



# SETBLOK<sup>®</sup>

Insulated Wall Blocks



Creating Value for Your Buildings...

[www.setblok.com](http://www.setblok.com)

**SETBLOK**

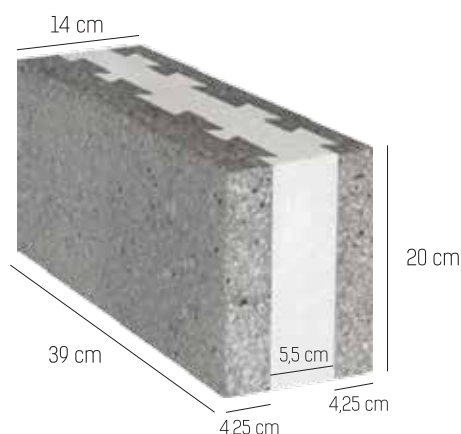
BEST wall insulation option in the industry...

**NO MORE  
JACKETING!**



### SetBlok 20

Dimensions [cm]	: 19,5 x 39 x 20 cm block (Width x Length x Height)
Area of use	: Exterior facade element
Thermal transmittance	: [U]: 0,38 W/m <sup>2</sup> K
Sound Absorption Capacity	: 39 db
Pressure resistance	: 2,7 N/mm <sup>2</sup>
Fire rating	: A1 Non-flammable material (External Layers)
Humidity character	: Does not cause any humidity and dampness
Water vapor transmittance	: 8,96 [u]
Freezing Analysis	: Does not cause any cracking, scaling or breaking
Volume-mass analysis	: 543 kg/m <sup>3</sup>
Leed credit potential	: 22 credits
Ministry of Environment and Urban Planning	
Pos. Nr.: 04.757/A1	



### SetBlok 14

Dimensions [cm]	: 14 x 39 x 20 cm block (Width x Length x Height)
Area of use	: Exterior facade element
Thermal transmittance: [U]	: 0,60 W/m <sup>2</sup> K
Sound Absorption Capacity	: 35 db
Pressure resistance	: 2,9 N/mm <sup>2</sup>
Fire rating	: A1 Non-flammable material (External Layers)
Humidity character	: Does not cause any humidity and dampness
Water vapor transmittance	: 9,11 [u]
Freezing analysis	: Does not cause any cracking, scaling or breaking
Volume-mass analysis	: 574 kg/m <sup>3</sup>
Leed credit potential	: 22 credits

## SUPPLEMENTAL PRODUCTS



#### First Row Block

Used for outpouring sections for more than 4 cm.



#### Edge Block

Used for preventing from heat bridges in bending and corner areas.

[Pos. Nr: 04.757/A3]



#### Half Block

Used for confounding purposes in wall construction

Pos. Nr: 04/757/A2



#### Half Block with Wedge

Used for lifting window and door sections without requiring any blind chassis.



#### Lento

Used over doors and windows

Poz No: 04.757/A4

#### Interval Wall Block

Dimensions [cm] : 9x20x60



#### Asmolen



**NOTE:** Please visit our web page for technical specifications and updated pos. numbers.

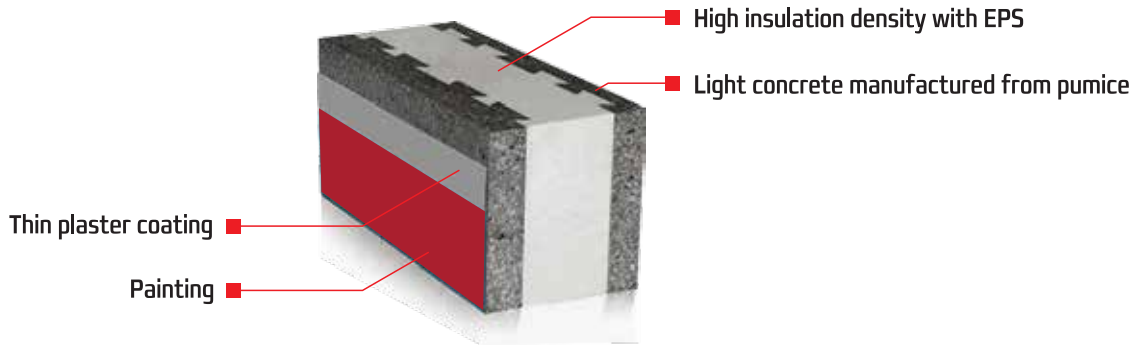
## WHAT IS SETBLOK?



