



# Basalt

International<sup>TM</sup>

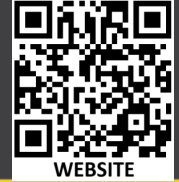


# Basalt

CATALOG – Q2 2025



WEBSITE

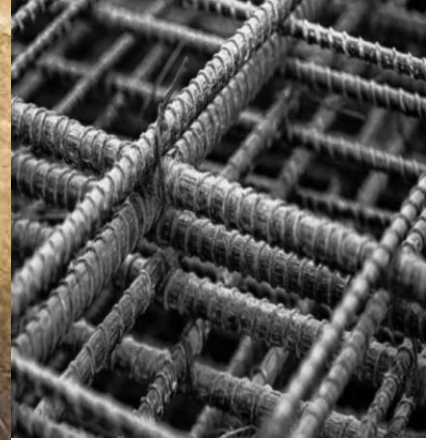


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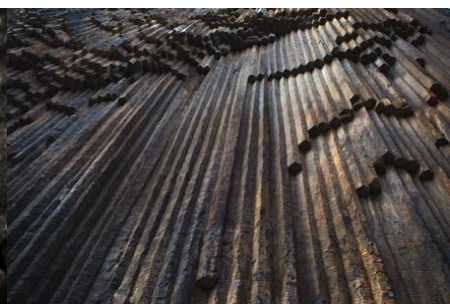
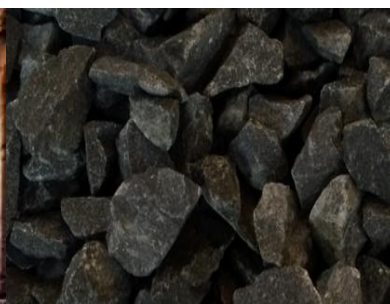


# About us



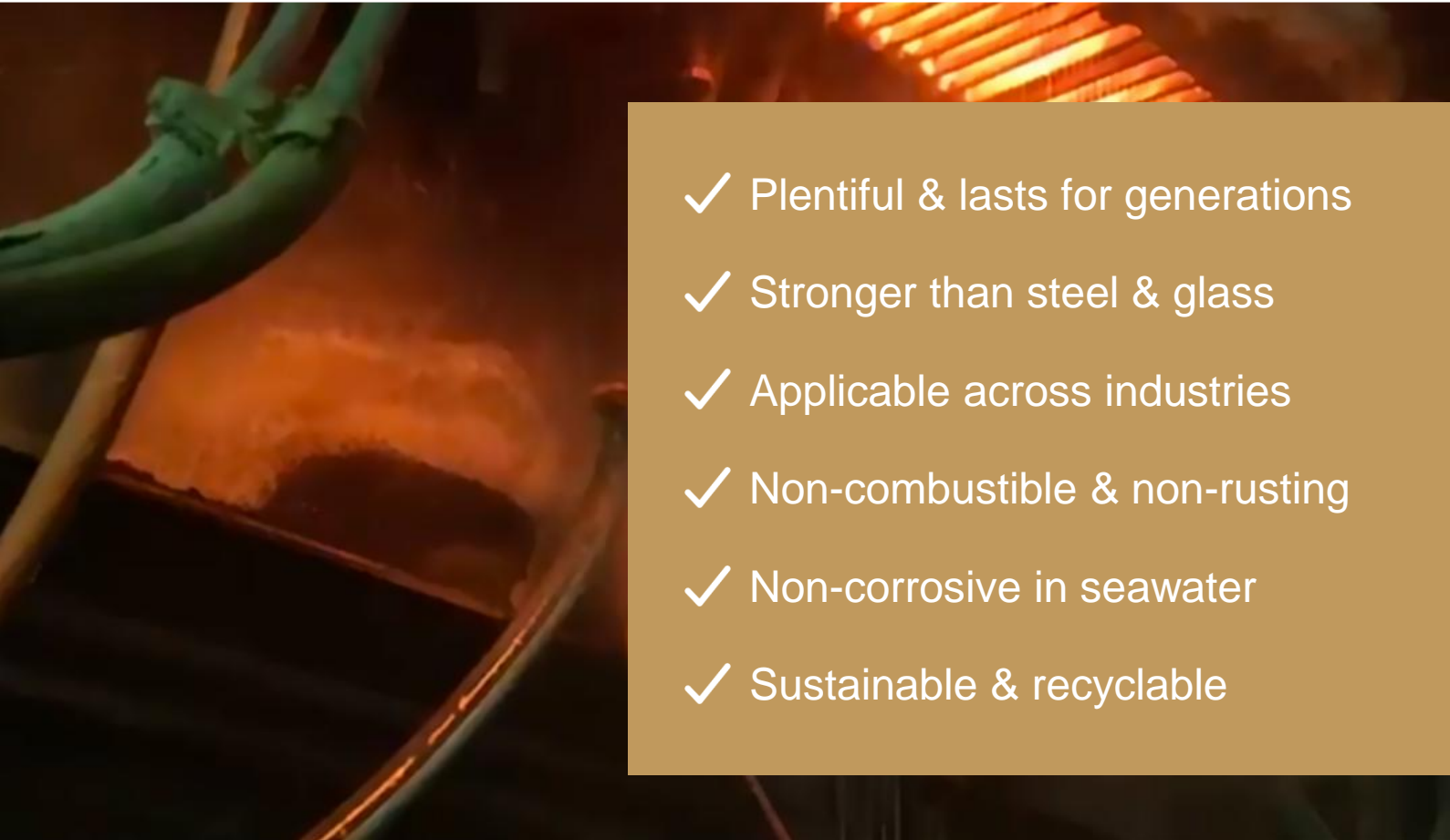
At Basalt International, we've developed a vertically integrated platform for the design, engineering, manufacturing, and distribution of advanced basalt-based composite materials. We serve the commercial, military, and government sectors worldwide.

*We're not just replacing outdated materials—we're redefining how the world builds.*





# Why Basalt Fiber?

- 
- ✓ Plentiful & lasts for generations
  - ✓ Stronger than steel & glass
  - ✓ Applicable across industries
  - ✓ Non-combustible & non-rusting
  - ✓ Non-corrosive in seawater
  - ✓ Sustainable & recyclable



Our mission is to champion and deliver basalt-based composite solutions to the world.



# BASALT MESH & GRID

The basalt grid consists of basalt fibers that cross each other at right angles and are then bonded or stitched together using polyester or nylon thread, employing chain stitches on knitting machines.

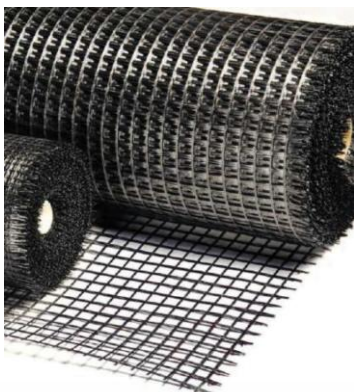
Basalt fiber is five times more resilient than glass fiber and shows remarkable resistance to chemically aggressive materials. This durability allows it to withstand contact with saline solutions and endure various operational conditions without losing effectiveness.

