



**DEKKAP<sup>®</sup>**

**REINFORCED**  
composites



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## ✕ About DEKKAP

Dekkap specializes in efficiently engineered, modular, long-lasting reinforced concrete and gypsum composite wall panel production. Excellent for both interior and exterior decorative architectural elements. We can cover multiple needs with our wide material range and clever mounting solutions.

Dekkap recognizes its position as a bridge between imagination and realization. Meeting up with the demands of the customer requires expertise and experience and Dekkap always delivers. Dekkap teams up with Fiberton A.Ş. in production and R&D. Fiberton A.Ş. is a company with more than 18 years of experience in the field. Fiberton A.Ş. uses Dekkap UHPC mix for production in Turkey. Fiberton A.Ş. also develops studless GFRC with higher physical and flexural strength with Dekkap for the European market.

### What we do?

Dekkap offers high-quality products with expert service and customer satisfaction. Dekkap specializes in architectural wall panels for both interior and exterior cladding. Our expertise in reinforced composites makes us a capable company that can offer different materials and solutions for different situations. Dekkap material range includes precast reinforced composites such as Ultra High Performance Concrete(UHPC), Glass Fiber Reinforced Concrete (GFRC/GRC), Steel Fiber Reinforced Concrete (SFRC/SRC), and Glass Fiber Reinforced Gypsum(GFRG/GRG). In addition to the commercial products above, Dekkap R&D team continues their progress in perfecting environmental geo-polymer concrete and Textile concrete for commercial projects. Technique and craftsmanship, are perfectly blended. Artisan products meet with technical expertise in Dekkap.

### Research & Development

Our research and development team consists of qualified personnel who are experts in their areas of expertise. From day one, we work towards improving our products, our industry, and ourselves. The development process required to successfully build Dekkap UHPC, Dekkap GFRC, and Dekkap GFRG was developed in Dekkap labs. Dekkap, with its partner Fiberton A.Ş., is one of the first companies that introduced the material UHPC and GFRG to Turkey.

### Quality

Quality has been our number one priority since day one. To produce the same high-quality panels, we carefully inspect our suppliers and choose the best raw materials. Our quality department regularly inspect all the production processes to ensure high-quality panels. We regularly test the performance of our panels in our laboratory to make sure we meet the standards all the time. We always make sure we only send the best quality products to our clients. Dekkap production center produces its panels according to TS EN 12467 and TS EN 1170 standards. We are regularly inspected by the Turkish Standards Institute to prove that we produce according to their standards. We are also regularly inspected by the United Kingdom based, International Glassfibre Reinforced Concrete Association (GRCA). After their inspections, GRCA has rewarded us with a full membership to their association. We also believe that our whole production system should be carried out according to a standard. That is why our production center is certified with ISO 9001, ISO 14001 and ISO 45001.

### Expertise & Location

Dekkap is capable of supplying everything from precast, tailor-made GFRG/UHPC façade to standard modular wall panels. Our expertise from GFRC gives us the ability to produce highly complex shapes, curvatures, and textures. The production facility is located in Mersin, Turkey. Mersin, which is a port city in the south, is the optimum location for production and logistics. It is very close to the best possible high-quality raw materials. Also by being a junction point for motorways, aerial transportation, and sea routes, logistics is also a strong suit of Dekkap.



*Thinner,*  
**stronger**  
& *more* **reliable**



## X What is UHPC?

We make thin and strong concrete panels you can easily apply to your façade.

When densely packed particles meet with low water and fiber content, a superb material named Ultra High Performance Concrete emerges. Stronger material means thinner panels and longer lifespan. Also A1 class incombustible.

### Ultra High Performance:

UHPC consists of carefully selected natural raw materials packed in a very specific and harmonious manner to create an innovative material with exceptional compressive and flexural strength, very low water absorption, and a very long lifespan. With its class A1 incombustibility, UHPC offers high thermal qualities and temperature stability. With superior abrasion resistance and dimensional stability, UHPC is highly resistant to weather and thermal factors. Along with its high physical impact resistance, it offers excellent flexural strength to withstand high wind loads. Its excellent mechanical features make it possible to produce light panels as thin as 10 mm with superior surface quality and customizable texture and color. Panels only lose 1 mm in thickness in 60 years.

### The term UHPC means:

- Ultra High Strength Concrete with a compressive strength of over 100 MPa.
- Low water/binder ratio.
- Optimized particle packing with a special selection of fine and ultra-fine particles
- Low porosity and high durability.
- Fiber content to provide matrix ductility and improved flexural strength.

*'carefully selected natural raw materials packed in a very specific and harmonious manner.'*

*'innovative material with exceptional compressive and flexural strength, very low water absorption and a very long lifespan.'*





RINGMASTER

THIN &  
**STRONG** X



## Feature Set

### Creative freedom

Our thin, strong, and durable panels give infinite freedom to creators to create with endless possibilities. You can choose one of the various formats, colors, or textures to your liking.

### Performance

Dekkap UHPC Panels withstand extreme loads compared to regular concrete panels. Due to their robust properties, the panels are weather-resistant and have a long service life.

### Durable

With exceptional abrasion resistance and dimensional stability, Dekkap UHPC is highly resistant to weather and thermal factors. Along with its high physical impact resistance, it offers excellent flexural strength to withstand high wind loads. Its excellent mechanical features make it possible to produce light panels as thin as 10 mm with superior surface quality and customizable texture/color alternatives. Panels only lose 1 mm in thickness in 60 years.

### Texture

Texture integrates depth into the façade. Sunlight breathes life into it. Endless possibilities in form and texture make Dekkap UHPC in harmony with nature and its surroundings.

### Colors

Thanks to superior surface quality and excellent finishes it is possible to integrate color with ease. Choose the best for your taste from our color chart. Dekkap panels are also paintable.

### Green and Respectful

Dekkap UHPC is highly aware of its liabilities to the environment. Highly optimized usage of natural mineral raw materials and efficient concrete consumption enables reducing carbon footprint to a minimum degree. Also due to its thinner and lighter structure, it is possible to ship more panels in a box and it is possible to use less construction equipment and machinery to install. Together with its long lifespan and low maintenance necessity, UHPC is a great green solution respectful to our world.

### Fireproof

UHPC is fire resistant with A1 "non-combustible" class according to EN-1467, possesses high thermal values and temperature stability, and does not require additional coating.

### Format

The standard size for a panel is 1200mm x 3600mm, however, our panels come with 3 different alternatives, which are 1200mm - 2400mm - 3600 mm in height. Custom sizes and textures are available upon request. Dekkap Panel optimizes the slicing process of standard panels to have maximum efficiency.

### Genuine

Dekkap UHPC is carefully engineered and skillfully designed. Together with years of experience, Dekkap UHPC is highly capable of manufacturing the best all-around solution for any project.

### Support

With superior detail capability and a highly formable nature, Dekkap UHPC is capable of surrounding a building like a glove. Our experienced architect and engineering team is at your service for clever detail solutions.



