

# High-Tech Focused Newsletters from 2014 Calendary

<p><b>TECNOCHEM</b> ITALIANA S.p.A.</p> <p>Gennaio   JANUARY   14</p> <p><b>REFOR-tec®</b> Structural reinforcements Salmonic retrofitting Fire-resistant Anti-corrosion</p>	<p><b>TECNOCHEM</b> ITALIANA S.p.A.</p> <p>Febbraio   FEBRUARY   14</p> <p><b>REFOR-tec® Floors</b></p>	<p><b>TECNOCHEM</b> ITALIANA S.p.A.</p> <p>Marzo   MARCH   14</p> <p><b>HFE-tec® masonry</b></p>	<p><b>TECNOCHEM</b> ITALIANA S.p.A.</p> <p>Aprile   APRIL   14</p> <p><b>RAPi-tec®</b></p>
<p><b>REFOR-tec®</b></p> <p>Please consult "newsletter" section in our web-site <a href="http://www.tecnochem.it">www.tecnochem.it</a></p>	<p><b>REFOR-tec® Floors</b></p> <p>Please consult "newsletter" section in our web-site <a href="http://www.tecnochem.it">www.tecnochem.it</a></p>	<p><b>HFE-tec® masonry</b></p> <p>Please consult "newsletter" section in our web-site <a href="http://www.tecnochem.it">www.tecnochem.it</a></p>	<p><b>RAPi-tec®</b></p> <p>Please consult "newsletter" section in our web-site <a href="http://www.tecnochem.it">www.tecnochem.it</a></p>
<p><b>TECNOCHEM</b> ITALIANA S.p.A.</p> <p>Maggio   MAY   14</p> <p><b>RAPi-tec® restaura</b></p>	<p><b>TECNOCHEM</b> ITALIANA S.p.A.</p> <p>Giugno   JUNE   14</p> <p><b>ISOTANK</b></p>	<p><b>TECNOCHEM</b> ITALIANA S.p.A.</p> <p>Luglio   JULY   14</p> <p><b>PL-MONO tec</b></p>	<p><b>TECNOCHEM</b> ITALIANA S.p.A.</p> <p>Agosto   AUGUST   14</p> <p><b>ELASTOBI-tec DR/colto ELASTOBI-tec EP/finish</b></p>
<p><b>RAPi-tec® restaura</b></p> <p>Please consult "newsletter" section in our web-site <a href="http://www.tecnochem.it">www.tecnochem.it</a></p>	<p><b>ISOTANK</b></p> <p>Please consult "newsletter" section in our web-site <a href="http://www.tecnochem.it">www.tecnochem.it</a></p>	<p><b>PL-MONO tec</b></p> <p>Please consult "newsletter" section in our web-site <a href="http://www.tecnochem.it">www.tecnochem.it</a></p>	<p><b>ELASTOBI-tec DR/colto ELASTOBI-tec EP/finish</b></p> <p>Please consult "newsletter" section in our web-site <a href="http://www.tecnochem.it">www.tecnochem.it</a></p>
<p><b>TECNOCHEM</b> ITALIANA S.p.A.</p> <p>Settembre   SEPTEMBER   14</p> <p><b>VHDRS® CarFib</b></p>	<p><b>TECNOCHEM</b> ITALIANA S.p.A.</p> <p>Ottobre   OCTOBER   14</p> <p><b>STABIL-tec®</b></p>	<p><b>TECNOCHEM</b> ITALIANA S.p.A.</p> <p>Novembre   NOVEMBER   14</p>	<p><b>TECNOCHEM</b> ITALIANA S.p.A.</p> <p>Dicembre   DECEMBER   14</p>
<p><b>VHDRS® CarFib</b></p> <p>Please consult "newsletter" section in our web-site <a href="http://www.tecnochem.it">www.tecnochem.it</a></p>	<p><b>STABIL-tec®</b></p> <p>Please consult "newsletter" section in our web-site <a href="http://www.tecnochem.it">www.tecnochem.it</a></p>	<p><b>SHING</b></p> <p>Please consult "newsletter" section in our web-site <a href="http://www.tecnochem.it">www.tecnochem.it</a></p>	<p>Please consult "newsletter" section in our web-site <a href="http://www.tecnochem.it">www.tecnochem.it</a></p>

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**TECNOCHEM**  
ITALIANA SPA

**TECHNOLOGY News**

**DUCTILE MICROCONCRETES** with High Fracture Energy and reaching fast or very fast Structural Performance

**HPFRC** - High Performance Fibre Reinforced Concretes

**UHPRCC** - Ultra High Performance Fibre Reinforced Cementitious Composites

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**High Performance Innovative Products**

**SYSTEMS**

**REFOR-tec®**  
Reactive Forces Technologies

**pre and post seismic**

**Securing Structural reinforcements**

**Seismic retrofitting**

**Fire-resistant**

**Anti-corrosion**

LUNEDI Monday	MARTEDI Tuesday	MERCOLEDI Wednesday	GIOVEDI Thursday	VENERDI Friday	SABATO Saturday	DOMENICA Sunday
01 30	31	<b>01</b>	02	03	04	<b>05</b>
02 <b>06</b>	07	08	09	10	11	<b>12</b>
03 13	14	15	16	17	18	<b>19</b>
04 20	21	22	23	24	25	<b>26</b>
05 27	28	29	30	31	01	02

**Dicembre | December | 13**

Lun/Mon	Mar/Tue	Mer/Wed	Gio/Thu	Ven/Fri	Sab/Sat	Dom/Sun
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23	24	<b>25</b>	<b>26</b>	27	28	<b>29</b>
30	31					

**Febbraio | February | 14**

Lun/Mon	Mar/Tue	Mer/Wed	Gio/Thu	Ven/Fri	Sab/Sat	Dom/Sun
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**REFOR-tec® specific System**

For every Project requiring Structural Reinforcement and Seismic retrofitting:

- Low thickness jacketing (15-40 mm) without reinforcement, on reinforced concrete structures: PILLARS - FOUNDATIONS - BEAMS - NODES - WALLS
- Low thickness collaborating layer (15-40 mm) on floors in: CLAY-CEMENT, WOOD, BEAMS/BRICKS, STEEL PANELS, others.
- Combined system micro-concrete HPFRC/UHPRCC with joints and connections "ad hoc".
- Deformation energy/ Fracture energy / Ductility / Dissipation / Dynamic resistance
- Combined system of structural reinforcement HPFRC/UHPRCC (REFOR-tec®) and Composite materials / Carbon Fibre (VNDRS CarFib®) also protected with heat shields
- Dynamic efficient "DUCTILE" joints and connections

**REFOR-tec® specific HPFRC/UHPRCC Fibre Reinforced Concrete Composite** receives an additional resistance to compressive forces of High Performance Fibre Reinforced Concrete. The resistance to compression forces is increased by 20% to 30% (up to 300 MPa) with respect to the concrete. The increase in resistance is due to the presence of the fibres and the composite resin (200 to 300 MPa) and the high ductility of the fibres.

**REFOR-tec® systems:**  
more than 10 years of R&D, Innovation, Experimentation, Project development, Applications

**Performance evidence of REFOR-tec® as COLLABORATING LAYER ON FLOORS**

Experimental tests in the laboratory and in the field. Award of Excellence U.S.A. November 2012.

**Evidence of performance with REFOR-tec® of Structural reinforcement and seismic retrofitting Of jacking with REFOR-tec® BEAMS/ROOF**

**BULLETIN**

Publication in the U.S.A. ASCE Engineering Journal, Vol. 139, No. 1, 2012, pp. 1-12. The Bulletin describes the design and construction of the structural reinforcement and seismic retrofitting of the Japanese (Kobe) school building. The building, which has been retrofitted by the University of Bergamo (Italy), has reached in the experiment by the Superior Board of Public Works.

