TEKNO®
construction chemicals

Restoration Systems for Historical Masonry Structures

“Chosen by the best...”

TEKNO CONSTRUCTION CHEMICALS has been a pioneer in the manufacture of construction chemicals in Turkey since 2001 and has a strong, proven track record. Right from the start our company has enjoyed consistent growth. That has been achieved as a result of our customer-oriented management philosophy, our insistence on quality as well as considering Research and Development as a priority and working with specialists in the field.

With four different state-of-the-art plants in Istanbul, Kayseri, Afyon, Elazığ and 500,000 tons of production capacity, TEKNO is one of the leading construction chemical company in this region.

All our factories make production according to ISO 9001 and international standarts. Our production process from the raw materials to the end products are completely controlled and recorded with the most up to date systems. R&D activities our company goes on increasing the quality and variety of its products. It follows the new developments on construction chemicals by an expert team. We understand both the market and what our customers need to be successful. We exceed our customer's current and future expectations by using the newest technology with our perception of innovation and highly skilled human capital. The power that supports us on the way to the top is confidence of our customers.

Our Expertise In Historical Masonry Structures

Restoration Systems for Historical Masonry Structures are not only one of our many specialties but, it is a passion for us because we know that it has a special meaning for a community and for a country. We know that true historic masonry restoration is an art form in it's self. Historical Masonry Structures restorations require extra special planning, material selection and applications. The most important thing is the material selection. TEKNO is a Construction Chemicals company that delivers top-quality Restoration Systems for Historical Masonry Structures. We guide you to find the best material from our unique products. Our expertise in this specialized field helps you to get the job done right, saves you time and money and also these things helps and keeps us at the top of our business.

What Makes Us A Unique Solution?

- Professional Experience
- Expert Engineers
- Technical Support Force
- Modern R&D Department
- High Quality Products
- Customer-Specific Products

INTRODUCTION

MORTAR PRODUCTS

REINFORCEMENT, TEXTILE and FIBER PRODUCTS

Introduction

TEKNO®
construction chemicals

Restoration Systems for Historical Masonry Structures

Introduction:
During the selection of materials and methods that are to be used in repairing and reinforcing historical structures, the following principles have to be considered.

- Reducing the moisture and its negative effects,
- Investigating the reasons of structural irregularities in historical masonry buildings,
- Investigating the physical and chemical effects of damages and irregularities in historical masonry buildings,
- Re-setting the load bearing capacity of the structure and increasing the bearing capacity of the structure,
- Re-setting architectural aesthetics to the structure;
- Making the repair or strengthening reliable and permanent.

Structural materials that can be used in accordance with historical masonry structures which have been developed under the brand name Tekno Construction Chemicals are:

- Natural hydraulic lime based ready-packed plasters and joint materials.
- Natural hydraulic lime based fine graded, ready-packed plasters for surface repairs;
- For Repairing of structural cracks and voids Pozzolanic, natural hydraulic lime based injection mortars;
- High strength, pozzolanic lime based repair mortars for structural repairs.

Damage Analysis:
Possible damages that may be encountered in historical masonry structures in general are summarized below:

- Falling of plasters;
- Erosion in the joints;
- Spallings formed in the walls;
- Rotations and settlements in foundations;
- Cracks, free joints and smashes on wall surfaces;
- Cracks and regional collapses on arches, and vaults;
- Effects of temperature changes;
- Strengthening need against the earthquakes;
- Overloading (addition of extra floors, etc.);
- Falling, non-adhesion, and swelling of coatings and paints.

Falling of plasters:
Salt ground water which rises from the soil in the historical masonry walls with capillary effect, causes the salt inside the walls to be dissolved. When the water, rising with capillary effect, evaporates from the surface of the wall, soluble salts in it, crystallize out below the surface and cause salt leaching by accumulating in the spalling of the material and on the surface of the plaster.
Depending on the amount of salt water which rises and evaporates inside the wall, crystallized salt may cause an increase in the pressure inside the plaster and blasting of bricks and plaster.

Observations:
- Examinations and observations to be made:
- Moisture Analysis.
- Existence of salts.
- Type of salt.
- Visual Analysis.
- Investigation of sulfate salts.

Erosion in the joints:
Joints on masonry walls are the weakest link of the walls as they are unprotected against environmental effects and nature events. In time, joints on the surfaces of the walls start to wear out as they are exposed to water, wind, various chemicals, impact and friction and also after a while, joint mortars may be completely lost. When joints are damaged, more pollutants (like acid, water, etc.) leak into the wall and weaken it from the inside day by day. Joints may be damaged by severe contraction of mortar during its application and overloading of the wall, etc.
The main reasons for erosion in the joints are:

- Chemical effects (like acid, water)
- Freeze–Thaw cycles
- Crystallization of salts on the joint surface.

Spalling formed in the walls:
When portions of the brick flake off from the main body of the brick we call it as Spalling. Spallings are generally formed because of physical deterioration and chemical decomposition or a combination of both. By observations, the problem may be understood. Also endoscopic, sonar and coring techniques may be used for to understand the problem.

There are several reasons that brick spalling may occur.

Spalling may be caused by installation of brick coatings intended to not allow the brick to “breath” (moisture in the form of vapor not allowed to transmit through the brick to the exterior). When this occurs and is compounded by a lack of drainage provisions, moisture trapped behind the exterior surface of the brick will freeze and exert pressures in the brick material sufficient to break a portion away from the rest of the brick (spall).
Spalling can also be due to the brick materials being made from soft clay material which will readily absorb moisture that may freeze within the brick, resulting in spalling.

A third reason for spalling could be due to movement of the structure. The movement may exert sufficient pressures onto individual brick that breaks the brick apart. This latter phenomenon has its most common occurrence at structural lintels in buildings.

Rotations and settlements in foundations:
Masonry wall foundations are generally built as strip foundation or foundation on wells. Strip foundations are not very deep, and more regular structures. In foundation on wells, the depth of the supporting layer is greater. Especially in ancient historical masonry structures, large diameter wells which were drilled independently from each other and filled by stone and mortar mixtures, were connected to each other by semicircle arches

The reasons of rotations and settlements in foundations:
- Low bearing capacity of the soil.
- Changes in the characteristics of the soil over time
- Effect of vibrations caused by the traffic near the historical masonry structures
- Increase in loads transmitted to the foundation of the masonry structure (addition of floors or change of intended use)
- Other foundation constructions in the vicinity.

Settlements in the foundation in time overtime cause additional internal forces to be formed in the structural system. As a result of these additional internal forces, rotations in the superstructure, splits and cracks at different points are formed.

Evaluation of Damages and Determination of Strengthening Techniques:
Evaluation process should be started with investigation of the causes of settlement. Cracks, rotations and settlements on the structure over time have to be examined. Also additions and removals on the structural system have to be examined too. After this examination, enough number of core samples should be taken for evaluating the strengths of existing material.

The reasons of damages can be identified by assessment of collected data and by the help of this data, main reasons of settlement can be put forward.

Adding extra floors or overloading, seismic activities, vibrations caused by traffic (vehicle), possible sewage leaks of the structure or its neighboring structures may cause a loss in the bearing capacity of the building and damage the foundations of the structure. As a result of this, rotations in the superstructure, settlements, splits and cracks at different points are formed.

Cracks, smashes and free joints on the wall surface:
Seismic activities and vertical loads on the wall cause a rapid growth and propagation in microcracks that may be formed on the wall. In other respects the damages that may be caused by type of structural system, additional loads, spallings and cavities, deteriorations of mortars may cause damages on the wall. Also the stones, bricks and materials with poor mechanical properties which were used in the wall may cause smashing on the wall of the structure over time.

The reasons of damages at Cracks, smashes and free joints on the wall surface summarized above may be categorized into three.

- An increase in vertical loads, may cause breaking of bricks and also smashing or crumbling of joints.
- Formation of cracks and smashes as a result of seismic loading in the plane and out of the plane;
- Formation of shear cracks as a result of an increase in shear forces.

Cracks and regional collapses on domes, arches and vaults:
In spite of the fact that historical masonry walls have compressive strength, these buildings don't have strength under tensile forces, since they don't have reinforcements, and become damaged over time. For this reason, roof, slab, etc. elements that will be exposed to axis of flexure are designed as curvilinear elements like arches, vaults and domes. By this way, tensile stresses in the cross section of structural elements are limited and these elements takes compressive stresses.

Seismic activities, asymmetric loadings and different settlements increase the tensile stresses in structural elements. In places where tensile stresses increased, cracks which are perpendicular to tensile stresses are formed. Thereby, continuity of load transfer is lost and regional cracks, collapses and falls are observed.

Especially settlements and rotations on bearing elements are very dangerous. As a result of this, damages might be permanent and this may cause the structure to totally collapse at that region.

Effects of temperature changes:
Climate conditions may cause serious damages on historical masonry structures. Especially in continental climates, where there is a significant difference between day and night temperatures, concrete, wooden or metal parts (lock, beam, etc.) that may be found inside the historical masonry structure may cause formation of cracks on masonry element because of thermal expansion differences.

Earthquakes:
Earthquakes are the most destructive natural disaster throughout human history. Tensile stresses formed due to earthquake motion are very forcing for historical masonry structures. Main reason of damages in historical masonry structures during earthquakes is that they have very low ductility and tensile strength. Masonry structure elements tend to crack under earthquake motion and earthquake loads. However, after formation of cracks, these masonry structures energy absorption capacity increases due to their hyperstatical properties. To determine whether the structure needs reinforcement or not, first of all, the current level of the structure should be determined in the light of current methods. Then, the structure has to be remodeled by applying selected repair and strengthening techniques, and its earthquake response should be evaluated.

Following steps should be followed for damage analysis:

- Visible crack-like blister and physico-chemical comminutes should be detected.
- Materials and cross-sectional structure of the carrier element should be examined with ultrasonic methods.
- The presence of chemicals in the environment like sulphate, etc. which may cause crumbling, should be examined using chemical methods.
- The ground characteristics of the building and the basic system of the building should be determined whether there is a settlement in foundation or not.
- If there is a settlement in foundation, the reasons should be investigated.

Overloading:

The changes in the structure of the historical masonry buildings which are made by the people, like adding new floors, etc. will cause overloading. Because of this, significant increases may be seen in compressive stresses. Exceeding compressive strengths of mortars used in building of the wall may cause smashing and also regional collapsing of the wall. In some cases, settlements in foundations and cracks due to these settlements may be encountered.

Erosion and contamination of natural stones:

Because of freeze-thaw cycles; natural stones used in historical masonry structures are seriously damaged by erosion caused by environmental factors like acid rain, etc. over time.

Also historical masonry structures are effected by the air-pollution in the atmosphere because of their absorbent properties and they lose their aesthetic looks by darkening over time.

These are the main reasons that cause damage at historical masonry buildings. In addition to this, low quality of structural materials, lack of engineering services and etc. are the other reasons of damages.

With high quality products and engineering service support, historical masonry structures can be as strong as their first day.

Discover the strength of TEKNO Construction Chemicals unprecented experience in historical masonry structures restorations.

Mortar Products

Teknorep 500

Natural Hydraulic Lime

Description of Product:
It is an organic material which is obtained by grinding and grinding high stones in 1100 °C. It does not contain soluble salts (alkalis, sulphates, chlorides and nitrates).

Fields of Application:
- Stone and brick walling works,
- Restoration or strengthening of historical masonry structures,
- Repair of cracks in masonry domes and vaults,
- It is used for stone, brick and masonry works of existing
- historical buildings.
- It is used as a binder in the preparation of khorasan mortar to be used in joint manufacturing.

Features and Benefits:
- Easily applied.
- Cement Free.
- High Adhesion Strength.
- Breathable.
- High Water vapor permeability.
- Can be used in production of different lime mortars compatible
- with existing building materials.
- Does not affect the vapour and moisture permeability of the existing building
- Burnt with traditional methods at low temperatures.

Application Procedure:
Preperation of Surface and Its' Quality: The surfaces should be clean, solid and free of dust, oil stains, form oil, curing membranes, waterproofing treatments, laitance, friable material and detergent. Be sure that the surface is clean and sound. Remove all deteriorated concrete, dirt, oil, grease and other bond-inhibiting materials from the area to be repaired.
To improve the adhesion and setting time of the mortar, the surfaces should be wetted before application. If there is a water leakage it must be drained or properly plugged.
Mixing: Add enough water into a clean mixing bucket by using a proper water gauge. Add TEKNOREP 500 into the bucket slowly and continuously. Mix the fresh mortar with a proper electrical mixer (400-500 rpm) for 4 minutes until having a homogenous consistency.

Application Notes/Restrictions:
- For outdoor spaces; the newly applied material / surface should be protected from the direct sunlight, rain, wind, frost, etc. aggressive whether conditions (+35°C) during the first 3 hours after finishing application.
- For full curing of material, both the surface and the environment temperature shouldn't be under allowed application temperature.
- Reaction times are affected by the temperature.
- Reaction time gets shorter at high temperature.
- Reaction time gets longer at low temperature.
- To control setting times, cold water should be used in hot weather and hot water in cold weather.
- Wash soiled hands and skin thoroughly in hot soapy water
- TEKNOREP 500 should be applied to the prepared surface easily by using a trowel. In multiple layer applications each layer should be done after the first layer is harden. In open area and wide surface applications, precautions should be taken against rapid drying.

Technical Data

General Information	
Material Structure	Natural Hydraulic Lime
Appearance	Light Grey and Off-White
Shelf Life	12 months under proper storage conditions after production date.
Packaging	25 kg Kraft bag
Application Information	
Application Temperature	(+5°C) - (+35°C)
Deflexion Strength	> 1,0 N/mm²
Compressive Strength	> 3,70 N/mm²
Class (EN 459-1)	NHL 3,5
Mix Proportion	Khorasan mortar is variable according to its formula.
Outlay	Khorasan mortar is variable according to its formula.
Mortar Density (g/cm³)	1,65 ±0,1

Typical values are obtained from the test results of TEKNO Construction Chemicals Laboratory studies in +20°C and %50 relative air humidity conditions and valid for its performance after 28 days

Teknorep 550

Natural Hydraulic Lime

Description of Product:
The product is a special, cement-free material prepared for historical buildings. It is a natural hydraulic lime that is produced for using in the production of Khorasan mortar.

Fields of Application:
- It is used for restoration or strengthening of historical masonry structures,
- Repairing of dome and vault cracks,
- Stone, brick and wall laying of current historical structures,
- Plastering of structures which need high water vapor permeability,
- Restorations and jointing, grouting and repairing of green buildings
- It is used as a binder in the preparation of
- Khorasan mortar for grouting production.

Features and Benefits:
- It is compatible with the historical structures
- It enables the production of mortar with various properties
- High water vapor permeability
- High strength
- Cement-free material

Application Procedure:
The materials that are given in the mortar analysis are measured in necessary amounts and mixed. The certain amount of water that is given in Khorasan mortar formula is added to the mixture and it is mixed again until a homogeneous material is obtained. it should be noted that the surfaces to be repaired and plastered in historic masonry structures should be solid, dust-free and clean. All kinds of materials such as oil, rust, grease, that weaken the surface adherence should be cleaned thoroughly. Application surface of the wall should be moistened in advance to improve the adhesion and the setting time. If there is a water leakage on the surface, it should be stopped with the help of an appropriate stopper and the water should be drained. There should not remain any free water that prevents adhesion on the surface. The mortar is waited to drain its water when it is applied, and water is sprinkled on the drained surface with a plaster brush and then the surface is finished as desired with the help of a steel or wood trowel. For multiple layer applications, the application should be done after the hardening of the former layer complete. For broad surface and outdoor applications, the necessary precautions should be taken against rapid drying. The rapid water loss should be tolerated by wet sack or water during 1-2 days.

Application Notes/Restrictions:
- The temperature of surrounding and the surface should not be below the minimum temperature for the product to complete its setting.
- In outdoor applications, the surface should be protected from sunlight, wind, rain and frost during 24-48 hours after the application.

Technical Data

General Information	
Appearance / Color	Natural white and beige
Shelf Life	12 months under proper storage conditions after production date.
Packaging	16 kg kraft bag
Application Information	
Mixing Ratio	Changeable depending on Khorasan mortar formula
Application Temperature	(+5°C) - (+35°C)
Consumption	Changeable depending on Khorasan mortar formula
Performance Information	
Flexural Strength	Min. 1,0 Mpa
Pressure Resistance	Min. 4 ,0 Mpa
Hazardous Material	Read the safety data sheet
Reaction to Fire	A1 class

Typical values are obtained from the test results of TEKNO Construction Chemicals Laboratory studies in +20°C and %50 relative air humidity conditions and valid for its performance after 28 days

Teknorep 510

Natural Hydraulic Lime Based Plaster

Description of Product:
It is a natural hydraulic lime based plaster material used to obtain a smooth surface in historical masonry structures. It does not contain cement and soluble salts (alkalis, sulphates, chlorides and nitrates).

Fields of Application:
- Repair of historical masonry structures,
- For external plaster,
- Plaster and surface repairs,
- Surface leveling on Horasan plaster surfaces,
- Repair of natural stones, brick and wall joints,
- For covering 1.5 cm surface gaps,

Features and Benefits:
- Since it does not contain soluble salts, it is one of the best products for restoration of historical buildings.
- Does not contain cement. Flowering resistance is high. Easy to prepare and apply.
- Good adhesion on plaster.
- Breathable, Water vapor permeability is high.

Application Procedure:
Surface Quality: The surfaces to be repaired in historical buildings should be clean, smooth, sound and free from all kinds of dust, oil, dirt, rust, mold oil, detergent and similar adhesion preventing materials and wastes. Weak parts on the surface must be removed.
Substrate Preparation: Absorbent surfaces should be pre-wetted, but no puddles remain.
TEKNOREP 510 It is recommended to moisten the surfaces before applying the plaster mortar. TEKNOREP 510 plaster prepared mortar is applied with the help of trowel. After the application, it should be protected from rain, sun and frost for 36 hours. The required amount of water (4 - 6 liters of water for 1 bag of powder) is put into a clean mixing bucket with the help of the scale and TEKNOREP 510 plaster is added slowly and mixed for about 4 minutes with a 400-500 speed mixer. After resting for about 4 minutes and mixing again for 30 seconds, the material is ready for use. The prepared mortar is applied with a trowel in a thickness of 2-3 mm. The mortar is expected to draw water and the surface is finished with steel or wooden trowel by sprinkling water on the mortar drawn with the plasterer brush. It is necessary to apply two coats to obtain a much smoother surface. Wait one day between the floors. The previous layer must be moistened before the new layer is applied.