*particle*

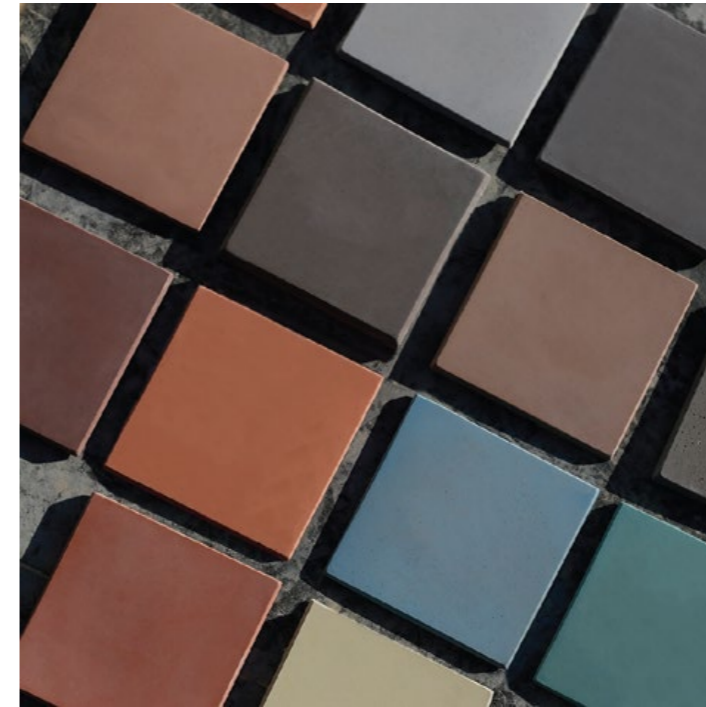
OPTIMIZATION



## Technical Specifications

<b>Sizes</b>	1,2 x 1,2 m, 2,4 x 1,2 m ve 3,6 x 1,2 m	
Special sizes	on request	
Dimensional Variation Length (3,6m)	± 4 mm	EN 12467
Dimensional Variation Width (1,2m)	± 2 mm	EN 12467
<b>Thickness</b>	15 mm (10-13 mm on request)	
Thickness Tolerance e ≤ 6 mm   6 mm < e ≤ 20 mm   e > 20 mm	± 0,6 mm   ± %10e   ± 2 mm	EN 12467
Edge Straightness	± 0.3 %	EN 12467
Perpendicularity	± 2 mm/m	EN 12467
<b>Physical Characteristics</b>		
Compressive strength	≥ 110 N/mm <sup>2</sup>	
Impact resistance	5,97 kJ/m <sup>2</sup>	
Tolerances > 1,2 m   > 2,4 m   > 3,6 m	± 2 mm   ± 4 mm   ± 4 mm	
Swelling	0,5-1 mm/m	TS EN 1170
Shrinkage	1-2 mm/m	TS EN 1170
Bulk density	2,0 - 2,3 kg/dm <sup>3</sup>	EN 12467
Bending tensile strength	13 - 18 N/mm <sup>2</sup> (MOR*)	EN 12467, Class 3
Dead load / mass per unit area (15mm)	30 - 34,5 kg/m <sup>2</sup>	
Material class	A1 - non-combustible	EN 13501-1
Modulus of elasticity (deformation)	10000- 20000 MPa	EN 12467
Modulus of elasticity (restraint)	40000 MPa	EN 13412
Thermal conductivity	0,765 W/(m*K)	TS EN 12664
Water absorbtion	%1-3	TS EN 1170
<b>Weather-resistance</b>		
Water impermeability	As in standard	EN 12467
Heat-rain	As in standard	EN 12467
Frost resistance	As in standard	EN 12467
Freeze - thaw	As in standard	EN 12467
UV-light resistance	UV-resistant pigment	
Warm water resistance	As in standard	EN 12467
Soak - dry	As in standard	EN 12467
<b>Fastening</b>		
Fastening visible	Rivet	
Fastening invisible	Undercut anchor, Infill anchor, Clip system, Adhesive	
Substructure	Aluminum, steel	
Joint width	8-10 mm	
Reinforcement	Alkali resistant glass fiber (AR glass)	
Edge formation	Glass fiber may be visible in edges when cut	
Colors	16 standard color (specific colors on request)	
Weather protection	Hydrophobic coating	

## Colours & Surfaces



### Colored by the mix

Dekkap UHPC panels are light gray in color. They are also available in color. Colored production is possible by using pigments in the mix. This method allows our panels to be maintenance-free. 16 standard colors are available. Custom colors are also available upon request.

### Surfaces and textures

We offer 2 different finishes as standard. Smooth and coarse

### Color Variation

There are certain limitations to color when it comes to colored production. Overuse of pigments might affect physical properties, introduce too much air into the mix or pigments might overflow through the surface. We suggest colored production when it is possible to produce without compromising quality. Even though we suggest colored production, we also need to inform our customers about slight color variation between panels and on the surface. Depending on the nature of the concrete, color changes in aggregates, design differences, hydration process, weather differences, etc. can result in color variation.

### Hydrophobization

Dekkap UHPC panels come with a layer of hydrophobic coating. Hydrophobic coating provides basic protection against weathering, dust, and dirt. Hydrophobic coating is water impermeable and breathable. Hydrophobic coating does not provide protection against scratches, pressurized liquids, oil, acids, strong alkalis, etc.

### Paint

Dekkap UHPC panels are also possible to paint. Standard exterior paints and semi-transparent colored impregnations are available. Colored impregnations makes it possible to color the concrete without losing the texture and feel.

### Nature of the concrete

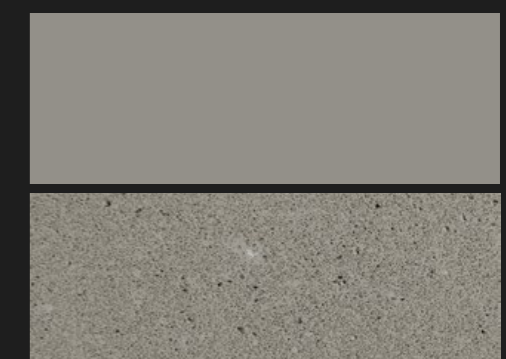
Concrete is a special material with unique characteristics. Due to its natural matrix, minor imperfections like depressions, stretch marks, and pores may occur on the surface.

### Note:

Surface properties described above applies to the visible side of the cladding panel. Concrete surface sample panels can never reflect all of the above features. Small defects may occur on small sample panels but they would be undetectable in larger-scale façade applications.



16 standard colors



2 standard finishes



EFFICIENT  
&  
**SUSTAINABLE**



**Standard Panel Sizes**

1200mm x 3600mm, 1200mm x 2400mm, 1200mm x 1200mm sizes are available as standard panels. Pre-drilled panels for undercut type of concealed fixing are 15 mm in thickness.

10, 15, or 20 mm panels are available for clip type of concealed fixing.

