

Description The TAKTL AIUHPC® panels are Ultra High Performance Concrete panels manufactured from Portland cement, micro aggregates, and additives, with alkali-resistant glass fibers and two layers of alkali-resistant glass fiber reinforcement mesh. TAKTL panels are designed to comply with a range of facade assemblies for all building construction types (Type I through V). TAKTL panels are also suitable for interior application as part of a Class A interior wall.

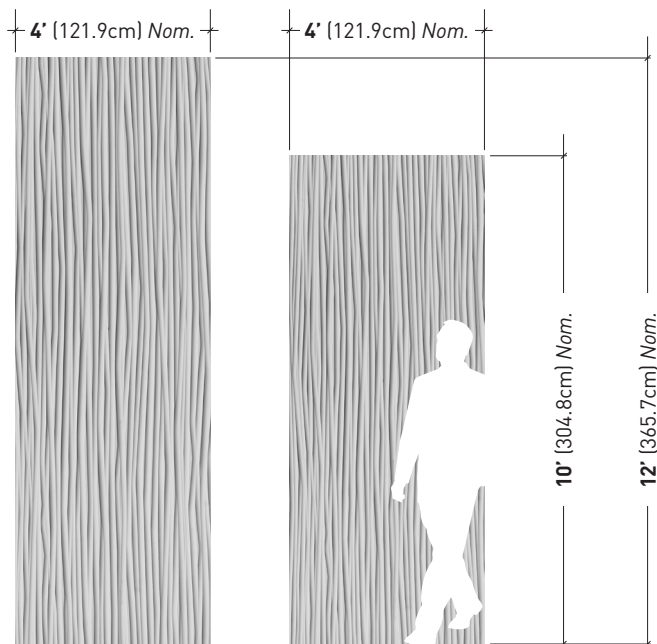
Application The TAKTL Standard and Select AIUHPC Panel System is used as an exterior and interior wall cladding in the following applications:

- ALL types of construction under the 2012 & 2015 IBC and IRC
- New construction and renovation/re-clad building enclosures
- Open Joint Cladding for Back Ventilated and Drained Cavity Walls (Rainscreen)
- Unitized and Prefabricated Wall Systems (Barrier, Sealed or Rainscreen)
- Interior cladding, partitions, and feature wall finishes

Features + Advantages

- Compatible with all wall assemblies/substrates
- Highest strength-to-weight ratio in its class
- Impermeable, chloride and carbonation resistant
- Excellent freeze-thaw resistance and strength retention
- Non-combustible, Class A smoke and flame spread
- Impact resistance > highest rating under ASTM 1629
- Graffiti-resistant sealer standard
- 9 textures and 9 colors standard
- Custom colors, surface textures, mineral face aggregates, and design profiles available upon request
- Opaque stain option at no charge for homogeneous color
- Delivered pre-cut and drilled for attachment
- Easy to field cut and drill as needed

Standard Panel Dimensions



Code Compliance & Reference Standards

Intertek/ICC-ESR (AC10)	Quality Management System certification & auditing
IBC & IRC	2012 & 2015 Building Code Compliant
ICC-ESR (AC90)	Evaluation Service Report (ESR)
ASTM C1186	Type A (exceeding Grade IV in strength and durability)
ASTM E136	Non-combustible
ASTM E84	Class A finish
NFPA 285	Wall Assembly Fire Test
ASTM 1629	Impact Test
ASTM E 488	Undercut Anchor Test, AISI 905 Visible Fastener Test

