

# The New Name of Innovation İzolas PorBeton

28/07/2022



## SIGNED THE INNOVATION

Engineering and Architectural buildings are the most important cultural heritages left by humanity to future generations. For this reason, permanence and durability are important. Permanence is directly proportional to the material used. Timeless materials are of natural origin. Stone, wood, metal, plaster etc. The most important signature in history, which is the greatest representation of the rise of civilizations, is architectural and engineering structures. Because it represents the level that civilization has reached in materials, engineering science and art.

While maintaining the importance of permanence and durability in terms of the level reached by technology, numerous scientific studies have been and continue to be made in order to develop new solutions for new needs. The progress of humanity is measured in energy today. Unfortunately, as it is known that resources are not unlimited, their waste also poses a great threat to humanity.

İZOLAS PorBeton is an innovative product that saves energy and reduces the destructive forces of earthquakes in our buildings that meet the need for shelter.

## WHAT IS PORBETON?

Izolas PorBeton wall blocks provide excellent insulation with a thermal conductivity value of  $\lambda: 0.09-0.10$  W/mk. It is obtained by agglomerated with superior quality Portland, Fondue cement and metakaolin, formed with water-based polymers, inorganic additives and special machines, cured and then palletized. Izolas PorBeton wall blocks reduce the cost of plaster consumption due to smooth surface sensitivity. İZOLAS Wall Blocks have gathered all the positive aspects of other wall materials and wall panels.

It is a cement binder based, closed circuit nanopores, superior insulated and A1 class fireproof natural mineral based building wall and hollow block building block material.



İZOLAS Wall Block Industry

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## ADVANTAGES

Experience the Advantages of İzolas PorBeton...

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### Time Savings

İzolas PorBeton is light and reduces transportation costs. It can also be easily cut with a hand saw. It saves time in application.

### Thermal insulation

It offers Excellent Insulation with a value of  $\lambda: 0.09 - 0.10$  W/mK. These values, provided by the closed-circuit cellular pores, are reflected in your budget as 40% heating economy.

### Sound insulation

PorBeton offers quiet comfort. With its sound reduction coefficient up to 40 decibels, it protects you from the negative effects of noise pollution.

### Plaster

Since PorBeton Cement is binder-based, it provides very strong adhesion and adherence with both cement-based and gypsum-based plasters in exterior and interior plasters. It brings cost advantage thanks to its smooth surface stability and allowing a decrease in plaster consumption.

### Earthquake Safety

Insulation is Light, since it reduces the Self-Load of the Building by 2 times, it also reduces the Destructive Earthquake Shear force at the same rate and increases the earthquake safety of the building.

### A1-Fireproof

Izolas Por Beton is in the A1 Class non-combustible materials group. It provides the necessary protection by maintaining its function even in fires with a heating value of 1000 C for 5-6 hours.

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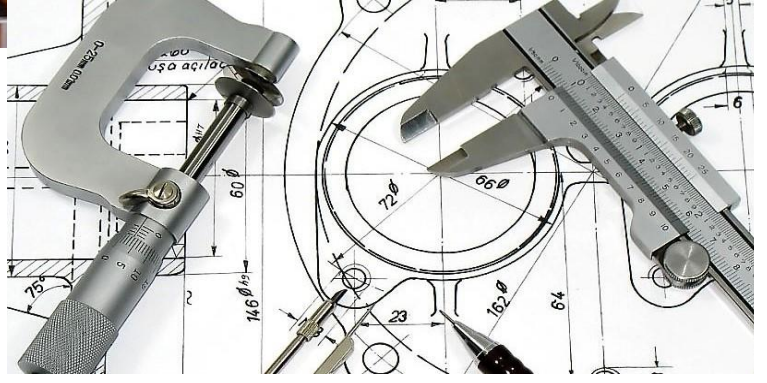
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# TECHNICAL SPECIFICATIONS



## PRODUCTION PROCESS

Izolas PorBeton is produced in accordance with CE 13655 standard. It does not leave a carbon footprint compared to other alternatives in the market. It shows very superior properties in terms of mechanical strengths (Compressive strength, tensile strength, heat insulation coefficient, etc.). While providing the same test values as gas concrete alternatives in the market, it stands out with its superior properties such as stronger adherence with plaster and lower water absorption due to the cement binder and closed-circuit nanopores in its structure.