Application Notes/Restrictions:
- For outdoor applications, the sun should be protected from rain and frost for the first 3 hours.
- Reaction times are affected by ambient and ground temperatures. Reaction times are shortened in hot conditions and prolonged in cold environments.
- Occupational health and safety during the application of the product
- Wear proper work clothes and wear appropriate goggles and masks.
- After the application, direct sunlight, strong wind, high air temperature (+ 35°C) should be protected against adverse weather conditions such as rain and frost. Hands should be cleaned with water and detergent before curing.
- After the application, all tools and equipment should be cleaned with water. Mechanical abrasion after hardening.

Technical Data

General Information	
Material Structure	A special blend of natural hydraulic lime based
Appearance	Off-white, beige
Shelf Life	12 months under proper storage conditions after production date.
Packaging	16-20 kg kraft bag
Application Information	
Implementation Process	Min. 30 minutes
Application Ground Temperature	(+5°C) - (+35°C)
Average Grain Size	0-0,6 mm
Performance Information	
Deflexion Strength	> 2,0 N/mm²
Compressive Strength (EN 1015-11)	> 11 N/mm²
Water Vapor Permeability (EN 1745)	μ < 15
Capillary Water Absorption (EN 1015-18)	0,2 kg m^{-2} $dk^{-0,5}$
Bond Strength	> 0,15 N/mm²
Reaction to Fire	A1

Consumption Table

Teknorep 510	Mixture Density (kg/litre)	1 mm/1 m² Powder Consumption (kg)	Amount of Mixture Water (litre)
16-20 kg kraft bag	1,70 – 1,90	1,4	4 – 6

Typical values are obtained from the test results of TEKNO Construction Chemicals Laboratory studies in +20°C and %50 relative air humidity conditions and valid for its performance after 28 days

Teknorep 520

Natural Hydraulic Lime Based Repair Mortar

Description of Product:
It is a hydraulic lime based, repair mortar designed for historical buildings, containing harmless natural minerals, fibers and thixotropic properties. Free of cement and soluble salts (alkalis, sulphates, chlorides and nitrates).

Fields of Application:
- Restoration or strengthening of historical masonry structures,
- Repair or reconstruction of masonry domes and vaults,
- Forming the foundation for existing historical masonry walls
- It is used for filling large gaps.
- Repair works for the recovery of lost carrying capacity of stone, brick or alternate walls,
- Registration of stone, brick or other attachments to be used for repair or reinforcement.
- It is a repair mortar used for placing carbon rods in wall joints.

Features and Benefits:
- Easy to Apply.
- Cement free.
- Adhesion strength is high.
- Mechanic strength is high.
- High flowering resistance.
- Water vapor permeability is high, breathable,
- Easy and fast application.
- Free of water-soluble salts.
- Low capillary water absorption.

Application Procedure:
Surface Quality: Surfaces are clean, smooth, solid, all kinds dust, oil, dirt, rust, mold oil, detergent, etc. Weak parts on the surface must be removed.
Surface Preparation: Absorbent surfaces should be pre-wetted, but no puddles remain.
Mixing: Required amount of water (for 20 kg kraft bag) 5,50 lt water) is placed into a clean mixing bucket with the help of a scale and then TEKNOREP 520 Repair Mortar is added slowly and mixed with a 400-500 rpm mixer for about 4 minutes.
The prepared mortar is applied to the previously moistened surface with a trowel. In applications where the application will be made in more than one layer, the application should be made such that each layer is at most 5 cm thick after the previous layer has hardened. The previous layer should be moistened before the new layer is applied.
In screed and concrete applications,clean and washed aggregates can be added in to the fresh mortar (grain size should be between 5-20 and the ratio should be %30, %35).

Notes on Application / Limitations:
- Outdoor applications should be protected from sun, rain and frost for the first 3 hours. Reaction times are influenced by ambient and ground temperatures.
- Reaction times are shortened in hot conditions and prolonged in cold environments. Hot mixture water should be used in cold environments.
- In hot environments, iced mixture water should be used.
- During the application of the product, work clothes that comply with occupational health and safety rules should be worn and appropriate glasses and masks should be used. After the application, direct sunlight, strong wind, high air temperature (+35°C) should be protected against adverse weather conditions such as rain and frost.
- Hands should be cleaned with water and detergent before curing. Immediately after application, the equipment should be cleaned with water before curing.
- Once the product is hardened, it should be cleaned by

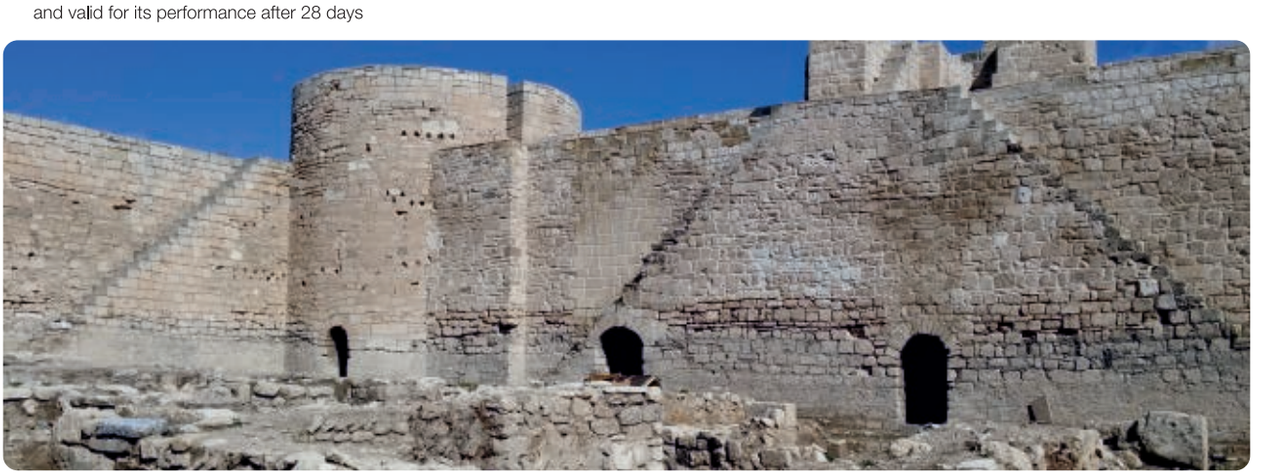
Technical Data

General Information	
Product Chemistry	Special blend with natural lime based and adjusted gradients
Appearance / Color	Off-white & Cappuccino
Shelf Life	12 months under proper storage conditions after production date.
Packaging	20 kg kraft bag
Application Information	
Pot Life	Min. 30 minutes
Application Ground Temperature	(+5°C) - (+35°C)
Grain size	0-0,6 mm
Application Thickness	For each layer 1-5 cm
Performance Information	
Flexural Strength	> 2,0 N/mm^2
Compressive Strength (EN 1015-11)	> 10
Water Vapor Permeability (EN 17 45)	μ<35
Capillary Water Absorption (EN 1015-18)	0,2 $kg.m^{-2}.dk^{-0,5}$
Bond Strength	> 0,15 N/mm^2
Elastic Modulus	> 15000 N/mm^2
Reaction to Fire	A1

Consumption Table

Teknorep 520	Density of the mixture (kg/liter)	1cm/ 1m² Dust Consumption (kg)	Amount of Mixing Water (liter)
20 kg kraft bag	1,90	15	5,5

Typical values are obtained from the test results of TEKNO Construction Chemicals Laboratory studies in +20°C and %50 relative air humidity conditions and valid for its performance after 28 days



Teknorep 520 Ex

Natural Hydraulic Lime Based Mortar

Description of Product:
The product is a hydraulic lime based thixotropic mortar containing harmless minerals and fibers and designed for historical structures. It is a cement-free material and does not contain soluble salts such as alkalies, sulfates, chlorides and nitrates.

Fields of Application:
- It is used for restoration or strengthening of historical masonry structures,
- Repairing and rebuilding of domes and vaults
- Making the basis of the existing historical masonry walls
- Filling of the large gaps
- Repair works which are done in order to regain the decreased carrying capacities of stones, bricks and alternating walls
- Organization of stone, brick and alternating insertions which are done for repairing and strengthening
- Placement of carbon rods in wall joints..

Features and Benefits:
- It is easy to apply
- It is cement-free
- It has high adhesion strength
- It has high mechanical strength.
- It has high resistance to blooming.
- It has high water vapor permeability.
- It can be applied easily and rapidly.
- It does not contain water soluble salts.
- It has low capillary water absorption property

Application Instructions:
Surface Quality: The surface must be clean, smooth, solid and free from all kind of substances that prevent adhesion, such as dust, oil, dirt, rust, detergent, etc. The weak pieces must be removed from the surface. Surface Preparation: Absorbent surfaces should be wetted before application, but there should not remain any water drops and accumulations on the surface. Mixing: The required amount of water (~4.00 liter for a 16 kg Kraft bag) is added in a clean vessel and TEKNOREP 520 Ex repair mortar is slowly added onto it by stirring the mixture with a 400-500 rpm stirrer for approximately 4 minutes. The prepared mortar is applied onto the wetted surface with a trowel. For multiple layer applications, the application should be done after the hardening of the former layer complete and the thicknesses of layers should be maximum 5 cm. The former layer should be wetted before the application of the next one. In screed and concrete- like applications, 30-35 weight percent 1 or 2 grade, washed and clean stone chips can be added into the fresh mortar.

Application Notes/Restrictions:
- In outdoor applications, the surface should be protected from sunlight, wind, rain and frost for the first 3 hours after the application
- The reaction times are affected by the air and surface temperatures. The reaction times decrease in warm conditions and increase in cold conditions.
- To control setting times, cold water should be used in hot weather and hot water in cold weather..
- During the application of the product, work clothes suitable for occupational health and safety rules should be worn and appropriate glasses and masks should be used.
- After the application, it must be protected from the bad weather conditions such as direct sunlight, strong wind, high temperature (above +35°C), rain and frost. The hands should be cleaned thoroughly with water and detergent before the product is fully cured and hardened.
- After the application, the equipment should be cleaned immediately with water before the product is hardened. If the product is hardened, the equipment should be cleaned by mechanical methods

Technical Data

General Information	
Product Chemistry	Special blend with natural lime based and adjusted gradients
Appearance / Color	Off-white & Cappuccino
Shelf Life	12 months under proper storage conditions after production date.
Packaging	16 kg kraft bag
Application Information	
Application Period	Min. 30 minutes
Application Surface Temperature	(+5°C) - (+35°C)
Grain size	dmax:8mm
Application Thickness	For each layer 1-5 cm
Performance Information	
Flexural Strength	> 2,0 N/mm^2
Pressure Resistance (EN 1015-11)	> 10
Water Vapor Permeability (EN 17 45)	μ<35
Capillary Water Absorption (EN 1015-18)	0,2 $kg.m^{-2}.dk^{-0,5}$
Bond Strength	> 0,15 N/mm^2
Elastic Modulus	> 15000 N/mm^2
Reaction to Fire	A1

Consumption Table

Teknorep 520 Ex	Density of the mixture (kg/liter)	1cm/ 1m^2 Dust Consumption (kg)	Amount of Mixing Water (liter)
16 kg kraft bag	1,90	15	~4,0

Typical values are obtained from the test results of TEKNO Construction Chemicals Laboratory studies in +20°C and %50 relative air humidity conditions and valid for its performance after 28 days

Teknorep 530

Natural Hydraulic Lime Based Injection Mortar

Product Description:
It is an injection mortar developed for historic masonry structures containing pozzolanic lime and micronized carbonate. It does not contain cement and soluble salts (alkalis, sulfates, chlorides and nitrates).

Areas of Usage:
- Restoration of lost transport capacity of stone, brick or foam walls,
- Restoration or strengthening of historic masonry structures,
- Repair of cracks of domes and vaults,
- Foundation of existing historical masonry walls,
- Filling large spaces,
- On the walls in sulfuric environments,
- It is especially used for repairing and strengthening cracks.

Features and Benefits:
- Easy to apply. It can be injected easily and effectively using low pressure pumps, syringes or thin needles.
- Cement does not contain additives and dissolved salts (alkalis, sulfates, chlorides or nitrates), it does not deteriorate over time
- It can be used in places containing sulphate.
- High adhesion strength.
- Breathable, high water vapor permeability.
- It adapts perfectly with brick, stone and tuff material without disturbing the wall and moisture permeability properties of the wall.
- It provides controlled expansion preventing plastic shrinkage without causing harmful expansion.

Application Instructions:
Surface Quality: surfaces should be clean, smooth, stable, free from all kinds of dust, oil, dirt, rust, mould oil, detergents, etc. Weak parts on the surface should be removed.
Surface Preparation: absorbent surfaces should be wetted in advance, but should not remain water puddles and drops. Cracks less than 5 mm: According to the crack width, depth and ambient conditions, the cracks should be opened with the appropriate intervals (35-45 cm) surprised by both sides of the plane. These holes should be opened with a depth of about 45 angle with the crack planet o pierce the crack plate and pass to the other side. Dust and free particles should be removed by keeping the air in the holes opened and plastic packers should be trapped and squeezed inside. Cracks greater than 5 mm: According to crack width, depth and environmental conditions, pneumatic hoses should be installed with appropriate intervals (70 - 90 cm) within the crack. Free air in the crack must be removed with compressed air.
Mixing: The amount of water required (16 kg of kraft bag far 5,5 liters of water) is placed in a clean mixing bucket with the help of scale and TEKNOREP 530 Injection Mortar is added slowly and with a 400-500 rpm mixer far about 4 minutes. mixed.

Application Notes / Restrictions:
- In outdoor applications, the sun should be protected from rain and frost for the first 3 hours. reaction times are affected by ambient and ground temperatures.
- The reaction times are shortened in the hot place, and the cold place is prolonged.
- During the application of the product, work clothes must be worn and appropriate glasses and masks must be used in accordance with the occupational health and safety regulations.
- Injection mortar prepared is pre-emptied of dust and parts and plastered with TEKNOREP 510/520 repair mortar for 48 hours after injection machine is injected.
- After application, it should be protected against adverse weather conditions such as direct sunlight, severe wind, high air temperature (above + 35°C), rain and frost. The product should be cleaned with water and detergent before it gets cured.
- Immediately after application, equipment should be cleaned with water before curing. After the product has hardened, it should be cleaned by mechanical methods.

Technical Information

General Information	
Product Chemistry	Natural hydraulic lime based special mixture
Appearance / Color	Cappuccino
Shelf Life	12 months under proper storage conditions after production date.
Packaging	16 kg kraft bag
Application Information	
Pot Life	Min. 30 minutes
Application Ground Temperature	(+5°C) - (+35°C)
Grain Size	0,1-0,30 mm
Mobility (DIN CUP 6)	after, 3 min. < 33 sn. after, 20 min.< 45 sn.
Performance Information	
Flexural Strength	> 2,5 N/mm^2 7 days
Compressive Strength (EN 1015-11)	> 7 N/mm^2 7 days > 13 N/mm^2 28 days M10
Water Vapor Permeability (EN 1745)	15/35 μ
Capillary Water Absorption (EN 1015-18)	0,2 kg m^{-2}.dk$^{-0,5}$
Bond Strength	> 0,15 N/mm^2
Reaction to Fire	A1

Consumption Table

Teknorep 530	Density of the mixture (kg/liter)	Kg powder product to obtain 1 liter of mortar	Amount of Mixing Water (liter)
16 kg kraft bag	1,90	1,45	~5,5

Typical values are obtained from the test results of TEKNO Construction Chemicals Laboratory studies in +20°C and %50 relative air humidity conditions and valid for its performance after 28 days

Teknorep 560

Natural Hydraulic Lime Based Khorasan Mortar

Description of Product:
The product is a natural hydraulic lime based and fiber reinforced Khorasan mortar specially developed for historical structures.

Fields of Application:
- It is used for restoration or strengthening of historical masonry structures,
- Repair and reconstruction of domes and vaults
- Making the basis of the existing historical masonry walls
- Filling the large gaps
- Repair works which are done in order to regain the decreased carrying capacities of stones, bricks and alternating walls
- Organization of stone, brick and alternating insertions which are done for repairing and strengthening
- Placement of carbon rods in wall joints.

Features and Benefits:
- Easy to apply
- Cement-free
- High adhesion strength
- High mechanical strength.
- High resistance to blooming.
- Breathable and has high water vapor permeability.
- Applied easily and rapidly.
- It does not contain water soluble salts.
- Low capillary water absorption property.
- High adhesion with the present wall.

Application Insturctions:
Surface Quality: The surface must be clean, smooth, solid and free from all kind of substances that prevent adhesion such as dust, oil, dirt, rust, detergent, etc. The weak pieces must be removed from the surface.
Surface Preparation: Absorbent surfaces should be wetted before application, but there should not remain any water drops and accumulations on the surface.
Mixing: The required amount of water (~ 5.00-5.50 liter for a 16 kg kraft bag) is added in a clean vessel and TEKNOREP 560 Khorosan mortar is slowly added onto it by stirring the mixture with a 400-500 rpm stirrer for approximately 4 minutes. The prepared mortar is applied onto the wetted surface with a trowel. For multiple layer applications, the application should be done after the hardening of the former layer complete and the thicknesses of layers should be maximum 5 cm. The former layer should be wetted before the application of the next one. In screed and concrete- like applications, 30-35 weight percent 5 – 20 mm of grain size, washed and clean aggregates can be added into the fresh mortar.

Application Notes/Restrictions:
- In outdoor applications, the surface should be protected from sunlight, wind, rain and frost for the first 3 hours after the application.
- The reaction times are affected by the air and surface temperatures. The reaction times decrease in warm conditions and increase in cold conditions.
- To control setting times, cold water should be used in hot weather and hot water in cold weather.
- During the application of the product, work clothes suitable for occupational health and safety rules should be worn and appropriate glasses and masks should be used.
- After the application, it must be protected from the bad weather conditions such as direct sunlight, strong wind, high temperature (above +35°C), rain and frost.
- The hands should be cleaned thoroughly with water and detergent before the product is fully cured and hardened.
- After the application, the equipment should be cleaned immediately with water before the product is hardened. If the product is hardened, the equipment should be cleaned by mechanical methods.

