

# Deniz<sup>®</sup> yalitim

DENİZ INSULATION AND HOUSING SYSTEMS INDUSTRY AND COMMERCE CO. LTD.



**Force<sup>®</sup>  
chem**  
CONSTRUCTION CHEMICALS

**Deniz<sup>®</sup>  
klm**  
CONSTRUCTION CHEMICALS

**TURQ<sup>®</sup>  
CHEM**  
CONSTRUCTION CHEMICALS

**Force<sup>®</sup>  
therm**  
THERMAL INSULATION SYSTEM

## 2015 PRODUCT CATALOG



## ABOUT US

Deniz Insulation And Housing Systems Industry And Commerce Co. Ltd. was founded in 2008 on the basis of the knowledge and experiences about heat insulation and construction chemicals accumulated since 1998, and started EPS production in 2009. Our company manufactures EPS (Expanded Rigid Polystyrene Foam) with state of the art machines and a specialized staff. It has an EPS raw material processing capacity of 3000 ton/year-shift, and manufactures 500 m<sup>3</sup>/shift EPS Blocks and 150 m<sup>3</sup>/shift injection products. In 2012, DENİZKİM invested in a production plant with a capacity of 360.000 ton/year in order to manufacture construction chemicals under FORCECHEM and TURQCHEM brands, and currently offers 65 different construction chemicals. Our production plant is located on a 19000 m<sup>2</sup> open space and 6000 m<sup>2</sup> closed space in Çorum Organized Industrial Zone. Our company produces eco-friendly EPS and construction chemical products which are able to satisfy all kinds of needs and do not harm nature or humans. Our product range is mainly composed of heat insulation system packages, adhesives, joint fillers, waterproofing materials, plasters, repair mortars, surface preparation materials, surface hardeners, concrete curing materials, primers, additives, heat insulation panels, decorative siding products, airpop fillers, papier-mâché and ceiling coverings. Deniz Yalıtım is a member of EPSDER and IZODER, and has CE and TSI markings and GOST certificates for its products.



# CONTENTS

Page No

## CONSTRUCTION CHEMICALS

### ADHESIVES

FORCECHEM Ceramic And Tile Adhesive	3
FORCECHEM Flex Ceramic And Tile Adhesive	4
FORCECHEM Flex Granite Adhesive	5
FORCECHEM Flex-S Granite Adhesive	6
FORCECHEM Rapid Ceramic And Tile Adhesive	7
FORCECHEM Glass Mozaic Adhesive	8
FORCECHEM Gas Concrete Adhesive	9
FORCECHEM Flex Pool Adhesive	10
FORCECHEM Ridge Tile Adhesive	11
FORCECHEM Glass Bricks Adhesive And Joint Grout	12
FORCECHEM Decorative Brick And Stone Adhesive Mortar	13
TURQCHEM Ceramic And Tile Adhesive	14
TURQCHEM Flex Ceramic And Tile Adhesive	15
TURQCHEM Flex Granite Adhesive	16
DENİZKİM Ceramic And Tile Adhesive	17

### JOINT FILLERS

FORCECHEM Joint	19
FORCECHEM Joint-S	20
FORCECHEM Antibacterial Fuga	21
TURQCHEM Joint-S	22

### THERMAL INSULATION SYSTEM MORTARS

FORCECHEM Thermal Insulation Board Adhesive	24
FORCECHEM Thermal Insulation Board Plaster	25
FORCECHEM Mineral Plaster	26
TURQCHEM Thermal Insulation Board Adhesive	27
TURQCHEM Thermal Insulation Board Plaster	28
TURQCHEM Mineral Plaster	29
DENİZKİM Thermal Insulation Board Adhesive	30
DENİZKİM Thermal Insulation Board Plaster	31
DENİZKİM Decorative Coatings	32

### REPAIR MORTAR AND SURFACE PREPARATION MATERIALS

FORCECHEM Repairing Mortar (Thin OR Thick)	34
FORCECHEM Self-Spreading Leveling Cement Finish	35
FORCECHEM Fluid Grout Mortar	36
FORCECHEM Quick Set Grout Mortar	37
CEMENT Based Satin Wall And Ceilingpaste	38

## **SURFACE HARDENING AND CONCRETE CURING MATERIALS**

FORCECHEM Floor Hardener	40
FORCECHEM Forcecure PN Paraffin Based Concrete Curing Material	41
FORCECHEM Forcecure RN Resin Based Concrete Curing Material	42

## **WATER INSULATION MATERIALS**

FORCECHEM Roof Insulation Mortar	44
FORCECHEM Double Component Semi Elastic Water Insulation Mortar	45
FORCECHEM Double Component Semi Elastic Water Insulation Mortar	47
FORCECHEM UV Resistant Double Component Water Isolation Mortar	49
FORCECHEM Forceaqua UV Membran UV Resistant Liquid Membrane	50
FORCECHEM Aqua Krst Crystallized Water Insulation Mortar	51
FORCECHEM Forceaqua Transparent Transparent Water Insulation Material	52
FORCECHEM Forceaqua Stop Quick Set Water Plug Mortar	53

## **PLASTERS**

FORCECHEM Cement Based Ready TO Use Plaster	55
CEMEND Based Machine Plaster	56

## **PRIMERS**

FORCECHEM Forceprimer AAA Primer For Increasing Adherance And Surface Formation In Walls And Ceilings	58
FORCECHEM Forceprimer BBA Gross Concrete Surface Forming Coating	60
FORCECHEM Primer Liquid	62
FORCECHEM Decorative Coating Primer	64

## **ADDITIVE MATERIALS**

FORCECHEM Adr Additive Performance Enhancing Liquid Additive For Cement Based Products	66
FORCECHEM Forceaqua Latex Synthetic Rubber Based Liquid Additive That Provides Flexibility And Water Insulation	68

## **EPS PRODUCTS**

### **PRODUCTS OBTAINED FROM BLOCKS**

DENİZ Por	72
DENİZ Pan	73
DENİZ Board	74
DENİZ Plus Grey/Deniz Plus Black	75
DENİZ Plus Splined EPS	76
DENİZ Airpop Filling	77
DENİZ Airpop Filling Plus-E	78
DENİZ Sinus (For Onduline And For Corrubit)	79



**INJECTION PRODUCTS**

DENİZ Board-E	81
DENİZ Airpop Filling Plus-E	82
FISH Box And Fish Crate	83
DENİZ Terra	84
DENİZ Stone	85
DENİZ Brick	86
DENİZ Staggered Corner Liner	87
DENİZ Coverings For Suspended Ceilings	87
Patterned Cornice	88

**THERMAL INSULATION SYSTEMS**

**FORCE THERM THERMAL INSULATION SYSTEMS**

FORCECHEM Thermal Insulation Board Adhesive	91
DENİZ Por	92
DENİZ Plus Grey/Deniz Plus Black	93
FORCECHEM Thermal Insulation Board Plaster	94
FORCE THERM Mesh	95
FORCECHEM Decorative Coating Primer	96
FORCECHEM Mineral Plaster	97

**DENİZKİM THERMAL INSULATION SYSTEMS**

DENİZKİM Thermal Insulation Board Adhesive	99
DENİZ Por	100
DENİZ Plus Grey/Deniz Plus Black	101
DENİZKİM Thermal Insulation Board Plaster	102
Mesh	103
DENİZKİM Decorative Coating Primer	104
DENİZKİM Decorative Coating	105

**AUXILIARY JACKETING PRODUCTS**

Joint Gap Profiles	107
DENİZ Sub-Basement Profile	108
DENİZ Meshed Corner Profile	108
DENİZ Jacketing Fixing Plug	109
DENİZ Sub-Basement Insert	109
DENİZ T Insert	109

CERTIFICATES	110
--------------	-----

## CONSTRUCTION CHEMICALS

ADHESIVES

JOINT FILLERS

THERMAL INSULATION SYSTEM MORTARS

REPAIR MORTAR AND SURFACE PREPARATION MATERIALS

SURFACE HARDENING AND CONCRETE CURING MATERIALS

WATER INSULATION MATERIALS

PLASTERS

PRIMERS

ADDITIVE MATERIALS

DENİZ INSULATION AND HOUSING SYSTEMS INDUSTRY AND COMMERCE CO. LTD



## ADHESIVES

## FORCECHEM CERAMIC AND TILE ADHESIVE (WHITE OR GREY)

### DESCRIPTION

It is adhesive mortar cement-based C1T class using to adhesive surface coating materials such as ceramic, tile, granite and so on.

### APPLICATION AREAS

- Indoor and outdoor surfaces
- In ceramic and tile applications
- In horizontal granite applications
- In glass mosaic applications
- In marble applications



### PREPERATION OF PLASTER

25 Kg **Forcechem® Ceramic and Tile Adhesive** is mixed with 7-7,5 lt. water in a clean can, till it turns into paste form. The mixture is kept for 5 minutes and then mixed again. The mixture can be applied to the gaps with using suitable trowel.

### APPLICATION LIMITS

- It is not used on wood surfaces
- It is not used on painted surfaces
- It is not used on metal surfaces
- It is not used on gypsum surfaces

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The surface should be clean and smooth.
- If there is a painted surface, it should be roughened with hammer
- The cracks and holes should be repaired by using Forcechem® Plaster before the application.
- The surface should be moistened before the application.
- It is suggested that the application should be in the range of +5°C / +35°C
- If it is necessary, rearrangement of applied places should be done in 25 minutes
- The adhesive has -40 / +100 °C temperature strength

### TECHNICAL SPECIFICATIONS

Color	White or Grey
First Strength Of Adhesion	≥ 0,5 N/mm <sup>2</sup>
Strength Of Adhesion after Heat Storage	≥ 0,5 N/mm <sup>2</sup>
Strength Of Adhesion after Wet Storage	≥ 0,5 N/mm <sup>2</sup>
Strength Of Adhesion after Freeze Thaw Con.	≥ 0,5 N/mm <sup>2</sup>
Open waiting Period (After 20 min.)	≥ 0,5N/mm <sup>2</sup>
Digestion time	40-60 minutes
Ready Mixture Applicable Time	6 hour
Fire Response Class	A1
Application Temperatures	+5°C / +35°C
Strength of Freeze	-40°C / +100°C
Toxity	Non Toxic
Consumption	4-5 kg/m <sup>2</sup>
Package	25 kg craft package
Mixing Ratio	25 kg powder / 7-7,5 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at +21 °C and %50 relative humidity



## FORCECHEM FLEX CERAMIC AND TILE ADHESIVE (WHITE OR GREY)

### DESCRIPTION

It is adhesive mortar cement-based flexible C2E class with special polymer additives using to adhesive surface coating materials such as ceramic, tile, granite and so on.

### APPLICATION AREAS

- Indoor and outdoor surfaces
- In ceramic and tile applications
- In horizontal granite applications
- In glass mosaic applications
- In the surfaces here elasticity is necessary



### PREPERATION OF PLASTER

25 Kg **Forcechem® Flex Ceramic and Tile Adhesive** is mixed with 7-7,5 lt. water in a clean can, till it turns into paste form. The mixture in kept for 5 minutes and then mixed again. The mixture can be applied to the gaps with using suitable trowel.

### APPLICATION LIMITS

- It is not used on wood surfaces
- It is not used on painted surfaces
- It is not used on metal surfaces
- It is not used on gypsum surfaces

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The surface should be clean and smooth.
- If there is a painted surface, it should be roughened with hammer
- The cranks and holes should be repaired by using Forcechem® Plaster before the application.
- The surface should be moisted before the application.
- It is suggested that the application should be in the range of +5°C / +35°C
- If it is necessary, rearrangement of applicated places should be done in 25 minutes
- The adhesive has -40 / +100 °C temperature strength

### TECHNICAL SPECIFICATIONS

Color	White or Grey
First Strenght Of Adhesion	$\geq 1 \text{ N/mm}^2$
Strenght Of Adhesion after Heat Storage	$\geq 1 \text{ N/mm}^2$
Strenght Of Adhesion after Wet Storage	$\geq 1 \text{ N/mm}^2$
Strenght Of Adhesion after Freze Thaw Con.	$\geq 1 \text{ N/mm}^2$
Open waiting Period (After 20 min.)	$\geq 1 \text{ N/mm}^2$
Digestion time	40-60 minutes
Ready Mixture Applicable Time	6 hour
Fire Response Class	A1
Application Temperatures	+5°C / +35°C
Strenght of Freeze	-40°C / +100°C
Toxity	Non Toxic
Consumption	4-5 kg/m <sup>2</sup>
Package	25 kg craft package
Mixing Ratio	25 kg powder / 7-7,5 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at +21 °C and %50 relative humidity

## FORCECHEM FLEX GRANITE ADHESIVE (WHITE OR GREY)

### DESCRIPTION

It is adhesive mortar to porcelain, granite and ceramic cement-based flexible C2E class improved with additional features.

### APPLICATION AREAS

- Indoor and outdoor surfaces
- In ceramic and tile applications
- In horizontal and vertical granite applications
- In glass and porcelain mosaic applications
- In marble applications, in swimming pools



### PREPERATION OF PLASTER

25 Kg **Forcechem® Flex Granite Adhesive** is mixed with 7-7,5 lt. water in a clean can, till it turns into paste form. The mixture is kept for 5 minutes and then mixed again. The mixture can be applied to the gaps with using suitable trowel.

### APPLICATION LIMITS

- It is not used on wood surfaces

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The surface should be clean and smooth.
- If there is a painted surface, it should be roughened with hammer
- The cranks and holes should be repaired by using Forcechem Plaster before the application.
- The surface should be moistened before the application.
- The adhesive can stay ready to use in the can about 4 hr.
- If it is necessary, rearrangement of applicated places should be done in 25 minutes

### TECHNICAL SPECIFICATIONS

Color	White or Grey
First Strenght Of Adhesion	$\geq 1 \text{ N/mm}^2$
Strenght Of Adhesion after Heat Storage	$\geq 1 \text{ N/mm}^2$
Strenght Of Adhesion after Wet Storage	$\geq 1 \text{ N/mm}^2$
Strenght Of Adhesion after Freze Thaw Con.	$\geq 1 \text{ N/mm}^2$
Open waiting Period (After 20 min.)	$\geq 1 \text{ N/mm}^2$
Digestion time	40-60 minutes
Ready Mixture Applicable Time	6 hour
Fire Response Class	A1
Application Temperatures	$+5^{\circ}\text{C} / +35^{\circ}\text{C}$
Strenght of Freeze	$-40^{\circ}\text{C} / +100^{\circ}\text{C}$
Toxity	Non Toxic
Consumption	$4-5 \text{ kg/m}^2$
Package	25 kg craft package
Mixing Ratio	25 kg powder / 7-7,5 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at  $+21^{\circ}\text{C}$  and %50 relative humidity

## FORCECHEM FLEX-S GRANITE ADHESIVE (WHITE OR GREY)

### DESCRIPTION

It is adhesive mortar C2TS1 class that is cement-based and polymer resin reinforced contained hard aggregate, water proof, high elasticity and adhesion strength.

### APPLICATION AREAS

- Indoor and outdoor surfaces, in ceramic and tile applications
- In horizontal and vertical granite applications
- In glass and porcelain mosaic applications
- In marble applications, in swimming pools
- In the surfaces here elasticity is necessary



### PREPERATION OF PLASTER

25 Kg **Forcechem® Flex-S Granite Adhesive** is mixed with 7-7,5 lt. water in a clean can, till it turns into paste form. The mixture in kept for 5 minutes and then mixed again. The mixture can be applied to the gaps with using suitable trowel.

### APPLICATION LIMITS

- It is not used on wood surfaces

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The surface should be clean and smooth.
- If there is a painted surface, it should be roughened with hammer
- The cranks and holes should be repaired by using Forcechem Plaster before the application.
- The surface should be moisted before the application.
- The adhesive can stay ready to use in the can about 4 hr.
- If it is necessary, rearrangement of applicated places should be done in 25 minutes

### TECHNICAL SPECIFICATIONS

Color	White or Grey
First Strenght Of Adhesion	$\geq 1 \text{ N/mm}^2$
Strenght Of Adhesion after Heat Storage	$\geq 1 \text{ N/mm}^2$
Strenght Of Adhesion after Wet Storage	$\geq 1 \text{ N/mm}^2$
Strenght Of Adhesion after Freze Thaw Con.	$\geq 1 \text{ N/mm}^2$
Open waiting Period (After 20 min.)	$\geq 1 \text{ N/mm}^2$
Digestion time	40-60 minutes
Ready Mixture Applicable Time	6 hour
Fire Response Class	A1
Application Temperatures	$+5^{\circ}\text{C} / +35^{\circ}\text{C}$
Strenght of Freeze	$-40^{\circ}\text{C} / +100^{\circ}\text{C}$
Toxity	Non Toxic
Consumption	4-5 $\text{kg/m}^2$
Package	25 kg craft package
Mixing Ratio	25 kg powder / 7-7,5 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at  $+21^{\circ}\text{C}$  and %50 relative humidity

## FORCECHEM RAPID CERAMIC AND TILE ADHESIVE

### DESCRIPTION

It is adhesive mortar cement-based C1FT class, high speed setting adhesion strength, using for adhesion of surface coating materials such as ceramic, tile, granite.

### APPLICATION FIELDS

- It is suitable bath indoor and outdoor application surface that desired fast setting and opening to traffic
- It uses for adhering ceramic, granite, natural stone onto old ceramic, concrete, plaster and self leveling screed surfaces



### PROPERTIES

- It is adhesive mortar which high performance and fast setting
- It is suitable for joint filler application in 24 hr

### APPLICATION

- Before application the surface should be clean and smooth
- It should be used Forcechem® Primer Liquid to avoid dust emission
- The cracks and holes should be repaired by using Forcechem® Ready To Use Plaster before the application
- 25 kg Forcechem® Rapid Ceramic And Tile Adhesive is mixed with 6-7 lt water in a clean can, till it turns into paste form. The mixture is kept for 5 minutes and then mixed again. The mixture can be applied to the surface with using suitable trowel

### WARNING

- It should be applied on small areas because of fast setting properties.
- Coating Material should be applied onto adhesive in 15-20 minutes
- Adhesive mortar has 45-60 minutes pot life
- Joint Filler application can be started after 4-6 hr
- The surface can be opened to traffic after 24 hr

### TECHNICAL SPECIFICATIONS

Color	White or Grey
First Strength Of Adhesion	$\geq 1 \text{ N/mm}^2$
Strength Of Adhesion after Heat Storage	$\geq 1 \text{ N/mm}^2$
Strength Of Adhesion after Wet Storage	$\geq 1 \text{ N/mm}^2$
Strength Of Adhesion after Freeze Thaw Con.	$\geq 1 \text{ N/mm}^2$
Open waiting Period (After 20 min.)	$\geq 1 \text{ N/mm}^2$
Digestion time	15 minutes
Ready Mixture Applicable Time	1 hour
Fire Response Class	A1
Application Temperatures	+5°C / +35°C
Strength of Freeze	-40°C / +100°C
Toxity	Non Toxic
Consumption	4-5 kg/m <sup>2</sup>
Package	25 kg craft package
Mixing Ratio	25 kg powder / 7-7,5 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at +21 °C and %50 relative humidity



## FORCECHEM GLASS MOZAIC ADHESIVE

### DESCRIPTION

It is adhesive mortar C1TE class, cement-based, with polymer additive, using for adhesion of great and little sized glass mosaic and ceramics.

### APPLICATION FIELDS

- Indoor and outdoor surfaces
- In glass mosaic applications
- In swimming pool applications



### PREPERATION OF PLASTER

25 Kg Forcechem® Glass Mosaic Adhesive is mixed with 8 kg. water in a clean can, till it turns into paste form. The mixture is kept for 5 minutes and then mixed again. The mixture can be applied to the gaps with using suitable trowel.

### APPLICATION LIMITS

- It is not used on wood surfaces
- It is not used on painted surfaces
- It is not used on metal surfaces
- It is not used on gypsum surfaces without using primer

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The surface should be clean and smooth.
- If there is a painted surface, it should be roughened with hammer
- The cracks and holes should be repaired by using Forcechem® Plaster before the application.
- The surface should be moistened before the application.
- It is suggested that the application should be in the range of +5°C / +35°C
- The adhesive can stay ready to use in the can about 6 hr.
- The adhesive has 40-60 min open time with respect to the climate conditions.
- If it is necessary, rearrangement of applied places should be done in 25 minutes
- The strength of the adhesive is >0,7 mpa

### TECHNICAL SPECIFICATIONS

Color	White or Grey
First Strength Of Adhesion	≥ 1 N/mm <sup>2</sup>
Strength Of Adhesion after Heat Storage	≥ 1 N/mm <sup>2</sup>
Strength Of Adhesion after Wet Storage	≥ 1 N/mm <sup>2</sup>
Strength Of Adhesion after Freeze Thaw Con.	≥ 1 N/mm <sup>2</sup>
Open waiting Period (After 20 min.)	≥ 1 N/mm <sup>2</sup>
Digestion time	40-60 minutes
Ready Mixture Applicable Time	6 hour
Fire Response Class	A1
Application Temperatures	+5°C / +35°C
Strength of Freeze	-40°C / +100°C
Toxity	Non Toxic
Consumption	3-5 kg/m <sup>2</sup>
Package	25 kg craft package
Mixing Ratio	25 kg powder / 8 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at +21 °C and %50 relative humidity

## FORCECHEM GAS CONCRETE ADHESİVE

### DESCRIPTION

It is adhesive cement-based C1T class, used for fixing gas concrete bricks and blocks produced in different sizes.

### APPLICATION FIELDS

- In gas concrete blocks applications
- In brick applications
- In pressed brick applications



### PREPERATION OF PLASTER

25 Kg Forcechem® Gas Concrete Adhesive is mixed with 6-7 lt. water in a clean can, till it turns into paste form. The mixture is kept for 5 minutes and then mixed again. The mixture can be applied to the gaps with using suitable trowel.

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The surface should be clean and smooth.
- The cracks and holes should be repaired by using Forcechem Plaster before the application.
- The surface should be moistened before the application.

### TECHNICAL SPECIFICATIONS

Color	White or Grey
First Strength Of Adhesion	$\geq 0,5 \text{ N/mm}^2$
Strength Of Adhesion after Heat Storage	$\geq 0,5 \text{ N/mm}^2$
Strength Of Adhesion after Wet Storage	$\geq 0,5 \text{ N/mm}^2$
Strength Of Adhesion after Freeze Thaw Con.	$\geq 0,5 \text{ N/mm}^2$
Open waiting Period (After 20 min.)	$\geq 0,5 \text{ N/mm}^2$
Digestion time	40-60 minutes
Ready Mixture Applicable Time	6 hour
Fire Response Class	A1
Application Temperatures	$+5^{\circ}\text{C} / +35^{\circ}\text{C}$
Strength of Freeze	$-40^{\circ}\text{C} / +100^{\circ}\text{C}$
Toxity	Non Toxic
Consumption	$4-5 \text{ kg/m}^2$
Package	25 kg craft package
Mixing Ratio	25 kg powder / 7-7,5 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at  $+21^{\circ}\text{C}$  and %50 relative humidity

## FORCECHEM FLEX POOL ADHESIVE

### DESCRIPTION

It is adhesive mortar cement-based, polymer reinforced, C2E class providing water proofing with high elasticity used for adhesion of ceramic, marble, granite, glass, mosaic and similar materials to pools or similar wet floors.

### APPLICATION FIELDS

- Exterior and interior construction
- In horizontal and vertical coatings.
- On rough surfaces, after lining to rough surfaces.
- On plaster surfaces, after lining to plaster surfaces.



### USAGE OF THE PRODUCT

One bag of (25 Kg) Flex Pool Adhesive is added slowly into 6,5-7 kg. water then is mixed slowly with mixer until no precipitation occurs. The prepared mixture is left to rest for 2 minutes and then mixed again, after mixing; mixture is applied to the surface with a toothed trowel. Coating material should be applied on to surface within 25 min.

### APPLICATION LIMITS

- Should not be applied on wooden and metal surfaces
- Should not be applied on painted surfaces.

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The surface should be clean and smooth. If there is a painted surface.
- It should be roughened with hummer.
- The cranks and holes should be repaired by using Forcechem® Repairing Mortar before the application.
- The surface should be moisted before the application.
- It is suggested that the application should be in the range of +5°C / +35°C.
- The adhesive can stay ready to use in the can about 4-5 hour.
- The adhesive has 40-60 min open time with respect to the climate conditions.
- If it is necessary, rearrangement of applicated places should be done in 25 minutes.

### TECHNICAL SPECIFICATIONS

Color	White or Grey
First Strenght Of Adhesion	$\geq 1 \text{ N/mm}^2$
Strenght Of Adhesion after Heat Storage	$\geq 1 \text{ N/mm}^2$
Strenght Of Adhesion after Wet Storage	$\geq 1 \text{ N/mm}^2$
Strenght Of Adhesion after Freze Thaw Con.	$\geq 1 \text{ N/mm}^2$
Open waiting Period (After 20 min.)	$\geq 1 \text{ N/mm}^2$
Digestion time	40-60 minutes
Ready Mixture Applicable Time	6 hour
Fire Response Class	A1
Application Temperatures	+5°C / +35°C
Strenght of Freeze	-40°C / +100°C
Toxity	Non Toxic
Consumption	3-5 kg/m <sup>2</sup>
Package	25 kg craft package
Mixing Ratio	25 kg powder / 8 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at +21 °C and %50 relative humidity

## FORCECHEM RIDGE TILE ADHESIVE

### DESCRIPTION

Cement based with polymer modified adhesive that uses ridge of the roof reinforced.

### APPLICATION FIELDS

It is used for bonding and fixing of the roof ridge

### PREPERATION OF ADHESIVE AND USAGE

1 bag (25 Kg) Forcechem® Ridge Tile Adhesive is mixed with 6,5 to 7 kg. water until it turns paste form (Hand mix with mixer gives better results). The mixture is left to rest for 5 minutes and then mixed again. The appropriate trowel applied on the ridge. Make sure the ridge after application must be properly fixed



### APPLICATION LIMITS

- Be directly not applied to the wood, painted, wet surfaces and metal surfaces.

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The surface should be clean.
- It is suggested that the application should be in the range of +5°C / +35°C
- It is suggested that the application should not be under direct sun light
- If it is necessary, rearrangement of applicated places should be done in 25 minutes
- It should be wear gloves and protective clothes while application

### TECHNICAL SPECIFICATIONS

Color	White or Grey
First Strenght Of Adhesion	≥ 0,5 N/mm <sup>2</sup>
Strenght Of Adhesion after Heat Storage	≥ 0,5 N/mm <sup>2</sup>
Strenght Of Adhesion after Wet Storage	≥ 0,5 N/mm <sup>2</sup>
Strenght Of Adhesion after Freze Thaw Con.	≥ 0,5 N/mm <sup>2</sup>
Open waiting Period (After 20 min.)	≥ 0,5N/mm <sup>2</sup>
Digestion time	30-40 minutes
Ready Mixture Applicable Time	6 hour
Fire Response Class	A1
Application Temperatures	+5°C / +35°C
Strenght of Freeze	-40°C / +100°C
Toxity	Non Toxic
Consumption	0,75 kg (1 piece ridge)
Package	25 kg craft package
Mixing Ratio	25 kg powder / 7-7,5 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at +21 °C and %50 relative humidity



## FORCECHEM GLASS BRICKS ADHESIVE AND JOINT GROUT

### DESCRIPTION

Cement based and aggregate with polymer modified flex mortar and joint filler.