Technical	
Ölçü Toleransı	+1 mm
Yoğunluk	400 Kg/m <sup>3</sup>
Basınç Mukavemeti	1,5 N/mm <sup>2</sup> (1,5 MPa)
Standart	CE 13 655
Ses Yalıtımı	40 Db
Buhar Difüzyonu	7 µ
Isı Geçirgenlik Direnci	λ:0,09 - 0,10 W/mK
Yangın Direnci (1,000C)	5-6 Hours
Adet Ağırlığı 20x25x40cm	8 Kg/Pc



### İZOLAS Packaging and Delivery Type :

The wood is placed on a 100x120 cm pallet in order of cutting and circled, and it is covered with PVC shirink.

Product Quantity per Unit Pallet : 1,20 m<sup>3</sup>

It is shipped to the floor with vertical boom cranes and/or carriers.

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# İZOLAS WALL BLOCKS APPLICATION GUIDE

## READY PLASTER –MORTARS- PU

İZOLAS PorBeton works with strong adhesion and adherence in full compatibility with all cement-based joint adhesives, ready-made plaster mortars and repair mortars. It is compatible with cement-based joint adhesives, as well as with gas concrete glue and special non-swelling polyurethane adhesive foam-based joint materials.



### *ADDERANCE*

Due to its cement-based binder structure, İzolas PorBeton provides adhesion with strong adherence.

### *Easy and Fast Application*



The surface should be prepared by checking whether the application surface is sound, clean and in balance. If the surface temperature is more than +25C, the surface should be wetted. 25 kg Cement-based Adhesive is mixed with 6.5 - 7 liters of water in a clean container with the help of a low-speed mixer until a homogeneous mixture is obtained. After resting for about 5 minutes, this mixture is mixed again and made ready for use.

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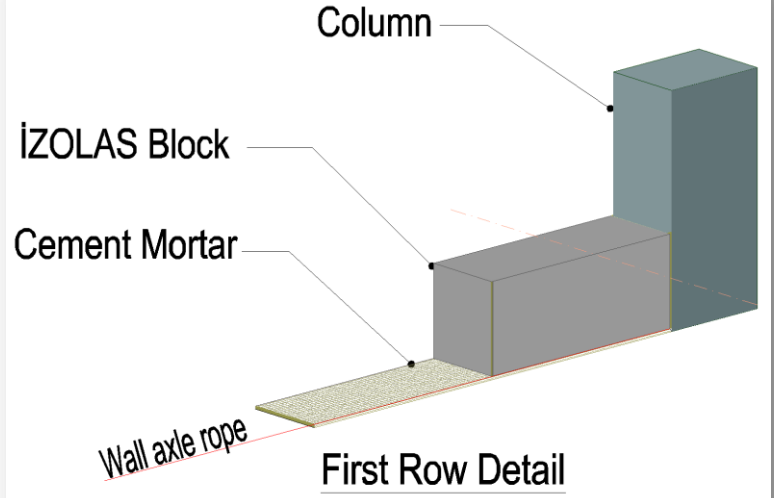
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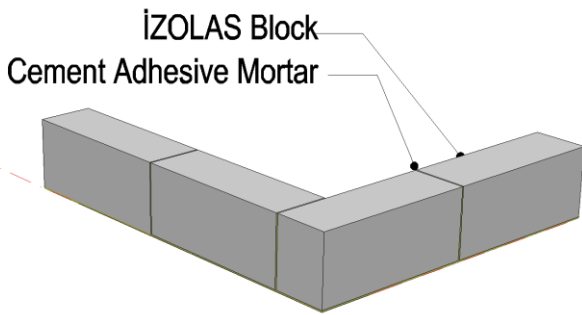
# İZOLAS WALL KNITTING APPLICATION

## FIRST ROW BLOCK KNITTING

The corner points of the area where the wall will be built are determined by pulling the axle rope, then after the floor is cleaned from dust and waste, the floor is wetted and the first row is built with a 2-4 cm thick cement and sand mixture mortar, depending on the balance. The surface of the blocks that will come into contact with the mortar should also be moistened with water. Cement adhesive mortar should also be applied to the contacting surfaces of the blocks. While the blocks are being placed, they should be placed vertically on the square, it is useful to check again with scales and squares whether there is shifting while the mortar is fresh. After the first row knitting is finished, at least 10 hours are waited for the upper rows to be knitted.



Surface cleaning is important for cement mortar bond strength..!