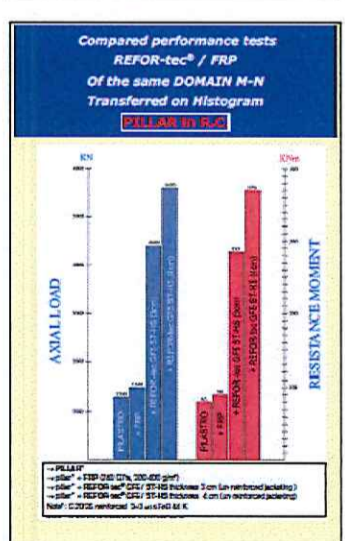
**Evidence of performance of jacking with REFOR-tec®**

See Proportions of Beams:

See STRAINING OF BEAMS WITH HIGH PERFORMANCE JACKET

**Performance evidence of REFOR-tec® jacket Compared to FRP - Carbon fibre On THE LANS IN S.W.**

FRP as such - FRP reinforced with FRP jacket in carbon fibre - FRP reinforced with REFOR-tec® jacket



**Comparison of the architectural and performance impact of**

FRP reinforced with REFOR-tec® jacket

FRP reinforced with REFOR-tec® jacket

**Performance evidence of Jacket with REFOR-tec® compared to Jacket in S.W. of 200 MPa**

Performance comparison after test "Jacket" with axial load: 60 kN.

Performance comparison between REFOR-tec® and 200 MPa

**Performance evidence of REFOR-tec® jacket compared to FRP - Carbon fibre On THE LANS IN S.W.**

FRP as such - FRP reinforced with FRP jacket in carbon fibre - FRP reinforced with REFOR-tec® jacket

**Performance evidence of REFOR-tec® jacket compared to FRP - Carbon fibre On THE LANS IN S.W.**

FRP as such - FRP reinforced with FRP jacket in carbon fibre - FRP reinforced with REFOR-tec® jacket

**REFOR-tec®**  
Reactive Forces Technologies

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**News TECHNOLOGY**

**REFOR-tec® Floors**  
Reactive Forces Technologies

**INNOVATION**

**DUCTILE MICRO-CONCRETES** with high fracture energy and fast or very fast Structural Opening to Traffic

**HPFRC - High Performance Fibre Reinforced Concretes**

**UHPRFRC - Ultra High Performance Fibre Reinforced Cementitious Composites**

**Structural reinforcements**

**Seismic retrofitting**

**Anticorrosion, Anti-carbonation**

**Fire-resistant**

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**High performance innovative systems**  
For structural reinforcement and seismic retrofitting

**SYSTEMS**

**REFOR-tec® Floors**  
Reactive Forces Technologies

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**NOVEMBER 2012**

The international jury of the **ICRI**  
- International Concrete Repair Institute - Illinois U.S.A. - awarded to

**TECNOCHEM ITALIANA S.p.A.**

**1st Price**

in the Category "Special Projects" for the **STRUCTURAL REINFORCEMENT** with **SEISMIC RETROFITTING** of floors 22.000 m<sup>2</sup>, thickness 15 mm of the **Domenico Cotugno Hospital** in Bari with **U.H.P.F.R.C.C.**

**REFOR-tec® GF5/ST-HS**

LUNEDI Monday	MARTEDI Tuesday	MERCOLEDI Wednesday	GIOVEDI Thursday	VENERDI Friday	SABATO Saturday	DOMENICA Sunday
05 27	28	29	30	31	01	<b>02</b>
06 03	04	05	06	07	08	<b>09</b>
07 10	11	12	13	14	15	<b>16</b>
08 17	18	19	20	21	22	<b>23</b>
09 24	25	26	27	28	01	02

**Gennaio | January | 14**

Lun/Mon	Mar/Tue	Mer/Wed	Gio/Thu	Ven/Fri	Sab/Sat	Dom/Sun
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27	28	29	30	31		

**Marzo | March | 14**

Lun/Mon	Mar/Tue	Mer/Wed	Gio/Thu	Ven/Fri	Sab/Sat	Dom/Sun
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31						

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with collaborative layer of REFOR-tec® GF5/ST-HS, without steel net, without perforations, without joints, at low thickness (15 mm) on 22.000 m<sup>2</sup> of concrete floors as part of the restoration of a building **CONCRETE IN THE DOOR** for the Structural Reinforcement and Seismic Retrofitting in case of seismic horizontal loads/vertical loads.

**Award of Excellence**

TECNOCHEM ITALIANA S.p.A.

Structure Restoration of Domenico Cotugno Hospital in Bari - Italy

REFOR-tec® systems - Tecnochem Italiana

More than 22 years of R&D, Development, Testing, Project development, pre- and post-seismic Applications.

**Innovative products - Assistance From Project to Job-site**

REFOR-tec® family UHPRFRC (Ultra High Performance Fibre Reinforced Cementitious Composites) provides a significant solution to safety and security of High Performance Fibre Reinforced Concretes. The available reinforcement ranges from 100 to 240 MPa and tensile resistance (225 to 300 MPa) with exceptional performance under Compression (more than 15.000 to 25.000 MPa) and other exceptional performance.

**the specific REFOR-tec® system**

For every product of Structural reinforcement and Seismic Retrofitting:

- Low thickness jacketing (15-40 mm) applied without reinforcement; PILLARS - PILLAR/FOUNDATION - BEAMS - NODES - WALLS

**SYSTEMS**

**REFOR-tec® Floors**

Collaborating layer, without joints, at low thickness (15-40 mm) on floors in CLAY-CEMENT, BEAM/BRICKS, STEEL PANELS, WOOD, others.

Since 2000, experimental tests performed in our laboratories as well in Italian and foreign code showed exceptional performance and evaluated the sustainability of a low thickness and/or concrete floor jacketing with REFOR-tec® on floors in R.C., clay-cement, and others, in case of seismic reinforcement, with a load bearing capacity in excess of the floor, as well as in case of seismic reinforcement or floor/jacking, guaranteeing the resistance of a structure which remains in compression of stress associated with traction and flexure resistance of REFOR-tec®.

**Applied in a single application on the floor of the structure and/or reinforcement:**

- Seismic reinforcement, in case of failure on the horizontal axis (columns of the beam)
- Seismic retrofitting, in case of failure on the vertical axis (slab, beam, column)
- Reinforcement in the beam in combination with the concrete beam
- Reinforcement of the slab and/or the edge of the slab
- Reinforcement of the edge of the slab

**Application on Reinforcement of the structure:**

- Reinforcement of the slab
- Reinforcement of the beam
- Reinforcement of the column
- Reinforcement of the wall
- Reinforcement of the foundation
- Reinforcement of the node
- Reinforcement of the wall

**REFOR-tec® on FLOORS IN CLAY-CEMENT**

Collaborating layer, without joints, at low thickness (15-40 mm) on floors in CLAY-CEMENT, BEAM/BRICKS, STEEL PANELS, WOOD, others.

**REFOR-tec® with roots**

The roots allow to connect the floor to the wall and to the column.

**CAROTA**

Carota REFOR-tec® GF5/ST-HS  
Carota UHPRFRC  
Carota UHPRFRC  
Carota UHPRFRC

**REFOR-tec® on steel and/or concrete - COLUMN-LAYER-ROOF**

Collaborating layer, without joints, at low thickness (15-40 mm) on floors in CLAY-CEMENT, BEAM/BRICKS, STEEL PANELS, WOOD, others.

**REFOR-tec® on WOOD**

Collaborating layer, without joints, at low thickness (15-40 mm) on floors in CLAY-CEMENT, BEAM/BRICKS, STEEL PANELS, WOOD, others.

**Example of structural calculation**

**PREDICT OF THE IMPROVEMENT EFFECT**

From the experimental tests performed in our laboratories as well in Italian and foreign code showed exceptional performance and evaluated the sustainability of a low thickness and/or concrete floor jacketing with REFOR-tec® on floors in R.C., clay-cement, and others, in case of seismic reinforcement, with a load bearing capacity in excess of the floor, as well as in case of seismic reinforcement or floor/jacking, guaranteeing the resistance of a structure which remains in compression of stress associated with traction and flexure resistance of REFOR-tec®.

