

MC-CarboSolid 1280

Duomer adhesive for MC-CarbonFiber Lamella and flat-bar steel for structural strengthening in civil engineering



PRODUCT PROPERTIES

- Two-component adhesive based on epoxy resin
- High mechanical strength
- Rapid strength development even at low temperature ($\geq +8\text{ °C}$)
- Tested for strengthening of component using MC-CarbonFiber Lamella and flat-bar steel
- Official test certificate No. Z-36.12-90 and Z-36.12-85

AREAS OF APPLICATION

- Adhesive for high-tensile strengthening elements with MC-CarbonFiber Lamella and flat-bar steel for shear strengthening of components made of reinforced concrete, brickwork, steel and wood
- Industrial-, traffic-, structural- and housing construction
- REACh-assessed exposure scenarios: periodical water-contact, periodical inhalation, application

APPLICATION ADVICE

Substrate Preparation: Before application of MC-CarboSolid 1280, concrete substrates must be verified for load bearing capacity. They must be prepared by means of a suitable surface blasting process. The substrates must be dry (residual moisture $\leq 6\%$, CM-method), free of grout, dust, oil and any other contaminants, and must have a pull-off strength of at least 1.5 N/mm^2 . The bonding surfaces of substrates must be protected against increasing backwards moisture.

The iron and steel must be cleaned in accordance with standard purity grade Sa 2 1/2 according to DIN EN ISO 12944-4 : 1998-07. It must be dry and free from any rust film and other contaminants. Quartz-free grit blasting is a suitable method for preparation and cleaning. Before application of MC-CarbonFiber Lamella the evenness of the concrete surface must be checked according to Z-36.12-85. Levelling mortar MC-CarboSolid 1000 can be used according to technical data sheet, see application specifications.

Mixing: MC-CarboSolid 1280 consists of two components, supplied in prepacked quantities. First, the base component is carefully mixed and then the hardener is added. Both components are then mixed together thoroughly and homogeneously for 3 minutes. Suitable mixers are slowly rotating mixers with paddle (max. 300 RPM). Care should be taken to keep entrainment of air to a minimum while mixing. After mixing, the product must be refilled into a clean container and mixed again. MC-CarboSolid 1280 is applied onto the substrate, using a trowel, a scraper or similar tool.

By means of standard spray guns, as used for joint sealants, MC-CarboSolid 1280 can be applied into slots. Application in accordance with manufacturer's instructions and general building approvals.

General Information: High temperatures shorten while low temperatures extend all indicated times and intervals. As a rule of thumb a change in temperature of 10 °C either halves or doubles the indicated times.

Safety Advice: Please take notice of the safety information and advice given on the packaging labels and safety data sheets.

TECHNICAL VALUES & PRODUCT CHARACTERISTICS

Characteristic	Unit	Value	Comments
Density (mixture)	kg/dm ³	approx. 1.65	
Mixing ratio	p.b.w.	4 : 1	base component : hardener component
Compressive strength	N/mm ²		
24 h		70	
48 h		75	
7 d		82	
Coefficient of expansion	K ⁻¹	3.9 x 10 ⁻⁵	
Flexural strength	N/mm ²		
24 h		50	
48 h		53	
7 d		56	
Viscosity	mPa · s		Pseudoviscous
E-modulus	N/mm ²	approx. 8,600	
Tensile strength (steel/steel)	N/mm ²	≥ 20	Punch 20 mm Ø after 24 hours
Tensile strength (concrete)	N/mm ²	≥ 2.9	Punch 50 mm Ø
Working time	minutes	60	at 10° C
		40	at 20 °C
		25	at 30 °C
Consumption	kg/m ²	approx. 1.7	per mm layer thickness
Application conditions ¹⁾	°C	≥ 8 ≤ 30	air, substrate and material temperatures
	%	≤ 85	rel. humidity
	K	3	above dew point
Layer thickness	mm	approx. 5	
Shrinkage	mm/m	0.45	

All technical values are laboratory results determined at 21°C ±2°C and 50% relative humidity.

1) For optimum workability, do not store too cold (recommendation: > 15° C to < 20° C)

Equipment cleaning agent	MC-Reinigungsmittel U
Delivery form	5 kg pair of containers 12 kg pair of containers (special sizes on request)
Colour	grey
Storage	Can be stored in cool and dry conditions for at least 12 months in original unopened packs. Protect from frost.
Packaging disposal	Make sure single-use containers are completely empty.

GISCODE : RE90

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. [2400022451]