

# X-Wrap PP Strip

## High strength carbon fiber strips for structural strengthening

### Product Description

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.

The strips are available in three grades:

- HS (high strength)
- IM (intermediate modulus)
- HM (high modulus).

The HS grade is available in thicknesses of 1.2mm (HS1200) and 1.4mm (HS1400). The IM grade is available in thickness of 1.2mm (IM1200) The HM grade is available in thicknesses of 1.2mm (HM1200) and 1.4mm (HM1400).

### Advantages

- Lightweight and easy to apply
- Fast installation
- Simple application to square or curved members
- High strength to weight ratio
- Can be used in conjunction with X-Wrap Pultruded Rod for combined strengthening and maximum strength.
- Available in several widths and thicknesses.
- Range of strengths and modulus available.

### Uses

For the structural strengthening of:

- Beams
- Walls
- Columns
- Slabs
- Culverts
- Circular, curved and complicated details

### Laboratory Test Data

Property	Typical Results		
	HS Grade	IM Grade	HM Grade
<b>Carbon fiber content</b>	>68%	>68%	>68%
<b>Nett thickness</b>	1.2/1.4mm	1.2mm	1.2/1.4mm
<b>Modulus of elasticity (GPa)</b>	>165	>210	>400
<b>Tensile strength (MPa)</b>	>3000	>2400	>1500

### Packaging

100m rolls.

Strip widths(mm):

HS 1200: 20, 50, 60, 80, 100, 120 and 150.

HS 1400: 50, 60, 80, 90 and 120.

IM 1200: 50, 60, 80, 90, 100 and 120

HM 1200: 50, 80 and 120.

HM 1400: 50, 80 and 120.

### Shelf Life

X-Wrap PP Strip should be stored in dry conditions and protected from direct sunlight; the shelf life under such conditions will be unlimited.

### Installation Guidelines

X-Wrap PP Strip can only be applied by an NCC X-Calibur Registered Contractor using trained personnel and the correct equipment. NCC X-Calibur does not allow any contractor on to the register unless they satisfy strict selection criteria. For each application NCC X-Calibur will provide a detailed method statement that the Registered Contractor will work to.

### Surface Preparation

The substrate to be treated should be cleaned and prepared by sand blasting, grit blasting, grinding or similar to remove all contamination such as dust, oil, grease, surface coatings etc. and provide a mechanical key. The prepared surface should then be checked for variation in levels using a 300mm straight edge, the maximum permissible deviation being 1 mm over a distance of 300mm in any direction. Any structural element which contains sharp arises must be ground to give a radius of at least 20mm.

Since the main purpose of installing X-Wrap PP Strip is to upgrade a structural element, the condition of the substrate surface must be established to ensure that it is capable of transferring load to the wrapping sheet. Therefore adhesion tests should be carries on a trial area before commencing with the installation.

### Installation

X-Wrap PP Strip shall be mixed and applied in accordance with the method statement.

Apply 1mm thick layer of adhesive to the concrete soffit then remove the peel ply from the surface to be bonded

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and apply the adhesive to the plate at 1 to 2mm thick, with approx 3mm at the centre.

Note: 2mm plastic spacers can be used between the plate and concrete surface to maintain a minimum adhesive thickness.

Position the plate against the structure surface, and apply sufficient pressure not only to hold the plate in place but also to expel all air and any excess resin from the glue line. Finally, dress the edges by removing the surplus adhesive.

The sequence of operations shall be planned to ensure that the adhesive can be applied and the plate positioned within the pot life of the adhesive. It is essential to ensure full contact of the adhesive to the two surfaces being bonded is achieved.

Allow to fully cure prior to any application of decorative/ protective coating.

### **Cleaning**

All tools should be cleaned using a proprietary solvent-based cleaner before the material hardeners. If the resin is allowed to set it can only be removed by mechanical means.

### **Health and Safety**

**This product is for industrial use only by trained operatives. It is potentially hazardous if not used correctly. Please refer to the Material Safety Data Sheet (MSDS) prior to the purchase and use of this product. The MSDS can be obtained via our website [www.ncc.com.eg](http://www.ncc.com.eg)**

### **Authorized Technical Specialist**

Please note that only NCC X-Calibur Authorized Technical Specialists ('ATs') are permitted to change any of the information in this data sheet or to provide written recommendations concerning the use of this product. Visit [www.ncc.com.eg](http://www.ncc.com.eg) for a full list of NCC X-Calibur ATs.

### **Datasheet Validity**

NCC X-Calibur makes modifications to its product datasheets on a continuous basis. Please check the datasheet update section on [www.ncc.com.eg](http://www.ncc.com.eg) to ensure you have the latest version.

### **Warranties**

NCC X-Calibur supplies products that comply with the properties shown on the current datasheets. In the unlikely event that products supplied are proved not to comply with these properties, then we will replace the non-compliant product or refund the purchase price. NCC X-Calibur does not warrant or guarantee the installation of the products as it does not have control of the installation or end use of the products. Any suspected defects must be reported to NCC X-Calibur in writing within five working days of being detected. NCC X-Calibur Construction Chemicals **makes no warranty as to merchantability or fitness for a particular purpose and this warranty is in lieu of all other warranties express or implied.** NCC X-Calibur Construction Chemicals shall not be liable for damages of any sort including remote or consequential damages, down time, or delay.