Corner Joint Detail

## CORNER MITER-SCALE TAKING

It should be determined that the corners of the wall are exactly square and on the balance, on each row of the wall. After the first row of the parts to be walled on each floor is laid, it should be waited for at least 10 hours for the mortar to harden. Knitting of the other rows should be continued the next day.

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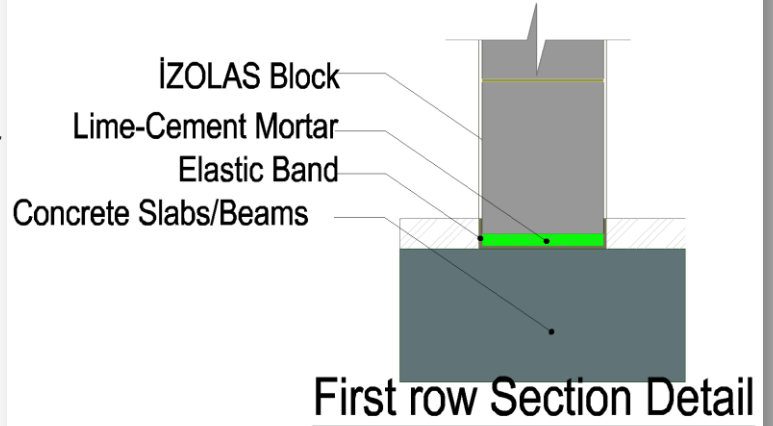
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# İZOLAS WALL KNITTING APPLICATION

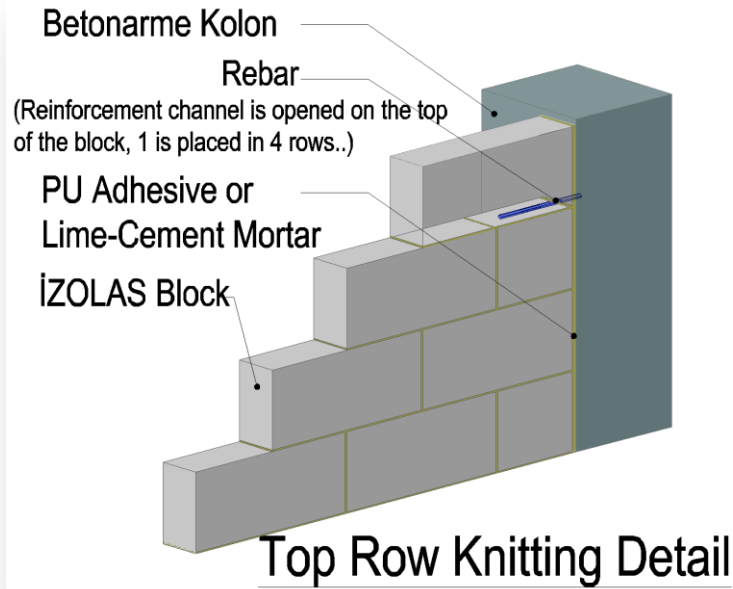
## FIRST ROW BLOCK KNITTING

Floor or beam surface should be cleaned from dust and dirt. In order to prevent moisture from advancing towards the wall, plaster and other elements with the effect of capillarity over time, the application of the elastic band is done right along the axle rope and on its balance. Then, the cement mortar is laid and the first row of İZOLAS blocks are knitted. The miter scale control must be checked against shifting from the axle.

You can also use cement-based adhesive or PU-based bonding foam in the upper row knitting application..!



Using Elastic Band It is an effective solution against capillary moisture rises..!



## TOP ROW BLOCK KNITTING

It is sufficient that the joint thickness between the blocks is between 5-6 mm, but the continuity of the joint is important. The application should be made so that there are no gaps in between. The size should be adjusted according to the lintel size and overlapping margins on the door tops. Adhesive mortar is applied as a thin layer to the side edges of the blocks and to the floor where the wall will sit. The blocks are clamped together on the plumb and balance by hammering with a rubber hammer so that the glue overflows from the joints.