SetBlok wall blocks are monoblock construction elements. Inner sections of SetBlok products are manufactured from EPS; while the exterior is covered with light concrete planes. Apart from high heat insulation, SetBlok also contributes to sound and humidity insulation. Structures which use SetBlok does not require any further jacketing.

### STRONG INSULATION WITH SETBLOK

- **Provides efficient heat insulation:** Lambda rating is 0,08 W/mK for SetBlok 20 and 0,110 W/mK for SetBlok 14. Likewise, U rating is 0,38 W/m<sup>2</sup>K for SetBlok 20 and 0,06 W/m<sup>2</sup>K for SetBlok 14.
- ))) **Contributes to Sound Insulation:** Sound absorption is rated to be 39 dB for SetBlok 20, and 35 dB for SetBlok 14.
- 🔥 **Resistant to Fire:** Rated F-215 (EW215) according to TS EN 13501 regulations.
- 💧 **Does not cause dampness:** SetBlok products do not cause any humidity or dampness.
- 🌱 **Natural and Environmentally Friendly:** SetBlok is manufactured from natural materials. Ingredients of our products do not involve any radioactive or toxic materials. Likewise, entire production cycle is designed to be totally environmentally friendly.
- 🖱️ **Lightweight:** Dry unit weight of a product with 19,5 x 20 x 39 cm dimensions has been measured to be 8,5 kg/piece with a dry bulk density rating of 543 kg/m<sup>3</sup> according to the tests conducted in line with regulations of TS-EN 772-13 standards.
- **Smooth Surface:** Miter-joint wall construction is seamless and easy thanks to smooth and level surfaces of SetBlok products. A thin layer of plaster coating at inner surfaces, and a thin layer of stucco surface coating at outer surfaces are all you need to do.
- 🎯 **Durable:** Pressure resistance of SetBlok has been measured to be 2,7-3,0 N/mm<sup>2</sup> according to the tests conducted in compliance with TS EN 772-1.



# ALL IN ONE WITH SETBLOK



Provides Heat Insulation



Resistant Against Fire



Contributes to Sound  
Insulation



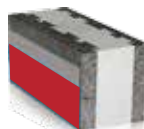
Natural and  
Environmentally Friendly



Lightweight



Cost Effective



Provides Excellent  
Plaster Preservation



## SETBLOK<sup>®</sup>

Insulated Wall Blocks

## 100% Natural and Environmentally Friendly

Water vapor transmittance, water vapor diffusion factor is measured to be 8,97 [u].



- Production cycle of SetBlok does not involve any environmentally-harmful material.
- Completely natural, light, pumice material is used for manufacturing SetBlok.
- We never use agricultural soil for producing SetBlok.
- No environmentally-harmful or toxic waste is produced due to production cycle of SetBlok.
- We try our best to recycle the water that we use in our production and enable its re-use in the future.
- Carbon emissions of our production cycle is measured to be close to zero.
- SetBlok always supports all recycling possibilities in its production cycle. Therefore, all kinds of waste which are produced due to erroneous production or defective cutting are not disposed or thrown out, but taken into the production cycle from the beginning. Therefore, SetBlok production does not produce any waste.
- Thanks to SetBlok, it's rather easy to earn Leed credits. You can acquire Leed Credits in "Sustainable Areas", "Energy and Atmosphere", "Indoors and Quality of Life" and "Materials and Resources" categories.



### Safety in case of Fire

- Exterior elements are rated as A1 (Non-flammable) and final product is rated as B S1 d0 (ES EN 1350 1-1).
- Fire resistance  
Rated as EW215 according to TS EN 13501-2.



### Resistant to Fire:

Tests have measured fire resistance of SetBlok as F-215 (EW215) according to RS EN 13501.

