Humidity Control

Real wood and wood composite products are natural building materials and they will react to changes in humidity. Cementitious wood fiber panels may also have a tendency to warp, twist, or bow due to the natural stresses in the components and these humidity changes. Be aware of these natural tendencies when evaluating the products.

2. DESIGN CONSIDERATIONS

2.1 Directionality

Tectum® Direct-Attach panels should be installed bevel edge-to-bevel edge. In installation layouts where this is not possible, ashlar patterns are required.

2.2 Edges

Exposed edges of an installation are not factory painted. See section 3.8 for guidance on field-painting.

3. DIRECT-ATTACHMENT INSTALLATION

Tectum Direct-Attach panels are mechanically fastened to wood furring in a D-20 mounting or modified C-20 mounting specific for indoor swimming pool applications. See the following installation sections for different mounting methods. Corrosion-resistant fasteners must be used and should consider total system weight.

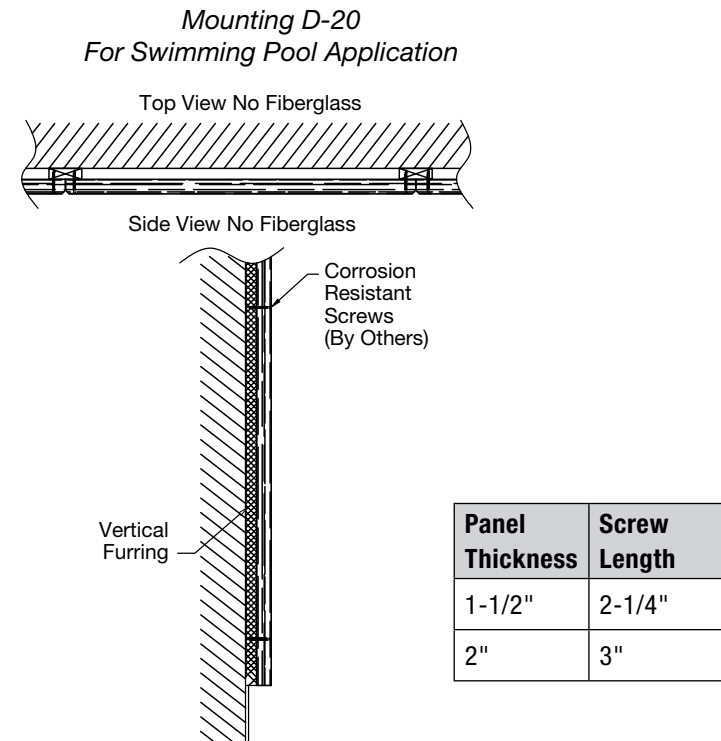
3.1. Installation – Ceiling and Wall Mounting Methods for Indoor Swimming Pool Installations

For Tectum Direct-Attach panels, one of the most common application methods for Tectum interior panels is screw attachment to furring. The furring must be pressure treated wood. Consider total system weight when determining fasteners. The furring enables improved sound absorption and allows the installer to fasten in areas where there could otherwise be obstructions. The use of screw attachment for interior panels is widely accepted. The proper installation of the screws results in an installation where the heads are difficult to find even when viewed from a short distance. The Phillips flathead screws should be painted to match either the painted White panels or the Natural panels. The screws are installed so that the screw head is flush with the surface of the Tectum panel. Do not countersink the screw heads. This installation section will review the different mounting methods and fastener recommendations.

3.2 Mounting Method D-20

The D-20 Direct-Attach mounting method includes beveled or square edge wall panels laid on 3/4" pressure treated wood furring strips to maintain an air gap between structure and back of the Tectum panels. The furring must be attached to structure in a method that supports the full weight of the panels per the requirements specified in the data page. Contact a fastener manufacturer, such as Hilti, Fastenal®, or TapCon® to ensure the correct fastener for the structure type, since structure fastener requirements can vary. Due to joist/stud spacing in most jobs, to meet fastener layout requirements, furring strips are recommended to ensure a secure fastening location for the panels. If you are attaching to other structural component, it is the responsibility of the contractor to locate these elements in either ceiling or wall applications. Attach Tectum panels directly to 3/4" wood furring.

- Wood furring: In a D-20 mounting, to attach to wood furring, use corrosion-resistant screws.



(Fig 1)

3.3 Modified C-20 Mounting for Indoor Pool Applications

The Modified C-20 Direct-Attach mounting method includes Tectum® wall panels laid on 3/4" furring strips with 1", 3 lb. density fiberglass batt insulation between the furring, which increases the acoustic absorption of the installed space (NRC). The furring must be attached to structure in a method that supports the full weight of the panels. Contact a fastener manufacturer, such as Hilti, Fastenal, or TapCon to ensure the correct fastener for the structure type, since structure fastener requirements can vary. Due to joist/stud spacing in most jobs, to meet fastener layout, requirements furring strips are recommended to ensure a secure fastening location for the panels. If you are attaching to other structural component, it is the responsibility of the contractor to locate these elements in either ceiling or wall applications. Attach Tectum panels directly to 3/4" wood furring.

- Wood furring: In a C-20 mounting, to attach to wood furring, use corrosion-resistant screws.

