

# Repair, Reinforcement and Restoration Systems

# 2023



**FIXA<sup>®</sup>**

**CONSTRUCTION CHEMICALS**





**FIXA**<sup>®</sup>  
CONSTRUCTION CHEMICALS

In today's world, modern buildings are meeting not only the housing needs of people but also respond to their aesthetics, comfort and safety needs. Technologically advanced buildings raise the living standards of their residents and ensure that they live a happy life. Construction chemicals play a key role in this comfort.

FIXA CONSTRUCTION CHEMICALS was founded in 2001 in Istanbul with the belief that advanced technology buildings can only be constructed with high technology chemicals.

FIXA is one of the leading companies in its industry with its investment in research and development. Today, FIXA Construction Chemicals has an annual capacity of 350,000 tons of powder and 5,000 tons of liquid chemical production in its 3 factories (Istanbul 2001, Adana 2009 and Ankara 2011). With its MS hybrid, polyurethane and silicone production facility completed in 2013, FIXA provides highest technology products to the Turkish construction industry.

IGLOO Thermal Insulation Systems, a subsidiary of FIXA, was established in Istanbul in 2011 and with an annual production capacity of 350,000 m<sup>3</sup>, it produces high quality white and grey EPS for the thermal insulation industry in Türkiye.

FIXA respects Quality Control Systems as well as R&D and continuous training, to keep the highest standards in production and meet customer needs and expectations. All raw and semi-finished materials which affect the product quality and the finished products are object to required controls before shipment. In addition to TSE and CE, FIXA also has the ISO 9001:2015 Quality Management System Certificate for its products as well as other quality control certificates demanded in many markets.

FIXA also offers service to its customers with expert and professional sales and support teams to ensure the right product usage and application.

FIXA considers all its dealers as its business partners. In addition to its large dealer network throughout the country, FIXA continuously increases its exports with the distributorship network it has established in more than 30 countries in 4 continents.

Today FIXA offers high quality products for the construction industries both in Türkiye and in the world, in 11 different groups: waterproofing systems, sealants, repair, reinforcement and restoration systems, floor systems, thermal insulation systems, concrete and mortar admixtures, mold release agents and curing compounds, cement based plasters and bonding mortars, tile and ceramic adhesives, tile grouts and technical adhesives in its fully automated production facilities in Istanbul, Ankara and Adana.



# OUR FACILITIES

## CONSTRUCTION CHEMICALS

### Istanbul Factory

Total Area	11,000 m <sup>2</sup>
Closed Area	6,000 m <sup>2</sup>
Production Capacity	150,000 ton/year (powder product) 5,000 ton/year (liquid product) 5,000 ton/year (MS-silicone sealant)



### Adana Factory

Total Area	3,500 m <sup>2</sup>
Closed Area	2,500 m <sup>2</sup>
Production Capacity	80,000 ton/year (powder product)



### Ankara Factory

Total Area	7,200 m <sup>2</sup>
Closed Area	4,800 m <sup>2</sup>
Production Capacity	120,000 ton/year (powder product)



## EPS

### Istanbul Factory

Total Area	4,500 m <sup>2</sup>
Closed Area	5,000 m <sup>2</sup>
Production Capacity	350,000 m <sup>3</sup> /year (EPS)



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# REPAIR, REINFORCEMENT and RESTORATION SYSTEMS





## REPAIRFIX® 5 Fine Repair Mortar

### Description:

Cement based, single component, polymer added, **fine aggregated** surface repair and smoothing mortar which offers a smooth finishing in concrete surfaces. Complies with **R2** class.

### Application Areas:

- Indoor and outdoor,
- Horizontal and vertical applications,
- Restorations,
- Repairing concrete and prefabricated concrete elements,
- Smoothing and repairing wall and ceiling plaster,
- Prior to painting, ceramic covering and waterproofing in order to have a flat and sound surface. Suitable for **static cracks up to 5 mm**.

### Advantages:

- Does not cause cracking and dusting.
- Just mixed with water and easy to apply.
- Dries quickly and allows utilization in a short period of time.
- Provides high adherence without primer.
- Resistant to water and freeze-thaw cycle.
- Can be produced as fiber reinforced upon request.

### Consumption:

1.5 kg/m<sup>2</sup> (for 1 mm thickness)

### Packaging:

25 kg kraft bags

Technical Properties	
Appearance	: Grey colored fine powder
Powder Density	: ~ 1.40 kg/L
Water Mixing Ratio	: 5 - 6 L water / 25 kg powder
Resting Period	: 5 - 10 minutes
Pot Life	: ~ 30 minutes
Application Temperature	: Between +5°C and +35°C
Bond Strength by Pull-off	: ≥ 0.8 N/mm <sup>2</sup> (EN 1542)
Flexural Strength	: ≥ 4 N/mm <sup>2</sup> (EN 196-1)
Compressive Strength	: ≥ 15 N/mm <sup>2</sup> (EN 12190)
Service Temperature	: - 20°C / +70°C

## REPAIRFIX® 5W Fine Repair Mortar (White)

### Description:

**White** cement based, single component, polymer added, **fine aggregated** surface repair and smoothing mortar which offers a smooth finishing in concrete surfaces. Complies with **R2** class.

### Application Areas:

- Indoor and outdoor,
- Horizontal and vertical applications,
- Restorations,
- Repairing concrete and prefabricated concrete elements,
- Smoothing and repairing wall and ceiling plaster,
- Prior to painting, ceramic covering and waterproofing in order to have a flat and sound surface. Suitable for **static cracks up to 5 mm**.

### Advantages:

- Decorative due to its white color.
- Does not cause cracking and dusting.
- Just mixed with water and easy to apply.
- Dries quickly and allows utilization in a short period of time.
- Provides high adherence without primer.
- Resistant to water and freeze-thaw cycle.
- Can be produced as fiber reinforced upon request.

### Consumption:

1.5 kg/m<sup>2</sup> (for 1 mm thickness)

### Packaging:

25 kg kraft bags

Technical Properties	
Appearance	: White colored fine powder
Powder Density	: ~ 1.35 kg/L
Water Mixing Ratio	: 5.5 - 6.5 L water / 25 kg powder
Resting Period	: 5 - 10 minutes
Pot Life	: ~ 30 minutes
Application Temperature	: Between +5°C and +35°C
Bond Strength by Pull-off	: ≥ 0.8 N/mm <sup>2</sup> (EN 1542)
Flexural Strength	: ≥ 4 N/mm <sup>2</sup> (EN 196-1)
Compressive Strength	: ≥ 15 N/mm <sup>2</sup> (EN 12190)
Service Temperature	: - 20°C / +70°C

## REPAIRFIX® 30 Coarse Repair Mortar

### Description:

Cement based, single component, polymer added, **coarse aggregated** surface repair and smoothing mortar which offers a smooth finishing in concrete surfaces. Complies with **R2** class.

### Application Areas:

- Indoor and outdoor,
- Horizontal and vertical applications,
- Restorations,
- Repairing concrete and prefabricated concrete elements,
- Smoothing and repairing wall and ceiling plaster,
- Prior to painting, ceramic covering and isolation in order to have a flat and sound surface. Suitable for **static cracks up to 30 mm**.

### Advantages:

- Does not cause cracking and dusting.
- Just mixed with water and easy to apply.
- Dries quickly and allows utilization in a short period of time.
- Provides high adherence without primer.
- Resistant to water and freeze-thaw cycle.
- Fiber reinforced.

### Consumption:

2 kg/m<sup>2</sup> (for 1 mm thickness)

### Packaging:

25 kg kraft bags

Technical Properties	
Appearance	: Grey colored coarse powder
Powder Density	: ~ 1.55 kg/L
Water Mixing Ratio	: 4.5 - 5 L water / 25 kg powder
Resting Period	: 5 - 10 minutes
Pot Life	: ~ 30 minutes
Application Temperature	: Between +5°C and +35°C
Bond Strength by Pull-off	: ≥ 0.8 N/mm <sup>2</sup> (EN 1542)
Flexural Strength	: ≥ 5 N/mm <sup>2</sup> (EN 196-1)
Compressive Strength	: ≥ 15 N/mm <sup>2</sup> (EN 12190)
Service Temperature	: - 30°C / +80°C



## REPAIRFIX® 30W Coarse Repair Mortar (White)

### Description:

**White** cement based, single component, polymer added, **coarse aggregated** surface repair and smoothing mortar which offers a smooth finishing in concrete surfaces. Complies with **R2** class.

### Application Areas:

- Indoor and outdoor,
- Horizontal and vertical applications,
- Restorations,
- Repairing concrete and prefabricated concrete elements,
- Smoothing and repairing wall and ceiling plaster,
- Prior to painting, ceramic covering and isolation in order to have a flat and sound surface. Suitable for **static cracks up to 30 mm**.

### Advantages:

- Decorative due to its white color.
- Does not cause cracking and dusting.
- Just mixed with water and easy to apply.
- Dries quickly and allows utilization in a short period of time.
- Provides high adherence without primer.
- Resistant to water and freeze-thaw cycle.
- Fiber reinforced.

