BUILDING TRUST

PRODUCT DATA SHEET

Sika® CarboDur® BC 12

12 mm pultruded carbon fibre rod for near-surface-mounted (NSM) structural strengthening

DESCRIPTION

Sika® CarboDur® BC 12 is a pultruded, carbon fibre-reinforced polymer (CFRP), circular rod. It is used for near-surface-mounted (NSM) structural strengthening of concrete, timber and masonry. The rod is bonded and fully encapsulated into surface slots using a Sika structural adhesive which is selected based on the design, application and environmental conditions. The rod is part of the Sika CarboDur® system.

USES

Sika® CarboDur® BC 12 may only be used by experienced professionals.

Sika® CarboDur® BC 12 is used as a reinforcement rod for near-surface-mounted, bonded structural strengthening systems on concrete, masonry and wooden substrates
Near-surface-mounted, bonded structural strengthening systems are used for:

- Increasing the flexural loading capacity of elements and structures
- Enhancing the load-carrying capacity or ductility of structural members
- Replacing missing steel reinforcement
- Structural upgrading of weak concrete elements or structures
- Improving impact resistance
- Passive strengthening for seismic event protection
- Changing the structural system (removal of floor or wall sections)
- Improving fatigue resistance
- Reducing the stress on steel reinforcement
- Repairing structural elements after damage (vehicle impact, fire, earthquake)
- Stabilising vibrating structures
- Anchoring SikaWrap® fabrics
- Dowelling structural connections

Please note:

- A specialist structural engineer must be consulted for any structural strengthening design calculation.
- The Product may only be used by experienced professionals.

CHARACTERISTICS / ADVANTAGES

- Non-corroding
- Very high strength
- Invisible when installed
- Good durability and fatigue resistance
- Lightweight, very easy to transport and install
- Easy to cut to the required length
- Smooth surface without exposed fibres
- Strengthened surface can be trafficked
- Improved resistance to fire (compared with externally bonded reinforcement)

APPROVALS / STANDARDS

- Czech Republic: Technical Approval, ITC, Nr. STO - AO 224 - 1012/2020/b
- Technical Agreement, SikaWrap®, CTPC, No. 016-01/615-2025
- Slovakia: Technical Assessment, TSUS, No. SK04-ZSV-2669

PRODUCT INFORMATION

Packaging	Rod length	12 m
	Refer to the current price list for available packaging variations.	
Appearance / Colour	Carbon fibre-reinforced polymer with an epoxy matrix, black	

Shelf Life	5 years from date of production
Storage Conditions	Store in original, unopened, sealed and undamaged packaging in dry conditions at temperatures of max. +50 °C. Protect from direct sunlight. Transport only in the original packaging, or otherwise adequately protected against any mechanical damage
Density	1.60 g/cm³
Dimensions	Diameter: 12 mm
Fibre Volume Content	> 68 %
Cross Section	113 mm²

TECHNICAL INFORMATION

Laminate Tensile Strength	Mean	2300 N/mm²	(EN 2561)
	5 % characteristic	1900 N/mm²	
Laminate Modulus of Elasticity in Tension	Mean	150 kN/mm²	(EN 2561)
	5 % characteristic	140 kN/mm²	
Laminate Elongation at Break in Tension	Mean	1.50 %	(EN 2561)
Glass Transition Temperature	> +95 °C		(EN 61006)

APPLICATION INFORMATION

Consumption

Resin	NSM application (slot size 15 mm × 15 mm)	Anchorage application (hole diameter 14 mm)
Sikadur®-30	180 g/m	-
Sikadur®-30 LP	180 g/m	-
Sikadur®-330	150 g/m	-
Sikadur®-300	130 g/m	-
Sika AnchorFix®-3001	110 ml/m	50 ml/m
Sika AnchorFix®-3030	110 ml/m	50 ml/m

SYSTEM INFORMATION

System Structure

The system build-up and configuration as described must be fully complied with and may not be changed.
For the correct structural adhesive selection, refer to: 850 41 07 Method Statement Sika CarboDur® NSM Reinforcement and the individual Product Data Sheets.
Sika® CarboDur® BC structural strengthening carbon fibre rods selected by a specialist structural engineer in combination with the following structural adhesives:

- Sika AnchorFix®-3001
- Sika AnchorFix®-3030
- Sikadur®-330
- Sikadur®-30
- Sikadur®-30 LP
- Sikadur®-300 (for horizontal applications)

BASIS OF PRODUCT DATA

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

FURTHER DOCUMENTS

Reference must be made to the following Sika® Method Statement and Product Data Sheets:

- 850 41 07 Method Statement Sika CarboDur® NSM Reinforcement

- Individual Product Data Sheets within the system structure

ECOLOGY HEALTH AND SAFETY

This product is an article as defined in article 3 of regulation (EC) No 1907/2006 (REACH). It contains no substances which are intended to be released from the article under normal or reasonably foreseeable conditions of use. A safety data sheet following article 31 of the same regulation is not needed to bring the product to the market, to transport or to use it. For safe use follow the instructions given in this product data sheet.Based on our current knowledge, this product does not contain SVHC (substances of very high concern) as listed in Annex XIV of the REACH regulation or on the candidate list published by the European Chemicals Agency in concentrations above 0.1 % (w/w)

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY

Reference must be made to the following Sika® Method Statements:
- 850 41 07 Method Statement Sika CarboDur® NSM Reinforcement

SUBSTRATE PREPARATION

Reference must be made to the following Sika® Method Statement and Product Data Sheets:
- 850 41 07 Method Statement Sika CarboDur® NSM Reinforcement
- Individual Product Data Sheets within the system structure

APPLICATION

IMPORTANT
Strictly follow installation procedures
Strictly follow installation procedures as defined in Method Statements, application manuals and working instructions which must always be adjusted to the actual site conditions.
IMPORTANT
Application by trained personnel
The application of this Product must only be carried out by an applicator that is trained or approved by Sika. The applicator must also be experienced in this type of application.

Reference must be made to the following Sika® Method Statement and Product Data Sheets:
- 850 41 07 Method Statement Sika CarboDur® NSM Reinforcement
- Individual Product Data Sheets within the system structure
- Contact Sika Technical Services for detailed advice

LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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