EQUITONE

FIBER CEMENT COMPARISON
Hi-Strength (High-Density) vs. Medium-Density

Unlock the extraordinary: Hi-Strength (High-Density) Fiber Cement vs Ordinary (Medium-Density) Fiber Cement

The Girard mixed-use apartment complex / Architect: Utile Design/ Photographer: Flagship Photo, Gustav Hoiland / Material: [tectiva] - TE00 and TE10

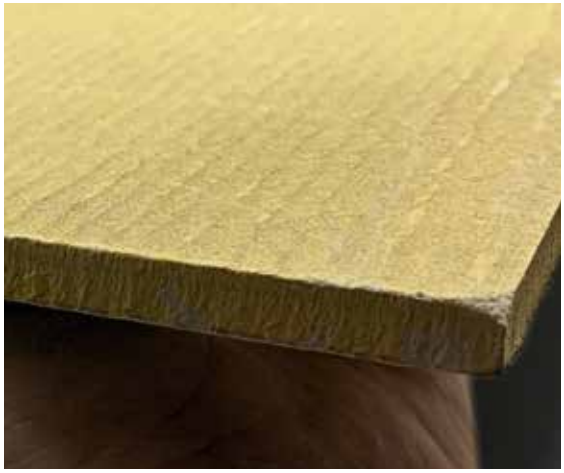
etex inspiring ways of living

Why settle for less?

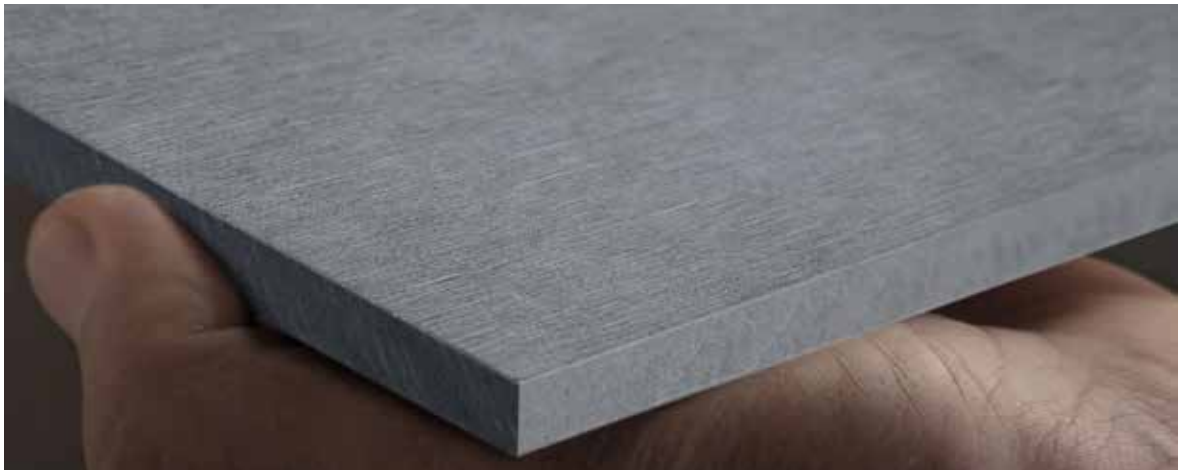
Your designs deserve materials that match your vision. Hi-Strength (High-Density) Fiber Cement sets a higher standard, offering enhanced performance and aesthetics that outperform ordinary fiber cement options.

Hi-strength fiber cement is engineered under 12,000 tons of pressure to deliver exceptional durability and refined aesthetics that elevate it above standard fiber cement options. With an expected lifespan exceeding 50 years and minimal maintenance requirements—no painting, sealing, or caulking—Hi-Strength fiber cement helps keep your façade looking pristine while reducing long-term costs.

In contrast, medium-density fiber cement retains more moisture, making it more susceptible to damage such as brittle corners and cracks. It also requires ongoing maintenance like painting and resealing, which adds to upkeep and diminishes its cost-effectiveness over the life of the project.



