





RESTORATION  
CONSTRUCTION  
CONSOLIDATION  
FINISHES

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From minor upgrades to extensive ventures spanning global horizons, we specialise in crafting bespoke materials tailored to fulfil the demands of clients and an ever-evolving market landscape.

With 35 years of expertise, our dedicated research and development unit, coupled with our in-house manufacturing capabilities, enables us to create cutting-edge, high-performance products that uphold superior quality standards.

Solid support for companies, architects, builders and engineers who want to rely on certified products, which not only enhance the prestige of the project itself, but above all play a fundamental role in terms of safety, durability, energy efficiency and sustainability of the building, contributing to the full satisfaction of all stakeholders.

For the last 35 years  
we have been producing  
materials to transform  
projects into prestigious  
environments.

“Great things  
are done  
by a series of  
small things  
brought together.”



Natural

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Eco-friendly

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Performing

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Healthy

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Natural soul.  
Passion for materials.



Quality is  
our best calling card.  
ISO9001:2015.

3,000 square metres where our engineers, chemists and industry experts work together on a daily basis to create customised and tailor-made products that meet the highest quality standards.

Every TCS-branded material is in fact certified according to standards that guarantee their properties, reliability and safety, ensuring not only the quality of the product itself, but also of the projects for which they are used.



# Customised professional counselling.

During these 35 years of experience we have handled a wide range of projects, gaining a deep understanding of the challenges and opportunities posed by construction and consolidation, and developing solid skills in project management and client needs.

Through our customised consultancy service, we extend our industry expertise to businesses, professionals, and individuals, guiding them towards the most fitting solutions to address their specific needs.



# We produce with sustainable impact.

At a time when environmental awareness is no longer negligible, TCS is actively working to adopt responsible practices at the heart of business operations.

Develop and enforce policies centred on the use of natural materials, invest in energy-efficient technologies, implement waste reuse and recycling strategies.



## REMADE IN ITALY

It certifies the use of recycled materials in products, guaranteeing their sustainability and reduced environmental impact. Nationally recognized, it ensures that products comply with quality and transparency criteria, promoting the circular economy and waste reduction.



## EPD

(Environmental Product Declaration) It is a document that provides transparent and comparable information on the environmental impact of a product throughout its life cycle.



## CAM

It ensures the environmental requirements aimed at identifying the best product/service from an environmental point of view throughout the entire life cycle of the product.

Not only  
sustainable production,  
but **responsible disposal.**



Together we can make the planet a better home.



# Restoration

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TCS products dedicated to the sphere of restoration, made with a meticulous combination of binders, aggregates and natural colored pigments free from harmful chemicals, are formulated to replicate the chemical and physical characteristics of the original materials, ensuring a harmonious aesthetic and structural integration to preserve the historical and artistic value of the works.







## Preserving the **past** to write the **future**.

Our mission is simple: to offer compatible materials that respect the authenticity and integrity of the works during the restoration process.

Thanks to our 35 years of experience and in-depth knowledge of traditional techniques, we are able to offer customised solutions that meet the highest standards of quality and authenticity.

From pigments to binders, from mortars to specialised consolidation, we provide the most appropriate materials and advanced counselling to preserve and enhance works of art and historic buildings.





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1. Limes
  2. Mortars and plasters
  3. Coloured mortars and plasters
  4. Powders and pigments
  5. Granulates
  6. Consolidating treatments
  7. Waterproof protections
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# Pure natural hydraulic lime of Saint-Astier

**EPD**

TCS is the sole distributor of the natural hydraulic limes from Saint-Astier. Saint-Astier is in the French region of Dordogne, famous worldwide for the abundance of a peculiar type of siliceous limestone, white and homogenous, which can give life to natural hydraulic limes with important mechanical, chemical, and physical performance.

TCS propose natural hydraulically lime in three different types: NHL 2, NHL 3.5, and NHL 5. These limestones are totally free of pozzolanic materials, blast furnace slag, fly ashes or hydraulic binders of any kind (clinker, cement ...), VOC and comply with the norm UNI EN 459-1.



## **NHL 2**

Weakly hydraulic, having 58%  $\text{Ca(OH)}_2$  (Calcium Hydroxide) and average compressing strength at 28 days between 3 and 4 MPa. Specific for restoration work; reconstruction of mouldings; filling gaps on frescoed walls; consolidation injections of old plaster or frescoes; in all interventions where elasticity, adhesion to the subbase and absence of soluble salts are required.

## **NHL 3,5**

Medium hydraulic, containing 32%  $\text{Ca(OH)}_2$  (Calcium Hydroxide) and average 28-day compressing strength  $\geq 8$  MPa. Suitable for repairing deteriorated plaster and dehumidifying; injection of masonry consolidation; laying terracotta flooring in the traditional method; laying Venetian-style beaten and seeded floors; in all those operations where mechanical resistance and elasticity and total absence of soluble salts are required.

## **NHL 5**

Highly hydraulic, containing 19%  $\text{Ca(OH)}_2$  (Calcium Hydroxide), with an average compressive strength at 28 days  $\geq 10$  MPa. Ideal in masonry consolidation works; consolidating renders; bedding mortars for stone, brick or mixed masonry; subbases; plasters in marine or weathered environments, interventions where adhesion, mechanical performance and the absence of soluble salts are fundamental characteristics.