Technical Information

General Information	
Product Chemistry	Natural hydraulic lime based special blend with adjusted gradients
Appearance / Color	Off-white and Cappuccino
Shelf Life	12 months under proper storage conditions after production date.
Packaging	16 kg kraft bag
Application Information	
Application Period	Min. 30 minutes
Application Surface Temperature	(+5°C) - (+35°C)
Grain Size	0 - 2.0 mm
Application Thickness	1-5 cm for a layer
Performance Information	
Flexural Strength	> 2,0 N/mm^2
Pressure Resistance (EN 1015-11)	> 5 N/mm^2
Water Vapor Permeability (EN 1745)	μ<35
Capillary Water Absorption (EN 1015-18)	0,2 kg $m^{-2}.dk^{-0,5}$
Bond Strength	> 0,15 N/mm^2
Reaction to Fire	A1

Consumption Table

Teknorep 560	Density of the mixture (kg/liter)	1cm /1m2 Powder Consumption (kg)	Amount of Mixing Water (liter)
16 kg kraft bag	1,93	15	5.0-5,5

Typical values are obtained from the test results of TEKNO Construction Chemicals Laboratory studies in +20°C and %50 relative air humidity conditions and valid for its performance after 28 days

Teknomer 500

Hydraulic Lime Based, Perfectly Elastic Waterproofing Material

Description of Product:
The product is a two component, hydraulic lime and synthetic resin based, polymer reinforced, and UV resistant waterproofing material with perfectly elastic application property.

Fields of Application:
- It is used in isolation of historical masonry structures,
- Isolation of external plastering applications,
- Isolation of plaster and surface repair.

Features and Benefits:
- Used in isolation of historical structures since it does not contain soluable salts.
- Applied with a brush or roller, or applied by spraying.
- Cement free.
- Does not shrink or crack.
- Suitable for both vertical and horizontal applications.

Application Procedure:
Surface Quality: The surface must be clean, smooth, solid and free from all kind of substances that prevent adhesion such as dust, oil, dirt, rust, detergent, etc. If there is a segregation in concrete, the damaged and slack pieces should be thrown and weak pieces should be removed. If cracks and holes exist on application surface or wall, they should be repaired by using a suitable TEKNOREP 510 repair mortar. TEKNOMER 500 should be applied 3-4 days later.
Surface Preparation: If the application surface is dry, it should be wetted and saturated with water before the application. Sharp corners and edges should be chamfered with TEKNOREP 510 repair mortar.

Application Notes/ Restrictions:
- Do not inhale the dust and prevent from contact with skin and eye since the material is hydraulic lime based.
- Do not apply on wood, chipboard, mdf, plywood, PVC and metal surfaces.
- The mixture should be prepared by using the product's own liquid. Do not add any water in mixture.
- Do not add foreign substances.
- The product need protection in order to obtain expected long-term performance. The necessary precautions should be taken against breakdown, scratch and impact after the application.
- Firstly, the liquid B component of TEKNOMER 500 is poured into a clean vessel which is free from any kind of material that prevent adhesion. Then, the powder A component of TEKNOMER 500 is added slowly to the vessel. The mixture is stirred with a low-speed stirrer until a homogeneous blend without lumps is obtained. The mixing time should be minimum 5 minutes. The mortar obtained at the end of this process should be rested for 3 minutes, and mixed again for 2 minutes until it became homogeneous.
- After the application, it must be protected from the bad weather conditions such as direct sunlight, strong wind, high temperature (above +35°C), rain and frost. The hands should be cleaned thoroughly with water and detergent before the product is fully cured and hardened.
- After the application, the equipment should be cleaned immediately with water before the product is hardened. If the product is hardened, the equipment should be cleaned by mechanical methods.
- TEKNOMER 500 is applied on the waterlogged surface with a brush or roll after completely mixed and rested, and it should be applied before losing its humidity. After first setting of the material, the second layer is applied as perpendicular to the first layer. Fiber reinforcement can be used between layers if required.
- The necessary waiting period between layers; the next layer can be applied when no residue remains on hands upon touching the applied layer.

Technical Information

General Information		
Color	Component A is beige powder , Component B is white liquid	
Color of the Mixture	Beige	
Shelf Life	12 months under proper storage conditions after production date.	
Packaging	26 kg set (16 kg powder and 10 kg liquid)	
Application Information		
Mixture Density	1,65 (± 0,50)	
Time to Take Into Service	3-4 Days	
Performance Information		
Water Transmission Rate	< 0,1 kg/(m^2.$h^{0,5}$)	(TS EN 1062-3)
Water Vapor Transmission Rate	< 0,6 gr/(h.cm^2)	(TS EN ISO 7783)
Adhesion Strength	≥ 1,0 (28 days) N / mm^2	(TS EN 1542)
Pressure Water Resistance	7 Bar Positive	
Temperature Resistance of Hardened Material	(-25°C) – (+80°C)	
Hazardous Substances	Comply with article 5,3	
Reaction to Fire	Cs1d0	
Testing Standard (TSE)	Comply with TS EN 1504-2	

Consumption Table

Teknomer 500	Mixture Density (kg/liter)	Mixture Consumption for 0,6 mm and 1 m2 (kg)
26 kg set	~1,65	1,0 – 1,4

Typical values are obtained from the test results of TEKNO Construction Chemicals Laboratory studies in +20°C and %50 relative air humidity conditions and valid for its performance after 28 days

Teknopuzolan

Natural Pozzolana

Description of Product:
The product is a natural additive that is generally used to increase the resistance and durability of air-slaked lime or natural hydraulic lime based mortars.

Fields of Application:
- It is used for regaining the decreased carrying capacities of stones, bricks and alternating walls,
- Repair or strengthening of historical masonry structures
- Crack repair of domes and vaults,
- Making the basis of the existing historical masonry walls,
- Restoration and green buildings,
- Making mortars like Khorasan mortar,
- Especially in repair and strengthening of cracks.

Features and Benefits:
- It's a Turkey-origin, natural pozzolana with high purity.
- Contains high amount of material SiO2.
- High adhesion strength.
- Breathable and has high water vapor permeability.
- Perfect compatibility with stone, brick and tuff material and does not affect the moisture permeability of the wall.

Application Procedure:
It gains binding property with slacked or hydraulic lime. It has high pozzolonic activity.
It is used by replacing lime with 50% by weight. While making mortar, firstly dry blending should be done wit a shovel or machine. It will be better if blending continues until a homogeneous mixture is obtained.

Application Notes/Restrictions:
- In outdoor applications, the surface should be protected from sunlight, wind, rain and frost for the first 3 hours after the application
- The reaction times are affected by the air and surface temperatures. The reaction times decrease in warm conditions and increase in cold conditions.
- To control setting times, cold water should be used in hot weather and hot water in cold weather.
- During the application of the product, work clothes suitable for occupational health and safety rules should be worn and appropriate glasses and masks should be used.
- After the application, it must be protected from the bad weather conditions such as direct sunlight, strong wind, high temperature (above +35°C), rain and frost. The hands should be cleaned thoroughly with water and detergent before the product is fully cured and hardened. After the application, the equipment should be cleaned immediately with water before the product is hardened. If the product is hardened, the equipment should be cleaned by mechanical methods.

Technical Information

General Information	
Material Structure	Amorphous SiO_2
Appearance / Color	Light grey – off-white
Shelf Life	12 months under proper storage conditions after production date.
Packaging	Kraft bag
Application Temperature	(+5°C) - (+35°C)
Grain Size	0-100 micron
Pozzolanic Activity	8 N/mm²

Teknorep 6001

Malta Mortar

Description of Product:
The product is an injection mortar used in strengthening of surfaces and paint layers of frescos, and also used to fill the cracks and pores which are max. 5 mm deep.

Fields of Application:
- It is used in bonding and strengthening the fresco layers,
- Filling the cracks and pores which are max. 5 mm deep.

Features and Benefits:
- It has perfect fluidity,
- It is chemically and physically compatible with lime and
- hydraulic lime like materials.
- It does not bloom even in highly humid environments.
- Its volume does not change in plastic phase and also
- when it is completely injected.
- It's a Turkey-origin, natural pozzolana with high purity.
- It contains high amount of material SiO2.
- It has high adhesion strength.
- It is breathable and has high water vapor permeability.
- It has perfect compatibility with stone, brick and tuff
- malerial and does not affect the moisture permeability of the wall.

Mortar Composition:
It is a powder blend that contains a special additive mixture to retain water, and it is a chemically stable, fluid and very thin filler.

Application Procedure:
Mixing: Mechanical mixing with low speed (700 rmp) during 6-8 minutes.
Proposed Mixtures:
Strengthening of fresco surfaces: 10 kg TEKNOREP 6001 with. 8 L water.
Bonding to substrate: 10 kg TEKNOREP 6001 with 12 L water.

Application Notes/Restrictions:
- Cover up the discharge openings of the mortar with recycled material,
- Make suitable boreholes to apply a solid layer of TEKNOREP 6001. The diameter of boreholes should be 2 mm minimum and the distance between the holes should 20 cm maximum.
- The boreholes should be cleaned well blowing or emptying.
- The injection can be done by using a syringe with needle thin tube. The syringe type which is used by veterinaries is recommended. Keep mixing before starting the injection. It should be injected continuously to prevent clogging.
- After carefully making the boreholes and weak pieces are removed, TEKNOREP 6001 is injected into the holes without wetting in advance and without pressure.
- During the application of TEKNOREP 6001 the temperature should be between 5°C - 35°C.

Technical Information

General Information	
Pressure Resistance	120 kg/cm²
Flexural Strength	41 kg/cm²
Mixing Water	%80-20
Porosity	% 6,1
Workability	40

Tekno Kağıt Hamuru

Paper Pulp Powder

The product can absorb 4-6 times more than its own weight depending on the viscosity of hydrocarbon. It immediately absorbs the material at the moment of contact.

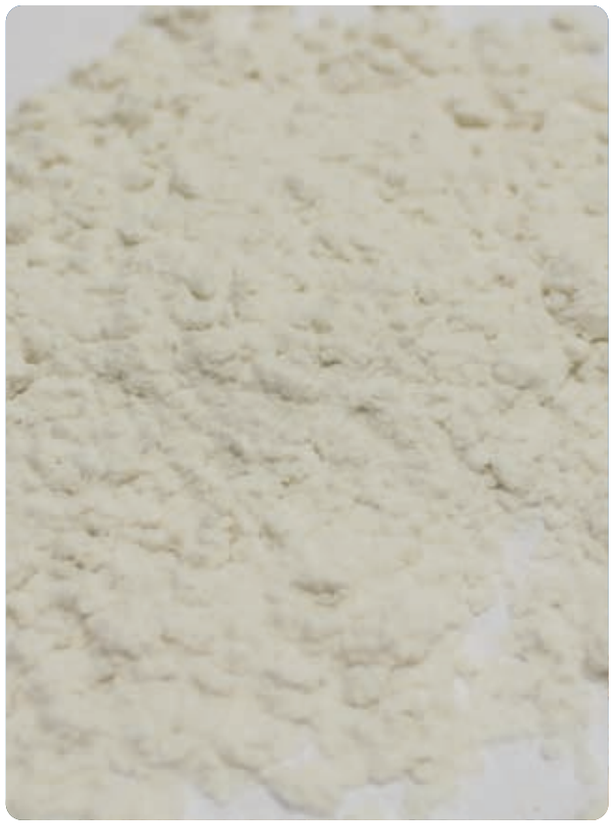
Tekno Paper Pulp is economical.

It eliminates the cost of removing contaminated soil, transportation and incineration of the waste, and pass on huge savings. The used waste products doesn't leak if it is burnt under favorable conditions.

Description of Product:
The product is a natural material that is used to clean the surfaces of historical structures. It does not simply cover as clay does, instead, it absorbs the rubbles. .Since less amount of material is used for cleaning, the amount of waste decreases.

The product is good at filtering rubbles and can be used to decrease filterable hydrocarbon substances. It is easier to carry this very light absorbant product than carrying clay, and the product is safe when inhalation related health risks are considered. It is not corrosive and has low powder content, therefore does not damage the surface and machines.

The paperpulp bacterias are carried in cotton fibers. During absorption, hydrocarbons are taken into fibers and destroyed by bacterias. The necessary nutritions for bacterias are exist in Tekno Paper Pulp. Bacterias are not affected by toxic materials, and they even digest them. They can live in sea water without affected by sea salt. Their oxygen need is low. They are microaerophile and facultative bacterias that can work both aerobic and anaerobic conditions. They show high performances at +4°C - +45°C and pH higher than 4.5. They survive at -38°C - +55°C.



Teknolatex 450 AC

Water-based Pure Acrylic Resin (Restoration)

Description of Product:
A mixture of pure acrylic aqueous resin which is perfectly resistant to alkalis and atmospheric elements.

Fields of Application:
- As superficial binder and fixer for interior surfaces of plaster and fresco coated,
- As an additive to sealing mortars to improve adhesion and elasticity,
- As an additive in order to prevent crumbling of the surfaces of hand-made objects (ornaments) in powder form and to increase their resistance to impact and friction,
- As binding agent for natural and synthetic powder paints,
- As a glue to cover the tops of paper-textured documents with a transparent layer, such as a film strip.

Features and Benefits
- Excellent stability against freezing and thawing cycle,
- Compatibility with Grande paints and additives,
- Excellent resistance to soluble salts, including divalent ones
- Excellent stability against impact and friction,
- Extremely fine mixing,
- Good pH stability,
- High resistance to yellowing,
- Good transparency,
- Excellent UV protection, permanent flexibility and elasticity, It has high adhesion strength

Application Notes/Restrictions:
- The product may cause skin irritation. Wear protective clothing, protective gloves, masks and goggles. Protective cream can also be applied to the hand before starting work.
- In case of contact with the mortar, immediately wash the eyes with warm water and seek medical advice.
- Do not add foreign material.
- Preliminary testing is recommended for different applications.
- The application surface should be cured.

Technical Information

General Information	
Appearance	Milky White liquid
Packaging	30 kg bin
Density (kg/it)	1,07 (± 0,05)
Solid conteent	46 ±0,5
Viscosity (mPas)	%3500
pH	8-9

Teknocleaner

Surface Cleaning Chemicals

Description of Product:
It can be used indoors and outdoors in all types of porous masonry, especially brick, hard burned stones and coated walls. It cleans the limestone.

Fields of Application:
- Acid that dissolves lime and cement residues.
- Cleans blooms and lime deposits.
- Dissolves mortar residues, lime and gravel stones.
- After TEKNOCLEANER acts, it forms light, soluble connections that can be cleaned with water.

Application Procedure:
Depending on the depth of cleaning, TEKNOCLEANER material is diluted with water from 1:4 to 1:20 (recommended mixture 1:10) and applied first on a test surface. The cleaning effect is evaluated. In case of deep contamination, TEKNOCLEANER can be applied by dissolving in hot water. The surface which will be cleaned, must be wetted first.

Surfaces on which the material has been applied should be cleaned with a hard brush and then should be washed with water. Alternatively, blooming on highly porous surfaces, is pre-impregnated with TEKNOSIL W.

With TEKNOCLEANER, cleaning is completed as described from the beginning.

Application Notes/Restrictions:
- Facade parts (like; metal surfaces) that may come into contact with the cleaning agent, or even plants, must be covered with PE foil.
- Root brush or wooden brush must be cleaned with water after using them. During the application, a protective apparel, protective gloves, goggles and masks which comply with the Occupational Health and Safety Rules should be used.
- TEKNOCLEANER is only used for cleaning mineral based residues. It is not suitable for very deep contamination. Dark-colored joints (anthracite colored) can be discolored after cleaning.

Technical Information

General Information	
Appearance/Color	White Powdered
Shelf Life	24 months under proper storage conditions after production date.
Consumption	Depending on the type and degree of contamination, 1 kg TEKNOCLEANER cleans approximately 20 m^2
Packaging	20 kg pail

Teknosil

Solvent-based, Water-repellent Insulating Material

Description of Product:
The product is a siloxane based, transparent material which provides water-repellent property by impregnating to the surfaces of construction elements.

Fields of Application:
- Siding,
- Exterior surfaces,
- Less absorbent surfaces such as concrete, marble, granite,
- Absorbent surfaces such as brick, Coloured briquette, gas concrete, travertine and limestone
- Protection of historical buildings against atmospheric effects

Features and Benefits:
- Colourless and transparent impregnation material which has high penetration ability.
- Provides protection without changing the appearance of sidings and without forming a film layer.
- Decreases the negative effects of atmosphere by making the surfaces of construction elements impermeable.
- Resistant to alkalines and UV lights.
- Water permeable.
- Decreases heat loss and heating expences by making the construction elements remain dry.
- Contains solvent.

Application Procedure:
The surface must be clean, smooth, solid and free from all kind of substances that prevent adhesion such as dust, oil, dirt, rust, detergent, etc. If there is a segregation in concrete, the damaged and loose pieces should be thrown and the weak pieces must be removed from the surface. If there is a crack or cavity on the application surface or wall, they should be repaired with an appropriate TEKNOREP repair mortar. Application of TEKNOSİL should be done after 3-4 days. The product is ready to use, absolutely no foreign substances should be added. The application surface should be dry. For maximum penetration in two layer applications, the product should be applied with a roller, brush or spraying machine which are suitable for dry surfaces. The second layer must be applied about 4 hours later. It might be necessary to apply an additional layer to provide maximum protection if the surface is too porous. After the application, the surface must be protected from the bad weather conditions such as direct sunlight, strong wind, high temperature (above +35 oC), rain and frost. The hands should be cleaned thoroughly with water and detergent before the product is fully cured and hardened. After the application, the equipment should be cleaned immediately with TEKNO TİNER (thinner) before the product is hardened. If the product is hardened, the equipment should be cleaned by mechanical methods

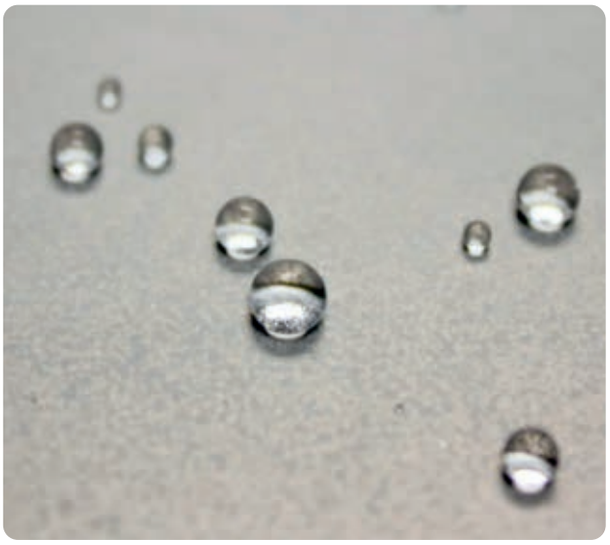
Application Notes/ Restrictions:
- Please follow the work safety precautions. Wear protective gloves, mask and goggles while applying the product.
- Do not contact the product with skin and eyes. If skin and eye contact occurs, get medical advice.
- Do not apply on PVC and metal surfaces.
- Do not add water or any foreign substances into the mixture.