### APPLICATION FIELDS

Used in various sizes and colors of decorative glass and brick bonding and joints

### PREPARATION OF ADHESIVE AND USAGE

1 Bag (25 kg) **Forcechem® Glass Bricks Adhesive and Joint Grout** is mixed with 6-7 lt water until it turns paste form. (Hand mix with mixer gives beter results.) The mixture is left to rest for 5 minutes, then mixing again. Mortar can be used by appropriate trowel applied on glass bricks.

### APPLICATION LIMITS

Be directly not applied to the wood, painted, wet surfaces and metal surfaces.

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The surface should be clean.
- It is suggested that the application should be in the range of +5°C / +35°C
- It is suggested that the application should not be under direct sun light
- If it is necessary, rearrangement of applicated pieces should be done in 25 minutes
- It should be wear gloves and protective clothes while application

Color	White or Grey
Partical Size	<0,2 mm.
Resistance to Abrasion	≥ 2000 mm <sup>3</sup>
Flexural Strength After 28 Days	≥ 2,5 N/mm <sup>2</sup>
Flex. Str. After Frost-Thaw Cyc. Con.	≥ 2,5 N/mm <sup>2</sup>
Compressive Strength After 28 Days	≥ 15 N/mm <sup>2</sup>
Compressive Str. After Frost-Thaw Cyc.	≥ 15 N/mm <sup>2</sup>
Shrinkage	≤ 3 mm/m
Water Absorption	≤5 gr. (30 minutes) / ≤10 gr. (240 minutes)
Digestion time	30-40 minutes
Cleaning time	15-20 minutes
Ready Mixture Curing Time:	1,5 hour
Fire Response Class	A1
Application Temperatures	+5°C / +35°C
Strenght of Freeze	-40°C / +100°C
Toxity	Non Toxic
Consumption	17-18 kg/m <sup>2</sup> – 24 brick
Package	25 kg craft package
Mixing Ratio	25 kg powder / 6-7 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

## FORCECHEM DECORATIVE BRICK AND STONE ADHESIVE MORTAR

### DESCRIPTION

It is a cement-based, polymer reinforced decorative brick and stone adhesive mortar with high adhesion strength.

### FIELDS OF USE

It is used for coating horizontal and vertical surfaces with paving materials such as decorative bricks and natural stones.

### SURFACE PREPARATION

The application surface should be cleaned off dust, oil, paint, other chemicals and loose pieces. Uneven surfaces should be leveled using **Forcechem® Repair Mortar**. All mineral-based absorbing surfaces should be dampened before the application and kept damp. In cases where the absorbing capacity of the surface is high, the application should be performed after applying **Forcechem® Acrylic Primer** onto the surface.

### APPLICATION

Pour 25-kg **Forcechem® Decorative Brick and Stone Adhesive Mortar** into 6 – 6,5 liters of clean water, and mix with a low-speed mixer until you obtain a homogenous mixture without lumps. Leave the mortar to mature for 5 minutes, and then mix again. Apply the mortar onto the decorative brick and stone by using a trowel, and adhere the brick and stone to the wall. Apply force on the decorative bricks and stones with a rubber hammer in order to ensure full contact with the application area. Pay attention to leaving the desired joint gaps among decorative bricks and stones. Wait for at least 48 hours before applying joint sealant.

### LIMITS OF APPLICATION

Do not apply the product on wooden surfaces, metal surfaces and surfaces exposed to humidity. Apply the product on gypsum boards, plaster or blocks after using **Forcechem® Forceprimer AAA (Adherence Augmenter and Surface-forming Primer for Walls and Ceilings)**.

### TECHNICAL SPECIFICATIONS

Appearance:	Grey/white
Initial tensile adhesive strength:	$\geq 1,0 \text{ N/mm}^2$
Tensile adhesive strength after immersion in water:	$\geq 1,0 \text{ N/mm}^2$
Tensile adhesive strength after thermal aging:	$\geq 1,0 \text{ N/mm}^2$
Tensile adhesive strength after freeze/thaw cycle:	$\geq 1,0 \text{ N/mm}^2$
Tensile adhesive strength after extended open time:	$\geq 0,5 \text{ N/mm}^2$
Maturation time:	40 to 60 minutes
Pot life:	6 hours
Fire Class:	A1
Application temperature:	+5°C / 35°C
Freezing resistance:	-40°C / 100°C after complete freezing time
Toxicity:	Non-toxic
Consumption:	4-5 kg/m <sup>2</sup>
Package:	25-kg Kraft sacks
Mix ratio:	25-kg powder / 6 – 6,5 liters of water
Shelf life:	12 months beginning from the production date under proper storing conditions. Maximum 10 sacks can be piled on top of each other

The values given above apply to +21°C temperature and 50% relative humidity.

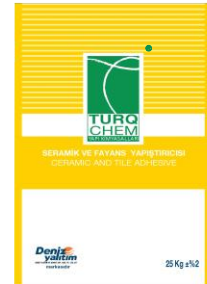
## TURQCHEM CERAMIC AND TILE ADHESIVE (WHITE OR GREY)

### DESCRIPTION

It is adhesive mortar cement-based C1T class using to adhesive surface coating materials such as ceramic, tile, granite and so on.

### APPLICATION AREAS

- Indoor and outdoor surfaces
- In ceramic and tile applications
- In horizontal granite applications
- In glass mosaic applications
- In marble applications



### PREPERATION OF PLASTER

25 Kg **Turqchem® Ceramic and Tile Adhesive** is mixed with 7-7,5 lt. water in a clean can, till it turns into paste form. The mixture is kept for 5 minutes and then mixed again. The mixture can be applied to the gaps with using suitable trowel.

### APPLICATION LIMITS:

- It is not used on wood surfaces
- It is not used on painted surfaces
- It is not used on metal surfaces
- It is not used on gypsum surfaces

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The surface should be clean and smooth.
- If there is a painted surface, it should be roughened with hammer
- The cracks and holes should be repaired by using Turqchem® Plaster before the application.
- The surface should be moistened before the application.
- It is suggested that the application should be in the range of +5°C / +35°C
- If it is necessary, rearrangement of applied places should be done in 25 minutes
- The adhesive has -40 / +100 °C temperature strength

### TECHNICAL SPECIFICATIONS

Color	White or Grey
First Strength Of Adhesion	≥ 0,5 N/mm <sup>2</sup>
Strength Of Adhesion after Heat Storage	≥ 0,5 N/mm <sup>2</sup>
Strength Of Adhesion after Wet Storage	≥ 0,5 N/mm <sup>2</sup>
Strength Of Adhesion after Freeze Thaw Con.	≥ 0,5 N/mm <sup>2</sup>
Open waiting Period (After 20 min.)	≥ 0,5N/mm <sup>2</sup>
Digestion time	40-60 minutes
Ready Mixture Applicable Time	6 hour
Fire Response Class	A1
Application Temperatures	+5°C / +35°C
Strength of Freeze	-40°C / +100°C
Toxity	Non Toxic
Consumption	4-5 kg/m <sup>2</sup>
Package	25 kg craft package
Mixing Ratio	25 kg powder / 7-7,5 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at +21 °C and %50 relative humidity

## TURQCHEM FLEX CERAMIC AND TILE ADHESIVE (WHITE OR GREY)

### DESCRIPTION

It is adhesive mortar cement-based flexible C2E class with special polymer additives using to adhesive surface coating materials such as ceramic, tile, granite and so on.

### APPLICATION AREAS

- Indoor and outdoor surfaces
- In ceramic and tile applications
- In horizontal granite applications
- In glass mosaic applications
- In the surfaces here elasticity is necessary



### PREPERATION OF PLASTER

25 Kg **Turqchem® Flex Ceramic and Tile Adhesive** is mixed with 7-7,5 lt. water in a clean can, till it turns into paste form. The mixture in kept for 5 minutes and then mixed again. The mixture can be applied to the gaps with using suitable trowel.

### APPLICATION LIMITS

- It is not used on wood surfaces
- It is not used on painted surfaces
- It is not used on metal surfaces
- It is not used on gypsum surfaces

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The surface should be clean and smooth.
- If there is a painted surface, it should be roughened with hammer
- The cranks and holes should be repaired by using Turqchem® Plaster before the application.
- The surface should be moisted before the application.
- It is suggested that the application should be in the range of +5°C / +35°C
- If it is necessary, rearrangement of applicated places should be done in 25 minutes
- The adhesive has -40 / +100 °C temperature strength

### TECHNICAL SPECIFICATIONS

Color	White or Grey
First Strenght Of Adhesion	$\geq 1 \text{ N/mm}^2$
Strenght Of Adhesion after Heat Storage	$\geq 1 \text{ N/mm}^2$
Strenght Of Adhesion after Wet Storage	$\geq 1 \text{ N/mm}^2$
Strenght Of Adhesion after Freze Thaw Con.	$\geq 1 \text{ N/mm}^2$
Open waiting Period (After 20 min.)	$\geq 1 \text{ N/mm}^2$
Digestion time	40-60 minutes
Ready Mixture Applicable Time	6 hour
Fire Response Class	A1
Application Temperatures	+5°C / +35°C
Strenght of Freeze	-40°C / +100°C
Toxity	Non Toxic
Consumption	4-5 kg/m <sup>2</sup>
Package	25 kg craft package
Mixing Ratio	25 kg powder / 7-7,5 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at +21 °C and %50 relative humidity



## TURQCHEM FLEX GRANITE ADHESIVE (WHITE OR GREY)

### DESCRIPTION

It is adhesive mortar to porcelain, granite and ceramic cement-based flexible C2E class improved with additional features.

### APPLICATION AREAS

- Indoor and outdoor surfaces
- In ceramic and tile applications
- In horizontal and vertical granite applications
- In glass and porcelain mosaic applications
- In marble applications, in swimming pools



### PREPERATION OF PLASTER

25 Kg **Turqchem® Flex Granite Adhesive** is mixed with 7-7,5 lt. water in a clean can, till it turns into paste form. The mixture in kept for 5 minutes and then mixed again. The mixture can be applied to the gaps with using suitable trowel.

### APPLICATION LIMITS

- It is not used on wood surfaces

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The surface should be clean and smooth.
- If there is a painted surface, it should be roughened with hammer
- The cranks and holes should be repaired by using Turqchem® Plaster before the application.
- The surface should be moisted before the application.
- The adhesive can stay ready to use in the can about 4 hr.
- If it is necessary, rearrangement of applicated places should be done in 25 minutes

### TECHNICAL SPECIFICATIONS

Color	White or Grey
First Strenght Of Adhesion	$\geq 1 \text{ N/mm}^2$
Strenght Of Adhesion after Heat Storage	$\geq 1 \text{ N/mm}^2$
Strenght Of Adhesion after Wet Storage	$\geq 1 \text{ N/mm}^2$
Strenght Of Adhesion after Freze Thaw Con.	$\geq 1 \text{ N/mm}^2$
Open waiting Period (After 20 min.)	$\geq 1 \text{ N/mm}^2$
Digestion time	40-60 minutes
Ready Mixture Applicable Time	6 hour
Fire Response Class	A1
Application Temperatures	+5°C / +35°C
Strenght of Freeze	-40°C / +100°C
Toxity	Non Toxic
Consumption	4-5 kg/m <sup>2</sup>
Package	25 kg craft package
Mixing Ratio	25 kg powder / 7-7,5 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at +21 °C and %50 relative humidity

## DENİZKİM CERAMIC AND TILE ADHESIVE (WHITE OR GREY)

### DESCRIPTION

It is adhesive mortar cement-based C1T class using to adhesive surface coating materials such as ceramic, tile, granite and so on.

### APPLICATION AREAS

- Indoor and outdoor surfaces
- In ceramic and tile applications
- In horizontal granite applications
- In glass mosaic applications
- In marble applications



### PREPERATION OF PLASTER

25 Kg **Denizkim® Ceramic and Tile Adhesive** is mixed with 7-7,5 lt. water in a clean can, till it turns into paste form. The mixture in kept for 5 minutes and then mixed again. The mixture can be applied to the gaps with using suitable trowel.

### APPLICATION LIMITS:

- It is not used on wood surfaces
- It is not used on painted surfaces
- It is not used on metal surfaces
- It is not used on gypsum surfaces

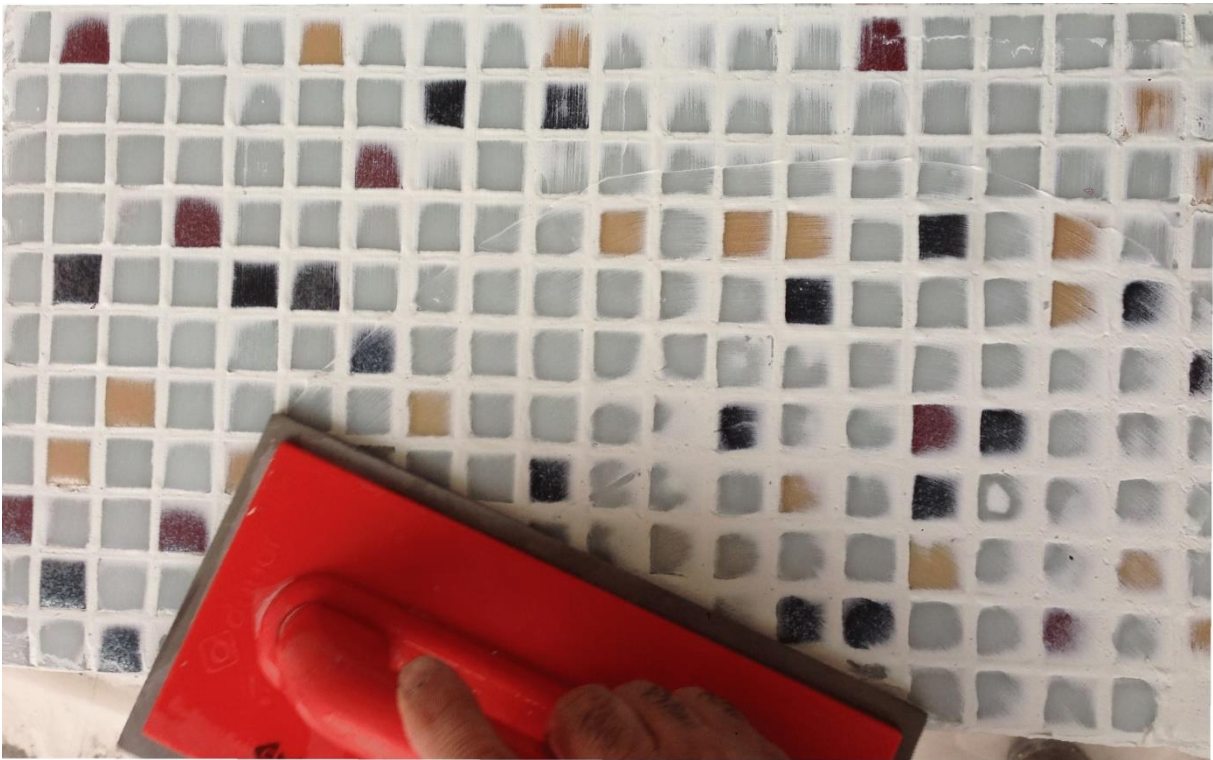
### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The surface should be clean and smooth.
- If there is a painted surface, it should be roughened with hammer
- The cranks and holes should be repaired by using Denizkim® Plaster before the application.
- The surface should be moisted before the application.
- It is suggested that the application should be in the range of +5°C / +35°C
- If it is necessary, rearrangement of applicated places should be done in 25 minutes
- The adhesive has -40 / +100 °C temperature strength

### TECHNICAL SPECIFICATIONS

Color	White or Grey
First Strenght Of Adhesion	≥ 0,5 N/mm <sup>2</sup>
Strenght Of Adhesion after Heat Storage	≥ 0,5 N/mm <sup>2</sup>
Strenght Of Adhesion after Wet Storage	≥ 0,5 N/mm <sup>2</sup>
Strenght Of Adhesion after Freze Thaw Con.	≥ 0,5 N/mm <sup>2</sup>
Open waiting Period (After 20 min.)	≥ 0,5N/mm <sup>2</sup>
Digestion time	40-60 minutes
Ready Mixture Applicable Time	6 hour
Fire Response Class	A1
Application Temperatures	+5°C / +35°C
Strenght of Freeze	-40°C / +100°C
Toxity	Non Toxic
Consumption	4-5 kg/m <sup>2</sup>
Package	25 kg craft package
Mixing Ratio	25 kg powder / 7-7,5 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at +21 °C and %50 relative humidity



## JOINT FILLERS

## FORCECHEM JOINT

### DESCRIPTION

It is elastic joint filler cement-based, polymer reinforced, CG2A class, providing water proofing used for filling joint gaps of spaces furnished with surface coating materials such as ceramic, tile, granite, glass mosaic, porcelain mosaic or similar.

### APPLICATION FIELDS

- Indoor and outdoor surfaces
- In ceramic and tile applications
- In granite and glass mosaic applications
- In swimming pools



### PREPERATION OF PLASTER

20 Kg Forcechem® Flex Fuga is mixed with 6-7 lt. water in a clean can, till it turns into paste form. The mixture in kept for 5 minutes and then mixed again. The mixture can be applied to the gaps with using suitable trowel.

### APPLICATION LIMITS

- It is not used in wide gaps > 1 cm
- It is applicable in gaps 0,6 mm<

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The gaps should be cleaned before the application.
- The application should be done one day later after fixing the pieces
- It is suggested that the application should be in the range of +5°C / +35°C
- The flex fuga can stay ready to use in the can about 4 hr.
- It is suggested that cleaning should be in 3 hours later after the application.

### TECHNICAL SPECIFICATIONS

Color	White or Grey
Partical Size	<0,2 mm.
Resistance to Abrasion	≥ 1000 mm <sup>3</sup>
Flexural Strength After 28 Days	≥ 2,5 N/mm <sup>2</sup>
Flex. Str. After Frost-Thaw Cyc. Con.	≥ 2,5 N/mm <sup>2</sup>
Compressive Strength After 28 Days	≥ 15 N/mm <sup>2</sup>
Compressive Str. After Frost-Thaw Cyc.	≥ 15 N/mm <sup>2</sup>
Shrinkage	≤ 3 mm/m
Water Absorption	≤5 gr. (30 minutes) / ≤10 gr.(240 minutes)
Digestion time	30-40 minutes
Cleaning time	15-20 minutes
Ready Mixture Curing Time:	1,5 hour
Fire Response Class	A1
Application Temperatures	+5 <sup>0</sup> C / +35 <sup>0</sup> C
Strenght of Freeze	-40 <sup>0</sup> C / +100 <sup>0</sup> C
Toxity	Non Toxic
Consumption	0,5-1 kg/m <sup>2</sup>
Package	25 kg craft package
Mixing Ratio	25 kg powder / 6-7 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at +21 °C and %50 relative humidity



## FORCECHEM JOINT-S

### DESCRIPTION

It is elastic joint filler cement-based, polymer reinforced, CG2WA class, providing water proofing used for filling joint gaps of spaces furnished with surface coating materials such as ceramic, tile, granite, glass mosaic, porcelain mosaic or similar.

### APPLICATION AREAS

- Indoor and outdoor surfaces
- In ceramic and tile applications
- In granite and glass mosaic applications
- In swimming pools



### PREPERATION OF PLASTER

20 Kg **Forcechem® Joint-S** is mixed with 6-7 lt. water in a clean can, till it turns into paste form. The mixture in kept for 5 minutes and then mixed again. The mixture can be applied to the gaps with using suitable trowel.

### APPLICATION LIMITS

- It is not used in wide gaps > 1 cm
- It is applicable in gaps 0,6 mm<

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The gaps should be cleaned before the application.
- The application should be one day later after fixing the pieces
- It is suggested that, the application should be in the range of +5°C / +35°C

### TECHNICAL SPECIFICATIONS

Color	White or Grey
Partical Size	<0,2 mm.
Resistance to Abrasion	≥ 1000 mm <sup>3</sup>
Flexural Strength After 28 Days	≥ 2,5 N/mm <sup>2</sup>
Flex. Str. After Frost-Thaw Cyc. Con.	≥ 2,5 N/mm <sup>2</sup>
Compressive Strength After 28 Days	≥ 15 N/mm <sup>2</sup>
Compressive Str. After Frost-Thaw Cyc.	≥ 15 N/mm <sup>2</sup>
Shrinkage	≤ 3 mm/m
Water Absorption	≤2 gr. (30 minutes) / ≤5 gr.(240 minutes)
Digestion time	30-40 minutes
Cleaning time	15-20 minutes
Ready Mixture Curing Time:	1,5 hour
Fire Response Class	A1
Application Temperatures	+5°C / +35°C
Strenght of Freeze	-40°C / +100°C
Toxity	Non Toxic
Consumption	0,5-1 kg/m <sup>2</sup>
Package	25 kg craft package
Mixing Ratio	25 kg powder / 6-7 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at +21 °C and %50 relative humidity

## FORCECHEM ANTIBACTERIAL FUGA

### DESCRIPTION

It is elastic joint filler cement-based, polymer reinforced, CG2WA class, providing water proofing and preventing bacteria and mould formation used for filling joint gaps of spaces furnished with surface coating materials such as ceramic, tile, granite, glass mosaic, porcelain mosaic or similar.

### APPLICATION FIELDS

Indoor and outdoor surfaces  
In ceramis and tile applications  
In granite and glass mosaic applications  
In swimming pools



### PREPERATION OF FLEX FUGA

20 Kg FORCECHEM® Antibacterial Fuga is mixed with 6-7 kg water in a clean can, till it turns into paste form. The mixture in kept for 5 minutes and then mixed again. The mixture can be applied to the gaps with using suitable trowel.

### APPLICATION LIMITS

- It is not used in wide gaps >1 cm
- It is applicable in gaps 0,6mm <

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The gaps should be cleaned before the application.
- The application should be one day later after fixing the pieces
- It is suggested that, the application should be in the range of +5 - +35 °C.

### TECHNICAL SPECIFICATIONS

Color	White or Grey
Partical Size	<0,2 mm.
Resistance to Abrasion	≥ 1000 mm <sup>3</sup>
Flexural Strength After 28 Days	≥ 2,5 N/mm <sup>2</sup>
Flex. Str. After Frost-Thaw Cyc. Con.	≥ 2,5 N/mm <sup>2</sup>
Compressive Strength After 28 Days	≥ 15 N/mm <sup>2</sup>
Compressive Str. After Frost-Thaw Cyc.	≥ 15 N/mm <sup>2</sup>
Shrinkage	≤ 3 mm/m
Water Absorption	≤2 gr. (30 minutes) / ≤5 gr.(240 minutes)
Digestion time	30-40 minutes
Cleaning time	15-20 minutes
Ready Mixture Curing Time:	1,5 hour
Fire Response Class	A1
Application Temperatures	+5 <sup>0</sup> C / +35 <sup>0</sup> C
Strenght of Freeze	-40 <sup>0</sup> C / +100 <sup>0</sup> C
Toxity	Non Toxic
Consumption	0,5-1 kg/m <sup>2</sup>
Package	25 kg craft package
Mixing Ratio	25 kg powder / 6-7 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at +21 °C and %50 relative humidity

## TURQCHEM JOINT-S

### DESCRIPTION

It is elastic joint filler cement-based, polymer reinforced, CG2WA class, providing water proofing used for filling joint gaps of spaces furnished with surface coating materials such as ceramic, tile, granite, glass mosaic, porcelain mosaic or similar.

### APPLICATION AREAS

- Indoor and outdoor surfaces
- In ceramic and tile applications
- In granite and glass mosaic applications
- In swimming pools



### PREPERATION OF PLASTER

20 Kg **Turqchem® Joint-S** is mixed with 6-7 lt. water in a clean can, till it turns into paste form. The mixture in kept for 5 minutes and then mixed again. The mixture can be applied to the gaps with using suitable trowel.

### APPLICATION LIMITS

- It is not used in wide gaps > 1 cm
- It is applicable in gaps 0,6 mm<

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The gaps should be cleaned before the application.
- The application should be one day later after fixing the pieces
- It is suggested that, the application should be in the range of +5°C / +35°C

### TECHNICAL SPECIFICATIONS

Color	White or Grey
Partical Size	<0,2 mm.
Resistance to Abrasion	≥ 1000 mm <sup>3</sup>
Flexural Strength After 28 Days	≥ 2,5 N/mm <sup>2</sup>
Flex. Str. After Frost-Thaw Cyc. Con.	≥ 2,5 N/mm <sup>2</sup>
Compressive Strength After 28 Days	≥ 15 N/mm <sup>2</sup>
Compressive Str. After Frost-Thaw Cyc.	≥ 15 N/mm <sup>2</sup>
Shrinkage	≤ 3 mm/m
Water Absorption	≤2 gr. (30 minutes) / ≤5 gr.(240 minutes)
Digestion time	30-40 minutes
Cleaning time	15-20 minutes
Ready Mixture Curing Time:	1,5 hour
Fire Response Class	A1
Application Temperatures	+5°C / +35°C
Strenght of Freeze	-40°C / +100°C
Toxity	Non Toxic
Consumption	0,5-1 kg/m <sup>2</sup>
Package	25 kg craft package
Mixing Ratio	25 kg powder / 6-7 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at +21 °C and %50 relative humidity



## THERMAL INSULATION SYSTEM MORTARS



## FORCECHEM THERMAL INSULATION BOARD ADHESIVE

### DESCRIPTION

Cement based and high polymer modified adhesive for polystyrene insulation boards.

### APPLICATION AREAS

- Indoor and outdoor surfaces
- In polystyrene insulation board applications
- In insulation coating applications

### PREPERATION OF PLASTER

1 bag of (25 Kg) **Forcechem® Thermal Insulation Board Adhesive** is mixed with 6,5-7 lt. water in a clean can, till it turns into paste form. The mixture is kept for 5 minutes and then mixed again. The mixture can be applied to the gaps with using suitable trowel.