## ADVANTAGES of BASALT MESH & GRID

- ✓ **Chemically Inert.** Unlike polyester grid, basalt mesh is resistant to aggressive chemicals
- ✓ **Environmentally Safe.** Thanks to natural raw materials – basalt stone – the material is 100% safe
- ✓ **Optimized Price-Performance Ratio.** Basalt road mesh has the highest performance properties at the lowest cost
- ✓ **Year-round Installation.** Due to its resistance to scorching sun and frost, road construction using basalt mesh can be carried out in any weather
- ✓ **Mechanical Stability.** Even at subzero temperatures, basalt road mesh does not lose its physical and mechanical characteristics

*Sell Price \$/Sq Meter (EXW)-CLT 28208 & includes tariffs  
Roll dimensions are 39.3"/100cm wide x 54.7 yards/50 meters long  
Contact us for detailed specifications for each product*

GSM	Breaking Load, Grid Size, & Use
110	110 gsm (7x6)
110	30 (50x50) Universal
120	30 (25x25) Universal
200	50 (50x50) Universal
210	50 (25x25) Universal
400	100 (25x25) Universal
227	50 (40x40) Soil
210	50 (40x40) Asphalt/Concrete
410	100 (40x40) Soil
400	100 (40x40) Asphalt/Concrete
605	150 (40x40) Soil
585	150 (40x40) Asphalt/Concrete





## Construction Mesh & Grid Technical Parameters

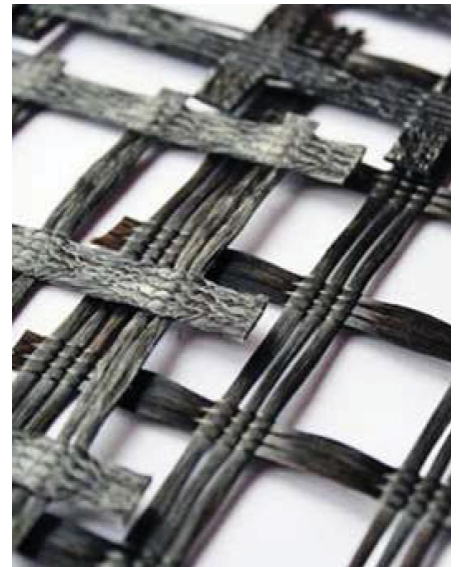
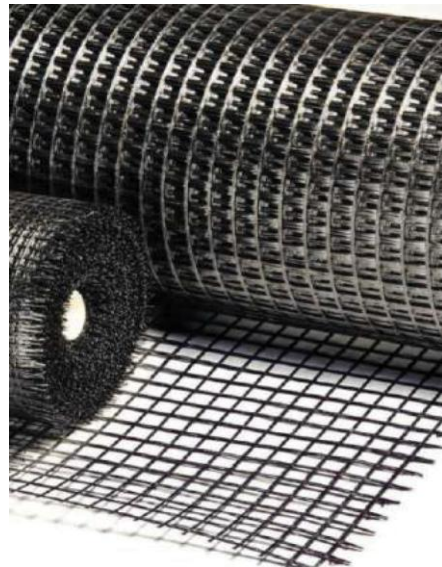
UNITS		BASALT FACADE		BASALT MASONARY		BASALT UNIVERSAL	
		30 (50x50)	30 (25x25)	30 (25x8)	50 (25x8)	50 (50x50)	50 (25x25)
Weight per unit area, g / sq.m.		140	140	140	275	270	270
Breaking load, not less, kN/M	along	30	30	30	50	50	50
	across						
The elongation at break of not more than %	along	4	4	4	4	4	4
	across						
Permissible loss of tensile strength after 25 freeze cycles, not more than, %		10	10	10	10	10	10
Mass fraction of substances removed during calcination, not less than, %		18	18	18	18	18	18
The dimensions of the lumen side of the cells (+2%), mm		50x50	25x25	25x8	18	50x50	25x25
Maximum roll width (+2%), cm		540	540	540	540	540	540

## Road Mesh & Grid Technical Parameters

UNITS		BASALT ASPHALT CONCRETE			BASALT GROUND		
		50 (40x40)	100 (40x40)	150 (40x40)	50 (40x40)	100 (40x40)	150 (40x40)
Weight per unit area, g/sq.m.		280	550	850	300	570	870
Breaking load, not less, kN/m	along	50	100	150	50	100	150
	across						
The elongation at break of not more than %	along	4	4	4	4	4	4
	across						
Permissible loss of tensile strength after 25 freeze-thaw cycles, not more than, %		10	10	10	10	10	10
Mass fraction of substances removed during calcination, not less than, %		18	18	18	18	18	18
The dimensions of the lumen side of the cells (+2%), mm		40	40	40	40	40	40
Maximum roll width (+2%), cm		540	540	540	540	540	540



## Basalt Mesh & Grid Applications





# BASALT CHOPPED FIBER

Basalt chopped fiber (a.k.a. *microfiber*) is a short fiber additive for various concrete types, asphalt mix, and cement or gypsum-based mixtures. It can enhance nearly all structures and building materials, including plasters, putties, tile adhesives, screeds, bases, reinforced concrete products, and structures.

Microfiber acts as a reinforcing agent in diverse concrete, asphalt, and mortar mixtures.

Adding fiber helps reduce cracking (up to 90-95%) and minimizes chipping on product edges while significantly enhancing appearance and surface finish quality.

## Fiber Length

Chopped 3-6mm

Chopped 10-30mm

Sell Price \$/lbs. (EXW)-CLT 28208 & includes tariffs

Available with a variety of coatings

Broad resin compatibility

Individual bag weights: 55lb/25KG (Bespoke weights are available)

Contact us for detailed specifications for each product



## ADVANTAGES of BASALT CHOPPED FIBER

- ✓ Does not absorb liquid.
- ✓ Slows down the delamination of concrete and mortars.
- ✓ Reduces labor intensity compared to classic reinforcement.
- ✓ Does not require changes in preparation of mixtures.
- ✓ The cost of basalt microfiber is much lower than metal mesh.
- ✓ Abrasion resistant concrete surface.
- ✓ Increases the flexural and axial tensile strength of the concrete structure.
- ✓ Mitigates explosive spalling due to fire.
- ✓ Increases compressive strength in concrete.
- ✓ Increases impact resistance and splitting resistance in structures.



Concrete products

Concrete and Construction

Foundation of buildings

Precast concrete

Floor screed

## BASALT MICROFIBER: COMPARATIVE CHARACTERISTICS

INDEX	BASALT MICROFIBER	PROPYLENE FIBER	GLASS FIBER	STEEL FIBER
Material	Basalt fiber	Polypropylene	Fiberglass S or E	Carbon steel wire
Tensile strength, MPa	3500	150 to 600	1500 to 3500	600 to 1500
Elastic modulus, hPa	Not less than 80	35	75	190
Elongation coefficient, %	2 to 4.5	20 to 150	4.5	3 to 4
Melting temperature, C°	1450	160	860	1550
Resistant to alkalis and corrosion	High	Questionable	Only S fiberglass is resistant	Low
Density, g/cm	2.6	0.91	-	-

## BASALT MICROFIBER APPLICATIONS



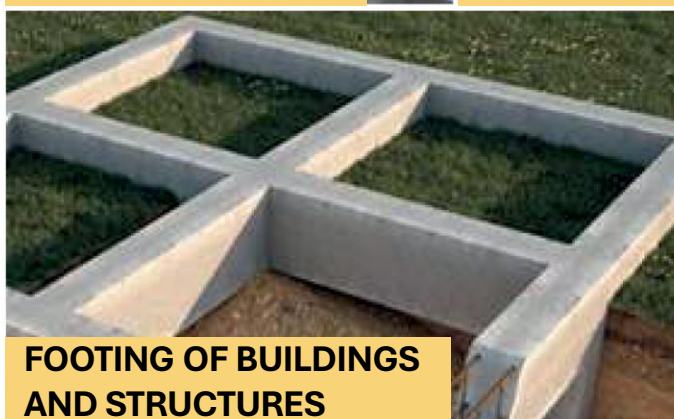
**CEMENT SCREED**



**PRECAST CONCRETE**



**PLASTERING MORTARS**



**FOOTING OF BUILDINGS AND STRUCTURES**



**CONCRETE AND CONSTRUCTION CEMENT-SAND MORTARS**



## BASALT MICROFIBER: APPLICATIONS



Asphalt Concrete Pavement



Architectural Products from Extra Strong Concrete



Footings & Walls



Cement-Sand Screed



Cellular Concrete Blocks (Gas Concrete, Foam Concrete)



Cellular Concrete Blocks (Gas Concrete, Foam Concrete)



Concrete and Construction Cement-Sand Mortars



Construction Products

**Basalt Rock Fiber Products:** Smarter, Stronger, Longer-Lasting



# BASALT MACROFIBERS

**Basalt macrofibers** are a high-performance fiber reinforced polymer (FRP) composite macrofiber, based on an alkali-resistant glass or basalt fiber and engineered to provide high post-cracking strength to concrete while at the same time increasing toughness, impact and fatigue resistance of concrete. In this way, minibar macrofiber can be used as secondary and/or as primary reinforcement.