Technical Information

General Information	
Appearance/Color	Yellow transparent liquid
Packaging	10 lt tin
Shelf Life	12 months under proper storage conditions after production date.
Consumption	150-200 gr/m²
Density (kg/lt)	0,90±0,03
Drying Time	45 - 60 min.
Service Temperature	(-25°C) - (+80°C)

Teknosil W

Water-based, Water-repellent Insulating Material



Description of Product:
The product is a silane-siloxane based, white material which provides water-repellent property by impregnating to the surfaces of construction elements.

Fields of Application:
- Siding,
- Exterior surfaces,
- Less absorbent surfaces such as concrete, marble, granite,
- Absorbent surfaces such as brick, Coloured briquette, gas concrete, travertine and limestone
- Protection of historical buildings against atmospheric effects

Features and Benefits:
- White Coloured impregnation material which has high penetration ability.
- Decreases the negative effects of atmosphere by making the surfaces of construction elements impermeable.
- Resistant to alkalines and UV lights.
- Water-based and vapor permeable
- Decreases heat loss and heating expences by making the construction elements remain dry

Application Procedure:
The surface must be clean, smooth, solid and free from all kind of substances that prevent adhesion such as dust, oil, dirt, rust, detergent, etc. If there is a segregation in concrete, the damaged and loose pieces should be thrown and he weak pieces must be removed from the surface. If there is a crack or cavity on the application surface or wall, they should be repaired with an appropriate TEKNOREP repair mortar. Application of TEKNOSİL W should be done after 3-4 days. The product is ready to use, absolutely no foreign substances should be added. The application surface should be dry. The application surface should be dry. For two layer applications, the product should be applied with a roller, brush or spraying machine which are suitable for dry surfaces for maximum penetration. The second layer must be applied about 4 hours later. It might be necessary to apply an additional layer to provide maximum protection if the surface is too porous. After the application, the surface must be protected from the bad weather conditions such as direct sunlight, strong wind, high temperature (above +35°C), rain and frost. The hands should be cleaned thoroughly with water and detergent before the product is fully cured and hardened. After the application, the equipment should be cleaned immediately with water before the product is hardened. If the product is hardened, the equipment should be cleaned by mechanical methods

Application Notes/ Restrictions:
- Please follow the work safety precautions. Wear protective gloves, mask and goggles while applying the product.
- Do not contact the product with skin and eyes. If skin and eye contact occurs, get medical advice.
- Do not apply on PVC and metal surfaces.
- Do not add water or any foreign substances into the mixture.

Technical Information

General Information	
Appearance/Color	White liquid
Packaging	10 lt tin
Shelf Life	12 months under proper storage conditions after production date.
Consumption	150-200 gr/m²
Density (kg/lt)	1,0±0,1
Drying Time	45 - 60 min.
Service Temperature	(-25°C) - (+80°C)

Teknosil H

Structural Stone Booster

Description of Product:
It is a silicate based, impregnation material that strengthens the constructional component by impregnating on their surfaces.

Fields of Application:
- Exterior cladding,
- On vertical surfaces,
- Natural stone, plaster or frescoes
- Brick or baked soils

Features and Benefits:
- High penetration property, Impregnation material that has high penetration.
- Single component, easy to apply,
- It dries perfectly.
- Prevents accumulation of dirt
- Mineral based binder
- Resistant to rain water and acid
- It is water vapor permeable and does not block breathing of the building.

Application Procedure:
Surfaces must be clean, smooth, firm and free from all kinds of dust, oil, dirt, rust, mold oil, detergent and other anti-stick materials and waste. If there is segregation on the surface, defective and loose parts should be discarded and weak parts should be removed. If there is a crack or cavity on the floor or wall , first of all , it should be repaired with a suitable TEKNOREP repair mortar. After you repaire the floor or Wall, wait for 3 or 4 days to apply TEKNOSİL H. Do not forget that the surface must be dry to apply TEKNOSİL H.

For first coat applications, for maximum penetration, it should be applied with a roller, brush or spraying machine which is suitable for dry surfaces. Second layer should be applied after approximately 4 hours. For maximum protection, it may be necessary to apply extra one more coat on highly porous surfaces. After the application, it should be protected against adverse weather conditions such as direct sunlight, strong wind, high air temperature (+ 35°C), rain and frost. Hands should be cleaned with water and detergent before curing. Before it hardens, wash soiled hands and skin thoroughly in hot soapy water.
Clean tools and equipment with clean water immediately after use. Once hardened, product can only be removed mechanically.

Application Notes/ Restrictions:
- During the application, a protective apparel, protective gloves, goggles and masks which comply with the Occupational Health and Safety Rules should be used.
- The mixture should not come into contact with skin and eyes; in case of a contact, the affected area should be washed with plenty of water and a physician should be consulted immediately
- Do not apply on PVC and metal surfaces.
- Do not add any other foreign substances

Technical Information

General Information	
Appearance/Color	Clear
Packaging	10 lt tin
Shelf Life	12 months under proper storage conditions after production date.
Consumption	0,02-0,05 kg/m²
Density (kg/lt)	0,95±0,05
Drying Time	45 - 60 min.
Service Temperature	(-25°C) - (+80°C)

Reinforcement, Textile and Fiber Products

Teknowrap 300

300 gr/m² Uni-directional Carbon Fiber Fabric

Description of Product:

Carbon fibers are one of the most stongest materials known in the world. Although carbon fibers in fabric fineness is 14 times stronger than the STL steel against tensile, its weight is around one fifth of steel. The fibers, which are normally in yarn softness, are easily brought to the desired shape and become rigid when laminated with special epoxy resin (TEKNOBOND 300 TIX).

Areas of Usage:

- Repair of medium and lightly damaged columns and beams,
- Corrosion damaged, repairing bridge, viaduct, column and beams.
- In the repair of historical monuments, mosque dome and minarets.
- Used in function changes.
- Places where there is a problem in concrete quality are used after the static project is done.

Features and Benefits:

- When it's wrapped around the stirrup tightening areas of the column, it acts an additional stirrup.
- Increase the cutting capacity of the column.
- Increases vertical transport capacity when wrapped around circular columns.
- Prevents the wall from being scattered in any kind of wall, in the face of impact and explosion.
- When the column is completely wrapped, the stretchability of the column increases in great extent, so there is no breakage in the columns even at larger oscillations.
- The most obvious advantage of the carbon fiber repair method is that it can achieve a multiple of the robustness achieved with conventional methods, even though it adds only a few millimeters of thickness.
- Stronger than steel but much more lightweight, no corrosion problem. it can easily take shape.

Application Instructions:

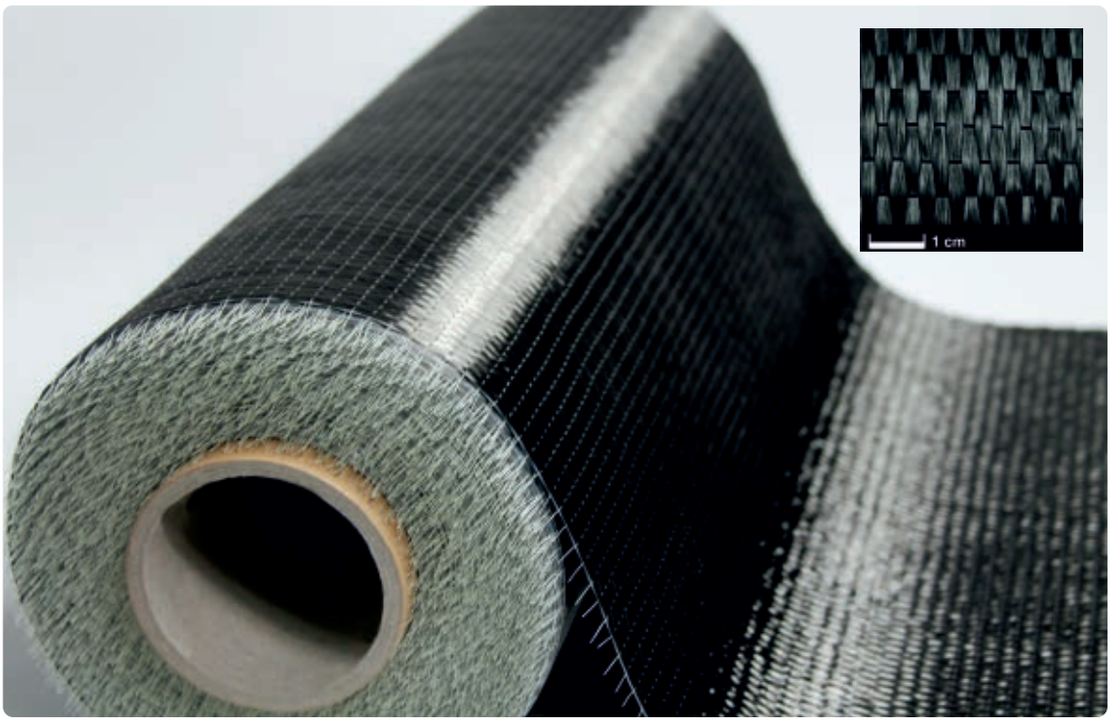
Surface Quality: The surface of the application should be free from all kinds of dust, dirt, weak and volatile particles, cement grout residues, oil and dirt and be dry. Concrete bottom surface should be clean, strong and have sufficient compressive strength (at least 25 N/mm²), its pull-off strength should be at least 1,5 N/mm². Concrete should be strong and have sufficient strength. Surface Preparation: The application surface should be cleaned using methods such as applying compressed air to maintain maximum adhesion strength. Weak concrete parts should be repaired and restored with high strength repair mortar. The plaster on the construction element must be removed, the surface must be cleaned, and necessary repairs should be made. TEKNOWRAP 300 is cut and made ready for application. The prepared TEKNOBOND 300 TIX is rubbed to concrete. it is then brought onto the TEKNOWRAP 300 to ensure that the epoxy is adhered to the carbon by hand. in adhesion process, the underlying epoxy is ensured to come out with a slight knurled roller. If the epoxy is insufficient, the TEKNOBOND 300 TIX is again used to saturated the carbon fibers with epoxy. Carbon fibers do not burn but epoxy can ignite after a certain temperature. Because of this reason, very thin epoxy is applied on the carbon plate, then the sand is spread in dry condition and plaster is applied on it. Spreading sand provides adherence between carbon fiber and plaster.

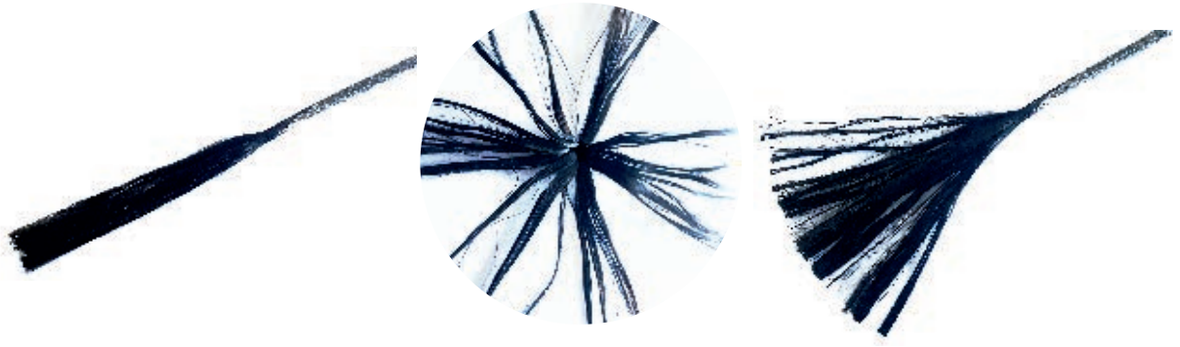
Application Notes / Restrictions:

- TEKNOWRAP 300 systems should be implemented by specialist practitioners.
- Prior to application, the design of the strengthening project must be made by a civil engineer
- It must be projected and held responsible.
- Final check of the application must be made by universities / independent testing organizations / inspectors.

Technical Information

General Information	
Color	Black
Unit Weight	300 g/m²
Packaging	50 cm x 100 m roll.
Shelf Life	Unlimited in Dry Storage Conditions
Nominal Wall Thickness	0,17 mm
Performance Information	
Tensile Strength	≥ 4,900 MPa
Modulus of Elasticity	≥ 230,000 MPa
Elongation at Break	≥ % 2,1

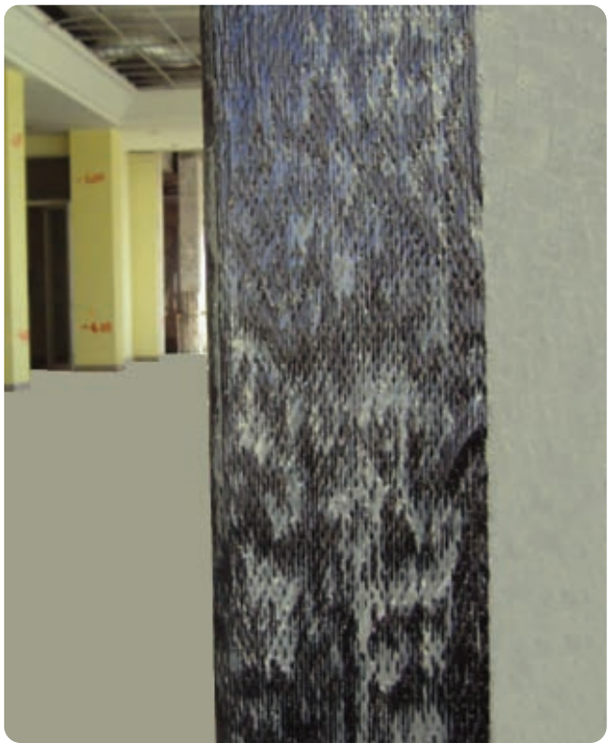




Carbon Fiber Anchorage

Teknowrap 600

600 gr/m² Bidirectional Carbon Fiber Farbic



Description of Product:

Carbon fibers are one of the most strongest materials known in the world. Although carbon fibers in fabric fineness is 14 times stronger than the STL steel against tensile, its weight is around one fifth of steel. The fibers, which are normally in yarn softness, are easily brought to the desired shape and become rigid when laminated with special epoxy resin (TEKNOBOND 300).

Areas of Usage:

- Repair of medium and lightly damaged columns and beams,
- Corrosion damaged, bridges, viaducts, columns and beams strengthened.
- It is used in the repair of historical monuments, mosque dome and minarets.
- Used in function changes.
- Places where there is a problem in concrete quality are used after the static project is done.

Features and Benefits:

- When it's wrapped around the stirrup tightening areas of the column, it acts an additional stirrup.
- Increase the cutting capacity of the column.
- Increases vertical transport capacity when wrapped around circular columns.
- It prevents the wall from being scattered in any kind of wall, in the face of impact and explosion.
- When the column is completely wrapped, the stretchability of the column increases in great extent, so there is no breakage in the columns even at larger oscillations.
- The most obvious advantage of the carbon fiber repair method is that it can achieve a multiple of the robustness achieved with conventional methods, even though it adds only a few millimeters of thickness.
- Stronger than steel but much more lightweight, no corrosion problem. it can easilytake shape.

Application Instructions:

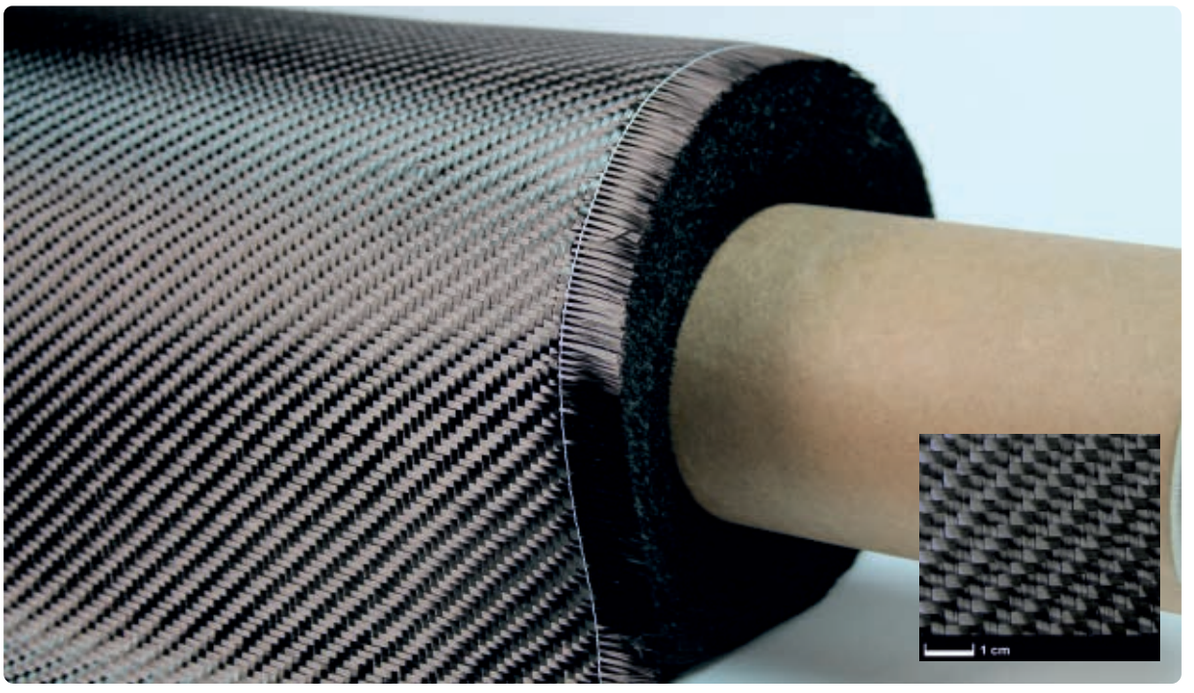
Surface Quality: The surface of the application should be free from all kinds of dust, dirt, weak and volatile particles, cement grout residues, oil and dirt and be dry. Concrete bottom surface should be clean, strong and have sufficient compressive strength (at least 25 N/mm²), its pull-off strength should be at least 1.5 N/mm². Concrete should be strong and have sufficient strength. Surface Preparation: The application surface should be cleaned using methods such as applying compressed air to maintain maximum adhesion strength. Weak concrete parts should be repaired and restored with high strength repair mortar. The plaster on the construction element must be removed, the surface must be cleaned, and necessary repairs should be made. TEKNOWRAP 600 is cut and prepared according to the application. Wet bonding process is applied with prepared TEKNOBOND 300. Teknobond 300 is packed into a clean container like a clean basin. TEKNOWRAP 600 is immersed in it. it is necessary to ensure that the epoxy is homogeneously impregnated into the carbon fibers. Epoxy-impregnated TEKNOWRAP 600 is bonded to the concrete surface using TEKNOBOND 200. Carbon fibers do not burn but epoxy can ignite after a certain temperature. Because of this reason, very thin epoxy is applied on the carbon plate, then the sand is spread in dry condition and plaster is applied on it. Spreading sand provides adherence between carbon fiber and plaster.