### APPLICATION LIMITS

- It is not used on metal surfaces

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The surface should be clean and smooth.
- The cracks and holes should be repaired by using Forcechem® Plaster before the application.
- The surface should be moistened before the application

### TECHNICAL SPECIFICATIONS

Color	Grey
Determination of Air Content of Fresh Mortar	$\geq 1000 \text{ kg/m}^3$
Particle Size	$< 0,8 \text{ mm.}$
Flexural Strength	$\geq 2,0 \text{ N/mm}^2$
Compressive Strength	$\geq 6,0 \text{ N/mm}^2$
First Strength Of Adhesion	$\geq 0,5 \text{ N/mm}^2$
Thermal Insulation Board of Adhesion	$\geq 0,08 \text{ N/mm}^2$
Water Absorption	$\leq 5 \text{ gr. (30 min)} / \leq 10 \text{ gr. (240 min)}$
Application time	40-60 minutes
Ready Mix Applicable	6 hour
Fire Response Class	A1
Opening to the Traffic	24 hour
Application Temperatures	$+5^{\circ}\text{C} / 35^{\circ}\text{C}$
Strength of Freeze	$-40^{\circ}\text{C} / 100^{\circ}\text{C}$
Toxity	Non Toxic
Consumption	$3-5 \text{ kg/m}^2$
Package	25 kg craft packet
Mixing Ratio	25 kg powder / 6,5-7 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be used and it has to be used 1 weeks it is opened

The values above are valid at  $+21^{\circ}\text{C}$  and %50 relative humidity



## FORCECHEM THERMAL INSULATION BOARD PLASTER

### DESCRIPTION

Cement based polymer reinforced plaster used for heat isolation, plasterine of polystyrene hard foam and sheets.

### APPLICATION

1 bag of (25 Kg) **Forcechem® Thermal Insulation Board Plaster** is mixed with 6,5-7 lt. water in a clean container until it gets mastic thickness. After retting the preparation for 5 minutes, it is mixed again. Preparation is applied on to surface by trowel at 2-2,5 mm thickness. After that plaster netting is applied. Plaster is left for drying. After is dried, last coat is applied at 1-1,5 mm according to the climatic conditions.



### APPLICATION AREAS

- Indoor and outdoor applications
- Thermal Insulation Board Plaster applications
- For repairing thin plaster applications
- For plastering the surfaces where flexibility is required.

### APPLICATION LIMITS

- It can not be applied to metallic surfaces

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- All the surface should be covered with plaster mesh,
- There should not be gaps between insulation boards,
- The surface should be moisted before application.
- The plaster has mortar proofing properties,

### TECHNICAL SPECIFICATIONS

Color	Grey
Determination of Air Content of Fresh Mortar	$\geq 1150 \text{ kg/m}^3$
Determination of Air Content Of Hardened Mortar	$1250 \pm 200 \text{ kg/m}^3$
Partical Size	$< 0,8 \text{ mm}$
Flexural Strength	$\geq 2,0 \text{ N/mm}^2$
Compressive Strength	$\geq 6,0 \text{ N/mm}^2$
Thermal Insulation Board of Adhesion	$\geq 0,08 \text{ N/mm}^2$
Water Absorption	$\leq 0,5 \text{ kg/m}^2 \cdot \text{dk}^{0,5}$
Water Vapour Permeability	$\mu \leq 15$
Application time	40-60 minutes
Ready Mix Applicable	6 hour
Fire Response Class	A1
Opening to the Traffic	24 hour
Application Temperatures	$+5^{\circ}\text{C} / 35^{\circ}\text{C}$
Strenght of Freeze	$-40^{\circ}\text{C} / 100^{\circ}\text{C}$
Toxity	Non Toxic
Consumption	$5 \text{ kg/m}^2$
Package	25 kg craft packet
Mixing Ratio	25 kg powder / 6,5-7 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at  $+21^{\circ}\text{C}$  and %50 relative humidity

## FORCECHEM MINERAL PLASTER

### DESCRIPTION

Cement based, drop type, 1,6-1,8 mm (thin), 2,5-3 mm (thick) aggregate size and polymer modified decorative plaster that can be used with trowel to obtain a uniform layer.

### APPLICATION AREAS

It can be applied to outside cement-based plaster, gas concrete and exposed concrete and especially onto heat insulation system as a last coating

### PREPARATION OF PLASTER

25 kg **Forcechem® Mineral Plaster** is mixed with 5,5-6 lt water in a clean can. The mixture is kept for 5 minutes and then mixed again. The mixture can be applied to the surface with using trowel. Plaster must be applied to surface in equal thickness with using trowel and application thickness must be regulated with respect to biggest aggregate in mixture. Users have to make circular motion on plaster to give shape and design.

### APPLICATION LIMITS

- It is not used metal surface, weak plaster surface and brick surface.

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The surface where plaster is to be applied should be clean, smooth and strong.
- The surface where plaster is to be applied should be moistened before application and saturated with water in very hot and windy air
- The surface where plaster is to be applied should be +5°C / +35°C
- The surface where plaster is to be applied can be used lining in order to increase adhesion property

### TECHNICAL SPECIFICATIONS

Color	White
Partical Size	Thin (1,8 mm) / Thick (3 mm) / Line (3 mm)
Gleam	G3 (≤10)
Dry Film Thickness	E5 (> 400 µm)
Partical Size	S4 (> 1500 µm)
Water Vapour Permeability	V1 (> 150 g/m <sup>2</sup> .d), Sd < 0,14 m
Water Permeability	W1 (>0,5)
Crack Bridging Properties	A0
Carbondioxide Permeability	C0
Application time	20-30 minutes
Ready Mix Cur. Time	3-4 hour
Application thickness	2-3 mm
Application Temperatures	+5°C / +35°C
Drying time	2 day
Toxity	Non Toxic
Consumption	3-4 kg/m <sup>2</sup>
Package	25 kgs craft packet
Mixing Ratio	25 kg / 5,5-6 lt water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at +21 °C and %50 relative humidity



## TURQCHEM THERMAL INSULATION BOARD ADHESIVE

### DESCRIPTION

Cement based and high polymer modified adhesive for polystyrene insulation boards.

### APPLICATION AREAS

- Indoor and outdoor surfaces
- In polystyrene insulation board applications
- In insulation coating applications

### PREPERATION OF PLASTER

1 bag of (25 Kg) **Turqchem® Thermal Insulation Board Adhesive** is mixed with 6,5-7 lt. water in a clean can, till it turns into paste form. The mixture is kept for 5 minutes and then mixed again. The mixture can be applied to the gaps with using suitable trowel.

### APPLICATION LIMITS

- It is not used on metal surfaces

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The surface should be clean and smooth.
- The cracks and holes should be repaired by using Turqchem® Plaster before the application.
- The surface should be moistened before the application.
- It is suggested that the application should be in the range of +5°C / +35°C

### TECHNICAL SPECIFICATIONS

Color	Grey
Determination of Air Content of Fresh Mortar	$\geq 1000 \text{ kg/m}^3$
Particle Size	$< 0,8 \text{ mm.}$
Flexural Strength	$\geq 2,0 \text{ N/mm}^2$
Compressive Strength	$\geq 6,0 \text{ N/mm}^2$
First Strength Of Adhesion	$\geq 0,5 \text{ N/mm}^2$
Thermal Insulation Board of Adhesion	$\geq 0,08 \text{ N/mm}^2$
Water Absorption	$\leq 5 \text{ gr. (30 min) / } \leq 10 \text{ gr. (240 min)}$
Application time	40-60 minutes
Ready Mix Applicable	6 hour
Fire Response Class	A1
Opening to the Traffic	24 hour
Application Temperatures	+5°C / 35°C
Strength of Freeze	-40°C / 100°C
Toxity	Non Toxic
Consumption	3-5 kg/m <sup>2</sup>
Package	25 kg craft packet
Mixing Ratio	25 kg powder / 6,5-7 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be used and it has to be used 1 week after it is opened

The values above are valid at +21°C and %50 relative humidity





## TURQCHEM THERMAL INSULATION BOARD PLASTER

### DESCRIPTION

Cement based polymer reinforced plaster used for heat isolation, plasterine of polystyrene hard foam and sheets.

### APPLICATION

1 bag of (25 Kg) **Turqchem® Thermal Insulation Board Plaster** is mixed with 6,5-7 lt. water in a clean container until it gets mastic thickness. After reteng the preparation for 5 minutes, it is mixed again. Preparation is applied on to surface by trowel at 2-2,5 mm thickness. After that plaster netting is applied. Plaster is left for drying. After is dried, last coat is applied at 1-1,5 mm according to the climatic conditions.



### APPLICATION AREAS

- Indoor and outdoor applications
- Thermal Insulation Board Plaster applications
- For repairing thin plaster applications
- For plastering the surfaces where flexibility is required.

### APPLICATION LIMITS

- It can not be applied to metalic surfaces

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- All the surface should be covered with plaster mesh,
- There should not be gaps between insulation boards,
- The surface should be moisted before application.
- The plaster has mortar proofing properties,

### TECHNICAL SPECIFICATIONS

Color	Grey
Determination of Air Content of Fresh Mortar	$\geq 1150 \text{ kg/m}^3$
Determination of Air Content Of Hardened Mortar	$1250 \pm 200 \text{ kg/m}^3$
Partical Size	$< 0,8 \text{ mm}$
Flexural Strength	$\geq 2,0 \text{ N/mm}^2$
Compressive Strength	$\geq 6,0 \text{ N/mm}^2$
Thermal Insulation Board of Adhesion	$\geq 0,08 \text{ N/mm}^2$
Water Absorption	$\leq 0,5 \text{ kg/m}^2 \cdot \text{dk}^{0,5}$
Water Vapour Permeability	$\mu \leq 15$
Application time	40-60 minutes
Ready Mix Applicable	6 hour
Fire Response Class	A1
Opening to the Traffic	24 hour
Application Temperatures	$+5^\circ\text{C} / 35^\circ\text{C}$
Strenght of Freeze	$-40^\circ\text{C} / 100^\circ\text{C}$
Toxity	Non Toxic
Consumption	$5 \text{ kg/m}^2$
Package	25 kg craft packet
Mixing Ratio	25 kg powder / 6,5-7 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at  $+21^\circ\text{C}$  and %50 relative humidity

## TURQCHEM MINERAL PLASTER

### DESCRIPTION

Cement based, drop type, 1,6-1,8 mm (thin), 2,5-3 mm (thick) aggregate size and polymer modified decorative plaster that can be used with trowel to obtain a uniform layer.

### APPLICATION AREAS

It can be applied to outside cement-based plaster, gas concrete and exposed concrete and especially onto heat insulation system as a last coating

### PREPARATION OF PLASTER

25 kg **Turqchem® Mineral Plaster** is mixed with 6-6,5 lt water in a clean can. The mixture is kept for 5 minutes and then mixed again. The mixture can be applied to the surface with using trowel. Plaster must be applied to surface in equal thickness with using trowel and application thickness must be regulated with respect to biggest aggregate in mixture. Users have to make circular motion on plaster to give shape and design.

### APPLICATION LIMITS

- It is not used metal surface, weak plaster surface and brick surface.

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The surface where plaster is to be applied should be clean, smooth and strong.
- The surface where plaster is to be applied should be moistened before application and saturated with water in very hot and windy air
- The surface where plaster is to be applied can be used lining in order to increase adhesion property

### TECHNICAL SPECIFICATIONS

Color	White
Partical Size	Thin (1,8 mm) / Thick (3 mm) / Line (3 mm)
Gleam	G3 ( $\leq 10$ )
Dry Film Thickness	E5 ( $> 400 \mu\text{m}$ )
Partical Size	S4 ( $> 1500 \mu\text{m}$ )
Water Vapour Permeability	V1 ( $> 150 \text{ g/m}^2 \cdot \text{d}$ ), Sd $< 0,14 \text{ m}$
Water Permeability	W1 ( $> 0,5$ )
Crack Bridging Properties	A0
Carbondioxide Permeability	C0
Application time	20-30 minutes
Ready Mix Cur. Time	3-4 hour
Application thickness	2-3 mm
Application Temperatures	+5°C / +35°C
Drying time	2 day
Toxity	Non Toxic
Consumption	3-4 kg/m <sup>2</sup>
Package	25 kgs craft packet
Mixing Ratio	25 kg / 5,5-6 lt water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at +21 °C and %50 relative humidity



## DENİZKİM THERMAL INSULATION BOARD ADHESIVE

### DESCRIPTION

Cement based and high polymer modified adhesive for polystyrene insulation boards.

### APPLICATION AREAS

- Indoor and outdoor surfaces
- In polystyrene insulation board applications
- In insulation coating applications

### PREPERATION OF PLASTER

1 bag of (25 Kg) **Denizkim® Thermal Insulation Board Adhesive** is mixed with 6,5-7 lt. water in a clean can, till it turns into paste form. The mixture is kept for 5 minutes and then mixed again. The mixture can be applied to the gaps with using suitable trowel.

### APPLICATION LIMITS

- It is not used on metal surfaces

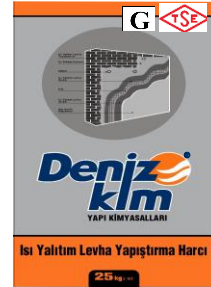
### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The surface should be clean and smooth.
- The cracks and holes should be repaired by using Denizkim Plaster before the application.
- The surface should be moistened before the application.
- It is suggested that the application should be in the range of +5°C / +35°C

### TECHNICAL SPECIFICATIONS

Color	Grey
Determination of Air Content of Fresh Mortar	$\geq 1000 \text{ kg/m}^3$
Particle Size	$< 0,8 \text{ mm.}$
Flexural Strength	$\geq 2,0 \text{ N/mm}^2$
Compressive Strength	$\geq 6,0 \text{ N/mm}^2$
First Strength Of Adhesion	$\geq 0,5 \text{ N/mm}^2$
Thermal Insulation Board of Adhesion	$\geq 0,08 \text{ N/mm}^2$
Water Absorption	$\leq 5 \text{ gr. (30 min)} / \leq 10 \text{ gr. (240 min)}$
Application time	40-60 minutes
Ready Mix Applicable	6 hour
Fire Response Class	A1
Opening to the Traffic	24 hour
Application Temperatures	+5°C / 35°C
Strength of Freeze	-40°C / 100°C
Toxity	Non Toxic
Consumption	3-5 kg/m <sup>2</sup>
Package	25 kg craft packet
Mixing Ratio	25 kg powder / 6,5-7 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be used and it has to be used 1 weeks it is opened

The values above are valid at +21 °C and %50 relative humidity



## DENİZKİM THERMAL INSULATION BOARD PLASTER

### DESCRIPTION

Cement based polymer reinforced plaster used for heat isolation, plasterine of polystyrene hard foam and sheets.

### APPLICATION

1 bag of (25 Kg) **Denizkim® Thermal Insulation Board Plaster** is mixed with 6,5-7 lt. water in a clean container until it gets mastic thickness. After retting the preparation for 5 minutes, it is mixed again. Preparation is applied on to surface by trowel at 2-2,5 mm thickness. After that plaster netting is applied. Plaster is left for drying. After is dried, last coat is applied at 1-1,5 mm according to the climatic conditions.



### APPLICATION AREAS

- Indoor and outdoor applications
- Thermal Insulation Board Plaster applications
- For repairing thin plaster applications
- For plastering the surfaces where flexibility is required.

### APPLICATION LIMITS

- It can not be applied to metalic surfaces

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- All the surface should be covered with plaster mesh,
- There should not be gaps between insulation boards,
- The surface should be moisted before application.
- The plaster has mortar proofing properties,

### TECHNICAL SPECIFICATIONS

Color	Grey
Determination of Air Content of Fresh Mortar	$\geq 1150 \text{ kg/m}^3$
Determination of Air Content Of Hardened Mortar	$1250 \pm 200 \text{ kg/m}^3$
Partical Size	$< 0,8 \text{ mm}$
Flexural Strength	$\geq 2,0 \text{ N/mm}^2$
Compressive Strength	$\geq 6,0 \text{ N/mm}^2$
Thermal Insulation Board of Adhesion	$\geq 0,08 \text{ N/mm}^2$
Water Absorption	$\leq 0,5 \text{ kg/m}^2 \cdot \text{dk}^{0,5}$
Water Vapour Permeability	$\mu \leq 15$
Application time	40-60 minutes
Ready Mix Applicable	6 hour
Fire Response Class	A1
Opening to the Traffic	24 hour
Application Temperatures	$+5^\circ\text{C} / 35^\circ\text{C}$
Strenght of Freeze	$-40^\circ\text{C} / 100^\circ\text{C}$
Toxity	Non Toxic
Consumption	$5 \text{ kg/m}^2$
Package	25 kg craft packet
Mixing Ratio	25 kg powder / 6,5-7 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at  $+21^\circ\text{C}$  and %50 relative humidity



## DENİZKİM DECORATIVE COATINGS

### DESCRIPTION

Cement based, drop type, 1,6-1,8 mm (thin), 2,5-3 mm (thick) aggregate size and polymer modified decorative plaster that can be used with trowel to obtain a uniform layer.

### APPLICATION AREAS

It can be applied to outside cement-based plaster, gas concrete and exposed concrete and especially onto heat insulation system as a last coating

### PREPARATION OF PLASTER

25 kg **Denizkim® Decorative Coatings** is mixed with 6-6,5 lt water in a clean can. The mixture is kept for 5 minutes and then mixed again. The mixture can be applied to the surface with using trowel. Plaster must be applied to surface in equal thickness with using trowel and application thickness must be regulated with respect to biggest aggregate in mixture. Users have to make circular motion on plaster to give shape and design.

### APPLICATION LIMITS

- It is not used metal surface, weak plaster surface and brick surface.

### PREPARATION OF SURFACE AND APPLICATION SPECIALITIES

- The surface where plaster is to be applied should be clean, smooth and strong.
- The surface where plaster is to be applied should be moistened before application and saturated with water in very hot and windy air
- The surface where plaster is to be applied can be used lining in order to increase adhesion property

### TECHNICAL SPECIFICATIONS

Color	White
Partial Size	Thin (1,8 mm) / Thick (3 mm) / Line (3 mm)
Gleam	G3 ( $\leq 10$ )
Dry Film Thickness	E5 ( $> 400 \mu\text{m}$ )
Partial Size	S4 ( $> 1500 \mu\text{m}$ )
Water Vapour Permeability	V1 ( $> 150 \text{ g/m}^2.\text{d}$ ), $S_d < 0,14 \text{ m}$
Water Permeability	W1 ( $> 0,5$ )
Crack Bridging Properties	A0
Carbondioxide Permeability	C0
Application time	20-30 minutes
Ready Mix Cur. Time	3-4 hour
Application thickness	2-3 mm
Application Temperatures	$+5^{\circ}\text{C} / +35^{\circ}\text{C}$
Toxity	Non Toxic
Consumption	$3-4 \text{ kg/m}^2$
Package	25 kgs craft packet
Mixing Ratio	25 kg / 5,5-6 lt water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at  $+21^{\circ}\text{C}$  and %50 relative humidity





## REPAIR MORTAR AND SURFACE PREPARATION MATERIALS

## FORCECHEM REPAIRING MORTAR (THIN OR THICK)

### DESCRIPTION

Cement based and polymer included repairing and plaster mortar for the concrete, gas concrete, brick, brute concrete and similar surfaces.

### APPLICATION FIELDS

- Indoor and outdoor surfaces
- For repairing concrete, gas concrete surfaces
- For repairing the cranks of prefabricated concrete species,
- For repairing the waals, ceilings and similiar surfaces,
- For repairing all of the cement based plasters,
- For repairing the cranks of concrete surfaces.



### APPLICATION

- The surface should be clean
- Weak surface on concrete should be removed up to get strong surface
- Weak surface on plaster should be removed up to get strong plaster surface
- 25 kg Forcechem® is mixed with 6-7 lt water in a can till it turns into paste form.
- The mixture is keps for 2 minutes and the mixed again.
- It should be applied 1-10mm(Repairing Mortar Thin) thickness layer following one after another
- It should be applied 5-20 mm(Repairing Mortar Thick) thickness layer following one after another

### WARNING

- It is not used on metal, gypsum and wood and painted surfaces
- It can be applied until 6mm single layer (first layer)
- Repair morter is resistance to heat, water and frozen
- Before applying the last layer, the first applying later must be dried

### TECHNICAL SPECIFICATIONS

Apperance	Grey
Chlorine Ion Content	≤ % 0,05
Capillary Ion Absorption	≤ 0,5 kg/m <sup>2</sup> .h <sup>0,5</sup>
Adhesion Strength	≥ 0,8 N/mm <sup>2</sup>
Compression Strength	≥ 10 N/mm <sup>2</sup>
Application time	40-60 minutes
Ready Mix Applicable time	2 hour
Fire Response Class	A1
Application Temperatures	+5°C / 35°C
Strenght of Freeze	-40°C / 100°C
Toxity	Non Toxic
Package	25 kg craft packet
Mixing Ratio	25 kg powder / 6-7 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at +21 °C and %50 relative humidity.



## FORCECHEM SELF-SPREADING LEVELING CEMENT FINISH

### DESCRIPTION

High strength, cement based, aggregate supplemented, strengthened by chemicals, non-dust emitting and self propagating smoothing alum.

### APPLICATION FIELDS

- Surfaces have smoothing problems at interior and exterior places. Faience, floor tile, parquet, carpet and vinyl floor covering may be tiled on the surface.
- Inner-floor exposed to middle and busy traffic.
- Floors need to be resistant to dust-emission.
- Detoriated underfloors of the coatings such as ceramic, pvc, carpet.



### APPLICATION LIMITS

- Application on instable and flabby surfaces, on wooden and dyed surfaces, under sun and strong wind should be avoided.
- Do not apply on surfaces exposed to watery and moisture continuously.

### USAGE

1 bag (25 kg) Forcechem® Self-Spreading Leveling Cement Finish is added into 8,5 kg water in a clean cup and mixed with a low-speed hand mixer until it reaches the putty form. In order to avoid from the air-bubbles remained on the alum, spiked roller should be used. If necessary, last correction should be made by trowel.

### TECHNICAL SPECIFICATIONS

Apprance	Grey
Partical Size	≤ 0,4 mm
Bond Strength	≥ 0,2 N/mm <sup>2</sup>
Flexural Strength	≥ 3 N/mm <sup>2</sup> (F5)
Pressure Strength	≥ 4 N/mm <sup>2</sup> (24 saat sonra) ≥ 10 N/mm <sup>2</sup> (28 gün sonra) ≥ 25 N/mm <sup>2</sup> (28 gün sonra-Forcechem® ADR Katkı İle)
Setting Time	17-18 hour
Abrasion Strength	A3
Surface Strength	SH30
Fire Response Class	A1
Application Temperatures	+5°C / 35°C
Strenght of Freeze	-40°C / 100°C
Toxity	Non Toxic
Consumption	1,6-1,8 kg/m <sup>2</sup> (for 1 mm)
Application Thickness	2 mm – 10 mm
Package	25 kg craft packet
Mixing Ratio	25 kg powder / 8,5 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at +21 °C and %50 relative humidity.



## FORCECHEM FLUID GROUT MORTAR

### DESCRIPTION

This product is cement based one-component, fluid grout mortar of high strength with fiber reinforced and no shrinkage.

### APPLICATION AREAS

This product is used for fixing steel columns onto the foundation in steel structures, prefabricated structures, machine assemblies, foundation sockets, shears and columns.

### ADVANTAGES

Easy preparation and application. Fluid. Offers proper working time. No slipping in vertical applications. High adhesion feature. Resistant to water and frost. It is not affected by temperature differences.

### USAGE

The application surface must be clean; remove any residues (oil, dirt, rust) that might prevent adhesion. The surface to be repaired must be saturated with water a few hours in advance of application. Make sure that there is no free water on application surface. Slowly pour 25 kg **Forcechem® Fluid Grout Mortar** into 5.0 – 6.0 lt clean water and mix with a low speed mixer (400-600 rpm) or trowel until achieving a homogenous mixture. Leave aside for 5 minutes and mix again for 1-2 minutes. The mortar prepared must be used within 30 minutes. Expired and dried mortars should not be used. Mortar should be applied at the application temperature specified, and be protected against direct sunlight, wind and frost. Make sure that you pour the mortar prepared onto the application area on a non-stop and uninterrupted manner. The application surface must be protected against vaporizing with special curing materials or wet sacks for about 24 hours to 48 hours after application.

### TECHNICAL SPECIFICATIONS

Appearance	Gray color
Particle Size	<0.8 mm
Mix Ratio	5- 6 lt su /25 kg
Sarfiyat Miktarı	2 kg/m <sup>2</sup> for 1mm thickness
Application Temperature	Between +5°C and +35°C
Application time	30-40 minutes
Fully curing time	28 days
Compressive strength	≥ 55 N/mm <sup>2</sup>
Toxicity	Non-toxic
Adhesion strength	> 2.5 N/mm <sup>2</sup>
Flexural Strength	> 7.0 N/ mm <sup>2</sup>
Storage and Shelf Life	In its unopened original package, stock up maximum 2 pallets on each other in a cool and dry place. Shelf life is 12 months from date of production under proper storage conditions.

The values above are valid at +21 °C and %50 relative humidity



## FORCECHEM QUICK SET GROUT MORTAR

### DESCRIPTION

This product is cement based, one-component quick set grout mortar of early higher strength reinforced with fiber, no shrinkage and containing additives increasing product performance.

### APPLICATION AREAS

This product is used for repair of sewage systems and manholes, runway/track and platforms, repair and assembly of pavement and curbs and machinery assemblies.

### ADVANTAGES

Easy preparation and application. Quick set. High compressive strength feature. High adhesion feature. Resistant to water and frost. It is not affected by temperature differences.

### USAGE

The application surface must be clean; remove any residues (oil, dirt, rust) that might prevent adhesion. The surface to be repaired must be saturated with water a few hours in advance of application. Make sure that there is no free water on application surface. Slowly pour 25 kg Forcechem® Quick Set Grout Mortar into 5.0 – 6.0 lt clean water and mix with a low speed mixer (400-600 rpm) or trowel until achieving a homogenous mixture. Leave aside for 5 minutes and mix again for 1-2 minutes. The mortar prepared must be used within 30 minutes. Expired and dried mortars should not be used. Mortar should be applied at the application temperature specified, and be protected against direct sunlight, wind and frost. Make sure that you pour the mortar prepared onto the application area on a non-stop and uninterrupted manner. The application surface must be protected against vaporizing with special curing materials or wet sacks for about 24 hours to 48 hours after application.

### TECHNICAL SPECIFICATIONS

Appearance	Gray color
Particle Size	<0.8 mm
Mix Ratio	5- 6 lt su /25 kg
Consumption	2 kg/m <sup>2</sup> for 1mm thickness
Application Temperature	Between +5 °C and +35 °C
Application time	30-40 minutes
Fully curing time	28 days
Compressive strength	≥ 55 N/mm <sup>2</sup>
Toxicity	Non-toxic
Adhesion strength	> 2.5 N/mm <sup>2</sup>
Flexural Strength	> 7.0 N/ mm <sup>2</sup>
Storage and Shelf Life	In its unopened original package, stock up maximum 2 pallets on each other in a cool and dry place. Shelf life is 12 months from date of production under proper storage conditions.

The values above are valid at +21 °C and %50 relative humidity.



## CEMENT BASED SATIN WALL AND CEILING PASTE

### DESCRIPTION

Cement based and polymer modified wall and ceiling paste that can be used indoor and outdoor plaster surface to be obtained smooth layer and to be repaired very thin crack.