When exposed to large volumes of fire; the product does not experience any loss of shape, size or cause any smoke. Therefore, SetBlok provides a level of excellent fire safety.



### Inspection –Trial Results

#### EVALUATION

Non load-bearing “SetBlok” brand wall structure materials are assembled by means of SetBlok glue and exposed to 215 minutes of testing. Throughout 215 minutes of test duration the product has preserved its integrity. Results of the resistance test, which has been performed according to TS EN 164-12001 standard is given in the following.

[Temperature of the fire has been increased to 1.300C during the test procedures.]

### Trial Results

#### Integrity Performance

Continuous Flammability	No defect occurred throughout 215 minutes period.
Spacing Gauge	No defect occurred throughout 215 minutes period.
Cotton Cushion	No defect occurred throughout 215 minutes period.

#### Insulation Performance

Throughout the 215 minutes of testing and inspection; heat increase of surfaces with indirect exposure has been limited to 180C.

## OBSERVATIONS

Numbers of Inspection Samples	M1	M2	M3
Longitudinal dispersion of horizontal flames	NONE	NONE	NONE
Flaming parts or drops f<10s fZ10s	NONE	NONE	NONE
Flammability status of the surface	NONE	NONE	NONE
Penetration of the smoke from the sample into the trial room through carriage cart	NONE	NONE	NONE
Dropping of parts from the sample	NONE	NONE	NONE
Occurrence of a gap or spacing in the corners (due to non-fixing of plates in corners)	NONE	NONE	NONE
Pre-mature termination of the trial	NONE	NONE	NONE
Degrading of the sample or occurrence of sedimentation	NONE	NONE	NONE

## VALUES

Average FIGRA value (W7s)	0
Average THR600s (MJ)	0
Average SMOGRA value (m2)	1,16
Average TSP6**s (m2)	32,1
LFS<up to the edges (mm)	NONE
Flaming parts/drops <10s	NONE
Flaming parts/drops >10s	NONE



## TEST RESULTS (TS EN ISO 11925-2 Article 8)

Sample Number	1	2	3	4	5	6
Flammability (From the edge, surface)	NONE	NONE	NONE	NONE	NONE	NONE
Dispersion of the flame to 150 mm area	NONE	NONE	NONE	NONE	NONE	NONE
150 mm flame dispersion duration (T150)	-	-	-	-	-	-
Flaming at filter paper	NONE	NONE	NONE	NONE	NONE	NONE
Decision	G	G	G	G	G	G
Observations	Samples have found to be inflammable and did not catch any fire. During the flaming trial period, 150 mm line was not reached. No dropping has been observed. Likewise, no melting occurred and filter paper did not catch fire.					



### Advantages for the End User

#### ■ Easy to heat and cool the building

Thermal transmittance factor value (U) of SetBlok product is 0,38 W/m<sup>2</sup>K; providing you an excellent heat insulation advantage.

#### ■ Average insulation (EPS) value is between 3 to 6 cm. for buildings in Turkey. SetBlok, on the other hand, provides 8.5 cm (EPS) insulation.

Wall materials are applied according to heat zones as a general practice in Turkey. SetBlok can be applied to any building as a highly insulating wall block, in any building located either in 1st, 2nd, 3rd or 4th heat zone level.

#### ■ SetBlok increases the value of your building

SetBlok provides an added value for your building as it contributes to sound and water insulation apart from its excellent heat insulation and fire resistance properties.

#### ■ Decreases earthquake loads

As an addition to its high pressure resistance, SetBlok provides you the chance to decrease the earthquake load of your building.

#### ■ Does not create humidity or dampness

SetBlok has a very low water absorption rate. Its special light concrete structure provides high resistance against humidity. SetBlok's genuine characteristics provide your walls with the ability to breathe.

#### ■ High sound insulation (39 dB)

SetBlok's 39 db sound absorption features contribute to the sound insulation characteristics of your house.

### Advantages for the End User

#### ■ Lightweight

Static load ratio of the buildings is rather low thanks to SetBlok.

#### ■ Effective Use of the Area

SetBlok 20 provides you with an extra area thanks to elimination of internal insulation needs by means of applying SetBlok as an external insulation.