The basalt minibars macrofiber solution has been specifically designed to reduce or replace secondary and/or primary steel reinforcement in many structural applications requiring flexural tensile and post-crack performance (wall panels, pipes, water tanks, tunnel segments, marine structures, raft foundations, etc.)

## ADVANTAGES of BASALT MACROFIBERS

- ✓ Improves post-cracking mechanical properties of hardened concrete
- ✓ Fast and uniform dispersion during mixing
- ✓ Does not affect concrete pumpability when following recommended practices
- ✓ Allows for high dosages with minimum effect on processability (mix dependent)
- ✓ Does not corrode
- ✓ No additional water demands
- ✓ Easy to handle



## TECHNICAL CHARACTERISTICS

Materials	Fiber Length	Fiber Diameter	Specific Gravity	Modulus of Elasticity	Tensile Strength
Basalt fiber+ thermoset resin	43 +/- 2 mm*	0.70 mm	2.1 ± 0.1	42 GPa	> 1400 MPa / 200,000 psi
	1.7 +/- 0.08 in.	0.03 in.		6,091,585 psi	

Sell Price \$/lbs. (EXW)-CLT 28208 & includes tariffs

Shipped by container, in palletted 20lb boxes

Contact us for detailed specifications for each product

**Certified and with EPD**



# How To Use Basalt Minibar Macrofibers

Basalt minibar macrofibers can be introduced into the wet mix at the batching plant or directly into the concrete truck on-site. For optimal dispersion and performance, using a blower system is recommended, but only for a brief mixing period. Dosage rates vary based on the application and desired performance. A reduction of 25% in large aggregate (max. 16mm) is advisable to ensure the best dispersion.

## TECHNICAL CHARACTERISTICS

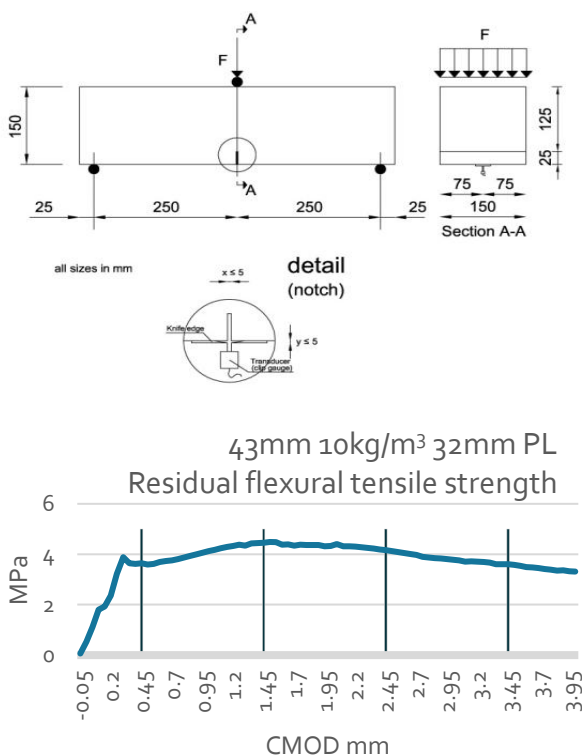
Materials	Fiber Length	Fiber Diameter	Specific Gravity	Modulus of Elasticity	Tensile Strength
Basalt or Alkali-resistant glass fiber+ thermoset resin	43 +/-2 mm* 1.7 +/- 0.08 in.	0.70 mm 0.03 in.	2.1 ± 0.1	42 GPa 6,091,585 psi	> 1400 MPa / 200,000 psi

\* Shorter or longer fibers , from 24-55mm are available on request

## MECHANICAL PERFORMANCE

The fundamental mechanical performance of fiber reinforced concrete can be obtained from a three-point bending test performed on a prismatic beam of 150×150×550mm (6×6×22in.) including a notch at mid-span (EN 14651). The displacement-controlled testing system introduces a specific deflection or CMOD (Crack Mouth Opening Displacement) rate, and records load and displacement up to a CMOD limit of 3.5 mm (0.14 in). The fiber reinforced concrete performance is evaluated by means of residual flexural strength values at 0.5, 1.5, 2.5, and 3.5mm (0.02, 0.06, 0.10, and 0.14in.) of CMOD, namely  $f_{R1}$ ,  $f_{R2}$ ,  $f_{R3}$  and  $f_{R4}$ , respectively.

According to the fib Model Code 2010, the constitutive law of the material in tension is defined by means of the tensile stresses  $f_{Fts}$  and  $f_{Ftu}$ , calculated from  $f_{R1}$  and  $f_{R3}$  for service and ultimate limit state, respectively.



The sketch shows the basic configuration of the test.

The following curve shows a typical Load-CMOD response of a B35 concrete reinforced with 10 kg/m<sup>3</sup> (17 lbs/yd<sup>3</sup>) of basalt macrofiber. The table presents the mean values of residual strength.








Mean flexural performance (Prism 150x150x600mm)	MPa (mean)	psi (mean)
$f_c$ (100 mm / 4-inch cube)	56	8122
$f_L$	3.89	564
$f_{R1}$	3.61	523
$f_{R2}$	4.49	651
$f_{R3}$	4.13	599
$f_{R4}$	3.56	516
$ARS = (f_{R1} + f_{R2} + f_{R3} + f_{R4}) / 4$	3.95	572



# BASALT FRP REBAR (BFRP)

Basalt fiber reinforced polymer (FRP) Rebar is made from basalt continuous fiber (in the form of strands), which are laid parallel to each other and are fused with resin. The strands have a spiral surface as the relief on the basalt shaft provides better adhesion to concrete. Made of volcanic stone, **Basalt FRP Rebar is strong, lightweight, and corrosion resistant.**

## ADVANTAGES of BASALT FRP REBAR

-  Corrosion Resistant
-  4-6 Times Lighter than Steel Equivalent
-  75% Transportation Savings
-  3-5 Times Faster Installation / Less Labor
-  100+ Years of Service Life
-  Non-Ferrous – Behaves as an Insulator
-  Improves Concrete's EPD by 30%

- **ICC Certified & FDOT Approved**
- **Sell Price (EXW)-CLT 28208**
- **Contact us for detailed specifications for each product**

### Bar Size

US	Metric
	4mm
	6mm
	8mm
#3	10mm
#4	12mm
	14mm
#5	16mm
	18mm
#6	20mm
#7	22mm
	24mm



## BASALT FRP REBAR: COMPARATIVE CHARACTERISTICS

PROPERTIES	BASALT REBAR	STEEL REBAR
DENSITY	2 T/m <sup>3</sup>	7.5 T/m <sup>3</sup>
CORROSION	Corrosion-resistant material of the first group of chemical resistance	It breaks down with the release of corrosion products
THERMAL CONDUCTIVITY	0 W/m <sup>2</sup> °C	48 W/m <sup>2</sup> °C
TENSILE STRENGTH	1200 MPa	390 MPa
WORKING TEMPERATURE	from -70 to +100°C	from -70 to +50°C
ELECTRICAL PROPERTIES	Dielectric	Electrically Conductive
ECOLOGICAL SAFETY	Environmentally friendly - does not emit harmful and toxic substances	Fails and is difficult to extract and recycle
SHAPE RETENTION UNDER LOAD	Straight line with elastic linear dependence under load before failure	Curved line with yield plate under load
TRANSPORTATION	Coils of size D = 1.15 m	Rods 6-12 m long
SAVING RESOURCES IN USE	Stable prices; Savings in transportation due to weight reduction; No welding machine used	No price stability; Expensive to transport and handle; Needs a welding machine as well as fire safety office when cutting
DURABILITY	Predicted durability of at least 80 years	Based on building codes

# **BASALT FRP REBAR: APPLICATIONS**

## **Precast Products**

Basalt rebar adds exceptional strength and durability to precast products. Its high tensile strength and corrosion resistance enhance the integrity of beams, columns, and panels, resulting in longer-lasting products that require less maintenance.