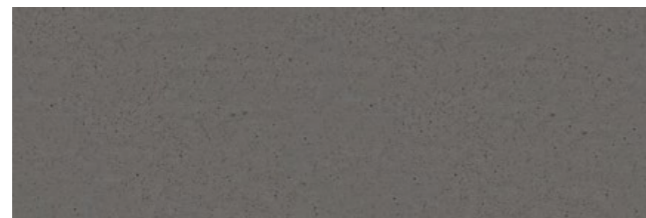
10 mm panels are available for visible fixing.



2400mm x 1200mm



1200mm x 1200mm

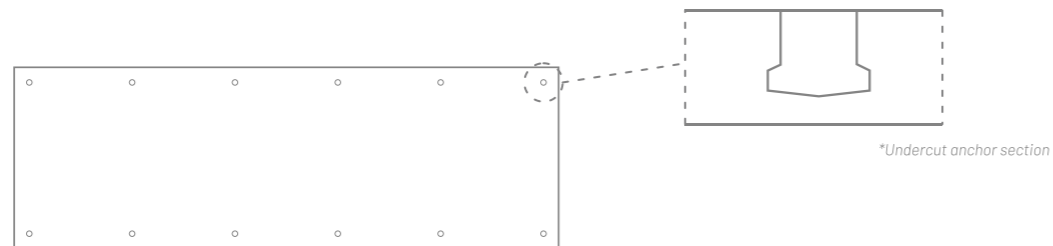


3600mm x 1200mm

*\*Custom sizes are available upon request.*

**Easy to Install**

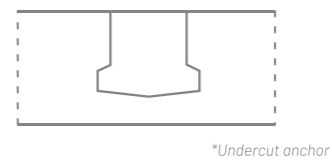
Dekkap offers standard panels for both concealed and visible fixing.



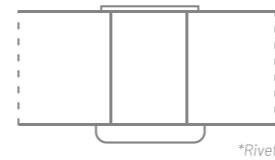
*\*Undercut anchor section*

**Fixing Types**

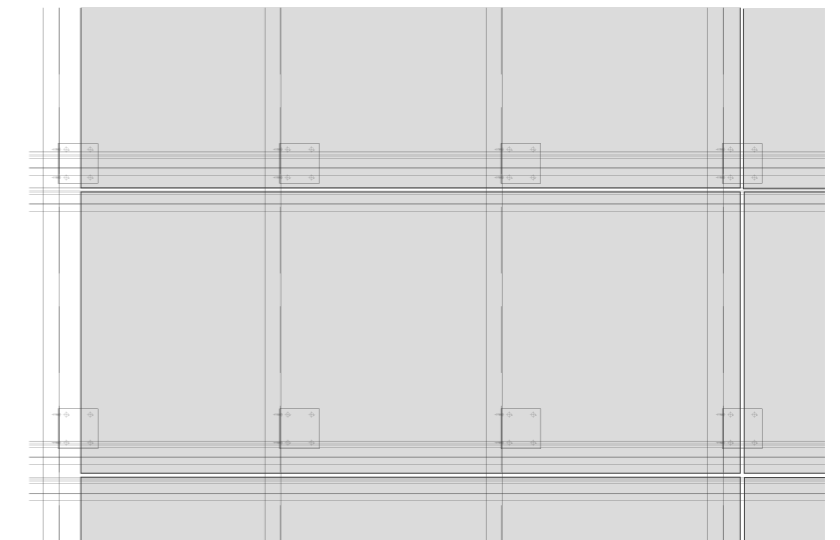
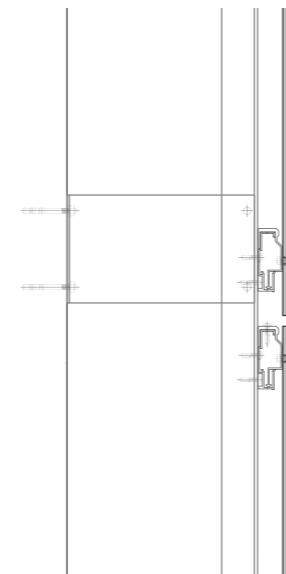
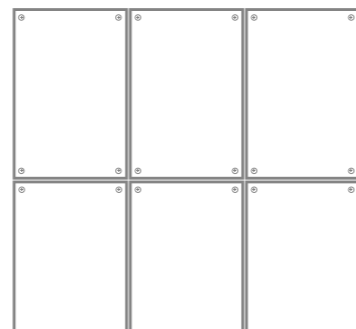
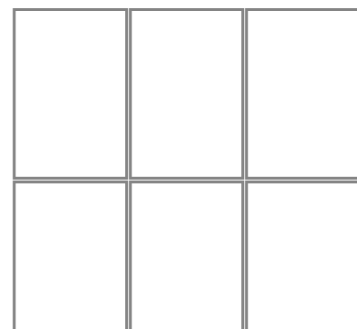
Concealed or visible fixing types are available. Concealed fixing can be achieved with undercut anchors, clips, or adhesives. Visible fixing can be achieved with rivets. Dekkap panels for undercut anchors are pre-drilled and easy to install.



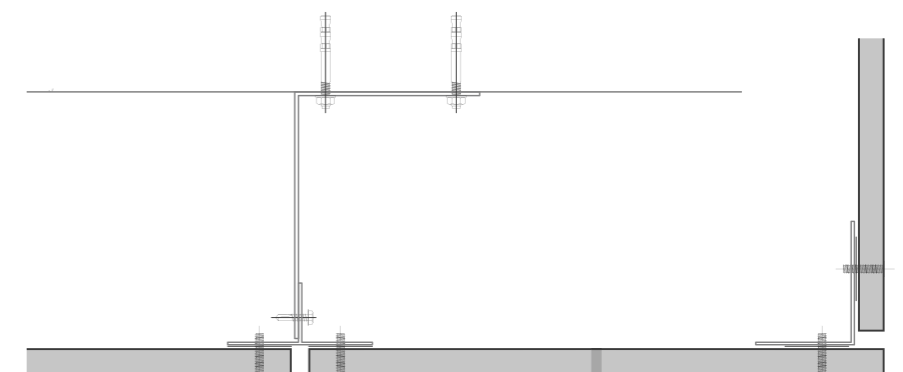
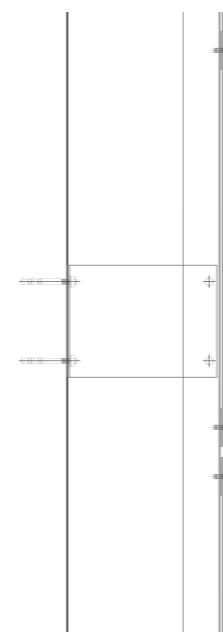
*\*Undercut anchor*