#### ■ Cost Effectiveness

You will not need any extra jacketing workmanship. You can build your entire wall at once.

#### ■ Increases insulation lifecycle

Lifecycle of your insulation will be prolonged almost as long as the lifecycle of your entire building.

#### ■ Increases profitability and sale advantage of your buildings

SetBlok provides your building with an added value as it contributes to water and sound insulation capabilities of your building apart from its excellent heat insulation and fire resistance, giving you an important sale advantage.

#### ■ Easier Design

SetBlok corner, half block, lintel, and wedge elements gives you a better ability for design and application of your construction.

#### ■ Green building concept LEED

You can acquire building loans as SetBlok enables you to attain LEED credits as a LEED certified product.

#### ■ Ability to perform assembly over the product

Thanks to smooth and level surface of SetBlok products; it is easy to assembly all kinds of materials over the product such as ceramic, marble, granite, wood, etc.

#### ■ Suitable for Screw and Nail Applications

SetBlok products offer ease of application as they provide you with the chance to apply screw and nails without requiring wall plugs.



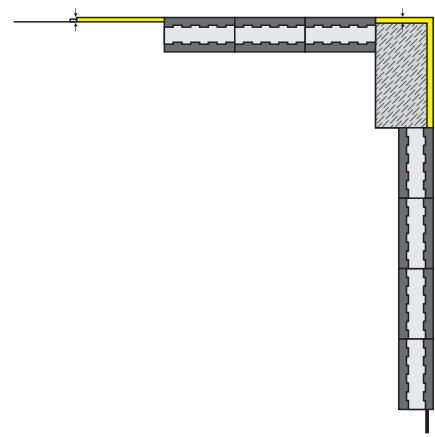
Outpouring

Channeling

Cutting



Outpouring Characteristics (Cross Section)



## SetBlok Application Instructions

- Surface of the application shall be smooth and level. Rough and crinkled surfaces shall be rehabilitated by means of appropriate hand tools.
- When building first row of blocks; sand-water-cement mortar shall be used for horizontal sutures. For vertical sutures; application shall be performed by means of SetBlok wall-building mortar.
- Following sufficient setting period; the application is continued from the first row of wall elements. At this level, the mortar to be used shall be produced by mixing 6.5-8lt water with 25 kg SetBlok glue with a low-speed mixer until a homogenous mixture is acquired. This mortar shall be left to settle for 10 minutes. Then, mixed again for 1-2 minutes before starting application. By means of a notched trowel notched shovel, the mortar is applied onto the block with a coating thickness of 1-3 mm by paying special attention to form an equal and level surface on sutures.
- Surface finishing and gauging of the wall shall be performed with care. Blocks shall be built with obfuscation.
- Wedged half block elements shall be used in a bilateral manner at surfaces which coincide with window and door sections.
- SetBlok elements shall be used at corner sections of the building for preventing occurrence of heat bridges.
- Lintels that are used over windows and doors shall be selected with correct dimensions.
- Height of non-supported wall shall not be more than multiplication of wall height by twenty. For buildings where ratio of wall height to wall thickness is more than 20; wall reinforcement or beam applications shall be used.
- In case floor height does not correspond to block height; parts which will be placed below the furnishing and/or column shall be cut by using a spiral cutting machine with a 23 caliber diamond tip. Work safety rules shall be strictly followed when cutting the blocks. In case the gaps on the top end sections are more than 1-2 centimeters, the gaps shall be filled with foam.
- As block surfaces are smooth and plastering adherence is high; no primary coating application is required before plastering process. On the other hand, scattering and meshing is advised for building integrity.

**NOTE:** Please visit our web site for application videos.

## HAND TOOLS



### Cutting Machine

You can cut the blocks in any desired dimension by using cutting machine.  
(For a rapid workmanship, this application is advised for longitudinally high wall building applications.)

### Wall Building Mortar Trowel

You can easy the application by using wall building mortar trowel.



### Mortar Mixer

Mortar mixer provides a homogenous mixing for SetBlok Mortar and water.

### Rubber Hammer

By means of rubber hammer, you can ensure correct placement of blocks during the application.



■ The tools in the pictures are provided as an example. You may contact us for SetBlok hand tool options.