### PREPARATION OF PLASTER

20 kg Forcechem Cement based satin wall and ceiling paste is mixed with average 7 Lt water in clean can. The mixture is kept for 5 minutes and then mixed again. The mixture can be applied to the surface with using trowel. It must be used steely trowel to adjustment.



### APPLICATION FIELDS

- It can be used on cement based plaster surface as a last coating to obtain smooth layer.
- It can be confidently used indoor and outdoor due to cement based.
- It can be used as thin paste or exposed concrete.

### APPLICATION LIMIT

It is not used metal and painted surface, weak plaster surface and not suitable.

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The surface where paste is to be applied should be clean, smooth and strong.
- The surface where paste is to be applied should be moistened before application and saturated with water in very hot and windy air.
- The surface where paste is to be applied should be  $+5^{\circ}\text{C} / +35^{\circ}\text{C}$
- The consumption is  $1\text{kg}/\text{m}^2/\text{mm}$
- Shelf life is 12 months in suitable climate condition.

### TECHNICAL SPECIFICATIONS

Apprance	White
Partical Size	$< 0,2\text{mm}$
Application Thickness	0,8 mm 3 mm
Bond Strength	$\geq 0,3 \text{ N}/\text{mm}^2$
Pressure Strength	$\geq 6 \text{ N}/\text{mm}^2$
Water vapor permeability Constant	$\mu \leq 15$
Fire Response Class	A1
Consumption	$1,5 \text{ kg}/\text{m}^2$
Package	20 kg craft packet
Mixing Ratio	20 kg powder / 7 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at  $+21^{\circ}\text{C}$  and %50 relative humidity





## SURFACE HARDENING AND CONCRETE CURING MATERIALS



## FORCECHEM FLOOR HARDENER

### DESCRIPTION

Cement based, quartz aggregate and polymer modified concrete floor hardener that ready to use

### APPLICATION FIELDS

- Indoor and outdoor, storages, factory, shopping mall, restaurants, loading and unloading areas and auto parks

### PREPERATION OF FLOOR HARDENER

Average 5kg/m<sup>2</sup> FORCECHEM® Floor Hardener is sprinkled onto unset concrete surface in mechanical applications. In hand applications, first Average 3 kg/m<sup>2</sup> FORCECHEM® Floor Hardener, and then Average 2 kg/m<sup>2</sup> FORCECHEM® Floor Hardener is sprinkled onto concrete surface smoothly. Mechanical trowel that is low-rotation must be used in both applications.

### APPLICATION LIMITS

- It is not suitable in windy and dry climate conditions.
- The surface where paste is to be applied should be +5°C / +30°C
- Floor hardener is only used to increase abrasion and compressive strength of concrete surface

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The transpiration water of unset concrete should be allowed to be evaporated before floor hardener application.
- After floor hardener application, suitable curing agents should be applied on concrete surface
- The surface where paste is to be applied should be +5°C / +35°C
- Average consumption is 4-5 kg/m<sup>2</sup> - 2-3mm thickness
- Shelf life is 12 months in suitable climate condition

### TECHNICAL SPECIFICATIONS

Color	Grey, Red, Green
Capillary Water Absorption and Water Permeability	< 0,1 kg/m <sup>2</sup> .h <sup>0,5</sup>
Compression Strength	70-80 N/mm <sup>2</sup> (Sınıf II)
Adhesion Strength	≥ 0,8 N/mm <sup>2</sup>
Abrasion Strength	12-15 cm <sup>3</sup> /50 cm <sup>3</sup>
Application Temperatures	+5°C / 35°C
Toxity	Non Toxic
Consumption	4-5 kg/m <sup>2</sup> /2-3 mm
Package	25 kg craft packet
Shelf Life	In its unopened original package, stock up maximum 2 pallets on each other in a cool and dry place. Shelf life is 12 months from date of production under proper storage conditions.

The values above are valid at +21 °C and %50 relative humidity.



**FORCECHEM FORCECURE PN**  
**PARAFFIN BASED CONCRETE CURING MATERIAL**

**DESCRIPTION**

This product is paraffin emulsion based, easy application liquid curing material preventing quick water loss in concrete.

**APPLICATION AREAS**

This product is used on horizontal and vertical concrete surfaces, field concretes, airports, concrete road applications and canal and canaletta.



**ADVANTAGES**

Being easily applied, this product reduces shrinkage cracks on surfaces caused by quick drying. It is more effective and economical as an alternative compared to irrigation and similar curing methods. It offers harder and dust-free surface.

**USAGE**

This is applied after applying concrete and surface hardener, when the concrete surface sets as to remain without deformation, after the concrete surface water evaporates; right after the dismantling of formworks and prior to formation of joints. Shake well prior to using the material. The concrete must be sufficiently set in order to avoid any damage to the concrete surface for brush or roller applications. For spraying applications, spray the material in a thin layer of equal thickness on the surface. The second layer can be applied 6 hours after first layer application in order to allow efficient curing in open air and windy environments. After curing applications in open areas, the concrete surface must be protected against external factors such as rain, snow, and so on for 2-3 hours. For the applications to be made on the cured concrete later, the concrete surface must be cleared of curing substance. You can clean the material brushing with hot water.

**TECHNICAL SPECIFICATIONS**

Appearance	White liquid
Drying Time	2 hours (20°C)
Finished Film Appearance	Transparent film
Consumption Amount	0.150-0.200 lt/m <sup>2</sup> (spraying applications) 0.200-0.250 lt/m <sup>2</sup> (brush & roller applications)
Flash Point	+80°C
Storage And Shelf Life	In its unopened original package, stock up maximum 2 drums on each other in a cool and dry place. Shelf life is 12 months from date of production under proper storage conditions. Protect against sunlight and frost.

This values above are valid at +21°C and %50°C relative humidity

## FORCECHEM FORCECURE RN RESIN BASED CONCRETE CURING MATERIAL

### DESCRIPTION

This is hydrocarbon resin based liquid concrete curing material that prevents quick water loss in the concrete by creating a thin and insulated layer in all concrete applications and surface hardener applications.

### APPLICATION AREAS

This product is used on horizontal and vertical concrete surfaces, field concretes, airports, concrete road applications and canal and canaletta. This is applied after concrete applications having used any kind of concrete and surface hardeners.



### ADVANTAGES

Being easily applied, this product reduces shrinkage cracks on surfaces caused by quick drying. It is more effective and economical as an alternative compared to irrigation and similar curing methods. It offers harder and dust-free surface.

### USAGE

This is applied after applying concrete and surface hardener, when the concrete surface sets as to remain without deformation, after the concrete surface water evaporates; right after the dismantling of formworks and prior to formation of joints. Shake well prior to using the material. The concrete must be sufficiently set in order to avoid any damage to the concrete surface for brush or roller applications. For spraying applications, spray the material in a thin layer of equal thickness on the surface. The second layer can be applied 6 hours after first layer application in order to allow efficient curing in open air and windy environments. After curing applications in open areas, the concrete surface must be protected against external factors such as rain, snow, and so on for 2-3 hours. For the applications to be made on the cured concrete later, the concrete surface must be cleared of curing substance. You can clean the material brushing with hot water.

### TECHNICAL SPECIFICATIONS

Appearance	White
Drying Time	1 hours (20°C)
Finished Film Appearance	Transparent film
Consumption Amount	0.100-0.150 lt/m <sup>2</sup> (spraying applications) 0.150-0.200 lt/m <sup>2</sup> (brush & roller applications)
Flash Point	+80°C
Storage And Shelf Life	In its unopened original package, stock up maximum 2 drums on each other in a cool and dry place. Shelf life is 12 months from date of production under proper storage conditions. Protect against sunlight and frost.

This values above are valid at +21°C and %50°C relative humidity



## WATER INSULATION MATERIALS



## FORCECHEM ROOF INSULATION MORTAR

### DESCRIPTION

It is a concrete based, polymer mixed isolation mortar which is used in the waterproofing of roofs and wet areas.

### APPLICATION AREAS

- On areas requiring waterproofing
- In roof smoothing
- In the smoothing of wet surfaces like bathrooms
- It can be used on plastered surfaces and gypsum boards
- It can be used in the isolation of over the ground, underground, underwater surfaces and stair edges within the structures.



### APPLICATION LIMITS

- On wooden chipboard surfaces
- In the construction of water tanks
- Cannot be applied on metallic surfaces

### USAGE

1 bag (25 kg) **Forcechem® Roof Insulation Mortar** is added into 6,5 - 7 kg water and mixed until it reaches the putty form. (Mixtures made with hand-mixer gives better results). Prepared mixture is left to rest for 5 minutes, then mixed again and applied to the surface with an appropriate trowel.

### CONSUMPTION

1,6-2 kg/m<sup>2</sup>

### TECHNICAL SPECIFICATIONS

Apprance	Grey
Partical Size	<0,8 mm
Mixture Ratio	25 kg / 6,5 – 7 kg water
Workability Duration	40 – 60 minutes
Pot Life	4 hour
Coating the Surface Time	24 hour
Adhesion Strength	≥ 0,5 N/mm <sup>2</sup>
Shelf Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used in 1 weeks it is opened

This values above are valid at +21°C and %50°C relative humidity

## FORCECHEM DOUBLE COMPONENT SEMI ELASTIC WATER INSULATION MORTAR

### DESCRIPTION

Two component, semi flexible cementitious-liquid waterproofing mortar TS EN 14891-Liquid applied water impermeable products for use beneath ceramic tiling bonded with adhesive-requirements, test methods, evaluation of conformity, classification and designation CM class

CM: Liquid-cementitious applied waterproofing compound

### APPLICATION AREAS

- Interior and exterior surfaces-horizontal and vertical waterproofing application
- Waterproofing of wet areas for water inlet
- Waterproofing of bathrooms, showers, balconies, terraces before laying ceramic tiles
- Waterproofing of places to small deformation and water impermeability
- Waterproofing of water tank except for drinking water tank



### USAGE

Pour 6.5 liters liquid component into a suitable clean container. Then slowly add 20 kg powder component and mix with a low speed mixer to obtain a homogenous lump free mix. Mixing with max 400-600 rpm mixer is recommended. Allow to stand for 5 minutes to mature. After remixing, the paste is ready for application. Apply a thin layer with brush one direction then after first layer dry apply a second layer, to have a final thickness of approximately 2-3 mm. Expansion joints, joints between horizontal and vertical surfaces, areas with small cracks or places subject to stress it must be used **Forcechem® Double Component Semi Elastic Water Insulation Mortar** Dilatation tape or interior tape for these joints. Unfavorable climatic conditions (high temperature, low humidity, wind etc.) can reduce this time to just a few minutes. Dispose mortars of which pot life is expired. Clean tools and hands with water, surfaces with a damp cloth. Protect the surface from direct sunlight, rain, freezing and wind for the first 24 hours after application.

### MIXING RATIO

Forcechem® Double Component Semi Elastic Water Insulation Mortar	Powder	Liquid
Mixing Ratio	20 kg	6.5 kg

### CONSUMPTION

1.6 – 1,8 kg/m<sup>2</sup>/mm

#### TECHNICAL SPECIFICATION

Appearance	Grey
Content of Material	Powder Component: Cement, polymer and special additive Liquid Component: Styrene acrylic copolymer
Application Thickness	At least 2 mm – 4 mm
Mixing Time	Min 5 minutes
Water Impermeability (EN 14891)	≥ 3,0 bar (pozitif)
Adhesion Strength (EN 14891)	≥ 0.5 N/mm <sup>2</sup> (28 days normal condition) ≥ 0.5 N/mm <sup>2</sup> (after heat storage condition) ≥ 0.5 N/mm <sup>2</sup> (after water ageing condition) ≥ 0.5 N/mm <sup>2</sup> (after froze-thaw cycle condition)
Crack Bridging Ability (EN 14891)	≥ 0.75 mm (standard condition)
Pot Life	1.5 hour
Waiting Time For Laying On	After 3 days
Open to Traffic	After 7 days
Temperature Resistance	-30 °C / +80 °C
Shelf Life	12 months under dry and suitable storage

Above informations at +21 °C and %50 humidity



**Deniz yalitım**

DENİZ INSULATION AND HOUSING SYSTEMS INDUSTRY AND COMMERCE CO. LTD.

## FORCECHEM DOUBLE COMPONENT SEMI ELASTIC WATER INSULATION MORTAR

### DESCRIPTION

Two component, semi flexible cementitious-liquid waterproofing mortar TS EN 14891- Liquid applied water impermeable products for use beneath ceramic tiling bonded with adhesive-requirements, test methods, evaluation of conformity, classification and designation CM class

CM: Liquid-cementitious applied waterproofing compound



### APPLICATION AREAS

- Interior and exterior surfaces-horizontal and vertical waterproofing application
- Waterproofing of wet areas for water inlet
- Waterproofing of bathrooms, showers, balconies, terraces before laying ceramic tiles
- Waterproofing of places to small deformation and water impermeability
- Waterproofing of water tank except for drinking water tank

### USAGE

Pour 6.5 liters liquid component into a suitable clean container. Then slowly add 20 kg powder component and mix with a low speed mixer to obtain a homogenous lump free mix. Mixing with max 400-600 rpm mixer is recommended. Allow to stand for 5 minutes to mature. After remixing, the paste is ready for application. Apply a thin layer with brush one direction then after first layer dry apply a second layer, to have a final thickness of approximately 2-3 mm. Expansion joints, joints between horizontal and vertical surfaces, areas with small cracks or places subject to stress it must be used **Forcechem® Double Component Semi Elastic Water Insulation Mortar** Dilatation tape or interior tape for these joints. Unfavorable climatic conditions (high temperature, low humidity, wind etc.) can reduce this time to just a few minutes. Dispose mortars of which pot life is expired. Clean tools and hands with water, surfaces with a damp cloth. Protect the surface from direct sunlight, rain, freezing and wind for the first 24 hours after application.

### MIXING RATIO

Forcechem® Double Component Semi Elastic Water Insulation Mortar	Powder	Liquid
Mixing Ratio	20 kg	6.5 kg

### CONSUMPTION

1.6 – 2 kg/m<sup>2</sup>/mm



#### TECHNICAL SPECIFICATION

Appearance	Grey
Content of Material	Powder Component: Cement, polymer and special additive Liquid Component: Styrene acrylic copolymer
Application Thickness	At least 2 mm – 4 mm
Mixing Time	Min 5 minutes
Water Impermeability (EN 14891)	> 2.0 bar
Adhesion Strength (EN 14891)	> 0.5 N/mm <sup>2</sup> (28 days normal condition) > 0.5 N/mm <sup>2</sup> (after heat storage condition) > 0.5 N/mm <sup>2</sup> (after water ageing condition) > 0.5 N/mm <sup>2</sup> (after froze-thaw cycle condition)
Crack Bridging Ability (EN 14891)	> 0.75 mm (standard condition)
Pot Life	1.5 hour
Waiting Time For Laying On	After 3 days
Open to Traffic	After 7 days
Temperature Resistance	-30 °C / +80 °C
Shelf Life	12 months under dry and suitable storage

Above informations at +21 °C and %50 humidity



**Deniz yalitım**

DENİZ INSULATION AND HOUSING SYSTEMS INDUSTRY AND COMMERCE CO. LTD.

## FORCECHEM UV RESISTANT DOUBLE COMPONENT WATER ISOLATION MORTAR

### DESCRIPTION

This is cement based **UV Resistant Double Component Water Isolation Mortar**, applied inside and outside against leaking surface waters, with capillary effect, containing chemical additives with special particle size mineral aggregate and chemical additives increasing product performance.

### APPLICATION AREAS

This can be used in terrace balcony, foundation concrete and water insulations, water tanks, tunnels, retaining walls, in vertical and horizontal applications of interior and exterior spaces.

### ADVANTAGES

Easy preparation and application. Ensures desirable working time. No slipping in vertical applications. High adhesion feature. Resistant to frost and dissolution cycle. Applicable with brush and trowel. Ensures complete water insulation by filling capillary gaps due to crystallization. Protects the concrete and fitting from water corrosion.

### USAGE

Prior to beginning application process, remove foreign materials from the surface and soak it. Open small holes to increase adherence on the surface. Application surface must be saturated with water one day in advance and application must be done while it is damp. Slowly pour 25 kg component A, B component into 10 kg liquid and mix with low speed mixer or trowel until achieving a homogenous mixture. Leave aside for 5 minutes and mix again for 1 minute. Mix again. Make the corner joint sections of spaces round. Apply with brush or trowel on pre-damped surface. If hardening is achieved on first coat without dehydrating and crystallization, the second coat is applied. This period is 4-5 hours depending on ambient temperature. Adhesion process must be completed within 20-25 minutes. No application should be made at temperatures below +5°C and above 35°C. The spaces with this application must be put into use/service or making coating after 3-7. These values are valid for 20°C surface and ambient temperature. Time diminishes at higher temperatures and increases at lower temperatures.

### TECHNICAL SPECIFICATIONS

Appearance	Component A: Gray Component Component B: White liquid
Mix Ratio	25kg powder /10 kg liquid
Consumption Amount	2 kg /m <sup>2</sup> (for thickness of 1 mm)
Application Temperature	Between +5°C and +35°C
Waiting Time Between Layers	5-6 hours
Full Congealing Time	21 days
Toxicity	Non-toxic
Water Tightness	6 bar
Service Time	3-7 days
Adhesion Strength	>1.5 N/mm <sup>2</sup>
Storage And Shelf Life	In its unopened original package, stock up maximum 2 pallets on each other in a cool and dry place. Shelf life is 12 months from date of production under proper storage conditions.

The values above are valid at +21°C and 50% relative humidity.



## FORCECHEM FORCEAQUA UV MEMBRAN UV RESISTANT LIQUID MEMBRANE

### DESCRIPTION

**Forcechem® Forceaqua UV Membrane** is a polymer- based waterproof product. When applied, it forms a jointless and waterproof layer. It does not contain solvent and can easily be applied on dry or moist clean surfaces. By means of special polymers inside, it is not affected by UV and sun rays. It prevents overheating by reflecting the sunlight at 80%. High adhesion strength, nonflammable and not compatible with bitumen. It is dirt-proof and keeps its first state and appearance for years. In insulation of these kinds of floors, using liquid rubber membrane is recommended. **Forcechem® Forceaqua UV Membrane** is white but it can be coloured in any desired colour. It is 250% elastic.



### APPLICATION AREAS

- In old and new roofs, streams
- Galvanized steel, zinc-plated roof or in the gutters,
- In bottoms of chimney and walls
- On exterior walls, parapets

### USAGE

The insulation surface must be clean, dry or slightly moist. If there are materials such as dirt, mud, rust or oil on the surface, they must immediately be cleaned. It is not used in places where salt efflorescence or water course from negative side is available. If there are cracks and repairs on the application surface and will be beveled, it must be done before with waterproof elastic repair mortar. Especially on large spans and thermal insulated floors, 75 gr of liquid net is recommended to apply. If there is dilatation on application surfaces, it must be insulated with waterproof elastic mortar. Then, the insulation must be started. **Forcechem® Forceaqua UV Membrane** is ready to use. It is necessary to mix homogeneously after its tap is opened.

### Primer Application

All application surfaces must be lined with **Forcechem® Forceaqua UV Membrane**, diluted with water at a ratio of 1:1. The primer application must be done with a stiff brush. After the application, leave it to dry for 4 hours.

### Insulation Application

**Forcechem® Forceaqua UV Membrane** is applied on the prepared surface without dilution in 2 layers with an interval of 4 hours. Applied insulation application must be protected against rain and water for four hours. The application must not be done below +5°C or in wet and frozen soils. Especially in flat roofs, adequacy of sloping the roof must be checked.

Having water outlets and preventing the water to form a pond on the roof must be regarded.

### CONSUMPTION

1kg/m<sup>2</sup> (primer +in 2 coats)

### TECHNICAL SPECIFICATIONS

Appearance	White color liquid
Application Temperature	Between +5°C and +35°C
Toxicity	Non-toxic
Storage and Shelf Life	In its unopened original package, stock up maximum 3 buckets on each other in a cool and dry place. Shelf life is 12 months from date of production under proper storage conditions. Protect against sunlight and frost.

The values above are valid at +21°C and 50% relative humidity.

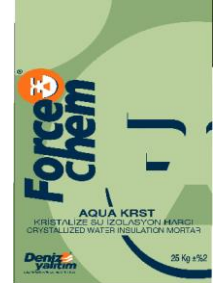
## FORCECHEM AQUA KRST CRYSTALLIZED WATER INSULATION MORTAR

### DESCRIPTION

This is cement based one-component crystallized water insulation mortar, applied inside and outside against leaking surface waters, with capillary effect, containing chemical additives with special particle size mineral aggregate and chemical additives increasing product performance.

### APPLICATION AREAS

This product is used for foundation concrete, concrete water insulations, water tanks, tunnels, retaining walls, indoor and outdoors, vertical and horizontal applications and in general for safe applications on the wet floors, bathrooms and toilets.



### ADVANTAGES

Easy preparation and application. Ensures desirable working time. No slipping in vertical applications. High adhesion feature. Resistant to frost and dissolution cycle. Applicable with brush and trowel. Ensures complete water insulation by filling capillary gaps due to crystallization. Protects the concrete and fitting from water corrosion.

### USAGE

Prior to beginning application process, remove foreign materials from the surface and soak it. Open small holes to increase adherence on the surface. Application surface must be saturated with water one day in advance and application must be done while it is damp. Slowly pour 25 kg Forcechem® Aqua Krst into 7 lt clean water and mix with a low speed mixer or trowel until achieving a homogenous mixture. Leave aside for 5 minutes and mix again for 1 minute. Mix again. Make the corner joint sections of spaces round. Apply with brush or trowel on pre-damped surface. If hardening is achieved on first coat without dehydrating and crystallization, the second coat is applied. This period is 3-5 hours depending on ambient temperature. Adhesion process must be completed within 20-25 minutes. No application should be made at temperatures below +5°C and above 35°C. Plaster should be applied on the bonded insulation board after 2 days. These values are valid for 20°C surface and ambient temperature. Time diminishes at higher temperatures and increases at lower temperatures.

### TECHNICAL SPECIFICATIONS

Appearance	Gray color
Mix Ratio	7 lt water / 25 kg
Consumption Amount	2 kg /m <sup>2</sup> (for thickness of 1 mm)
Application Temperature	Between +5°C and +35°C
Waiting time between layers	3-5 hours
Full Congealing Time	21 days
Toxicity	Non-toxic
Water tightness	6 bar
Service time	4-7 days
Adhesion strength	>1.5 N/mm <sup>2</sup>
Storage And Shelf Life	In its unopened original package, stock up maximum 2 palettes on each other in a cool and dry place. Shelf life is 12 months from date of production under proper storage conditions.

The values above are valid at +23 °C and %50 relative humidity



## FORCECHEM FORCEAQUA TRANSPARENT TRANSPARENT WATER INSULATION MATERIAL

### DESCRIPTION

This product applies insulation without the formation of the film on the surface applied, with full impregnation on the floors or the walls, ensuring full protection, it breathes, is not affected from the UV lights or the sun rays, and is inflammable. It dries up within one hour after the application. It is easy to use, economic and long lasting. It can be applied on all types of surfaces with finished coating, that are absorbent, and that are exposed to water insulation problems.



### APPLICATION AREAS

- On terraces coated with ceramic, marble, granite., travertine, etc.
- On balconies and roofs coated with ceramic, tiles, etc.
- In bathrooms, showers, toilets and kitchens
- In swimming pools and thermal springs
- On mosaic coated floors and walls
- On aluminium, concrete and plaster surfaces
- On outer surfaces coated with marble, btb granite mosaic, ceramic, etc.

### USAGE

#### Preparation Of The Surface

Any parts that are swollen or cracked on the surface, must be repaired prior to application. The surface is also washed and cleansed from grease, soil, dust or mud. The coatings that have bulged or displaced are repaired and consolidated, if the mastic and silicon applications are worn out or removed, they must be repaired and recovered, and the surface is reworked to become fully prepared for the application, if the floor has been washed, it must be let to dry thoroughly and application is made after the floor is completely dried.

#### Application

The barrel of **Forcechem® Forceaqua Transparent** is shaken thoroughly before usage. Then, the product is poured into a plastic bucket and is thoroughly applied on the surface, with the use of a brush, it is applied very carefully particularly on the walls. The surfaces where the product has been applied, is let to dry for about 1 hour. After waiting for one hour, the remains of the product that have not been absorbed (generally, the product remains unabsorbed on glazed ceramic or marble surfaces) are wiped out with a wet piece of cloth. The cleansing operation must be applied with a wet piece of cloth and the use of materials such detergents must be avoided. The use of wet cloth is recommended to avoid the dry up and formation of stains on glazed surfaces such as ceramics or marble. A second layer is applied after waiting for one hour, through the application of the same process, and again, after the lapse of a period of another hour, the ceramic or marble surfaces are wiped with a piece wet cloth, and the application is finished.

### CONSUMPTION

200 ml/m<sup>2</sup>

### TECHNICAL SPECIFICATIONS

Appearance	Transparent
Application Temperature	Between +5°C and +35°C
Storage And Shelf Life	18 months in a dry and cool place.

The values above are valid at +21 °C and %50 relative humidity

## FORCECHEM FORCEAQUA STOP QUICK SET WATER PLUG MORTAR

### DESCRIPTION

This is cement based, quick set water plug mortar with special additives.

### APPLICATION AREAS

Basements, foundations, swimming pools, water tanks, tunnels, walls, ceilings and floors applications against water leakages; stopping the water running with or without pressure for 1-2 minutes from the bores and cracks of concrete pipes.



### ADVANTAGES

Easy preparation and application. No flow in vertical and horizontal applications. High adhesion feature. Resistant to frost and dissolution cycle.

### USAGE

Prior to beginning application process, remove foreign materials from the surface and soak it. Always wear gloves during the application of mortar as an absolute requirement. Prepare in less amounts due to quick set time. Knead the mortar by hand in dough consistency with sufficient water in a clean pot. While setting, apply the kneaded mortar in one single movement to close the hole and press well. Wait for a few minutes and smooth its surface by means of a trowel.

### TECHNICAL SPECIFICATIONS

Usability	3 Minutes
Setting Time	2-3 Minutes
Application Temperature	Between +5°C and +30°C
Storage And Shelf Life	In its unopened original package, stock up maximum 6 buckets and 10 jars on each other in a cool and dry place. Shelf life is 12 months from date of production under proper storage conditions.

The values above are valid at +21°C and 50% relative humidity.

DENİZ INSULATION AND HOUSING SYSTEMS INDUSTRY AND COMMERCE CO. LTD.



## PLASTERS

## FORCECHEM CEMENT BASED READY TO USE PLASTER

### DESCRIPTION

Cement based, polymer reinforced, containing less than 1,8mm agregat, thin ready to use that can be applied as single coat

### PREPARATION OF PLASTER

25 kg Forcechem® Cement based ready to use plaster is mixed with 7,5 lt water with a mixer or by hand until it gets mastic thickness. After retting the preparation for 5 minutes, it is ready to use. Preparation is applied on to surface y trowel and then its leveled to obtain smooth surface. Since it is a thin plaster, its possible to obtain smooth surface at one time.