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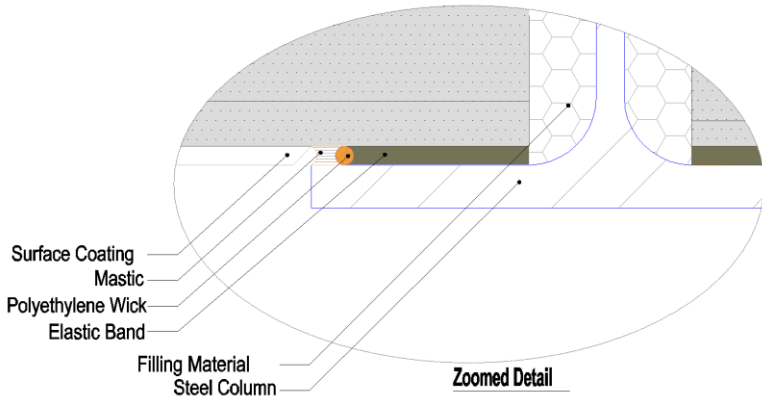
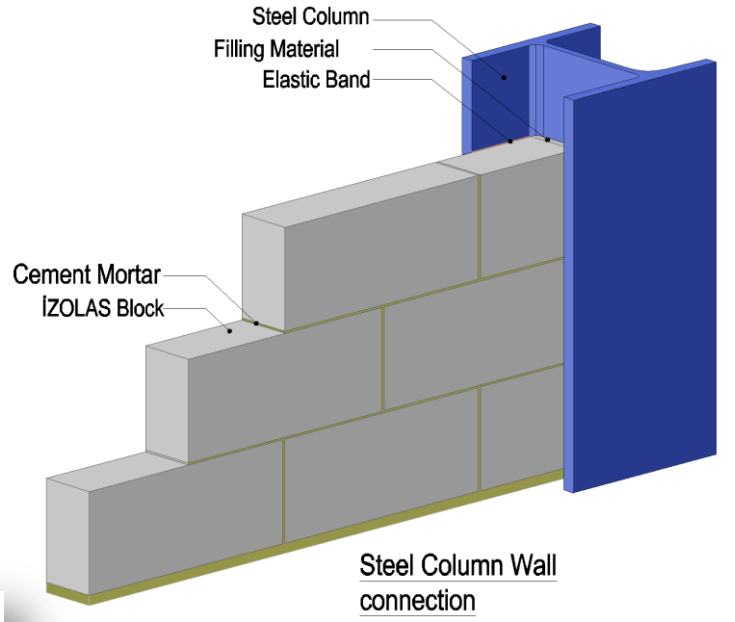
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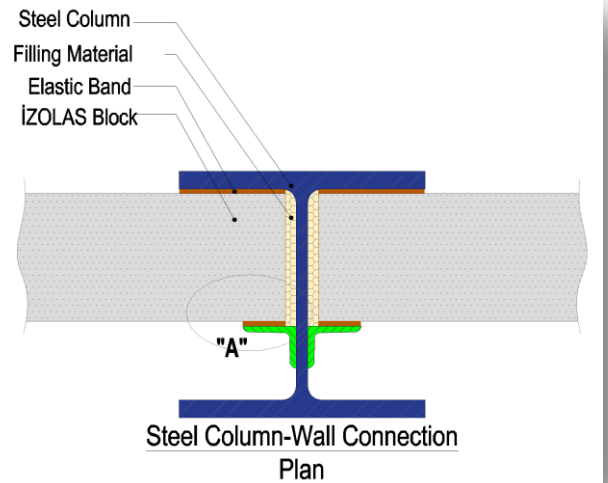
# İZOLAS WALL KNITTING APPLICATION

## STEEL COLUMN-WALL DETAIL

The ductility of structures with steel carrier system is much higher than that of reinforced concrete carrier elements. Thermal expansions are also much higher than reinforced concrete carrier elements. In the application shown in detail, the use of materials such as Polyethylene wick, Mastic, Filling material and Elastic tape arises from an indispensable need. The right application brings the right results. We recommend using materials with high fire resistance, such as rock wool, etc., as filling material.



Structures with steel carrier system are much more ductile and flexible..!