$F_{R1} = 1000 \text{ kN}$  (for 0.150 m) = 75 kN / m (per 100 mm thickness)

$F_{R2} = 1000 \text{ kN}$  (for 0.200 m) = 100 kN / m (per 100 mm thickness)

$F_{R3} = 1000 \text{ kN}$  (for 0.250 m) = 125 kN / m (per 100 mm thickness)

**REPRESENTATIVE EXAMPLE OF CALCULATION**  
TILE-CEMENTITIOUS FLOOR - sl. 20-4 cm

**VALIDATION OF THE INVESTIGATION BY POSITIVE MOMENTS (SUPPORT)**

Hypothetic Floor with 3x10 - REFOR-tec® 15 mm

REFOR-tec® thickness	Thickness of concrete	REFOR-tec® thickness	Thickness of concrete
15 mm	20 mm	15 mm	20 mm
15 mm	40 mm	15 mm	40 mm
15 mm	60 mm	15 mm	60 mm

**Relation Reinforcement in Negative Moments (support)**

Valid reinforced with REFOR-tec® on concrete additional layer (15 mm) on 20 cm of concrete (sl. 20-4 cm)

REFOR-tec® thickness	Thickness of concrete	REFOR-tec® thickness	Thickness of concrete
15 mm	20 mm	15 mm	20 mm
15 mm	40 mm	15 mm	40 mm
15 mm	60 mm	15 mm	60 mm

**REPRESENTATIVE EXAMPLE OF CALCULATION**  
FULL FLOORS IN R.C. - sl. 20 cm

**VALIDATION OF THE INVESTIGATION BY POSITIVE MOMENTS (SUPPORT)**

Hypothetic Floor with 3x10 - REFOR-tec® 15 mm

REFOR-tec® thickness	Thickness of concrete	REFOR-tec® thickness	Thickness of concrete
15 mm	20 mm	15 mm	20 mm
15 mm	40 mm	15 mm	40 mm
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15 mm	20 mm	15 mm	20 mm
15 mm	40 mm	15 mm	40 mm
15 mm	60 mm	15 mm	60 mm

**Capillary Porosity - Speed of Carbonation**

REFOR-tec® UHPRFRC (Ultra High Performance Fibre Reinforced Cementitious Composites) provides a significant solution to safety and security of High Performance Fibre Reinforced Concretes. The available reinforcement ranges from 100 to 240 MPa and tensile resistance (225 to 300 MPa) with exceptional performance under Compression (more than 15.000 to 25.000 MPa) and other exceptional performance.

**Speed of carbonation**

$x = 0.85 \sqrt{t}$

**Oxygen diffusion, carbonation resistance**

$D = 1.5 \times 10^{-12} \text{ m}^2/\text{s}$

**Availability**

**Fire-resistance**

Large University Certificate (UNIV) - Fire resistance for 120 min. at 1000°C - On beams jacketed with REFOR-tec® and/or steel 300 x 100 - 4 point bending.

**Maximum fire resistance: beams jacketed with REFOR-tec® without loss of load-bearing capacity after the thermal cycle as mentioned above!**

**Request for more information or service addresses:**

**TECNOCHEM ITALIANA S.p.A.**

**REFOR-tec® Floors**

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**News TECHNOLOGY**

**HFE-tec® masonries** High Fracture Energy Technologies

**INNOVATION**  
ECC - Engineered Cementitious Composites

- Rational Systems for Repair, Structural Reinforcement and Seismic Retrofitting of Masonries
- Fire resistance
- Anti-corrosion

**Innovative systems with very high performance**

**SYSTEMS**

**HFE-tec® masonries**

High Fracture Energy Technologies  
High Deformation Energy

**REINFORCED RENDERING WITH HIGH FRACTURE ENERGY AND DEFORMATION CAPACITY FOR STRUCTURAL STRENGTHENING AND SEISMIC RETROFITTING OF BEARING MASONRIES, PLUGGING, PARTITIONS**

**DUCTILITY**      **ENERGY DISSIPATION**

**RIGIDITY**        **DIAGONAL COMPRESSION TEST**

**TANGENTIAL TENSILE**      **SHEAR LIMIT DEFORMATION**

LUNEDI Monday	MARTEDI Tuesday	MERCOLEDI Wednesday	GIOVEDI Thursday	VENERDI Friday	SABATO Saturday	DOMENICA Sunday
09 24	25	26	27	28	01	<b>02</b>
10 03	04	05	06	07	08	<b>09</b>
11 10	11	12	13	14	15	<b>16</b>
12 17	18	19	20	21	22	<b>23</b>
13 24	25	26	27	28	29	<b>30</b>
14 31	01	02	03	04	05	06

Febbraio | February | 14

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Aprile | April | 14

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28	29	30				

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**SYSTEMS**

**HFE-tec® masonries**

**REINFORCED RENDERING SYSTEMS WITH HIGH DUCTILITY FOR THE STRUCTURAL REINFORCEMENT AND SEISMIC ADJUSTMENT OF MASONRY WALLS**

The technique of composite rendering using reinforced masonry is a system, in reference to the wall to be strengthened, a layer of mortar, reinforced with mesh, fixed to the wall through reinforced connections.

The technique allows to improve the ductility and resistance of the wall, thanks to the increase in section resistance made from the mortar layer and the effect of confinement developed on the diagonal masonry units, at the same time, it increases the ductility. This technique may be suitable to those walls in a particular advanced state of degradation and not able to withstand possible handling in the presence of complex and irregular loading patterns, other techniques, such as injections or the construction of brickwork, may be difficult to apply.

The technique is also applicable to restore a broken section of a damaged wall, or vertical masonry elements which are not sufficiently connected.

The combination with reinforced masonry is a simple method and rather light, suitable also for existing poor masonry walls, when adequately and extensively treated, requiring appropriate dimensioning and structural load distribution.

The application of the reinforced masonry does not change the state of stress of the structure during the execution, but can change the stiffness of the walls and their final seismic response.

The application of system **HFE-tec® masonries** ensure maximum reliability of the technique through the following fundamental features: the extreme ductility and Energy of Deformation of each layer; the Active Capacity of the mortar to be used; some particularities of the Mechanical Characteristics of Mesh, the choice Reinforcement net and Reinforced Connections, Correct Application.

The Structural reinforcement system **HFE-tec® masonries** ensure the transfer and stress distribution from the wall to the reinforced masonry with the highest ductility and fracture energy of the SYSTEM, particularly in the case of Seismic Crisis.

**SYSTEMS**

**HFE-tec® masonries**

Two experimental examples of the System **HFE-tec® masonries** by measuring the diagonal compressive strength as well with alternative 200x200x40 cm. (for more information: 200)

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**APPLICATIVE TYPOLOGY**

APPLICATIVE TYPOLOGY

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APPLICATIVE TYPOLOGY

System	Application	Material	Notes
HFE-tec® masonries	Structural reinforcement	Mortar	High ductility and energy
HFE-tec® masonries	Seismic retrofitting	Reinforcement net	Improves ductility
HFE-tec® masonries	Repair of damaged walls	Composite rendering	Restores structural integrity
HFE-tec® masonries	Injection of mortar	Mortar	Strengthens joints
HFE-tec® masonries	Grouting joints	Grout	Improves load transfer
HFE-tec® masonries	Partial reconstructions	Mortar and mesh	Reinforces existing structure
HFE-tec® masonries	Without rendering	Reinforcement net	Lightweight solution

System	Application	Material	Notes
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HFE-tec® masonries	Without rendering	Reinforcement net	Lightweight solution

**Two Practical Examples of Restoration and Consolidation of masonry through injections LIME INJECTION, grouting joints and partial reconstructions with mortars High Deformation Energy, without rendering**

Two Practical Examples of Restoration and Consolidation of masonry through injections LIME INJECTION, grouting joints and partial reconstructions with mortars High Deformation Energy, without rendering

Two Practical Examples of Restoration and Consolidation of masonry through injections LIME INJECTION, grouting joints and partial reconstructions with mortars High Deformation Energy, without rendering

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**Some applications of Systems HFE-tec® masonries**

Some applications of Systems **HFE-tec® masonries**

Some applications of Systems **HFE-tec® masonries**

Some applications of Systems **HFE-tec® masonries**

**Request for Information and/or Assistance:**

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**News TECHNOLOGY**  
**RAPI-tec® innovation**  
**Repair and reconstruction of concrete pavements**

**TECNOCHEM** **Very fast opening to traffic (3-6 hours)**  
**Maximal durability in time.**

**Your internal or external floors have deteriorated and need Fast, Economical and Durable Repair?**

*Contact us for an inspection. Our specialists are at your disposal to propose : a personalised proposal for a time-certain and fast applied and re-usable pavement..*

**Logistic Platforms - Freight areas - Deposits - Airports - Helicopter platforms - Hangar - Port Areas - Parkings - Factories - Shops - Shopping Malls - Aprons - Floors in Concrete, roofs and between levels**

**SYSTEMS**

**RAPI-tec®**  
 Faster, Stronger, Durable, No Shrinkage

**RAPI-tec® aeroslab (screed/concrete)**  
**RAPI-tec® pav (mortar)**  
**RAPI-tec® self injection (shurry)**  
**RAPI-tec® ramp 1 (ramps)**  
**RAPI-tec® stone (exposed aggregate)**