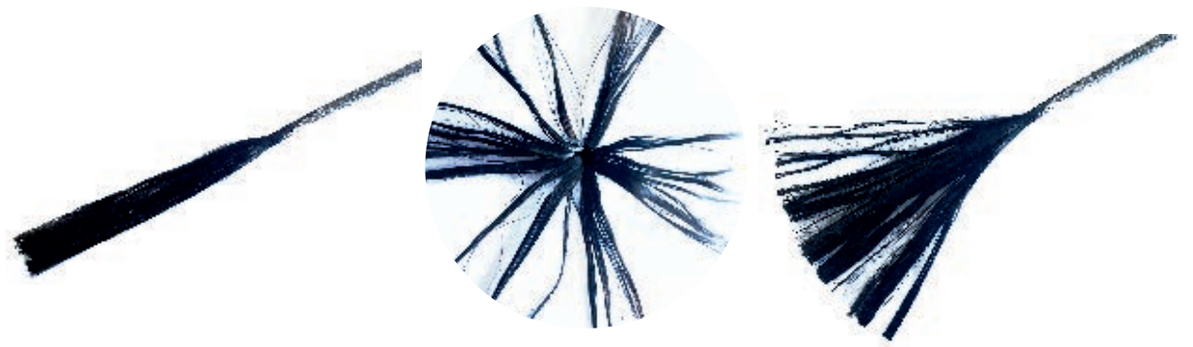
Application Notes / Restrictions :

- TEKNOWRAP 600 systems must be implemented by specialist appliances.
- During the application gloves, glasses etc. safety equipment such as TEKNOWRAP 600
- It should not be held naked.
- Before the application, the design of the reinforcement project must be done by a civil engineer. Projected and responsible.
- The final check of the application should be performed by the universities / independent testing organizations / inspectors.

Technical Information

General Information	
Color	Black
Unit Weight	0,600 kg/m²
Nominal Wall Thickness	0,34 mm
Shelf Life	Unlimited in Dry Storage Conditions
Packaging	100 cm x 100 m roll.
Performance Information	
Tensile Strength	4,900 MPa
Modulus of Elasticity	230,000 MPa
Elongation at Break	% 2,1





Carbon Fiber Anchorage

Teknoplate

Carbon Fiber Plate

Description of Product:
A form of epoxy-impregnated carbon fiber strip, cured in unidirectional term and packed in a roll.

Areas of Usage:
- In slabs, girders and bridges where the carrying capacity is to be increased,
- In the column strengthening,
- In the sagged upholstery,
- In bridges with load increments,
- In the seaming beams and balconies,
- In the colonies that lack access,
- In the repair of damaged building elements,
- It is used for repairing cut slabs.

Features and Benefits:
- The application is very easy and fast, the possibility of workmanship is very low.
- Sold as 100 meter ready-made rolls.
- The tin plate or spiral can be used to cut it as far as necessary.
- Very light, it does not increase the section if it is too thin.
- Very high tensile strength.
- The modulus of elasticity is too high.
- The chemical resistance is excellent.
- Excellent fatigue strength.

Application Instructions:
Surface Quality: The surface of the application should be free from all kinds of dust, dirt, weak and volatile particles, cement grout residues, oil and dirt and be dry. Concrete bottom surface should be clean, strong and have sufficient compressive strength (at least 25 N/mm²), its pull-off strength should be at least 1.5 N/mm². Concrete should be strong and have sufficient strength. Surface Preparation: The application surface should be cleaned using methods such as applying compressed air to maintain maximum adhesion strength. Weak concrete parts should be repaired and restored with high strength repair mortar. TEKNOPLATE's adhesive part of the concrete is gently wiped with Tekno Thinner. There should be no thinner damp on the plate. Application Method / Equipment: Prepared mixture is applied to both concrete and TEKNOPLATE with a spatula. in TEKNOPLATE (carbon plate) applications, the material is glued so that there is no air gap after the material is expected to attract itself for a while. Flat rollers or rolls are used over carbon fiber to ensure good adhesion. The epoxies on the surface are cleaned. Carbon fibers do not burn but epoxy can ignite after a certain temperature. Because of this reason, very thin epoxy is applied on the carbon plate, then the sand is spread in dry condition and plaster is applied on it. Spreading sand provides adherence between the carbon plate and the plaster to be built.

Application Notes / Restrictions:
- The material only runs in the fiber length direction. There is no resistance side by side.
- The product may irritate skin. Work clothes, protective gloves, masks and glasses must be used. Before starting to work, hand protection cream can be applied. in case of grout contact with eyes, eyes should be washed immediately with warm water and consult a doctor.
- Before the application, the design of the reinforcement project must be done by a civil engineer.
- The application should be made by experienced and competent persons.
- The final check of the application should be performed by the universities / independent testing organizations / inspectors.
- Immediately after application, before hardened, the equipment should be cleaned with TEKNO TİNER (thinner). The hardened epoxy mortar can only be mechanically cleaned.

Technical Information

General Information	
Color	Black
Width	5 cm and 10 cm
Height	100 m roll
Thickness	1,2 mm - 1,4 mm
Density	1,50 kg/lt
Shelf Life	Unlimited in Dry Storage Conditions
Pot Life	~30 Minutes
Flash Point	180°C
Tensile Strength	≥2,800 MPa
Modulus of Elasticity	≥165,000MPa at rupture
Elongation at Break	≥%1,7

Teknobar C

Carbon Fiber Rod

Description of Product:
Epoxy impregnated, standard-sized frozen one-way and one-piece (linear) is the form of carbon fiber rod.

Fields of Application:
- In flooring, beams and bridges where the carrying capacity is to be increased,
- Column strengthening,
- For deflection floors,
- Beams and balconies,
- Bridges with increased load,
- In structures with lack of reinforcement,
- In case of cutting the floor and damaging the structural elements,
- Historical monuments.

Features and Benefits:
- It is very light, does not increase cross section because it is very thin,
- Very high strength,
- Elasticity module is very high,
- Excellent resistance to chemicals,
- Easy and quick to apply,
- Very few labor errors,
- Excellent fatigue strength.

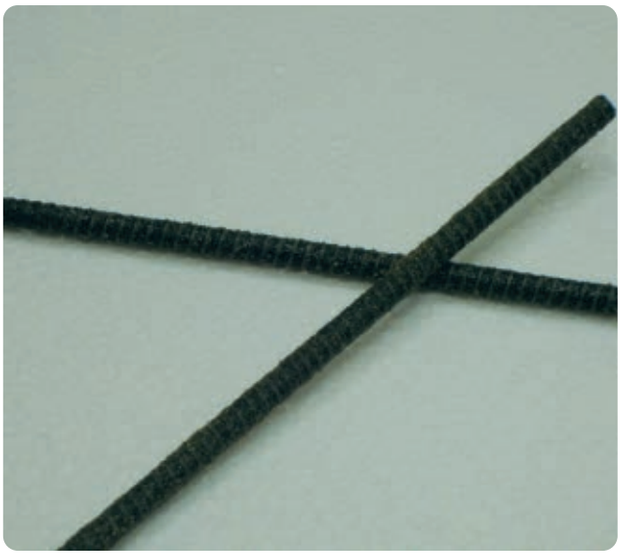
Application Procedure:
Surface Quality: Concrete should be strong and have sufficient strength.
Surface Preparation: The floor should be cleaned and free of oil, dirt, dust, water and moisture. Weak concrete parts should be broken, repaired with high strength repair mortar and restored.

Application Procedure: TEKNOBOND 400 is mixed in proportion. It is applied as a thin layer to the concrete and TEKNOBAR where the rod will be bonded. Rod; It is by removing dust, oil and dirt.
The material only runs in the direction of the fiber length. We don't accept any responsibility for any mistakes that may occur during application.

Application Notes/Restrictions:
- Easy to apply material. It can be cut to the desired size with tin shears or spirals. It is recommended to use after static project.
- The material only runs in the fiber length direction. It has no side strength.
- The product may cause skin irritation. Wear protective gloves, masks and goggles. Protective cream can be applied to hands before starting work. In case of contact with the mortar, immediately wash the eyes with warm water and consult a doctor.
- Crystallisation of the product may be observed if it is left below 0°C for a long time. Return the product to room temperature.
- Can be used without any problems if the crystals are dissolved.
- Do not add any foreign material into the product.
- The design of the reinforcement project must be done by a civil engineer before the application. It should be designed and held responsible.
- The application should be carried out by experienced, competent persons.
- Final check of the application should be carried out by universities / independent test institution / auditors.
- Wash skin with soap and water. In case of contact with eyes, seek medical advice.
- Immediately after application, before hardening; Instruments; Clean with TEKNO TİNER (thinner). The [illegible] epoxy mortar can only be removed mechanically.

Technical Information

General Information	
Color	Black
Packaging	Desired Size
Shelf Life	Unlimited in Dry Storage Conditions
Diameter	7,5mm – 12mm - 20mm
Height	3 m
Density	1,5 kg/lt
Flash Point	180 °C
Tensile Strength	>2800 MPa
Modulus of Elasticity	>165,000 MPa
Elongation at Break	%1,7



Teknobar G

Glass Fiber Rod

Description of Product:
Epoxy impregnated, standard-sized frozen one-way and one-piece (linear) is the form of glass fiber rod.

Fields of Application:
- In flooring, beams and bridges where the carrying capacity is to be increased,
- Column strengthening,
- For deflection floors,
- Beams and balconies,
- Bridges with increased load,
- In structures with lack of reinforcement,
- In case of cutting the floor and damaging the structural elements,
- Historical monuments are also used.

Features and Benefits:
- It is very light, does not increase cross section because it is very thin,
- Very high strength,
- Elasticity module is very high,
- Excellent resistance to chemicals,
- Easy and quick to apply,
- Very few labor errors,
- Excellent fatigue strength.

Application Procedure:
Surface Quality: Concrete should be strong and have sufficient strength.
Surface Preparation: The floor should be cleaned and free of oil, dirt, dust, water and moisture. Weak concrete parts should be broken, repaired with high strength repair mortar and restored.

Application Procedure: TEKNOBOND 400 is mixed in proportion. It is applied as a thin layer to the concrete and TEKNOBAR where the rod will be bonded. Rod; It is by removing dust, oil and dirt.
The material only runs in the direction of the fiber length. We don't accept any responsibility for any mistakes that may occur during application.

Application Notes/Restrictions:
- It is easy to apply. It can be cut to the desired size with tin shears or spirals.
- The material only works in the fiber length direction. There is no resistance side by side.
- The product may irritate the skin. Work clothes, protective gloves, masks and glasses must be used. Hand washing cream can be applied before starting work. in case of grout contact with eyes, eyes should be washed immediately with warm water and consult a doctor.
- Crystallization can be observed in the product if it remains long below 0°C. If the crystals are dissolved by bringing the product back to room temperature, it can be used without any problems.
- Do not add any foreign material into the product.
- Before the application, the design of the reinforcement project must be done by a civil engineer. It must be projected and held responsible.
- The application should be made by experienced and competent person.
- The last control of the application should be done by the universities or by experienced people.

Technical Information

General Information	
Color	Off-White
Packaging	Desired Dimension
Shelf Life	Unlimited in Dry Storage Conditions
Diameter	2 mm - 16 mm - 20 mm - 25 mm - 28 mm
Height	2 m and 6 m
Density	2,1 kg/lt
Flash Point	180 °C
Tensile Strength	>1,600 MPa
Modulus of Elasticity	>53,000 MPa
Elongation at Break	% 3

Teknowrap C Bant

Carbon Fiber Reinforcement Tape

Description of Product:
They are ready-to-use rope products consisting of unidirectional carbon fiber rovings in standard sizes.

Fields of Application:
- Strengthening of brick and stone buildings,
- Used for restoration of historical monuments.
- Anchorage places.

Features and Benefits:
- Very light and does not increase cross section because it is very thin.
- Very high strength.
- The modulus of elasticity is very high.
- Excellent resistance to chemicals.
- Easy and fast to apply.
- Labor errors are very few.
- Excellent fatigue strength

Application Procedure:
Surface Preparation: The floor should be cleaned and free of oil, dirt, dust, water and moisture.

Application Procedure: TEKNOBOND 300 is mixed in proportion. The C-Band is fully wetted with this mixture. It is placed in the joints prepared previously. The material only works in the direction of the fiber length. No liability is accepted for any errors that may occur during application.

Application Method / Equipment: Easy to apply material. It can be cut to desired size with scissors or utility knife. It is recommended to use after static project.

Consumption: Linear Meter

Cleaning of Equipment: Immediately after application, before hardening; Instruments; Clean with TEKNO TİNER (thinner). The cured epoxy mortar can only be removed mechanically.

Fields of Application:
- The material only runs in the direction of the fiber length. It has no side strength.
- The product may cause skin irritation. Wear protective gloves, masks and goggles. Protective cream can be applied to hands before starting work. In case of contact with the mortar, immediately wash the eyes with warm water and seek medical attention.
- Crystallisation of the product may be observed if it is left below 0°C for a long time. The product can be used without any problems if the crystals are dissolved by bringing the product back to room temperature.
- Do not add any foreign material into the product.
- The design of the reinforcement project must be done by a civil engineer before the application. It should be designed and held responsible.
- The application should be carried out by experienced, competent persons.
- Final check of the application should be performed by universities / independent test institution / supervisors.

Technical Information

General Information	
Color	Black
Diameter	5 mm - 12 mm
Height	200 m
Fiber Density	1,8 gr/cm³
Fiber Temsile Strength	>3800 MPa
Fiber Elastic Modulus	>230,000 MPa
Fiber Elongation at Break	%1,7

Teknofiber Cam

Glass Fiber for Concrete and Mortars

Description of Product:
Compatible with all types of cement, plaster, screed or concrete shrinkage cracks that will occur to the minimum, glass fibers.

Fields of Application:
- Ready plaster, screed and mortars,
- In shotcrete works,
- Heat resistant gypsum boards,
- Used in field and industrial concrete.

Features and Benefits:
- Reduces shrinkage cracks and plastic shrinkage.
- Increases abrasion, breaking and breaking strength.
- Minimizes concrete damage caused by freezing-thawing in field concrete exposed to UV.
- Reduces rebound rate in shotcrete applications.
- Easy to use, low cost, no additional labor required.
- Water-soluble Packagea.

Application Procedure:
TEKNOFIBER GLASS, plaster, screed and concrete is added to the production site or on site. If the distance between the ready-mixed concrete production facility and the construction site is far away, it exceeds 1 hour and the product is put into the concrete mixer at the construction site. 1 bag (600 gr / m^2) is put into 1 m^3 of concrete. The mixer is stirred at low speed for at least 5 minutes. The concrete is placed in the mold.

Cleaning: Immediately after application, before hardening, Skin contact and hands should be cleaned with water. Equipment should be cleaned as soon as possible. Cleaning can be done only by mechanical methods from the mortar and concrete that hardens after use.

Fields of Application:
- Sudden water loss may occur after TEKNOFİBER CAM is added to the concrete. For this reason, the concrete should be put in place as soon as possible so that it does not lose its slump.
- TEKNOFIBER GLASS is suitable for use in terrestrial areas where the temperature difference is very high day and night. However, there is no positive or negative effect on the flexural strength and flexibility of the concrete.
- It is not used in place of steel reinforcement. Iron reinforcement should be placed in static calculations and joints should be cut.
- TEKNOFIBER CAM has no positive or negative effect on the compressive strength of 3,7 and 28 days.

Technical Information

General Information	
Color	White
Density	2,54 kg/lt
Packaging	25 kg box
Consumption	1 bag (600 gr/m2) is put into 1 m3 screed, plaster or concrete.
Shelf Life	2 years under proper storage conditions after production date.
Elastic Modulus	77.000 N/mm^2

Teknobazaltmesh 400

High Strength, Two-sided Basalt Fiber Mesh for Structural Reinforcement Applications

- TEKNOWRAP is adhered to the parts that will be strengthened. The surface of the finished material can be coated with paint or plaster if desired.
- Strongly adheres to the surface thanks to its specially developed coating.
- High mechanical strength and elastic modulus.
- Resistant to chemically aggressive media, especially to strong alkaline media.
- It minimizes the formation of cracks.
- Easy to apply.
- Low thermal conductivity coefficient.
- Noncombustible.

Description of Product:

The product is a fabric that is produced from basalt fibers and has alkali-resistant coating. It is developed to prevent cracks and to be used in different structure reinforcement applications. It has an advantage that it has higher tensile strength than steel and glass fiber.
High performance, alkali-resistant basalt network can be readily applied in cement based applications thanks to its resistance to corrosion, oxidation and rotting. Since the product is light and it is easy to set and use, the basalt network will be a strong alternative to steel.

Fields of Application:

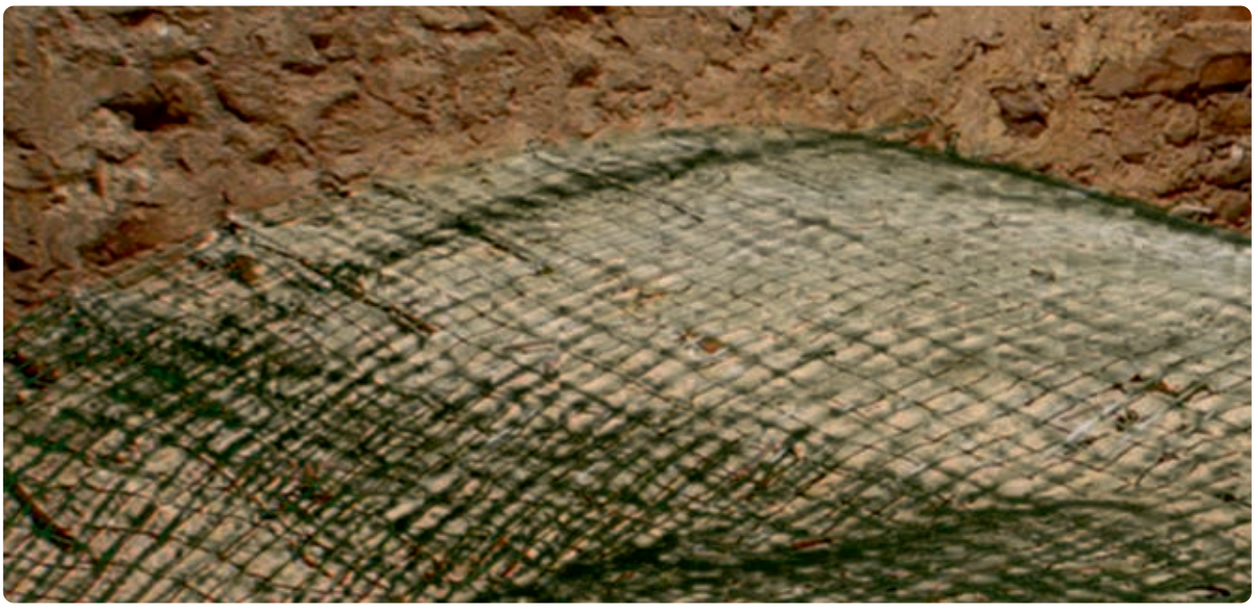
- Repairs of medium and slightly damaged columns and beams.
- It is used in repairing of damaged columns and beams,
- Repairing of historical buildings, dome and minaret of mosques,
- Reinforcement and repairing of foundations of stone or brick masonry walls.

