

Nitowrap CFP

High performance, high strength, corrosion resistant pultruded Carbon fibre plates

Uses

Nitowrap CFP system is used for increasing load carrying capacity of structural members particularly where increase in live load / traffic loads is expected. It can also be used to repair when damage to structural member has occurred due to rebar corrosion, earthquake, fire etc. and also in structural members having design defects such as insufficient reinforcement and structural depth.

Advantages

- **Very high strength to thickness or weight ratio** - Appreciable increase in strength and load carrying capacity without significant increase in dead load.
- **Enhanced stiffness, shear, tensile & torsional capacities** - Increased load carrying capacity and better resistance to seismic forces and deflection.
- **Chemical resistant** - excellent resistance to acids and alkalis
- **Thin sections** - Can be effectively used in space constrained areas
- **Economical** - Easy to install, time & labour saving

Description

Nitowrap CFP is a composite fibre system where Nitowrap CFP carbon strip is used in conjunction with an epoxy adhesive, Nitowrap 40. The system can be protected by a UV resistant coat of Nitowrap 512 in case of atmospherically exposed structures.

Properties

Nitowrap CFP	CFP25		CFP50		CFP80		CFP100	
Nominal thickness (mm)	1.2	1.4	1.2	1.4	1.2	1.4	1.2	1.4
Nominal width(mm)	25	25	50	50	80	80	100	100
C/s area (mm ²)	30	35	60	70	96	112	120	140
Young's modulus	>165000		>165000		>165000		>165000	
Tensile strength N/mm ²	>2800		>2800		>2800		>2800	
Elongation	1.7%		1.7%		1.7%		1.7%	

Application Instructions

Surface Preparation

Concrete to be treated shall be free from oil residues, demoulding agents, curing compounds, grout holes and protrusions. The concrete surface to be glued with Carbon strip shall be structurally repaired prior to treatment. Corrosion induced damages shall be repaired with e-chem range of repair mortars and Galvashield XP sacrificial anodes shall be installed wherever necessary. Structural damages shall be repaired by using epoxy grouting / appropriate mortars from the Renderoc range

Mixing

The base and hardener of Nitowrap 40, thixotropic adhesive shall be emptied into a suitable container and mixed with low speed, heavy duty drill fitted with a paddle and ensuring the sides are scrapped down. An uniform grey color should be obtained after mixing thoroughly.

Application

Nitowrap CFP Carbon strips shall be cut to the recommended sizes before hand due to the impossibility of joint by lapping. Mixed adhesive is applied using a rubber spatula / serrated trowel or other suitable spreader on to the roughened surface of Nitowrap CFP carbon strip such that the thickness of the epoxy adhesive is 2mm. The adhesive applied on Nitowrap CFP carbon strip is now adhered to the prepared substrate such that excess mixed adhesive squeezes out from both the sides of the plate. The overflow excess material shall be removed using rubber spatula or by suitable means.

Curing

The adhesive will become tack free in approx. 4-6 hours and fully cured in 7 days.

Cleaning

Tools and equipment shall be cleaned with Nitoflor Sol solvent immediately after use. Hands and skin shall be washed with soap, or an industrial hand cleaner.

Estimating

Packaging

Nitowrap CFP is supplied as 100m length / roll

Nitowrap 40 is supplied in 3.7 litre pack

Nitowrap CFP

Coverage of Nitowrap CFP

	CFP 25	CFP50	CFP80	CFP100
Theoretical coverage in m @ 2mm thickness per litre	20	10	6.25	5

Storage

Shelf life

Nitowrap CFP has a shelf life of 2 years.

Nitowrap 40 - At least 12 months, if stored below 35°C in unopened containers

Precautions

Health & Safety instructions

Some people are sensitive to epoxy resin systems and may develop dermatitis on skin contact. Rubber gloves and / or barrier creams, protective clothing, goggles and respirator shall be worn while handling the materials. Sufficient mechanical and / or local exhaust ventilation shall be provided

to maintain easy working conditions. If contact with skin or eyes occurs, washing with plenty of water is suggested. Solvent should not be used. If irritation persists, immediate medical advice shall be sought. Smoking is prohibited during application / handling of the product.

Flash Point

Nitowrap 40 (base)	-	100°C
Nitowrap 40 (hardener)	-	100°C
Nitoflor Sol (solvent)	-	33°C

Additional information

The Fosroc range of associated products includes admixtures, curing compounds, flooring system, precision grouts, repair mortars, protective coatings, joining sealants, waterproofing systems and e-chem solutions.

Separate datasheets are available on these range of products.



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