*\*Rivet*

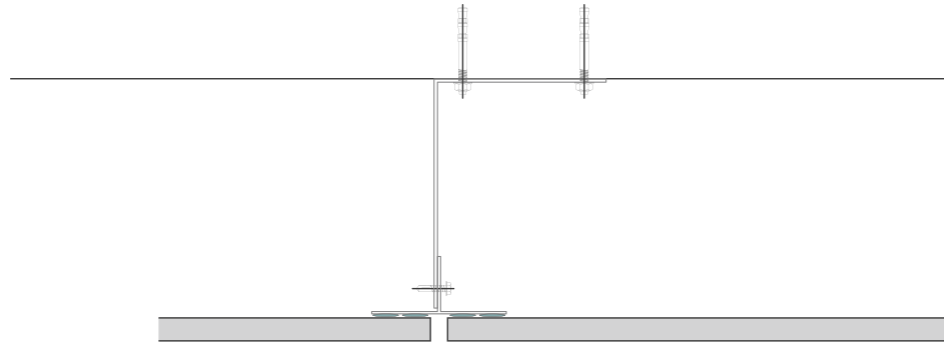
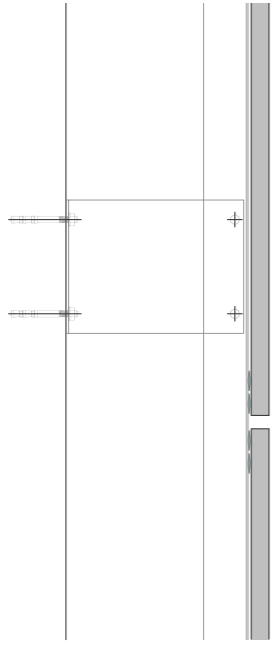


**Concealed Fixing - Undercut Anchor**  
*Ventilated Rainscreen*

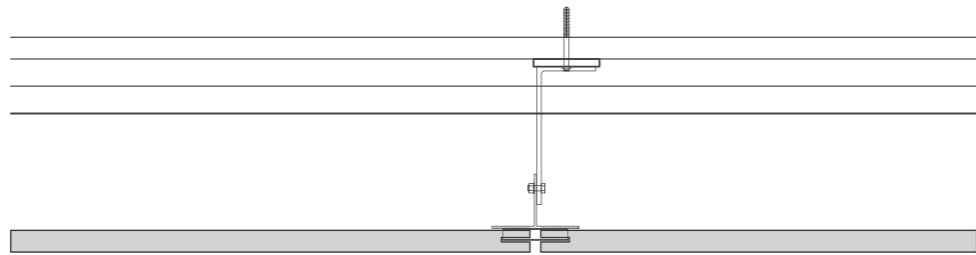
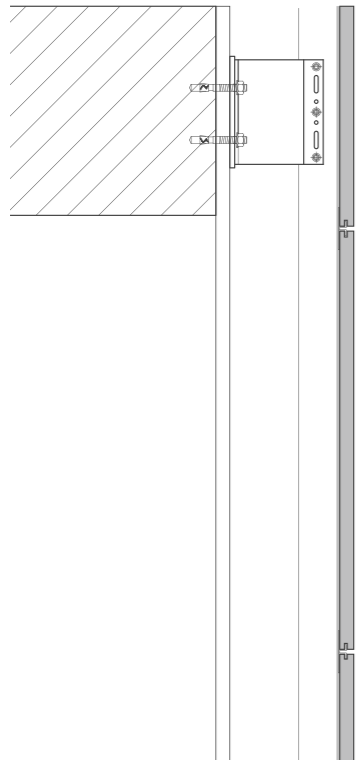


**Visible Fixing - Rivet**  
*Ventilated Rainscreen*

# X Fixing



Concealed Fixing - Adhesive  
Ventilated Rainscreen



Concealed Fixing - Clip  
Ventilated Rainscreen

**DEKKAP**<sup>®</sup>  
REINFORCED  
composites

Glassfiber Reinforced Concrete  
**GF  
RC**

# Sculpt your façade



## ✕ What is GFRC?

Special façades need experienced specialists. Forms beyond imagination are possible with our Glass Fiber Reinforced Concrete panels and experienced team of specialists. Carefully tailored for your needs.

### Glass Fiber Reinforced Concrete

GFRC/GRC stands for Glass Fiber Reinforced Concrete. When high-quality portland cement and carefully optimized silica sand are combined with omnidirectionally woven high glass fiber content, it is possible to produce thin precast concrete panels with outstanding properties. The glass fiber eliminates the need for rebar and allows to produce thinner and lighter concrete panels. The type of glass fiber used in the panel plays a critical role as well. The glass fiber used in the GFRC panels should be alkali resistant (AR) with a zirconia content of at least 16%. If any other type of glass fiber is used, the glass fibers inside the concrete would lose their properties in a short period of time.

### Strong and fireproof

The glass fiber reinforcement results in a product with much higher flexural and tensile strengths than traditional concrete, which gives GFRC excellent formability and the ability to be cast in a thin layer. GFRC is a lightweight and durable material that can be cast into many forms and textures. Since it can be produced as a thin shell, it requires way less concrete than traditional methods. High flexural strength also gives GFRC excellent resistance to wind and earthquakes.

GFRC panels are fire resistant with A1 "non-combustible" class according to EN-12467.

### Cooperation with the expert

GRC production is a complicated process that requires experience and know-how. To provide the best service for our clients, Dekkap teams up with Fiberton A.Ş. as a solution partner to offer the best possible service to our clients. Fiberton A.Ş. has been in the GRC industry for more than 15 years and Fiberton A.Ş. is one of the most experienced companies in Turkish industry.

### Tailor-Made Production:

GFRC is a highly formable material that stretches the boundaries of architecture quite a bit. It is possible to efficiently divide complex structures into manageable modules and manufacture them. Every project is unique and approached specifically. Dekkap and Fiberton's expert team of architects and engineers divides the façade efficiently into modules that can be transported and installed safely to the building.

GFRC is  
*artisan*  
**CONCRETE**  
made of



**White cement**



**Water & Admixtures**



**Silica sand**

Optimized silica sand with high silisium content



**AR Glass Fibre**

Alkali Resistant with zirconium content



## ✕ Features



### Highly Formable

The glass fiber reinforcement gives GRC an excellent formability and the ability to be casted in a thin layer. GRC is a lightweight, durable material that can be casted into nearly unlimited shapes, colors and textures.



### Colorful

GFRC panels can be produced with color without the need of extra paint. UV resistant pigments mixed into concrete mix allows us to produce panels with color. Be aware, due to the nature of concrete, color variation may occur between different panels. If color variation is not acceptable, we recommend paint for color.



### Texture & Finishes

GFRC panels can be produced with a variety of textures. For the texture list, you can check out Reckli's texture catalog.



### Durable

Excellent physical characteristics and fiber content makes GFRC a very durable and long life material. With superior abrasion resistance, freeze thaw resistance and compact matrix structure, GFRC stands strong against time.



### Fire resistant

GRC panels are fire resistant with A1 "non-combustible" class according to EN-13501.



### Earthquake Resistant

Modular structure and special assembly methods give the panels very high earthquake resistance. Panels can move and slide slightly to absorb and dampen earthquake stress.



### Insulated

The rainscreen cladding system provides GRC natural thermal insulation. Insulation properties can be increased with the application of mineral wool or other insulation elements.



### Light-Weight

GFRC panels are manufactured as a 15 mm thin shell. This characteristic feature makes GFRC much lighter than conventional concrete, prestressed precast concrete and most traditional building materials.