Material/Panel Characteristics

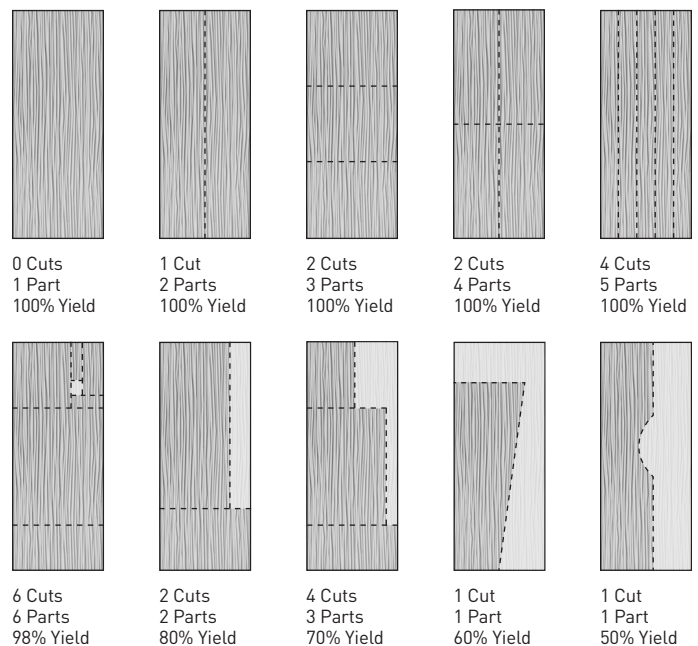
Material Density	137lbs/ft³
Coefficient of Thermal Expansion	6.41 E-06 in/in/°F
Compressive Strength	12,000 psi – 18,000 psi (95Mpa – 120Mpa)
Flexural Strength (Panel)	3,916 psi – 4,786 psi (27Mpa – 33Mpa)
Undercut Anchor Load Values (10mm)*	520 lbf Tension 890 lbf Shear
Visible Fastener Load Values* 16GA/50ksi Steel & 2.2mm Aluminum	738 lbf Tension 1,620 lbf Shear
Standard Base Panel Thickness**	5/8 in (16mm) (1½ in/38mm Max.)
Panel Weight 5/8" (16mm) Thickness min.	7.2 lb/ft² (33.7kg/m²) – 7.8 lb/ft² (38.08kg/m²)
Standard Nominal Panel Size	48 in (1220mm) X 120 in (3050mm) 48 in (1220mm) X 144 in (3656mm)
Min. Standard Panel Size	6 in (150mm) X 48 in (1220mm)
Max. Standard Panel Size	60 in (1500mm) X 144 in (3656mm)

*Recommended minimum design values

**Custom textures/profiles available up to 1 ½" (38mm) overall thickness upon request

NOTE: Refer to TAKTL Product Literature test reports available upon request

Panel Cutting Examples | Unlimited Dimensions Available



Panel Attachment The TAKTL AlUHPC Panels are part of a wall cladding system attached to a back up wall, support assembly, or interior wall meeting the code requirements and project design criteria. The panels are mounted with visible fasteners or with concealed fasteners on extruded aluminum or cold-formed steel attachment system (subframe). When used as an exterior wall covering, the system must be installed over a water-resistive barrier (open joint BVDC) or have sealed joints (barrier wall). The attachment system is for use with 5/8 in. (16-mm) thick panels for interior and exterior installations. The attachment system may be fastened directly to the backup wall for close-cladding installation, or to a sub-girt framing system for BVDC walls.

Fig. 2.1 Concealed Attachment: TAKTL panels are supported by an attachment system consisting of structural rails and clips made of 6005A-T5 extruded aluminum or equal. The rails and clips are 1.1811 inches deep, 2.5 inches high, and 0.118 inches thick. The rails are available in various uncut lengths of 12-feet, 16-feet, or 20-feet, and the clips are 2 inches wide. The clips and rails interlock. The clips are secured to the panel using undercut anchors made of Type 316 stainless steel supplied with the attachment system. The sub-girt framing that supports the TAKTL panel clip and rail system must be attached to the structure with thermally-isolated brackets. [See TAKTL Hardware Product Data Sheet](#)

Fig. 2.2 Visible Attachment: TAKTL panels are fastened directly to the supporting framing with self-drilling Type 304 austenitic stainless-steel fasteners with powder-coated, color-matched heads. Panel rails are to be at minimum 6061 T5 black anodized or painted aluminum with a minimum thickness of 2.2mm. Panel rail profiles may be 'hat', 'L' angle, or 'T'.

