

The Innovative Structural Strengthening Solution

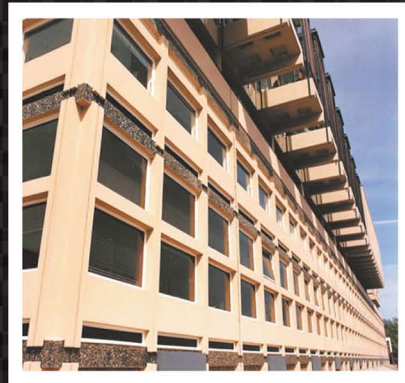
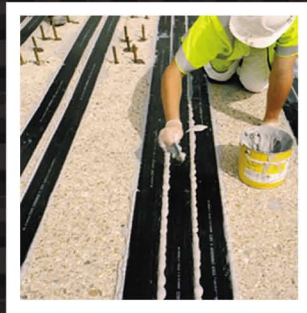


X-Wrap
Externally
Bonded Composite
Reinforcement Systems



X-CALIBUR[®] STRUCTURAL SYSTEMS

Delivering **Structural Strength** Through **Advance Technology**



Composite fiber technology provides solutions for strengthening floors, walls, beams, columns and other structural elements suffering from deterioration, additional loads or excessive deflection. A need to increase the load capability of structures can arise from damage to structural elements, construction or design defects, alteration of design regulations, or change of use.

Composite technology can also overcome problems associated with static loading, dynamic loading, creep and durability.

The high cost and major disruption caused by demolition and reconstruction make refurbishment an attractive option. The use of composites provides clients and engineers with lightweight, high durability low maintenance solutions to strengthening problems which overcome many of the disadvantages associated with steel plate bonding, which itself is a proven technique with case histories in excess 20 of years.

Composite Fiber technology has many potential applications which include:

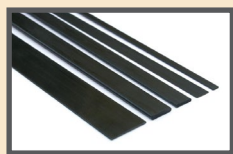
- Bridges
- Car Parks
- Commercial Properties
- Industrial Facilities

Design Service

X-Calibur works with several specialist consultants experienced in the design of structural strengthening to provide a full design of supply solution.

Pultruded Plate Systems

X-Wrap PP Strip



X-Wrap PP Strip are carbon fiber pultruded strip (plate) designed for the strengthening of structural members against tensile, shear and impact forces. The strips are used in conjunction with a high performance epoxy adhesive. They are black in color.

	HS Grade	IM Grade	HM Grade
Tensile Strength (MPa)	3000	2400	1500
Tensile Modulus (GPa)	165	210	400
Nett thickness	1.2/1.4mm	1.2mm	1.2/1.4mm

X-Wrap Pultruded Rod



X-Wrap Pultruded Rods are ready to use pultruded carbon fiber rods which provide a lightweight, high tensile strength material suitable for the reinforcement or strengthening of concrete, masonry and timber elements of existing structures.

Tensile Strength (MPa)	2500
Tensile Modulus (GPa)	150
Diameter (mm)	6, 8, 10 and 12

X-Wrap Plate Adhesive

X-Wrap Plate Adhesive is a high build high performance high strength thixotropic epoxy resin used for bonding X-Wrap carbon fiber strips, plate and rods and other external strengthening materials.

Composite Fiber Wrapping Systems

X-Wrap C300



X-Wrap C300 is a carbon fiber uni-directional sheet designed for the strengthening of structural members against tensile, shear and impact forces. The sheet is used in conjunction with a primer and lamination resin. It is black in color.

	High Strength (C300HS)	Intermediate Modulus (C300IM)	High Modulus (C300HM)
Tensile Strength (MPa)	4900	4600	2600
Tensile Modulus (GPa)	230	340	640

The high strength grade is also available in fabric weights of 200gsm (C200HS), 230gsm (C230HS) and 600gsm (C600HS).

X-Wrap Primer

X-Wrap Primer is a high penetration primer suitable for use with X-Wrap Lamination Adhesive and X-Wrap structural strengthening fabrics.

X-Wrap Lamination Adhesive

X-Wrap Lamination Adhesive is an easy to apply, high performance epoxy resin designed as an impregnant for fabric reinforcement; the resulting laminate offers excellent strengthening properties coupled with long term durability.

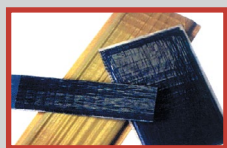
Other Fabrics Available:

X-Wrap AR Fabric (aramid), X-Wrap EG Fabric (E-glass) and X-Wrap BS Fabric (Basalt)

	X-Wrap AR	X-Wrap EG	X-Wrap BS
Tensile Strength (MPa)	2880	2500	2500
Tensile Modulus (GPa)	100	76	90

Note: Fabric test data is for the fibers used to produce the fabric.

Also Available



X-Wrap Laminated Plates

High performance laminated composite plates custom manufactured from carbon and other fibers.

The above information is for guidance only. Please refer to the current product data sheet for the latest technical data and product information.

Year: 2014
Project: Bab Al Qasr Hotel - Abu Dhabi, UAE
Contractor: Wadi Rum Decor



Year: 2014
Project: Carrefour - Cairo, Egypt
Contractor: Al Lotus



Year: 2014
Project: Intercontinental Hotel
Abu Dhabi, UAE
Contractor: Wadi Rum Decor



Year: 2000
Project: *Foshan Fuel & Gas HQ
Contractor: Shenzhen Ship Building
Company



Year: 2000
Project: *Kula Pilar Bridge, Malasia
Contractor: JTR
Engineer: Ministry of Public Works

Year: 2001
Project: *Gulf House, UK
Contractor: Concrete Repairs Limited
Engineer: Mouchel



Year: 2001
Project: *Shenzhen International
Bus & Meeting Plaza, China
Contractor: Shenzhen Ship Building
Company



***The above projects were carried out by Exchem Polymer Systems Ltd.**
(now called 2K Polymer Systems Ltd.) who transferred the technology for the
X-Wrap Structural Strengthening Systems to X-Calibur International FZC.

www.x-calibur.us