

MC-CarbonFiber Lamella S

Surface-bonded carbon fibre straps for structural component reinforcement



PRODUCT PROPERTIES

- MC-CarbonFiber Lamella based on an epoxy resin matrix, reinforced with unidirectional carbon fibres
- High tensile strength at small cross-section and low structural height
- Easy application, low weight, high efficiency
- Ready-to-use supply due to protective foil on the adhesive surfaces
- No additional cleaning effort
- No additional UV-protection required
- Optimised utilisation of mechanical properties due to alternative types/qualities

AREAS OF APPLICATION

- Subsequent reinforcement of structural components made of reinforced concrete, pre-stressed concrete, masonry and wood
- Increase and reconstruction of load-bearing capacity and/or serviceability
- Reduction of structural deformation and subsequent restriction of crack widths
- Interior and exterior areas of new and old structures

APPLICATION ADVICE

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 MC-CarbonFiber Lamella issued by MC.

Substrate preparation: All substrates to be reinforced must be sound and dry (residual moisture $\leq 6\%$). Depending on the existing concrete cover the surface might have to be levelled. The slots must be dry and free from all loose particles or other contaminants.

Application: The MC-CarbonFiber Lamella must not be bent at right angles or subjected to sharp lateral pressures. The strips can be cut to size on site. The MC-CarbonFiber Lamella is protected with a removable foil which is removed immediately before the strips are adhered into the slots. The strips must be pressed into the fresh adhesive within its indicated pot life.

The adhesive is mixed according to the manufacturer's advice and applied into the slots, using a standard sealing gun. The slots are filled with sufficient adhesive that no voids remain after application of the MC-CarbonFiber Lamella. Excessive adhesive must be removed from the surface within the pot life. The slot-adhered MC-CarbonFiber Lamella do not require any support whilst hardening.

Quality assurance: Production of the MC-CarbonFiber Lamella is subject to an in-house production control and an external surveillance. Application is monitored according to the general building approval.

TECHNICAL VALUES & PRODUCT CHARACTERISTICS

Characteristic	Unit	Value	Comments
Type	-	160/2800	Epoxy resin matrix
Density	kg/dm ³	1.6	
Tensile strength	N/mm ²	≥ 2,950	
E-modulus (characteristic)	N/mm ²	≥ 167,000	
E-modulus (mean value)	N/mm ²	≥ 173,000	
Elongation at fracture	%	≥ 1.67	
Fibre content	Vol.-%	68	
Standard profiles (width/thickness)	mm/mm	15/2.5 20/3.0	
Roll length	m	150	
Minimum bending roll diameter	m	0.9	
Colour	black		
Preparation	MC-CarbonFiber Lamella is equipped with a protective film on both sides., Remove protective film prior to use.		
System products	MC-CarboSolid 1280 / Duromer adhesive, MC-CarboSolid 1000 BC / bond coat for levelling mortar, MC-CarboSolid 1000 / Levelling mortar, Colusal VL / Corrosion protection agent		
General Building Authority Approval (DIBt, Berlin)	Z-36.12-90		

Note: The information contained in this data sheet is based on our experience and is correct to the best of our knowledge. It is, however, not binding. It will need to be adapted to the requirements of the individual structure, to the specific application and to non-standard local conditions. Application-specific conditions must be checked in advance by the planning engineer/specifier and, where different from the standard conditions indicated, will require individual approval. Technical advice provided by MC's specialist consultants does not replace the need for a planning review by the client or its agents in respect of the history of the building or structure. Subject to this prerequisite, we are liable for the correctness of this information within the framework of our terms and conditions of sale and delivery. Recommendations of our employees deviating from the information given in our data sheets are only binding for us if they are confirmed in writing. In all cases, the generally accepted rules and practices reflecting the current state of the art must be observed. The information given in this technical data sheet is valid for the product supplied by the country company listed in the footer. It should be noted that data in other countries may differ. The product data sheets valid for the relevant foreign country must be observed. The latest technical data sheet shall apply to the exclusion of previous, duly superseded versions; the date of issue in the footer must be observed. The latest version is available from us on request or may be downloaded from our website. [2300018663]

TECHNICAL VALUES & PRODUCT CHARACTERISTICS

Characteristic	Unit	Value	Comments
Type	-	200/3000	Epoxy resin matrix
Density	kg/dm ³	1.6	
Tensile strength	N/mm ²	≥ 2,950	
E-modulus (characteristic)	N/mm ²	≥ 200,000	
E-modulus (mean value)	N/mm ²	≥ 220,000	
Elongation at fracture	%	≥ 1.3	
Fibre content	Vol.-%	≥ 68	
Standard profiles (width/thickness)	mm/mm	15/2.5 20/3.0	
Roll length	m	250	
Minimum bending roll diameter	m	0.9	
Colour	black		
Preparation	MC-CarbonFiber Lamella is equipped with a protective film on both sides., Remove protective film prior to use.		
System products	MC-CarboSolid 1280 / Duromer adhesive, MC-CarboSolid 1000 BC / bond coat for levelling mortar, MC-CarboSolid 1000 / Levelling mortar, Colusal VL / Corrosion protection agent		
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