# Pure natural hydraulic lime

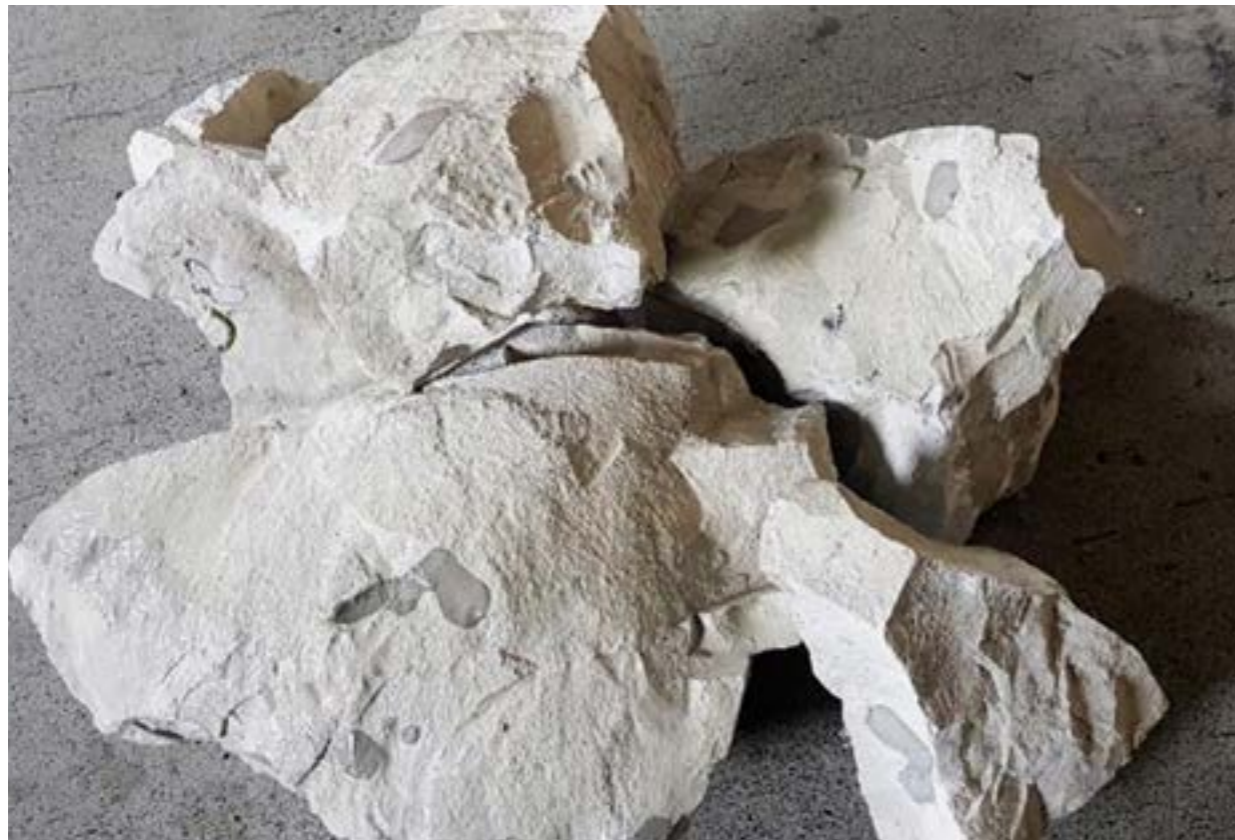
The natural hydraulic lime is produced by firing clayey or siliceous marls with subsequent reduction to powder by hydration with or without grinding.

It is called hydraulic lime because the hold and the hardening are done by mixing lime with water and by reaction with carbon dioxide (carbonation).

The hydraulic properties are a derivative solely of the peculiar chemical composition of the natural raw material.

Products containing ground parts up to 0.1% are permitted by the norm.