### Consumption:

2 kg/m<sup>2</sup> (for 1 mm thickness)

### Packaging:

25 kg kraft bags

### Technical Properties

Appearance	: White colored coarse powder
Powder Density	: ~ 1.50 kg/L
Water Mixing Ratio	: 5 - 5.5 L water / 25 kg powder
Resting Period	: 5 - 10 minutes
Pot Life	: ~ 30 minutes
Application Temperature	: Between +5°C and +35°C
Bond Strength by Pull-off	: ≥ 0.8 N/mm <sup>2</sup> (EN 1542)
Flexural Strength	: ≥ 5 N/mm <sup>2</sup> (EN 196-1)
Compressive Strength	: ≥ 15 N/mm <sup>2</sup> (EN 12190)
Service Temperature	: -30°C / +80°C

## REPAIRGROUT EXPAN T60 High Strength Shrinkage Compensated Grout Mortar

### Description:

Cement based, single component, **shrinkage compensated, thixotropic, high strength** structural grout mortar. Complies with **R4** class.

### Application Areas:

- Indoor and outdoor,
- Horizontal, vertical and overhead repair applications,
- Repairs that require early high strength,
- Repairing reinforced concrete construction elements and floors,
- Repairing concrete with segregation,
- Grouting joints that exist between old and new concrete,
- Grouting tie-rod holes, core holes and beveling applications,
- Grouting the gaps that exist around the installation pipes and elements.

### Advantages:

- Does not shrink. In thixotropic consistency.
- Provides high compressive strength.
- Resistant to impacts and vibrations.
- Provides high adherence to concrete and reinforcement.
- Resistant to water and frost.
- Does not contain corrosive materials.
- Just mixed with water, easy to apply.

### Consumption:

Approximately 20 kg/m<sup>2</sup> (for 10 mm thickness)

### Packaging:

25 kg kraft bags

### Technical Properties

Appearance	: Grey colored powder
Powder Density	: ~ 1.45 kg/L
Water Mixing Ratio	: 3.9 L water / 25 kg powder
Resting Period	: 5 - 10 minutes
Pot Life	: ~ 45 minutes
Application Temperature	: Between +5°C and +35°C
Compressive Strength	: 1 day : ≥ 30 N/mm <sup>2</sup> (EN 12190) 7 days : ≥ 50 N/mm <sup>2</sup> (EN 12190) 28 days : ≥ 60 N/mm <sup>2</sup> (EN 12190)
Application Thickness (Per Layer)	: Min. 10 mm, Max. 50 mm
Walk-on Time	: 24 hours

## REPAIRGROUT EXPAN-S T60 High Strength Sulphate Resistant Shrinkage Compensated Grout Mortar

### Description:

Cement based, single component, **sulphate resistant, shrinkage compensated, thixotropic, high strength** structural grout mortar. Complies with **R4** class.

### Application Areas:

- Indoor and outdoor,
- Horizontal, vertical and overhead repair applications,
- Repairing and protecting reinforced concrete surfaces which are exposed to sulphate and corrosive salts,
- Repairing and protecting bridges, canals and ports thanks to its resistance to the sulphate,
- Maintenance and repair of marine buildings,
- Repairs that require early high strength,
- Repairing reinforced concrete construction elements and floors,
- Repairing concrete with segregation,
- Grouting joints that exist between old and new concrete,
- Grouting tie-rod holes and core holes,
- Grouting the gaps that exist around the installation pipes and elements.

### Advantages:

- Resistant to sulphate and corrosive salt attacks, protects reinforced concrete buildings against segregation.
- Does not shrink. It is in thixotropic consistency.
- Provides high compressive strength.
- Resistant to impacts and vibrations.
- Provides high adherence to concrete and reinforcement.
- Resistant to water and frost.
- Does not contain corrosive materials.
- Just mix with water, easy to apply.

### Consumption:

Approximately 20 kg/m<sup>2</sup> (for 10 mm thickness)

### Packaging:

25 kg kraft bags

### Technical Properties

Appearance	: Grey colored powder
Powder Density	: ~ 1.45 kg/L
Water Mixing Ratio	: 3.9 L water / 25 kg powder
Resting Period	: 5 - 10 minutes
Pot Life	: ~ 45 minutes
Application Temperature	: Between +5°C and +35°C
Compressive Strength	: 1 day : ≥ 30 N/mm <sup>2</sup> (EN 12190) 7 days : ≥ 50 N/mm <sup>2</sup> (EN 12190) 28 days : ≥ 60 N/mm <sup>2</sup> (EN 12190)
Application Thickness (Per Layer)	: Min. 10 mm, Max. 50 mm
Walk-on Time	: 24 hours



## REPAIRGROUT EXPAN T45

### High Strength Shrinkage Compensated Grout Mortar

#### Description:

Cement based, single component, **shrinkage compensated, thixotropic, high strength** structural grout mortar. Complies with **R4** class.

#### Application Areas:

- Indoor and outdoor,
- Horizontal, vertical and overhead repair applications,
- Repairs that require early high strength,
- Repairing reinforced concrete, prefabricated construction elements and floors,
- Repairing concrete with segregation,
- Grouting joints that exist between old and new concrete,
- Grouting tie-rod holes, core holes and beveling applications,
- Grouting the gaps that exist around the installation pipes and elements,
- Reinforcing the connections of the curtains and the beams.

#### Advantages:

- Does not shrink. In thixotropic consistency.
- Provides high compressive strength, can be used in structural repairs.
- Resistant to impacts and vibrations.
- Provides high adherence to concrete and reinforcement.
- Resistant to water and frost.
- Does not contain corrosive materials.
- Just mixed with water, easy to apply.
- Does not cause segregation.
- Economical.

#### Consumption:

Approximately 20 kg/m<sup>2</sup> (for 10 mm thickness)

#### Packaging:

25 kg kraft bags

Technical Properties	
Appearance	: Grey colored powder
Powder Density	: ~ 1.45 kg/L
Water Mixing Ratio	: 3.9 L water / 25 kg powder
Resting Period	: 5 - 10 minutes
Pot Life	: ~ 30 minutes
Application Temperature	: Between +5°C and +35°C
Compressive Strength	: 1 day : ≥ 30 N/mm <sup>2</sup> (EN 12190) 7 days : ≥ 35 N/mm <sup>2</sup> (EN 12190) 28 days : ≥ 45 N/mm <sup>2</sup> (EN 12190)
Application Thickness (Per Layer)	: Min. 10 mm, Max. 50 mm
Walk-on Time	: 24 hours

## REPAIRGROUT EXPAN T35

### High Strength Shrinkage Compensated Grout Mortar

#### Description:

Cement based, single component, **shrinkage compensated, thixotropic, high strength** structural grout mortar. Complies with **R3** class.

#### Application Areas:

- Indoor and outdoor,
- Horizontal, vertical and overhead repair applications,
- Repairing reinforced concrete, prefabricated construction elements and floors,
- Repairing concrete with segregation, cracks and abrasion,
- Grouting joints that exist between old and new concrete,
- Grouting the gaps that exist around the installation pipes and elements.

#### Advantages:

- Does not shrink. In thixotropic consistency.
- Provides high compressive strength.
- Resistant to impacts and vibrations.
- Resistant to water and frost.
- Does not cause corrosion.
- Just mixed with water, easy to apply.
- Does not cause segregation.
- Economical.

#### Consumption:

Approximately 20 kg/m<sup>2</sup> (for 10 mm thickness)

#### Packaging:

25 kg kraft bags

Technical Properties	
Appearance	: Grey colored powder
Powder Density	: ~ 1.45 kg/L
Water Mixing Ratio	: 3.9 L water / 25 kg powder
Resting Period	: 5 - 10 minutes
Pot Life	: ~ 30 minutes
Application Temperature	: Between +5°C and +35°C
Compressive Strength	: 1 day : ≥ 20 N/mm <sup>2</sup> (EN 12190) 7 days : ≥ 30 N/mm <sup>2</sup> (EN 12190) 28 days : ≥ 35 N/mm <sup>2</sup> (EN 12190)
Application Thickness (Per Layer)	: Min. 10 mm, Max. 50 mm
Walk-on Time	: 24 hours

## REPAIRGROUT GP F65

### Shrinkage Compensated Flowable Grout and Anchoring Mortar

#### Description:

Cement based, single component, **shrinkage compensated, high strength** grout and anchoring mortar in **fluid consistency**. Complies with **R4** class, does not segregate or bleed.

#### Application Areas:

- Indoor and outdoor,
- Anchoring and bedding of machinery feet,
- As a fluid mortar, in hard to access places,
- Repairs that require early high strength,
- Filling and strengthening the gaps and voids between column and beam conjunctions,
- Repairs of concrete that is exposed to segregation by using mold.

#### Advantages:

- Due to its fluidity, it can grout gaps which are hard to access and can be applied easily with a pump.
- Prevents shrinkage after setting.
- High strength and fluid concrete can be obtained by mixing with number I clean aggregate by 25%.
- Has early compressive strength.
- Resistant to oil and water permeability due to its high density.
- Does not contain metallic aggregate and chloride.
- Just mixed with water and easy to apply.

#### Consumption:

Appr. 18 - 20 kg/m<sup>2</sup> (for 10 mm thickness)  
2 kg powder is used for 1 L mortar.