Features and Benefits:

- The plaster and paint on construction element should be removed, the surface should be cleaned and necessary reparations should be done.
- TEKNOBOND 200 mixture applied on surface as a thin layer.
- TEKNOBOND 300 is impregnated into TEKNOWRAP.

Technical Information

General Information	
Witdth	200 cm
Roll Length	50 m
Mesh Tensile Strength	88 KN/m (0˚), 82 KN/m (90˚)
Coated Weight for m²	400gr
Fiber Weight for m²	360gr
Mesh Distance mm	35x28
Fiber Type	Basalt fiber
Fiber Elastic Modulus	85 Gpa
Fiber Tensile Strength	4000 Mpa
Fiber Elongation at Break	0,047
Fiber Specific Gravity	2,7gr/cm³
Coating	Alkaline resistant polymer

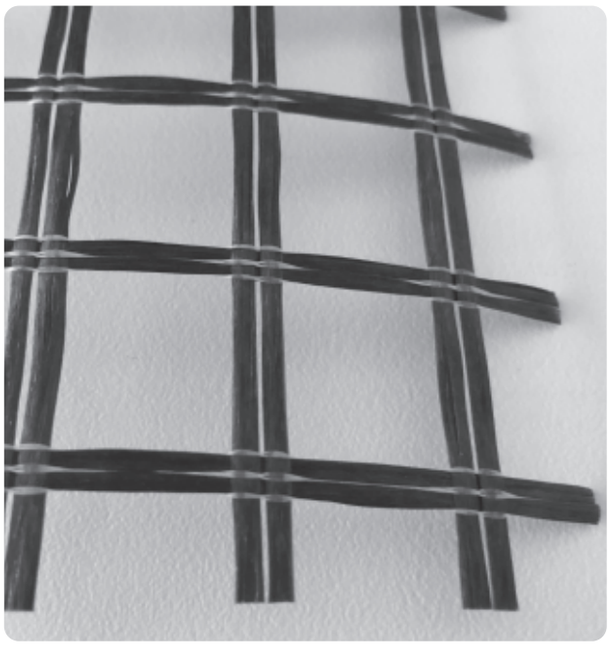


Stainless Anchorage

Glass Fiber L Anchorage

Teknobazaltmesh 350

High Strength, Two-sided Basalt Fiber Mesh for Structural Reinforcement Applications



Description of Product:

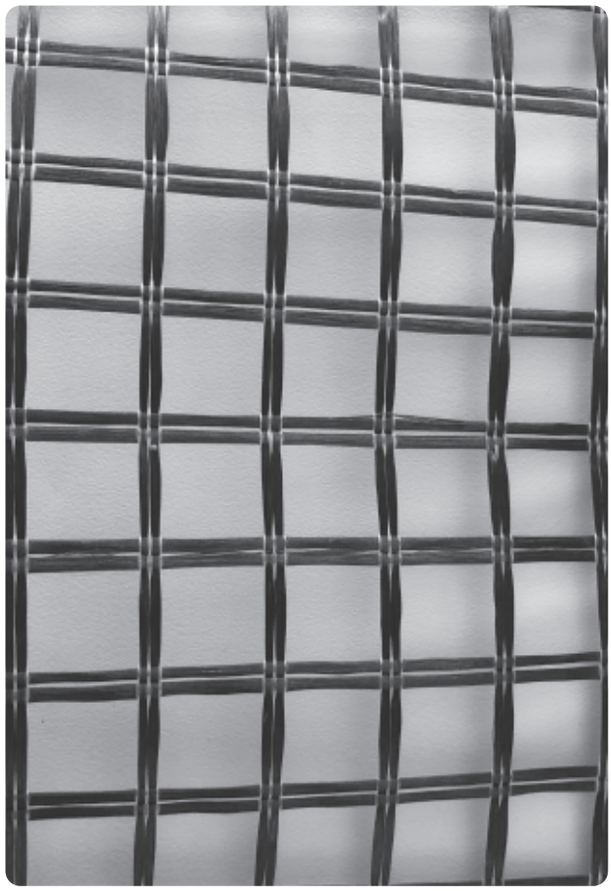
The product is a fabric that is produced from basalt fibers and has alkali-resistant coating. It is developed to prevent cracks and to be used in different structure reinforcement applications. It has an advantage that it has higher tensile strength than steel and glass fiber.
High performance, alkali-resistant basalt network can be readily applied in cement based applications thanks to its resistance to corrosion, oxidation and rotting. Since the product is light and it is easy to set and use, the basalt network will be a strong alternative to steel.

Fields of Application:

- Repairing of medium and slightly damaged columns and beams.
- Repairing of historical masonry structures, dome and minaret of mosques.
- Reinforcement and repairing of foundations of stone or brick masonry walls.

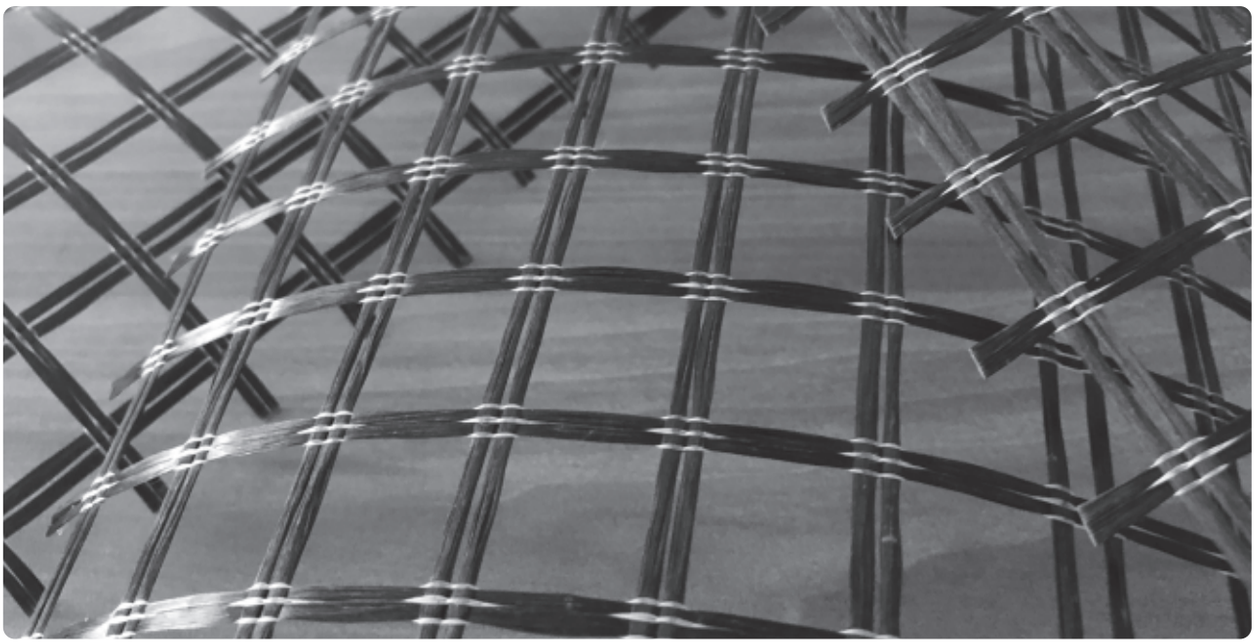
Features and Benefits:

- The plaster and paint on construction element should be removed, the surface should be cleaned and necessary reparations should be done.
- TEKNOBOND 200 mixture applied on surface as a thin layer.
- TEKNOBOND 300 is impregnated into TEKNOWRAP.
- TEKNOWRAP is adhered to the parts that will be strengthened. The surface of the finished material can be coated with paint or plaster if desired.
- Strongly adheres to the surface thanks to its specially developed coating.
- High mechanical strength and elastic modulus.
- Resistant to chemically aggressive media, especially to strong alkaline media.
- Minimizes the formation of crasks.
- Easy to apply.
- Low thermal conductivity coefficient
- Noncombustible.

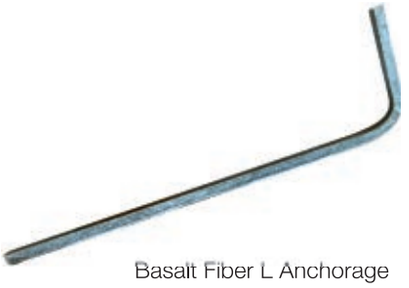


Technical Information

General Information	
Witdth	200 cm
Roll Length	50 m
Mesh Tensile Strength	85 kN/meter (0°)
Coated Weight for m^2	350 g
Mesh Distance mm	25x25
Fiber Type	Basalt fiber
Fiber Elastic Modulus	85 Gpa
Fiber Tensile Strength	4000 Mpa
Fiber Specific Gravity	2,7gr/cm^3
Coating	Alkaline resistant polymer



Stainless Anchorage



Basalt Fiber L Anchorage

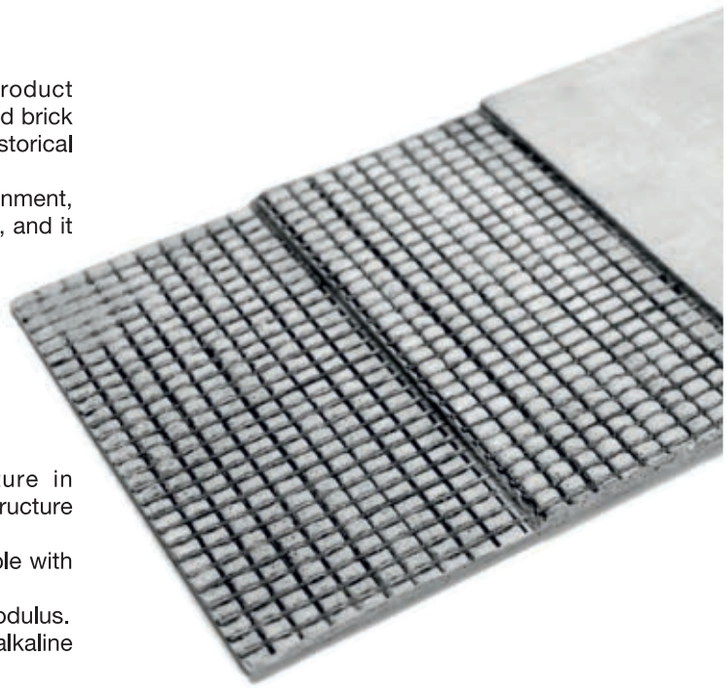
Teknowrap Karbon Mesh 170

High Strength, Two-sided Carbon Fiber Mesh for Structural Reinforcement Applications

- The most obvious advantage of the repair method by using Teknowrap Carbon Mesh 170 is that it gives much more strength than classical methods even though the increase in thickness of the structure is very little.
- Stronger than steel but much lighter.
- It does not have rusting and corrosion problems.
- Minimizes the negative effects of the interventions.

Description of Product:

Teknowrap Carbon Mesh 170 is a special product developed especially for reinforcement of stone and brick walls, and for strengthening and protection of historical area floors.
The material is resistant to all kind of chemical environment, has high alkaline resistance and high performance, and it can be readily used in cement based applications.



Fields of Application:

- Reinforcement of stone and brick walls
- Reinforcement of historical beams and archs
- Reinforcement of historical area floors

Features and Benefits:

- It enables making interventions in structure in accordance with the properties of the original structure without any negative effect.
- Specially developed coating makes it compatible with different materials.
- Has high mechanical strength and high elastic modulus.
- Resistant to chemically aggressive and high alkaline environments.
- Minimizes the formation and propogation of cracks.
- Enables strengthening applications in irregular structures.
- Easily and rapidly applied.
- Broad and homogeneous mechanical recovery.

Technical Information

General Information	
Witdth	100 cm
Roll Length	50 mt
Tensile Strength	> 240 kN/m
Coated Weight for m²	170 gr
Mesh Distance (mm)	10x10
Carbon Fiber Mesh Thickness for Both Sides (mm)	0,048
Carbon Fiber Elastistic Modulus	235 Gpa
Carbon Fiber Elongation at Break	%1,8

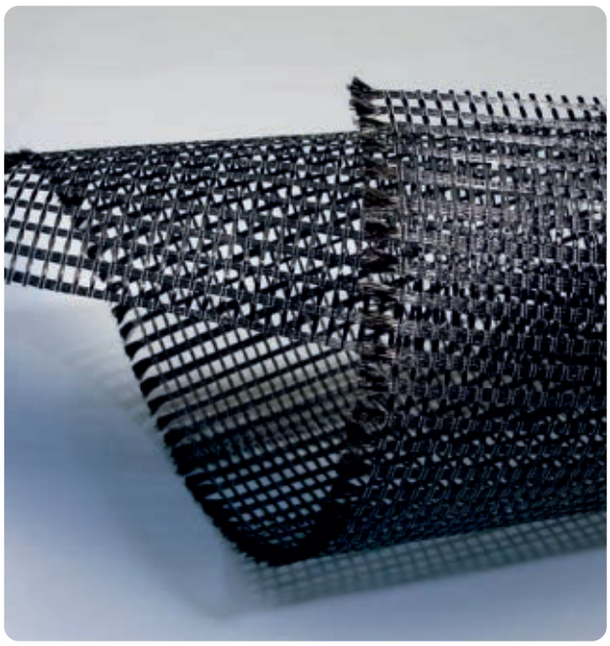
Stainless Anchorage

Carbon Fiber L Anchorage

Carbon Fiber Anchorage

Teknowrap Karbon Mesh 300

High Strength, Two-sided, Polymer Laminated Carbon Fiber Mesh for Structural Reinforcement Applications



- The most obvious advantage of the repair method by using Teknowrap Carbon Mesh 300 is that it gives much more strength than classical methods even though the increase in thickness of the structure is very little.
- Stronger than steel but much lighter.
- It does not have rusting and corrosion problems.
- Minimizes the negative effects of the interventions.

Description of Product:

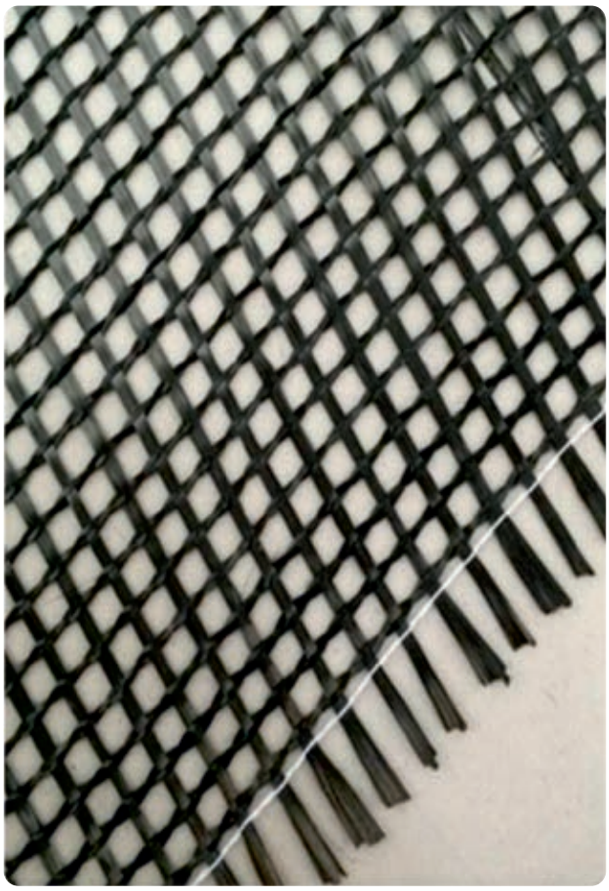
Polymer laminated Teknowrap Carbon Mesh 300 is a special product developed especially for reinforcement of stone and brick walls, and for strengthening and protection of historical area floors.
The material is resistant to all kind of chemical environment, has high alkaline resistance and high performance, and it can be readily used in cement based applications.

Fields of Application:

- Reinforcement of stone and brick walls
- Reinforcement of historical beams and archs
- Reinforcement of historical area floors

Features and Benefits:

- It enables making interventions in structure in accordance with the properties of the original structure without any negative effect.
- Specially developed coating makes it compatible with different materials.
- High mechanical strength and high elastic modulus.
- Resistant to chemically aggressive and high alkaline environments.
- Minimizes the formation and propogation of cracks.
- Enables strengthening applications in irregular structures.
- Easily and rapidly applied.
- Broad and homogeneous mechanical recovery.



Technical Information

General Information	
Witdth	100 cm
Roll Length	50 mt
Tensile Strength	> 255 kN/m
Coated Weight for m²	350 gr
Mesh Distance (mm)	38x38
Carbon Fiber Elastistic Modulus	235 Gpa
Carbon Fiber Elongation at Break	% 1,7

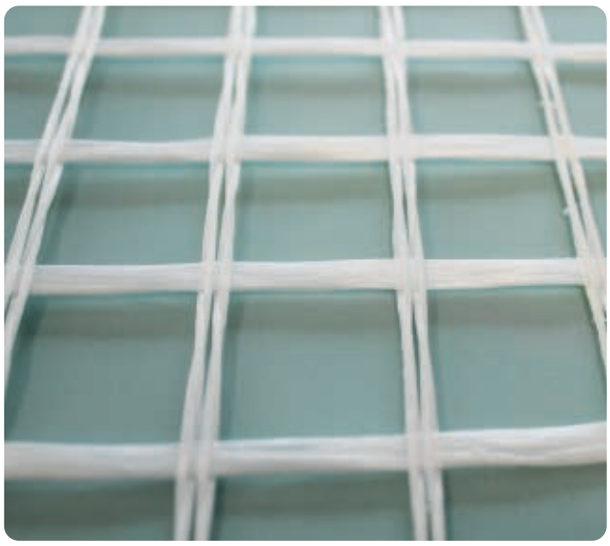
Stainless Anchorage

Carbon Fiber L Anchorage

Carbon Fiber Anchorage

Teknowrap Arglass M355

High Strength, Two-sided, Alkaline Resistant Glass Fiber Mesh for Structural Reinforcement Applications



- The most obvious advantage of the repair method by using Teknowrap Arglass M355 is that it gives much more strength than classical methods even though the increase in thickness of the structure is very little.
- Stronger than steel but much lighter.
- It does not have rusting and corrosion problems.
- Minimizes the negative effects of the changes.