**NATURAL PURE NHL HYDRAULIC LIME contains no added materials.**



# Lime production.



01. Extraction

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02. Mixing

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03. Firing

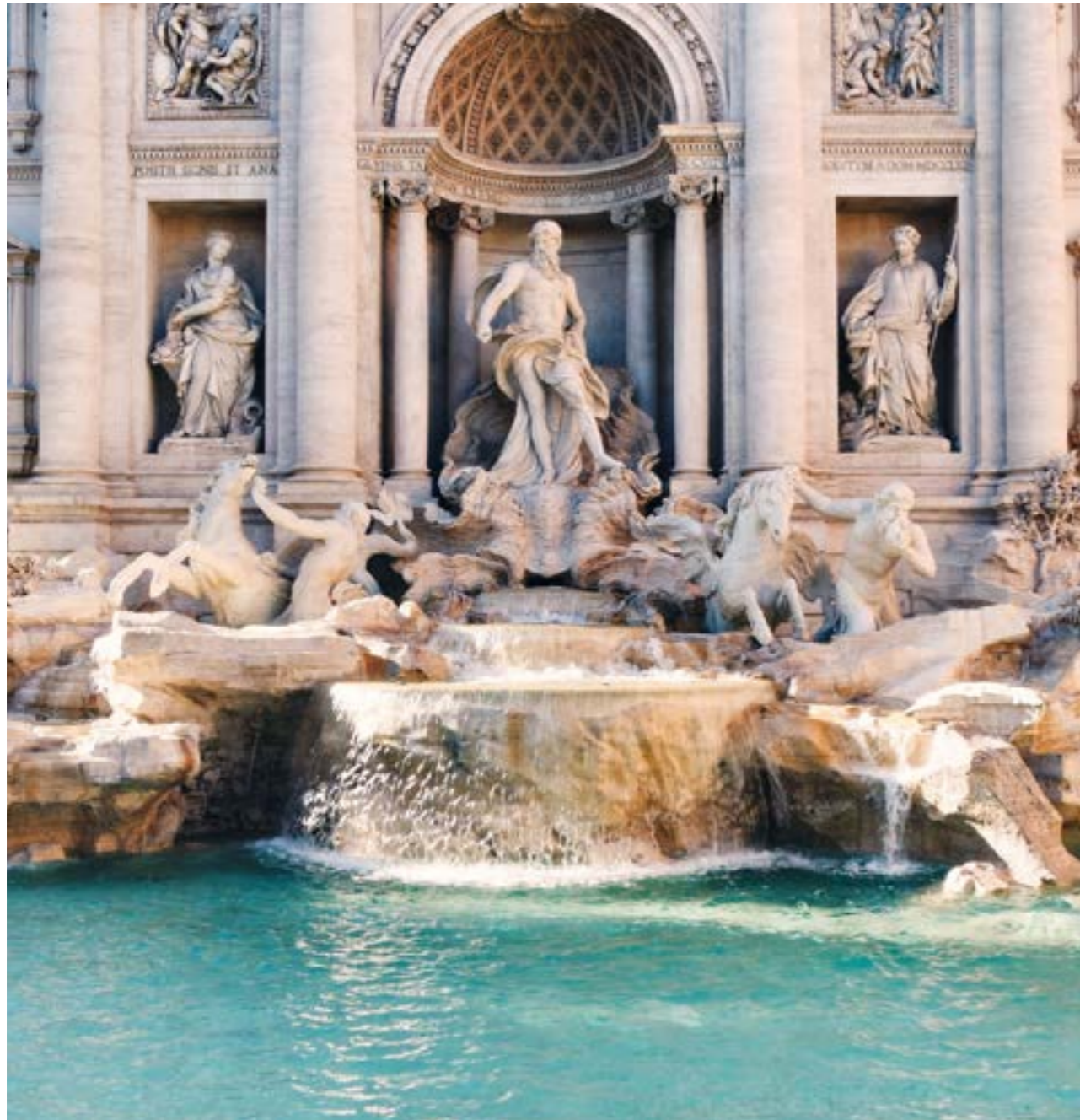
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04. Stoichiometric Hydration process

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Certified quality and careful professionalism.  
TCS for heritage.



Fontana di Trevi | Roma



Fontana della Barcaccia | Roma



Castello Ceconi | Pordenone



Abbazia di San Galgano - Siena



Area archeologica Antico Porto di Classe - Ravenna



Castello di Aymavilles - Aosta



Tempio Capitolino | Brescia



Antico mulino | Mykonos



Chiesa Santa Maria dei campi | Brescia



Palazzo | Verona



# Construction

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Innovation is the engine of our success.  
Customer satisfaction is our priority.  
Sustainability is a cornerstone of our corporate philosophy.





## Concept becomes object.

For the last 35 years, TCS has been providing materials that surpass the expectations of its customers, ensuring superior performance and exceptional durability, all while prioritising environmental sustainability.

The absence of additives and chemicals, in fact, aims to promote more responsible building towards the environment and our future.

With our team of specialists and internal production facility, we continually embark on research and development endeavours to create cutting-edge, high-performance products.





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1. Adhesion promoters
  2. New built
  3. Thermal insulation
  4. Renewal and Dehumidification
  5. Smoothing adhesive
  6. Subbases and screeds
  7. Lime and hemp
  8. Waterproofing
  9. Mesh
  10. Panel thermal insulation
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# Natural materials and environmental responsibility. The true face of **green building**.

Green building is a true responsible choice to create environmental integrated and healthy spaces, to achieve a more balanced and respectful future for the people and the nature.

An important aspect of green building, which is often overlooked during planning, not only to create ecofriendly buildings, but also spaces to improve the health and well-being of the inhabitants.

This entails a series of measures that include aspects like indoor air quality, natural lightening, soundproofing, and the promotion of a sustainable life style with actions like recycling, the use of renewable energies and waste reduction.



Casa Salute - Bolzano

“Not void to fill,  
but spaces to build.”



Private house | Lefkada



Private house | Grecia



Private house - Nuoro



Casa Salute - Bolzano



Relais Ginevra - Bologna



Private house - Valtellina



Valle Isarco winery - Bolzano



Hotel Vetta | Livigno

# Consolidation

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We have been protecting and preserving existing structures for over 20 years, ensuring their durability and safety over time.