Medium-Density



Hi-Strength (High-Density)

Key Benefits of Hi-Strength (High-Density) Panels for Architects

1. Durability:

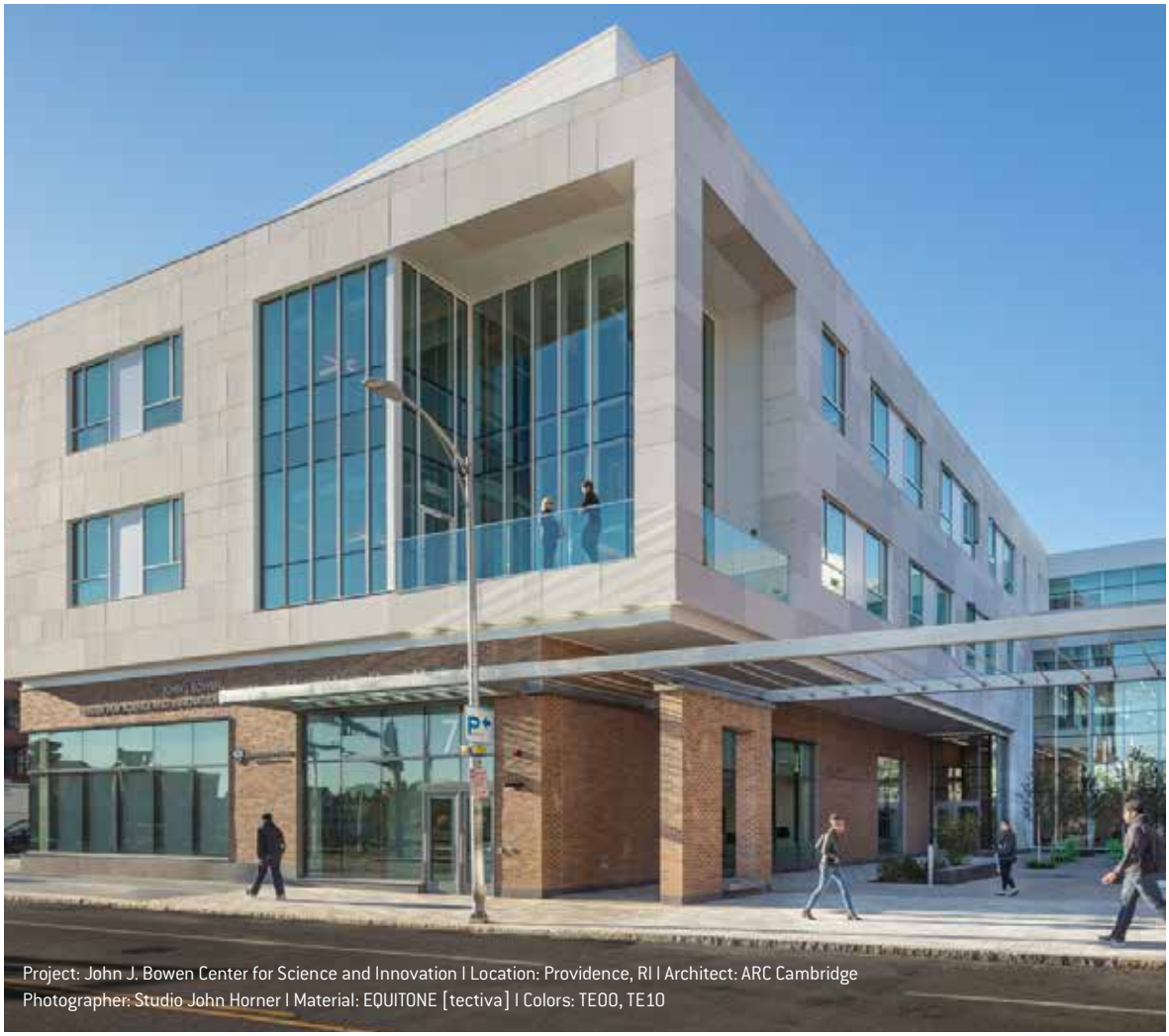
Hi-strength fiber cement panels withstand wear and tear, much like high-density woods compared to softer density wood alternatives.