### Sustainable

Thinner panels and low cement ratio makes GFRC precast panels more sustainable than traditional concrete. Also, the long lifespan of the material makes GFRC panels environmentally friendly.



### Recyclable

GFRC is a material that uses natural mineral materials in its matrix. GFRC is recyclable and can be reused after its lifetime.

## ■ ✕ Process

# GFRC projects are mostly tailor-made. Every project is unique and has different needs such as any of us.

Features of the GFRC panels can be shaped to the needs of the project. GFRC production requires organization, planning, and know-how due to the intertwined production processes.

After receiving the project, the drawings are carefully analyzed and the shape, size, and assembly method of the panels are decided. After the project is divided into modules, the production phase begins. With careful production and installation process optimization, Dekkap aims to finalize projects rapidly and smoothly. With good communication, planning, and technical skills, perfect façades with long service life (over 100 years) and low maintenance requirements can be achieved in no time. With over 15 years of experience, Dekkap is a confident, reliable, and problem-solving partner.

### Ventilated Façade:

GFRC panels are also available for ventilated façade cladding systems. 10, 15, or 20 mm thick panels are available with concealed or visible fixing.

Ventilated façade cladding systems are quite popular and effective in the architectural cladding. It offers ventilation, insulation, and rapid installation. GFRC is a perfect material for rainscreen cladding with its long service life and low maintenance requirements.

### Colors & Textures:

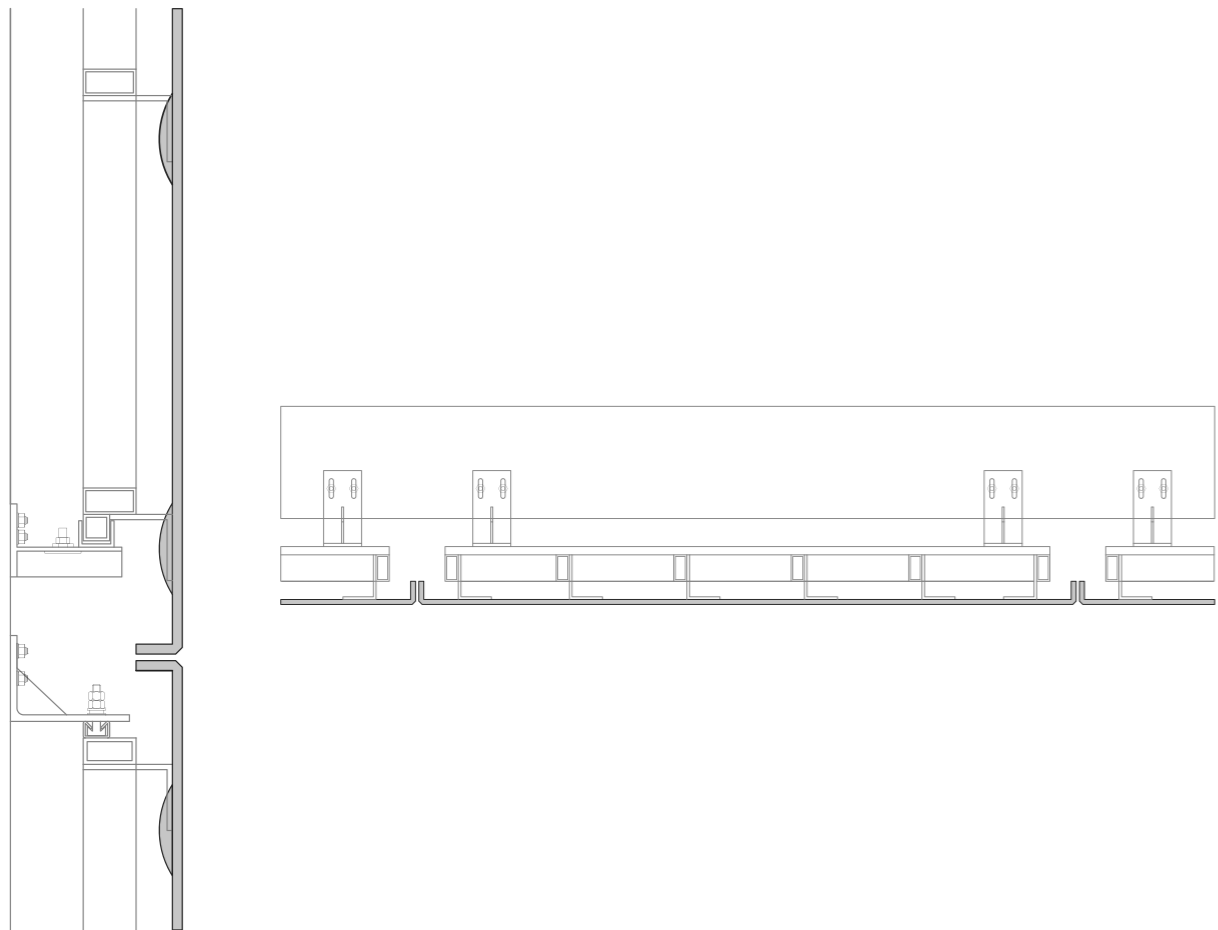
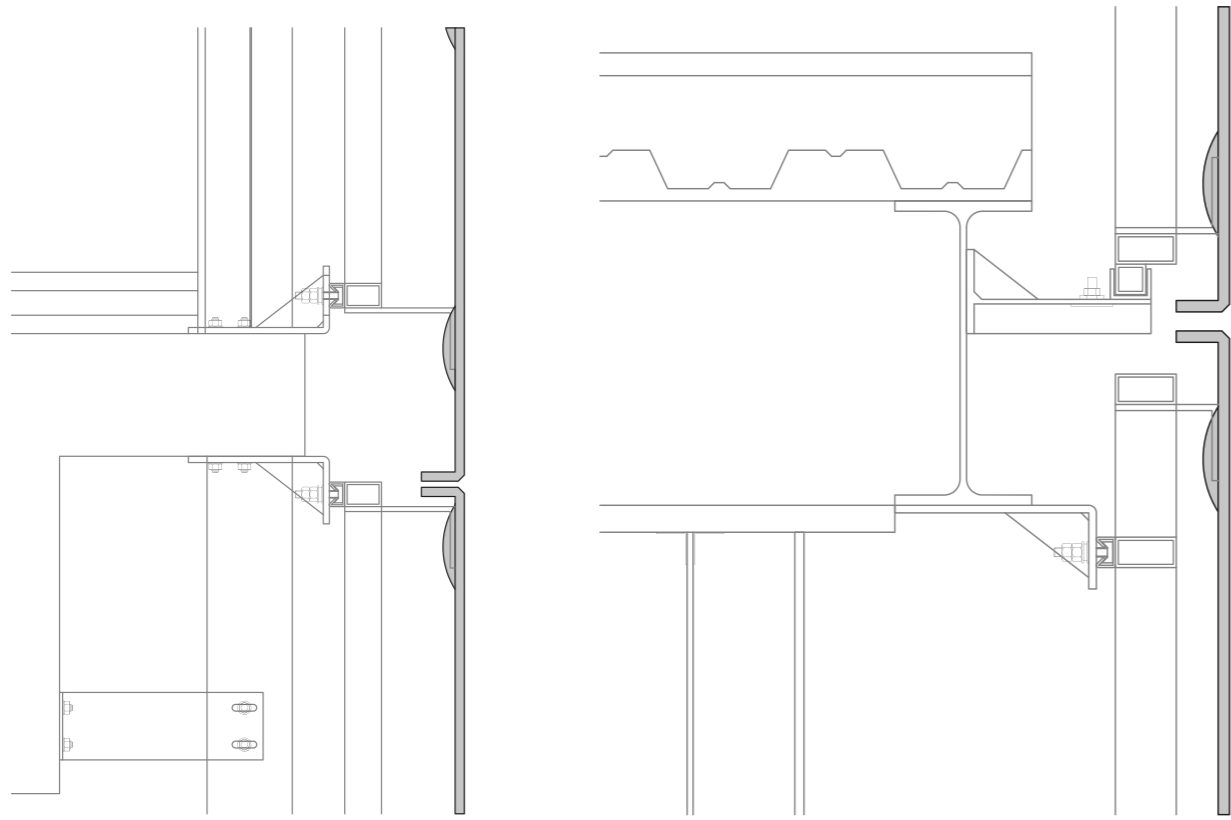
GFRC panels are available in color. Colored production is possible by using pigments in the mix. This method allows our panels to be maintenance-free. There are certain limitations to color when it comes to colored production. Overuse of pigments might affect physical properties, introduce too much air into the mix or pigments might overflow to the surface. We suggest colored production when it is possible to produce without compromising quality. Even though we suggest colored production, we also need to inform our customers about slight color variation between panels and slight color variation on the surface depending on the nature of the concrete.