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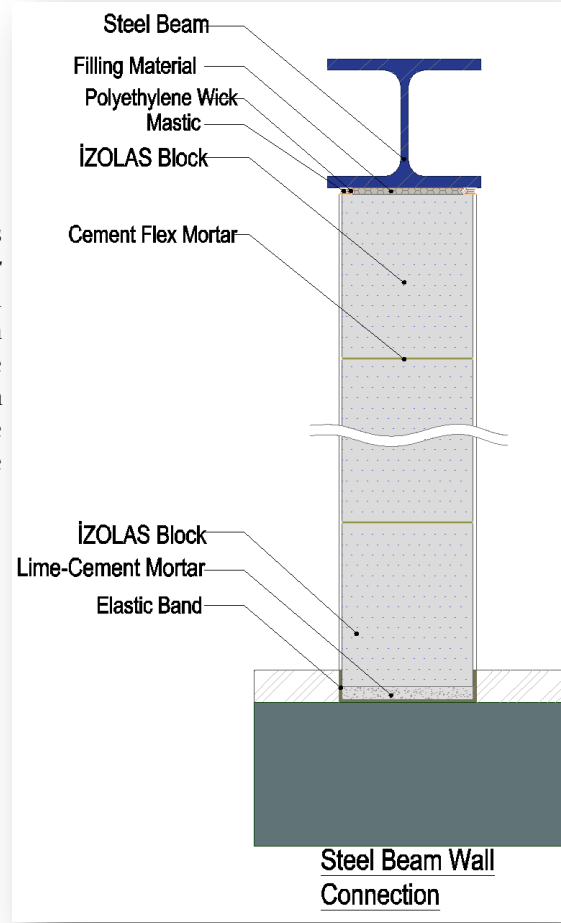
# İZOLAS WALL KNITTING APPLICATION

## STEEL BEAM-WALL DETAIL

The ductility of structures with steel carrier system is much higher than that of reinforced concrete carrier elements. Thermal expansions are also much higher than reinforced concrete carrier elements. In the application shown in detail, the use of materials such as Polyethylene wick, Mastic, Filling material and Elastic tape arises from an indispensable need. The right application brings the right results. It is recommended to use flex flexible mortars in joint and ready-made plaster applications.

**A1- Fireproof**

*İZOLAS PorBeton can resist 1,000 C fire for 5-6 hours...!*



## STEEL - ISOLAS BLOCK AND FIRE

İZOLAS Blocks provide unmatched protection to structures with Steel Construction carrier system. In addition to the superior qualities of steel structures such as earthquake, ductility and light self-loading, the most disadvantageous aspect is their fire resistance. Steel bearing elements exposed to very high heat in long-term fires reach yield stresses and are damaged under the influence of much less load + heat than the loads they normally carry. At this point, the walls applied with İZOLAS, which has A1 class incombustibility feature, take places such as elevators and fire zones under a very high fire protection.

İZOLAS PorBeton can resist fire at 1,000 C for 5-6 hours.

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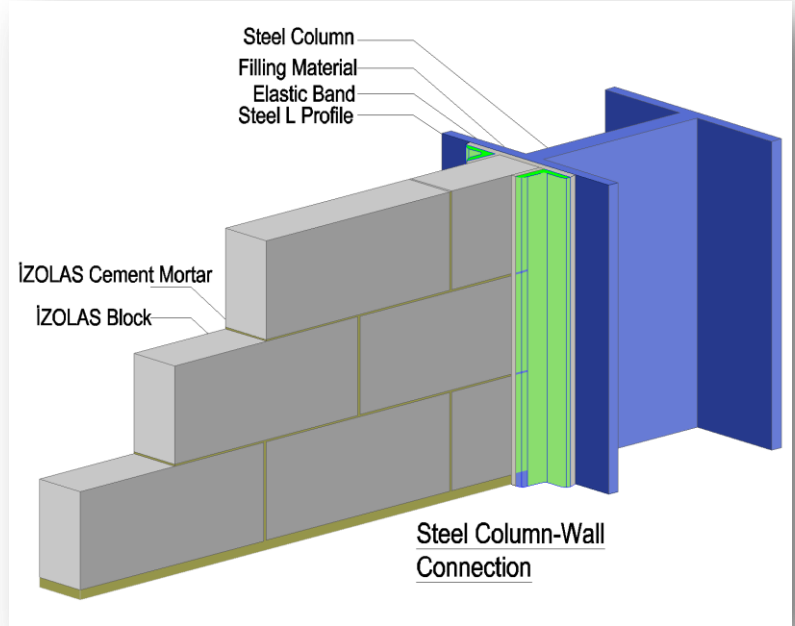
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# İZOLAS WALL KNITTING APPLICATION

## STEEL COLUMN-WALL DETAIL

The ductility of structures with steel carrier system is much higher than that of reinforced concrete carrier elements. Thermal expansions are also much higher than reinforced concrete carrier elements. In the application shown in detail, the use of materials such as Polyethylene wick, Mastic, Filling material and Elastic tape arises from an indispensable need. The right application brings the right results. It is recommended to use flex flexible mortars in joint and ready-made plaster applications. A wall-column butt joint is formed by leaving a wide angle bracket space on the steel column butt part, suitable for the selected İZOLAS block thickness. It is a type of joint equipped to reduce the effect of shear stresses.