**Advantages of the RAPI-tec® system:**  
 - Maximum Efficiency in Technology of Installation without interruption in Commercial and Industrial Activities  
 - Total Package Product Management + Installation  
 - Rapid Execution associated with a rapid hardening and opening to traffic  
 - Resistance, No shrinkage , Durability

LUNEDI Monday	MARTEDI Tuesday	MERCOLEDI Wednesday	GIOVEDI Thursday	VENERDI Friday	SABATO Saturday	DOMENICA Sunday
31	01	02	03	04	05	<b>06</b>
07	08	09	10	11	12	<b>13</b>
14	15	16	17	18	19	<b>20</b>
<b>21</b>	22	23	24	<b>25</b>	26	<b>27</b>
28	29	30	01	02	03	04

Marzo | March | 14

Lun/Mon	Mar/Tue	Mer/Wed	Gio/Thu	Ven/Fri	Sab/Sat	Dom/Sun
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31						

Maggio | May | 14

Lun/Mon	Mar/Tue	Mer/Wed	Gio/Thu	Ven/Fri	Sab/Sat	Dom/Sun
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26	27	28	29	30	31	

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**Maximal saving in cost on time !!!**  
**Economic advantages on short and long term !!!**

Which are the RAPI-tec® systems?  
 RAPI-tec® aeroslab (screed/concrete)  
 RAPI-tec® pav (mortar)  
 RAPI-tec® self injection (shurry)  
 RAPI-tec® ramp 1 (ramps)  
 RAPI-tec® stone (exposed aggregate)

Advantages of the RAPI-tec® system:  
 - Maximum Efficiency in Technology of Installation without interruption in Commercial and Industrial Activities  
 - Total Package Product Management + Installation  
 - Rapid Execution associated with a rapid hardening and opening to traffic  
 - Resistance, No shrinkage , Durability

**RAPI-tec® aeroslab (screed/concrete)**

Application: Airports, Helicopter platforms, Hangars, Port Areas, Parkings, Factories, Shops, Shopping Malls, Aprons, Floors in Concrete, roofs and between levels.

Advantages: Fast, Economical, Durable, No Shrinkage.

**RAPI-tec® pav (mortar)**

Application: Airports, Helicopter platforms, Hangars, Port Areas, Parkings, Factories, Shops, Shopping Malls, Aprons, Floors in Concrete, roofs and between levels.

Advantages: Fast, Economical, Durable, No Shrinkage.

**RAPI-tec® self injection (shurry)**

Application: Airports, Helicopter platforms, Hangars, Port Areas, Parkings, Factories, Shops, Shopping Malls, Aprons, Floors in Concrete, roofs and between levels.

Advantages: Fast, Economical, Durable, No Shrinkage.

**RAPI-tec® ramp 1 (ramps)**

Application: Airports, Helicopter platforms, Hangars, Port Areas, Parkings, Factories, Shops, Shopping Malls, Aprons, Floors in Concrete, roofs and between levels.

Advantages: Fast, Economical, Durable, No Shrinkage.

**RAPI-tec® stone (exposed aggregate)**

Application: Airports, Helicopter platforms, Hangars, Port Areas, Parkings, Factories, Shops, Shopping Malls, Aprons, Floors in Concrete, roofs and between levels.

Advantages: Fast, Economical, Durable, No Shrinkage.

**RAPI-tec® aeroslab (screed/concrete)**

Application: Airports, Helicopter platforms, Hangars, Port Areas, Parkings, Factories, Shops, Shopping Malls, Aprons, Floors in Concrete, roofs and between levels.

Advantages: Fast, Economical, Durable, No Shrinkage.

**RAPI-tec® pav (mortar)**

Application: Airports, Helicopter platforms, Hangars, Port Areas, Parkings, Factories, Shops, Shopping Malls, Aprons, Floors in Concrete, roofs and between levels.

Advantages: Fast, Economical, Durable, No Shrinkage.

**RAPI-tec® self injection (shurry)**

Application: Airports, Helicopter platforms, Hangars, Port Areas, Parkings, Factories, Shops, Shopping Malls, Aprons, Floors in Concrete, roofs and between levels.

Advantages: Fast, Economical, Durable, No Shrinkage.

**RAPI-tec® ramp 1 (ramps)**

Application: Airports, Helicopter platforms, Hangars, Port Areas, Parkings, Factories, Shops, Shopping Malls, Aprons, Floors in Concrete, roofs and between levels.

Advantages: Fast, Economical, Durable, No Shrinkage.

**RAPI-tec® stone (exposed aggregate)**

Application: Airports, Helicopter platforms, Hangars, Port Areas, Parkings, Factories, Shops, Shopping Malls, Aprons, Floors in Concrete, roofs and between levels.

Advantages: Fast, Economical, Durable, No Shrinkage.

**When each minutes counts !**

**Tecnochem:**  
 - Assistance "from Project to Jobsite"  
 - Engineering and Product Management + Application

Consult also the Technical datasheets of the products in [www.tecnochem.com](http://www.tecnochem.com)

Support for Contractors with additional:  
 - Self-primers, Chlorides, Sealers, etc.



**News TECHNOLOGY**

**IGROTAC® ISOTANK "WATERTIGHT"**

**WATERPROOFING OF REINFORCED CONCRETE UNDERGROUND CONSTRUCTIONS**

**Tecnochem assists in :**  
Engineering – Project Assistance – High Technology – Jobsite Assistance

**WATERTIGHT**  
\*\*\*\*\*

**IGROTAC® ISOTANK**  
Vasca Stagna

**WATERTIGHT CONCRETE STRUCTURES**

**Tecnochem guarantees :**

- Reduction in time and cost
- Maximal Saving!
- Guaranteed durability!

**Tecnochem programs :**

- No delay or interruption of the works for the contractor.
- Reset in the Gantt Diagram for the time required for the waterproofing!

LUNEDI Monday	MARTEDI Tuesday	MERCOLEDI Wednesday	GIOVEDI Thursday	VENERDI Friday	SABATO Saturday	DOMENICA Sunday
22 26	27	28	29	30	31	<b>01</b>
23 <b>02</b>	03	04	05	06	07	<b>08</b>
24 09	10	11	12	13	14	<b>15</b>
25 16	17	18	19	20	21	<b>22</b>
26 23	24	25	26	27	28	<b>29</b>
27 30	01	02	03	04	05	06

**Maggio | May | 14**

Lun/Mon	Mar/Tue	Mer/Wed	Gio/Thu	Ven/Fri	Sab/Sat	Dom/Sun
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**Luglio | July | 14**

Lun/Mon	Mar/Tue	Mer/Wed	Gio/Thu	Ven/Fri	Sab/Sat	Dom/Sun
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21	22	23	24	25	26	27
28	29	30	31			

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 [www.tecnochem.com](http://www.tecnochem.com)   
 [sales@tecnochem.com](mailto:sales@tecnochem.com)

**WATERTIGHT**  
\*\*\*\*\*

**IGROTAC® ISOTANK**  
Vasca Stagna

**WATERPROOFING OF REINFORCED CONCRETE UNDERGROUND CONSTRUCTIONS**

**IGROTAC®** **Engineering**

The project waterproofing can be carried out by the contractor or by the contractor's subcontractor. Tecnochem provides technical assistance and project management with the Project Manager and Contractor.

**IGROTAC®** **Ready-to-use waterproofing**

IGROTAC® ISOTANK is a ready-to-use waterproofing system for reinforced concrete structures. It is applied in a single layer and is easy to use.

**IGROTAC®** **Flex Tape**

IGROTAC® ISOTANK is a ready-to-use waterproofing system for reinforced concrete structures. It is applied in a single layer and is easy to use.

**IGROTAC®** **flexion technology**

**TECNOCHEM FLEX**

**Waterproof and durable waterproofing for concrete structures**

IGROTAC® ISOTANK is a ready-to-use waterproofing system for reinforced concrete structures. It is applied in a single layer and is easy to use.

**LEED®**

IGROTAC® ISOTANK is a ready-to-use waterproofing system for reinforced concrete structures. It is applied in a single layer and is easy to use.