### RANGE OF APPLICATION

- It used for plastering on brick, gas concrete, concrete, gross concrete surfaces
- It is used to repair breaks, cracks and holes on the surfaces

### APPLICATION LIMIT

- It can not be applied to metallic surface
- For using on wooden and timber surfaces, plaster netting should be used.

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The surface where plaster is to be applied should be moisted.
- The cranks and holes should be repaired before the application.
- Painted surfaces should be purified from the paints
- It is necessary to use plaster stirrings on polystyrene insulation boards
- It is suggested that the application should be in the range of +5°C / +35°C
- Plastered surfaces should be cured with water

### TECHNICAL SPECIFICATIONS

Color	Grey
Partical Size	≤ 1,8 mm
Bond Strength Nadpull Position(FB)	GP ≥ 0,6 N/mm <sup>2</sup> , FB: B
Compression Strength	≥ 6 N/mm <sup>2</sup>
Water Vapor Permeability Constant	μ ≤ 15
Maximum Open Time	20 minutes
Application Temperatures	+5°C / +35°C
Fire Response Class	A1
Strenght of Freeze	-40°C / 100°C
Toxity	Non Toxic.
Consumption	14-15 kg/m <sup>2</sup> /cm
Package	25 kgs craft packet
Mixing Ratio	25 kgs powder + 7,5 lt water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at +21 °C and %50 relative humidity



## CEMENT BASED MACHINE PLASTER

### DESCRIPTION

Cement based and polymer modified machine for the brick, gas concrete and brute concrete surface.

### APPLICATION FIELDS

- Indoor and outdoor surfaces
- The plastering the surfaces like bricks, concrete gas concrete etc.
- To repairing the surface cranks and holes

### PREPERATION OF PLASTER

The machine plasters mixed with water and applied to the surface by plaster machine  
After one hour the surface can be smooth

### APPLICATION LIMITS

It is not used on metal surfaces

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The surface where plaster is to be applied should be moisted
- The cranks and holes should be repaired before the application.
- Painted surfaces should be purufied from the paints.
- It is necessary to use plaster stirrings on polystyrene insulation boards
- It is suggested that the application should be in the range of +5°C / +35°C
- Plastered surfaces should be cured wit water
- The consumption is 13-14 m<sup>2</sup>/cm

### TECHNICAL SPECIFICATIONS

Color	Grey
Partical Size	<1,8 mm.
Bond Strength Nadpull Position(FB)	GP ≥ 0,5 N/mm <sup>2</sup> , FB: B
Compression Strength	≥ 6 N/mm <sup>2</sup>
Water Vapor Permeability Constant	μ ≤ 15
Maximum Open Time	20 minutes
Application Temperatures	+5°C / +35°C
Fire Response Class	A1
Strenght of Freeze	-40°C / 100°C
Toxity	Non Toxic.
Consumption	13-14 kg/m <sup>2</sup> /cm
Package	25 kgs craft packet
Mixing Ratio	25 kgs powder + 6-7 lt water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at +21 °C and %50 relative humidity





## PRIMERS

**FORCECHEM FORCEPRIMER AAA**  
**PRIMER FOR INCREASING ADHERANCE AND SURFACE FORMATION IN WALLS AND CEILINGS**

**DESCRIPTION**

It is an acrylic dispersion-based one component primer to be formed notched surface for wall and ceiling surfaces.

**APPLICATION AREAS**

- Indoor and outdoor places, horizontal and vertical claddings
- As an adherence increaser before ceiling plaster and gypsum plaster applications
- To surface creating before covering that will be applied on ceramic, granite or natural rock
- To surface creating before covering that will be applied on gypsum, gypsum panel or drywall

**POINTS TO CONSIDER**

- Application under sunlight and strong winds should be avoided. Application must be done when the surface temperature is between +5°C and +25°C.
- It cannot be applied on bitumen, painted and metal surfaces.
- The material must be protected from freeze at all times.
- 10-15% water by weight can be added before application.
- It should not be applied if there is a chance of freeze within the next 24 hours. It should not be used humid environments such as Turkish baths, saunas, and swimming pools.
- During application, **Forcechem® Forceprimer AAA** should be mixed from time to time.
- **Forcechem® Forceprimer AAA** has a filled and sandpaper-like appearance once it is dry.
- Using protective gloves during application. For further information, please look up the material safety data sheet.

**ADVANTAGES**

- It is one component, and easy to prepare and apply.
- It does not contain solvents.
- It increases adhesion especially in absorbing and slippery surfaces.
- **Forcechem® Forceprimer AAA** increases the drying and working time on the cement based mortar.
- In wood coatings, it protects from humidity.
- It can be used in internal and external surfaces.

**SURFACE PREPARATION**

The surface that the product will be applied on must be clean smooth and cleaned from paint, rust, oil and paraffin. It is important that it is scaled to the surface. The coatings must be checked before the application. The broken and loose ones must be replaced and the surface must be completely filled with a cement based repair mortar or crude mortar. Varnish, wax and other materials on wood and parquet must be scraped off.

**CONSUMPTION**

300-350 gr/m<sup>2</sup>

**TECHNICAL SPECIFICATIONS**

Appearance	Green
Contents of Material	Acrylic copolymer resin-based liquid
pH	7,0-9,0
Solid Content	%15-20
Application Thickness	0,4 mm
Density	~1,60 kg/l
Thermal Resistance	-20 <sup>0</sup> C / +80 <sup>0</sup> C
Drying Period	4 hours (Varies depending on ambient temperature and humidity)
Time required for other applications	24 hours
Storage life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used in 1 weeks it is opened

The values above are valid at +21 <sup>0</sup>C and %50 relative humidity

**Deniz yalitım**

DENİZ INSULATION AND HOUSING SYSTEMS INDUSTRY AND COMMERCE CO. LTD.



## FORCECHEM FORCEPRIMER BBA GROSS CONCRETE SURFACE FORMING COATING

### DESCRIPTION

It is an acrylic dispersion based (polymer modified, resin-based) one component primer material increases the adherence, operation time and workability of especially cement or gypsum plaster applications on gross concrete surfaces and walls.



### APPLICATION AREAS

- Indoor and outdoor places, horizontal and vertical claddings
- As an adherence increaser before ceiling plaster and gypsum plaster applications
- To increase adherence of gypsum, lime and cement based plasters on gross surfaces

### POINTS TO CONSIDER

- Application under sunlight and strong winds should be avoided. Application must be done when the surface temperature is between +5°C and +25°C.
- It cannot be applied on wooden, OSB, bitumen, painted and metal surfaces.
- The material must be protected from freeze.
- 10-15% water by weight must be added before application.
- It should not be applied if there is a chance of freeze within the next 24 hours. It should not be used humid environments such as Turkish baths, saunas, and swimming pools.
- **Forcechem® Forceprimer BBA** is not to be used in flexible mobile surfaces.
- During application, **Forcechem® Forceprimer BBA** must be mixed from time to time.
- After **Forcechem® Forceprimer BBA** dries, it has a thick filled appearance.
- Using protective gloves during application is recommended. For further information, please look up the material safety data sheet.

### ADVANTAGES

- It is one component, and easy to prepare and apply.
- It does not contain solvents.
- It is especially used in applications such as plastering on exposed concrete surfaces.
- **Forcechem® Forceprimer BBA** increases the drying and working time on the cement based mortar.
- After **Forcechem® Forceprimer BBA** dries, a very hard surface is obtained.
- It can be used in internal and external surfaces.

### SURFACE PREPARATION

The surface must be clean, smooth and cleared from paint, oil, paraffin and other substances that will prevent proper adhesion. It is important that it is scaled to the surface. The existing defects on the surface should be smoothed with an appropriate repair mortar or plaster.

### USAGE

**Forcechem® Forceprimer BBA** must be diluted with water %10-12 (by weight) before the application.

On gross concrete surfaces the application of plaster:

**Forcechem® Forceprimer BBA** is delivered with the work bucket. 15 kilograms of material is mixed the mixer that's speed is 400-600 rpm (Material has to be mixed sometimes during working). Prepared **Forcechem® Forceprimer® BBA** must be applied to the surface by medium hard brush. Drying period can change according to surface absorption. It must be waited for 24 hours before application.

Apply adhesive on gypsum, gypsum panel, lime stuff, wooden, OSB, old ceramics and granite surfaces:

**Forcechem® Forceprimer AAA** is the best application in these surfaces. (See **Forcechem® Forceprimer AAA**)

**CONSUMPTION**350-400 gr/m<sup>2</sup>**TECHNICAL SPECIFICATIONS**

Appearance	Rose Colour
Contents of material	Acrylic copolymer resin-based liquid
pH	7,0-9,0
Solid Content	%10-15
Application Thickness	1 mm
Density	~1,30 kg/l
Thermal Resistance	-20 <sup>0</sup> C / +80 <sup>0</sup> C
Drying Period	4 hours (Varies depending on ambient temperature and humidity)
Time required for other applications	24 hours
Storage life	12 months in suitable storage conditions. It must be closed carefully when it will not be use and it has to be used in 1 weeks it is opened

The values above are valid at +21 <sup>0</sup>C and %50 relative humidity**Deniz yalitım**

DENİZ INSULATION AND HOUSING SYSTEMS INDUSTRY AND COMMERCE CO. LTD.

## FORCECHEM PRIMER LIQUID

### DESCRIPTION

It is an acrylic-based plaster for absorptive surfaces.

### APPLICATION AREAS

- Inside and outside places, horizontal and vertical claddings
- To protect against to moisture of gypsum, gypsum panel, aerated concrete and lime stuff
- To minimize chalking of surface, workability time of mortar and mortar bubbles before cement finish
- As an under paint thermal sheathing plaster in exterior applications (It becomes transparent after drying)
- As a plaster in wallpaper applications



### POINTS TO CONSIDER

- Application under sunlight and strong winds should be avoided. Application must be done when the surface temperature is between +5°C and +25°C.
- It cannot be applied on wood, OSB, PVC, bitumen surfaces, painted and metal surfaces.
- The material must be protected from freeze.
- If there is a risk of freeze in the following 24 hours, it should not be applied.
- After application, prevent the surface from soiling. Otherwise the following application will not bond with the primer properly and adhesion will not take place.
- After drying, the primer becomes transparent. If pressed upon with a finger, it will give a feeling of stickiness.
- Wearing protective gloves during use is recommended. For further information, please look at the material safety data sheet.

### ADVANTAGES

- It is one component, and easy to prepare and apply.
- It does not contain solvents.
- It prevents the water loss of cement mortars in absorbing surfaces. It prevents the formation of capillary cracks.
- It is resistant against humidity.
- It can be used on internal and external places.
- It can also be used as primer in sheathing applications.

### SURFACE PREPARATION

The surface must be cleared from paint, rust, oil, paraffin that will prevent clean and proper application. It is important that is of the same scales with the surface.

### USAGE

It is diluted according to application method and applied on a surface with roller. Do not allow to ponding on the surface during the application.

To protect against to moisture the gypsum, aerated concrete and lime stuff surfaces; **Forcechem® Primer Liquid** is applied to surface without dilution. The second layer is diluted with the rate of 1/2 and applied after the first layer dried. It should be waited to dry of plaster. It is controlled by pushing finger and if it is dried the other applications can proceed. (Consumption: 175-200 gr/m<sup>2</sup>)

To protect dehydration of mortar and chalking of surface before cement finishes; **Forcechem® Primer Liquid** is applied to surface without dilution. It must be waited for 24 to drying of plaster. It is controlled by pushing finger and if it is dried the other applications can proceed. (Consumption: 160-200 gr/ m<sup>2</sup>)

For thermal sheathing plastering; **Forcechem® Primer Liquid** is applied to thermal sheathing surface without dilution. It must be waited for 24 to drying of plaster. It is controlled by pushing finger and if it is dried and thermal sheathing can proceed. (Consumption: 140-160 gr/ m<sup>2</sup>)

As a plaster for wallpaper and painting; **Forcechem® Primer Liquid** is diluted with the rate of 1 /1 and applied with roller. It must be waited for a while to drying of plaster. If it is dried the other application can proceed. (Consumption: 90-100 gr/ m<sup>2</sup> diluted)

To fix the ceramics on gypsum, gypsum panel and lime stuff surfaces

**Forcechem® Forceprimer AAA** is the best application in this kind of surfaces. (See **Forcechem® Forceprimer AAA**)

Before plastering of brut concrete surface;

**Forcechem® Forceprimer BBA** is the best application in this kind of surfaces. (See **Forcechem® Forceprimer BBA**)

#### CONSUMPTION

100-200 gr/m<sup>2</sup>

#### TECHNICAL SPECIFICATIONS

Appearance	White liquid
Contents of Material	Acrylic copolymer resin-based liquid
pH	7,0-9,0
Solid Content	%25-30
Density	~1,00 kg/l
Time Required For Drying	2 hours
Time Required For Layer Application	2 hours
Time Required For Other Applications After Plaster	24 hours
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at +21 °C and %50 relative humidity.

DENİZ INSULATION AND HOUSING SYSTEMS INDUSTRY AND COMMERCE CO. LTD.



## FORCECHEM DECORATIVE COATING PRIMER

### DESCRIPTION

It is acrylic based primer, enables coating the absorbing surfaces such as gypsum plaster, gypsum block, exposed concrete and increases the adherece strength of pre-dying surface or topcoat in jacketing.

### APPLICATION AREAS

- Interior and exterior places
- Covering the hair craks on surface
- Applications of under-dye and jacketing primer
- Priming the surfaces having high water absorption capacity such as aerated



### POINTS TO CONSIDER

- Do not apply on wet and moist surfaces.
- Do not apply on metal or bitumen-based surfaces.
- Nothing should be added into the primer and it should not be thinned.,

### SURFACE PREPARATION AND APPLICATION

It is applied with a roller or brush. During usage, non of any supplements should be added into the primer.

### CONSUMPTION

150 – 200 gr / m<sup>2</sup>

### TECHNICAL SPECIFICATIONS

Appearance	White liquid
Application Temperature	Between +5°C and +35°C
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at +21 °C and %50 relative humidity

DENİZ INSULATION AND HOUSING SYSTEMS INDUSTRY AND COMMERCE CO. LTD.



## ADDITIVE MATERIALS

## FORCECHEM ADR ADDITIVE PERFORMANCE ENHANCING LIQUID ADDITIVE FOR CEMENT BASED PRODUCTS

### DESCRIPTION

It is resin-based liquid admixture of cement that increases the resistance, waterproofing and flexibility for cement-based mortars. It is a liquid mixture that its' chemical composition carries out cement hydration, affects cement compounds and increases the yield.



### APPLICATION AREAS

- Inside and outside places, horizontal and vertical claddings
- Ceramic, ceramic tile, granite, glass mosaic cementing and as a dopant for applications that made on ceramic
- In swimming pool cementing, waterproofing needed roofs, dopant for thermal insulation panel cementing
- As a dopant for self-levelling mortars, repairing mortars, cladding of surfaces that are suitable for contraction and cracking
- As a dopant before repairing to protect the concrete structure
- As a plaster on surfaces

### POINTS TO CONSIDER

- It cannot be applied on wood, OSB, PVC, bitumen surfaces, painted and metal surfaces.
- It should not be used on surfaces that may freeze in 24 hours.
- Application under direct sunlight and strong winds should be avoided. Application must be done when the surface temperature is between +5°C and +25°C. After applying on external surfaces, the surface should be protected from sunlight, rain, wind and freeze for 24 hours. After applying on the surface, the surface should be protected from warm, dry and windy environments for 24-48 hours and from quick drying by wet bags or water.
- If used as a p by diluting with water, the material becomes transparent after drying. If pressed upon with a finger, it will give a feeling of stickiness.
- **Forcechem® ADR Additive**, shortens the life of cement mortar due to its chemical properties as additive.
- Using protective gloves during application is recommended. For further information, please obtain the material safety data sheet from the manufacturer.

### ADVANTAGES

- It forms a strong bond with concrete.
- It provides adherence and impermeability.
- It has high freeze-thaw resistance.
- It increases the deflexion and compressive strength of mortar.
- It increases the adherence strength of the mortar.
- It can be used as primer when it watered down (see. **Forcechem® Primer Liquid** advantages)
- It adds a high elastic property.

### SURFACE PREPARATION

According to using materials, the surface preparation should be done beforehand. Generally, the cement surfaces should be cleaned from dust, oil, etc. that would obstruct a clean and sturdy mortar application. The broken and loose pieces on the using surface should be cleared away and repaired quickly.

### USAGE

**Forcechem® ADR Additive** is mixed together with cement based adhesive mortar, plasters, repairing mortar, joint filler and floor screed at recommended mixture ratios according to required application.. In flexible grouting applications mixture ratio depends on worker's skill. The mixture ratios shall not be outside of the mixture amount. Otherwise it will show performance reducing effect instead of performance enhancing affect.

**TECHNICAL SPECIFICATIONS**

Appearance	White liquid
Contents of Material	Modified styrene acrylic polymer admixture liquid emulsion
pH	7,0-9,0
Solid Content	%25-30
Thermal Resistance	-30 °C / +90°C (hardened cement + mortar)
Viscosity (BROOKF.,3RV100, 23 °C)	≤ 300 mPa.s
Adhesion Strength (EN 1542)	≥ 1 N/mm <sup>2</sup> (28 days-concrete)
Compressive Strength (EN 196-1)	≥ 10 N/mm <sup>2</sup> (7 days) ≥ 20 N/mm <sup>2</sup> (28 days)
Pot life	Shortages the life of cement filled pot as %10
Storage life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used in 1 weeks when it is opened

The values above are valid at +21 °C and %50 relative humidity

**Deniz yalitım**

DENİZ INSULATION AND HOUSING SYSTEMS INDUSTRY AND COMMERCE CO. LTD.



## FORCECHEM FORCEAQUA LATEX

### SYNTHETIC RUBBER BASED LIQUID ADDITIVE THAT PROVIDES FLEXIBILITY AND WATER INSULATION

#### DESCRIPTION

It is an acrylic resin-based liquid cement admixture that is used to increase the strength and flexibility for cement-based mortars.

#### APPLICATION AREAS

- Inside and outside places, horizontal and vertical application
- Ceramic, ceramic tile, granite, glass mosaic cementing and as a dopant for applications that made on ceramic
- In swimming pool cementing, waterproofing needed roofs, dopant for thermal insulation panel cementing
- As a dopant for self-levelling mortars, repairing mortars, cladding of surfaces that are suitable for contraction and cracking



#### POINTS TO CONSIDER

- It is not applied on wood, OSB, PVC, bitumen surfaces, painted and metal surfaces.
- It should not be used on surfaces that may freeze in 24 hours.
- Application under direct sunlight and strong winds should be avoided. Application must be done when the surface temperature is between +5°C and +25°C. After applying on external surfaces, the surface should be protected from sunlight, rain, wind and freeze for 24 hours. After applying on the surface, the surface should be protected from warm, dry and windy environments for 24-48 hours and from quick drying by wet bags or water.
- **Forcechem® Forceaqua Latex** shortens the life of cement mortar due to its strong chemical properties as additive.
- Using protective gloves during application is recommended. For further information, please obtain the material safety data sheet from the manufacturer.

#### ADVANTAGES

- It is compatible with cement.
- It provides adherence.
- It has a high freeze-thaw resistance.
- It increases the deflexion and compressive strength of mortar.
- It increases the adherence strength of the mortar.
- It adds elastic property.

#### SURFACE PREPARATION

According to using materials, the surface preparation should be done beforehand. Generally, the cement surfaces should be cleaned from dust, oil, etc. that would obstruct a clean and sturdy mortar application. The broken and loose pieces on the using surface should be cleared away and repaired quickly.

#### USAGE

- **Forcechem® Forceaqua Latex** is mixed at suggested amount of mixture and consistency of application with cement-based mortars, plasters, repairing mortars, grouting and floor screed. In flexible grouting applications mixture ratio depends on worker's skill. The mixture ratios shall not be outside of the mixture amount. Otherwise it will show performance reducing effect instead of performance enhancing affect.

## MIXING RATIOS AND CONSUMPTION

Forceaqua Latex Consumption Amount		
Application	Performance	Mixing Ratio
Tiles Adhesion	Especially for increasing the strength and adherence against tough weather conditions in external applications	2 kg <b>Forcechem® Forceaqua Latex</b> + 5 kg water + 25 kg adhesion mortar
Granite-Marble Adhesion	Increasing the adhesion strength against tough weather conditions in external high-floor applications	1,5 kg <b>Forcechem® Forceaqua Latex</b> + 5,5 kg water + 25 kg adhesion mortar
Glass- Mosaic Adhesion	Increasing the adhesion strength of glass mosaics for better adhesion in wet and mobile surfaces	1,5 kg <b>Forcechem® Forceaqua Latex</b> + 5,5 kg water + 25 kg adhesion mortar
Heat Insulated Panel Application	Increasing the adhesion and resistance of XPS, EPS and rock wool panels that will be used as heat insulators in external heat insulated	2 kg <b>Forcechem® Forceaqua Latex</b> + 5 kg water + 25 kg adhesion mortar
Pool Applications	To increase adhesion in wet surfaces for coatings, and to provide adhesion to wet surfaces and water insulation in wet environments	2 kg <b>Forcechem® Forceaqua Latex</b> + 5 kg water + 25 kg adhesion mortar (Not appropriate for water insulation for coating.)
Self-Spreading Cement Finish	To obtain more flexible and strength surface mortar by decreasing elastic module in cement finished that are used under heavy traffic	1 kg <b>Forcechem® Forceaqua Latex</b> + 6 kg water + 25 kg grading cement finish
Repair Mortar	To increase pressure strength and water insulation on non structural repairs	2 kg <b>Forcechem® Forceaqua Latex</b> + 4,5 kg water + 25 kg repair mortar (for repairs)
Grouting	To increase the water insulation and freeze-thaw resistance of grouting mortar. To repair old and broken grouting compounds, <b>Forcechem® FugaPlus</b> should be used.	0,5 kg <b>Forcechem® Forceaqua Latex</b> + 7 kg water + 20 kg grouting

DENİZ INSULATION AND HOUSING SYSTEMS INDUSTRY AND COMMERCE CO. LTD.

## TECHNICAL SPECIFICATIONS

Appearance	White liquid
Contents Of Material	Modified styrene acrylic polymer admixture liquid emulsion
Ph	7,0-9,0
Solid Content	%25-30
Thermal Resistance	-30 °C / +90°C (hardened cement + mortar)
Viscosity (BROOKF,3RV100, 23 °C)	≤ 300 mPa.s
Adhesion Strength (EN1542)	≥ 1 N/mm <sup>2</sup> (28 days-concrete)
Compressive Strength (EN 196-1)	≥ 10 N/mm <sup>2</sup> (7 days) ≥ 20 N/mm <sup>2</sup> (28 days)
Pot Life	Shortages the life of cement filled pot as %10
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

This values above are valid at +21°C and %50°C relative humidity

# Deniz yalitim®

DENİZ INSULATION AND HOUSING SYSTEMS INDUSTRY AND COMMERCE CO. LTD.

## EPS PRODUCTS

PRODUCTS OBTAINED FROM BLOCKS

INJECTION PRODUCTS



## PRODUCTS OBTAINED FROM BLOCKS

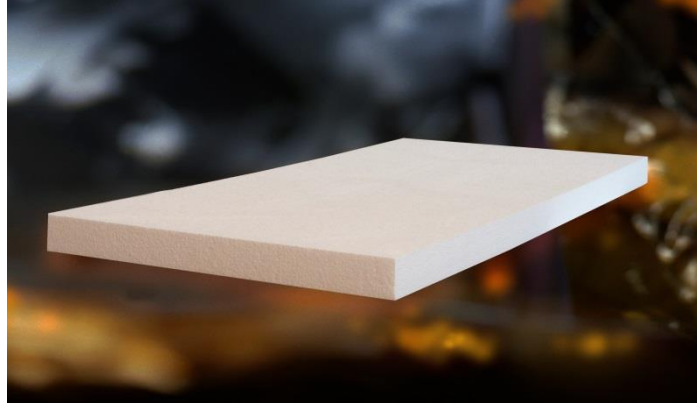


## DENİZ POR

### DESCRIPTION

It is a 50 x 100 thermal insulation board with flat edges and surface.

These expanded-polystyrene-based thermal insulation boards are manufactured in conformity with TS EN 13163 Insulation Products – For Buildings – Factory-made Expanded Polystyrene Foams – Specifications Standard. Cut from blocks that can be manufactured with various densities in 50 x 100 cm, thermal insulation board is an economical heat insulation material which is suitable to the harsh and changeable climate conditions of Turkey without any changes in its insulation value or physical structure when used within the scope of the standards. It is not suitable for use as an insulating material below 16kg/m<sup>3</sup>.



### GENERAL FEATURES

- It is infinite-lasting. Its insulation properties do not change over time.
- Its water vapour permeability is very high. This prevents water vapour from condensation, and moist and mould from growing on thermally-insulated walls.
- Owing to its features, it is able to successfully withstand the short- and long-term mechanical loads that are encountered in a building under normal conditions. It prevents expansion, shrinking and formation of cracks in the plaster, paint and coating that arise during working on the walls. It protects your building from outer atmospheric effects and prevents corrosion. It elongates the service life of buildings.
- It comes in blue and white colours.

### TECHNICAL SPECIFICATIONS

WIDTH X LENGTH(cm)	THICKNESS (cm)	PRODUCT QUANTITY	AREA OF A SINGLE BOARD (m <sup>2</sup> )	TOTAL AREA (m <sup>2</sup> )	VOLUME OF A SINGLE BOARD (m <sup>3</sup> )	TOTAL VOLUME (m <sup>3</sup> )	DENİZ POR	
							SURFACE FORM	EDGE FORM
50 x 100	1	50	0,5	25,00	0,005	0,250	FLAT	MOUNTING
50 x 100	2	25	0,5	12,50	0,010	0,250	FLAT	MOUNTING
50 x 100	3	16	0,5	8,00	0,015	0,240	FLAT	MOUNTING
50 x 100	4	12	0,5	6,00	0,020	0,240	FLAT	MOUNTING
50 x 100	5	10	0,5	5,00	0,025	0,250	FLAT	MOUNTING
50 x 100	6	8	0,5	4,00	0,030	0,240	FLAT	MOUNTING
50 x 100	7	7	0,5	3,50	0,035	0,245	FLAT	MOUNTING
50 x 100	8	6	0,5	3,00	0,040	0,240	FLAT	MOUNTING
50 x 100	10	5	0,5	2,50	0,050	0,250	FLAT	MOUNTING

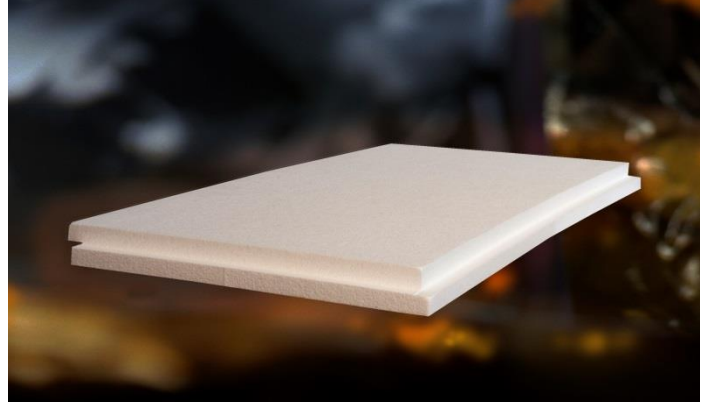
**Note:** In addition to standard dimensions, the boards can be cut to the desired sizes.