#### Packaging:

20 kg kraft bags

Technical Properties	
Appearance	: Grey colored powder
Powder Density	: ~ 1.40 kg/L
Water Mixing Ratio	: 3.36 L water / 20 kg powder
Resting Period	: 2 - 3 minutes
Application Temperature	: Between +5°C and +35°C
Compressive Strength	: 1 day : ≥ 30 N/mm <sup>2</sup> (EN 12190) 7 day : ≥ 50 N/mm <sup>2</sup> (EN 12190) 28 days : ≥ 65 N/mm <sup>2</sup> (EN 12190)
Application Thickness / Layer	: Min. 10 mm, Max. 50 mm
Walk-on Time	: 24 hours



## REPAIRGROUT GP-S F65

### Shrinkage Compensated Flowable Sulphate Resistant Grout and Anchoring Mortar

#### Description:

Cement based, single component, **shrinkage compensated, high strength** grout and anchoring mortar in **fluid consistency**. Complies with **R4** class, does not segregate or bleed. **Resistant to sulphate**.

#### Application Areas:

- Indoor and outdoor,
- As a fluid mortar, in hard to reach areas (under soil and water etc.) of reinforced concrete buildings which are exposed to sulphate and corrosive salts,
- Repairing bridges, canals and ports thanks to its resistance to the sulphate,
- Maintenance and repair of marine buildings,
- Anchoring and bedding of machinery feet
- Repairs that require early high strength,
- Filling and strengthening the gaps and voids between column and beam conjunctions,
- Repairs of concrete that is exposed to segregation by using mold.

#### Advantages:

- Resistant to sulphate and corrosive salt attacks, protects reinforced concrete buildings against segregation.
- Due to its fluidity, it can grout hard to access gaps and can be applied easily with a pump.
- Prevents shrinkage after setting.
- High strength and fluid concrete can be obtained by mixing with number I clean aggregate by 25%.
- Has early compressive strength.
- Resistant to oil and water permeability due to its high density.
- Does not contain metallic aggregate and chloride.
- Just mixed with water, easy to apply.

#### Consumption:

Appr. 18 - 20 kg/m<sup>2</sup> (for 10 mm thickness)  
2 kg powder is used for 1 L mortar.

#### Packaging:

20 kg kraft bags

Technical Properties	
Appearance	: Grey colored powder
Powder Density	: ~ 1.40 kg/L
Water Mixing Ratio	: 3.36 L water / 20 kg powder
Resting Period	: 2 - 3 minutes
Application Temperature	: Between +5°C and +35°C
Compressive Strength	: 1 day : ≥ 30 N/mm <sup>2</sup> (EN 12190) : 7 day : ≥ 50 N/mm <sup>2</sup> (EN 12190) : 28 days : ≥ 65 N/mm <sup>2</sup> (EN 12190)
Application Thickness / Layer	: Min. 10 mm, Max. 50 mm
Walk-on Time	: 24 hours



## REPAIRGROUT GP F50

### Shrinkage Compensated Flowable Grout and Anchoring Mortar

#### Description:

Cement based, single component, **shrinkage compensated, high strength** grout and anchoring mortar in **fluid consistency**. Complies with **R4** class, does not segregate or bleed.

#### Application Areas:

- Indoor and outdoor,
- Anchoring and bedding of machinery feet,
- As a fluid mortar, in hard to access places,
- Repairs that require early high strength,
- Filling and strengthening the gaps and voids between column and beam conjunctions,
- Repairs of concrete that is exposed to segregation by using mold.

#### Advantages:

- Due to its fluidity, it can grout gaps which are hard to access and can be applied easily with a pump.
- Prevents shrinkage after setting.
- High strength and fluid concrete can be obtained by mixing with number I clean aggregate by 25%.
- Has early compressive strength.
- Resistant to oil and water permeability due to its high density.
- Does not contain metallic aggregate and chloride.
- Economical.
- Just mixed with water and easy to apply.

#### Consumption:

Appr. 18 - 20 kg/m<sup>2</sup> (for 10 mm thickness)  
2 kg powder is used for 1 L mortar.

#### Packaging:

20 kg kraft bags

Technical Properties	
Appearance	: Grey colored powder
Powder Density	: ~ 1.40 kg/L
Water Mixing Ratio	: 3.36 L water / 20 kg powder
Resting Period	: 2 - 3 minutes
Application Temperature	: Between +5°C and +35°C
Compressive Strength	: 1 day : ≥ 30 N/mm <sup>2</sup> (EN 12190) : 7 day : ≥ 35 N/mm <sup>2</sup> (EN 12190) : 28 days : ≥ 50 N/mm <sup>2</sup> (EN 12190)
Application Thickness / Layer	: Min. 10 mm, Max. 50 mm
Walk-on Time	: 24 hours



## REPAIRGROUT GP F40

### Shrinkage Compensated Flowable Grout and Anchoring Mortar

#### Description:

Cement based, single component, **shrinkage compensated, high strength** grout and anchoring mortar in **fluid consistency**. Complies with **R3** class, does not segregate or bleed.

#### Application Areas:

- Indoor and outdoor,
- As a fluid mortar, in hard to access places,
- Repairs that require early high strength,
- Filling and strengthening the gaps and voids between column and beam conjunctions,
- Repairs of concrete that is exposed to segregation by using mold.

#### Advantages:

- Due to its fluidity, it can grout gaps which are hard to access and can be applied easily with a pump.
- Prevents shrinkage after setting.
- High strength and fluid concrete can be obtained by mixing with number I clean aggregate by 25%.
- Has high compressive strength.
- Does not contain metallic aggregate and chloride.
- Economical.
- Just mixed with water and easy to apply.

#### Consumption:

Appr. 18 - 20 kg/m<sup>2</sup> (for 10 mm thickness)  
2 kg powder is used for 1 L mortar.

#### Packaging:

20 kg kraft bags

Technical Properties	
Appearance	: Grey colored powder
Powder Density	: ~ 1.40 kg/L
Water Mixing Ratio	: 3.36 L water / 20 kg powder
Resting Period	: 2 - 3 minutes
Application Temperature	: Between +5°C and +35°C
Compressive Strength	: 1 day : ≥ 20 N/mm <sup>2</sup> (EN 12190) : 7 day : ≥ 25 N/mm <sup>2</sup> (EN 12190) : 28 days : ≥ 40 N/mm <sup>2</sup> (EN 12190)
Application Thickness / Layer	: Min. 10 mm, Max. 50 mm
Walk-on Time	: 24 hours



## REPAIRGROUT® FAST

### Fast Setting Shrinkage Compensated Flowable Grout Mortar

#### Description:

Cement based, single component, **shrinkage compensated, fast setting, high strength** grout mortar in **fluid** consistency which does not segregate or bleed. Complies with **R4** class.

#### Application Areas:

- Indoor and outdoor,
- Elevating manhole covers,
- Assembling curbstones and borders,
- Anchoring poles and city furnitures,
- Anchoring machinery feet,
- Repairing field concrete, runways and helipads,
- Areas where quick usage and fast strength is required,
- Assembling the concrete elements of prefabricated constructions,
- Filling the gaps in places that are hard to access.

#### Advantages:

- Setting is completed not later than 20 minutes. Can be open to use in 1-2 hours.
- Due to its fluidity, it can grout gaps and can be applied easily with a pump.
- Prevents shrinkage after setting.
- High strength and fluid concrete can be obtained by mixing with number I clean aggregate by 25%, if required.
- Resistant to oil and water permeability thanks to its high density.
- Does not contain metallic aggregate and chloride.
- Just mixed with water and easy to apply.

#### Consumption:

Appr. 20 kg/m<sup>2</sup> (for 10 mm thickness)

#### Packaging:

25 kg kraft bags

Technical Properties	
Appearance	: Grey colored powder
Powder Density	: ~ 1.40 kg/L
Water Mixing Ratio	: 3.25 - 4 L water / 25 kg powder
Application Temperature	: Between +5°C and +35°C
Compressive Strength	: 1 hour : ≥ 10 N/mm <sup>2</sup> (EN 12190) 28 days : ≥ 45 N/mm <sup>2</sup> (EN 12190)
Application Thickness / Layer	: Min. 10 mm, Max. 50 mm
Walk-on Time	: 2 hours

## RENOVAFIX® HK

### Natural Hydraulically Lime (NHL 3.5)

#### Description:

**Natural hydraulic lime** for **renovation of masonry buildings**, repairing plaster and as a binding in historical building repairing mortars like special Horasan mortar.

#### Application Areas:

- Indoor and outdoor,
- Restoration of historical buildings,
- Repairing plaster and wall joints,
- Repair mortars,
- Repairing the cracks of masonry buildings, arches, domes and vaults,
- Stone, brick, and masonry works of historical buildings,
- Preparing special Horasan plaster.

#### Advantages:

- Does not contain cement.
- Water vapor permeable, allows the surface to breathe.
- Has 3.5 N/mm<sup>2</sup> compressive strength.
- Easy to prepare and apply.
- Compatible with historical buildings.
- Suitable to use in restoration where optimum pressure is required.
- Can be used both in plasters and in repair mortars.
- The most appropriate natural hydraulic lime for restoration of historical buildings.

#### Consumption:

Varies depending on the application.