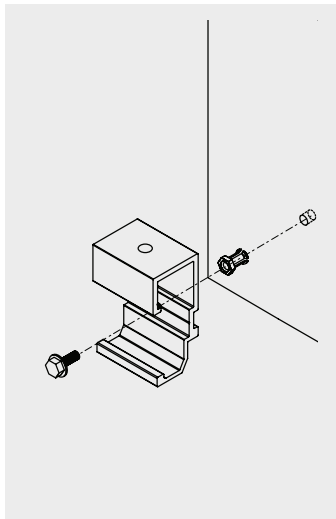


Fig. 2.1 | Concealed Fastener

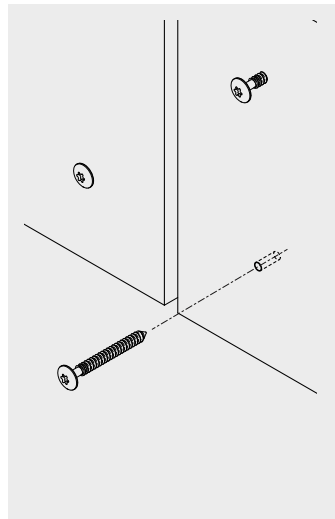
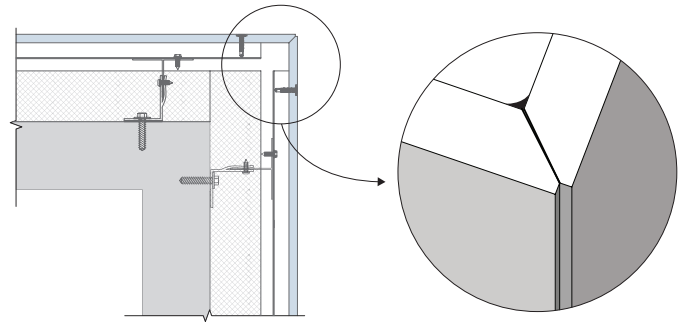


Fig. 2.2 | Visible Direct Fastener

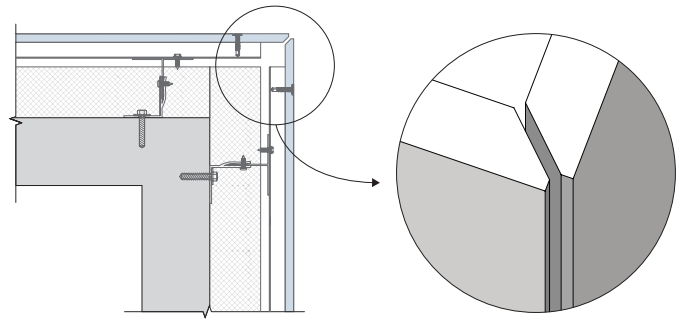
All panel fasteners, anchors, bolts, and subframe fasteners must be made of high-corrosion resistant Type 304 stainless steel. Panel anchors and support system, including connection to the substrate/backup wall must be analyzed and designed by a registered engineer.

STANDARD CORNER OPTIONS

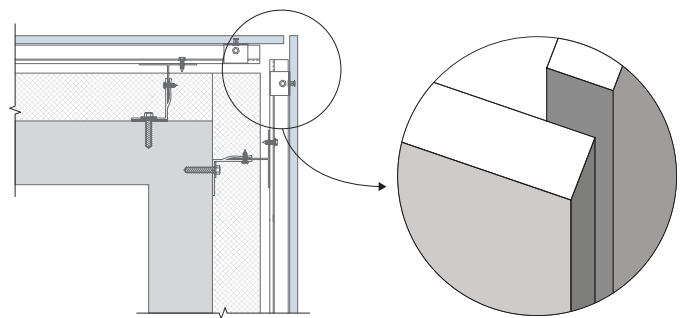
Closed Factory Adhered | Shown w/Visible Attachment