## DENİZ PAN

### DESCRIPTION

It is a 50 x 100 thermal insulation board with flat edges and surface.

These expanded-polystyrene-based thermal insulation boards are manufactured in conformity with TS EN 13163 Insulation Products – For Buildings – Factory-made Expanded Polystyrene Foams – Specifications Standard. Cut from blocks that can be manufactured with various densities in 50 x 100 cm, thermal insulation board is an economical heat insulation material which is suitable to the harsh and changeable climate conditions of Turkey without any changes in its insulation value or physical structure when used within the scope of the standards. It is not suitable for use as an insulating material below 16kg/m<sup>3</sup>.



### GENERAL FEATURES

- It is infinite-lasting. Its insulation properties do not change over time.
- Its water vapour permeability is very high. This prevents water vapour from condensation, and moist and mould from growing on thermally-insulated walls.
- Owing to its features, it is able to successfully withstand the short- and long-term mechanical loads that are encountered in a building under normal conditions. It prevents expansion, shrinking and formation of cracks in the plaster, paint and coating that arise during working on the walls. It protects your building from outer atmospheric effects and prevents corrosion. It elongates the service life of buildings.
- It comes in blue and white colours.

### TECHNICAL SPECIFICATIONS

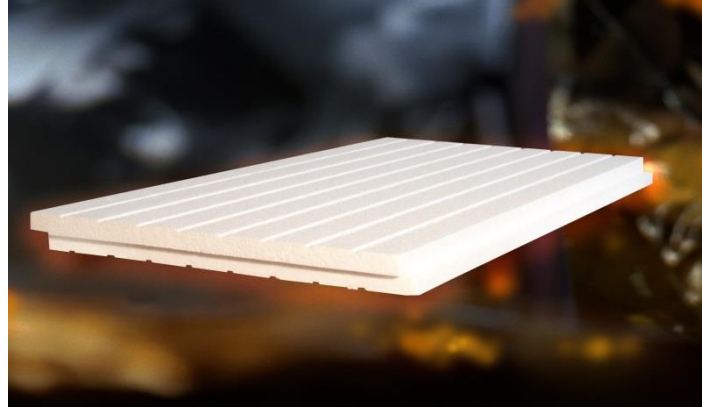
WIDTH X LENGTH(cm)	THICKNESS (cm)	PRODUCT QUANTITY	AREA OF A SINGLE BOARD (m <sup>2</sup> )	TOTAL AREA (m <sup>2</sup> )	VOLUME OF A SINGLE BOARD (m <sup>3</sup> )	TOTAL VOLUME (m <sup>3</sup> )	DENİZ PAN	
							SURFACE FORM	EDGE FORM
50 x 100	3	16	0,5	8,00	0,015	0,240	FLAT	MOUNTING
50 x 100	4	12	0,5	6,00	0,020	0,240	FLAT	MOUNTING
50 x 100	5	10	0,5	5,00	0,025	0,250	FLAT	MOUNTING
50 x 100	6	8	0,5	4,00	0,030	0,240	FLAT	MOUNTING
50 x 100	7	7	0,5	3,50	0,035	0,245	FLAT	MOUNTING
50 x 100	8	6	0,5	3,00	0,040	0,240	FLAT	MOUNTING
50 x 100	10	5	0,5	2,50	0,050	0,250	FLAT	MOUNTING

**Note:** In addition to standard dimensions, the boards can be cut to the desired sizes.

## DENİZ BOARD

### DESCRIPTION

It is a 50 x 100 thermal insulation board with mounting edges and flutes for holding plaster on its surface, which can be manufactured with the desired densities and thicknesses by means of CNC machines. It minimizes thermal bridges thanks to its tongued-and-grooved edge form.



### GENERAL FEATURES

- The material bonds with the plaster more effectively owing to the flutes on its surface.
- It prevents the formation of thermal bridges because of mounting its edges.
- It provides savings in application costs.
- It has high compression strength despite being lightweight.
- It is in Class E incombustibility.
- It allows for breathable buildings thanks to its water vapour permeability.

### TECHNICAL SPECIFICATIONS

WIDTH X LENGTH(cm)	THICKNESS (cm)	PRODUCT QUANTITY	AREA OF A SINGLE BOARD (m <sup>2</sup> )	TOTAL AREA (m <sup>2</sup> )	VOLUME OF A SINGLE BOARD (m <sup>3</sup> )	TOTAL VOLUME (m <sup>3</sup> )	DENİZ BOARD	
							SURFACE FORM	EDGE FORM
50 x 100	3	16	0,5	8,00	0,015	0,240	CORRUGATED	MOUNTING
50 x 100	4	12	0,5	6,00	0,020	0,240	CORRUGATED	MOUNTING
50 x 100	5	10	0,5	5,00	0,025	0,250	CORRUGATED	MOUNTING
50 x 100	6	8	0,5	4,00	0,03	0,240	CORRUGATED	MOUNTING
50 x 100	7	7	0,5	3,50	0,035	0,245	CORRUGATED	MOUNTING
50 x 100	8	6	0,5	3,00	0,04	0,240	CORRUGATED	MOUNTING
50 x 100	10	5	0,5	2,50	0,050	0,250	CORRUGATED	MOUNTING

**Note:** In addition to standard dimensions, the boards can be cut to the desired sizes.



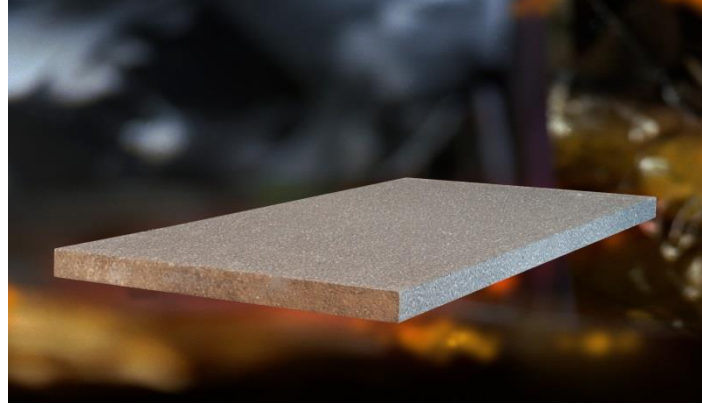
## DENİZ PLUS GREY/DENİZ PLUS BLACK

### DESCRIPTION

Deniz Plus-Grey Graphite-Doped Thermal Insulation Boards are expanded-polystyrene-based and are manufactured in conformity with TS EN 13163 Insulation Products – For Buildings – Factory-made Expanded Polystyrene Foams – Specifications Standard.

Acquiring its colour from its graphite content, Deniz Plus-Grey reflects heat radiation and considerably enhances the insulation ability owing to this graphite content. Environment-friendly Deniz Plus-Grey insulation materials do not contain CFC, HCFC, HFC or other halogenated cell gases. These materials contain air as cell gas, which guarantees the preservation of the thermal conductivity throughout the life of the construction. Especially their resistant structure to aging effects and mould growth make Deniz Plus-Grey insulation materials a long-term, durable and reliable heat insulation solution.

Deniz Plus-Black is a carbon-doped thermal insulation board. It does not contain chloro-fluorocarbon gases and their derivatives. Deniz Plus-Black is more lightweight and rigid, and also provides lower thermal conductivity in lower densities concurrently with acoustical properties. Another significant characteristic of the material is that it is easily recyclable.

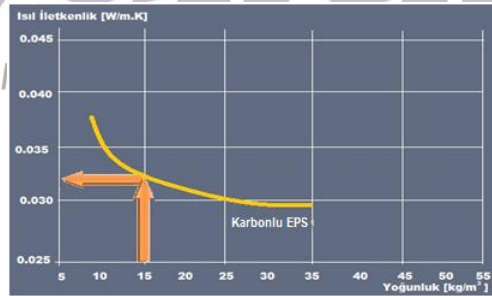


### GENERAL FEATURES

- It is a thermal insulation board with 100% graphite-doped.
- It is very lightweight, easy to handle and apply.
- Its thickness does not wear thin over time, remains constant.
- It is highly water vapour permeable.

### TECHNICAL SPECIFICATIONS

- Thermal conductivity value ( $\lambda$ ) is 0,032W/mK for 16kg/m<sup>3</sup> density, and 0,031W/mK for 20kg/m<sup>3</sup> density.
- Water vapour diffusion resistance factor: 20-40 ( $\mu$ ).
- Use temperature: max. +75°C / min. -50°C



### TECHNICAL SPECIFICATIONS

WIDTH X LENGTH(cm)	THICKNESS (cm)	PRODUCT QUANTITY	AREA OF A SINGLE BOARD (m²)	TOTAL AREA (m²)	VOLUME OF A SINGLE BOARD (m³)	TOTAL VOLUME (m³)	SURFACE FORM	EDGE FORM
50 X 100	1	50	0,5	25	0,005	0,25	FLAT	FLAT
50 X 100	2	25	0,5	12,5	0,010	0,25	FLAT	FLAT
50 X 100	3	16	0,5	8,0	0,015	0,24	FLAT	FLAT
50 X 100	4	12	0,5	6,0	0,020	0,24	FLAT	FLAT
50 X 100	6	8	0,5	4,0	0,030	0,24	FLAT	FLAT
50 X 100	8	6	0,5	3,0	0,040	0,24	FLAT	FLAT
50 X 100	10	5	0,5	2,5	0,050	0,25	FLAT	FLAT

**Note:** Optionally, the boards can also be manufactured with mounting edges



## DENİZ PLUS SPLINED EPS

### DESCRIPTION

It is a 600x1250 mm heat insulation material, which has a splined surface and can be manufactured with the desired density and thickness in CNC machines. It can also be used as a decorative under-brick veneer for building exteriors to be covered with decorative bricks, and facilitates cladding.



### GENERAL FEATURES

- Provides ease of application for decorative brick pavements.
- Has high compression strength in spite of being lightweight.
- Has a high heat insulation value.
- Does not contain hazardous substances on human health.
- Its water vapor permeability allows buildings to breathe.
- Falls within Class E incombustibility. It is an economical heat insulation material.

### TECHNICAL SPECIFICATIONS

WIDTH X LENGTH (cm)	THICKNESS (cm)	SURFACE FORM
60x125	3,4,5,6,7,8,9,10	SPLINED

**Note:** In addition to the standard dimensions, the product can be cut to the desired size.

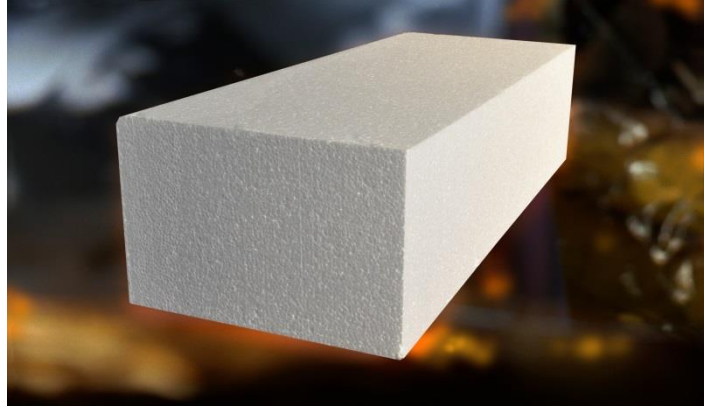
**Deniz  
yalitim**

DENİZ INSULATION AND HOUSING SYSTEMS INDUSTRY AND COMMERCE CO. LTD.

## DENİZ AIRPOP FILLING

### DESCRIPTION

It is EPS insulation and a filling material obtained by being cut from a specialty block product of 103cm x 128cm x 404cm dimensions in the desired sizes. Cut by hot wire in the desired custom dimensions, the material have high plaster adherence because of their rough surfaces. They can be manufactured within the density range of 10 - 35 kg/m<sup>3</sup> for use as a filling material for over hollow. Since hollow floor slabs do not require the conventional joist applications, a smooth ceiling surface can be achieved. With this feature, the material is preferred in buildings with special installations such as business centres, hotels, etc. Moreover, hollow both reduce the weight of buildings and play an important role in reducing the potential impact load on buildings during earthquakes. Deniz-Block hollow provides economy in bearing sections for the projects in which it is applied, and at the same time helps to construct safer buildings.



### GENERAL FEATURES

- It is infinite-lasting. The material does not age, corrode or lose its insulation properties over time
- It is environment-friendly. It does not contain ozone-depleting CFC, HCFC or HFC. It is 100% recyclable and does not generate post-production wastes that may pollute the environment.
- It is very lightweight, easy to transport and apply, and reduces transportation costs. Furthermore, it does not place load on the applied buildings and provides iron and concrete savings. It is highly resistant despite being a very lightweight material.
- Owing to its features, it is able to successfully withstand the short- and long-term mechanical loads that are encountered in a building under normal conditions. It elongates the service lives of buildings.
- It is Class E as per TS EN 13501-1.

### TECHNICAL SPECIFICATIONS

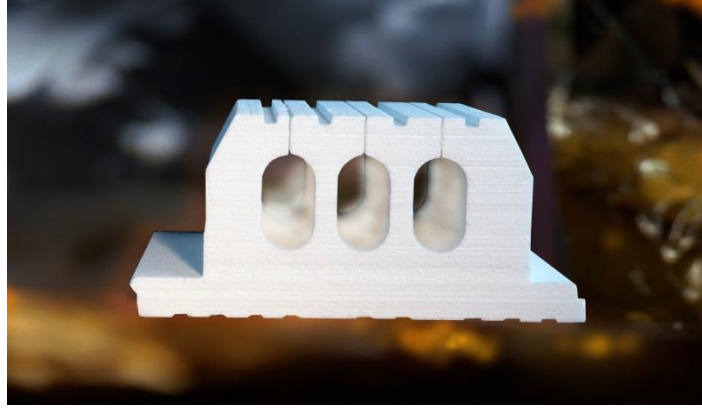
WIDTH X LENGTH(cm)	THICKNESS (cm)	PRODUCT QUANTITY	AREA OF A SINGLE BOARD (m <sup>2</sup> )	TOTAL AREA (m <sup>2</sup> )	VOLUME OF A SINGLE BOARD (m <sup>3</sup> )	TOTAL VOLUME (m <sup>3</sup> )
50 x 100	20	4	0,5	2,00	0,100	0,400
50 x 100	25	3	0,5	1,50	0,125	0,375
40 x 100	20	6	0,4	2,40	0,080	0,480
40 x 100	25	4	0,4	1,60	0,100	0,400

Apart from these, hollow can be manufactured with a length of 2 meters and the desired dimensions

## DENİZ AIRPOP FILLING PLUS-E

### DESCRIPTION

While it is produced from EPS by a special injection technique with the dimensions of 60\*60\*25 and the standard density of 20 kg/m<sup>3</sup>, it can also be manufactured with densities up to 35 kg/m<sup>3</sup>. Deniz Airpop Filling Plus E is the perfect insulation and filling material of our age. It is applied directly on the mould in airpop filling slabs. Its mounting height is 5 cm. Its height is 25 cm, and 7 cm concrete is sufficient for slabs designed as 32 cm. For higher slabs, the desired hollow height can be achieved by using Deniz Plus CNC-cut hollow.



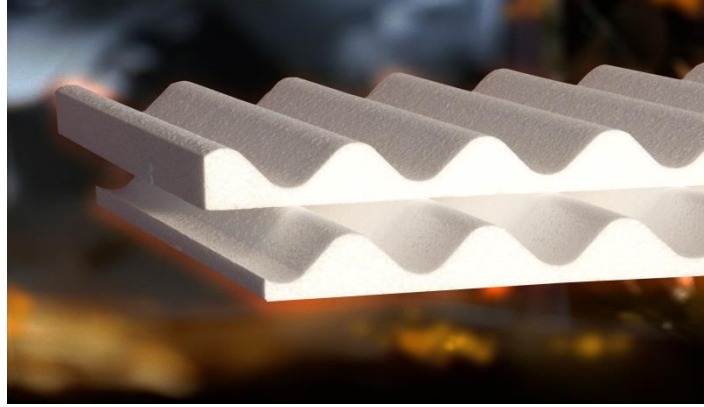
### GENERAL FEATURES

- Owing to its mounting, it provides excellent inter-story heat insulation.
- Its monolithic structure provides slabs with sound insulation properties.
- It does not place loads on the applied building with a weight of 2,5 kg/m<sup>3</sup>, and provides concrete savings.
- It reduces construction costs when it is decided to use DENİZ HOLLOW PLUS at project stage.
- It provides economy in bearing sections, and at the same time helps to construct safer buildings.
- Since it is lightweight, its transportation and labour costs are at minimum.
- It has flame retardant properties as it is made of Type E EPS raw materials.
- It does not age, corrode or lose its insulation properties over time.
- It does not retain water during the construction process because it is not a closed system with covers.
- It shows excellent bonding properties to concrete plaster and stucco owing to the rebates on its surface.
- The positions of rib-joists can be distinguished by means of the rebates on the lower surface.

WIDTH X LENGTH(cm)	HEIGHT	DENSITY (KG/m <sup>3</sup> )
65 x 200	25	16
55 x 200	25	16
65 x 200	20	16
55 x 200	20	16

**DENİZ SINUS (FOR ONDULINE AND FOR CORRUBIT)****DESCRIPTION**

It is a thermal insulation material, which is manufactured in plate form with the desired densities. The material is prepared by being cut to fit the corrugations of Onduline sheets. As a thermal insulation material, it is used for under-sheeting Onduline when roofing. It is particularly preferred for preventing heat dissipation on roofs, saving on fuel and creating comfortable environments.



DENİZ SINUS	WALL THICKNESS(cm)	SIZES(cm)	PACKAGE	AREA(m <sup>2</sup> )
FOR ONDULINE	5,5	86 X 186	20 plate/package	32m <sup>2</sup> / package
FOR CORRUBIT	5,5	85 X 186	20 plate/ package	32m <sup>2</sup> / package

# Deniz yalitim

DENİZ INSULATION AND HOUSING SYSTEMS INDUSTRY AND COMMERCE CO. LTD.



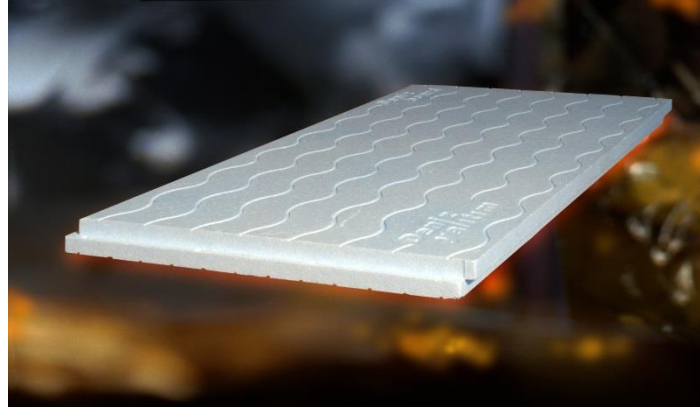


## INJECTION PRODUCTS

## DENİZ BOARD-E

### DESCRIPTION

Manufactured in 60 x 120 sizes with thicknesses of 3 to 7 cm by injection moulding technique and therefore having homogenous cell structures with closed porosity, Denizboard-E thermal insulation boards are heat insulation materials which are used for insulating terraces, basement walls and groundwork, and curtain walls and girders with the plaster bonding features of their surface patterns, their mounting that minimize thermal bridges, and their densities and compression strengths



### GENERAL FEATURES

- It is infinite-lasting. Its insulation property does not change over time.
- It is environment-friendly. It does not contain ozone-depleting CFC, HCFC or HFC. It is 100% recyclable and does not generate post-production wastes that may pollute the environment.
- Its water vapour permeability is very high. This prevents water vapour from condensing, and moist and mould from growing on thermally-insulated walls.
- Owing to its features, it is able to successfully withstand the short- and long-term mechanical loads that are encountered in a building under normal conditions. It prevents expansion, shrinking and formation of cracks in the plaster, paint and coating that arise during working on the walls. It protects your building from outer atmospheric effects and prevents corrosion. It elongates the service life of buildings.

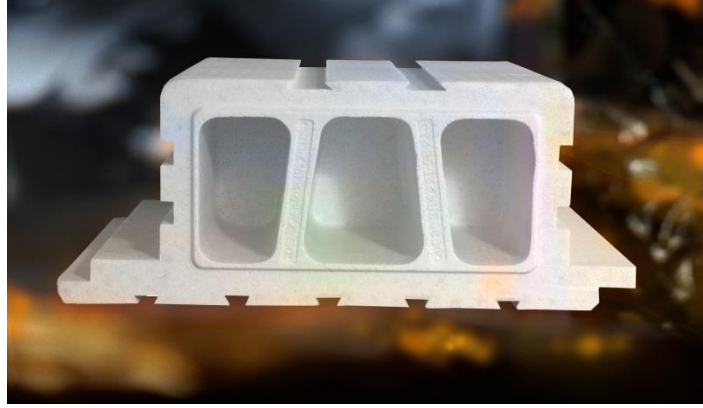
### TECHNICAL SPECIFICATIONS

WIDTH X LENGTH (cm)	THICKNESS (cm)	PRODUCT QUANTITY	AREA OF A SINGLE BOARD (m <sup>2</sup> )	TOTAL AREA (m <sup>2</sup> )	VOLUME OF A SINGLE BOARD (m <sup>3</sup> )	TOTAL VOLUME (m <sup>3</sup> )	SURFACE FORM	EDGE FORM
60 X 120	3	14	0,72	10,080	0,0216	0,3024	CORRUGATED	MOUNTING
60 X 120	4	10	0,72	7,200	0,0288	0,2880	CORRUGATED	MOUNTING
60 X 120	5	8	0,72	5,760	0,0360	0,2880	CORRUGATED	MOUNTING
60 X 120	6	7	0,72	5,040	0,0432	0,3024	CORRUGATED	MOUNTING
60 X 120	7	6	0,72	4,320	0,0504	0,3024	CORRUGATED	MOUNTING

## DENİZ AIRPOP FILLING PLUS-E

### DESCRIPTION

While it is produced from EPS by a special injection technique with the dimensions of 60\*60\*25 and the standard density of 20 kg/m<sup>3</sup>, it can also be manufactured with densities up to 35 kg/m<sup>3</sup>. Deniz Hollow Plus E is the perfect insulation and filling material of our age. It is applied directly on the mould in hollow slabs. Its mounting height is 5 cm. Its height is 25 cm, and 7 cm concrete is sufficient for slabs designed as 32 cm. For higher slabs, the desired hollow height can be achieved by using Deniz Plus CNC-cut hollow.



### GENERAL FEATURES

- Owing to its mounting, it provides excellent inter-story heat insulation.
- Its monolithic structure provides slabs with sound insulation properties.
- It does not place loads on the applied building with a weight of 2,5 kg/m<sup>3</sup>, and provides concrete savings.
- It reduces construction costs when it is decided to use DENİZ HOLLOW PLUS at project stage.
- It provides economy in bearing sections, and at the same time helps to construct safer buildings.
- Since it is lightweight, its transportation and labour costs are at minimum.
- It has flame retardant properties as it is made of Type E EPS raw materials.
- It does not age, corrode or lose its insulation properties over time.
- It does not retain water during the construction process because it is not a closed system with covers.
- It shows excellent bonding properties to concrete plaster and stucco owing to the rebates on its surface.
- The positions of rib-joists can be distinguished by means of the rebates on the lower surface.

WIDTH X LENGTH(cm)	HEIGHT	DENSITY (KG/m <sup>3</sup> )
60*60	25	20



## FISH BOX AND FISH CRATE

### DESCRIPTION

Deniz Fish Boxes and Crates allow for keeping perishable foodstuff fresh for a long time. They are mainly preferred for their thermal insulation and lightweight. This lightweight but durable material is able to conveniently protect foodstuff with heavy weights. As heat is homogenously distributed in each and every corner of the box, not only the foodstuff in the middle section but also the foodstuff on the edge sections of the box are protected from the rapidly changing temperatures. Moreover, these packages are resistant to various acids, oils, salt and moist.



PRODUCT NAME	EPS DEPTH(mm)	DIMENSIONS(mm)	PACKAGE
FISH BOX	195	490 X 390	7 plate/ package
FISH CRATE	150	595 X 395	10 plate/ package

**Deniz  
yalitim**

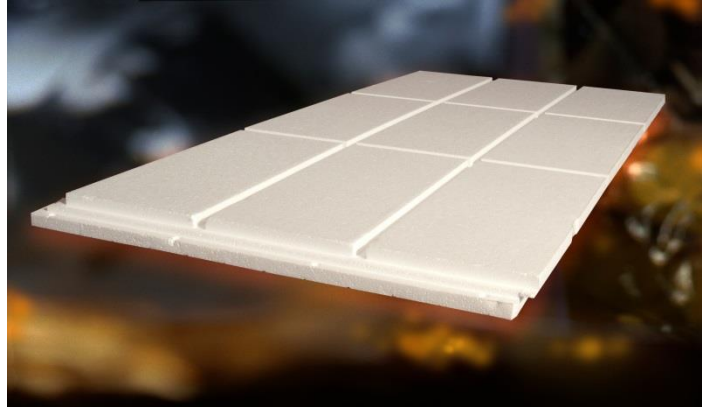
DENİZ INSULATION AND HOUSING SYSTEMS INDUSTRY AND COMMERCE CO. LTD.



## DENİZ TERRA

### DESCRIPTION

The coating material applied over DENİZ TERRA insulation materials that are manufactured by the injection mould technique gives a decorative appearance to your building along with jambs, floor moldings and windowsill profiles.



### GENERAL FEATURES

- Its insulation value is high.
- It provides up to 60% heat insulation depending on the structure and position of the building.
- The system continues providing savings throughout the service life of the building.
- The flexible cladding is not affected by earthquakes or building movements.
- It does not form thermal bridges.
- It is lightweight and therefore does not place significant loads on the building.