Description of Product:

The products is an alkaline resistant glass fiber mesh laminated with alkaline resistant polymer. It is a special product developed especially for reinforcement of stone and brick walls, and for strengthening and protection of historical area floors.
The material is resistant to all kind of chemical environment and has high performance, and it can be readily used in cement based applications.

Fields of Application:

- Reinforcement of stone and brick walls
- Reinforcement of historical beams and archs
- Reinforcement of historical area floors

Features and Benefits:

- Although it does not have a negative effect on the original structure, it allows intervention in a way to provide a suitable application to its properties.
- Thanks to its specially developed coating, it adapts to different materials.
- High mechanical strength and elasticity modulus.
- Resistant to chemical aggressive environment and especially high alkali environment.
- Minimizes the formation and spread of cracks.
- Allows reinforcement in areas without regular geometric shape.
- Quick and easy application feature.
- Wide and homogeneous mechanical improvement.

Technical Information

General Information	
Witdth	100 cm
Roll Length	50 mt
Tensile Strength	70 kN/m (0° ve 90°)
Coated Weight for m²	355 g
Ar Fiber Weight for m²	255 g
Mesh Distance mm	38x38
Ar Fiber Type	Alkali resistant ar
Ar Fiber Brand	O.CORNING /Cem-FIL®
Ar Fiber Zro2 Amount	>%16
Ar Fiber Elastic Modulus	72 Gpa
Ar Fiber Tensile Strength	1350 Mpa average
Ar Fiber Elongation at Break	0,0187
Ar Fiber Specific Gravity	2,68gr/cm³
Coating	Alkaline resistant polymer

Stainless Anchorage

Glass Fiber Anchorage

Teknowrap Arglass M590

High Strength, Two-sided, Alkaline Resistant Glass Fiber Mesh for Structural Reinforcement Applications

Description of Product:

The products is an alkaline resistant glass fiber mesh laminated with alkaline resistant polymer. It is a special product developed especially for reinforcement of stone and brick walls, and for strengthening and protection of historical area floors.
The material is resistant to all kind of chemical environment and has high performance, and it can be readily used in cement based applications.

Fields of Application:

- Reinforcement of stone and brick walls
- Reinforcement of historical beams and archs
- Reinforcement of historical area floors

Features and Benefits:

- Enables making changes in structure in accordance with the properties of the original structure without any negative effect.
- Specially developed coating makes it compatible with different materials.
- High mechanical strength and high elastic modulus.
- Resistant to chemically aggressive and high alkaline environments.
- Minimizes the formation and propogation of cracks.
- Enables strengthening applications in irregular structures.
- Easily and rapidly applied.
- Broad and homogeneous mechanic recovery
- The most obvious advantage of the repair method by using Teknowrap Arglass M 590 is that it gives much more strength than classical methods even though the increase in thickness of the structure is very little.
- Stronger than steel but much lighter.
- Does not have rusting and corrosion problems.
- Minimizes the negative effects of the changes.

Technical Information

General Information	
Width	100 cm
Roll Length	50 mt
Mesh Tensile Strength	125 kN/m (0° ve 90°)
Coated Weight for m²	590 gr
Ar Fiber Weight for m²	510 gr
Mesh Distance mm	38x38
Ar Fiber Type	Alkaline resistant ar
Ar Fiber Brand	O.CORNING /Cem-FIL®
Ar Fiber Zro2 Amount	>%16
Ar Fiber Elastic Modulus	72 Gpa
Ar Fiber Tensile Strength	1350 Mpa average
Ar Fiber Elongation at Break	0,0187
Ar Fiber Specific Gravity	2,68 gr/cm³
Coating	Alkaline resistant polymer

Stainless Anchorage

Glass Fiber Anchorage

Fiber Glass L Anchor

Material	Size mm	Rod Length mm
Tekno Fiber Glass L Anchor	100x100	10x7
Tekno Fiber Glass L Anchor	200x100	10x7
Tekno Fiber Glass L Anchor	300x100	10x7
Tekno Fiber Glass L Anchor	400x100	10x7
Tekno Fiber Glass L Anchor	500x100	10x7
Tekno Fiber Glass L Anchor	600x100	10x7
Tekno Fiber Glass L Anchor	700x100	10x7
Tekno Fiber Glass L Anchor	800x100	10x7
Tekno Fiber Glass L Anchor	900x100	10x7
Tekno Fiber Glass L Anchor	1000x100	10x7

Basalt L Anchor

Material	Size mm	Rod Length mm
Tekno Basalt L Anchor	100x100	10x7
Tekno Basalt L Anchor	200x100	10x7
Tekno Basalt L Anchor	300x100	10x7
Tekno Basalt L Anchor	400x100	10x7
Tekno Basalt L Anchor	500x100	10x7
Tekno Basalt L Anchor	600x100	10x7
Tekno Basalt L Anchor	700x100	10x7
Tekno Basalt L Anchor	800x100	10x7
Tekno Basalt L Anchor	900x100	10x7
Tekno Basalt L Anchor	1000x100	10x7

Carbon Fiber L Anchor

Material	Size mm	Rod Length mm
Tekno Carbon Fiber L Anchor	100x100	10x7
Tekno Carbon Fiber L Anchor	200x100	10x7
Tekno Carbon Fiber L Anchor	300x100	10x7
Tekno Carbon Fiber L Anchor	400x100	10x7
Tekno Carbon Fiber L Anchor	500x100	10x7
Tekno Carbon Fiber L Anchor	600x100	10x7
Tekno Carbon Fiber L Anchor	700x100	10x7
Tekno Carbon Fiber L Anchor	800x100	10x7
Tekno Carbon Fiber L Anchor	900x100	10x7
Tekno Carbon Fiber L Anchor	1000x100	10x7

Carbon Fiber Tufted Anchor

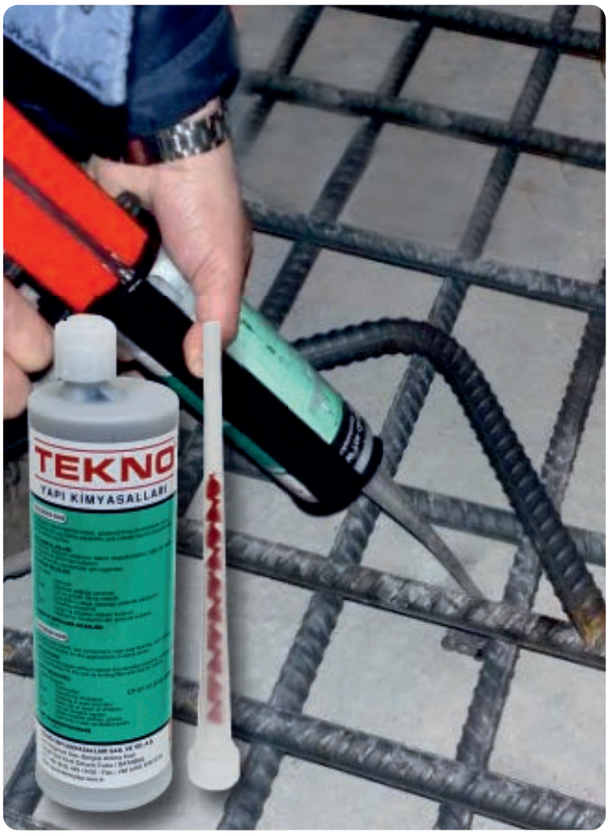
Material	Size mm	Diameter mm
Tekno Carbon Fiber Tufted Anchor	Any Size	6
Tekno Carbon Fiber Tufted Anchor	Any Size	8
Tekno Carbon Fiber Tufted Anchor	Any Size	10
Tekno Carbon Fiber Tufted Anchor	Any Size	12
Tekno Carbon Fiber Tufted Anchor	Any Size	14
Tekno Carbon Fiber Tufted Anchor	Any Size	16

Stainless Steel Anchor

Material	Size mm	Diameter mm
Tekno Stainless Steel Anchor	Any Size	8
Tekno Stainless Steel Anchor	Any Size	10
Tekno Stainless Steel Anchor	Any Size	12
Tekno Stainless Steel Anchor	Any Size	14
Tekno Stainless Steel Anchor	Any Size	16

Teknobond 400 W

Cartridge Type Anchoring Epoxy for Wet Application



Description of Product:
Epoxy acrylate based, two component, moisture tolerant, thixotropic, fast curing, anchor material.

Areas of Usage:
- Accessories and connecting rods; concrete, hollow or filled bricks and so on. in their anchors and in repair.
- In metal sprout cultivation, prefabricated element anchors, fixing of injection pakers and apparatus,
- In anchors of bolts and pins, central heating ventilation, etc. installation of pi pes and fittings.
- It is used for bonding all types of building materials.

Features and Benefits:
- It hardens very quickly and gains mechanical strength very quickly.
- Its application is easy, it saves time.
- It is pasty, does not sag; can easily be used in overhead applications.
- Protect equipment against corrosion.
- It has high resistance against chemical substances.
- It can be easily applied even on moist surfaces.

Application Instructions:
Surface Quality: The application surface must be free of all kinds of dust, dirt, weak and loosing particles, cement grout residues, oil and grease and be dry. The concrete lower surface must be clean, strong and have sufficient compressive strength.
Surface Preparation: The application surface should be cleaned using methods such as applying compressed air to maintain maximum adhesion strength.
Surface and Ambient Temperature: +5°C min. +35°C max.
Application Instructions: Open the cover by turning and remove, install the static mixer. Place the cartridge in the gun and start applying. When the application is interrupted, the static mixer tip may be left on the cartridge after the pressure in the sprayer has been drained. If the resin has hardened in the static mixer, a new insert must be fitted before starting work. When storing an opened cartridge, remove the static mixer by rotating it, clean the cartridge mouth with a clean, dry cloth, and close the lid.
Application Method / Equipment: Drill the hole in the required diameter and depth with hammer drill. The hole diameter and depth should be according to the size of the anchor element to be used. The opened hole should be cleaned starting from the bottom with a round wire brush and compressed air. No foreign matter such as dust, dirt, oil, etc. should remain. Press the trigger until the two separate components in the cartridge come out of the static mixer. Slowly pull out the cartridge while inserting the resin, beginning at the bottom of the hole. Make sure there are no air gaps inside. Extension tip can be used in deep holes. Insert the anchor element by rotating. once some resin has come out, the anchor element should be placed in the hole in the resin gelling period. During hardening the anchorage element must never be moved or loaded. Work clothes and protective gloves, glasses suitable for work and worker health should be used during application. Due to the irritating effects of cured materials, the components should not come into contact with the skin and the eye, and should immediately be washed with plenty of water and soap in case of contact.
Cleaning: Parts in contact with the skin and hands should be washed with water and soap. In case of contact with eyes, consult a doctor.
Cleaning of Equipment: Immediately after application; Instruments should be cleaned with Tekno Thinner. The hardened epoxy mortar can only be mechanically cleaned.
Potlife: ~ 8 minutes at 20°C
Cleaning Time: ~ 10 minutes at 20°C

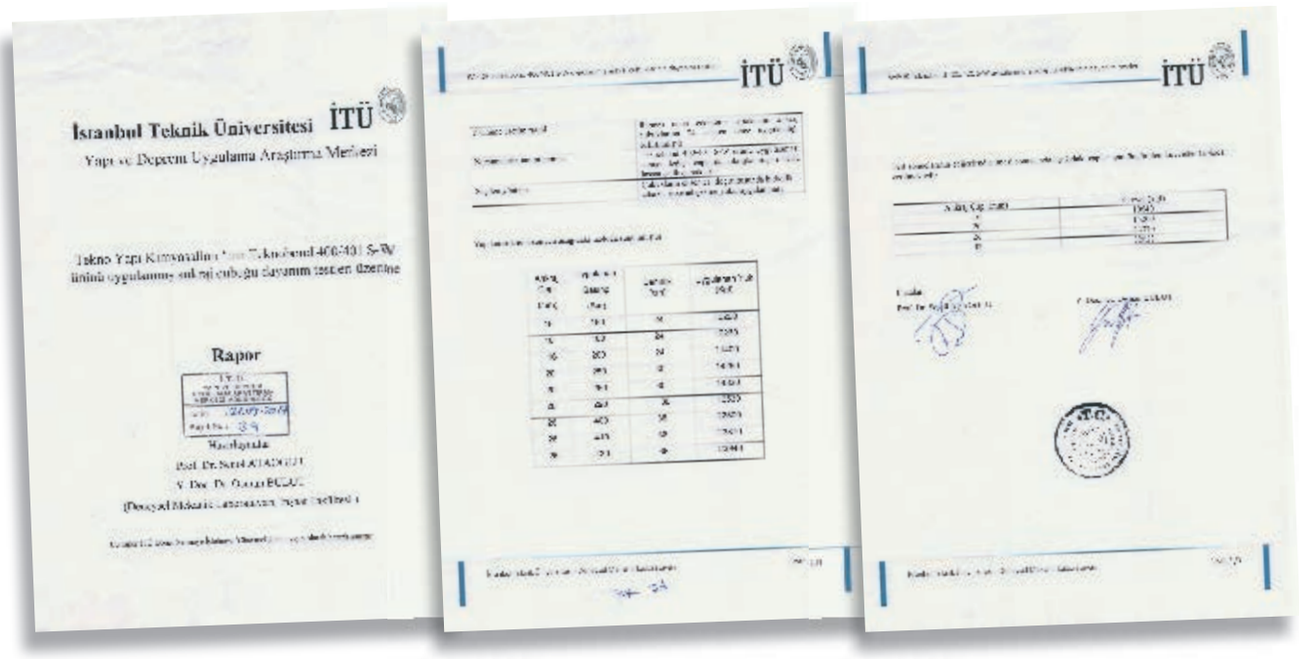
Application Notes / Restrictions:
- Use anchoring anchors (bricks or blocks) to fix anchoring material to hollow material. Do not use the first mix out of the gun. Do not use the first mixture out of the gun.

- Contains styrene.
- Combustible.
- Harmful by inhalation. Skin and eyes may be irritated.
- Keep away from children's reach.
- Do not breathe.
- Use only in well-ventilated area.
- The product may irritate skin. Protective gloves, masks and goggles should be used. Hand protection cream may be applied before starting work. In case of grout contact with eyes, eyes should be washed immediately with warm water and consult a doctor.

Technical Information

General Information		
Mixing Density	1,70±0,05 kg/lt	
Full Cure	7 days	
Recoatability	1 hour	
Service Temperature	0°C to 80°C	
Pressure Resistance (7 days)	≥ 70 N/mm²	TS EN 196-1
Adherence (concrete surface, 7 days)	≥ 3,0 N/mm² (Rupture from Concrete)	TS EN 4624
Bending Strength (7 days)	≥ 20 N/mm²	TS EN 196-1
Extraction Strength	≤ 0,6 mm (under 75 kN load)	EN 1181
Tensile Load Impact Creep	≤ 0.6 mm (after 3 months under 50 kN load)	EN 1544
Standard	According to TS EN 1504-6	
Packaging	345 ml and 410 ml cartridges	
Shelf Life	Closed and sealed in original package, away from sunlight, 9 months from date of production.	

Technical data are approximate values obtained from the laboratory study of Tekno Construction Chemicals for finished products obtained at +20°C air temperature and 50% relative air humidity.



Teknobond 200

Two Component Epoxy Paste Adhesive

Description of Product:
Specially developed, epoxy based, thixotropic, two component adhesive far thin applications.

Areas of Usage:
- In bonding TEKNOPLATE (carbon plate) materials,
- In thin type applications,
- Far all kinds of metal plates, granite materials to be adhered to glossy surfaces
- In fine repairs.

Faetures and Benefits:
- Resistant to chemicals.
- It provides excellent adhesion far concrete to wood and wood.
- It has high mechanical strength.
- Vertical applications do not sag.
- Solvent-free

Application Instructions:
Surface Quality: The surface of the application should be free from all kinds of dust, dirt, weak and volatile particles, cement grout residues, oil and dirt and be dry. Concrete bottom surface should be clean, strong and have sufficient compressive strength (at least 25 N/mm²), its pull-off strength should be at least 1.5 N/mm².
Surface Preparation: The application surface should be cleaned using methods such as applying compressed air to maintain maximum adhesion strength. TEKNOPLATE's adhesive part of the concrete is gently wiped with Tekno Thinner. The thinner on the plate should not have humidity, water.
Mixing: TEKNOBOND 200 is supplied in ready-to-use sets according to mixture ratio. Before starting the mixing, make sure that the material temperatures are between + 15 and +25°C. Component B must be completely poured into component A and component B must be free of any material. The mixture should be mixed with a mixer of approx. 300 rpm and a suitable mixer until a homogeneous mixture is obtained far at least 2-3 minutes, taking care not to leave any unmixed material on the sides and the edges of the package. Within 24 hours of TEKNOBOND 300 application, TEKNOBOND 200 application should be started. The material should be applied with a spatula to obtain a thickness of 1-1,5 mm on the smooth surfaces of pre-prepared carbon fiber polymer plates (TEKNOPLATE). At the same time, TEKNOBOND 200 should be applied with a spatula so that primed surfaces can be obtained with a thickness of 1-1,5 mm. The carbon fiber polymer plates with adhesive should then be fixed to their places so that they are slightly stretched in the direction of the fibers and do not swell. Then they should be pressed by roller on the carbon plates in the direction of the fibers so that there is no space between them and the concrete surface. Carbon fibers do not burn but epoxy can ignite after a certain temperature. Because of this reason, very thin epoxy is applied on the carbon plate, then the sand is spread in dry condition and plaster is applied on it. Spreading sand provides adherence between the carbon plate and the plaster to be built. When resistance against fire is requested, it should be covered with fire resistant special mortars (TEKNOREP 450) in appropriate thickness.

Application Notes/Restrictions:
- In order to complete the hardening of the material, do not use below the minimum allowable temperature.
- Low temperatures will slow the hardening, while higher temperatures will accelerate the hardening.
- Pot life will also vary depending on the temperatures.
- The product may irritate skin. Work clothes, protective gloves, masks and glasses must be used. Protective cream can be applied to hands before starting work. In case of grout contact with eyes, eyes should be washed immediately with warm water and consult a doctor.
- Crystallization can be observed in the product if it remains long below 0°C. If the crystals are dissolved by bringing the product back to room temperature, it can be used without any problems.
- Do not add any solvents or other foreign substances into the product.
- Before the application, the design of the reinforcement project must be done by a civil engineer. Projected and responsible.
- Ambient and surface temperature should not be below +5°C and above +35°C when applied.
- The application should be made by experienced and competent persons.
- Care must be taken to prepare enough material to use within the study period.