#### Packaging:

20 kg kraft bags

#### Technical Properties

Appearance	: Off white colored powder
Powder Density	: ~ 0.60 ± 0.1 kg/L
Water Mixing Ratio	: Varies depending on the fillers and other additives
Application Temperature	: Between +5°C and +35°C
Compressive Strength	: ≥ 3.5 N/mm <sup>2</sup> (EN 1015-11)

## RENOVAFIX® PL

### Pozzolanic Lime Based Historical Building Repair Mortar

#### Description:

**Pozzolanic lime** based, single component, fiber supported, cement-free, high strength, thixotropic repair mortar for historical buildings.

#### Application Areas:

- Indoor and outdoor,
- Repairing and reinforcing historical masonry buildings,
- Repairing stone, brick or alternating textured walls for reinforcement,
- Repairing or reconstructing masonry buildings, domes and vaults,
- Repairing and reinforcing historical foundation.

#### Advantages:

- Does not contain cement.
- Easy to prepare and apply.
- Has high mechanical resistance.
- Has high adhesion strength.
- Water vapor permeable, allows the surface to breathe.
- Has low capillary water absorption.
- Does not crack since it contains fibers.
- Resistant to efflorescence.
- Environment friendly.
- The most appropriate product for repairing historical buildings since the water soluble salts in its content is limited.

#### Consumption:

16 -18 kg/m<sup>2</sup> (for 10 mm thickness)

#### Packaging:

20 kg kraft bags

#### Technical Properties

Appearance	: Light beige colored powder
Powder Density	: 1.01 ± 0.1 kg/L
Water Mixing Ratio	: 4.4 - 4.8 L water / 20 kg powder
Resting Period	: ~ 5 minutes
Pot Life	: ~ 30 minutes
Application Temperature	: Between +5°C and +35°C
Compressive Strength	: M10 (EN 1015-11)
Application Thickness	: 10 - 50 mm
Complete Curing Time	: 7 days





## RENOVAFIX® NL

### Natural Hydraulic Lime Based Ready-Mixed Plaster

#### Description:

**Natural hydraulic lime** based, single component, **cement-free**, fiber supported, special restoration plaster mortar for historical masonry buildings.

#### Application Areas:

- Indoor and outdoor,
- Smoothing plaster surfaces of historical buildings,
- Plastering the walls for restoration,
- Repairing the plastered surfaces and joints of natural stones and brick walls.

#### Advantages:

- Does not contain cement.
- Easy to prepare and apply.
- Adheres strongly on plastered surfaces.
- Water vapor permeable, allows the surface to breathe.
- Has low capillary water absorption.
- Does not crack since it contains fibers.
- Resistant to efflorescence.
- Environment friendly, does not contain asbestos.
- The most appropriate product for restoration of historical buildings since the water soluble salts in its content is limited.

#### Consumption:

Approximately 1.6 - 1.8 kg/m<sup>2</sup> (for 1 mm thickness)

#### Packaging:

20 kg kraft bags

#### Technical Properties

Appearance	: Light beige colored powder
Powder Density	: 1.00 ± 0.1 kg/L
Water Mixing Ratio	: 4.8 - 5.2 L water / 20 kg powder
Resting Period	: ~ 5 minutes
Pot Life	: ~ 30 minutes
Application Temperature	: Between +5°C and +35°C
Compressive Strength	: CS III (EN 1015-11)
Capillary Water Absorption	: W <sub>0</sub> (EN 1015-18)
Application Thickness	: 2 - 20 mm
Complete Curing Time	: 7 days



## REPOX® 301

### Epoxy Repair Mortar

#### Description:

**Epoxy** resin based, three component epoxy **repair** mortar, resistant to corrosive chemicals. Used in repairing concrete surfaces which are exposed to mechanical impacts.

#### Application Areas:

- Indoor and outdoor,
- Repairing reinforced concrete,
- Protecting and repairing subsurface structures,
- Repairing and maintaining marine structures (such as docks, bridges),
- Assembling and repairing crane beams and base plates that require high strength,
- Repairing ceilings, columns and beams.

#### Advantages:

- Provides high mechanical strength.
- Highly resistant to abrasion and impact.
- Resistant to chemicals, water impermeable.
- Does not require solvent.

#### Consumption:

Appr. 1.9 kg/m<sup>2</sup> (for 1 mm thickness)

#### Packaging:

Sets of 5 kg and 25 kg (A+B+C) tin cans

#### Technical Properties

Components	: A: Epoxy resin, B: Hardener, C: Quartz aggregate
Color	: Sand grey
Mixture Rate (5 kg)	: A: 510 g, B: 240 g, C: 4.25 kg
Mixture Rate (25 kg)	: A: 2.55 kg, B: 1.20 kg, C: 21.25 kg
Mixture Density	: ~ 1.9 kg/L
Application Temp.	: Between +10°C and +30°C
Compressive Strength	: ≥ 80 N/mm <sup>2</sup> 7 days (EN 12190)
Flexural Strength	: ≥ 35 N/mm <sup>2</sup> 7 days (EN 196-1)
Bond Strength by Pull-off	: ≥ 2 N/mm <sup>2</sup> 7 days (EN 1542)
Modulus of Elasticity	: 155,000 kgf/cm <sup>2</sup> (EN 13412)
Pot Life	: ~ 50 minutes
Complete Curing Time	: 7 days (20°C)
Service Temperature	: -15°C / +60°C



## REPOX® 302

### Epoxy Anchoring and Mounting Mortar

#### Description:

**Epoxy** resin based, three component epoxy **anchoring** and **mounting** mortar, highly resistant to corrosion. Used for anchoring bolts and irons to concrete, rock or walls.

#### Application Areas:

- Indoor and outdoor,
- Fixing connecting rods on reinforced concrete,
- Fixing anchoring elements,
- Repairing wide cracks,
- Highways, bridges, viaducts, dams,
- Fixing guardrails on bridges, steel ladders, cranes and viaducts,
- Anchoring and mounting all types of metal and steel components on reinforced concrete, metal and steel surfaces.

#### Advantages:

- Provides high and fast mechanical strength.
- Adheres perfectly to concrete and steel.
- Resistant to vibrations.
- Resistant to chemicals and corrosion.
- Water impermeable.
- Can be produced in thixotropic or fluid consistency upon request.
- Has high load bearing capacity
- Does not shrink.

#### Consumption:

For appr. 1.70 kg/m<sup>2</sup> (for 1 mm thickness)  
8.3 L mortar is prepared with 15 kg product. The consumption on hole and bolt size are given below (in g)

Hole Diameter (mm)	Bolt Diameter (mm)							
	12	16	20	25	32	38	44	51
20	36							
25	68	52	32					
32	124	109	88	56				
38		168	148	116	59			
45			230	198	141	82		
51				279	223	163	94	
57				371	314	255	186	92
64				490	434	375	305	211
76					671	612	543	449

#### Packaging:

Sets of 5 kg and 15 kg (A+B+C) tin cans

#### Technical Properties

Components	: A: Epoxy resin, B: Hardener, C: Quartz aggregate
Color	: Sand grey
Mixture Rate (5 kg)	: A: 1.19 kg, B: 560 g, C: 3.25 kg
Mixture Rate (25 kg)	: A: 3.57 kg, B: 1.68 kg, C: 9.75 kg
Mixture Density	: ~ 1.7 kg/L
Application Temp.	: Between +10°C and +30°C
Compressive Strength	: ≥ 75 N/mm <sup>2</sup> 7 days (EN 12190)
Flexural Strength	: ≥ 15 N/mm <sup>2</sup> 7 days (EN 196-1)
Bond Strength by Pull-off	: ≥ 2 N/mm <sup>2</sup> 7 days (EN 1542)
Modulus of Elasticity	: 100,000 kgf/cm <sup>2</sup> (EN 13412)
Pot Life	: ~ 50 minutes
Complete Curing Time	: 7 days (20°C)
Service Temperature	: -15°C / +60°C



## REPOX® 310

### Epoxy Repair, Adhesive and Assembly Mortar

#### Description:

Epoxy resin based, **solvent free**, thixotropic, double component structural repair, adhesive and assembly mortar.

#### Application Areas:

- Indoor and outdoor,
- Repairing reinforced concrete such as columns, beams and shear walls,
- Repairing wide cracks,
- Bonding ceramics, hard natural stones, mortars and brick walls,
- Bonding steel, iron, wood and glass.

#### Advantages:

- Does not shrink and provides high mechanical strength.
- Very resistant to abrasion and impact.
- Resistant to chemicals. Has liquid and gas impermeability properties.
- Does not contain solvent.
- Does not require primer and bonds well to many structural materials.
- Thixotropic and does not sag in vertical applications.
- Provides adherence on dry and slightly damp surfaces.

#### Consumption:

For 1.8 - 3.5 kg/m<sup>2</sup> (for 1 - 2 mm thickness) 3.3 L mortar is prepared with 6 kg product.

