

Art of restoration... ...Reinforcement engineering

SINERT



CARBON STEEL FIBRE REINFORCEMENTS

Innovative structural reinforcement system made up of a fabric of extra-thin and extra-strong carbon steel filaments which stand out for being...

...an active protection

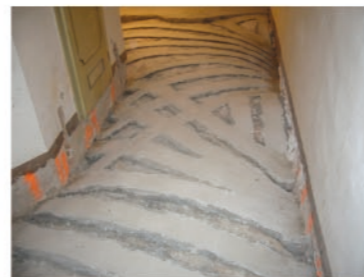
The extra-strong carbon steel used in this system allows easily making support anchoring systems and can be pre-tensioned; unlike traditional composite materials, it is therefore able to create an active protection in the reinforcement of wall structures. What is more, the composition is such as to more easily make reinforcements able to continue to ensure the necessary ductility of the reinforced element.

...a composite material resistant to high temperatures

The system, being made of steel filaments, matrices consisting of hydraulic binders and a specific protective covering, is able to resist high temperatures, including in the case of a fire, for a significantly longer time than traditional composites.

...a transpiring composite

Because the system features a matrix with hydraulic binder base, it stands out for its high degree of permeability. Its application in no way alters the original behaviour of the structure and it is able to maintain water contents in the wall within the natural limits of variability of the structure



Carbon steel fabric

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CARBON FIBRE STRUCTURAL REINFORCEMENTS

The strength of lightness

Res.In.Tec. Italia
Restauri Innovativi Tecnologici

The strength of lightness

Intervention design and/or executive consultancy, job sizing by means of finished element modelling using limit-state calculation software, preventive cost analysis, highly-specialised installation, laboratory tests to determine the effectiveness of the proposed jobs.

All the jobs done by Res.In.Tec. Italia® comply with European directives and the fundamental principles concerning effectiveness, compatibility, durability and reversibility of the jobs done.



Technologies deriving from the aeronautical and mechanical engineering sectors allow intervening on a cultural asset with criteria in total compliance with the characteristics of the asset itself.

These technologies are in fact based on the ductility and strength of the materials used, on their light weight and non-invasiveness and, above all, on their future removability.



Duration, reversibility

Res.In.Tec. Italia® operates in total compliance with CNR-DT 200/2004 standards, which carefully describe the methods and rules to be followed for the installation of FRP reinforcements, their monitoring and relevant control and with subsequent CNR-DT 201/2005, CNR-DT 202/2005 and CNR-DT 203/2006 standards for the use of FRP, consistent with literature and the very latest Laws.



Fundamental characteristics of carbon fibre reinforcements::

- ◆ extremely high mechanical strength;
- ◆ great shape adaptability;
- ◆ quick execution;
- ◆ light weight of the installed reinforcement;
- ◆ absolutely non-invasive reinforcement (about 2 mm thick which disappear in the subsequent finish layers);
- ◆ the reinforcement does not fear oxidation processes like steel;
- ◆ extremely long-life of the work;
- ◆ increase in the original physical strength of the support itself ;
- ◆ no props or metal sections;
- ◆ absence of dusts;
- ◆ verification of gluing operations by means of ultrasonic tests;
- ◆ low specific weight;
- ◆ ideal for reinforced concrete, walls, wood structures, steel and metals;
- ◆ great resistance to corrosion (ideal in aggressive environments).



Res.In.Tec. Italia® è l'unica azienda a poter garantire contemporaneamente:

L'applicazione di "tipo A" in base alla normativa vigente sui materiali compositi CNR DT200/2004, usando obbligatoriamente sistemi completi (solo in tal caso è possibile fornire i certificati di conformità relativi ai materiali).

Certificazione di qualità ISO 9001: 2008 per prodotti e messa in opera valida nello specifico per la realizzazione, la progettazione e la messa in opera di rinforzi in composito.

Attestazione S.O.A. per lavori di categoria 0521 (opere strutturali speciali di consolidamento) e ampio curriculum di lavori analoghi eseguiti.

Di non cedere a terzi la posa ma di avere come personale esclusivamente dipendente applicatori specializzati con attestati di idoneità ed esperienza almeno decennale, oltre a corsi formativi e di preparazione del personale operante e del comparto tecnico.

Di operare in perfetta sintonia con quanto previsto dal CNR-DT200/2004.

Di rilasciare al termine di ogni opera eseguita dichiarazione di conformità specifica per le lavorazioni svolte e polizza postuma decennale gratuita oltre alle normali responsabilità e garanzie di impresa.

FIELDS OF APPLICATIONS

Reinforcement and rehabilitation of reinforced concrete structures (beams, pillars, etc.), recovery of vaults, ducts and tunnels, restoration of walls of all types, bending and cutting reinforcement, connection of disconnected sections (vaults, domes) or right-angled wall panels, floor reinforcement and connection, limitation of column confinement cracks, restoration of arches and porticos, columns, construction of composite structures, changes in original use, increase in original load capacities, reintegration of corroded reinforced-concrete reinforcements, restoration of impacted bridges, reinforcement following fires, seismic improvement, updating of structure to comply with new regulations, reinforcement of buildings.