**Waterproofing of reinforced concrete structures**

**IGROTAC® ISOTANK**

**Waterproofing of reinforced concrete structures**

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**WATERTIGHT**  
\*\*\*\*\*



**WATERTIGHT CONCRETE STRUCTURES**

Please consult "newsletter" section in our web-site [www.tecnochem.it](http://www.tecnochem.it)

News TECHNOLOGY

**INNOVATION**

**Universal Reactive Elastic Waterproofing System**

**EPURC - Elastomeric PolyUrethanic Reactive Complex**

- Liquid One component Moisture Curing Hydrohardening Waterproofing Membrane for Extreme durable Elastic Protection, allowing pedestrian traffic.
- Adhesion to Concrete, Mortar, Tile, Brick, Metal, Wood, Plexiglas, Insulation Materials.
- Walkable Waterproofing of Balconies, Terrace, Floors.
- Horizontal and Vertical Protection and sealing.
- Indispensable for Drawing Near, Overlaps, Cavities, Passing Objects.



SYSTEMS

**PL-MONO tec**

Liquid waterproofing membrane, grey, white, or in colour



LUNEDI Monday	MARTEDI Tuesday	MERCOLEDI Wednesday	GIOVEDI Thursday	VENERDI Friday	SABATO Saturday	DOMENICA Sunday
27 30	01	02	03	04	05	<b>06</b>
28 07	08	09	10	11	12	<b>13</b>
29 14	15	16	17	18	19	<b>20</b>
30 21	22	23	24	25	26	<b>27</b>
31 28	29	30	31	01	02	03

Giugno | June | 14

Lun/Mon	Mar/Tue	Mer/Wed	Gio/Thu	Ven/Fri	Sab/Sat	Dom/Sun
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9	10	11	12	13	14	15
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30						

Agosto | August | 14

Lun/Mon	Mar/Tue	Mer/Wed	Gio/Thu	Ven/Fri	Sab/Sat	Dom/Sun
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

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[sales@tecnochem.com](mailto:sales@tecnochem.com)

**WATERPROOFING OF ROOF SLABS OF RESIDENTIAL AND PUBLIC BUILDINGS - PL-MONO tec**

**PL-MONO tec TTC Traffic Top Coat**

Liquid WEAR RESISTANT ANTISTATIC membrane for the application on PL-MONO tec for PARKING AREAS

Scrubble on the PL-MONO tec while still wet, some dry quartz sand, size 0.3-0.7 mm. After film formation, remove the excess quartz and apply the PL-MONO tec TTC in 2 coats. Resistant to pedestrian and vehicular traffic. UV stable, resistant to weathering and de-icing salts.

**PL-MONO tec Transparent**

Transparent liquid waterproofing membrane

Extract of the technical datasheet PL-MONO tec

PROPERTY	TEST METHOD	TEST RESULT
• Density @ 20°C	EN 12528	1.15 g/cm <sup>3</sup>
• Water Absorption @ 24h	EN 12528	0.05 g/cm <sup>2</sup>
• Water Vapor Transmission Coefficient	EN 12528	0.001 g/m <sup>2</sup> /h
• Adhesion to concrete	EN 12528	Class 1
• Adhesion to brick	EN 12528	Class 1
• Adhesion to metal	EN 12528	Class 1
• Adhesion to wood	EN 12528	Class 1
• Adhesion to insulation	EN 12528	Class 1
• Elongation at break	EN 12528	> 900%
• Tensile strength	EN 12528	> 7 N/mm <sup>2</sup>
• Tear strength	EN 12528	> 10 N/mm
• Puncture resistance	EN 12528	> 10 N
• Impact resistance	EN 12528	> 10 J
• Chemical resistance	EN 12528	Class 1

**WALKABLE WATERPROOFING OF BALCONIES, TERRACES, FLOORS, EVEN OVER TILES - PL-MONO tec**

**PL-MONO tec TTC Traffic Top Coat**

Liquid WEAR RESISTANT ANTISTATIC membrane for the application on PL-MONO tec for PARKING AREAS

Scrubble on the PL-MONO tec while still wet, some dry quartz sand, size 0.3-0.7 mm. After film formation, remove the excess quartz and apply the PL-MONO tec TTC in 2 coats. Resistant to pedestrian and vehicular traffic. UV stable, resistant to weathering and de-icing salts.

**PL-MONO tec Transparent**

Transparent liquid waterproofing membrane

Extract of the datasheet PL-MONO tec Transparent

PROPERTY	TEST METHOD	TEST RESULT
• Density @ 20°C	EN 12528	1.15 g/cm <sup>3</sup>
• Water Absorption @ 24h	EN 12528	0.05 g/cm <sup>2</sup>
• Water Vapor Transmission Coefficient	EN 12528	0.001 g/m <sup>2</sup> /h
• Adhesion to concrete	EN 12528	Class 1
• Adhesion to brick	EN 12528	Class 1
• Adhesion to metal	EN 12528	Class 1
• Adhesion to wood	EN 12528	Class 1
• Adhesion to insulation	EN 12528	Class 1
• Elongation at break	EN 12528	> 900%
• Tensile strength	EN 12528	> 7 N/mm <sup>2</sup>
• Tear strength	EN 12528	> 10 N/mm
• Puncture resistance	EN 12528	> 10 N
• Impact resistance	EN 12528	> 10 J
• Chemical resistance	EN 12528	Class 1

**PL-MONO tec**

Please consult "newsletter" section in our web-site [www.tecnochem.it](http://www.tecnochem.it)



News TECHNOLOGY

**INNOVATION**

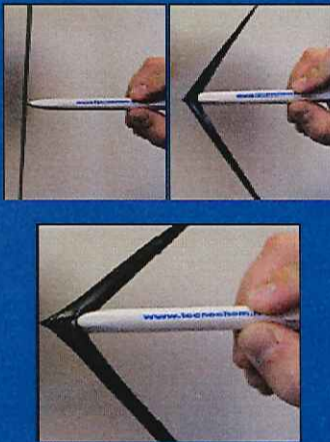
**Waterproofing Coating for Old and New roofs, Floor slabs, Balconies, Terraces, Viaducts.**



**Liquid Elastic Waterproofing Membrane**  
**EPRBC - Elastomeric Polymeric Reactive Bituminous Complex**  
 in aqueous emulsion

SYSTEMS

**ELASTOBIT-tec DR/catio**  
**ELASTOBIT-tec EP/finish**



**Super Elastic**  
**Anti Punch**

LUNEDI Monday	MARTEDI Tuesday	MERCOLEDI Wednesday	GIOVEDI Thursday	VENERDI Friday	SABATO Saturday	DOMENICA Sunday
31 28	29	30	31	01	02	<b>03</b>
32 04	05	06	07	08	09	<b>10</b>
33 11	12	13	14	<b>15</b>	16	<b>17</b>
34 18	19	20	21	22	23	<b>24</b>
35 25	26	27	28	29	30	<b>31</b>

Luglio | July | 14

Lun/Mon	Mar/Tue	Mie/Wed	Gio/Thu	Ver/Fri	Sab/Sat	Dom/Sun
	1	2	3	4	5	6
7	8	9	10	11	12	13
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Settembre | September | 14

Lun/Mon	Mar/Tue	Mie/Wed	Gio/Thu	Ver/Fri	Sab/Sat	Dom/Sun
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**ELASTOBIT-tec DR/catio:**  
 Gripping layer with for cationic reactivity before application of ELASTOBIT-tec EP/finish especially on wet or difficult substrates.

**ELASTOBIT-tec EP/finish:**  
 On new roofs and for the restoration of old and degraded roofs.  
 Continuous coating with high elasticity and performance even with low temperatures (-20°C). Perfect adhesion on most construction materials: concrete, steel, insulation materials, brick and cement, old waterproofing. Functional even at the outside of foundations, basements, structures in contact with humidity.

**Elongation 300%, elongation till break 1400%.**  
 Unalterable by ultraviolet or ozone, unalterable in a temperature range between -20°C and +120°C, does not dry out and does not crack in the presence of salt, acid rain, cats.  
 Consumption: 1 kg/m<sup>2</sup> per layer

**Waterproofing of reinforced slabs with a slope of 40% exposed to risks of following rainwater, cracks, leaks**

**Intervention sequence:**  
 1° Reinforcement of the reinforced concrete vertical walls for the delimitation of the slope.  
 2° Reinforced concrete cast with steel rods inserted. After curing of about 2 weeks, application in correspondence of the steel rods, of 1" layer of ELASTOBIT-tec DR/catio.

After about 48 hours, a second layer of ELASTOBIT-tec EP/finish has been applied in a ratio of about 1,5 kg/m<sup>2</sup>, thickness 1-1,5 mm.