#### Packaging:

Sets of 6 kg (A+B) tin cans

Technical Properties	
Components	: A: Epoxy resin, B: Hardener
Color	: A: White B: Black
Mixture Rate	: A: 4.5 kg, B: 1.5 kg
Mixture Density	: ~ 1.80 kg/L
Application Temperature	: Between +10°C and +30°C
Compressive Strength	: ≥ 65 N/mm <sup>2</sup> 7 days (EN 12190)
Flexural Strength	: ≥ 25 N/mm <sup>2</sup> 7 days (EN 196-1)
Bond Strength by Pull-off	: ≥ 2 N/mm <sup>2</sup> 7 days (EN 1542)
Pot Life	: ~ 50 minutes
Complete Curing Time	: 7 days (20°C)
Service Temperature	: -15°C / +60°C

## REPOX® 340

### Polyester Chemical Anchoring Adhesive

#### Description:

Multi-purpose, **polyester resin** based, double component chemical anchoring adhesive in cartridge. Cures fast and has high strength.

#### Application Areas:

- Indoor and outdoor,
- Mounting machines on vertical and horizontal surfaces,
- Fixing the irons,
- Reinforcing the buildings,
- Mounting of radiators and pipes,
- Mounting of awning, shutter systems, canopy and signboards,
- Mounting of billboards and lighting systems,
- Fixing of bolts, large size screws, studs, satellite antennas, banisters and similar materials to the concrete or stone surfaces.

#### Advantages:

- Economical.
- Cures fast and has high strength.
- Can be applied easily on concrete, solid and hollow bricks, natural stones, marble, granite and rocks.
- Can be applied on vertical and horizontal surfaces.
- Thixotropic, does not sag.
- Resistant to heat up to 80°C.
- Resistant to most of the chemicals.

#### Consumption:

Varies depending on the volume of the application area.

#### Packaging:

345 ml cartridges

Technical Properties	
Mixture Density	: 1.57 ± 0.10 g/cm <sup>3</sup>
Application Temperature	: Between +5°C and 30°C
Compressive Strength	: 83 N/mm <sup>2</sup> (TS EN 12190)
Flexural Strength	: 30 N/mm <sup>2</sup> (TS EN ISO 178)
Modulus of Elasticity	: 4100 N/mm <sup>2</sup> (TS EN ISO 178)
Working Time	: 5 - 10 minutes (23°C, 50% humidity)
Curing Time	: 45 minutes (23°C, 50% humidity)
Complete Curing Time	: 24 hours (20°C)
Service Temperature	: -40°C / +80°C

## REPOX® 400

### Epoxy Based Concrete Reinforcement Resin and Adhesive

#### Description:

Double component, solvent-free, high strength, orange colored, epoxy-based special adhesive specially developed for **CARBOFIX** Systems.

#### Application Areas:

- As an adhesive for carbon fiber reinforcement fabrics and plates and concrete reinforcement resin in structures to be reinforced with **CARBOFIX** Systems.
- Concrete, natural stone, brick, wood, composite fiber lamination manufacturing, steel and metal surfaces,
- As binder in epoxy based leveling mortars,
- As primer before epoxy and polyurethane coating and reinforcement systems,
- As a coating, bonding and concrete reinforcement resin.

#### Advantages:

- Suitable for carbon fiber lamination applications.
- Easy to apply.
- Penetrates well.
- Solvent-free, gel-like consistency.
- High load carrying capacity.
- High mechanical and chemical resistance.
- Very high adhesion strength.
- Low viscosity.

#### Consumption:

1.8 kg/m<sup>2</sup> for the first layer and 0.8 kg/m<sup>2</sup> for each subsequent layer of fiber. (REPOX 400 A+B mixture consumption varies depending on the level of reinforcement, installation and bonding. Under low temperature conditions, the viscosity may increase and therefore the consumption may also increase).

#### Packaging:

Sets of 5 kg or 20 kg (A+B) tin cans

Technical Properties	
Appearance - Color	: Component A (Resin) : Liquid - Transparent Component B (Hardener) : Liquid - Orange
Density	: Mixture Density: 1.06 kg/Lt (± %3)
Mixing Ratio (5 kg)	: A Component: 3.4 kg, B Component: 1.6 kg
Mixing Ratio (20kg)	: A Component: 13.6 kg, B Component: 6.4 kg
Viscosity	: Mixture: 1.000 - 2.000 MPa
Shore D Hardness	: 7 days: 80 - 90 (ASTM D2240-05)
Compressive Strength	: 28 days: > 80 N/mm <sup>2</sup> (ASTM D695-10)
Flexural Strength	: 7 days: > 25 N/mm <sup>2</sup> (ASTM D790)
Adhesion Strength	: 7 days: > 3 N/mm <sup>2</sup> (Beton) (ASTM D7234)
Abrasion Resistance	: 7 days: < 45 mg (CS 10/1000/1000) (ASTM D4060-14)
Remaining Time of Use After Mixing	: 30 - 50 minutes
Total Curing Time	: 7 days



## REPOX® 405 Epoxy Based Concrete Reinforcement Resin and Adhesive

### Description:

Double component, solvent-free, high strength, transparent colored, epoxy-based special adhesive specially developed for **CARBOFIX** Systems.

### Application Areas:

- As an adhesive for carbon fiber reinforcement fabrics and plates and concrete reinforcement resin in structures to be reinforced with **CARBOFIX** Systems.
- Concrete, natural stone, brick, wood, composite fiber lamination manufacturing, steel and metal surfaces,
- As binder in epoxy based leveling mortars,
- As primer before epoxy and polyurethane coating and reinforcement systems,
- As a coating, bonding and concrete reinforcement resin.

### Advantages:

- Suitable for carbon fiber lamination applications.
- Easy to apply.
- Penetrates well.
- Solvent-free, gel-like consistency.
- High load carrying capacity.
- High mechanical and chemical resistance.
- Very high adhesion strength.
- Low viscosity.

### Consumption:

1.8 kg/m<sup>2</sup> for the first layer and 0.8 kg/m<sup>2</sup> for each subsequent layer of fiber. (REPOX 400 A+B mixture consumption varies depending on the level of reinforcement, installation and bonding. Under low temperature conditions, the viscosity may increase and therefore the consumption may also increase).

### Packaging:

Sets of 5 kg or 20 kg (A+B) tin cans

Technical Properties	
Appearance - Color	: Component A (Resin) : Liquid - Transparent Component B (Hardener) : Liquid - Transparent
Density	: Mixture Density: 1.06 kg/lit (± %3)
Mixing Ratio (5 kg)	: A Component: 3.4 kg, B Component: 1.6 kg
Mixing Ratio (20kg)	: A Component: 13.6 kg, B Component: 6.4 kg
Viscosity	: Mixture: 1.000 - 2.000 MPa
Shore D Hardness	: 7 days: 80 - 90 (ASTM D2240-05)
Compressive Strength	: 28 days: > 80 N/mm <sup>2</sup> (ASTM D695-10)
Flexural Strength	: 7 days: > 25 N/mm <sup>2</sup> (ASTM D790)
Adhesion Strength	: 7 days: > 3 N/mm <sup>2</sup> (Beton) (ASTM D7234)
Abrasion Resistance	: 7 days: < 45 mg (CS 10/1000/1000) (ASTM D4060-14)
Remaining Time of Use After Mixing	: 30 - 50 minutes
Total Curing Time	: 7 days

## REPOX® 410T Epoxy Based, Thixotropic Adhesive and Assembly Paste

### Description:

Double component, solvent-free, thixotropic, high strength, epoxy-based special adhesive and assembly paste specially developed for **CARBOFIX** Systems.

### Application Areas:

- As an adhesive for carbon fiber reinforcement fabrics and plates and concrete reinforcement resin in structures to be reinforced with **CARBOFIX** Systems.
- Concrete, natural stone, brick, wood, composite fiber lamination manufacturing, steel and metal surfaces,
- Fixing door and window frames,
- Bonding materials such as ceramic, tile, granite,
- Bonding and concrete reinforcement resin.

### Advantages:

- Applied on vertical and overhead surfaces, does not sag.
- Suitable for carbon fiber lamination applications.
- Adheres well, easy to apply.
- Penetrates well.
- Solvent-free, gel-like consistency.
- High load carrying capacity.
- High mechanical and chemical resistance.
- Very high adhesion strength.

### Consumption:

REPOX 410T A+B mixture consumption varies depending on the level of reinforcement, installation and bonding. Under low temperature conditions, the viscosity increases and the consumption may also increase.

### Packaging:

Sets of 25 kg (A+B) tin cans

Technical Properties	
Appearance - Color	: Component A (Resin) : Paste - Cream Component B (Hardener) : Liquid - Transparent
Density	: Mixture Density: 1.30 kg/lit (± %3)
Viscosity	: Mixture: 5.000 - 8.000 MPa
Shore D Hardness	: 7 days: 80 - 90 (ASTM D2240-05)
Compressive Strength	: 28 days: > 80 N/mm <sup>2</sup> (ASTM D695-10)
Flexural Strength	: 7 days: > 25 N/mm <sup>2</sup> (ASTM D790)
Adhesion Strength	: 7 days: > 3 N/mm <sup>2</sup> (Beton) (ASTM D7234)
Abrasion Resistance	: 7 days: < 45 mg (CS 10/1000/1000) (ASTM D4060-14)
Remaining Time of Use After Mixing	: 40 - 60 minutes
Total Curing Time	: 7 days

## REPOX® 690T Epoxy Based, Double Component, Thixotropic, Solvent-Free Assembly Paste and Repair Mortar

### Description:

Double component, solvent-free, thixotropic, high-strength, epoxy-based assembly paste and repair mortar specially developed for **CARBOFIX** Systems.