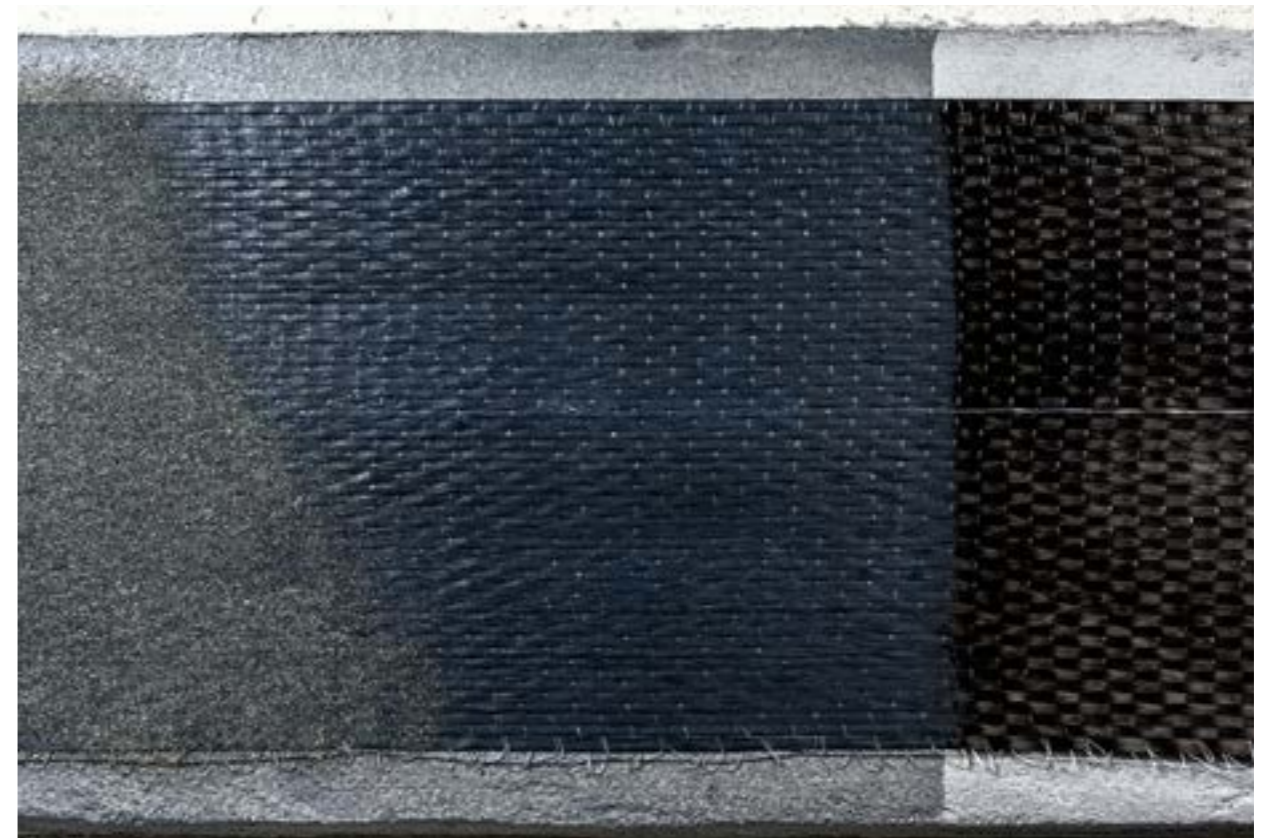




## Secure support for a **stable** future.

Each of our interventions is guided by a rigorous technical approach and an accurate assessment of the state of the structure, working daily with architects and engineers, guaranteeing excellent results in terms of performance and structural strength.

Thanks to our production department and ability to adapt to a wide variety of requirements, we are able to meet all customer demands, delivering high results in every situation.