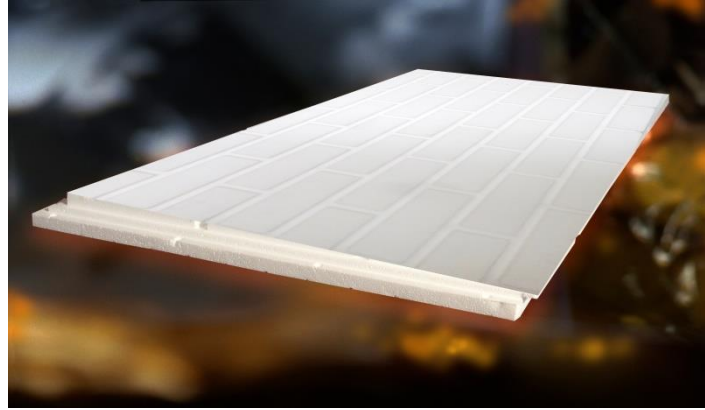
WIDTH X LENGTH (cm)	THICKNESS (cm)	PRODUCT QUANTITY	AREA OF A SINGLE BOARD (m <sup>2</sup> )	TOTAL AREA (m <sup>2</sup> )	VOLUME OF A SINGLE BOARD (m <sup>3</sup> )	TOTAL VOLUME (m <sup>3</sup> )	SURFACE FORM	EDGE FORM
60 X 120	3	14	0,72	10,08	0,017	0,302	GROOVED	MOUNTING
60 X 120	4	10	0,72	7,2	0,024	0,288	GROOVED	MOUNTING
60 X 120	5	8	0,72	5,76	0,031	0,288	GROOVED	MOUNTING
60 X 120	6	7	0,72	5,04	0,034	0,302	GROOVED	MOUNTING
60 X 120	7	6	0,72	4,32	0,042	0,302	GROOVED	MOUNTING

DENİZ INSULATION AND HOUSING SYSTEMS INDUSTRY AND COMMERCE CO. LTD.

## DENİZ STONE

### DESCRIPTION

The coating material applied over DENİZ STONE insulation materials that are manufactured by the injection mould technique gives a decorative appearance to your building along with jambs, floor moldings and windowsill profiles.



### GENERAL FEATURES

- Its insulation value is high.
- It provides up to 60% heat insulation depending on the structure and position of the building.
- The system continues providing savings throughout the service life of the building.
- The flexible cladding is not affected by earthquakes or building movements.
- It does not form thermal bridges.
- It is lightweight and therefore does not place significant loads on the building.

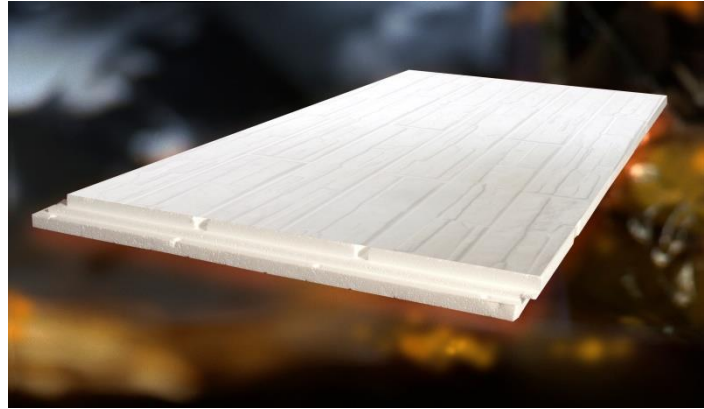
WIDTH X LENGTH (cm)	THICKNESS (cm)	PRODUCT QUANTITY	AREA OF A SINGLE BOARD (m <sup>2</sup> )	TOTAL AREA (m <sup>2</sup> )	VOLUME OF A SINGLE BOARD (m <sup>3</sup> )	TOTAL VOLUME (m <sup>3</sup> )	SURFACE FORM	EDGE FORM
60 X 120	3	14	0,72	10,08	0,017	0,302	GROOVED	MOUNTING
60 X 120	4	10	0,72	7,2	0,024	0,288	GROOVED	MOUNTING
60 X 120	5	8	0,72	5,76	0,031	0,288	GROOVED	MOUNTING
60 X 120	6	7	0,72	5,04	0,034	0,302	GROOVED	MOUNTING
60 X 120	7	6	0,72	4,32	0,042	0,302	GROOVED	MOUNTING

DENİZ INSULATION AND HOUSING SYSTEMS INDUSTRY AND COMMERCE CO. LTD.

## DENİZ BRICK

### DESCRIPTION

The coating material applied over DENİZ BRICK insulation materials that are manufactured by the injection mould technique gives a decorative appearance to your building along with jambs, floor moldings and windowsill profiles.



### GENERAL FEATURES

- Its insulation value is high.
- It provides up to 60% heat insulation depending on the structure and position of the building.
- The system continues providing savings throughout the service life of the building.
- The flexible cladding is not affected by earthquakes or building movements.
- It does not form thermal bridges.
- It is lightweight and therefore does not place significant loads on the building.

WIDTH X LENGTH (cm)	THICKNESS (cm)	PRODUCT QUANTITY	AREA OF A SINGLE BOARD (m <sup>2</sup> )	TOTAL AREA (m <sup>2</sup> )	VOLUME OF A SINGLE BOARD (m <sup>3</sup> )	TOTAL VOLUME (m <sup>3</sup> )	SURFACE FORM	EDGE FORM
60 X 120	3	14	0,72	10,08	0,017	0,302	GROOVED	MOUNTING
60 X 120	4	10	0,72	7,2	0,024	0,288	GROOVED	MOUNTING
60 X 120	5	8	0,72	5,76	0,031	0,288	GROOVED	MOUNTING
60 X 120	6	7	0,72	5,04	0,034	0,302	GROOVED	MOUNTING
60 X 120	7	6	0,72	4,32	0,042	0,302	GROOVED	MOUNTING

DENİZ INSULATION AND HOUSING SYSTEMS INDUSTRY AND COMMERCE CO. LTD.

### DENIZ STAGGERED CORNER LINER

#### DESCRIPTION

Deniz Staggered Corner Liner is 3cm-thick. The staggered profile is manufactured with a short part of 19 cm and a long part of 28 cm.

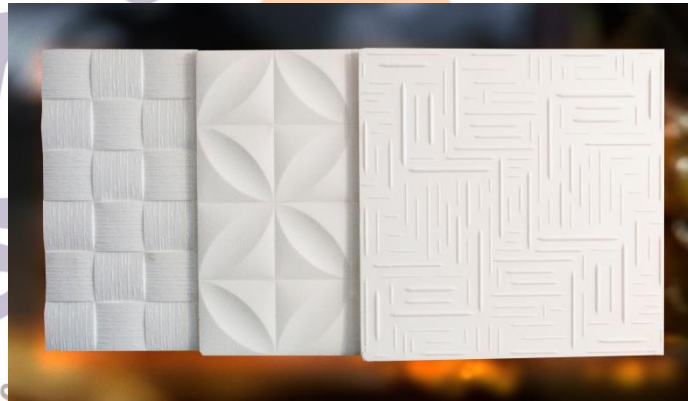
PRODUCT NAME	THICKNESS (cm)	DIMENSIONS(mm)
DENIZ STAGGERED CORNER LINER	3	115X28 / 115X19



### DENIZ COVERINGS FOR SUSPENDED CEILINGS

#### DESCRIPTION

Deniz Hollow Ceiling Coverings are made of high-density polystyrene in the dimensions of 50 X 50 X 1 cm and applied on all types of surfaces by easily attaching. They are lightweight and do not cause any additional loads on the building. The coverings can be painted with water-based paints. They are easy to clean, and can be cleaned with suds and water. Its recyclable features make the material environment-friendly.



MODEL	THICKNES (cm)	SIZE (cm)	QUANTITY PER BOX (Grain)	TOTAL AREA (m <sup>2</sup> )
Straw	1	50 X 50	60	15
Clover	1	50 X 50	56	14
Line	1	50 X 50	68	17



## PATTERNED CORNICE



CODE	DDK-101
PRINTS MEASURE (cm)	10 X 10
LENGTH (cm)	150
BOX QUANTITY (m)	51

**Small  
Piano**



CODE	DDK-102
PRINTS MEASURE (cm)	13 X 12
LENGTH (cm)	150
BOX QUANTITY (m)	42

**Great  
Piano**



CODE	DDK-103
PRINTS MEASURE (cm)	7,5 X 7,5
LENGTH (cm)	150
BOX QUANTITY (m)	87

**Small  
Drop**



CODE	DDK-104
PRINTS MEASURE (cm)	12 X 11,5
LENGTH (cm)	150
BOX QUANTITY (m)	42

**Great  
Drop**



CODE	DDK-105
PRINTS MEASURE (cm)	6,5 X 13
LENGTH (cm)	150
BOX QUANTITY (m)	48

**Ivy**



CODE	DDK-106
PRINTS MEASURE (cm)	10 X 10
LENGTH (cm)	150
BOX QUANTITY (m)	36

**Ottoman**



CODE	DDK-107
PRINTS MEASURE (cm)	5 X 13,5
LENGTH (cm)	150
BOX QUANTITY (m)	51

**Dicle**



CODE	DDK-108
PRINTS MEASURE (cm)	6,5 X 13,5
LENGTH (cm)	150
BOX QUANTITY (m)	48

**Tulip**



CODE	DDK-109
PRINTS MEASURE (cm)	7 X 13
LENGTH (cm)	150
BOX QUANTITY (m)	36

**Side**



CODE	DDK-112
PRINTS MEASURE (cm)	8 X 8
LENGTH (cm)	150
BOX QUANTITY (m)	90

**Daisy**



CODE	DDK-113
PRINTS MEASURE (cm)	5,5 X 8
LENGTH (cm)	150
BOX QUANTITY (m)	90

**Grand  
Leaf**

# Deniz yalitim®

DENİZ INSULATION AND HOUSING SYSTEMS INDUSTRY AND COMMERCE CO. LTD.

**THERMAL INSULATION SYSTEMS**

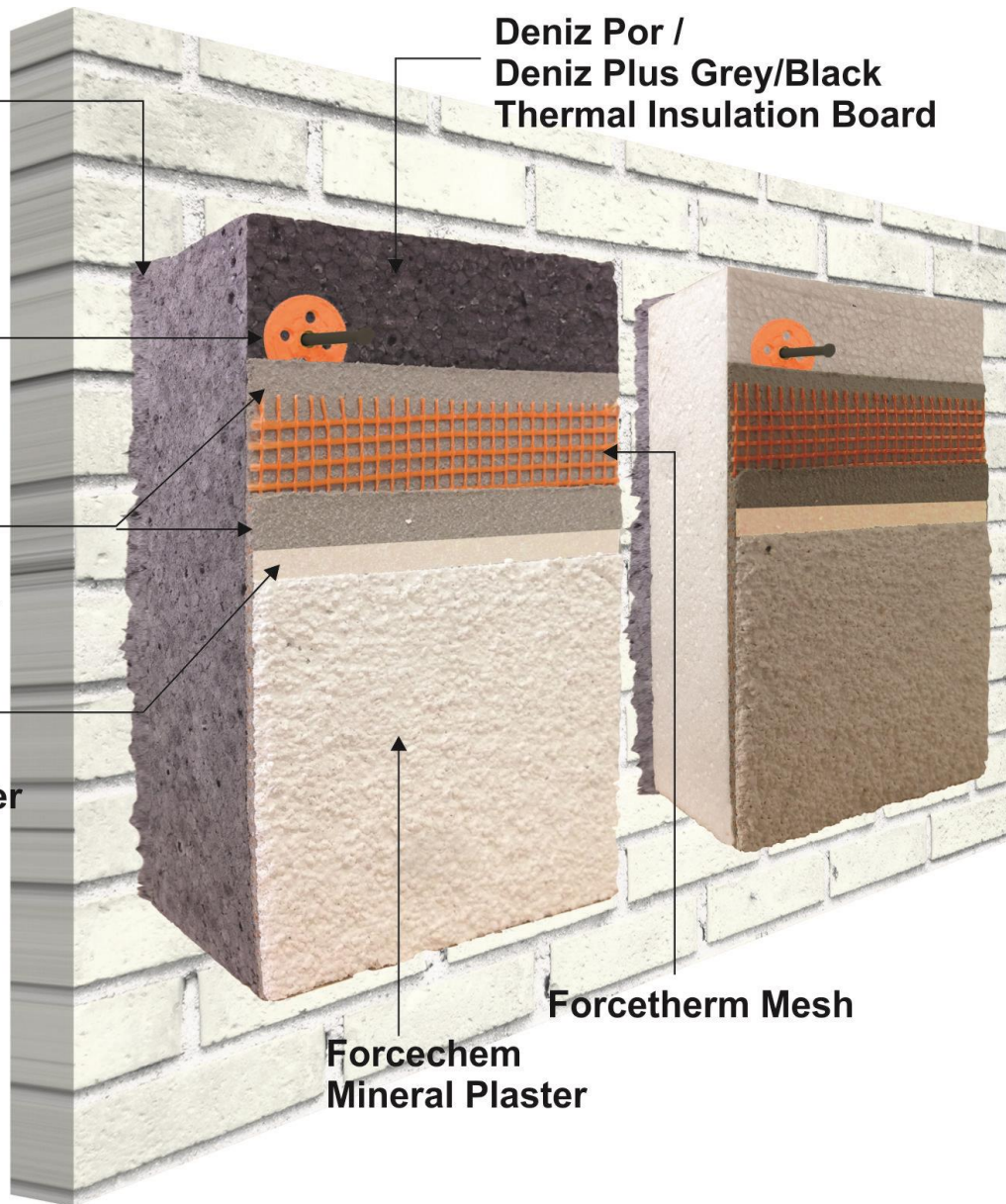
Forcechem  
Thermal  
Insulation  
Board  
Adhesive

Deniz  
Jacketing  
Fixing Plug

Forcechem  
Thermal  
Insulation  
Board Plaster

Forcechem  
Decorative  
Coating Primer

Deniz Por /  
Deniz Plus Grey/Black  
Thermal Insulation Board



Forcechem  
Mineral Plaster

Forcetherm Mesh

## FORCETHERM THERMAL INSULATION SYSTEMS



## FORCECHEM THERMAL INSULATION BOARD ADHESIVE

### DESCRIPTION

Cement based and high polymer modified adhesive for polystyrene insulation boards.

### APPLICATION AREAS

- Indoor and outdoor surfaces
- In polystyrene insulation board applications
- In insulation coating applications

### PREPERATION OF PLASTER

1 bag of (25 Kg) **Forcechem® Thermal Insulation Board Adhesive** is mixed with 6,5-7 lt. water in a clean can, till it turns into paste form. The mixture is kept for 5 minutes and then mixed again. The mixture can be applied to the gaps with using suitable trowel.

### APPLICATION LIMITS

- It is not used on metal surfaces

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The surface should be clean and smooth.
- The cracks and holes should be repaired by using Forcechem® Plaster before the application.
- The surface should be moistened before the application

### TECHNICAL SPECIFICATIONS

Color	Grey
Determination of Air Content of Fresh Mortar	$\geq 1000 \text{ kg/m}^3$
Particle Size	$< 0,8 \text{ mm.}$
Flexural Strength	$\geq 2,0 \text{ N/mm}^2$
Compressive Strength	$\geq 6,0 \text{ N/mm}^2$
First Strength Of Adhesion	$\geq 0,5 \text{ N/mm}^2$
Thermal Insulation Board of Adhesion	$\geq 0,08 \text{ N/mm}^2$
Water Absorption	$\leq 5 \text{ gr. (30 min)} / \leq 10 \text{ gr. (240 min)}$
Application time	40-60 minutes
Ready Mix Applicable	6 hour
Fire Response Class	A1
Opening to the Traffic	24 hour
Application Temperatures	$+5^{\circ}\text{C} / 35^{\circ}\text{C}$
Strength of Freeze	$-40^{\circ}\text{C} / 100^{\circ}\text{C}$
Toxity	Non Toxic
Consumption	$3-5 \text{ kg/m}^2$
Package	25 kg craft packet
Mixing Ratio	25 kg powder / 6,5-7 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be used and it has to be used 1 weeks it is opened

The values above are valid at  $+21^{\circ}\text{C}$  and %50 relative humidity



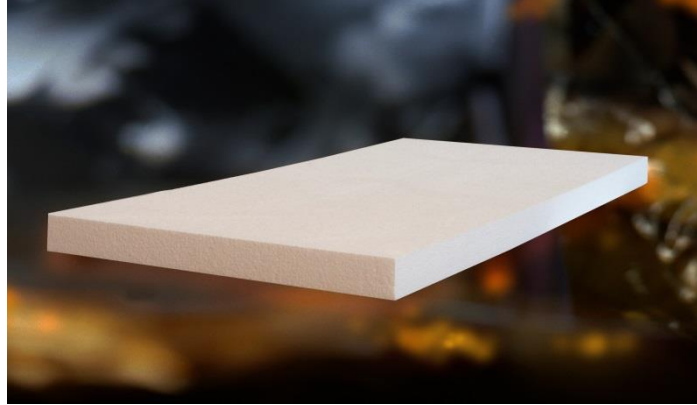


## DENİZ POR

### DESCRIPTION

It is a 50 x 100 thermal insulation board with flat edges and surface.

These expanded-polystyrene-based thermal insulation boards are manufactured in conformity with TS EN 13163 Insulation Products – For Buildings – Factory-made Expanded Polystyrene Foams – Specifications Standard. Cut from blocks that can be manufactured with various densities in 50 x 100 cm, thermal insulation board is an economical heat insulation material which is suitable to the harsh and changeable climate conditions of Turkey without any changes in its insulation value or physical structure when used within the scope of the standards. It is not suitable for use as an insulating material below 16kg/m<sup>3</sup>.



### GENERAL FEATURES

- It is infinite-lasting. Its insulation properties do not change over time.
- Its water vapour permeability is very high. This prevents water vapour from condensation, and moist and mould from growing on thermally-insulated walls.
- Owing to its features, it is able to successfully withstand the short- and long-term mechanical loads that are encountered in a building under normal conditions. It prevents expansion, shrinking and formation of cracks in the plaster, paint and coating that arise during working on the walls. It protects your building from outer atmospheric effects and prevents corrosion. It elongates the service life of buildings.
- It comes in blue and white colours.

### TECHNICAL SPECIFICATIONS

WIDTH X LENGTH(cm)	THICKNESS (cm)	PRODUCT QUANTITY	AREA OF A SINGLE BOARD (m <sup>2</sup> )	TOTAL AREA (m <sup>2</sup> )	VOLUME OF A SINGLE BOARD (m <sup>3</sup> )	TOTAL VOLUME (m <sup>3</sup> )	DENİZ POR	
							SURFACE FORM	EDGE FORM
50 x 100	1	50	0,5	25,00	0,005	0,250	FLAT	MOUNTING
50 x 100	2	25	0,5	12,50	0,010	0,250	FLAT	MOUNTING
50 x 100	3	16	0,5	8,00	0,015	0,240	FLAT	MOUNTING
50 x 100	4	12	0,5	6,00	0,020	0,240	FLAT	MOUNTING
50 x 100	5	10	0,5	5,00	0,025	0,250	FLAT	MOUNTING
50 x 100	6	8	0,5	4,00	0,030	0,240	FLAT	MOUNTING
50 x 100	7	7	0,5	3,50	0,035	0,245	FLAT	MOUNTING
50 x 100	8	6	0,5	3,00	0,040	0,240	FLAT	MOUNTING
50 x 100	10	5	0,5	2,50	0,050	0,250	FLAT	MOUNTING

**Note:** In addition to standard dimensions, the boards can be cut to the desired sizes.

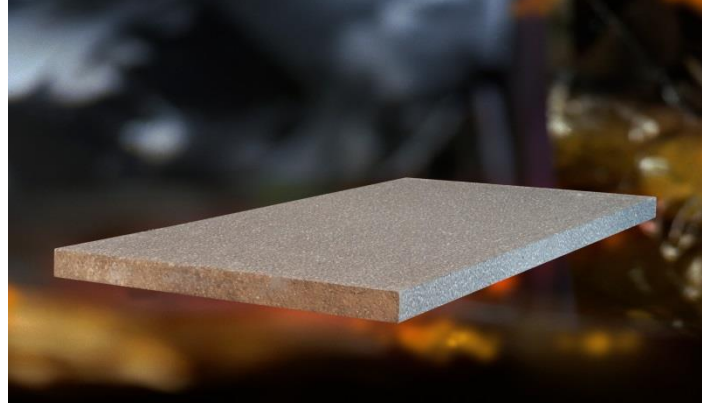
## DENİZ PLUS GREY/DENİZ PLUS BLACK

### DESCRIPTION

Deniz Plus-Grey Graphite-Doped Thermal Insulation Boards are expanded-polystyrene-based and are manufactured in conformity with TS EN 13163 Insulation Products – For Buildings – Factory-made Expanded Polystyrene Foams – Specifications Standard.

Acquiring its colour from its graphite content, Deniz Plus-Grey reflects heat radiation and considerably enhances the insulation ability owing to this graphite content. Environment-friendly Deniz Plus-Grey insulation materials do not contain CFC, HCFC, HFC or other halogenated cell gases. These materials contain air as cell gas, which guarantees the preservation of the thermal conductivity throughout the life of the construction. Especially their resistant structure to aging effects and mould growth make Deniz Plus-Grey insulation materials a long-term, durable and reliable heat insulation solution.

Deniz Plus-Black is a carbon-doped thermal insulation board. It does not contain chloro-fluorocarbon gases and their derivatives. Deniz Plus-Black is more lightweight and rigid, and also provides lower thermal conductivity in lower densities concurrently with acoustical properties. Another significant characteristic of the material is that it is easily recyclable.

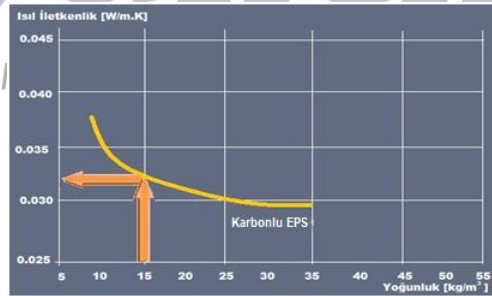


### GENERAL FEATURES

- It is a thermal insulation board with 100% graphite-doped.
- It is very lightweight, easy to handle and apply.
- Its thickness does not wear thin over time, remains constant.
- It is highly water vapour permeable.

### TECHNICAL SPECIFICATIONS

- Thermal conductivity value ( $\lambda$ ) is 0,032W/mK for 16kg/m<sup>3</sup> density, and 0,031W/mK for 20kg/m<sup>3</sup> density.
- Water vapour diffusion resistance factor: 20-40 ( $\mu$ ).
- Use temperature: max. +75°C / min. -50°C



### TECHNICAL SPECIFICATIONS

WIDTH X LENGTH(cm)	THICKNESS (cm)	PRODUCT QUANTITY	AREA OF A SINGLE BOARD (m²)	TOTAL AREA (m²)	VOLUME OF A SINGLE BOARD (m³)	TOTAL VOLUME (m³)	SURFACE FORM	EDGE FORM
50 X 100	1	50	0,5	25	0,005	0,25	FLAT	FLAT
50 X 100	2	25	0,5	12,5	0,010	0,25	FLAT	FLAT
50 X 100	3	16	0,5	8,0	0,015	0,24	FLAT	FLAT
50 X 100	4	12	0,5	6,0	0,020	0,24	FLAT	FLAT
50 X 100	6	8	0,5	4,0	0,030	0,24	FLAT	FLAT
50 X 100	8	6	0,5	3,0	0,040	0,24	FLAT	FLAT
50 X 100	10	5	0,5	2,5	0,050	0,25	FLAT	FLAT

**Note:** Optionally, the boards can also be manufactured with mounting edges

## FORCECHEM THERMAL INSULATION BOARD PLASTER

### DESCRIPTION

Cement based polymer reinforced plaster used for heat isolation, plasterine of polystyrene hard foam and sheets.

### APPLICATION

1 bag of (25 Kg) **Forcechem® Thermal Insulation Board Plaster** is mixed with 6,5-7 lt. water in a clean container until it gets mastic thickness. After retting the preparation for 5 minutes, it is mixed again. Preparation is applied on to surface by trowel at 2-2,5 mm thickness. After that plaster netting is applied. Plaster is left for drying. After is dried, last coat is applied at 1-1,5 mm according to the climatic conditions.



### APPLICATION AREAS

- Indoor and outdoor applications
- Thermal Insulation Board Plaster applications
- For repairing thin plaster applications
- For plastering the surfaces where flexibility is required.

### APPLICATION LIMITS

- It can not be applied to metallic surfaces

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- All the surface should be covered with plaster mesh,
- There should not be gaps between insulation boards,
- The surface should be moisted before application.
- The plaster has mortar proofing properties,

### TECHNICAL SPECIFICATIONS

Color	Grey
Determination of Air Content of Fresh Mortar	$\geq 1150 \text{ kg/m}^3$
Determination of Air Content Of Hardened Mortar	$1250 \pm 200 \text{ kg/m}^3$
Partical Size	$< 0,8 \text{ mm}$
Flexural Strength	$\geq 2,0 \text{ N/mm}^2$
Compressive Strength	$\geq 6,0 \text{ N/mm}^2$
Thermal Insulation Board of Adhesion	$\geq 0,08 \text{ N/mm}^2$
Water Absorption	$\leq 0,5 \text{ kg/m}^2 \cdot \text{dk}^{0,5}$
Water Vapour Permeability	$\mu \leq 15$
Application time	40-60 minutes
Ready Mix Applicable	6 hour
Fire Response Class	A1
Opening to the Traffic	24 hour
Application Temperatures	$+5^{\circ}\text{C} / 35^{\circ}\text{C}$
Strenght of Freeze	$-40^{\circ}\text{C} / 100^{\circ}\text{C}$
Toxity	Non Toxic
Consumption	$5 \text{ kg/m}^2$
Package	25 kg craft packet
Mixing Ratio	25 kg powder / 6,5-7 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at  $+21^{\circ}\text{C}$  and %50 relative humidity

#### FORCETHERM MESH

It is a glass yarn cloth mesh having 160 gr/m<sup>2</sup> weights, 4x4 mm screen opening, used in cement-based plaster application with high alkali resistance



**Deniz  
yalitim**

DENİZ INSULATION AND HOUSING SYSTEMS INDUSTRY AND COMMERCE CO. LTD.



## FORCECHEM DECORATIVE COATING PRIMER

### DESCRIPTION

It is acrylic based primer, enables coating the absorbing surfaces such as gypsum plaster, gypsum block, exposed concrete and increases the adherece strength of pre-dying surface or topcoat in jacketing.

### APPLICATION AREAS

- Interior and exterior places
- Covering the hair craks on surface
- Applications of under-dye and jacketing primer
- Priming the surfaces having high water absorption capacity such as aerated



### POINTS TO CONSIDER

- Do not apply on wet and moist surfaces.
- Do not apply on metal or bitumen-based surfaces.
- Nothing should be added into the primer and it should not be thinned.,

### SURFACE PREPARATION AND APPLICATION

It is applied with a roller or brush. During usage, non of any supplements should be added into the primer.

### CONSUMPTION

150 – 200 gr / m<sup>2</sup>

### TECHNICAL SPECIFICATIONS

Appearance	White liquid
Application Temperature	Between +5°C and +35°C
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at +21 °C and %50 relative humidity

DENİZ INSULATION AND HOUSING SYSTEMS INDUSTRY AND COMMERCE CO. LTD.