## **Slab on Grade**

In slab on grade projects, basalt rebar outperforms traditional steel rebar due to its lightweight and non-corrosive properties. This leads to stronger, crack-resistant foundations, reducing the risk of future structural damage.

## **Tilt-Up Wall Projects**

Basalt rebar offers a strong alternative for tilt-up wall construction, providing excellent adhesion and resilience against seismic activity. Its non-conductive nature prevents electromagnetic interference, making it suitable for sensitive electronic environments.

## **Department of Transportation Projects**

For DOT projects, basalt rebar meets the demands of heavy traffic and harsh conditions with its strength and corrosion resistance. It enhances the durability of bridges, highways, and retaining walls, reducing maintenance needs.

## **Toll Expressways**

Basalt rebar is ideal for toll expressways, providing exceptional tensile strength and resistance to chemical corrosion, ensuring infrastructure longevity and safety for motorists.

## **Data Centers**

In data centers, basalt rebar reinforces concrete floors and foundations, offering the necessary strength while protecting against electromagnetic interference.

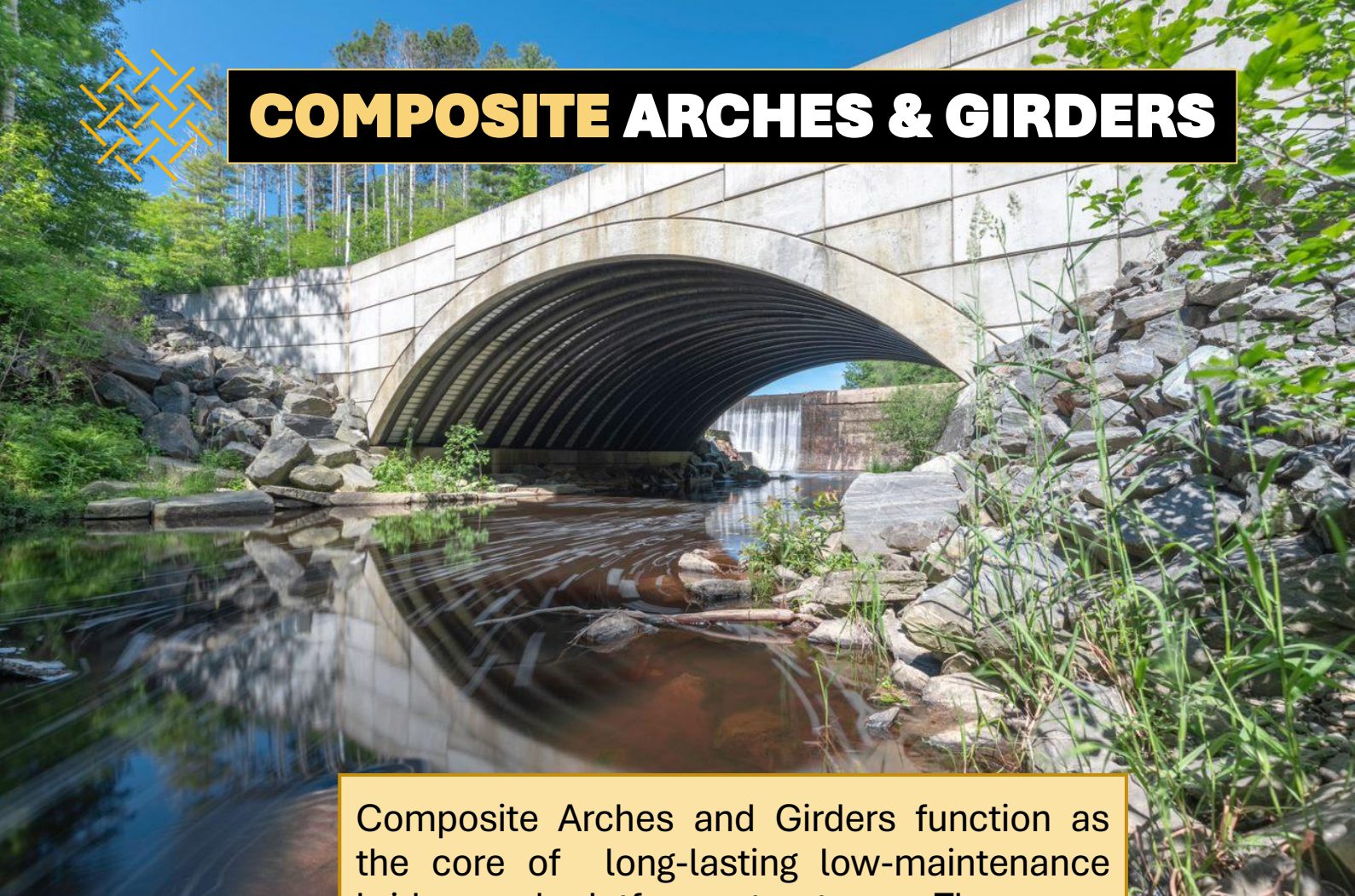
## **ICF Homes**

Basalt rebar supports the sustainability of Insulated Concrete Form (ICF) homes by providing strong, eco-friendly reinforcement, ensuring structural integrity and reducing construction costs.





# COMPOSITE ARCHES & GIRDERS



Composite Arches and Girders function as the core of long-lasting low-maintenance bridge and platform structures. These are built to AASHTO LRFD bridge design specifications.

With over a 100-year service life, these arches, girders, and associated decking are light weight and non-corrosive and can be fully customized to your needs.



# Composite Solutions for Resilient Infrastructure

## Key Advantages

- Non-corrosive
- 100+ year lifecycle
- Favorable in skew locations
- Lighter than steel and concrete
- Accelerated-Bridge-Construction Ready

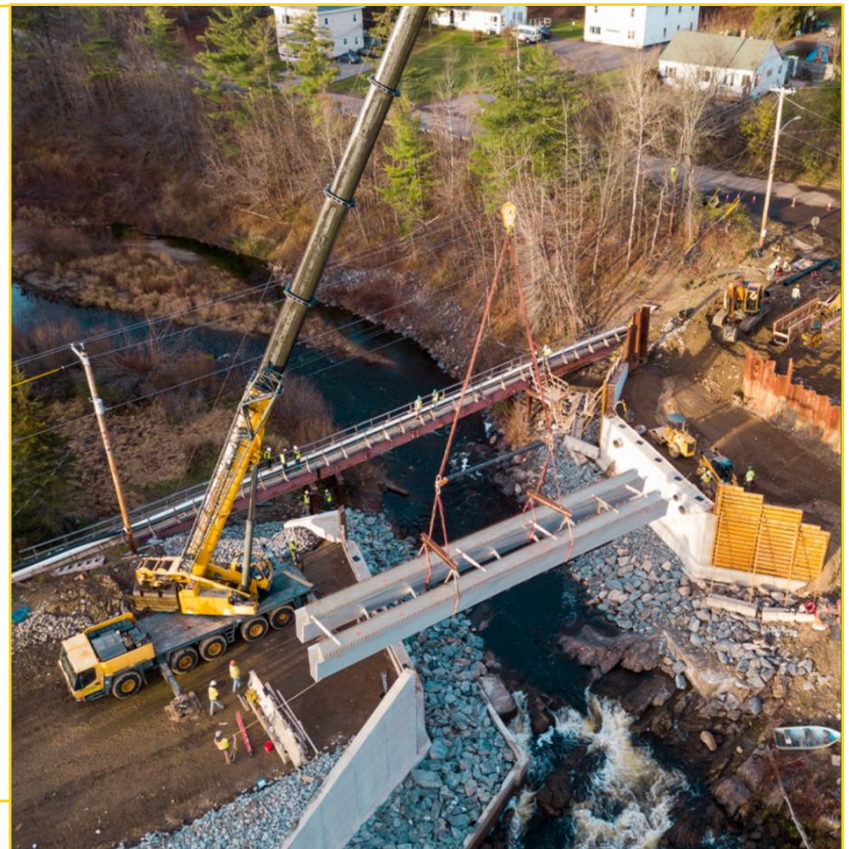
## Key Benefits

- Meets seismic codes
- Designed with AASHTO LRFD bridge design specifications
- Competitively priced
- Customizable to site limitation requirements

The AIT Composites and Bridge teams joined Basalt International in 2024, and now serve as part of our global BI Design & Engineering team

BI-Design & Engineering has completed over 50 composite bridges projects across the country. The technology we use was developed at the University of Maine's Advanced Structures and Composites Center (ASCC).

