

carbon
compositi

Research for quality

SEICO COMPOSITI has always aimed to achieve excellence by combining attention to detail with continuous innovation.

The spirit of research, improvement and specialisation that characterises SEICO COMPOSITI, combined with the serious and responsible collaboration of our production and trade partners, has made it possible to perform highly innovative experimental campaigns at Certified Laboratories to ensure the excellence of our quality standards.

The SEICO COMPOSITI systems are certified in accordance with the National Research Council Guidelines for the Design and Construction of Externally Bonded FRP Systems for Strengthening Existing Structures - CNR DT 200 R1/2012 (formerly "Applications of Type A" in accordance with the CNR-DT 200/2004 Guidelines).

comprehensive
solutions

360°

innovative building systems and composites

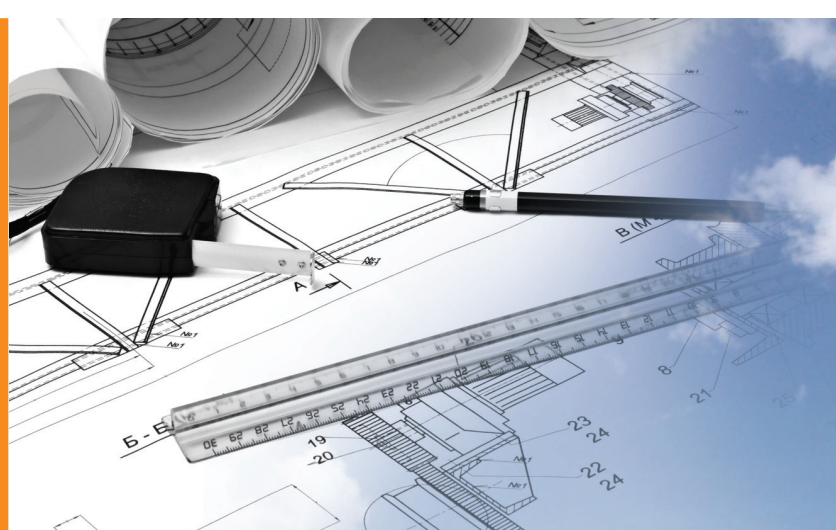
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SEICO COMPOSITI®

Discover our history

Born from the joint commitment of qualified technicians with over thirty years experience in high quality construction, SEICO COMPOSITI, together with the Carbon Composites division, now combines the quality, characteristics and formula provided by traditional building materials with innovative FRP systems. Our leading edge is the use of polymer matrix composite resin systems and carbon, glass, aramid and basalt fibres (FRP) and fibre reinforced cement matrix (FRCM) composites.

The wide range of FRP products available in the form of taping, nets, fabrics, laminates and pultruded profiles means you can adapt structural reinforcements to a very wide variety of application needs. The considerable benefits of remarkable lightness are thus combined with mechanical specifications that are decidedly superior to those of traditional materials.

SERVICES PLANNING SALES and SERVICE

With highly trained technicians SEICO COMPOSITI offers a comprehensive service that covers everything from technical advice to the project execution plan, from production to sale of the various components, from technical on-site supervision of works to complete Plan Supervision.

In Italy **SEICO COMPOSITI s.r.l** is represented nationwide and thanks to its network of agents and dealers it can meet any building requirement: from the sale of innovative materials to on-site application of composite materials, from technical assistance in the drafting of specifications to drawing up project execution plans. Great care is taken in the analysis of each single case study with a view to increasing both the performance and useful life of existing structures, whether they are recent constructions or historical buildings. All reinforcement is designed to be minimally invasive while improving structural behaviour in terms of both strength and ductility.

Specific interventions with the **Carbon-Composite** systems

- Increase flexibility and removal of brittle collapse mechanisms (shear failures, column failure due to de-bonding and buckling of longitudinal bars, beam-column connection failure)
- Confinement of elements subject to compression and/or combined axial and bending load (columns and RC walls, masonry and stone columns);
- Reinforcement of elements predominantly subject to bending (beams and slabs in reinforced concrete, steel and laminated and/or solid wood);
- - Reinforcement of elements with single and double curvature (arches, single and double curvature vaults);
- - Shear and flexural reinforcement of structural elements in pre-stressed reinforced concrete (pre-tensioned and post-tensioned beams and tiles);
- Reinforcement of load-bearing elements in buildings modified due to changes in their intended use (civil elevations, expansion of industrial buildings);
- Repair of structures damaged by fire;
- Reinforcement of masonry panels for out-of-plane actions (overturning reinforcement, reinforcement for vertical and horizontal bending) and in-plane (combined axial and bending and shear force);
- Structural reinforcement of lintels and tie areas;
- Stiffening of floor frames to ensure diaphragm rigidity behaviour;
- Limitation or repair of cracking.

