

# ECA Carbon Fiber

## CARBON FIBER SHEETS USED FOR FRP STRUCTURAL STRENGTHENING

### DESCRIPTION

ECA Carbon Fiber is a high-strength, directional carbon fiber fabric. The material is field-laminated using European Concrete Additives Epoxy to create a carbon fiber reinforced polymer that is utilized for strengthening structural concrete elements.

### USES

ECA Carbon Fiber strengthen structures for:

- Accommodate load increases, such as handling higher Live loads, increased traffic volumes on bridges, Installation of heavy machinery in industrial buildings, reinforcing vibrating structures and adapting to changes in building utilization
- In terms of seismic strengthening, carbon fiber is effectively utilized for column wrapping and reinforcing masonry walls
- Employed to repair damage caused by aging of construction materials, vehicle impacts, fires, or to enhance blast resistance. Carbon fiber is also useful in cases where changes in the structural system are required, such as the removal of walls or columns, creating slab openings, rectifying design or construction defects, or reinforcing areas with insufficient reinforcements or structural depth

### ADVANTAGES

- Shear, confinement or flexural strengthening
- Flexible
- High strength
- Lightweight
- Non corrosive
- Alkali resistant
- Low aesthetic impact

### TYPICAL PROPERTIES

	230 gsm	430 gsm
Modulus of Elasticity	230 kN/mm <sup>2</sup>	230 kN/mm <sup>2</sup>
Tensile Strength	4900 N/mm <sup>2</sup>	4900 N/mm <sup>2</sup>
Weight of Carbon Fiber (main direction)	200 g/m <sup>2</sup>	400 g/m <sup>2</sup>
Specific Gravity	1.8 g/cm <sup>3</sup>	1.8 g/cm <sup>3</sup>
Thickness for Static Design Weight/Density	0.112 mm	0.25 mm

### APPLICATION

Ensure that the fibers are completely saturated in resin. This step ensures that each fiber is thoroughly coated and encapsulated by the resin material. Proper saturation guarantees the integrity and strength of the final product.

Carry out the application work only under appropriate environmental conditions. Factors such as temperature, humidity and ventilation should be taken into consideration to ensure the resin cures properly and achieves the desired results.

### PACKAGING

ECA Carbon Fiber is supplied in the following sizes:

#### ECA Carbon Fiber 230/400 system

Width: 500 mm; Length: 50 m

#### ECA Carbon Fiber 230/200 system

Width: 500 mm; Length: 100 m

## **STORAGE**

The shelf life of ECA Carbon Fiber is at least 24 months from the date of production.

## **HEALTH AND SAFETY**

For more information, please check the Material Safety Data Sheet.

## **CONTACT**

Al-Faiha for Engineering Products is the exclusive licensee manufacturer for ECA.

For more information, please contact us at [techsupport@alfaihaengineering.com](mailto:techsupport@alfaihaengineering.com).

## **DISCLAIMER**

ECA aims to ensure the accuracy of information and recommendations in the product literature. However, due to variations in materials, substrates, and site conditions, and without control over product application, storage, weather, and usage conditions, ECA cannot be held liable for any resulting issues.