BI-AIT bridge materials have been tested and proven to last over 100 years with little to no maintenance, offering life beyond any competitive technologies. BI offers highly customizable composite arch and composite beam bridge systems.







# COMPOSITE ARCH BRIDGE SYSTEMS

## SUSTAINABLE COMPOSITE SOLUTIONS DELIVERED



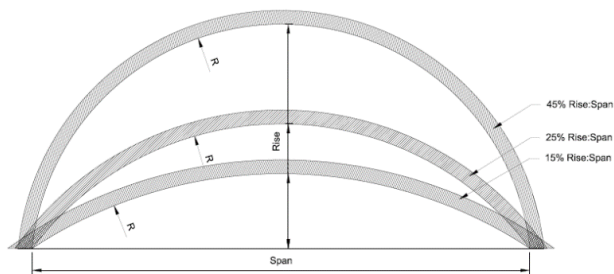




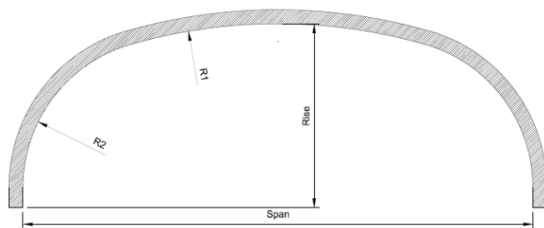
# COMPOSITE ARCH BRIDGE SYSTEMS

## BENEFITS

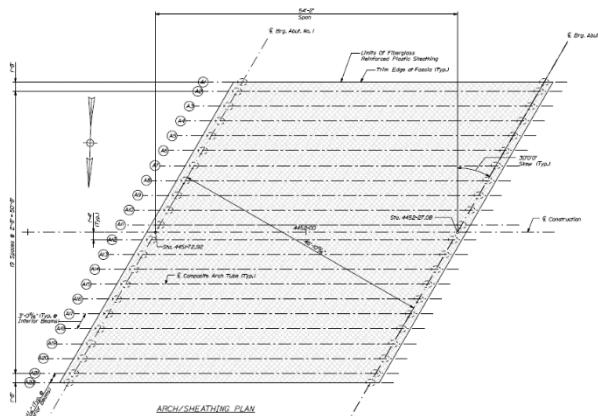
- 100+ year service life
- Little to no lifetime maintenance
- Non-corrosive lightweight FRP arch tubes that are filled with concrete on site
- Can be handled with small, light weight equipment
- Reduces concrete needed by about 20% compared to concrete span bridge
- Spans up to 80' and are highly customizable based on project requirements



*Single-radius arches with rise/span from 15%-50%*

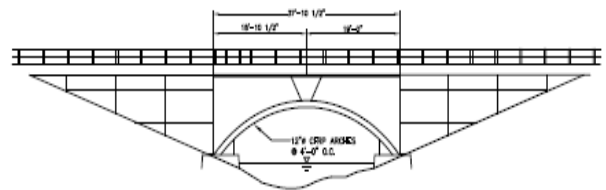


*Variable radius arches*

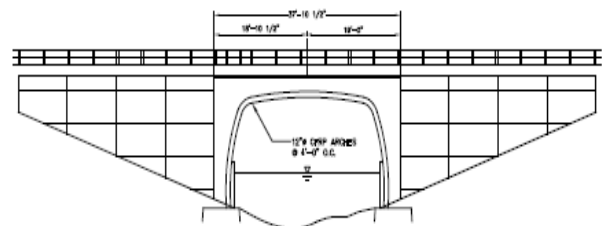


*Skewed bridges*

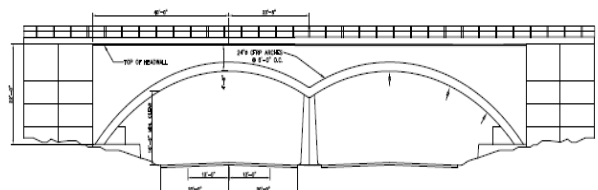
SHALLOW STREAM CROSSING



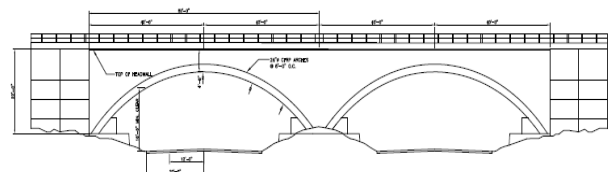
DEEP STREAM CROSSING



INTERSTATE OVERPASS  
NORTH AND SOUTH DIRECTIONS  
MINIMAL MEDIAN



INTERSTATE OVERPASS  
NORTH AND SOUTH DIRECTIONS  
40' MEDIAN





# HANDLING & SHIPPING ADVANTAGES





# COMPOSITE GIRDER BRIDGE SYSTEMS





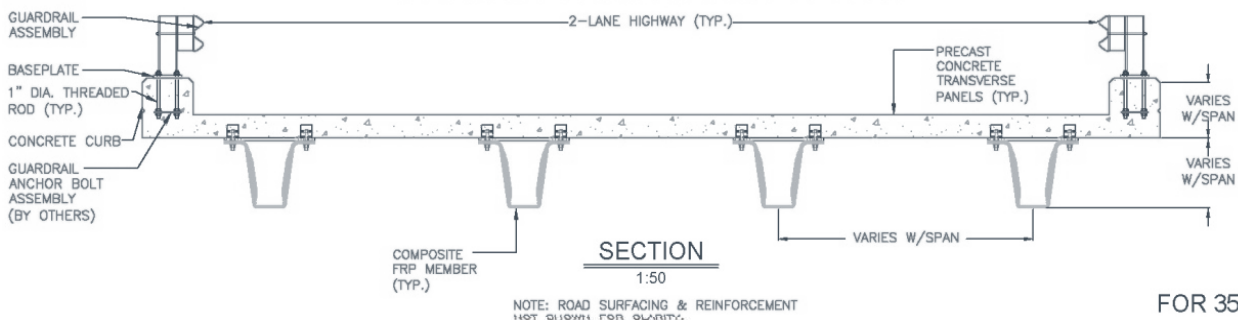
# COMPOSITE GIRDER BRIDGE SYSTEMS



Typical uses: Short to Medium Span Bridges, Parking Structures, Coastal Bridges

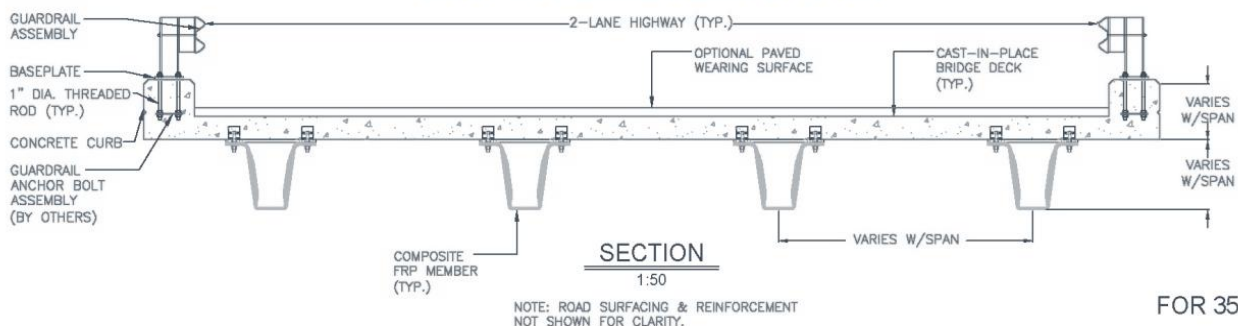
- Great for replacing and building bridge structures requiring short and medium spans up to 120'
- Least cost alternative
- 50% lighter than steel
- Reduced carbon footprint
- Accelerated construction
- Little to no lifetime maintenance
- Require no concrete fill, making them significantly lighter than traditional concrete or steel beams
- Cast-in-place, precast transverse, and precast longitudinal deck options
- Depth and camber are easily adjusted based on project requirements