2. Aesthetic Integrity:

Many EQUITONE materials are through-colored, meaning scratches won't reveal unwanted contrasting colors, preserving the consistency of your design. The material is also low maintenance, requiring no caulking or repainting.

3. Design Flexibility:

Open-joint installations create striking visuals and a modern aesthetic, while the flexible panel sizes offer limitless creative possibilities.



Project: John J. Bowen Center for Science and Innovation I Location: Providence, RI I Architect: ARC Cambridge
Photographer: Studio John Horner I Material: EQUITONE [tectiva] I Colors: TE00, TE10

Understanding the Difference

Defined as different by ASTM C1186:

Ordinary (Medium-Density)	Hi-Strength (High-Density)
Grade II • Medium-density = typically fall within 1,200 – 1,300 kg/m3 • Lower flexural strength • Wet strengths of around 1,015 psi • Equilibrium strengths of around 1,450 psi	Grade III or Grade IV • High-density = typically greater than 1,500 kg/m3 for Grade IV! • Higher flexural strength • Wet strength greater than 1885 psi - 85% higher if Grade III or twice as high if Grade IV than medium density product! • Equilibrium strength greater than 2320 psi - 60% higher than medium-density product if Grade III or roughly twice as high if Grade IV!

Key Product Differences:

Ordinary (Medium-Density)	Hi-Strength (High-Density)
• Ordinary medium-density fiber cement is painted. • Each manufacturer has a production color that is then painted either at the factory or in the field. Scratching past the exterior painted surface reveals the production color of the underlying board which detracts from the building's appearance overall. • Anti-graffiti coatings field applied and not covered by fiber cement manufacturer's warant • Job pricing often doesn't include the exterior painting as it is covered separately in the painting specification. • Job pricing is misleading as it often doesn't include the accessories needed nor the substructure materials and labor needed for installation.	• Most hi-strength fiber cement is integrally colored. NO painting required. Some products are factory coated or printed, also no painting needed. • Many EQUITONE panels are through-colored, meaning the color extends throughout the board, so surface damage won't reveal a different color underneath. EQUITONE [pictura] is not through colored; it features a high-performance color coating for a vibrant, long-lasting finish. • Hi-strength fiber cement is not susceptible to moisture damage. • No repainting is needed to keep your building looking great! • Factory-applied anti-graffiti coating on [natura] PRO and [pictura] included in EQUITONE warranty.

Aesthetic Appeal

Ordinary medium-density fiber cement is typically a drained closed-joint barrier cladding such as in these images showing metal accessories or wood battens around all panels.

Hi-strength (high-density) fiber cement offers an upgraded aesthetic with open-joint installation for a clean, modern look. Panels can be perforated and routed for enhanced design opportunities.

Larger panel sizes are available with hi-strength fiber cement.

Ordinary Fiber Cement

Hi-Strength Fiber Cement

Bottom left: Architect- Karl + Probst, Munich Photography- Stefan Marquardt, Oberursel Material: EQUITONE [natura]Color Code: N891
Bottom right: The Kenzi passive house affordable housing. Roxbury, MA. Architecture by Dream Collaborative LLC.

