



# MC-CarbonFiber Sheets S (formerly MC-DUR CF-Sheets S)

## Surface-bonded standard modulus carbon-fibre sheets for structural reinforcement

### Product Properties

- Unidirectional carbon fibre sheets
- High tensile strength, small cross-section and low structural height
- Easy application, low weight, high efficiency
- Optimised utilisation of mechanical properties due to alternative types/qualities
- Supplied as infinite roll

### Areas of Application

- Subsequent reinforcement of structural components made of reinforced concrete, pre-stressed concrete, masonry and wood
- Subsequent restriction of crack widths
- Sheathing of pillars and beams

### Application

#### Preliminary inspection

Prior to application the actual state of the structure to be reinforced must be determined and the application requirements for the process must be verified according to the general building approval issued by the German Building Institute (DIBt) in Berlin.

#### Structural analysis

The structural analysis is carried out in accordance with the general building approval issued by the DIBt/Berlin or an approved structural verification by an authorised institute.

#### Performance of work

Application and monitoring is carried out according to the general building approval by the DIBt/Berlin. Application must only be carried out by qualified staff with an additional certificate for application of CF-Sheets issued by MC.

#### Substrate preparation

All substrates to be reinforced must be prepared by suitable manner, e.g. granulate blasting. The surface must be sound, dry (residual moisture  $\leq 6\%$ ) and free from any dust and grease. Before application of the CF-Sheets the evenness of the concrete surface is to be verified. The surface can

be levelled (roughness  $< 1.0\text{ mm}$ ) with the levelling mortar MC-CarboSolid 1000.

If the CF-Sheets are applied around exterior edges the edges must be rounded beforehand. The minimum radius is 2.5 cm.

#### Application

MC-CarboSolid 1209 TX is applied at least 0.5 mm thick onto the substrate, using a trowel, a scraper or similar tool. Afterwards the CF-Sheets are pressed into the fresh adhesive, using a lamination roller or similar tool and then coated with MC-CarboSolid 1209, applied by roller. Care must be taken during application that the carbon fibres are completely embedded in the adhesive. If applied in several layers the subsequent layer of CF-Sheets is pressed into the fresh adhesive and afterwards coated again with MC-CarboSolid 1209.

If used on surfaces exposed to weathering the CF-Sheets must be protected against direct sun by application of a surface protection system.

#### General information

Higher temperatures shorten while lower temperatures extend all indicated times. As a general rule of thumb a temperature change of  $10\text{ }^{\circ}\text{C}$  either halves or doubles the indicated pot life.



## Technical Data for MC-CarbonFiber Sheets S

		300/300
Characteristic	Unit	Value
Weight	g/m <sup>2</sup>	300
Fibre cross-section	mm <sup>2</sup> /m	≥ 172
Tensile strength (non-laminated)	MPa	≥ 2,800 (≥ 3,860)
E-Modulus	GPa	≥ 242
Elongation at break (non-laminated)	%	≥ 0.9 (≥ 1.5)
Width (standard)	mm	300
Length of roll (standard)	m	100

## Product Characteristics for MC-CarbonFiber Sheets S

Matrix	unidirectional carbon fibres
Colour	black
Durability	unlimited, provided proper storage
CF-Sheets preparation	none, protective tape to be removed
UV protection	MC surface protection system
General approval by building authority (DIBt, Berlin)	Z-36.12-82
System products	MC-CarboSolid 1209 TX - primer MC-CarboSolid 1209 - adhesive
Comments	Special widths and lengths available on request. The indicated technical data relate to non-laminated CF-Sheets. Characteristics of the strips can be taken from the relevant technical data sheets.

**Note:** The information on this data sheet is based on our experiences and correct to the best of our knowledge. It is, however, not binding. It has to be adjusted to the individual structure, application purpose and especially to local conditions. Our data refers to the accepted engineering rules, which have to be observed during application. This provided we are liable for the correctness of this data within the scope of our terms and conditions of sale-delivery-and-service. Recommendations of our employees which differ from the data contained in our information sheets are only binding if given in written form. The accepted engineering rules must be observed at all times.

Edition 11/19. Some technical changes have been made to this print medium. Older editions are invalid and may not be used anymore. If a technically revised new edition is issued, this edition becomes invalid.