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1. Structural mortars and plasters
  2. Fortius System
  3. Carbo-Structura System
  4. Connections
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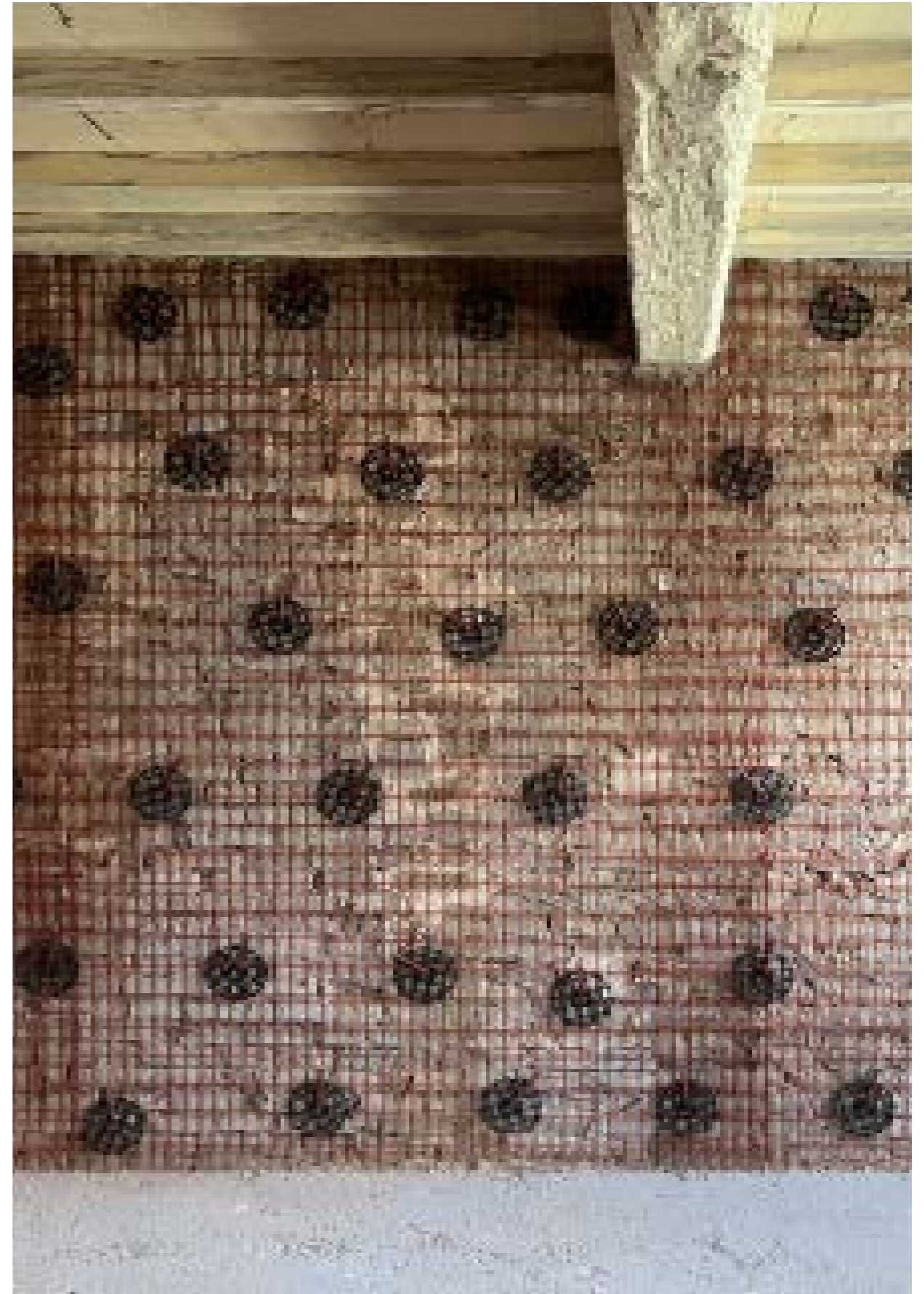
# Fortius System. CRM system



**FORTIUS** is the ideal solution for securing masonry buildings.

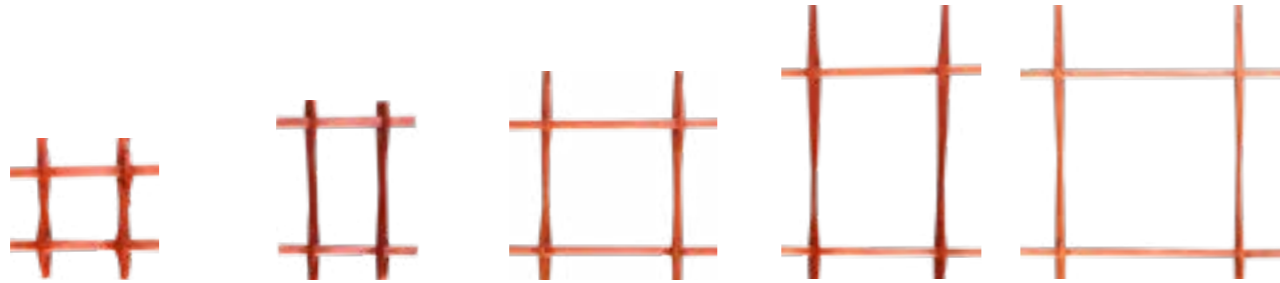
The base principle is the technique of the reinforced mortar but revisited in an innovative way with composite materials and lime-based mortars, ideals for restorations and refurbishments.

CRM system FORTIUS consists of an alkali resistant glass fibre meshes, corners and connectors with an inorganic matrix.



# Meshes CRM system

Alkali-resistant glass fibre mesh with epoxy matrix for CRM systems.