Construction Methods

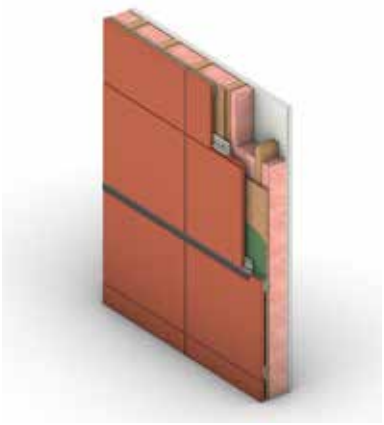
Project: Son Ferriol Apartment | Architect: Arches | Location: Palma de Mallorca, Spain | Material: EQUITONE [tectiva] | Color: TE10

Ordinary Fiber Cement Systems:

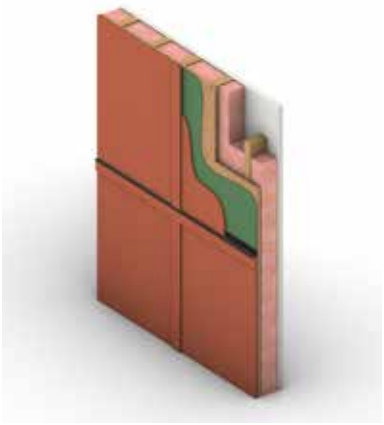
- Commonly installed by nailing to wood studs or furring as in a drained rainscreen.
- Edges are often painted if field cut, edges are typically sealed either with caulk, a batten or metal trim piece.
- Panels typically are planks, much smaller than 4'x8'.
- It can be a drained system, though it is not usually fully back ventilated.

Hi-Strength (High-Density) Fiber Cement Systems:

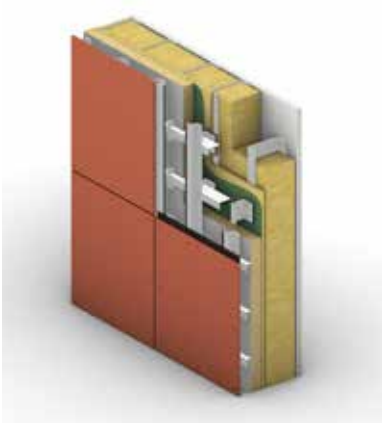
- Installed primarily on sophisticated metal substructures but can also be installed on wood substructures with a fully back-ventilated cavity.
- Features open-joint, back ventilated design for a cleaner look, no trim pieces or battens or sealant lines between the panels.
- Panels can be as large as 10'x4', offering more fabricated panel sizes.



Medium-Density



Medium-Density



High-Density

Advantages of the open-joint, back ventilated, sophisticated support system

1. Deflection: First line of defense against the weather
2. Drainage: Clear water drainage in the open cavity behind the panels
3. Drying: Back ventilation, open at the top and bottom of the wall ensures air flow behind the panels to remove water vapor and any condensation
4. Durability: Cement-based panels resistant to the weather with metal substructures
5. Capacity: Easily accommodates exterior continuous insulation (c.i.)
6. Thermal Dissipation: Panels reflect and dissipate radiant heat from the sun
7. Thermal Optimization: Air gap cavity helps make the insulation more effective by buffering the interior of the facade from temperature swings
8. Professional Attachment: Designed to accommodate expansion and contraction of the substructure, minimizing stress on the panels

Use Restrictions

Ordinary (Medium-Density) Systems:

While use restrictions are dependent upon local building codes, typically limited to low to mid-rise due to amount of required fasteners, maintenance, and wind loads.

Hi-Strength (High-Density) Systems:

Suitable for most types of construction including high-rise due to greater ability to manage with less fasteners than medium density, lower maintenance requirements and durability. Suitable for any US Climate Zone.

Conclusion

When choosing between Hi-Strength and Ordinary Fiber Cement, consider the advantages in durability, aesthetics, and performance. Elevate your designs with the superior qualities of Hi-Strength (High-Density) Cement Panel Systems!

Beach villa private residence on Long Island in Southold, NY. Architecture by Berg Design.

Contact :

www.equitone.com

USA/Canada
1731 Fred Lawson Dr. Maryville TN, 37801
Tel: +1 865 268 0654
E-mail: info.usa@equitone.com