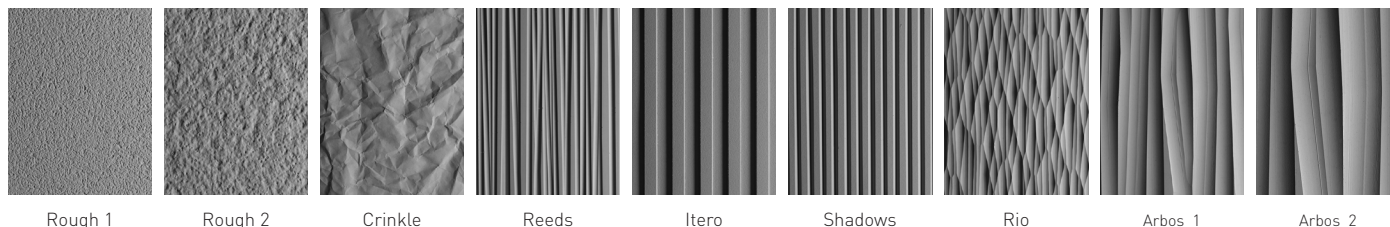
Open Quirk Miter | Shown w/Visible Attachment



Open Square | Shown w/Concealed Attachment



Standard Textures



NOTE: *Itero* and *Shadows* textures can only be specified in Mediablast finish or with ColorSeal/T.

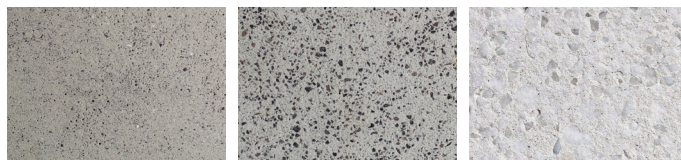
Standard Colors



WH87 PL75 TI63 GY52 GR40 BO78 SA72 DU60 TE52

Note: Custom colors + textures are available upon request.

Decorative Aggregate



Small Medium Large

Note: Decorative aggregate can be added to all custom and standard colors.

Conditions + Limitations

- Installation must comply with TAKTL's published installation instructions and the applicable codes.
- The TAKTL A|UHPC Panel System must be installed by a qualified installer, recognized by TAKTL, LLC.
- When installed on exterior BVDC walls, the TAKTL A|UHPC Panel System must be installed incorporating a substrate (backup wall) capable of resisting the design wind pressures, both positive and negative. The substrate must be covered with a water-resistive barrier, as required by the applicable code, and a ventilation path must be maintained between the water-resistive barrier and the panels.
- Drawings, design details, and calculations verifying the adequacy of the fastening connection between the TAKTL panel attachment system and the supporting wall must be prepared by a registered design professional, stamped, and submitted to the building code official for approval.
- When installed with spaces between adjacent panels on interior walls required to have a Class A finish, the TAKTL Panels and Attachment System must be installed over a substrate having a Class A finish.
- Refer to TAKTL Field Installation Guide and Technical Data Documents, for installation, storage, handling cleaning and maintenance instructions.

Environmental, Health + Safety

- Health Product Declaration (HPD) and Safety Data Sheet (SDS) are available upon request.
- TAKTL A|UHPC is manufactured with 90% raw materials sourced within 500 miles of the factory.
- For further information and advice with regard to potential LEED credit contribution consult with TAKTL Technical Support.
- User should refer to Safety Data Sheets and Installation Guide before working with TAKTL products.

Legal Disclaimer/ Warranty

Nothing contained in any TAKTL literature or materials relieves the user of the obligation to read and follow the instructions for the product, as set forth in the current [Installation Guide](#), [Product Data Sheet](#), and [Safety Data Sheet](#) prior to use of the TAKTL product.

TAKTL warrants this product for 20 years from date of installation to be free from manufacturing defects, to meet the quality and acceptance criteria described in Q2-1 TAKTL Quality Management document, and to comply with ASTM C1186 – Grade 4, the highest performing grade under ASTM C1186, subject to the terms and conditions set forth in the TAKTL Warranty. User determines suitability of product for intended use and assumes all risks. User's and/or buyer's sole remedy shall be limited to the purchase price or replacement of this product exclusive of any labor costs.

Sale of TAKTL products are subject to the Terms and Conditions of Sale which are available at taktl-llc.com or by calling 412.486.1600.

TAKTL, LLC

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Related Literature + Submittal Documents

[Guide Specification](#)
[Terms and Conditions of Sale](#)
[Certified Test Results](#)
[TAKTL MSDS](#)
[ICC ESR-3899](#)

[Technical Summary](#)
[Corner Program Guidelines](#)
[TAKTLHARDWARE Data Sheet](#)
[QMS Tolerances + Acceptance](#)
[Color Guidelines](#)