**TCS GLASS MR44**

Mesh grid 40x40mm  
Grammage: 1050g/m<sup>2</sup>  
Height: 2 m  
Length: 20 m  
Surface: 40 m<sup>2</sup>  
Roll: 20 x 2 m

**TCS GLASS MR48**

Mesh grid: 40x80mm  
Grammage: 780g/m<sup>2</sup>  
Height: 2 m  
Length: 20 m  
Surface: 40 m<sup>2</sup>  
Roll: 20 x 2 m

**TCS GLASS MR88**

Mesh grid: 80x80mm  
Grammage: 550g/m<sup>2</sup>  
Height: 2 m  
Length: 20 m  
Surface: 40 m<sup>2</sup>  
Roll: 20 x 2 m

**TCS GLASS MR812**

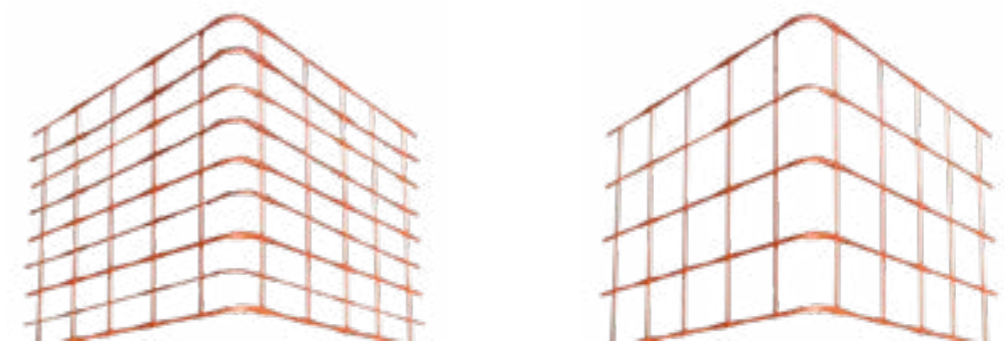
Mesh grid: 80x120mm  
Grammage: 440g/m<sup>2</sup>  
Height: 2 m  
Length: 20 m  
Surface: 40 m<sup>2</sup>  
Roll: 20 x 2 m

**TCS GLASS MR1212**

Mesh grid: 120x120mm  
Grammage: 350g/m<sup>2</sup>  
Height: 2 m  
Length: 20 m  
Surface: 40 m<sup>2</sup>  
Roll: 20 x 2 m

# Corners

Alkali-resistant glass fibre mesh with epoxy matrix for CRM systems.



**TCS GLASS CORNER MR48**

Corner grid: 40 x 80 mm  
Grammage: 780 g/m<sup>2</sup>  
Corner side: 40 cm  
Corner height: 2 m  
Bend radius: 30 mm  
Corner: 4 x 2 m

**TCS GLASS MR88**

Corner grid: 80 x 80 mm  
Grammage: 550 g/m<sup>2</sup>  
Corner side: 40 cm  
Corner height: 2 m  
Bend radius: 30 mm  
Corner: 4 x 2 m

# Anti-smashing and Anti-tilt Mesh

Alkali-resistant glass fibre mesh with epoxy matrix.



**TCS GLASS MR88/4**

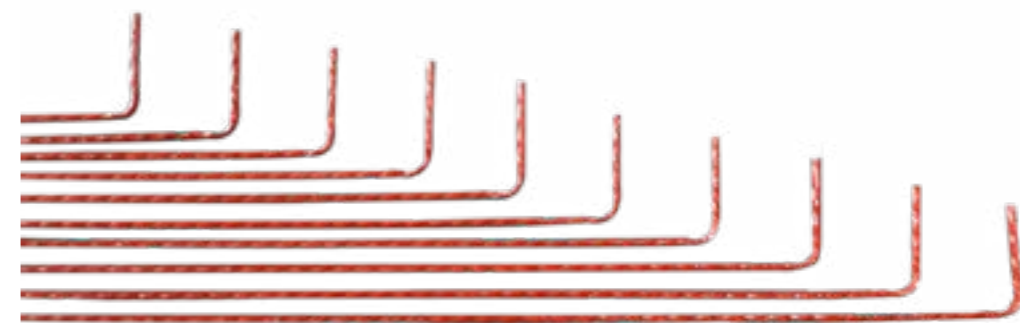
Grammage  
Main 80 x 80 mm - secondary 80 x 40 mm  
Grammage:  
550 g/m<sup>2</sup> weave/warp - 90 g/m<sup>2</sup> secondary warp  
Height: 2 m  
Length: 20 m  
Surface: 40 m<sup>2</sup>  
Roll: 20x2 m

**TCS GLASS MR1212/4**

Grammage:  
Main 120 x 120 mm - secondary 120 x 40 mm  
Grammage:  
350 g/m<sup>2</sup> weave/warp - 120 g/m<sup>2</sup> secondary warp  
Height: 2 m  
Length: 20 m  
Surface: 40 m<sup>2</sup>  
Roll: 20x2 m

# Connector

L-shaped connector with improved adherence in GFRP (Glass Fibre Reinforced Polymer) composite, alkali resistant in epoxy resin.



**TCS GLASS CONNECTOR**

To use with: chemical anchor V-FIX  
Grammage: 103 g/m  
Length short side: 10 cm  
Length long side: 10,15, 20, 30, 40, 50, 60, 70, 80, 90, 100 cm

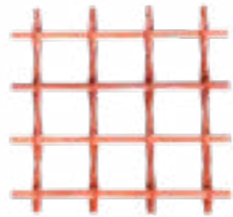
# Gussets

Recycled PA gusset and gusset obtained directly from the mesh.



TCS MR44 PA

Recycled PA gusset (Ø 16 cm) loaded with glass fibre.



TCS GLASS MR44

Classic gusset 16 x 16 cm with a square grid 4 x 4 cm section obtained directly from the mesh.