The advantages of using the **CARBON COMPOSITE** system

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There are many advantages when using products in the Carbon Composites line when compared to traditional restoration technologies:

- Easy and quick to install: due to their lightness the products can be applied quickly, even while the building is in use;
- superior durability;
- high mechanical performance;
- no corrosion of the reinforcements applied, thus eliminating the problems that arise when steel plates are used for restoration with the beton plaqué technique;
- no increase in the loads on the structure: the interventions do not increase the mass of the reinforced structural elements; this is essential in seismic work where the stresses are proportional to the mass.
- complete reversibility.



Mortars for structural repair

The systems have fluid, expansive and thixotropic micro mortars with superior mechanical strength. The fundamental qualities that this type of mortar features are high mechanical performance combined with superior ductility. The high proportion of synthetic micro-fibres in the compound, combined with polymers and micro-silica, enables their use in the reconstruction and re-profiling of structural elements when preparing substrates and protecting applied systems. The products from the specifically designed lines BETONTIX, BETONCOL and OSMODRY belong to this category.



Primers and FRP resin matrices

We have a full range of solvent-free epoxy polymer resins and materials that exhibit high mechanical strength, fluidity and impregnation properties. This series of products has been specially formulated for the preparation of substrates, bonding and/or both dry and wet lamination of fibrous fabrics of various kinds (carbon, glass, basalt and aramid) on reinforced concrete, steel, masonry and wood surfaces. The products from the specifically designed lines EPONASTRO, EPOFLUID and EPOPRIMER belong to this category and together with the reinforcement systems NASTRO UD, CARBONET, BASALNET and NASTRO QD they contribute to the certification of the reinforcement system.



Primers and cement matrices for FRCM

This full range of composite materials has been specifically studied and formulated to replace polymer matrices using a pozzolan-reaction inorganic binder that will ensure optimum chemical, elastic and mechanical compatibility with different substrates, especially those in masonry and reinforced concrete.

The products from the specifically designed line BETON MATRIX belong to this category and together with the reinforcement systems NASTRO UD, CARBONET, BASALNET and NASTRO QD they contribute to the certification of the reinforcement system.



Fibrous reinforcing systems

A full range of composite materials made from high-strength fibres with superior mechanical resistance used in conjunction with specific matrices for strengthening and adjusting static and seismic structures in normal and pre-stressed reinforced concrete, steel, masonry and wood. The fibres used for the production of composite materials are glass, carbon and basalt.

Finally, the fact that it is possible to adapt the working direction of the direction reinforcement (creating fabrics with variable fibre orientation and arrangement according to project requirements) means that it is extremely useful in many types of installation. The products from the specifically designed lines NASTRO UD- QD- CARBONET-BASALNET belong to this category.



Preformed pultrusion profiles

A line of preformed products for pultrusion, Carbon, Basalt and Glass fibre composites used in reinforcing systems. The materials can be produced as laminates (LAMIDA UD), rods with improved bonding to rebars (TONDINI UF), pipes inserted to the seams of reinforced elements in masonry (CARBONPIPE UD) and flakes for mechanical anchoring of reinforcement systems to structures undergoing work (JIB UD).



Fibreglass structural profiles GRP

The GRP Product Line (fibreglass reinforced plastics), provides high quality composite structures with superior mechanical performance. We provide a range of profile sections (C, H, IPE, etc.). The advantages of fibreglass GRP are that it has a high strength/weight ratio, it does not soften in heat, is light weight with dimensional stability and is both easy to install and adaptable. The other features of this composite such as its corrosion resistance, non-magnetism, electrical isolation and the lack of any need for maintenance, mean it can be used in a wide variety of applications, even in unfavourable conditions (chemical industries, aggressive environments, marine environments). The fact that it can be used for mezzanines, door frames, roof frameworks, bridges, etc. make it an innovative material of fundamental importance for contemporary building work, especially for restoration.