## FORCECHEM MINERAL PLASTER

### DESCRIPTION

Cement based, drop type, 1,6-1,8 mm (thin), 2,5-3 mm (thick) aggregate size and polymer modified decorative plaster that can be used with trowel to obtain a uniform layer.

### APPLICATION AREAS

It can be applied to outside cement-based plaster, gas concrete and exposed concrete and especially onto heat insulation system as a last coating

### PREPARATION OF PLASTER

25 kg **Forcechem® Mineral Plaster** is mixed with 5,5-6 lt water in a clean can. The mixture is kept for 5 minutes and then mixed again. The mixture can be applied to the surface with using trowel. Plaster must be applied to surface in equal thickness with using trowel and application thickness must be regulated with respect to biggest aggregate in mixture. Users have to make circular motion on plaster to give shape and design.

### APPLICATION LIMITS

- It is not used metal surface, weak plaster surface and brick surface.

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The surface where plaster is to be applied should be clean, smooth and strong.
- The surface where plaster is to be applied should be moistened before application and saturated with water in very hot and windy air
- The surface where plaster is to be applied should be +5°C / +35°C
- The surface where plaster is to be applied can be used lining in order to increase adhesion property

### TECHNICAL SPECIFICATIONS

Color	White
Partical Size	Thin (1,8 mm) / Thick (3 mm) / Line (3 mm)
Gleam	G3 (≤10)
Dry Film Thickness	E5 (> 400 µm)
Partical Size	S4 (> 1500 µm)
Water Vapour Permeability	V1 (> 150 g/m <sup>2</sup> .d), Sd < 0,14 m
Water Permeability	W1 (>0,5)
Crack Bridging Properties	A0
Carbondioxide Permeability	C0
Application time	20-30 minutes
Ready Mix Cur. Time	3-4 hour
Application thickness	2-3 mm
Application Temperatures	+5°C / +35°C
Drying time	2 day
Toxity	Non Toxic
Consumption	3-4 kg/m <sup>2</sup>
Package	25 kgs craft packet
Mixing Ratio	25 kg / 5,5-6 lt water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at +21 °C and %50 relative humidity



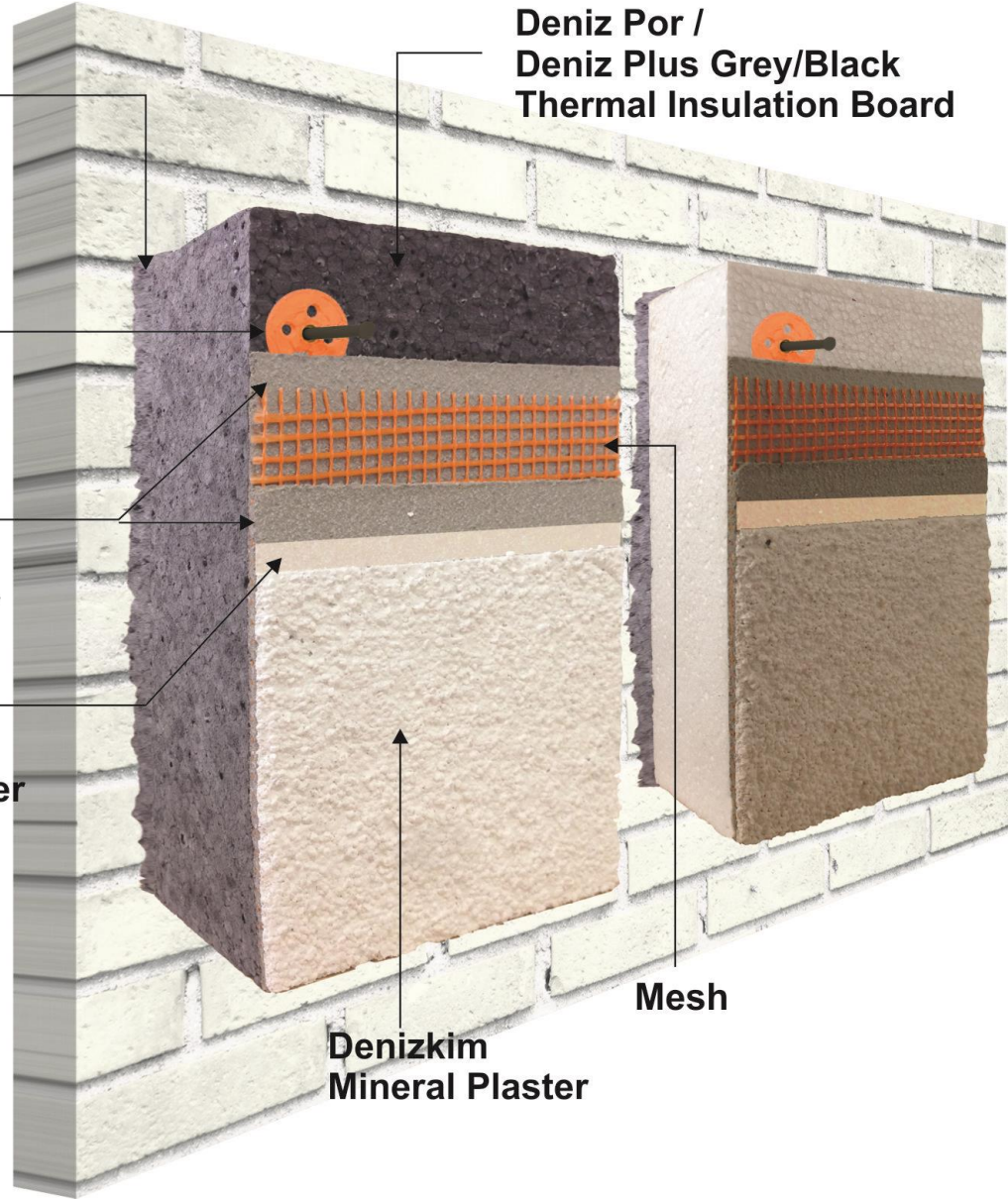
Denizkim  
Thermal  
Insulation  
Board  
Adhesive

Deniz  
Jacketing  
Fixing Plug

Denizkim  
Thermal  
Insulation  
Board Plaster

Denizkim  
Decorative  
Coating Primer

Deniz Por /  
Deniz Plus Grey/Black  
Thermal Insulation Board



Mesh

Denizkim  
Mineral Plaster

## DENİZKİM THERMAL INSULATION SYSTEMS



## DENİZKİM THERMAL INSULATION BOARD ADHESIVE

### DESCRIPTION

Cement based and high polymer modified adhesive for polystyrene insulation boards.

### APPLICATION AREAS

- Indoor and outdoor surfaces
- In polystyrene insulation board applications
- In insulation coating applications

### PREPERATION OF PLASTER

1 bag of (25 Kg) **Denizkim® Thermal Insulation Board Adhesive** is mixed with 6,5-7 lt. water in a clean can, till it turns into paste form. The mixture is kept for 5 minutes and then mixed again. The mixture can be applied to the gaps with using suitable trowel.

### APPLICATION LIMITS

- It is not used on metal surfaces

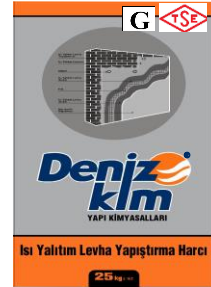
### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- The surface should be clean and smooth.
- The cracks and holes should be repaired by using Denizkim Plaster before the application.
- The surface should be moistened before the application.
- It is suggested that the application should be in the range of +5°C / +35°C

### TECHNICAL SPECIFICATIONS

Color	Grey
Determination of Air Content of Fresh Mortar	$\geq 1000 \text{ kg/m}^3$
Particle Size	$< 0,8 \text{ mm.}$
Flexural Strength	$\geq 2,0 \text{ N/mm}^2$
Compressive Strength	$\geq 6,0 \text{ N/mm}^2$
First Strength Of Adhesion	$\geq 0,5 \text{ N/mm}^2$
Thermal Insulation Board of Adhesion	$\geq 0,08 \text{ N/mm}^2$
Water Absorption	$\leq 5 \text{ gr. (30 min)} / \leq 10 \text{ gr. (240 min)}$
Application time	40-60 minutes
Ready Mix Applicable	6 hour
Fire Response Class	A1
Opening to the Traffic	24 hour
Application Temperatures	+5°C / 35°C
Strength of Freeze	-40°C / 100°C
Toxity	Non Toxic
Consumption	3-5 kg/m <sup>2</sup>
Package	25 kg craft packet
Mixing Ratio	25 kg powder / 6,5-7 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be used and it has to be used 1 weeks it is opened

The values above are valid at +21 °C and %50 relative humidity



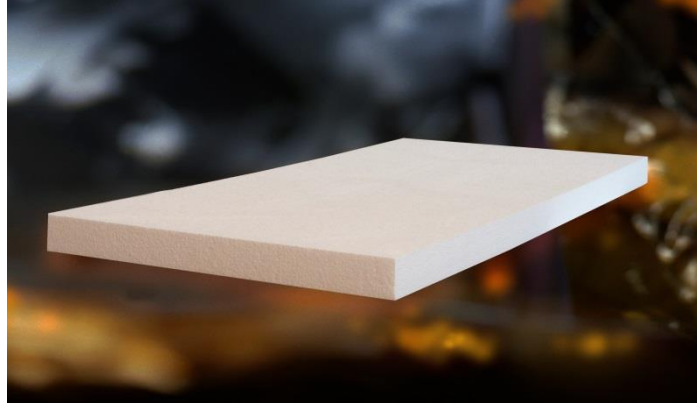


## DENİZ POR

### DESCRIPTION

It is a 50 x 100 thermal insulation board with flat edges and surface.

These expanded-polystyrene-based thermal insulation boards are manufactured in conformity with TS EN 13163 Insulation Products – For Buildings – Factory-made Expanded Polystyrene Foams – Specifications Standard. Cut from blocks that can be manufactured with various densities in 50 x 100 cm, thermal insulation board is an economical heat insulation material which is suitable to the harsh and changeable climate conditions of Turkey without any changes in its insulation value or physical structure when used within the scope of the standards. It is not suitable for use as an insulating material below 16kg/m<sup>3</sup>.



### GENERAL FEATURES

- It is infinite-lasting. Its insulation properties do not change over time.
- Its water vapour permeability is very high. This prevents water vapour from condensation, and moist and mould from growing on thermally-insulated walls.
- Owing to its features, it is able to successfully withstand the short- and long-term mechanical loads that are encountered in a building under normal conditions. It prevents expansion, shrinking and formation of cracks in the plaster, paint and coating that arise during working on the walls. It protects your building from outer atmospheric effects and prevents corrosion. It elongates the service life of buildings.
- It comes in blue and white colours.

### TECHNICAL SPECIFICATIONS

WIDTH X LENGTH(cm)	THICKNESS (cm)	PRODUCT QUANTITY	AREA OF A SINGLE BOARD (m <sup>2</sup> )	TOTAL AREA (m <sup>2</sup> )	VOLUME OF A SINGLE BOARD (m <sup>3</sup> )	TOTAL VOLUME (m <sup>3</sup> )	DENİZ POR	
							SURFACE FORM	EDGE FORM
50 x 100	1	50	0,5	25,00	0,005	0,250	FLAT	MOUNTING
50 x 100	2	25	0,5	12,50	0,010	0,250	FLAT	MOUNTING
50 x 100	3	16	0,5	8,00	0,015	0,240	FLAT	MOUNTING
50 x 100	4	12	0,5	6,00	0,020	0,240	FLAT	MOUNTING
50 x 100	5	10	0,5	5,00	0,025	0,250	FLAT	MOUNTING
50 x 100	6	8	0,5	4,00	0,030	0,240	FLAT	MOUNTING
50 x 100	7	7	0,5	3,50	0,035	0,245	FLAT	MOUNTING
50 x 100	8	6	0,5	3,00	0,040	0,240	FLAT	MOUNTING
50 x 100	10	5	0,5	2,50	0,050	0,250	FLAT	MOUNTING

**Note:** In addition to standard dimensions, the boards can be cut to the desired sizes.

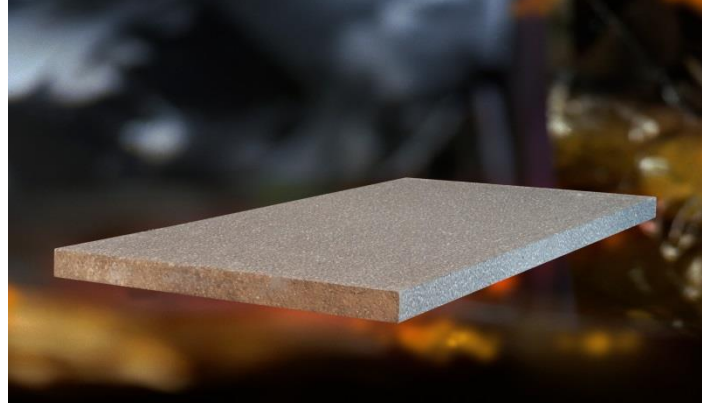
## DENİZ PLUS GREY/DENİZ PLUS BLACK

### DESCRIPTION

Deniz Plus-Grey Graphite-Doped Thermal Insulation Boards are expanded-polystyrene-based and are manufactured in conformity with TS EN 13163 Insulation Products – For Buildings – Factory-made Expanded Polystyrene Foams – Specifications Standard.

Acquiring its colour from its graphite content, Deniz Plus-Grey reflects heat radiation and considerably enhances the insulation ability owing to this graphite content. Environment-friendly Deniz Plus-Grey insulation materials do not contain CFC, HCFC, HFC or other halogenated cell gases. These materials contain air as cell gas, which guarantees the preservation of the thermal conductivity throughout the life of the construction. Especially their resistant structure to aging effects and mould growth make Deniz Plus-Grey insulation materials a long-term, durable and reliable heat insulation solution.

Deniz Plus-Black is a carbon-doped thermal insulation board. It does not contain chloro-fluorocarbon gases and their derivatives. Deniz Plus-Black is more lightweight and rigid, and also provides lower thermal conductivity in lower densities concurrently with acoustical properties. Another significant characteristic of the material is that it is easily recyclable.

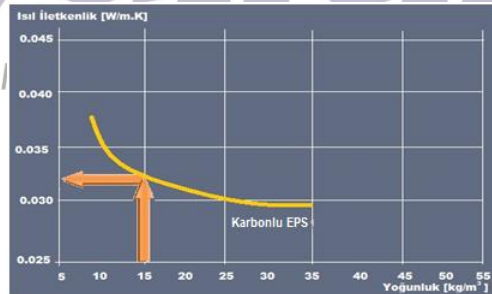


### GENERAL FEATURES

- It is a thermal insulation board with 100% graphite-doped.
- It is very lightweight, easy to handle and apply.
- Its thickness does not wear thin over time, remains constant.
- It is highly water vapour permeable.

### TECHNICAL SPECIFICATIONS

- Thermal conductivity value ( $\lambda$ ) is 0,032W/mK for 16kg/m<sup>3</sup> density, and 0,031W/mK for 20kg/m<sup>3</sup> density.
- Water vapour diffusion resistance factor: 20-40 ( $\mu$ ).
- Use temperature: max. +75°C / min. -50°C



### TECHNICAL SPECIFICATIONS

WIDTH X LENGTH(cm)	THICKNESS (cm)	PRODUCT QUANTITY	AREA OF A SINGLE BOARD (m²)	TOTAL AREA (m²)	VOLUME OF A SINGLE BOARD (m³)	TOTAL VOLUME (m³)	SURFACE FORM	EDGE FORM
50 X 100	1	50	0,5	25	0,005	0,25	FLAT	FLAT
50 X 100	2	25	0,5	12,5	0,010	0,25	FLAT	FLAT
50 X 100	3	16	0,5	8,0	0,015	0,24	FLAT	FLAT
50 X 100	4	12	0,5	6,0	0,020	0,24	FLAT	FLAT
50 X 100	6	8	0,5	4,0	0,030	0,24	FLAT	FLAT
50 X 100	8	6	0,5	3,0	0,040	0,24	FLAT	FLAT
50 X 100	10	5	0,5	2,5	0,050	0,25	FLAT	FLAT

**Note:** Optionally, the boards can also be manufactured with mounting edges

## DENİZKİM THERMAL INSULATION BOARD PLASTER

### DESCRIPTION

Cement based polymer reinforced plaster used for heat isolation, plasterine of polystyrene hard foam and sheets.

### APPLICATION

1 bag of (25 Kg) **Denizkim® Thermal Insulation Board Plaster** is mixed with 6,5-7 lt. water in a clean container until it gets mastic thickness. After retting the preparation for 5 minutes, it is mixed again. Preparation is applied on to surface by trowel at 2-2,5 mm thickness. After that plaster netting is applied. Plaster is left for drying. After is dried, last coat is applied at 1-1,5 mm according to the climatic conditions.



### APPLICATION AREAS

- Indoor and outdoor applications
- Thermal Insulation Board Plaster applications
- For repairing thin plaster applications
- For plastering the surfaces where flexibility is required.

### APPLICATION LIMITS

- It can not be applied to metalic surfaces

### PREPERATION OF SURFACE AND APPLICATION SPECIALITIES

- All the surface should be covered with plaster mesh,
- There should not be gaps between insulation boards,
- The surface should be moisted before application.
- The plaster has mortar proofing properties,

### TECHNICAL SPECIFICATIONS

Color	Grey
Determination of Air Content of Fresh Mortar	$\geq 1150 \text{ kg/m}^3$
Determination of Air Content Of Hardened Mortar	$1250 \pm 200 \text{ kg/m}^3$
Partical Size	$< 0,8 \text{ mm}$
Flexural Strength	$\geq 2,0 \text{ N/mm}^2$
Compressive Strength	$\geq 6,0 \text{ N/mm}^2$
Thermal Insulation Board of Adhesion	$\geq 0,08 \text{ N/mm}^2$
Water Absorption	$\leq 0,5 \text{ kg/m}^2 \cdot \text{dk}^{0,5}$
Water Vapour Permeability	$\mu \leq 15$
Application time	40-60 minutes
Ready Mix Applicable	6 hour
Fire Response Class	A1
Opening to the Traffic	24 hour
Application Temperatures	$+5^\circ\text{C} / 35^\circ\text{C}$
Strenght of Freeze	$-40^\circ\text{C} / 100^\circ\text{C}$
Toxity	Non Toxic
Consumption	$5 \text{ kg/m}^2$
Package	25 kg craft packet
Mixing Ratio	25 kg powder / 6,5-7 lt. water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at  $+21^\circ\text{C}$  and %50 relative humidity

## MESH

It is a glass yarn cloth mesh having 160 gr/m<sup>2</sup> weights, 4x4 mm screen opening, used in cement-based plaster application with high alkali resistance



**Deniz  
yalitim**

DENİZ INSULATION AND HOUSING SYSTEMS INDUSTRY AND COMMERCE CO. LTD.



## DENİZKİM DECORATIVE COATING PRIMER

### DESCRIPTION

It is acrylic based primer, enables coating the absorbing surfaces such as gypsum plaster, gypsum block, exposed concrete and increases the adherece strength of pre-dying surface or topcoat in jacketing.

### APPLICATION AREAS

- Interior and exterior places
- Covering the hair craks on surface
- Applications of under-dye and jacketing primer
- Priming the surfaces having high water absorption capacity such as aerated

### POINTS TO CONSIDER

- Do not apply on wet and moist surfaces.
- Do not apply on metal or bitumen-based surfaces.
- Nothing should be added into the primer and it should not be thinned.,

### SURFACE PREPARATION AND APPLICATION

It is applied with a roller or brush. During usage, non of any supplements should be added into the primer.

### CONSUMPTION

150 – 200 gr / m<sup>2</sup>

### TECHNICAL SPECIFICATIONS

Appearance	White liquid
Application Temperature	Between +5 <sup>0</sup> C and +35 <sup>0</sup> C
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at +21 <sup>0</sup>C and %50 relative humidity

DENİZ INSULATION AND HOUSING SYSTEMS INDUSTRY AND COMMERCE CO. LTD.

## DENİZKİM DECORATIVE COATINGS

### DESCRIPTION

Cement based, drop type, 1,6-1,8 mm (thin), 2,5-3 mm (thick) aggregate size and polymer modified decorative plaster that can be used with trowel to obtain a uniform layer.

### APPLICATION AREAS

It can be applied to outside cement-based plaster, gas concrete and exposed concrete and especially onto heat insulation system as a last coating

### PREPARATION OF PLASTER

25 kg **Denizkim® Decorative Coatings** is mixed with 6-6,5 lt water in a clean can. The mixture is kept for 5 minutes and then mixed again. The mixture can be applied to the surface with using trowel. Plaster must be applied to surface in equal thickness with using trowel and application thickness must be regulated with respect to biggest aggregate in mixture. Users have to make circular motion on plaster to give shape and design.

### APPLICATION LIMITS

- It is not used metal surface, weak plaster surface and brick surface.

### PREPARATION OF SURFACE AND APPLICATION SPECIALITIES

- The surface where plaster is to be applied should be clean, smooth and strong.
- The surface where plaster is to be applied should be moistened before application and saturated with water in very hot and windy air
- The surface where plaster is to be applied can be used lining in order to increase adhesion property

### TECHNICAL SPECIFICATIONS

Color	White
Partial Size	Thin (1,8 mm) / Thick (3 mm) / Line (3 mm)
Gleam	G3 ( $\leq 10$ )
Dry Film Thickness	E5 ( $> 400 \mu\text{m}$ )
Partial Size	S4 ( $> 1500 \mu\text{m}$ )
Water Vapour Permeability	V1 ( $> 150 \text{ g/m}^2.\text{d}$ ), $\text{Sd} < 0,14 \text{ m}$
Water Permeability	W1 ( $> 0,5$ )
Crack Bridging Properties	A0
Carbondioxide Permeability	C0
Application time	20-30 minutes
Ready Mix Cur. Time	3-4 hour
Application thickness	2-3 mm
Application Temperatures	$+5^{\circ}\text{C} / +35^{\circ}\text{C}$
Toxity	Non Toxic
Consumption	$3-4 \text{ kg/m}^2$
Package	25 kgs craft packet
Mixing Ratio	25 kg / 5,5-6 lt water
Storage Life	12 months in suitable storage conditions It must be closed carefully when it will not be use and it has to be used 1 weeks it is opened

The values above are valid at  $+21^{\circ}\text{C}$  and %50 relative humidity





DENİZ INSULATION AND HOUSING SYSTEMS INDUSTRY AND COMMERCE CO. LTD.

## AUXILIARY JACKETING PRODUCTS

## JOINT GAP PROFILES



### Deniz Joint Gap Profiles

	Length(m)	G(mm)	D(mm)	Quantity(pcs)	Amount(m)
Pvc (oval)	3,00	30	16	40	120
Pvc (oval)	3,00	40	16	35	105
Pvc (oval)	3,00	50	16	30	90

### Deniz Oval Joint Gap Profiles with Mesh

	Length(m)	G(mm)	D(mm)	Quantity(pcs)	Amount(m)
Pvc (oval)	3,00	30	16	10	30
Pvc (oval)	3,00	40	16	10	30
Pvc (oval)	3,00	50	16	10	30

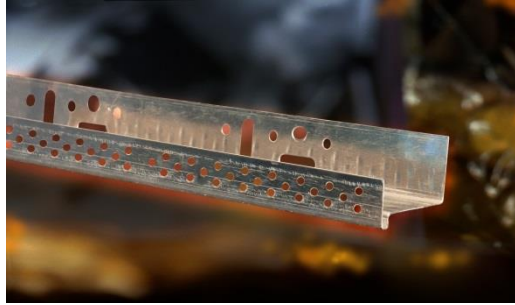
### Deniz Joint Gap Profiles with Mesh

	Length(m)	G(mm)	D(mm)	Quantity(pcs)	Amount(m)
Aluminum	3,00	20	15	10	30
Aluminum	3,00	30	15	10	30
Aluminum	3,00	40	15	10	30
Aluminum	3,00	30	10	10	30
Aluminum	3,00	40	10	10	30
Aluminum	3,00	50	10	10	30



#### DENİZ SUB-BASEMENT PROFILE

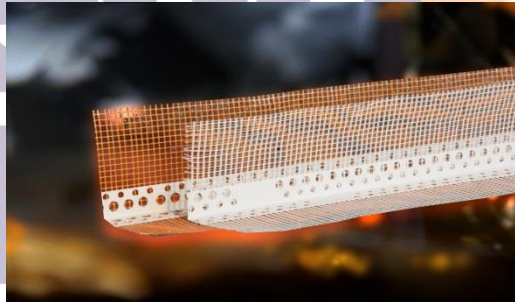
It is a perforated aluminum profile to be mounted on the grade concrete for protecting thermal insulation boards from impacts and laying the boards properly



Width (mm)	Size (m)	Package (m)
53	10 x 2,5	25
63		

#### DENİZ MESHED CORNER PROFILE

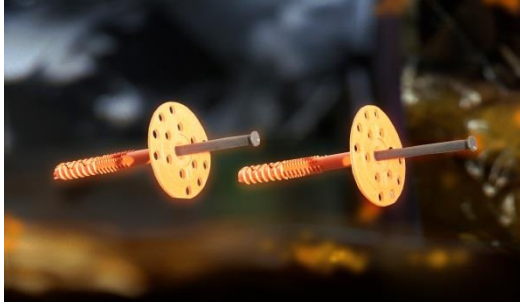
It is a meshed PVC profile used for in order to protect building corners, window and door edges.



Type of material	Mesh	Size (m)	Package (m)
PVC	without mesh	10 x 2,5	250
	with mesh	25 x 2,5	62,5

### DENİZ JACKETING FIXING PLUG

It is used for fixing thermal insulation board to the surfaces and increasing system resistance against wind vacuuming load. Although it varies depending on the height of the building, it should be used at least 6 piece/m<sup>2</sup>.



Size (mm)	Package (Grain)
60x10x100	500
60x10x120	500
60x10x140	500

### DENİZ SUB-BASEMENT INSERT

It is a plastic connector used for making accurate and steady connections and fixing sub-basement profiles depending on the diversity of wall surfaces



Nail Type	Size (mm)	Package (Grain)
Without screw	8x80	100
	8x100	
	8x120	
With screw	8x80	
	8x100	
	8x120	

DENİZ INSULATION AND HOUSING SYSTEMS INDUSTRY AND COMMERCE CO. LTD.

### DENİZ T INSERT

It is a weather-boarded jamb insert of 50x20x100 and 50x20x120 dimensions with T-flange



Size (mm)	Package (Size)
50x20x100	500
50x20x120	500

## CERTIFICATES





***DENİZ INSULATION AND HOUSING SYSTEMS INDUSTRY AND COMMERCE CO. LTD.***

Deniz Insulation and Housing Systems Industry and Commerce Co. Ltd.  
Center: Cengiz Topel St. No:108 ÇORUM  
Tel-Fax: (0364) 225 58 23  
Factory:OSB 16. St. No:10 ÇORUM  
Tel-Fax: (0364) 254 00 35