## PRECAST TRANSVERSE OPTION



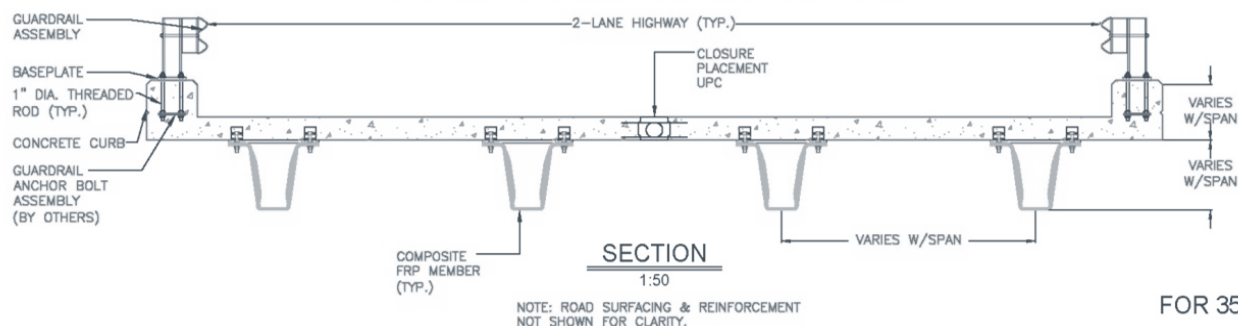
FOR 35'-80' SPANS

## CAST-IN-PLACE DECK OPTION



FOR 35'-80' SPANS

## PRECAST LONGITUDINAL OPTION



FOR 35'-80' SPANS

## **GIRDER FABRICATION - QUALITY CONTROL QUALITY ASSURANCE**

- MaineDOT and UMaine ASCC developed 1-week American Composites Manufacturing Association (ACMA) Certified Composites Technician in Vacuum Infusion Process (CCT-VIP) course available to Fabrication and Maintenance Engineers. The course can be tailored to fabrication inspection, maintenance inspection, non-destructive inspection techniques, or repair procedures
- Witness Panel Testing following ASTM D3039, D6641, and D8067 for Tensile, Compressive, and Shear Strengths



**Mold used to make 30'-60' Spans – up to 120'-150' is possible**





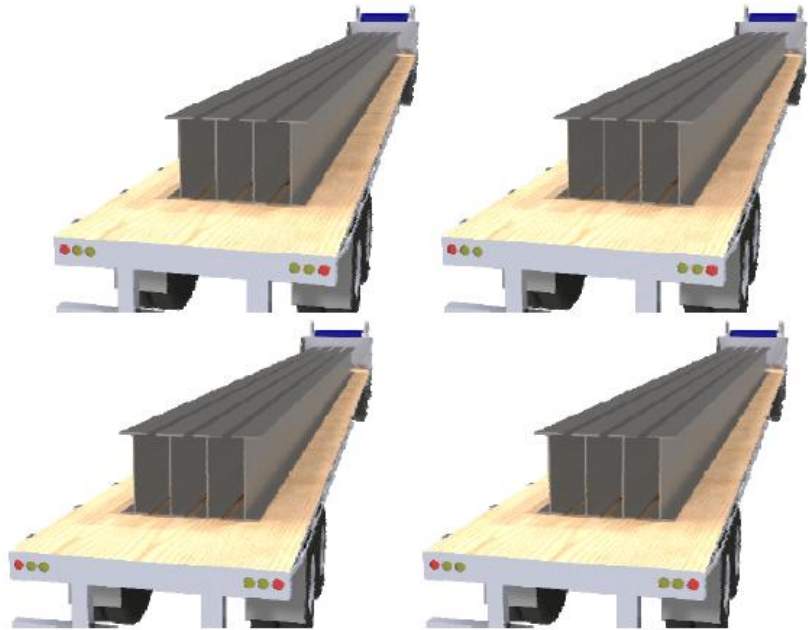
## GIRDER SHIPPING & HANDLING ADVANTAGE

16 Girders – 4 Bridges  
Fit on One Truck – 42,496 lb.



2,656 lb/girder

16 Steel Girders  
Due to Weight Limitations  
Need Four Trucks - 151,200 lb.



9,450 lb/girder





# COMPOSITE DECKING

## ADVANTAGES

- **100+ Year Service Life.** BI-Composites FRP Decking is corrosion resistant which aids in designing a structure with a much longer service life than steel or concrete decking
- BI-Composites Decking is a pultruded FRP decking product that **eliminates the need for a concrete deck** on a buried arch structure. We utilize advanced composite materials to create a durable, strong, lightweight, corrugated FRP deck. This robust decking **efficiently supports heavy loads**
- **Can be manufactured to any length**, and is easily attached with self-drilling screws
- Composite Decking **exceeds competitors standards** by utilizing an improved resin system that provides higher durability, UV protection, and better alkali resistance characteristics

## Significant Weight Savings & Exceptional Strength

- The Composites Decking mechanical properties are one step ahead of alternative solutions



Composite Decking is designed to support Transportation Structures, Saltwater, Freshwater, & Seismic Environments



## Test Setup & Results

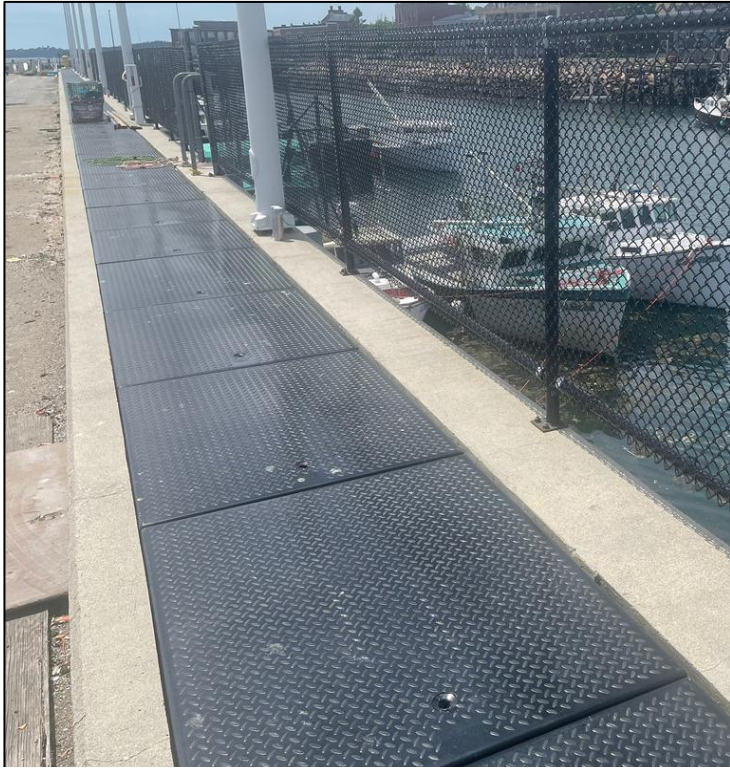
Sample #	Load @ First Load Drop, lb:	Deflection @ First Load Drop, lb:	Peak Load, lb:	Deflection @ Peak Load, in
1	12,828	-0.285	20,718	-0.620
2	13,267	-0.303	23,251	-0.763
3	15,931	-0.428	21,034	-0.971
4	16,147	-0.572	16,918	-0.620
5	12,575	-0.260	21,957	-0.733
6	16,019	-0.447	22,958	-0.804
7	11,243	-0.206	20,136	-0.608
8	11,147	-0.219	25,755	-0.685
9	14,646	-0.381	24,522	-0.942
10	10,101	-0.231	24,566	-1.113
# of Specimens:	10	10	10	10
Mean Value:	13,390	-0.333	22,181	-0.786
St. Dev.:	2,211	0.120	2,605	0.172
COV:	0.160	0.464	0.110	0.229
Data confidence factor:	0.839	0.569	0.889	0.772
Nominal value:	9,554	-0.594	17,746	-0.472
Characteristic value:	8,016	-0.338	15,779	-0.364