# Anchor

Bi-component vinyl ester styrene-free chemical anchor in cartridge for structural loads.



V-FIX

Cartridge: 400 ml  
Application: specific tools for chemical anchor  
Compatibility: dry and wet walls

**iTAB** STC ITGC

Organismo nazionale per la valutazione tecnica  
**Italian Technical Assessment Body**

ITAB/ITC-CNR  
Via Lombardia 49 - 20098 San Giuliano Milanese - Italy  
tel: +39-02-9806.1 - Telefax: +39-02-98280088  
e-mail: segreteria.itab@itc.cnr.it



Member of

**ETA**

[www.eta.eu](http://www.eta.eu)  
European Organisation for Technical Assessment  
Organisation Européenne pour l'évaluation technique

## European Technical Assessment ETA 21/0524 of 01/03/2024

### GENERAL PART

Trade name of the construction product

- FORTIUS made of:**
- FRP mesh  
TCS Glass MR44, TCS Glass MR46, TCS Glass MR88, TCS Glass MR812, TCS Glass MR1212
  - FRP mesh corner element  
TCS Glass Corner MR46, TCS Glass Corner MR88
  - FRP connectors  
TCS Glass Connector

ETA certification

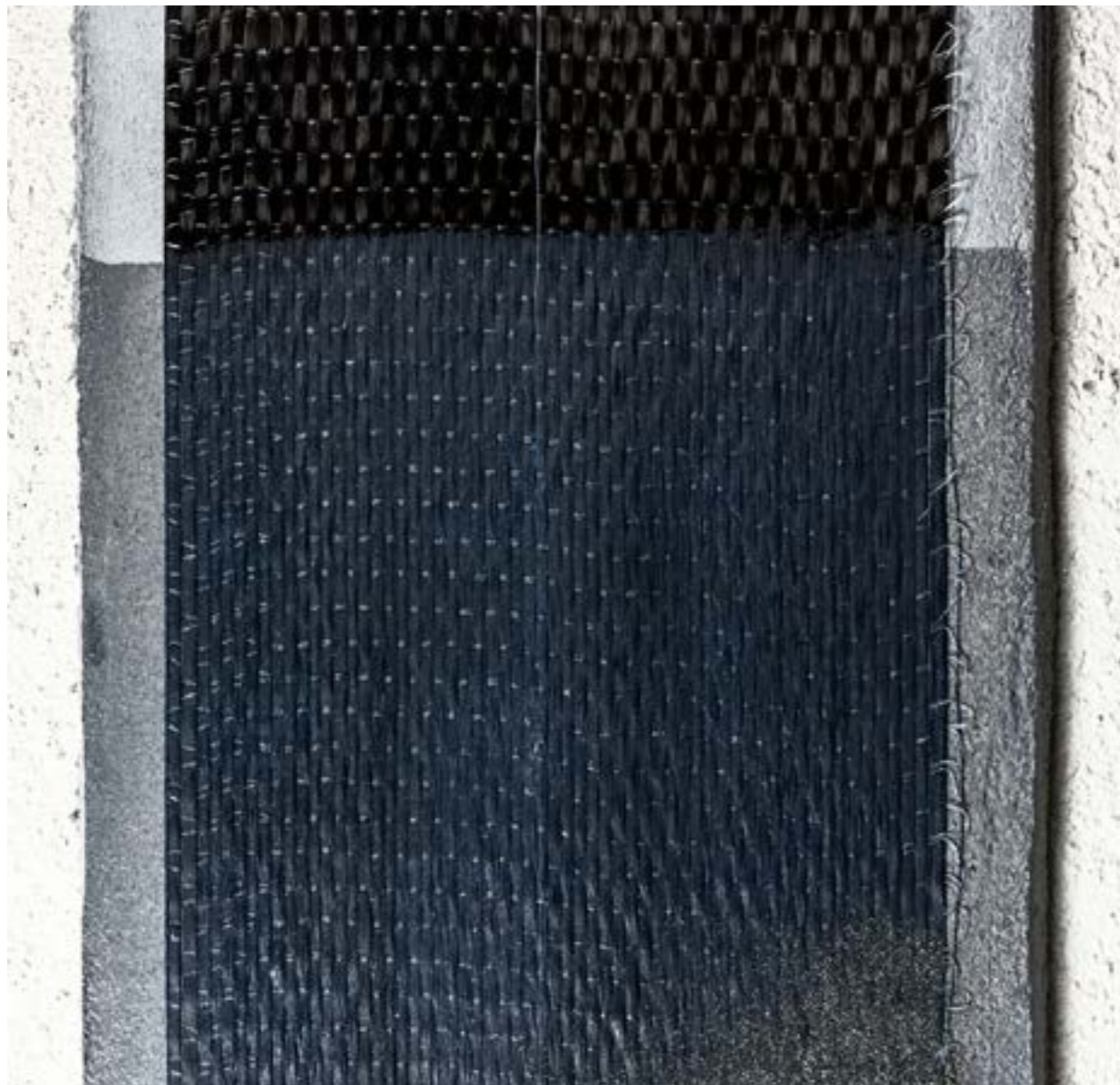


CE marking



# Carbo-Structura System. FRP system

FRP structural reinforcement system using long, continuous carbon fibres immersed in a polymer matrix. Ideal for reinforcing reinforced concrete, prestressed concrete and masonry.