- The final check of the application should be performed by the universities / independent testing organizations / inspectors.
- Parts contacted with skin and hand must be washed with water and soap. In case of contact with eyes, consult a doctor.

Technical Information

General Information	
Color	Grey (blend)
Mixture Density	~1,65 kg/liter
Mixture Ratio	1 unit A Comp. : 1 Unit B Comp. (Weight)
Packaging	5 kg set
Application Information	
Consumption	3-4 kg for 1 m^2plate bonding
Shelf Life	12 months in unopened original packaging
Pot Life	~ 30 minutes (20°C)
Cleaning Time	~ 45 minutes (20°C)
Recoating Interval	2-7 days
Full Strength	7 days
Performance Information	
Adhesion (steel and concrete)	> 4 N/mm^2
Tensile Strength (TS EN 196-1)	> 25 N/mm^2
Pressure Resistance (TS EN 196-1)	> 90 N/mm^2

Teknobond 300

Epoxy Resin Based, Two Components, Low Viscosity Primer

Description of Product:
Teknobond 300 is a two component, low viscosity, solvent free epoxy resin primer.

Areas of Usage:
- Lining concrete surfaces, cement screed and epoxy mortars,
- On normal and absorbent hot surfaces,
- As a primer before all epoxy and polyurethane floor coverings,
- As a binder for epoxy based levelling mortar and mortar coverings,

Features and Benefits:
- Low viscosity
- Has good penetration properties,
- High bond resistance,
- Solvent free,
- Easy to implement,
- Waiting times are short,
- All purpose
- it can be used outdoors,

Application Instructions:
Surface Preparation: The application surface should be free of all kinds of dust, dirt, weak and friable particles, cement sherbet residues, oil and grease and dry. Concrete substrate must be clean, robust and sufficiently Compressive Resistance (at least 25 N/mm²), tensile strength (pull off) at least 1.5 N/mm². Application surface, to ensure maximum adhesion resistance, pressurized air holding, ete. it must be cleaned using methods. Mixing: After adding component B to component A, mix it for 2-3 minutes until it has a homogeneous color (up to 400 RPM) with a low speed electric stirrer. Make sure that a continuous, nonporous layer is covered by the surface. If necessary, apply two storey of primer. Teknobond 300 NB can be applied with brush, roller or spray gun. Immediately after application, tools should be cleaned with TEKNO TİNER (thinner) without hardening. Hardened product can only be mechanically cleaned.

Application Notes / Restrictions:
- Do not use it below the permitted minimum temperature to complete the hardening of the material. Low temperatures will slow hardening and high temperatures will speed hardening. Pot life will vary depending on the temperature.
- The floor temperature without curing should be at least 3°C above the condensation point.
- The product may cause sensitization by skin contact. Protective gloves, mask and goggles should be worn. in case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- +5°C below the product stored for a long time can be observed crystallization. If the crystals are dissolved, the product can be used without any problems by returning to room temperature.
- Color losses can be yellowing of the product, which is hardened due to direct sunlight (UV).
- In areas where water clear color and long term UV resistance is expected, TEKNOBOND 350 should be used.

Consumption:
Primer: 300-500 gram/ m²
Bedding Mortar: 1,4 - 1,6 kg/ m² / mm (Quartz sand varies depending on the amount)
Repair Mortar: 2,0 - 2,2 kg/ m² / mm (Applications using quartz sand up to 10 times by weight)

Technical Information

General Information		
Chemical Structure	Solvent free Epoxy	
Color	Transparent Yellowish Liquid	
Shelf Life	12 months from the date of production in its original packaging	
Packaging	A Component: 10 kg can B Component: 5 kg can A+B Components: 15 kg set	A Component:400 kg (2 barrel) B Component: 200 kg barrel) A+B Components: 600 kg set (3 barrel))
Application Information		
Mixture Density	1,10±0,02 g/ml	(EN ISO 2811-1)
Application Time	≥ 30 min. (it depends on the weather conditions)	
Waiting Period Between Layers	Min 24 hours, max 3 days (+20°C)	
Mixture Ratio	2 Component A : 1 Component B (Weight)	
Full Strength	7 Days (At +20°C)	
Surface/Environment Temperature	Min + 10°C / Max +30°C	
Surface Humidity Content	< 4% (Weight)	
Relative Humidity	It should be max %80	
Performance Information		
Bending Resistance (7 days)	≥ 30 N/mm²	(TS EN 196-1)
Compressive Resistance (7 days)	≥ 90 N/mm²	(TS EN 196-1)
Concrete Adhesion Strength	≥ 4 N/mm²	(TS EN 196-1)
Steel Adhesion Strength	≤ 3 N/mm²	(TS EN 196-1)
Shore D Hardness (7 days)	83	
Thermal Strength	Continuous: +50°C max 7 days: +80°C	

Teknobond 300 Tix

Epoxy Based Adhesive and Lamination Resin

Description of Product:
Two component, solvent free, thixotropic, epoxy based saturating resin and adhesive. It is used for bonding TEKNOWRAP 300 to the concrete surface.

Areas of Usage:
- When applying TEKNOWRAP fibers by dry application method,
- As a primer for wet application system,
- It is used for adhering TEKNOBAR plates on smooth surfaces.

Features and Benefits:
- Easy to mix, easy to apply with trowel and saturating rollers.
- It is for manual saturation.
- Mechanical strength is high.
- It is applied on vertical and overhead surfaces.
- It provides good adhesion to many surfaces.
- It has high mechanical properties.
- There is no need to apply a separate primer to the bottom.
- Solvent free.

Application Instructions:
Surface Quality: The surface of the application should be free from all kinds of dust, dirt, weak and volatile particles, cement grout residues, oil and dirt and be dry. Concrete bottom surface should be clean, strong and have sufficient compressive strength (at least 25 N/mm²), its pull-off strength should be at least 1,5 N/mm². Concrete should be strong and have sufficient strength.
Surface Preparation: The application surface should be cleaned using methods such as applying compressed air to maintain maximum adhesion strength. Weak concrete parts should be repaired and restored with high strength repair mortar. The plaster on the construction element must be removed, the surface must be cleaned, and necessary repairs should be made.
Mixing: After component B has been added to component A, mix it for 2-3 minutes with a low speed, electric stirrer (up to 400 rpm) until a homogeneous color is obtained.
Application Method / Equipment: TEKNOWRAP 300 is cut and made ready according to the application. Prepared TEKNOBOND 300 TIX mixture is put into concrete with a spatula or roller. It is then brought onto the TEKNOWRAP 300 to ensure that the epoxy is adhered to the carbon by hand. In adhesion process, the underlying epoxy is ensured to come out with a slight knurled roller. This process is done in such a way that the entire surface is homogeneously exposed to the epoxy top surface. If the epoxy is insufficient, the Teknobond 300 TIX is again filled and the carbon fibers are saturated with epoxy. Carbon fibers do not burn but epoxy can ignite after a certain temperature. Because of this reason, very thin epoxy is applied on the carbon plate, then the sand is spread in dry condition and plaster is applied on it. Spreading sand provides adherence between carbon fiber and plaster.

Application Notes / Restrictions:
- In case of eye contact, rinse with plenty of water for about 15 minutes and immediately contact a physician.
- Keep away from foodstuffs and children.
- Parts contacted with skin and hand must be washed with water and soap. in case of contact with eyes, consult a doctor.
- Immediately after application, before hardened, the equipment should be cleaned with TEKNO TİNER (thinner). The hardened epoxy mortar can only be mechanically cleaned.

Technical Information

General Information	
Color (Resin and Hardener Mixture)	Off-White
Mixture Density (A + B)	1.65 ± kg/lt
Shelf Life	12 months in unopened original packaging
Packaging	5 kg set
Application Information	
Consumption	300 gr/m² for 1-1,5 kg/m²
Applicable Ground Temperature	(+5°C) - (+35°C)
Mixture Ratio (Weight)	3,85 units A: 1,15 units B
Pot Life	~30 minutes
Performance Information	
Concrete Adhesion	≥ 4,0 N/mm² (Rupture from Concrete)
Bending Strength	≥ 40 N/mm²
Pressure Resistance	≥ 80 N/mm²
Tensile Strength	≥ 30,0 Mpa
Full Strength	7 days

Teknogard Konsantre

Wood Protection Concentrate

Description of Product:
Water soluble wood protection concentrate which doesn't contain any heavy metal.

Fields of Usage:
For all interior and exterior wood products that do not come into contact with soil.

Features and Advantages:
- An impregnation concentrate containing boric acid and ammonia molecules.
- It provides protection against fungi, pests and outdoor weather

Application Instructions:
It can be applied by pressure tanks, by sliding, spraying or dipping. Pressure tank application is required to meet the hazard class 3 requirements. Wood processing must be done before impregnation.
Solution concentration:
For spreading and spraying:
The solution should be max %50. For Immersion method, solution should be at least 8%. For Pressurized tank impregnation method, solution should be at least 1%.
Impregnation: All kinds of cutting and so on work must be done before impregnation. The wood which is going to be impregnated must be clean.
After Impregnation: Wood must be protected from rain to ensure full effective penetration and drying of the material. If wood is cut after impregnation, the cutting points must be additionally impregnated. In the case of varnishing or painting of impregnated wood, this can be done with Solvent or water-based products. Tests should be done on small surfaces to test the color, adhesion and so on.

Application Notes/Restrictions:
- The instructions for use must be strictly observed during the application and impregnation should be carried out by experienced companies. This product should not be used unless it is compulsory to impregnate large surfaces in the living spaces
- They cannot be used on wooden elements that come in to direct contact with foodstuffs.
- Product residues should not be thrown into the ground, rivers and sewage systems.
- Do not eat, drink or smoke while you are doing this application.
- The instructions for use must be strictly observed during the application and impregnation should be carried out by experienced companies. This product should not be used unless it is compulsory to impregnate large surfaces in the living spaces
- Harmful to aquatic organisms In the long term adverse effects, it may cause damage in the aquatic environment.
- Keep out of reach of children
- May cause lung damage if swallowed.
- In case of skin contact, it may damage the skin
- The mixture should not come into contact with skin and eyes; in case of a contact, the affected area should be washed with plenty of water and a physician should be consulted immediately
- Don't breath it directly.
- Work with gloves.
- Wash hands and face after work
- If it is swallowed, call the National Poison Advice Center or doctor / physician and go to a hospital immediately with the documents of the product.

Technical Information (20°C and 40-65% relative air humidity conditions)

General Information	
Apperance/Color	Colourless, yellow, brown, green
Packaging	35 kg pail, 5 kg
Density	1,00 g/cm³
Shelf Life	Should be kept under proper storage conditions in an unopened pail.
Odor	light
pH-Value	7

Teknogard Emprenye

Water Based Wood Impregnation which is Applied by Dipping Method

Description of Product:
It is a water-based impregnation material which is applied by immersion method to prevent wood decay.

Fields of Usage:
It can be used in all wooden structures which is not in contact with soil.

Features and Advantages:
- Increases penetration in wood.
- Effective against by dipping
- Clear
- Water based and odorless
- Complies with European norms
- Environment friendly
- Extend the life of wood

Application Instructions:
The moisture of the wood must be clean and also its humidity must below %12. It must be free of all varnishes and chemicals. The product is ready to use and does not require any thinning. Shake the product before you use it.
Immerse the wood material completely in a tank (made of sheet metal, polyester or polypropylene) filled with TEKNOGARD EMRENYE and wait. Dipping time for pine and other soft textured wood is minimum 6minutes. After immersion, keep the impregnated wood on the tank for 2-3 minutes to allow the excess product to flow into the tank. After impregnation, wait for at least 24 hours to apply paint / varnish on wood. Consumption may be change according to the tree species.

Application Notes/Restrictions:
- For outdoor use only.
- Not used in beehives, greenhouses, food or feed storage areas.
- Close the product cover after application.
- General application temperatures of the product are between 15-25°C and 40-65% relative humidity.
- The moisture content of the wood that the product is applied, should be below 12%.
- The product must be protected from freezing weather conditions and stored at temperatures between 5 ° C and 35°C.
- Use in a well-ventilated area.
- Keep out of reach of children
- Store the product in its original packaging
- Do not use the empty container in any other operation
- The mixture should not come into contact with skin and eyes; in case of a contact, the affected area should be washed with plenty of water and a physician should be consulted immediately
- Wash hands after use to avoid possible product vapor exposure, Provide adequate ventilation by keeping windows and doors open during or after application
- Get medical attention if irritation persists
- If it is swallowed, call the National Poison Advice Center or doctor / physician
- Dispose the product in accordance with national regulations.

Technical Information (20°C and 40-65% relative air humidity conditions)

General Information	
Appearance / Color	Colourless
Packaging	30 lt, 200 lt, 1000 lt
Density	1,00 ± 0,02
Shelf Life	2 years under proper storage conditions after production date
Application Information	
VOC (g/L)	0
Application Method	Dip (Impregnated)
Consumption	for 1 m³, min 15 lt
Through Dry time	24 hours

Teknogard Sürme/Spreyleme

Water Based Wood Preservation Which is Applied by Roll or Spray.

Description of Product:
It is a Water-based, wood preservation liquid which is applied by brush or spray to prevent wood decay

Fields of usage:
It can be used in all wooden structures which is not in contact with soil.

Features and Advantages:
- Effective against insects and fungi
- Easy application with brush and spray
- Water based and odorless
- Complies with European norms
- Environment friendly
- Extend the life of wood

Application Instructions:
The moisture of the wood must be clean and also its humadity must below %12. It must be free of all varnishes and chemicals. The product is ready to use and does not require any thinning. Shake the product before you use it. Apply the product in 2 coats using a brush or a spray (be sure that the surface of the wood is completely moisten). Do not apply the second coat until the first coat has dried. After application, wait for 24 hours to apply paint / varnish on wood. Consumption may be change acording to the tree species.

Application Notes/Restrictions:
- Not used in beehives, greenhouses, food or feed storage areas.
- Use in a well-ventilated area
- Do not use the empty container in any other operation
- Keep out of reach of children
- Wash hands after use
- To avoid possible product vapor exposure, Provide adequate ventilation by keeping windows and doors open during or after application.
- The mixture should not come into contact with skin and eyes; in case of a contact, the affected area should be washed with plenty of water and a physician should be consulted immediately
- Get medical attention if irritation persists
- If it is swallowed, call the National Poison Advice Center or doctor / physician
- Dispose the product in accordance with national regulations
- Read the MSDS form carefully.

Technical Information (20°C and %40-65 relative air humidity conditions)

General Information	
Apperance/Color	Colourless
Packaging	35 lt, 200 lt, 1000 lt
Density	1 ± 0,02
Shelf Life	2 years under proper storage conditions after production date
Application Information	
Application Method	With brush or spray
Consumption	With 1 litre , 3-4 m^2 area can be done.
Through Dry Time	24 hours

Teknobond 955

Fire Resistant Steel Paint

Description of Product:
Single component, resin and solvent based, fire resistant paint. It helps to protect the structures exposed to fire. It can be used as the last layer of the floor system in open areas.

Fields of Usage:
- Suitable for passive fire protection on steel surfaces
- Motorways, cross roads, mainroads.
- Airports and Bridges
- Housing and shopping centers.
- On city furniture such as cobblestones and kerbs
- It is applied on asphalt or concrete in any engineering structure

Features and Advantages:
- Single component and easy to apply
- High temperature resistance.
- It is applied cold.
- Fast curing.
- Fast curing even in thick applications.
- High abrasion resistance.
- High UV resistance.

Application Instructions:
Surface Quality: The surface must be undamaged, clean, free of any loose particles and all substances preventing adhesion. Tensile strength must be min. 1.5 N / mm^2
Surface Preparation: If there are gaps on the concrete or asphalt, it should be repaired before the appliying the production. Clusters, protrusions, etc. which disrupt the smoothness of the surface should be brought to the same level by mechanical methods
The paint should be mixed well before using it. Application is done in one layer. If second layer is needed, wait at least 1 hour for the second layer. TEKNOBOND 955 is cured with air, no additional treatment is required.

Notes on Application / Limitations:
- Paint should never be drained into sewers and water channels
- After partial use; seal the package tightly.
- Do not apply in rain. The product should not be diluted with water
- It is applied with brush, roller or special line machines
- After the application, it should be protected against adverse weather conditions such as direct sunlight, strong wind, high air temperature (+ 35°C), rain and frost.
- As it is flammable, keep away from sources of ignition and do not smoke while you are applying the product.
- After it is applied, it hardens immediately. Once hardened, product can only be removed mechanically.
- Hands and skin should be washed thoroughly in hot soapy water. Clean tools and equipment with clean water immediately after use.
- Clean tools and equipment with TEKNO TİNER (thinner) immediately after use.

Technical Information

General Information	
Material Structure	Modified acrylic resin
Color	Yellow, White, Red (Various colors that are requested)
Packaging	25 kg Tin
Shelf Life	12 months under proper storage conditions after production date
Density	1,60 g/ml (± 0,05)
Application Information	
Consumption	150+5 gr/m2 for one layer
Pot Life	~60 minutes
Touch Dry	25 – 30 minutes
Dust Free	40 – 50 minutes
Through-dry time	~24 hours
Application Temperature	(+5) – (+35)°C

Construction Materials That are Used at Restoration Systems

Teknokiremit Tozu
Tekno Brickdust
Between 0,0 - 1,6 mm

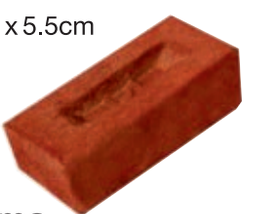
Teknoküfeki Tozu
Tekno Limestone
Between 0,0-0,15 mm

Teknoküfeki Eleküstü
Tekno Limestone
Between 0,5-5,0 mm

Teknokiremit İrmiği
Tekno Brickdust
Between 0,5 - 3,0 mm

Teknoküfeki
Tekno Limestone
Between 0,5-3,5 mm

Tuğla / Brick
18.5cm x 8.5cm x 5.5cm
1200 gr



Kare Kaplama Tuğla / Brick
10.5cm x 20cm x 2cm

Teknokiremit Kırığı
Tekno Brickdust
Between 1,0 - 8,0 mm

Teknoküfeki Elenmiş
Tekno Limestone
Between 0,0 - 1,5 mm

Tekno Kaymak Kireç / Lime Paste

TEKNO®
construction chemicals

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