Stronger, Longer-Lasting





# COMPOSITE TRENCH COVERS



TRENCH COVERS ON THE PIER EASTPORT, ME



## BENEFITS

- Designed for the harshest winters and aggressive salt-water environments with large climate variations, where aluminum and steel panels often fail
- Designed to handle demanding loads: Weight Rated to 16,000 lb. tire load.
- Will not rust, rot, or get water-logged
- Diamond plate texture to increase traction (slip-resistance) and reduce wear
- Ideal for piers
- Will handle cranes

## SIZE & WEIGHT

- Dimensions: Span 3' \* Width 4'
- Skew: 0°
- Less than 1/3<sup>rd</sup> the weight of typical steel covers
- Easy to transport and install and move, when needed







# COMPOSITE PEDESTRIAN BRIDGES



## SIZE & WEIGHT

These bridges can be customized to your needs. In this example

- Dimensions: Span 16' \* Width 4'
- Skew: 0°
- Weight 2,000lbs

## DESIGN

- 1.5" thick composite decking supported by built-up FRP I-beams founded on helical piles
- 5 I-Beams using our pultruded composite C-Channel technology
- This bridge was created in our shop and was designed to be easy to transport and install. *Especially important in boggy and areas with poor road access, such as this site*

## BENEFITS

- Ideal as a safe, maintenance-free, multi-use trail bridge, often used on trail systems
- Can accommodate MT-7 sidewalk clearing machines for both summer and winter trail maintenance activities
- Can support snow vehicle weights to around 13,000 lbs.





# COMPOSITE TRAIL BRIDGES



## DESIGN

- Uses our composite decking supported by our pultruded composite C-Channels
- In this example: the C-Channels were founded on concrete abutments

## BENEFITS

- Exceptionally durable: These composite components will not rot or rust, or get eaten by insects



## SIZE & WEIGHT

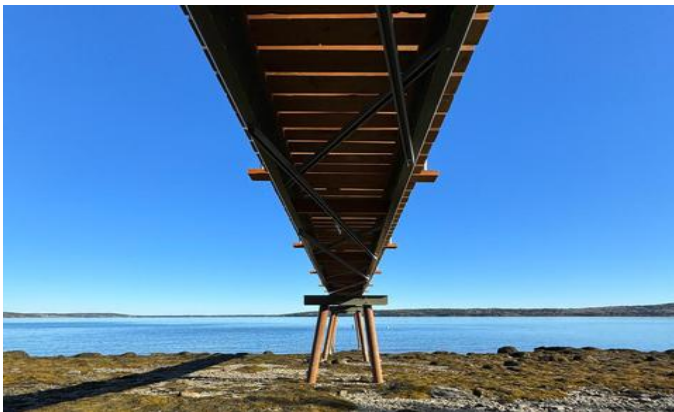
These bridges can be customized to your needs. In this example

- Dimensions: Span 30' \* Width 4'
- Skew: 0°
- Very lightweight. For this installation, the instructions were to “*leave no trace*” during installation. The channels were HAND CARRIED across ½ mile rough terrain by 5-6 people per beam. The rest of the materials were hand-carted in. No machinery was used to construct this structure. *Try doing this with steel...*





# COMPOSITE PIERS WITH POLES



## SIZE

This pier can be customized to your needs. In this example

- Dimensions: Span 160' \* Width 4'
- Skew: 0°

## DESIGN

- Uses our pultruded composite utility poles; these do not rust or corrode
- Uses our pultruded composite C-Channels as the main load carrying members, that also do not rust or corrode
- In this example: we reused the existing cedar decking – for others we have used composite decking
- The structure was elevated approximately 18 inches to accommodate sea level rise and further improve the durability and functionality of the structure

## BENEFITS

- Exceptionally durable: This example has already survived two 100-year storms, with no damage to the FRP structure.
- No maintenance is required for the FRP components. Ever





## COMPOSITE UTILITY POLES

The BI Utility Pole is an FRP composite utility pole with unique built-in features designed to provide the safest, lowest weight, lowest cost and most attractively warranted alternative to wood, steel, ductile iron, concrete and other FRP poles.

- ✓ Is 80% lighter than wood and 20% lighter than other composite poles
- ✓ Is safer than steel and ductile iron because FRP does not conduct electricity
- ✓ Does not support combustion, so it will not add to forest fires
- ✓ Will not rot in coastal or marshy installations - great for piers & railways
- ✓ Is not damaged by insects and doesn't attract wood-peckers
- ✓ 100+ Year service life - has a low carbon footprint (e.g., 100 years = 1 BI Utility Pole vs. 3 wood poles)
- ✓ Does not need hazardous wood preservatives, so no leaching of hazardous chemicals into the soil
- ✓ Optional internal ground wire to deter copper theft
- ✓ Needs minimal inspections or maintenance
- ✓ Is recyclable at its end of life





## Utility Pole Pultrusion

Fully Tested & Certified for 25, 30, 35, 40, & 45' pole sizes

### ADVANTAGES of BI UTILITY POLES

#### LOW COST

- Lowest initial installed cost FRP
- Rapid storm recovery
- Fire-proof/self-extinguishing
- 50-year replacement warranty
- Approved for RUS financing

#### HARDEN THE GRID

- UV protection maintains strength
- Minimum Class 3
- 'Bend Don't Break' composite material survives 90 mph sustained winds

#### LOW MAINTENANCE

- No bug/woodpecker damage
- Theft-proof internal ground wire
- Annual inspections not needed

#### ENVIRONMENTALLY SAFE

- No leaching of hazardous chemicals
- Use in sensitive wetlands
- 100-year life = 3 trees saved to remove CO2
- Recyclable

#### SAFE AND CONVENIENT FOR LINEMEN

- Lightest by hundreds of pounds
- Climbable
- Hand carry reduces property damage
- Direct burial with foam or back-fill
- Non-conductive, safe for live wire work
- Field-drillable



No Chemical  
Leaching



Impervious to  
Termites





## TECHNICAL SPECIFICATIONS of BI UTILITY POLES

Fiber Reinforced Polymer / 10" OD / 0.25" wall / 30 to 45 feet / Class 3 minimum

Fully tested and certified to ASTM, ACMA and NESC standards

TEST	STANDARDS REF.	TEST SOURCE	RESULTS
Tip Load	ASTM D1036	EDM International	Class 3
Deflection	ASTM/ANSI	EDM International	Class 3
Dielectric	ASTM D1049	Applied Technical Services	Nonconductive
Leakage Current	ASTM F711	Applied Technical Services	Imperceptible
Flammability	ASTM D635	Element Materials Technology	Self-extinguishing
Flexural Strength	ASTM D790	Element Materials Technology	Exceeds standards
Flexural Modulus	ASTM D790	Element Materials Technology	Exceeds standards
Interlaminar Shear	ASTM D2344	Element Materials Technology	Exceeds standards
Tensile Strength	ASTM D3039	Element Materials Technology	Exceeds standards
Tensile Modulus	ASTM D3039	Element Materials Technology	Exceeds standards
Tear-Through	5,000 lb. Min.	Element Materials Technology	9,000 lbs.
Extreme Wind	NESC 90 mph	PLOAD 7, Whitworth Engineering	Survives 3X Expected Load

### When ordering, please consider the following options

- ✓ Pole rating
- ✓ Length
- ✓ Cross arm
- ✓ Holes for pegs
- ✓ Paint / Color
- ✓ Fire-proofing
- ✓ Internal Ground wire



Basalt Rock Fiber Products: Smarter, Stronger, Longer-Lasting





## COMPOSITE SEAWALL

BI manufactures industry-leading Basalt and Glass FRP composite sheet piling for the harsh marine environment. We combine various strength-based resins with appropriate shaped profiles and engineering expertise to deliver economical, durable, and sustainable marine solutions. Our products are tailored to fit the needs of individual homeowners and businesses, military, and city governments to address climate change and sea level rise.