GFRC can be produced with color. Also, it can be painted. Surface finishes of GFRC panels include anti-graffiti finish, matte or smooth hydrophobic finish, or self-cleaning finish.

## ■ ✕ Technical Specifications

Reference Values	Unit	Premix	Spray
Compressive strength	N/mm <sup>2</sup>	40 to 60	50to80
Tensile strength	N/mm <sup>2</sup>	4 to 7th	5to10
Ratio limit	N/mm <sup>2</sup>	5 to 8	6to10
Modulus of Rupture	N/mm <sup>2</sup>	8 to 12	15 to25
Expansion limit	‰	0.5 to 4	0.5to4
Impact Resistance	Nmm/mm <sup>2</sup>	10 to 15	10to25
Elasticity module	kN/mm <sup>2</sup>	10 to 20	10to20
Density	Kg/dm <sup>3</sup>	1.9 to2.1	1.9 to2.1
Coefficient of Thermal Expansion	/ °C	(1.0to1.5) x 10 <sup>-5</sup>	(1.0 to 1.5) x 10 <sup>-5</sup>
Thermal conductivity	W/mK	0.8 to 1.2	0.8 to 1.2
Fire resistance (DIN4102)		A1 to A2	A1 to A2
Shrinkage Value	mm/m	1.0 to 2.0	1.0 to 2.0
Swelling value	mm/m	0.5 to 1.0	0.5 to 1.0
Water absorption	%	3 to15	3 to15
Water vapor diffusion		50 to 200	50 to 200

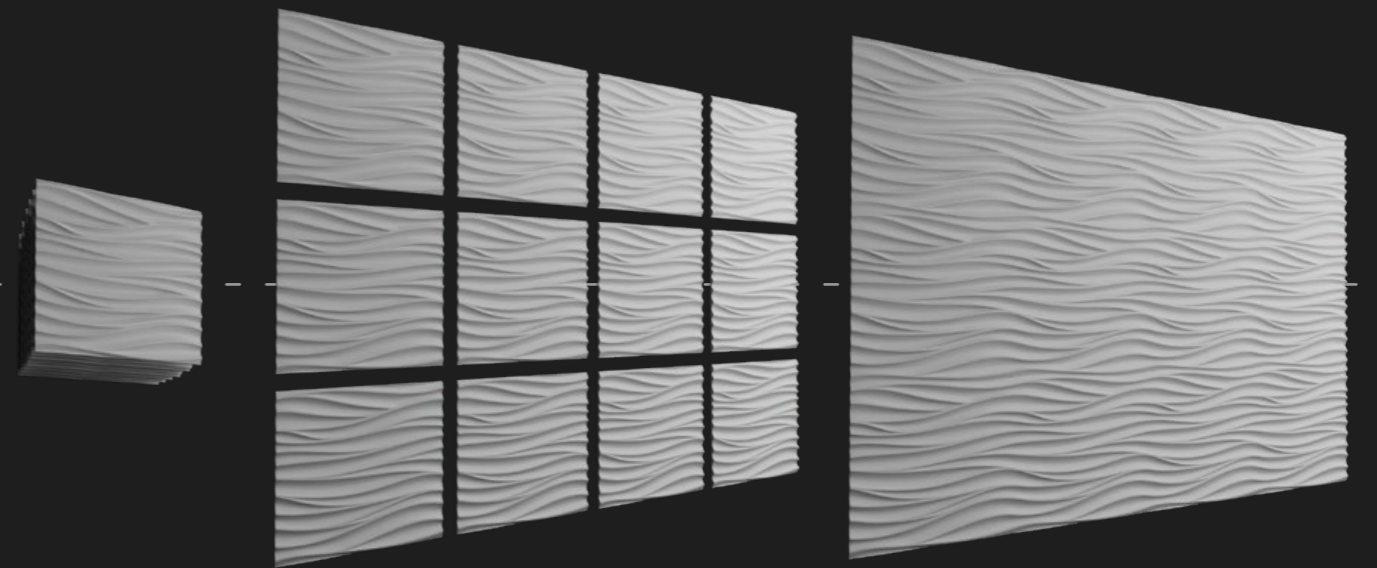
# X Fixing



**X**  
**DEKKAP®**  
REINFORCED  
composites

Glassfiber Reinforced Gypsum  
**GF  
RC**

Pieces  
*make up*  
the **WHOLE**



## ✕ What is GFRG?

We make Glass-fibre Reinforced Gypsum (GFRG/GRG) wall panels with deep and rich textures that are super strong, highly resistant to scratches, eco-friendly and easy to install.

Skillfully regulates humidity in the environment and thanks to its natural matrix, GFRG makes a wonderful and healthy material to live with. GFRG panels are A1 class incombustible and also act as a fire retardant.

### Structure

GFRG, which is formed by the combination of high density, strong porcelain gypsum and glass fiber, brings a new approach to wall panels with its superior physical properties and environmental sensitivity.

Porcelain gypsum has become indispensable for many sectors thanks to its higher density, high strength, hardness and superior detail ability compared to conventional gypsum types. Porcelain gypsum, which is used in many professions from sculpture to ceramics, from dental prosthesis to machine parts, forms the heart of Dekkap GFRG wall panels.