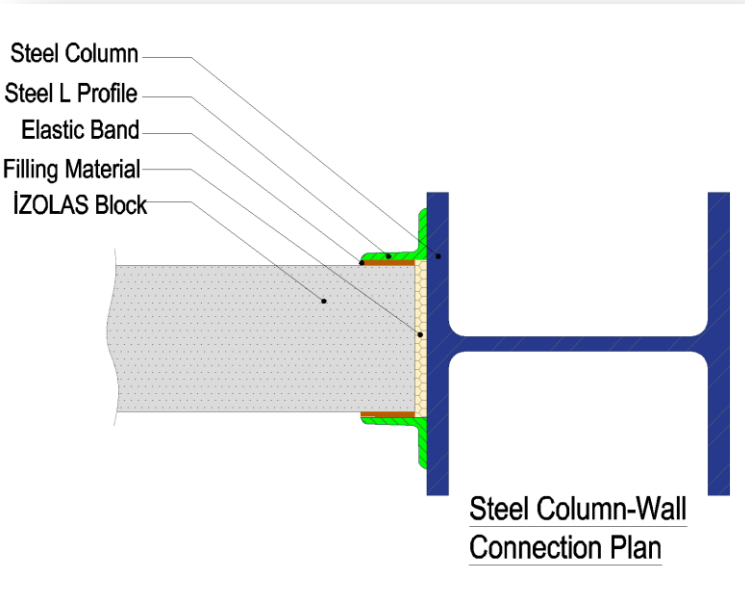


It is recommended

to use flex or polymer-added flexible adhesives in wall block building mortars in structures with steel construction carrier system!

## JOINT SECTION ADVANTAGE

The joint shown in detail restricts both the thermal expansion differences in the direction of the wall axis and the movement of the block elements under the influence of the force in the direction perpendicular to the wall axis. Thus, by reducing the stresses on the wall surface coatings, it prevents the emergence of cracks and other undesirable situations.



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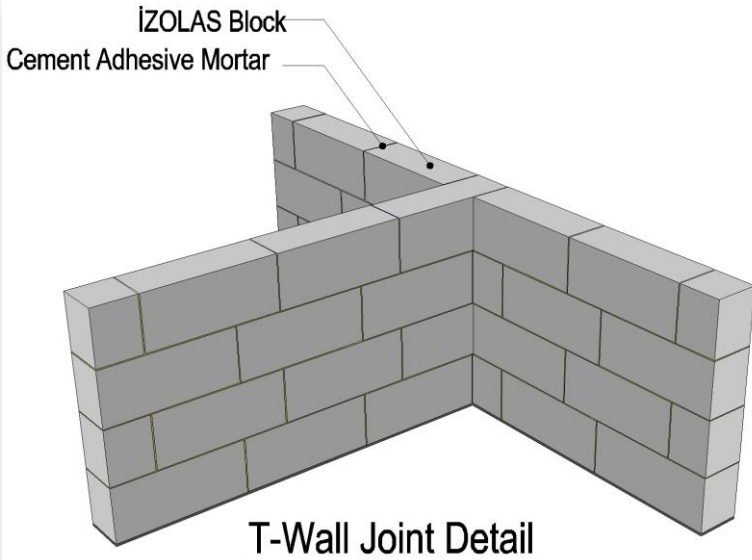
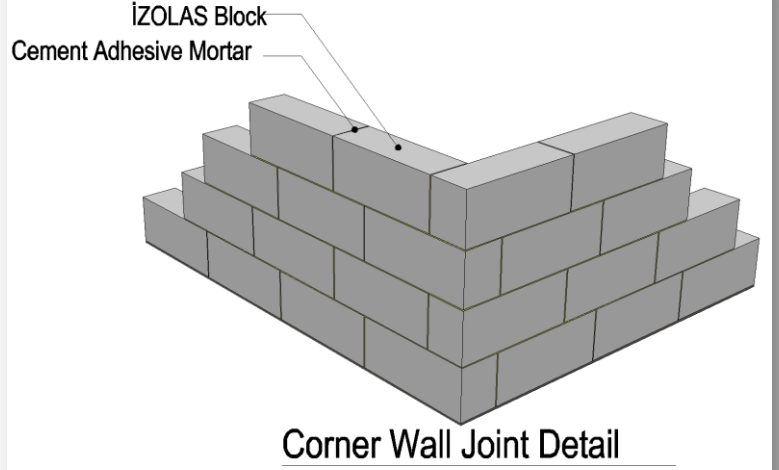
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# İZOLAS WALL KNITTING APPLICATION