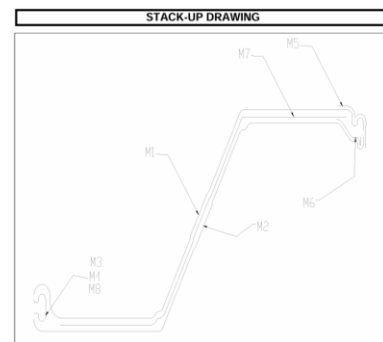
- ✓ 100+ years of service life
- ✓ Non-corrosive
- ✓ Lighter - easy to bulk-transport
- ✓ Easier to install
- ✓ Less expensive
- ✓ A variety of profiles available





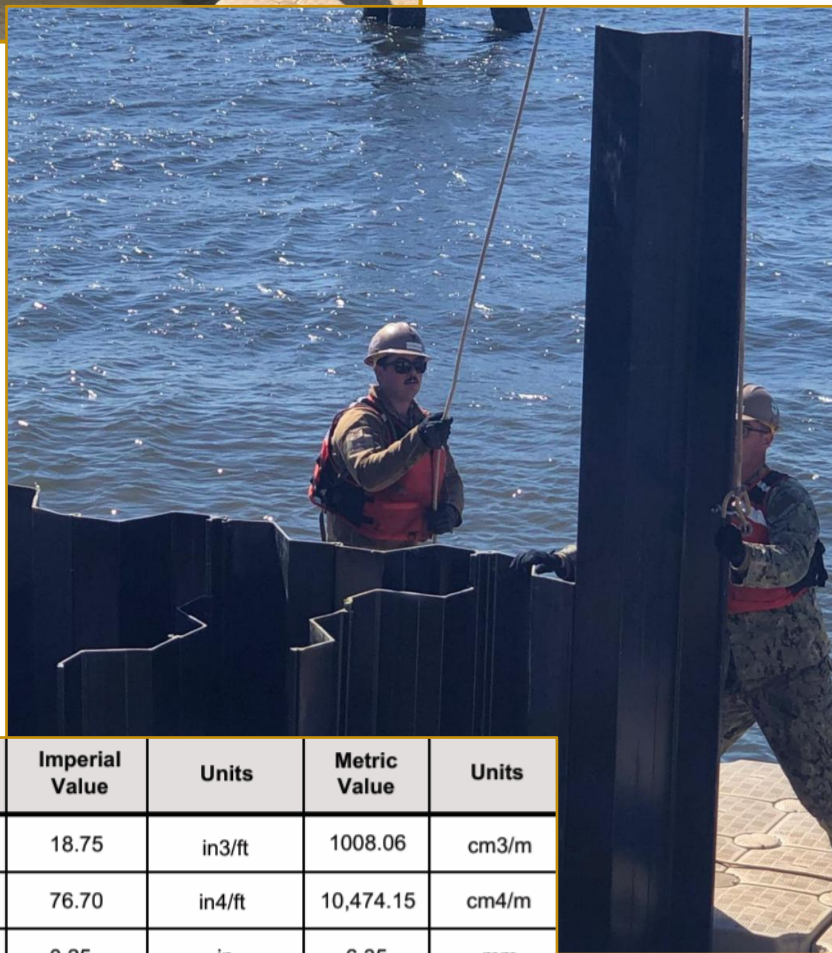


Our high strength military-specification formulation was **DESIGNED, TESTED AND ACCEPTED** in collaboration with the US Army Corps of Engineers



## More durable, corrosion-resistant and eco-friendly seawalls

Our proprietary Basalt FRP composite sheet piling products are sustainably produced. We manufacture UV-resistant, lighter weight and greener alternatives, reducing shipping costs and carbon footprint. Our Seawall does not rot or rust. Doesn't require cathodic protection as compared to conventional wood and metal seawall materials. We want you to build it once and reduce ecological impact and long-term protection.



### Physical Properties

Physical Properties	Imperial Value	Units	Metric Value	Units
Section Modulus	18.75	in <sup>3</sup> /ft	1008.06	cm <sup>3</sup> /m
Moment of Inertia	76.70	in <sup>4</sup> /ft	10,474.15	cm <sup>4</sup> /m
Typical Thickness	0.25	in	6.35	mm
Depth of Sheet	8.00	in	203.2	mm
Width of Sheet	18.00	in	457.2	mm
Weight	5.75	lbs/ft	8.56	Kg/m
Web Angle	31	°	31	°
Cross Sectional Area of Sheet	7.19	in <sup>2</sup>	46.93	cm <sup>2</sup>



# Why Partner with Basalt International?

## Basalt International Provides

### *Design & Engineering*

- Global leadership composite design team specializing in all things Basalt

### *Sourcing & Distribution*

- Consistent quality standards
- High-margin product categories
- Sales & marketing support + technical training
- Established non-China Sourcing & Logistics

### *Manufacturing*

- Global best in class manufacturing team
- Standard & custom-made product offerings

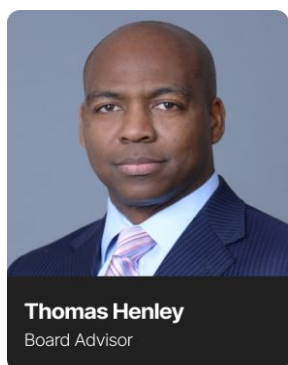
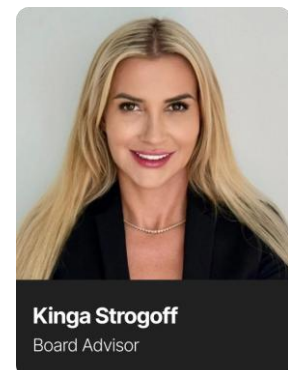
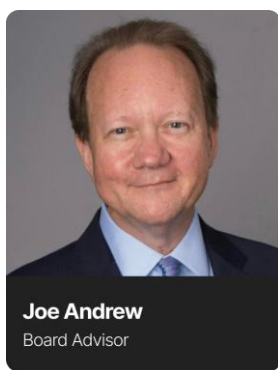
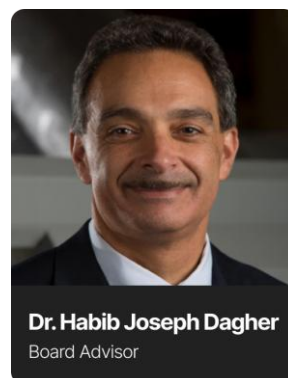
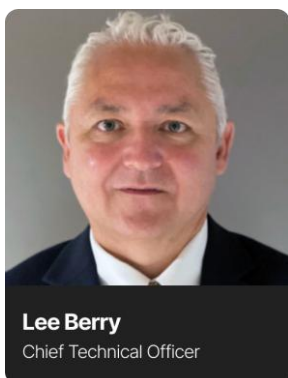
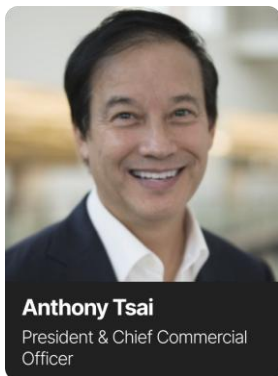
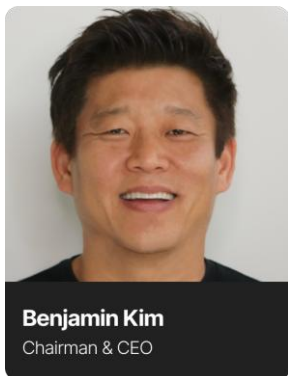
## Distributor Benefits

- Product exclusivity in select regions
- Sales training and engineering specs support
- Direct connection to global supply chain
- Early-mover advantage in an emerging sector



# Leadership

World Class Team -- manufacturing scale and proven basalt technical expertise





# Basalt

International<sup>TM</sup>

## **CONTACT US TO DESIGN AND PLACE AN ORDER**



CATALOG



WEBSITE

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