

# ROCKMAX<sup>®</sup> CARBON CF300

UNIDIRECTIONAL CARBON FIBER FABRIC FOR STRENGTHENING



## INTRODUCTION

**Rockmax CARBON CF300** is unidirectional carbon fiber fabric/sheet for structural strengthening. It is high strength material and high elastic modulus with and including lightweight properties. It is laminated with epoxy resin adhesive to form a carbon fiber reinforced polymer lamination (CFRP).

## STANDARD OF TESTING

ASTM D3039

ASTM D638

## AREA OF USES

**Rockmax CARBON CF300** used to strengthening concrete structure for civil structure and building for the following issue below.

- Load increases
- Improve structural capacity
- Seismic strengthening
- Modification of structure
- Damaged structure
- Error in construction period
- Error in design
- Restore aging of old deteriorated

## ADVANTAGES

- High strength.
- High elastic modulus.
- Lightweight system.
- Improved flexural strength.
- Corrosion resistance.
- Long services life time.
- Can apply in many shaped of concrete structures.
- Rapid installation.

## TECHNICAL PROPERTIES

Properties of dry fiber

Properties	Performance	Test Method
Fiber Tensile Strength (MPa)	>4900	ASTM D3039
Fiber Tensile Modulus (GPa)	>230	ASTM D3039
Fiber Density (g/cm <sup>3</sup> )	1.8	-
Fabric Unit Weight (g/m <sup>2</sup> )	300	-
Nominal Thickness (mm)	0.167	-
Roll Length (meter)	50	-
Roll Width (mm)	500	-

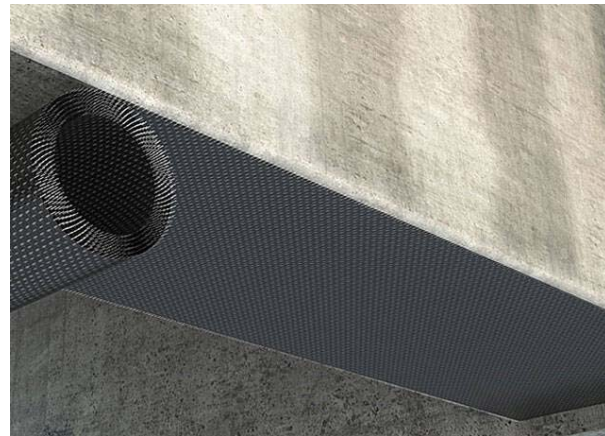
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## Properties of composite

Properties	Performance	Test Method
Tensile Strength (MPa)	>4450	ASTM D3039
Tensile Modulus (GPa)	>255	ASTM D3039
Elongation (%)	>2.10	ASTM D3039



## INSTRUCTION

We recommend to install this material by trained and experienced contractor. The design of carbon fiber must be carried by a qualified structural engineer with and comply to regulation of the locals.

## PREPARATION

The concrete surfaces must be dry, smooth, clean and sound. Free from debris and loose materials. Make sure the concrete is fully cured, achieve the design strength and free from coating, plastering or any finishing. Remove all uneven surface by grinding machine. Clean the dust by blower or vacuum machine. All defects including cracks, holes, honey comb must be repaired prior to install carbon fiber system.

## PRIMER

Apply **Rockmax Carbon EW** to the prepared substrate using brush or roller at approximate 0.20 - 0.30 kg per m<sup>2</sup> per coat. Make sure the surface is saturated with primer. If not apply the second coat. The primer will be dried at 2-4 hours depend on ambient temperature.

## MAKE SMOOTH SURFACE

In case of the surface found many pinholes or air bubble. We recommend to smoothing the surface using epoxy putty to make it even surface. Apply epoxy putty (**Rockmax EB520**) by trowel and wait to dry.

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## INSTALLATION

Apply the first layer of **Rockmax Carbon EW** to the concrete substrate by roller or brush at the coverage rate of 0.5 kg/m<sup>2</sup>

Install the Carbon fiber fabric (Precut) to the primed surface and place firmly and using roller to make sure the fabric is saturated with resin. Wait the resin to dry up at 2-4 hours.

Apply the second top coat layer of **Rockmax CARBON EW** to the fabric surface at coverage rate at 0.25kg/m<sup>2</sup>.

Full cure of the epoxy approximate 7 days.

## PACKAGING

0.5 meter width x 50 meter length

## LIMITATION

Design calculations must be approved by licensed engineer accordance with local design standard.

## STORAGE

Storage in cool and dry condition free from frost, water, moisture and high temperature. Avoid sunlight. Storage temperature between 5°C and 40°C degree.

## SHELF LIFE

Unlimited shelf life.

## CONTACT DETAIL

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### **IMPORTANT NOTE!!**

*The technical information contained herein, while not guaranty, was prepared and approved by technical personnel and is true, accurate to the best of our knowledge. No warranty or guaranty is made regarding performance, stability or other factors beyond our control. Rockmax will welcome to be consultation of our performance and application. This technical datasheet supersedes and issue new edition without prior notice.*

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