Supplied in a kit, consisting of:

- TCS CARBON U300 fabric (in rolls of variable height as per design specifications and length 50 m)
- Two-component epoxy system ELAN-TECH MC256/W254, in 4+2 kg packages.



TCS CARBON U300

It is a unidirectional high-strength carbon fibre fabric. The fabric is thermowelded by means of a thermo-thread in the weft to ensure excellent laying stability and workability on site, while maintaining perfect fibre alignment.

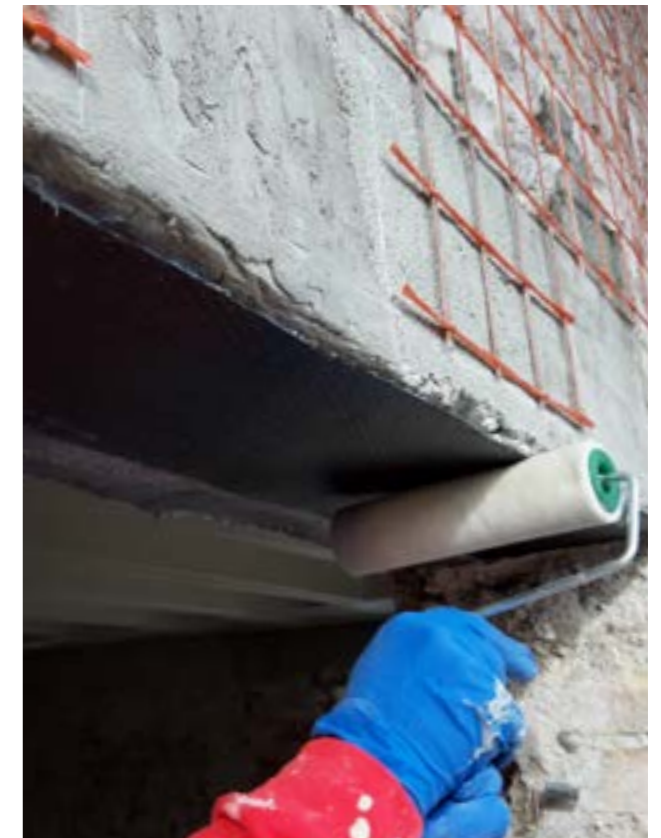


ELANTECH MC256/W256

It is the medium-viscosity, two-component, thixotropic epoxy system ideal for structural bonding and impregnation of TCS Consolidation Line fabrics.

<b>CERTIFICATO DI VALUTAZIONE TECNICA</b> ai sensi del Cap.11, punto 11.1 lett. c) del D.M. 17.1.2018	
<b>Denominazione commerciale del Prodotto</b>	<b>CARBO-STRUCTURA</b>
<b>Oggetto della certificazione e campo di impiego</b>	<b>Materiali compositi fibro-rinforzati a matrice polimerica (FRP) da utilizzarsi per il consolidamento strutturale di costruzioni esistenti.</b> <i>Sistemi di rinforzo realizzati in situ.</i>
<b>Titolare del Certificato</b>	Società <b>TCS S.r.l.</b> Via Sigalina a Mattina, 8/C 25018 Montichiari (BS)

Certificazione CVT





# Finishes

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The finishes are the final touch that makes a building unique and welcoming.

From floors to walls, ceilings to wall coverings, we offer high quality materials and finishes to suit every taste and style, transforming any space into an exclusive and elegant environment.





## Crafting something **unique.**

Experience, passion and commitment make it possible to realise unique and surprising projects, bringing the taste and personality of each customer to life.

We are ready to give you spaces to love and experience to the full.





- 
1. Smoothing coats
  2. Limes
  3. Anti-mould thermal paints
  4. Silicates
  5. Protectors
-

# Textural effect meets colour.

Texture, light effects, design.

Three typical characteristics of TCS finishes that, combined with the mineral nature of the components, guarantee the purity, non-toxicity, and total recyclability of the products in full respect of humankind and the environment.

Made of pure, long seasoned, and hydrated Lime Putty or Potassium Silicate, they guarantee high resistance to atmospheric agents and water penetration, so to make every room unique and exclusive, both indoors and outdoors.

More than 150 shades of colour that follow the trends and design of the moment, to embrace the tastes of multiple personalities, but always with the same objective: to make the promise of each project a reality.









The images and their colours, renditions and indications in the catalogue are purely indicative and do not constitute an absolute reference for correspondence, and are provided for the purpose of better understanding the application of the products or systems. Please always refer to our website for technical data sheets. For further information and practical product demonstrations please consult our technical service. For goods supplied by TCS, a technical data sheet, a safety data sheet and the relevant certifications are always available. The company reserves the right to make any changes it deems necessary at any time and without prior notice. Therefore, check that the documents in your possession are always up to date.



Restoration  
Construction  
Consolidation  
Finishes

For the last 35 years  
the benchmark in  
building materials production.

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