After 5-6 days, a steel mesh was placed directly on the waterproofing product and a second reinforced concrete slab has been installed with function of rods and stops to create roughness designed for better retention.

**Finished work**

**Waterproofing coating for industrial buildings on deteriorated structure membranes**

**Intervention sequence:**  
 1° Cleaning of the existing bituminous membrane, with removal of the loose surface, and removal and replacement of deteriorated and degraded parts.  
 In this phase also those parts of the membrane that are thinned and remain with some water underneath will be removed and replaced.

Application of a first layer ELASTOBIT-tec DR/catio in yield of 1 kg/m<sup>2</sup>, with special attention to joints with change of slope, lapels, joints. ELASTOBIT-tec DR/catio is applied with a brush liquid and drag the pores and small cracks, hereby also the function as adhesion promoter.

After minimum 24 hours, a second layer of ELASTOBIT-tec EP/finish is applied in a yield of 1,5 kg/m<sup>2</sup>, thickness 1-1,5 mm.

**Waterproofing of Products drainage with ELASTOBIT-tec, mechanically followed by waterproof drainage system**

**Extract of the technical datasheet**

PRODOTTORE	DESCRIZIONE	USO	PRODOTTORE	USO
TECNOCHEM	ELASTOBIT-tec DR/catio	Waterproofing	TECNOCHEM	Waterproofing
TECNOCHEM	ELASTOBIT-tec EP/finish	Waterproofing	TECNOCHEM	Waterproofing

**Extract of technical datasheet**

PRODOTTORE	DESCRIZIONE	USO	PRODOTTORE	USO
TECNOCHEM	ELASTOBIT-tec DR/catio	Waterproofing	TECNOCHEM	Waterproofing
TECNOCHEM	ELASTOBIT-tec EP/finish	Waterproofing	TECNOCHEM	Waterproofing

**Request for Information and Assistance:**  
 send an e-mail to "Project Protection and Assistance Office":  
[assistenza@tecnochem.it](mailto:assistenza@tecnochem.it)

**ELASTOBIT-tec DR/catio**  
**ELASTOBIT-tec EP/finish**

Please consult "newsletter" section in our web-site [www.tecnochem.it](http://www.tecnochem.it)

**News TECHNOLOGY**

**FRP - Fibre Reinforced Polymers**  
**VHDRS® CarFib INNOVAZIONE**

Carbon fibre, Glass fibre or other fabrics, plates and connectors for structural strengthening.

**TECNOCHEM**  
ITALIANA SPA

Rational systems for anti-corrosion repair of reinforced concrete, structural collaborating with Composite Materials.

Resistant to fire.

**Innovative Systems with very high Performance.**

SYSTEMS

**VHDRS® CarFib**  
 Very High Durability Repair Systems  
 Carbon Fibres & Composite Materials

- Rational anti-corrosion Repair
- Bi-facial structural collaboration
- Structural Reinforcement with *CarFib* Composite Materials
- Structural Reinforcement with Mixed Systems

REFOR-tec® - *CarFib*  
 Reactive Forces Technologies

- Seismic retrofitting  
 Guideline CNR -DT 200/2004
- Systems Resistant to FIRE

LUNEDI Monday	MARTEDI Tuesday	MERCOLEDI Wednesday	GIOVEDI Thursday	VENERDI Friday	SABATO Saturday	DOMENICA Sunday
01	02	03	04	05	06	<b>07</b>
08	09	10	11	12	13	<b>14</b>
15	16	17	18	19	20	<b>21</b>
22	23	24	25	26	27	<b>28</b>
29	30					

Agosto | August | 14

Lun/Mon	Mar/Tue	Mer/Wed	Gio/Thu	Ven/Fri	Sab/Sat	Dom/Sun
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Ottobre | October | 14

Lun/Mon	Mar/Tue	Mer/Wed	Gio/Thu	Ven/Fri	Sab/Sat	Dom/Sun
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20	21	22	23	24	25	26
27	28	29	30	31		

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Rational systems for anti-corrosion repair of reinforced concrete, structural collaborating with Composite Materials.

**SHRINKO-tec®**  
 Multiple Corrosion Resisting Systems

MuCis

For the repair and restoration of degraded concrete with special fibre reinforced structural mortars

**Anti-corrosion - Anti-shrinkage**  
 - Very high adhesion to the substrate

Capable in a very efficient structural collaboration at the interface of repair mortars/concrete

For the structural strengthening by carbon fibre fabrics or plates and specific epoxy resins

Capable of very effective structural collaboration at the interface with special structural fibre-reinforced mortars

essential as thermal shield  
 capable to protect the epoxy resins in case of fire.

**SHRINKO-tec®**  
 MuCis

**VHDRS® CarFib**

Model	Application	Characteristics	Use
SHRINKO-tec®	Anti-corrosion and anti-shrinkage	High adhesion, low shrinkage, high strength	Repair of concrete surfaces, protection of reinforcement
VHDRS® CarFib	Structural strengthening	High tensile strength, low modulus of elasticity	Strengthening of beams, columns, slabs

Model	Application	Characteristics	Use
REFOR-tec®	Structural repair	High strength, low shrinkage	Repair of structural elements
MuCis	Corrosion protection	High adhesion, low permeability	Protection of reinforcement

Types of use in Reinforced Concrete

CarFib, CarFib, CarFib, CarFib

CarFib, CarFib, CarFib, CarFib

Types of use in Reinforced Concrete

CarFib, CarFib, CarFib, CarFib

CarFib, CarFib, CarFib, CarFib

Types of use in Reinforced Concrete

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CarFib, CarFib, CarFib, CarFib

News TECHNOLOGY  
**STABIL-tec® innovation**

**TECNOCHEM** International award for the New Regional Office in Milan:  
**AWARD 2012 - Illinois Institute of Technology "Best Tall Building Europe"**

TECNOCHEM INFOSYS  
SYSTEMS  
**STABIL-tec®**

**NEW RESIDENCE LOMBARDY REGION**  
33.700 m<sup>2</sup> h=160 metres

Design and Construction : Impregilo SpA - Consorzio Torre

LUNEDI Monday	MARTEDI Tuesday	MERCOLEDI Wednesday	GIOVEDI Thursday	VENERDI Friday	SABATO Saturday	DOMENICA Sunday
29	30	01	02	03	04	<b>05</b>
06	07	08	09	10	11	<b>12</b>
13	14	15	16	17	18	<b>19</b>
20	21	22	23	24	25	<b>26</b>
27	28	29	30	31	01	02

Settembre | September | 14

Lun/Mon	Mar/Tue	Mer/Wed	Gio/Thu	Ven/Fri	Sab/Sat	Dom/Sun
1	2	3	4	5	6	7
8	9	10	11	12	13	14
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Novembre | November | 14

Lun/Mon	Mar/Tue	Mer/Wed	Gio/Thu	Ven/Fri	Sab/Sat	Dom/Sun
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**Special Product**  
**STABIL-tec®**  
formulated "ad hoc"  
and managed "From Project to Jobsite"  
applied at thicknesses from 2 to 12 cm  
on 55.000 m<sup>2</sup> floor surface

Tecnochem products used: STABIL-tec® / MOD - TECNOEPO 400 - SHRINKO-tec® - Tecnos® Azur CB/ER-MICROBETON® POZ - CEMEX RT

International Prize for the New Office of Milan Region:  
**AWARD 2012 - Illinois Institute of Technology "Best Tall Building Europe"**

**CTRUM AWARDS 2012**  
11<sup>th</sup> Annual Awards Symposium, Ceremony & Dinner

Thursday, October 18<sup>th</sup>, 2012  
Norman Hall Auditorium 650 R. Crown Hall  
Illinois Institute of Technology  
Chicago, Illinois

**Contracting Company:** Consorzio Torre  
**Leader Company:** Impregilo SpA  
**Designers:** Pei Cobb Freed & Partners Architects - New York / Caputo Partnership/Sistema Duemila-Milano  
**Project executive:** Consorzio Torre  
**Structural Design:** Prof. Eng. Franco Moia  
**Client:** Region Lombardy  
**Authority:** Infrastrutture Lombarde SpA  
**Integrated contract:** Consorzio Torre (Impregilo, C.H.S., Consorzio Cooperative Costruzioni, Consorzio Stabile Techint Infrastrutture, Cte SpA, Costruzioni Giuseppe Montagna, Pessina Costruzioni, Sirti SpA)  
**Technical Director:** Eng. Vinicio Scerri  
**Site Manager and Safety Manager:** Eng. Guglielmo Paricello  
**Jobsite Management:** Infrastrutture Lombarde SpA  
**Site Manager:** Arch. Roberta Pasinetti  
**Coordinator in execution phase:** P.L. Damiano Romeo  
**Project Manager:** Eng. Antonio Giulio Rognoni  
**Period of construction:** 2005-2010