When the strong structure of porcelain gypsum combines with glass fiber reinforcement, a smooth surfaced and long-lasting wall panel that is highly resistant to scratch and impact emerges.

In addition to its strong structure, Dekkap GFRG wall panels stand out with their features such as ease of application, seamless patterns, modular structure and monoblock application ability.

### Eco-Friendly

Dekkap GFRG wall panels are fireproof, healthy, strong, recyclable, easy to install, and practical. Along with these features it also is an environmentally friendly approach to interior wall panels.

GFRG also is one of the healthier materials to live with. Along with its natural matrix, it also acts as a humidity balancer in your home. Gypsum regulates moisture well. Captures and stores excess moisture in humid conditions and releases in low humidity.

Also by being incombustible and recyclable, GFRG is highly suitable for eco buildings.

### Variety

Having the ability to adapt quickly due to its nature and production method, GFRG is capable of responding quickly to new developments and customer demands. Where the dynamics of the world change faster every second, it becomes more and more important to adapt and improve rapidly. With teamwork, creativity and energy, Dekkap GFRG is able to provide model diversity, good design, sales and support.

Repetitive panels make up the majority of models. In some models, more flexible applications are possible by applying several modules in different combinations. Thanks to its modularity and ease of assembly, it paves the way for even the classic home user to decorate their own home with their own taste. Thanks to its jointless monoblock application capability, long-lasting, healthy and unique interiors are now much easier.



E  
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Texture is everything.

It is one of the most important aspects that allows us to define the world better. It reveals light and shadow, black and white, full and empty, yin and yang.

We can confidently assert that texture is an indispensable element in architecture, as in everything else. Precisely for this purpose, Dekkap GFRG aims to enrich the texture quality to bring a better look and feel to our environment.



**HAZE**  
500mm x 500mm





Prefer GFRG because of:

**Performance:**

- Incombustible
- Fine detail ability
- Smooth surface
- High impact/scratch resistance

**Functional:**

- Paintable
- Model variety
- Easy repair
- Long life cycle

**Healthy:**

- Humidity control
- Healthy touch
- Compatible with eco buildings
- Recyclable

**Application:**

- Modular structure
- Ease of installation
- Monoblock application



**Format & Application**

**Dimensions:**

Dekkap GFRG panels are usually produced 500x500mm in dimensions. Panels consist of repetitive textures which form a bigger seamless pattern when installed. In some models, it is possible to change the pattern by rotating pieces. It is also possible to create a seamless, monoblock pattern by filling the joints.

Monoblock coverage of large areas in a relatively small size is a great advantage. It allows easier transportation, fast delivery, storability, low labor and transportation costs and lower carbon footprint.

**Application:**

Dekkap GFRG panels can be resized with a hand saw. Panels are suitable for mounting with screws or adhesive. A screw hole with countersink can be easily covered after application. Quick repair of damaged pieces is also possible with repair putty.

**Monoblock:**

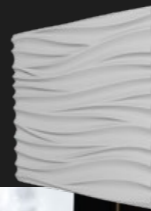
In a monoblock application, joints should be filled with repair putty or gypsum with a scraper. Then the filling should be sanded until a smooth, even level between panels is achieved. Then the panels are ready to be painted. Panels can be painted with a roller, brush or spray.





# FLOW

500mm x 500mm



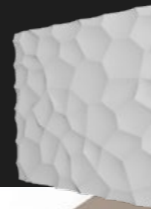
# BUBBLE

500mm x 500mm



# DENT

500mm x 500mm



# LEAVES

500mm x 500mm





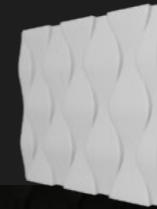
**VOXEL**  
500mm x 500mm



**DUNE**  
500mm x 500mm



**CHAIN**  
500mm x 500mm



**TULIPA**  
500mm x 500mm





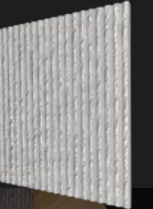
# BEACH

500mm x 500mm



# INDUS

500mm x 500mm



# DIAMOND

500mm x 500mm



# LOUD

500mm x 500mm



## X Ventilated Screen

Ventilated facade systems are one of the most preferred methods for thermal efficiency. GFRC and UHPC panels are compatible with ventilated facade systems.

### Ventilated Facade Systems

The ventilated facade system, which is one of the most preferred mounting systems, comes to the fore with many advantages.

The basic principle is to create the facade in a sequence starting from the interior to the exterior. In conventional buildings, after the interior wall is formed, rough plaster is applied to the facade and the facade is brought to level.

Connection feet are mounted at the points specified in the project, for which static calculations have been made according to the type of facade cladding material. These parts are generally produced from L-shaped steel, aluminum or stainless steel sheets. Neoprene or rubber sheets are usually applied between the surfaces during the mounting of the connecting feet to the facade. This additional application disconnects the heat transfer from the facade cladding elements and plays a major role in preventing thermal bridges in the building. Then, insulation materials (usually rock wool or mineral wool are preferred) are applied.

The most important thing to consider in the application of insulation products is to prevent the layers from forming a thermal bridge. During the application, the assembled connection feet should be well-wrapped and protected. For this reason, the thermal insulation boards should be in contact with each other as much as possible, and the contact points should be fixed with special tapes that will prevent the thermal bridge.

Thermal insulation boards must be fixed to the facade with at least one steel dowel per plate against possible fires, and if plastic dowels are to be used, they should be used at the four edges of the plates.

Another method of preventing the formation of thermal bridges is to divide the thickness of the insulation boards to be used into two equal parts and fix them to the facade with the help of dowels.

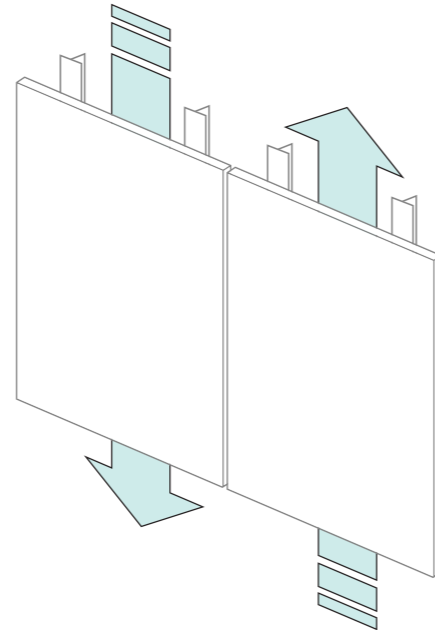
For example, we can create an 8 cm thick insulation from 2 layers of 4 cm thick boards. At this point, it should be noted that the characteristics of the insulation boards must be the same. Thermal insulation boards of different densities may cause condensation among themselves, causing the materials to lose their properties with moisture.