### Application Areas:

- As an adhesive for carbon fiber reinforcement fabrics and plates and concrete reinforcement resin in structures to be reinforced with **CARBOFIX** Systems.
- Concrete, natural stone, brick, wood, composite fiber lamination manufacturing, steel and metal surfaces,
- Fixing door and window frames,
- Bonding materials such as ceramic, tile, granite,
- Bonding and concrete reinforcement resin.

### Advantages:

- Applied on vertical and overhead surfaces, does not sag.
- In paste consistency, easy to apply. Can be used as repair mortar.
- Adheres well, easy to apply
- Penetrates well
- Solvent-free
- High load carrying capacity
- High mechanical and chemical resistance
- Very high adhesion strength.

### Consumption:

REPOX 690T A+B mixture consumption varies depending on the level of reinforcement, installation and bonding. Under low temperature conditions, the viscosity increases and the consumption may also increase.

### Packaging:

Sets of 30 kg (A+B) tin cans

Technical Properties	
Appearance - Color	: Component A (Resin) : Paste - Cream Component B (Hardener) : Liquid - Dark Gray
Density	: Mixture Density: 1.80 kg/lit (± %3)
Viscosity	: Mixture: 50.000 - 70.000 MPa
Shore D Hardness	: 7 days: 80 - 90 (ASTM D2240-05)
Compressive Strength	: 28 days: > 80 N/mm <sup>2</sup> (ASTM D695-10)
Flexural Strength	: 7 days: > 25 N/mm <sup>2</sup> (ASTM D790)
Adhesion Strength	: 7 days: > 3 N/mm <sup>2</sup> (Beton) (ASTM D7234)
Abrasion Resistance	: 7 days: < 45 mg (CS 10/1000/1000) (ASTM D4060-14)
Remaining Time of Use After Mixing	: 40 - 60 minutes
Total Curing Time	: 7 days



## CARBOFIX® Tex U 312

### 300 gr/m<sup>2</sup> Carbon Fiber Unidirectional Fabric (12K Weaving Density)

#### Description:

**Structural reinforcement fabric** made of mainly **carbonized acrylic fiber, tar** and **thermoplastic yarn**. Thanks to its advanced technology, it is 5 times lighter however 3 times more resistant to stress than steel and is one of the most robust materials known. It can easily be shaped thanks to its soft fiber structure and gains a rigidity with the epoxy resins it is used with.

#### Application Areas:

- Indoor and outdoor,
- Strengthening buildings against earthquakes,
- Repair and strengthening of columns, beams and slabs of light - medium damaged structures,
- Reinforcing vaults and arches,
- Repair and reinforcement of corroded and damaged bridges, viaducts and overpasses,
- Increasing safety measures in excavation areas,
- Restoration and repair of historical monuments.

#### Advantages:

- Increases the flexing capacity of the wrapped columns to a large extent and prevents fractures in the columns.
- Resistant to corrosion, extends the life of the building.
- Does not add extra weight to the structures.
- Very thin, does not lose space.
- Is a stronger but lighter reinforcement system than steel. It has no corrosion problem compared to steel.
- Easy to shape.
- When wrapped around the stirrup tightening areas of the column, acts as an additional stirrup and thus increases the shear capacity of the column.

#### Packaging:

Carton box (0.50m width x 50m length)

Technical Properties	
Color	: Black
Fiber Type	: Warp direction carbon yarn, weft direction thermoplastic yarn
Fiber Density	: 1.80 g/cm <sup>3</sup>
Weight	: 300 ± 5% gr/m <sup>2</sup> (TS EN 12127)
Weight Ratio in 0° (Warp) Direction	: 99%
Weight Ratio in 90° (Weft) Direction	: 1%
Warp Density	: 36.50 ± 5% ends / 10 cm (TS 250 EN 1049-2)
Weft Density	: 10.00 ± 5% ends / 10 cm (TS 250 EN 1049-2)
Fabric Pattern / Orientation	: Unidirectional (TS 1635 ISO 2113)
Weaving Density	: 12K Weaving Density
Roll Size	: Width 0.50 ± 2.5% meters x Length 50 meters
Tensile Strength	: > 5.500 MPa
Modulus of Elasticity	: > 240.000 MPa
Elongation at Break	: 1.8%



## CARBOFIX® Tex U 324

### 300 gr/m<sup>2</sup> Carbon Fiber Unidirectional Fabric (24K Weaving Density)

#### Description:

**Structural reinforcement fabric** made of mainly **carbonized acrylic fiber, tar** and **thermoplastic yarn**. Thanks to its advanced technology, it is 5 times lighter however 3 times more resistant to stress than steel and is one of the most robust materials known. It can easily be shaped thanks to its soft fiber structure and gains a rigidity with the epoxy resins it is used with.

#### Application Areas:

- Indoor and outdoor,
- Strengthening buildings against earthquakes,
- Repair and strengthening of columns, beams and slabs of light - medium damaged structures,
- Reinforcing vaults and arches,
- Repair and reinforcement of corroded and damaged bridges, viaducts and overpasses,
- Increasing safety measures in excavation areas,
- Restoration and repair of historical monuments.

#### Advantages:

- Increases the flexing capacity of the wrapped columns to a large extent and prevents fractures in the columns.
- Resistant to corrosion, extends the life of the building.
- Does not add extra weight to the structures.
- Very thin, does not lose space.
- Is a stronger but lighter reinforcement system than steel. It has no corrosion problem compared to steel.
- Easy to shape.
- When wrapped around the stirrup tightening areas of the column, acts as an additional stirrup and thus increases the shear capacity of the column.

#### Packaging:

Carton box (0.50m width x 50m length)

Technical Properties	
Color	: Black
Fiber Type	: Warp direction carbon yarn, weft direction thermoplastic yarn
Fiber Density	: 1.78 g/cm <sup>3</sup>
Weight	: 300 ± 5% gr/m <sup>2</sup> (TS EN 12127)
Weight Ratio in 0° (Warp) Direction	: 99%
Weight Ratio in 90° (Weft) Direction	: 1%
Warp Density	: 36.50 ± 5% ends / 10 cm (TS 250 EN 1049-2)
Weft Density	: 10.00 ± 5% ends / 10 cm (TS 250 EN 1049-2)
Fabric Pattern / Orientation	: Unidirectional (TS 1635 ISO 2113)
Weaving Density	: 24K Weaving Density
Roll Size	: Width 0.50 ± 2.5% meters x Length 50 meters
Tensile Strength	: > 4.200 - 4.900 MPa
Modulus of Elasticity	: > 240.000 MPa
Elongation at Break	: 1.8%



## CARBOFIX® Tex U 612

### 600 gr/m<sup>2</sup> Carbon Fiber Unidirectional Fabric (12K Weaving Density)

#### Description:

**Structural reinforcement fabric** made of mainly **carbonized acrylic fiber, tar** and **thermoplastic yarn**. Thanks to its advanced technology, it is 5 times lighter however 3 times more resistant to stress than steel and is one of the most robust materials known. It can easily be shaped thanks to its soft fiber structure and gains a rigidity with the epoxy resins it is used with.

#### Application Areas:

- Indoor and outdoor,
- Strengthening buildings against earthquakes,
- Repair and strengthening of columns, beams and slabs of light - medium damaged structures,
- Reinforcing vaults and arches,
- Repair and reinforcement of corroded and damaged bridges, viaducts and overpasses,
- Increasing safety measures in excavation areas,
- Restoration and repair of historical monuments.

#### Advantages:

- Increases the flexing capacity of the wrapped columns to a large extent and prevents fractures in the columns.
- Resistant to corrosion, extends the life of the building.
- Does not add extra weight to the structures.
- Very thin, does not lose space.
- Is a stronger but lighter reinforcement system than steel. It has no corrosion problem compared to steel.
- Easy to shape.
- When wrapped around the stirrup tightening areas of the column, acts as an additional stirrup and thus increases the shear capacity of the column.

#### Packaging:

Carton box (0.50m width x 50m length)

Technical Properties	
Color	: Black
Fiber Type	: Warp direction carbon yarn, weft direction thermoplastic yarn
Fiber Density	: 1.78 g/cm <sup>3</sup>
Weight	: 600 ± 5% gr/m <sup>2</sup> (TS EN 12127)
Weight Ratio in 0° (Warp) Direction	: 99%
Weight Ratio in 90° (Weft) Direction	: 1%
Warp Density	: 36.50 ± 5% ends / 10 cm (TS 250 EN 1049-2)
Weft Density	: 10.00 ± 5% ends / 10 cm (TS 250 EN 1049-2)
Fabric Pattern / Orientation	: Unidirectional (TS 1635 ISO 2113)
Weaving Density	: 12K Weaving Density
Roll Size	: Width 0.50 ± 2.5% meters x Length 50 meters
Tensile Strength	: > 5.500 MPa
Modulus of Elasticity	: > 240.000 MPa
Elongation at Break	: 1.8%



## CARBOFIX® Tex U 624

### 600 gr/m<sup>2</sup> Carbon Fiber Unidirectional Fabric (24K Weaving Density)

#### Description:

**Structural reinforcement fabric** made of mainly **carbonized acrylic fiber, tar** and **thermoplastic yarn**. Thanks to its advanced technology, it is 5 times lighter however 3 times more resistant to stress than steel and is one of the most robust materials known. It can easily be shaped thanks to its soft fiber structure and gains a rigidity with the epoxy resins it is used with.