**New office of the Lombardy Region in Milan**  
**AWARD 2012- Illinois Institute of Technology "Best Tall Building Europe"**

**Requests for information and/or assistance:**  
send an e-mail to the Project Promotion and Assistance Office (UAPP) - [uapp@tecnochem.it](mailto:uapp@tecnochem.it)

Plc. consult our web-site  
[www.tecnochem.it](http://www.tecnochem.it)

TECNOCHEM ITALIANA SPA - Via Sona 2/4 - 24030 Barzana (BG) - [www.tecnochem.it](http://www.tecnochem.it) - [uapp@tecnochem.it](mailto:uapp@tecnochem.it)

**STABIL-tec®**

Please consult "newsletter" section  
in our web-site [www.tecnochem.it](http://www.tecnochem.it)

## TECNOCHEM

### News TECHNOLOGY

#### SUPERCONCRETES - innovation

- Porta Nuova in Milan
- Structures in Reinf. Concrete - Rck 85 MPa
- "Hines" Skyscraper - h= 231 m
- Foundations in Reinf. Concrete - thickness up to 5,5 m , very low heat of hydration
- "Ex Varesine" Skyscraper
- LEED® - Leadership Energy Environmental Design
- "Isola" Skyscraper



Realized with Innovative Admixtures and Technologies by TECNOCHEM ITALIANA for all the Concretes

**Tecnos® azur CB/ER especially formulated :**  
Polycarboxylated product with Very High Super-Plasticizer and Rheodynamic Performances at Very Low Water/Cement Ratio.

**PLASTARD® 18 :**  
Fluidizer and Integral Retarder of the Hydration Process.

**SHRINKO-tec® nano 4 :**  
Product for the Nanometric Reduction of the Hygrometric and Autogenous Shrinkage of Concretes.

**MICROBETON® POZ :**  
Additive based on Condensed Micro-Silica with Very High Pozzolanic Reactivity.

**MICROBETON® POZ/H :**  
Mineral powder admixture based on Active Silicas and Micronized Silicates with Very High Pozzolanic and Rheodynamic Reactivity.

**SCC VISCO :**  
Viscosizing and Stabilizing Additive for Self-Compacting Concretes.

**RAPI-tec® Flooring System :**  
Shrinkage free Micro-Concrete with very fast hardening : Foot Traffic after 1 hour, Full Traffic after 5 hours.

**INSULATOR-tec 10 :**  
Thermal Protective Joint for Reinforced Concretes.

LUNEDI Monday	MARTEDI Tuesday	MERCOLEDI Wednesday	GIOVEDI Thursday	VENERDI Friday	SABATO Saturday	DOMENICA Sunday
44 27	28	29	30	31	<b>01</b>	<b>02</b>
45 03	04	05	06	07	08	<b>09</b>
46 10	11	12	13	14	15	<b>16</b>
47 17	18	19	20	21	22	<b>23</b>
48 24	25	26	27	28	29	<b>30</b>

October | 14

Lun/Mon	Mar/Tue	Mer/Wed	Gio/Thu	Ven/Fri	Sab/Sat	Dom/Sun
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December | 14

Lun/Mon	Mar/Tue	Mer/Wed	Gio/Thu	Ven/Fri	Sab/Sat	Dom/Sun
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29	30	31				

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### "Porta Nuova Garibaldi" in Milan "HINES Skyscraper"

**General Contractor:**  
Colombo Costruzioni Spa

**Architectural Design:**  
Pelli Architects

**Executive Design:**  
Adrianus Associates  
Tecno Spa

**Structural Design:**  
MBC Associate Srl

**MILAN  
"PORTA NUOVA GARIBOLDI"  
HINES SKYSCRAPER**  
height = 231 meters

Innovative Admixtures and Technologies for all Concretes by TECNOCHEM ITALIANA in cooperation with ENCO srl

TECNOS® azur  
PLASTARD® 18  
SHRINKO-tec® nano 4  
MICROBETON® POZ  
MICROBETON® POZ/H  
SCC VISCO  
INSULATOR-tec 10  
RAPI-tec® Flooring system  
Concrete Producer Holcim srl

**INNOVATIVE TECHNOLOGIES !**

**STRUCTURES - PILLARS:**  
projected with self-compacting Rck 85 MPa, rheodynamic superplasticizer suitable up to 160 meters, with workability maintenance up to 180 minutes, low residual

**FOUNDATION:**  
with evolvesses from 7 meters up to 4.5 meters, self-compacting concrete Rck 40 MPa, with very low heat of hydration, projected and monitored for 45°C/2°C between the core and the casting surface also in winter season.

First Green Project LEED® in Italy  
TECNOCHEM IS LEED®  
Leadership Energy Environmental Design

### "Porta Nuova Varesine" in Milan "EX VARESINE Skyscraper"

**General Contractor:**  
Enco

**Architectural Design:**  
Holcim

**Executive Design:**  
Enco

**Structural Design:**  
Enco

**MILAN  
"PORTA NUOVA VARESINE"**

Innovative Admixtures and Technologies for all Concretes by TECNOCHEM ITALIANA in cooperation with ENCO srl

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PLASTARD® 18  
SHRINKO-tec® nano 4  
MICROBETON® POZ  
MICROBETON® POZ/H  
SCC VISCO  
INSULATOR-tec 10  
RAPI-tec® Flooring system  
Concrete Producer Holcim srl

First Green Project LEED® in Italy  
TECNOCHEM IS LEED®  
Leadership Energy Environmental Design

### "Porta Nuova Isola" in Milan "Bosco Verticale"

**General Contractor:**  
Zimmerliere s.r.l.

**Architectural Design:**  
Boschi Studio

**Executive Design:**  
TECNO SPA

**MILAN  
"PORTA NUOVA ISOLA -  
BOSCO VERTICALE"**

Innovative Admixtures and Technologies for all Concretes by TECNOCHEM ITALIANA in cooperation with ENCO srl

TECNOS® azur  
PLASTARD® 18  
SHRINKO-tec® nano 4  
MICROBETON® POZ  
MICROBETON® POZ/H  
SCC VISCO  
INSULATOR-tec 10  
RAPI-tec® Flooring system  
Concrete Producer Holcim srl

First Green Project LEED® in Italy  
TECNOCHEM IS LEED®  
Leadership Energy Environmental Design

**Request for information or project assistance :**  
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For more information visit our web-site  
[www.tecnochem.it](http://www.tecnochem.it)



Please consult "newsletter" section in our web-site [www.tecnochem.it](http://www.tecnochem.it)

Technology at service of art and art history.



The restoration as global project, with utmost attention for detail.

Service as culture of the company.

Many years of experience on the highest levels.

## SYSTEMS



Products, technologies and services for the monumental restoration

LUNEDI Monday	MARTEDI Tuesday	MERCOLEDI Wednesday	GIOVEDI Thursday	VENERDI Friday	SABATO Saturday	DOMENICA Sunday
48 01	02	03	04	05	06	07
49 08	09	10	11	12	13	14
50 15	16	17	18	19	20	21
51 22	23	24	25	26	27	28
52 29	30	31	01	02	03	04

Novembre | November | 14

Lun/Mon	Mar/Tue	Mer/Wed	Gio/Thu	Ven/Fri	Sab/Sat	Dom/Sun
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3	4	5	6	7	8	9
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24	25	26	27	28	29	30

Gennaio | January | 15

Lun/Mon	Mar/Tue	Mer/Wed	Gio/Thu	Ven/Fri	Sab/Sat	Dom/Sun
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19	20	21	22	23	24	25
26	27	28	29	30	31	

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**"COLLEONI" CHAPEL, in BERGAMO CITTA' ALTA: restored years 1998-1999**  
Consolidation, repair and conservation of various stone treatments, application of products.

**SANTA MARIA DELLE GRAZIE - BERGAMO**  
Restoration with water reconstruction and sealing, protective treatment on the sculpture in marble.

**RESTORATION OF STONES OF MC KENZIE CASTLE (GG)**  
Products used: SPARTITE AR/AR, SPARTITE AR/AR, SPARTITE AR/AR, SPARTITE AR/AR.