## CORNER WALL APPLICATION

In corner wall applications, it is important to pay attention to the scale and miter precision and the vertical corner rope. The overlapping length of each row should be knitted at least as much as the selected İZOLAS block thickness with the scales miter control. In the vertical direction, each row should be knitted at least in accordance with the overlapping length and the staggering rule. In addition, the continuity of the bonding cement mortar should not be interrupted and no space should be given.

Vertical corner rope control is essential for accurate results as well as Scale and Miter Control in Corner and T-Wall Knitting applications.



## T WALL JOIN

In T-wall applications, it is important to pay attention to the scale and miter precision and the vertical corner rope. The overlapping length of each row should be knitted at least as much as the selected İZOLAS block thickness with the scales miter control. In the vertical direction, each row should be knitted at least in accordance with the overlapping length and the staggering rule. In addition, the continuity of the bonding cement mortar should not be interrupted and no space should be given. Hollow galvanized steel mounting plate should be used at the junction of 1 T junction in at least 3 rows.

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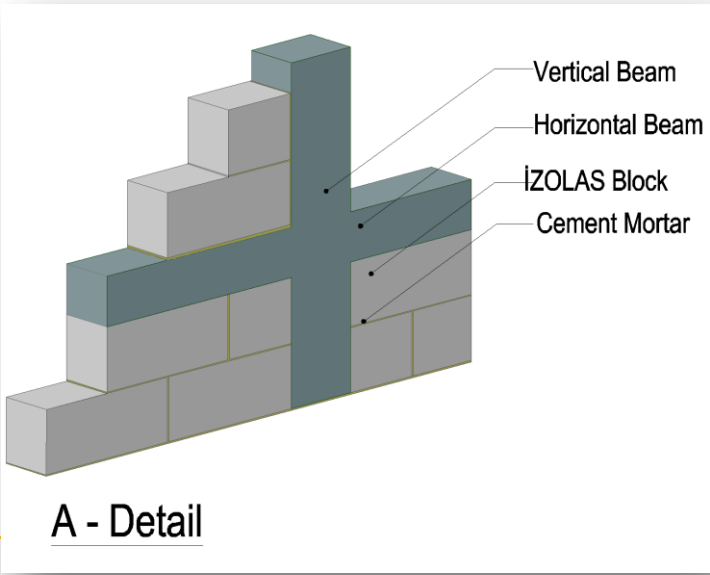
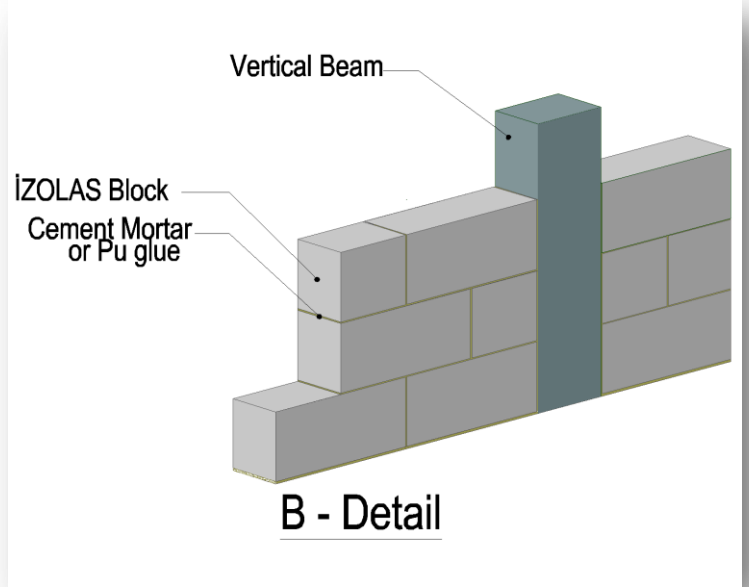
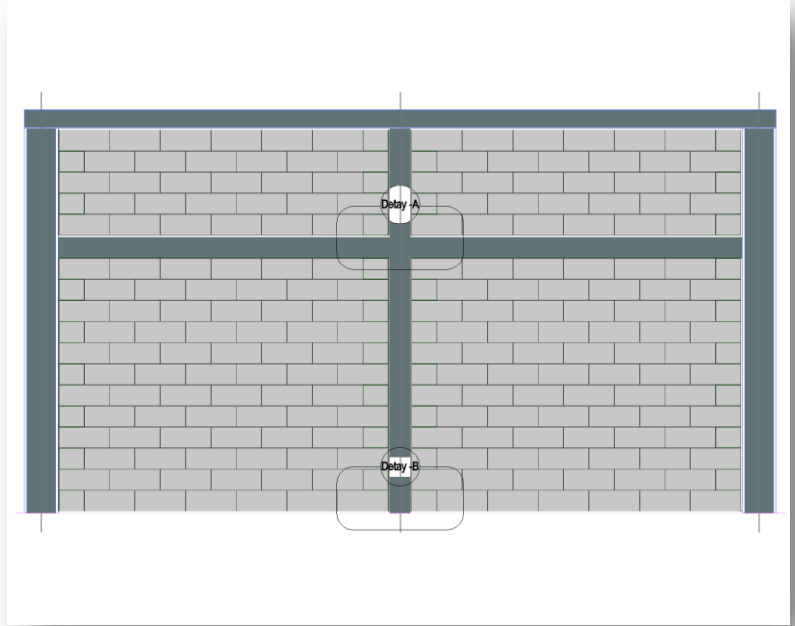
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# İZOLAS WALL KNITTING APPLICATION

