



DYMAT
DYNAMIC MATERIALS



DYMAT[®] BT FRP System





The DYMAT® BT FRP System

DESCRIPTION

The **DYMAT® BT FRP System** is a state-of-the-art Fiber Reinforced Polymer (FRP) Composite System comprising of specialized synthetic fabrics and resins. These materials are combined together to create unique tested & proven products of highest quality for the most difficult structural rehabilitation and strengthening projects.

DYMAT's tailored made glass and carbon fiber fabrics are saturated with environmentally friendly resins to tackle any difficult application; underwater, high-temperature or blast resistance projects requirements are easily met and are backed by DYMAT's Gold Warranty Program (GWP).

The **DYMAT® BT FRP System** is used routinely for corrosion protection, pipe rehabilitation, seismic strengthening, structural upgrades, fire protection, and blast mitigation for private and government sensitive structures. It is engineered and installed in all kinds of structures in land, near water or even underwater in the most adverse environments and under the most difficult design requirements.

Our trained engineers can provide you with the in-depth engineering support and free of charge preliminary designs to clients, engineers, contractors, state agencies and private owners alike.



- Representatives are available worldwide. Please contact us to direct you accordingly.
- Literature for specific products and applications are available upon request.
- Data sheets are available upon request.
- For additional information, design support or to inquire about a potential project, please contact us with no obligation.

TYPICAL USES

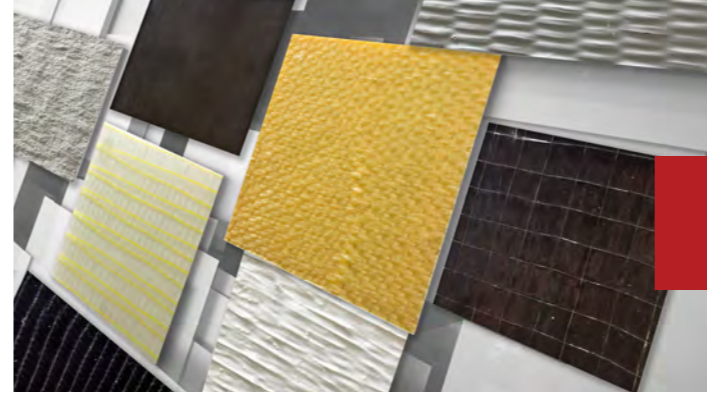
- Columns
- Beams
- Walls
- Other areas
- Fluid tanks
- Bridges
- Buildings
- Silos
- Wood Structures
- Brick Structures

THE BT FRP SYSTEM is manufactured by DYMAT® CONSTRUCTION PRODUCTS INC.

TYPICAL DRY FIBER PROPERTIES

CHARACTERISTIC	DYMAT® Carbon Fiber System DHC-190	DYMAT® Glass Fiber System DHE-272
Tensile Strength	700.0 ksi / 4.83GPa	540.4 ksi / 3.73 GPa
Tensile Modulus	40.6 Mpsi / 280.0 GPa	12.1 Mpsi / 83.3 GPa
Ultimate Elongation	1.65 %	4.5 %
Density	1.01 oz/in ³ / 1.74 g/cm ³	1.47 oz/in ³ / 2.55 g/cm ³
Weight	19.0 oz/yd ² / 644 g/m ²	27.2 oz/yd ² / 922 gr/m ²
Fiber Thickness	0.0146 in / 0.37 mm	0.0142 in / 0.36 mm

Additional Products



The **DYMAT® BT FRP System** forms the next generation of composite systems developed by Mr. Edward Fyfe for the structural strengthening industry. Mr. Fyfe was the founder and pioneer in this field of this industry more than 30 years ago, having developed numerous relevant patents and having successfully completed thousands of structural strengthening projects throughout the world.

The improvement percentages in the composite laminate properties of the **DYMAT® BT FRP System** relatively to the next leading system are: 35% for **DYMAT® Carbon Fiber System** and 15% for **DYMAT® Glass Fiber System**.

ADDITIONAL GLASS FABRICS

- DEWB** 0/90 degree FABRIC LIGHT WEIGHT
- DCB** +/- 45 degree fabric
- DGB** Glass fabric for blast applications

ADDITIONAL CARBON FABRICS

- DEWC** Carbon fabric for 0/90 degree application
- DCBC** Carbon +/- 45 degree fabric
- DCV** Carbon Veil fabric

ADDITIONAL RESINS

- DWS-1** Underwater Application Epoxy used as a primer and finish coat in water contact. Can be applied under water where applicable
- DWS-1S** Resin to Saturate fabrics for under water applications
- DCHR** Final coat of high chemical resistant material
- DUT** Single component acrylic material
- DCT-1** Used for installation of carbon strips
- DCT** Tack coat used prior to application of fabric overhead or lower portions of horizontal surfaces. Excellent adhesion properties.
- DMS** Colorless water resistant sealer
- DCW** Low-temperature resin
- DSW** Thickener for the Dymat®R resin
- DWS** Underwater Patching material
- DCT** Underwater tack coat
- DWPC** Special resin with high Tg of 220 degrees F
- DCH** High clear resin
- DA** Accelerator
- DBM3** Resin for bonding to steel

COMPOSITE LAMINATE PROPERTIES

The **DYMAT® BT FRP System** uses superior materials, unique construction design and advanced manufacturing processes. The test values of the **DYMAT® BT FRP System**, using **DYMAT® R Epoxy Resin**, are as follow:

CHARACTERISTIC	DYMAT® Carbon Fiber System DHC-190	DYMAT® Glass Fiber System DHE-272
Tensile Strength Test Value / Design Value	269.5 / 229.1 ksi 1,858 / 1,580 MPa	95.3 / 76.7 ksi 661 / 529 MPa
Elongation at break Test Value / Design Value	1.28 / 1.09 %	2.2 / 1.8 %
Tensile Modulus Test Value / Design Value	20.5 / 17.4 Mpsi 141.4 / 120.2 GPa	4.35 / 3.48 Mpsi 30.0 / 24.0 GPa
Nominal Laminate Thickness	0.0362 in 0.92 mm	0.0512 in 1.30 mm



“ We are a research and development company, focused on bringing innovation to infrastructure ”

DYMAT® was founded in 2012 by Edward R. Fyfe to enhance the characteristics of materials and products through resilience, performance, and sustainability.

The inventor of the disc bearing and a prolific innovator of fiber-reinforced polymers, **Edward R. Fyfe**, has been innovating novel solutions for infrastructure for almost 40 years.

DYMAT® is the culmination of many companies and a vast network of experience aimed at one goal: **to develop dynamic materials and products to enhance structural performance.**



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