## TESTIMONIALS

### BENG SU N AAT Hakan Bahadır / Senior Architect

25 years ago, when we were students in Istanbul Technical University; we have been told that German architects apply foam insulation behind two bricks. Now, I see that all these materials are produced as a mono-block with a totally environmentally production cycle which also involves recycling. I use your products in my buildings and I would like to congratulate you sincerely.

### 216 YAPI Nezaket Tosun / Architect

When we were searching for an insulated, resistant and high quality product for our buildings, we have met with Setblok, and have been using the product ever since.

### BEYZ YAPI Emre Akyıldız / Civil Engineer

We have been using SetBlok products in our construction sites. I think SetBlok will be a standard and mandatory building element in the future thanks to its ease of application and other important advantages.

### ARTHOUSE VILLA Halık Ogur / Civil Engineer

Our customers are very pleased with the performance of SetBlok, thanks to its heat insulation and high resistance. Additionally, additional advantages of SetBlok (for example, the ability to eliminate rough plastering procedures) make SetBlok products stand out from their alternatives. This is a truly interesting product with bright future.

### SAYIN N AAT Sabri Bayrak / Construction Site Supervisor

This is a truly beautiful product in terms of both aesthetics and technical properties. Its nearly 100% effectiveness, ease of application, and workmanship benefits also create an added value. I sincerely advise SetBlok to all my colleagues.

### UZUNAL N AAT Mehmet Uzunal / Construction Site Supervisor

Back then, In our previous construction projects, sound insulation was really difficult. By using SetBlok, I have solved this problem with ease. Thanks to its ease of application and other important technical properties; SetBlok wall insulation blocks will surely be my choice in my future construction projects.

### ADA N AAT Adnan Dalcalı / Company Owner – Civil Engineer

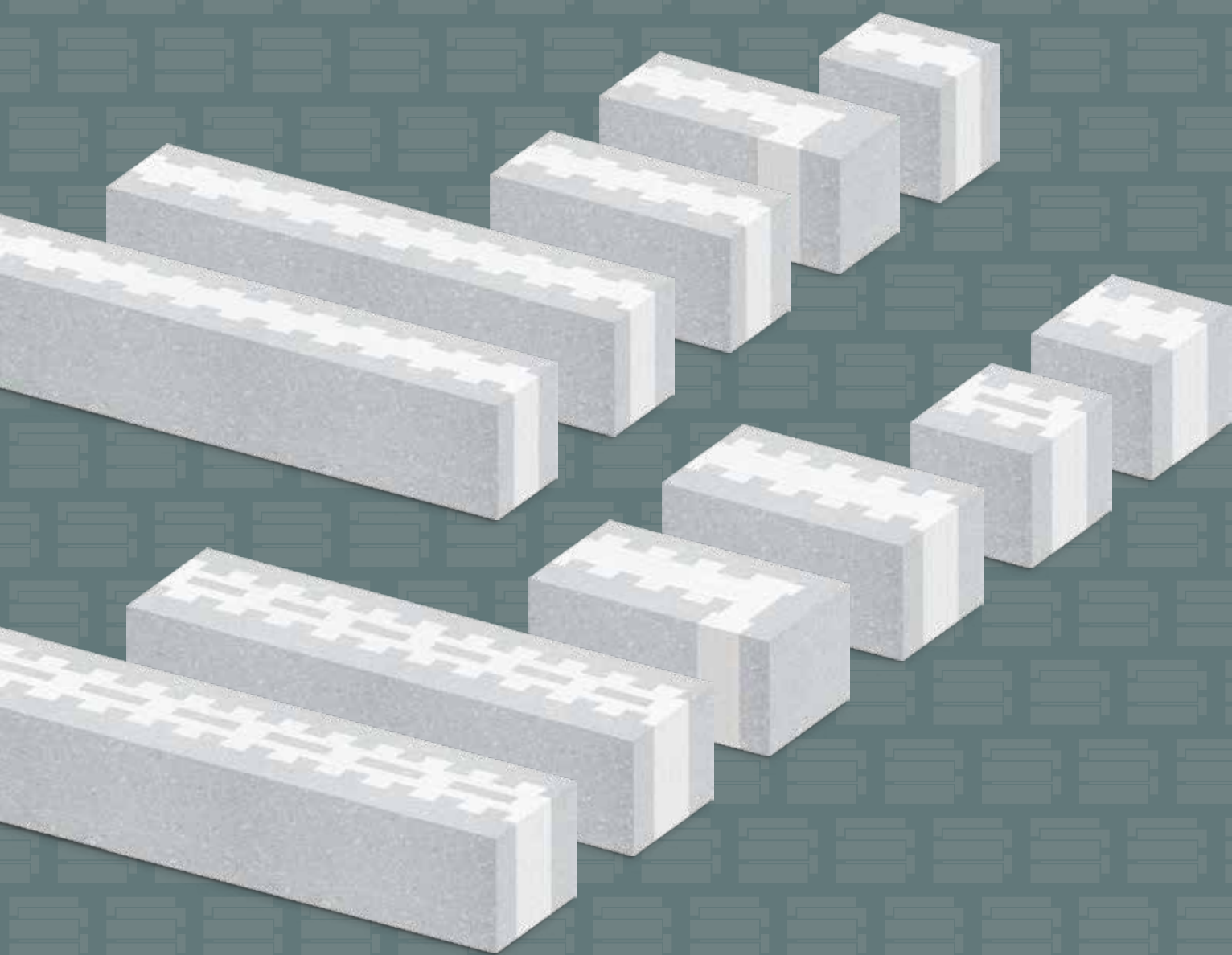
SetBlok frees us from the mandatory application of jacketing. It provides us with the option to use lesser plaster thanks to its smooth surface, and saves time for us. Additionally, absence of crinkling and surface fluctuation which are observed following additional jacketing applications and especially ease of lintel application make me very pleased with the product. This product is truly innovative with a bright future.

