



CREATE

..... EnvelFacade.com

TOTAL FAÇADE FREEDOM.

Break free from the confines of traditional façade materials with Envel™ ultra-high performance concrete.

Made with proven Ductal® technology, Envel gives you the opportunity to design beyond the limitations of conventional façade materials.

Unlimited shapes, colors, textures and patterns provide unmatched versatility and flexibility—and the chance to unleash remarkable possibilities in façade design.

Aspect Series Panel
Color: Crimson



DESIGN

ANY SHAPE. ANY TEXTURE.
ANY COLOR. ANY PATTERN.

Gain freedom from the constraints of traditional building materials, and move to the forefront of façade design, with Envel.

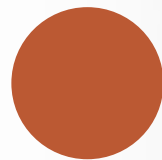
Envel's extreme flexibility and versatility make it possible to create complex forms never before thought feasible. From intricate geometries and patterns to vibrant color palettes, Envel stretches the perspective of what is possible in façade design.

No matter what shape, texture or pattern you desire, you can create it with Envel. It's available in pre-manufactured panels featuring a wide array of textures. Or, it can be custom manufactured to fit any design aspiration or specification.

Envel is offered in a variety of desirable solid colors, specifically selected for their adaptability to almost any environment. However, when your project calls for more distinctive tones, Envel offers a fully automated computerized color blending system, ensuring you get the exact color you want.*



ASPEN BARK



CRIMSON



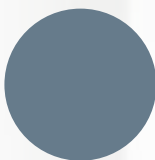
TERRACOTTA



CAMELBACK



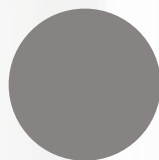
SADDLE



COBALT



GUNPOWDER



GRANITE PEAK



SILVER FALLS



CUSTOM

*Representation of color is as accurate as modern technology will allow. Please see an actual sample for final color selection.



BLASTED



BUSH HAMMERED



FLAMED



SPLIT FACE



ECORCE I



ECORCE II



OGEE



TRELLIS



RETRO



CRUMPLED



SPHERICAL



AGGREGATE



ADZE



FLUVIAL CUT



FLUVIAL PLUS

BELIEVE

HIGH PERFORMANCE.
PROVEN TECHNOLOGY.



Composed of Ductal ultra-high performance concrete—a proven material in structural and architectural applications worldwide—Envel's unique capabilities take façade design to new heights.

Ductal combines strength and durability with ductility and design flexibility, and it is significantly stronger than traditional concrete. The finished product is a material that allows you to create elegant textures, surfaces and shapes that were previously too complex, while never compromising structural integrity.

Utilized in the industry for more than two decades, Ductal is rigorously field-tested, having been chosen as the preferred material on major projects throughout the world. Perhaps no other building material features Ductal's unique combination of capabilities and proven results.

BENEFITS AND
PERFORMANCE FEATURES

- Complex shapes
- Reduced maintenance
- Faster construction
- Minimal to no reinforcement required
- Resistance to impact
- Improved abrasion resistance
- Freeze/thaw resistance
- Dimensional stability
- Extremely low permeability
- Integral color
- Customized textures
- Thin section ability

FORMat Series Panel
Color: Gunpowder



SIMPLE INSTALLATION SYSTEMS.

Envel can achieve complex forms other materials—such as steel, iron, aluminum, plastic, brick, ceramic and wood—cannot. Yet it installs simply and securely like other familiar rain screen façade treatments. And it can be installed over traditional wall construction, like concrete, block, stud walls and continuous insulation systems. Choose from two basic panel types: Aspect Series panels, which are standardly available in sizes of 6", 8", & 12" widths x 6' long, and FORMat Series panels, which are available in a range of larger format sizes to fit your project needs.

Two basic installation systems are available: **face fastening** and **hidden fastening**.

Hidden Fastening—Using an undercut anchor, fasteners are hidden and install with a fast, adhesive-free process.

Face Fastening—Panels are installed with screws or rivets, and fasteners are left exposed. All panels are pre-drilled for ease of anchor, screw or rivet installation.



Hidden
Fastening

Face
Fastening

BUILD

PRODUCT PERFORMANCE & DURABILITY TESTING.

Envel™ panel systems are produced with Ductal® Ultra-High Performance Concrete by Lafarge, the most widely researched and tested UHPC material in the marketplace today. Research & development of Ductal® began more than 20 years ago at the Lafarge Research Center in Lyon, France -- the largest building materials laboratory in the world.

The result of this research was a technological breakthrough in cementitious materials. Ductal's integrated fiber matrix means that it has extremely low porosity and permeability, thereby attributing to its superior durability, ductility and strength. (Compared to conventional concrete, it has 6 to 8 times more compressive strength and up to 10 times more flexural strength.) The benefits are many: excellent resistance to abrasion, impact, chemicals, freeze-thaw, carbonation and chloride ion penetration. It is extremely moldable too; ideal for a vast range of architectural and structural precast elements that are thin and lightweight, with enhanced surface finishes.

Over the years, Ductal's performance characteristics have been further tested, validated and certified by numerous independent academic and industry organizations - including the esteemed "CSTB"/Centre Scientifique et Technique du Bâtiment (Scientific and Technical Center for Building) in France.

Additionally, Envel™ panels made with Ductal® have undergone independent / extensive tests here in the United States to establish and validate its superior performance and durability characteristics.

This document outlines a number of tests conducted by CTL & ATI-Intertek:

PRODUCT PERFORMANCE & DURABILITY TESTING.

Standard	Description	Performance
ASTM C39	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens	18,000 psi
ASTM C496	Standard Test Method for Splitting Tensile Strength of Cylindrical Concrete Specimens	2,100 psi
ASTM C293	Standard Test Method for Flexural Strength of Concrete (3 point loading)	1,700 psi
ASTM C642	Standard Test Method for Density, Absorption, and Voids in Hardened Concrete	4.60%
ASTM C418	Standard Test Method for Abrasion Resistance of Concrete by Sandblasting	Abrasion Coeff. Loss .21 cm ³ /cm ²
ASTM C531	Standard Test Method for Linear Shrinkage and Coeff. Of Thermal Expansion	5.71E-06
ASTM C666	Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing (301 cycles)	Length Change% /.020 Mass Change% .04 Relative Dynamic Modulus 96%
ASTM C1185 Section 11	Water Tightness 1/2" Thick Panel	No Water Droplets Present
ASTM E84	Standard Test Method for Surface Burning Characteristics of Building Materials	Flame Spread 0 Smoke Dev. 0
ASTM E488	Freeze Thaw Conditioned Samples / Tensile & Shear Evaluation. 1/2" Thick Panel, 13mm Keil Anchor	Tensile 390# / Shear 800#
ASTM E330	Structural Wall Performance Test	Greater than 90 psf
ASTM 501.6	Seismic Performance Test	Pass

For more information on the durability, aesthetics and versatility of Envel, and to see what it can do for your next façade project, visit:

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