#### Application Areas:

- Indoor and outdoor,
- Strengthening buildings against earthquakes,
- Repair and strengthening of columns, beams and slabs of light - medium damaged structures,
- Reinforcing vaults and arches,
- Repair and reinforcement of corroded and damaged bridges, viaducts and overpasses,
- Increasing safety measures in excavation areas,
- Restoration and repair of historical monuments.

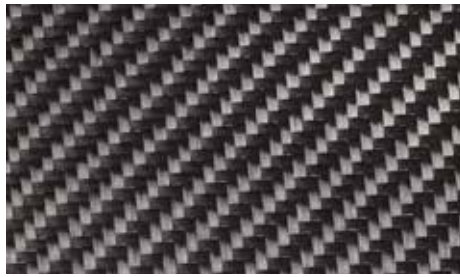
#### Advantages:

- Increases the flexing capacity of the wrapped columns to a large extent and prevents fractures in the columns.
- Resistant to corrosion, extends the life of the building.
- Does not add extra weight to the structures.
- Very thin, does not lose space.
- Is a stronger but lighter reinforcement system than steel. It has no corrosion problem compared to steel.
- Easy to shape.
- When wrapped around the stirrup tightening areas of the column, acts as an additional stirrup and thus increases the shear capacity of the column.

#### Packaging:

Carton box (0.50m width x 50m length)

Technical Properties	
Color	: Black
Fiber Type	: Warp direction carbon yarn, weft direction thermoplastic yarn
Fiber Density	: 1.80 g/cm <sup>3</sup>
Weight	: 600 ± 5% gr/m <sup>2</sup> (TS EN 12127)
Weight Ratio in 0° (Warp) Direction	: 99%
Weight Ratio in 90° (Weft) Direction	: 1%
Warp Density	: 36.50 ± 5% ends / 10 cm (TS 250 EN 1049-2)
Weft Density	: 10.00 ± 5% ends / 10 cm (TS 250 EN 1049-2)
Fabric Pattern / Orientation	: Unidirectional (TS 1635 ISO 2113)
Weaving Density	: 24K Weaving Density
Roll Size	: Width 1 ± 2.5% meters x Length 50 meters
Tensile Strength	: > 4.200 - 4.900 MPa
Modulus of Elasticity	: > 240.000 MPa
Elongation at Break	: 1.8%



## CARBOFIX® Tex B 612T

### 600 gr/m<sup>2</sup> Carbon Fiber Bi-directional Fabric (12K Weaving Density)

#### Description:

**Structural reinforcement fabric** made of mainly **carbonized acrylic fiber, tar** and **thermoplastic yarn** and **woven** bidirectionally. Thanks to its advanced technology, it is 5 times lighter however 3 times more resistant to stress than steel and is one of the most robust materials known. It can easily be shaped thanks to its soft fiber structure and gains a rigidity with the epoxy resins it is used with.

#### Application Areas:

- Indoor and outdoor,
- Strengthening buildings against earthquakes,
- Repair and strengthening of columns, beams and slabs of light - medium damaged structures,
- Reinforcing vaults and arches,
- Repair and reinforcement of corroded and damaged bridges, viaducts and overpasses,
- Increasing safety measures in excavation areas,
- Restoration and repair of historical monuments.

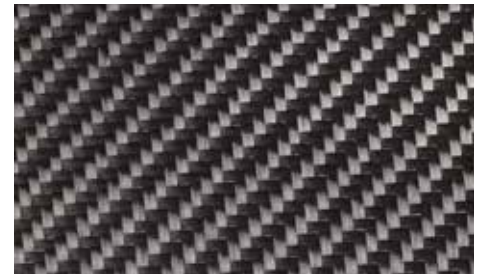
#### Advantages:

- Increases the flexing capacity of the wrapped columns to a large extent and prevents fractures in the columns.
- Resistant to corrosion, extends the life of the building.
- Does not add extra weight to the structures.
- Very thin, does not lose space.
- Is a stronger but lighter reinforcement system than steel. It has no corrosion problem compared to steel.
- Easy to shape.
- When wrapped around the stirrup tightening areas of the column, acts as an additional stirrup and thus increases the shear capacity of the column.

#### Packaging:

Carton box (1m width x 50m length)

Technical Properties	
Color	: Black
Fiber Type	: Warp direction carbon yarn, weft direction thermoplastic yarn
Fiber Density	: 1.80 g/cm <sup>3</sup>
Weight	: 600 ± 5% gr/m <sup>2</sup> (TS EN 12127)
Weight Ratio in 0° (Warp) Direction	: 50%
Weight Ratio in 90° (Weft) Direction	: 50%
Warp Density	: 36.50 ± 5% ends / 10 cm (TS 250 EN 1049-2)
Weft Density	: 36.50 ± 5% ends / 10 cm (TS 250 EN 1049-2)
Fabric Pattern / Orientation	: Twill / Bi-directional (TS 1635 ISO 2113)
Weaving Density	: 24K Weaving Density
Roll Size	: Width 1 ± 2.5% meters x Length 50 meters
Tensile Strength	: > 5.500 MPa
Modulus of Elasticity	: > 240.000 MPa
Elongation at Break	: 1.8%



## CARBOFIX® Tex U 624T

### 600 gr/m<sup>2</sup> Carbon Fiber Bi-directional Fabric (24K Weaving Density)

#### Description:

**Structural reinforcement fabric** made of mainly **carbonized acrylic fiber, tar** and **thermoplastic yarn** and **woven** bidirectionally. Thanks to its advanced technology, it is 5 times lighter however 3 times more resistant to stress than steel and is one of the most robust materials known. It can easily be shaped thanks to its soft fiber structure and gains a rigidity with the epoxy resins it is used with.

#### Application Areas:

- Indoor and outdoor,
- Strengthening buildings against earthquakes,
- Repair and strengthening of columns, beams and slabs of light - medium damaged structures,
- Reinforcing vaults and arches,
- Repair and reinforcement of corroded and damaged bridges, viaducts and overpasses,
- Increasing safety measures in excavation areas,
- Restoration and repair of historical monuments.

#### Advantages:

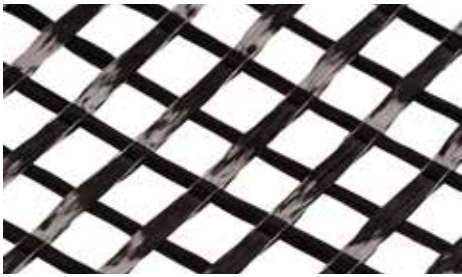
- Increases the flexing capacity of the wrapped columns to a large extent and prevents fractures in the columns.
- Resistant to corrosion, extends the life of the building.
- Does not add extra weight to the structures.
- Very thin, does not lose space.
- Is a stronger but lighter reinforcement system than steel. It has no corrosion problem compared to steel.
- Easy to shape.
- When wrapped around the stirrup tightening areas of the column, acts as an additional stirrup and thus increases the shear capacity of the column.

#### Packaging:

Carton box (1m width x 50m length)

Technical Properties	
Color	: Black
Fiber Type	: Warp direction carbon yarn, weft direction thermoplastic yarn
Fiber Density	: 1.80 g/cm <sup>3</sup>
Weight	: 600 ± 5% gr/m <sup>2</sup> (TS EN 12127)
Weight Ratio in 0° (Warp) Direction	: 50%
Weight Ratio in 90° (Weft) Direction	: 50%
Warp Density	: 36.50 ± 5% ends / 10 cm (TS 250 EN 1049-2)
Weft Density	: 36.50 ± 5% ends / 10 cm (TS 250 EN 1049-2)
Fabric Pattern / Orientation	: Twill / Bi-directional (TS 1635 ISO 2113)
Weaving Density	: 24K Weaving Density
Roll Size	: Width 1 ± 2.5% meters x Length 50 meters
Tensile Strength	: > 4.200 - 4.900 MPa
Modulus of Elasticity	: > 240.000 MPa
Elongation at Break	: 1.8%





## CARBOFIX® Grid K 240/2x2 Carbon Fiber Textile Reinforcement

### Description:

Technical textile reinforcement produced made of **carbon fiber**, used in the reinforcement of historical buildings, with a special grid-shaped structure that increases adherence and bearing strength. It weights 240 gr/m<sup>2</sup>, it can easily be shaped with its soft yarn-like structure, and gains a rigid structure with the epoxy resins it is used with.

### Application Areas:

- Indoor and outdoor,
- Restoration and repair of historical monuments. increasing the carrying capacity of vaults, walls and domes of historical buildings
- Reinforcement of masonry walls,
- Increasing safety measures in excavation areas,
- Retrofitting of historical buildings in accordance with the original.
- Ground stabilization,
- Structural reinforcement of elements such as columns, beams and slabs.