**BASILICA S. MARIA IN COLLETTAGGIO, L'AQUILA**  
Consolidation injection in the wall structure of the main facade.

**CONSERVATIVE AND CONSOLIDATING RESTORATION OF THE TOWER OF "CASTELLO DI MARTINENGO (BG)"**  
Consolidation, repair and conservation of various stone treatments, application of products.

**S. PAOLO DI ARGON XVI CENTURY - BERGAMO**  
Cleaning, reconstruction and sealing of marble. Treatments with final protective treatments.

**CHURCH OF THE HOLY CROSS - LECCE**  
Application of products used: SPARTITE AR/AR, SPARTITE AR/AR, SPARTITE AR/AR, SPARTITE AR/AR.

**"PALAZZO BREMBATI" - BERGAMO**  
Cleaning, reconstruction and sealing of marble. Treatments with final protective treatments.

**ANCIENT PALAZZO - MILAN**  
Cleaning, reconstruction and sealing of marble. Treatments with final protective treatments.

**NAPLES: ZEVALLOS STIGLIANO BUILDING (Tolodo street) Main Office INTESA BANK**  
Restoration of all external and internal facades and of the roof.

**CHURCH "CHIESA DI S. CASCIANO" IN MODIGLIANO (FAENZA)**  
Restoration of the brickwork with composite materials, carbon fibre, steel reinforcement and placement of the brickwork.

**CHURCH OF ALMENNO S.B. (BERGAMO)**  
Structural consolidation of the masonry with reinforced masonry.

**RESTORATION CAMPANARIA TOWER OF THE CATHEDRAL "SAN LORENZO" IN LUGANO, CANTON TICINO**  
The structural consolidation of some elements was mainly due to the phenomena of relative separation of substrate surface layers, often associated by swelling, leading to local or partial separation of parts of masonry (cracks and fractures), masonry (dry) cracks accompanied by spontaneous falling and peeling due to surface increases by chemical corrosion caused by water. The intervention consisted in the consolidation of stone and the integration of parts which could not be consolidated or repaired in situ.

**POSTE OFFICE "REGGIO CALABRIA BUILDING"**  
Conservative restoration of the existing stone structure for the roof, injection for bonding.

**SAINT PETER SQUARE - ROME**  
Restoration of the Baroque columns and Corinthian and decorative repair of the statues.

**ROMAN ARENA of "POLA" (Croatia) (II - IV century after Christ)**  
Restoration initiated in 2007, still ongoing.

**TEMPLE OF THE ROMAN EMPEROR DIOCLEZIANO (II century after Christ), Spalato (Croatia)**  
Restoration and consolidation initiated in 2005 (still in progress).

**Requests for information and/or Assistance:**  
U.A.P.P. - Ufficio Assistenza Promozione Progettuale - e-mail: [www@tecnochem.it](mailto:www@tecnochem.it)



Products, technologies and services for the monumental restoration






Please consult "newsletter" section in our web-site [www.tecnochem.it](http://www.tecnochem.it)

Construction Product Line

**DAL PROGETTO AL CANTIERE**

PER COSTRUZIONI DURABILI E SOSTENIBILI




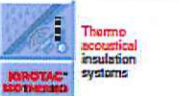


Progettare con le più avanzate ed innovative tecnologie nel rispetto delle Nuove Norme Tecniche per le Costruzioni D.M. 14 Gennaio 2008 e delle **NORMATIVE E DIRETTIVE ATTUALI ED UFFICIALI: Prodotti - Tecnologie - Servizi**

 Very High Durability Reinforced Concrete	- <b>TECNOLOGIE PER LE COSTRUZIONI DURABILI IN CALCESTRUZZO ARMATO</b> - <b>SUPERCALCESTRUZZI</b>	- <b>TECHNOLOGIES FOR THE DURABLE CONSTRUCTIONS IN REINFORCED CONCRETE</b> - <b>SUPERCONCRETES</b>
 Very High Durability Repair & Prevention Systems	<b>TECNOLOGIE PER LA PROTEZIONE, RIPARAZIONE E RINFORZO DEL CALCESTRUZZO ARMATO</b>	<b>TECHNOLOGIES FOR THE PROTECTION, REPAIR AND REINFORCEMENT OF REINFORCED CONCRETE</b>
 Multiple Corrosion Inhibiting Synergies	<b>SINERGIE MULTIPLE PER L'INIBIZIONE DELLA CORROSIONE NEI CLS ARMATI</b>	<b>MULTIPLE SYNERGIES FOR THE CORROSION INHIBITION IN REINFORCED CONCRETES</b>
 Reactive Fibres Technologies	<b>TECNOLOGIE PER MICROCALCESTRUZZI AD ELEVATISSIMA RESISTENZA, DUTTILITÀ, DEFORMABILITÀ</b>	<b>TECHNOLOGIES FOR MICROCONCRETES WITH VERY HIGH MECHANICAL STRENGTHS, DUCTILITY AND DEFORMABILITY</b>
 High Fracture Energy Technologies	<b>TECNOLOGIE PER MICROCALCESTRUZZI AD ELEVATISSIMA DUTTILITÀ E BASSO MODULO ELASTICO</b>	<b>TECHNOLOGIES FOR MICROCONCRETES WITH VERY HIGH DUCTILITY AND LOW ELASTICITY MODULUS</b>

**FROM PROJECT TO JOBSITE**

FOR DURABLE AND SUSTAINABLE CONSTRUCTIONS

Planning with the most advanced and innovative technologies according to the Italian New Technical Standards for Constructions M.D. 14th January 2008 and to the **CURRENT AND OFFICIAL EUROPEAN STANDARDS AND DIRECTIVES: Products - Technologies - Services**

	<b>RIPARAZIONI RAZIONALI E RINFORZI STRUTTURALI DEI CLS ARMATI E MURATURE CON MATERIALI COMPOSITI</b>	<b>RATIONAL REPAIRS AND STRUCTURAL REINFORCEMENT OF REINFORCED CONCRETES AND MASONRIES WITH COMPOSITE MATERIALS</b>
 Advanced Pavement Systems A.P.S. Engineering	<b>TECNOLOGIE PER LA COSTRUZIONE E LA RIPARAZIONE DI PAVIMENTI IN CALCESTRUZZO</b>	<b>TECHNOLOGIES FOR THE REPAIR AND CONSTRUCTION OF CONCRETE PAVEMENTS</b>
 Waterproofing dehumidification and waterproofing systems	- <b>TECNOLOGIE PER L'IMPERMEABILIZZAZIONE DI STRUTTURE INTERRATE</b> - <b>IMPERMEABILIZZAZIONE DI TERRAZZI-BALCONI</b> - <b>RISANAMENTO DELLE MURATURE</b>	- <b>TECNOLOGIES FOR THE WATERPROOFING OF UNDERGROUND STRUCTURES</b> - <b>WATERPROOFING OF TERRACES AND BALCONIES</b> - <b>RENEWAL OF MASONRIES</b>
 Thermo acoustical insulation systems	<b>TECNOLOGIE E PRODOTTI PER SISTEMI COSTRUTTIVI AD ELEVATISSIMA EFFICIENZA ENERGETICA</b>	<b>TECHNOLOGIES AND PRODUCTS FOR CONSTRUCTION SYSTEMS WITH VERY HIGH ENERGETIC EFFICIENCY</b>
 Products, technologies and services for the monumental restoration	<b>TECNOLOGIA AL SERVIZIO DELL'ARTE E DELLA STORIA DELL'ARTE</b>	<b>TECHNOLOGY AT SERVICE OF ART AND ART HISTORY</b>
 SPECIALIZED APPLICATORS "gli specialisti in cantiere" for building operations	<b>LINEA DI PRODOTTI DEDICATA AD APPLICATORI SPECIALISTI NEL RESTAURO, RISANAMENTO, FINITURE, IMPERMEABILIZZAZIONE</b>	<b>RANGE OF PRODUCTS DEDICATED TO SPECIALIZED APPLICATORS IN REPAIR, RESTORATION, FINISHING, WATERPROOFING</b>

**GENERAL MANAGEMENT HEADQUARTERS / FACTORY / LABS / R&D:**  
TECNOCHEM ITALIANA S.p.A. - 24030 Barzana (BG) - Via Sorte, 2/4  
info@tecnochem.it - www.tecnochem.it

**INTERNATIONAL MARKETING OFFICE  
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