### KARABATAK N AAT Levent Dayanır / Construction Site Supervisor

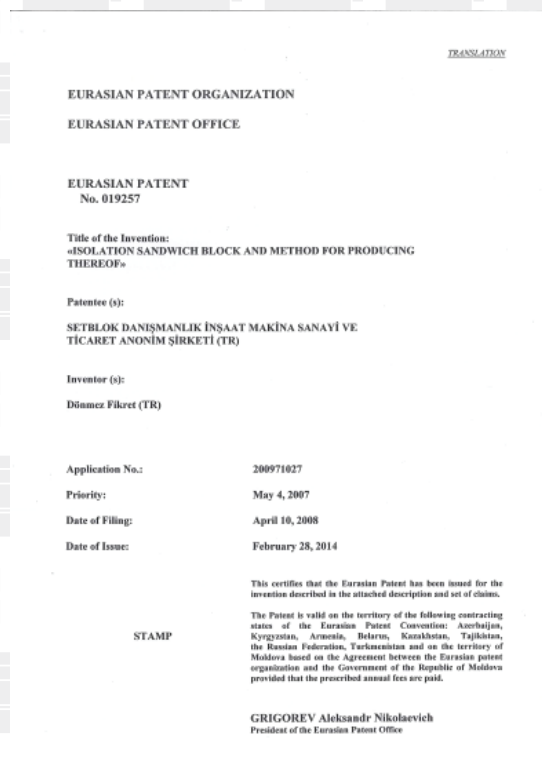
Using SetBlok has provided us with an important application time advantage. Also, it frees us from jacketing requirements and contributes to sound and heat insulation. As it eliminates rough plastering needs, we find the chance to complete the building in a shorter time. We will continue to use SetBlok in the future.

### AYTAÇ N AAT Hasan Aytaç / Company Owner

Heat and sound insulation of our buildings have become examples of an ideal building insulation in the region. Our customers have shared their satisfaction feedbacks with us. This also has served as an important promotional advantage for us. Our workers have suffered from highly lesser attrition thanks to SetBlok, when compared to conventional methods. We have saved both time and workmanship. We will continue using SetBlok in our future projects.











Choose High Technology for your Buildings,  
Defend yourself against  
Hot and Cold Weather with **SETBLOK!**  
Save On Your Power Consumption.



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