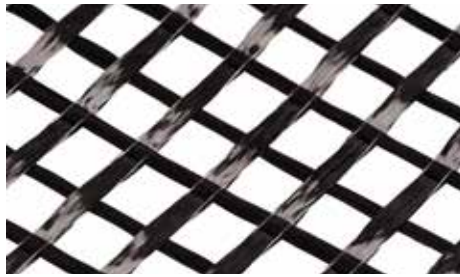
### Advantages:

- Suitable for historical building.
- Easy to apply, has a special adherence enhancing coating to work together with reinforcement mortars.
- Used for floor and surface stabilization.
- Flexible, provides resistance against tensile stresses.
- No corrosion problem compared to steel.
- Has very high chemical resistance.
- Can be used more easily in applications with cement based products.

### Packaging:

Standard

Technical Properties	
Color	: Black
Fiber Type	: Carbon fiber
Fiber Density	: 1.80 g/cm <sup>3</sup>
Weight	: 240 ± 5% gr/m <sup>2</sup> (TS EN 12127)
Weight Ratio in 0° (Warp) Direction	: 50%
Weight Ratio in 90° (Weft) Direction	: 50%
Weaving Density	: 24K Weaving Density
Design	: 20 x 20 mm opening mesh size
Length	: Standart
Width	: 1.000 mm ± %2.50 (TS 3427 ISO 5025)
Tensile Strength	: > 4.900 MPa
Modulus of Elasticity	: > 240.000 MPa



## CARBOFIX® Grid K 300/2x2 Carbon Fiber Textile Reinforcement

### Description:

Technical textile reinforcement produced made of **carbon fiber**, used in the reinforcement of historical buildings, with a special grid-shaped structure that increases adherence and bearing strength. It weights 300 gr/m<sup>2</sup>, it can easily be shaped with its soft yarn-like structure, and gains a rigid structure with the epoxy resins it is used with.

### Application Areas:

- Indoor and outdoor,
- Restoration and repair of historical monuments. increasing the carrying capacity of vaults, walls and domes of historical buildings
- Reinforcement of masonry walls,
- Increasing safety measures in excavation areas,
- Retrofitting of historical buildings in accordance with the original.
- Ground stabilization,
- Structural reinforcement of elements such as columns, beams and slabs.

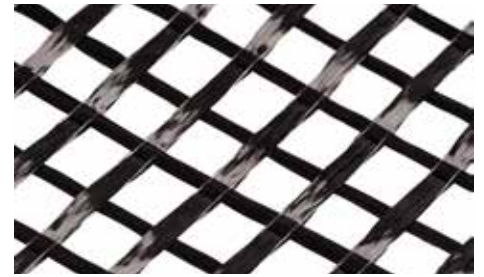
### Advantages:

- Suitable for historical building.
- Easy to apply, has a special adherence enhancing coating to work together with reinforcement mortars.
- Used for floor and surface stabilization.
- Flexible, provides resistance against tensile stresses.
- No corrosion problem compared to steel.
- Has very high chemical resistance.
- Can be used more easily in applications with cement based products.

### Packaging:

Standard

Technical Properties	
Color	: Black
Fiber Type	: Carbon fiber
Fiber Density	: 1.80 g/cm <sup>3</sup>
Weight	: 300 ± 5% gr/m <sup>2</sup> (TS EN 12127)
Weight Ratio in 0° (Warp) Direction	: 50%
Weight Ratio in 90° (Weft) Direction	: 50%
Weaving Density	: 24K Weaving Density
Design	: 20 x 20 mm opening mesh size
Length	: Standart
Width	: 1.000 mm ± %2.50 (TS 3427 ISO 5025)
Tensile Strength	: > 4.900 MPa
Modulus of Elasticity	: > 240.000 MPa



## CARBOFIX® Grid K 370/2x2 Carbon Fiber Textile Reinforcement

### Description:

Technical textile reinforcement produced made of **carbon fiber**, used in the reinforcement of historical buildings, with a special grid-shaped structure that increases adherence and bearing strength. It weights 240 gr/m<sup>2</sup>, it can easily be shaped with its soft yarn-like structure, and gains a rigid structure with the epoxy resins it is used with.

### Application Areas:

- Indoor and outdoor,
- Restoration and repair of historical monuments. increasing the carrying capacity of vaults, walls and domes of historical buildings
- Reinforcement of masonry walls,
- Increasing safety measures in excavation areas,
- Retrofitting of historical buildings in accordance with the original.
- Ground stabilization,
- Structural reinforcement of elements such as columns, beams and slabs.

### Advantages:

- Suitable for historical building.
- Easy to apply, has a special adherence enhancing coating to work together with reinforcement mortars.
- Used for floor and surface stabilization.
- Flexible, provides resistance against tensile stresses.
- No corrosion problem compared to steel.
- Has very high chemical resistance.
- Can be used more easily in applications with cement based products.

### Packaging:

Standard

Technical Properties	
Color	: Black
Fiber Type	: Carbon fiber
Fiber Density	: 1.80 g/cm <sup>3</sup>
Weight	: 370 ± 5% gr/m <sup>2</sup> (TS EN 12127)
Weight Ratio in 0° (Warp) Direction	: 50%
Weight Ratio in 90° (Weft) Direction	: 50%
Weaving Density	: 24K Weaving Density
Design	: 20 x 20 mm opening mesh size
Length	: Standart
Width	: 1.000 mm ± %2.50 (TS 3427 ISO 5025)
Tensile Strength	: > 4.900 MPa
Modulus of Elasticity	: > 240.000 MPa





## CARBOFIX® Tassel Anchor

### Carbon Fiber Based Anchor Structure Reinforcement Element

#### Description:

Building reinforcement element consisting of **carbon acrylic fiber** and **thermoplastic** yarn in the form of **tassels**, used in the reinforcement of historical buildings, domes and reinforced concrete structures, which allows the meshes to work monolithically with the structure to increase adherence and bearing strength.

#### Application Areas:

- Masonry, vaults and domes,
- Reinforcement of reinforced concrete structures against earthquakes with carbon fiber,
- Repair and strengthening of columns, beams and slabs of light - medium damaged structures,
- Repair and reinforcement of deformed and damaged bridges, viaducts and overpasses,
- Renovation and reinforcement of masonry structures,
- Restoration and repair of historical monuments.

#### Advantages:

- Suitable for historical building.
- Easy to apply, has a special adherence enhancing coating to work together with reinforcement mortars.
- Used for floor and surface stabilization.
- Flexible, provides resistance against tensile stresses.
- No corrosion problem compared to steel.
- Has very high chemical resistance.
- Can be used more easily in applications with cement based products.

#### Packaging:

Standard

#### Technical Properties

Color	: Black
Fiber Type	: Carbon Fiber
Shape	: Adherence Fiber Ribbed Rod
Length	: Variable
Diameter	: 6 / 8 / 10 / 12 mm
Fiber Length	: Variable
Elongation at Break	: %1,8
Tensile Strength	: > 4.000 MPa
Modulus of Elasticity	: > 240 Gpa
Weaving Density	: 12K

## CARBOFIX® Plate

### Carbon Fiber Reinforcement Plate

#### Description:

**Carbon acrylic fiber** and **thermoplastic** yarn impregnated with epoxy resin and brought into plate form, used in the reinforcement of historical buildings, domes and reinforced concrete structures, to increase adherence and bearing strength.

#### Application Areas:

- Indoors and outdoor,
- Strengthening buildings against earthquakes,
- Repair and strengthening of columns, beams and slabs of light - medium damaged structures,
- To increase the bearing capacity in slabs, beams and bridges,
- Reinforcement of structural elements against earthquakes in reinforced concrete structures together with carbon fiber fabric,
- Bridges, overpasses and viaducts with increased live load,
- Reduction of steel reinforcement stresses in deformed and deflected openings,
- Reinforcement of vaults and arches,
- Restoration and repair of historical monuments.

#### Advantages:

- Very high tensile strength and modulus of elasticity.
- Easy to transport and apply.
- Since it is light and thin, it does not impose a load on the structure and does not form a cross section.
- It can be cut to the desired size with industrial scissors.
- No corrosion problem compared to steel.
- Very high chemical resistance.
- Excellent fatigue strength.

#### Packaging:

Standard

#### Technical Properties

Color	: Black
Fiber Type	: Carbon fiber
Shape	: In form of plate
Length	: Variable length
Product Width and Thickness	: Width: 50 mm Thickness: 1,2 mm Width: 50 mm Thickness: 1,4 mm Width: 100 mm Thickness: 1,2 mm Width: 100 mm Thickness: 1,4 mm
Fiber Length (Adherence)	: Variable
Elongation at Break	: < %1,7 (ASTM D3039)
Tensile Strength	: > 2.400 MPa (ASTM D3039)
Modulus of Elasticity	: > 155 GPa (ASTM D3039)
Hardness	: 91,6 HRP
Water Absorption	: < %0,1

# CARBOFIX® STRUCTURAL REINFORCEMENT SYSTEMS

**CARBOFIX® Grid**  
Carbon Fiber Textile

**CARBOFIX® Tex**  
Carbon Fiber Fabric

**CARBOFIX® Anchoring Elements**  
Tassel Anchor

**CARBOFIX® Plate**  
Carbon Fiber Reinforcement Plate

**CARBOFIX® Epoxy**  
Reinforcement, Adhesive and Repair Products





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