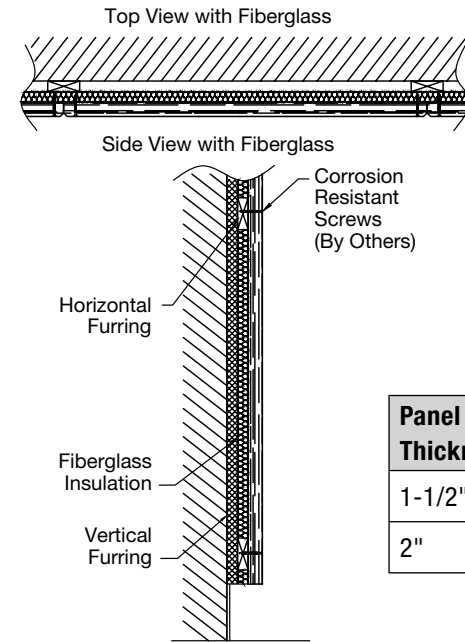
3.4 Panel Direction & Fastener Layout

Recommended screw spacing is such that one screw supports one to three square feet of panel. The Direct-Attach wall panels have a weight of 1-1/2" – 2.53 lbs/SF and 2" – 3.3 lbs/SF. It is the contractor/installer's responsibility to ensure type of fastener and placement is able to carry the system weight. Additionally, the Tectum panel surface is not intended to support additional weight. Because the pull-through resistance of the screw head is adequate, no adhesive application or washers are required.

Horizontal Wall Panel Installation

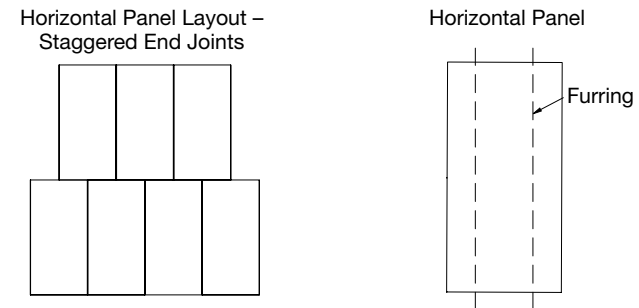
Tectum panels should be fastened a minimum of 24" on center (O.C.), starting at the edge of the panels. When furring is used it should be installed perpendicular to the long side of the panel. Tectum panels are required to be installed in an ashlar pattern (staggered end joints). Furring is required at the ends of the panels.

Mounting C-20
For Swimming Pool Application



Panel Thickness	Screw Length
1-1/2"	2-1/4"
2"	3"

(Fig 2)



(Fig 3)

3.5 Screw Placement for ALL Mounting Methods

The recommended method is for the furring to be spaced not over 24" O.C. and perpendicular to the panel direction in standard use spaces. Furring is required at the panel ends. The attachment of the furring must be designed to support the weight of the panels. If furring must be installed parallel to the panel direction, the spacing must match the panel width. A panel 47-3/4" must have mid-width furring. Spacing should be as follows for furring parallel to Tectum® panels:

- 23-3/4" width 23-3/4" center-to-center spacing
- 47-3/4" width 23-7/8" center-to-center spacing

When attaching to furring, use corrosion resistant screws. For wall applications on 23-3/4" wide panels, two (2) screws per furring crossing are required; for 47-3/4" wide panels, three (3) screws per furring crossing are required. The screws are to be spaced 1" from the panel edges and where three is required, the third screw is centered.

3.6 Staggered End Joints (Ashlar Pattern)

All Tectum wall panels are required to have an ashlar pattern (staggered end joints) if more than one panel is installed.

3.7 Field-Cutting

Tectum panels are easily cut using standard wood cutting tools. A hand router with a 1/4" bevel bit to replicate the 1/4" bevel in the field is required if panels are to be field-cut.

3.8 Field-Painting

Field-Painting Specification Recommendation:

Sherwin-Williams® Product: Waterborne Acrylic Dry Fall

(B42W1) 50 GAL. Drums MPI# 118 (or substitute alkali-based, flat latex paints with similar properties)

NOTE: Tests have shown that six coats of spray-applied paint have no negative impact on the acoustical and fire properties of the Tectum panels.

Recommended Spread Rate per Coat

Wet Mils: 3.5 - 5.0

Dry Mils: 1.5 - 2.0

Coverage: 336-450 SF/gallon approximate (based on flat surface)

NOTE: If necessary, cross spray at a right angle.

Surface Preparation

Surface must be clean, dry, and in sound condition. Remove all oil, dirt, grease, and other foreign materials to ensure adequate adhesion.

Application Condition

Temperature: 50° F minimum, 110° F maximum (air, surface, and material) ; at least 5° F above dew point.

Relative Humidity: 75% maximum

Dry Time: 20 minutes

Recoat: 1 hour

During the early stages of drying, the coating is sensitive to rain, dew, high humidity, and moisture condensation. Plan painting schedules to avoid these influences during the first 16-24 hours of curing.

Dry fall characteristics will be adversely affected at temperatures below 77° F or above 50% relative humidity.

Application Equipment

The following is a guide. Changes in pressure and tip sizes may be needed for proper spray characteristics.

Airless Spray:

Pressure: 2800

Hose: 1/4" ID

Tip: 0.013"

Reduction: As needed up to 10% by volume.

Conventional Spray:

Gun: Binks® 95

Fluid Nozzle: 63C

Air Nozzle: 63PB

Atomization Pressure: 60 psi

Fluid Pressure: 50 psi

Reduction: As needed up to 20% by volume

Brush and Roller: Not recommended

Field Touch Up and Color Match:

Standard White Color Match: Sherwin-Williams® #SW7005 Standard

Natural Color Match: Sherwin-Williams #SW6126

NOTE: Tectum panels should be fastened in place prior to field-painting.

4. SEISMIC INSTALLATIONS

Seismic installations of Direct-Attach Tectum panels are to be handled per building code.

MORE INFORMATION

For more information, or for an Armstrong Ceilings representative, call 1 877 276 7876.

For complete technical information, detail drawings, CAD design assistance, installation information, and many other technical services, call TechLine customer support at 1 877 276 7876 or FAX 1 800 572 TECH.

For the latest product selection and specification data, visit armstrongceilings.com/lightledge

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