In addition, silicon-impregnated mineral wool can be preferred for insulation, so that the moisture that may occur inside the thermal insulation board is evacuated from the surface of the board. The selection of the insulation board should be made according to the movement on the facade, and the plates with high density should be preferred on flat facades. If the facade is dynamic and especially curved, low-density but flexible boards should be applied. In this way, it is ensured that the insulation on the facade meets the values predicted in the calculations. After the thermal insulation is applied, a vapor stabilizer layer should be formed on the insulation. Some thermal insulation boards are produced with a vapor stabilizer layer on top. A fiberglass or aluminum layer acts as a vapor stabilizer. The color of the vapor stabilizer can be determined according to the type and color of the facade cladding material. In this way, it is ensured that the facade cladding material is in harmony with the insulation layer, which can be seen from the joint gaps.

The connection legs of the facade cladding system, which are connected to the facade with neoprene sheets and positioned within the thermal insulation board, are connected to each other by vertical and horizontal profile elements (determined according to static calculations). The most important point to note at this point is that the insulation boards do not come into contact with the load-bearing construction. Avoiding contact allows airflow to occur regularly. Airflow, which is the basic principle of ventilated facades, ensures that the condensation that may occur on the insulation is easily eliminated. The humidity that occurs with condensation causes the insulation to lose its properties, mold and bacteria formation, and also corrosion. This air corridor, created behind the facade cladding panel, ensures regular airflow and prevents sudden heating and cooling on the facade. The balanced heat provided both inside and outside prevents possible thermal stresses and makes the materials much longer lasting.

Thermal stresses on our facade cladding materials are tested for all weather conditions in material conversion tests carried out in the Fiberton A.Ş. factory laboratory in Mersin. In this way, we have important information about the performance of our products over the years and we can ensure that the elements of the facade system work together in harmony. Our full-fledged laboratory, where resistance to corrosion as well as thermal stress can be measured, is a large research and development facility that prevents us from encountering any surprises. The load-bearing construction, which is formed with horizontal and vertical profiles, forms the infrastructure for the assembly of the facade cladding panels. Many methods have been developed to connect the panels to the load-bearing construction. With the infill system it has developed, Dekkap determines the connection points according to static calculations and fixes the special mounting points made of stainless steel into the material during the production of the material.

In cases where high tensile and shear forces are required, the infill system shows a high performance compared to similar connection types. Apart from this system, Dekkap also implements and projects internationally accepted fixing systems in line with customer demands. In addition, fastening systems with screws, rivets, and hidden or visible clips are also available. The panels should be mounted at the joint distance by the thermal expansion calculations and the climatic conditions where the assembly will be made. The basic principle in ventilated facade is based on the movement of air between the cladding panel and the insulation, therefore it requires that the joints of the facade panel not be covered with another material. Since there is no other material that connects the panels, the fact that each panel can be separated from the facade provides ease of intervention in the facade panels for repair and replacement after assembly.







X Metro Station - Tel Aviv



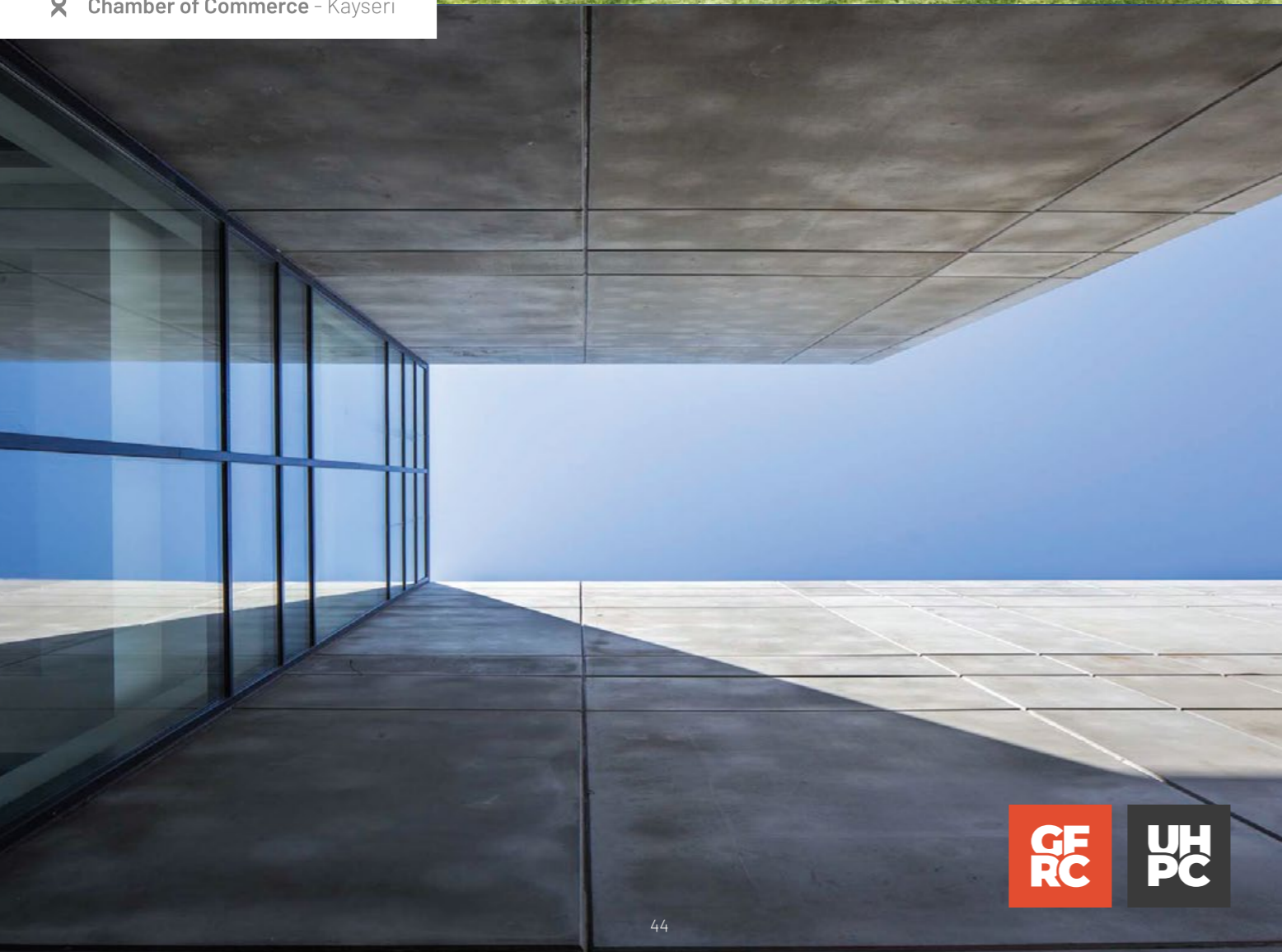
X Metro Station - Tel Aviv







✕ Chamber of Commerce - Kayseri



✕ Panorama Museum - Gaziantep







X Roya Nova - İstanbul



X Hotel LaMirage - İstanbul





✕ Soğanlı Cultural Center - Istanbul



✕ Al-Isra'a University - Baghdad



UH  
PC



GF  
RC





X Star Arena - Istanbul



X MINT - Istanbul





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[dekkap.de](http://dekkap.de)