## WALL-BEAD DETAILS

Vertical and horizontal beams should be created in accordance with the characteristics of the project, the floor heights determined in the project, the approved static project and the TS 2510 standard in reinforced concrete structural system structures. Section application details of the junction points shown in the İZOLAS block application, whose sample view is given on the side, are also mentioned below. Although it is generally recommended to comply with these details in practice, it is necessary to determine after the analysis according to the static calculations in accordance with the TBDY 2018 (Turkey Building Earthquake Regulation) regulation and to be applied accordingly.

Horizontal and Vertical beams should be formed in accordance with the Static Project and CE 2510 standard.



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# İZOLAS EXAMPLE APPLICATIONS

## İZOLAS YAPIYA “HAZ”

The use of İZOLAS PorBeton allows you to build structures with low self-load. Thanks to this feature, it supports smaller cross-section columns, beams and carrier systems without sacrificing the bearing capacity. It also adds speed to your master, the speed of application means 2-2.5 times higher production quantity compared to conventional vertical perforated wall elements. Thus, it makes a positive contribution to the SAFETY-COST-AESTHETIC balance based on material savings and labor.

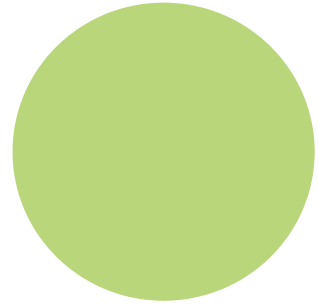
Would you like to experience this pleasure too?

We used it both in the Project and in the implementation phase, and we saw that it provides 13% reinforcement advantage in accordance with the earthquake specifications. Thank you İZOLAS

İnşaat Müh. Umut İŞIKSOLU  
Karaburun ATLAS Yapı



İZOLAS  
“Master”  
Has !



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# İZOLAS EXAMPLE APPLICATIONS

## MASTER WITH İZOLAS

The use of İZOLAS PorBeton allows you to build structures with low self-load. Thanks to this feature, it supports smaller cross-section columns, beams and carrier systems without sacrificing the bearing capacity. It also adds speed to your master, the speed of application means 2-2.5 times higher production quantity compared to conventional vertical perforated wall elements. Thus, it makes a positive contribution to the SAFETY-COST-AESTHETIC balance based on material savings and labor.

Would you like to experience this pleasure too?

Çetin İnşaat preferred İZOLAS for interior wall applications in housing projects. As can be seen in the application on the right, the 10 cm İZOLAS block was preferred instead of the Classical vertical perforated Brick, and according to the information we received from the feedback, it provided both application speed and lower cost. PROUDLY...

We have achieved great results with easy cutting, application speed and strong adherence with plaster applications originating from its cement-based structure. Thank you İZOLAS ...  
Civil Engineer. Cem ÇETİN  
Çetin inşaat Ltd. Şti.



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Has !

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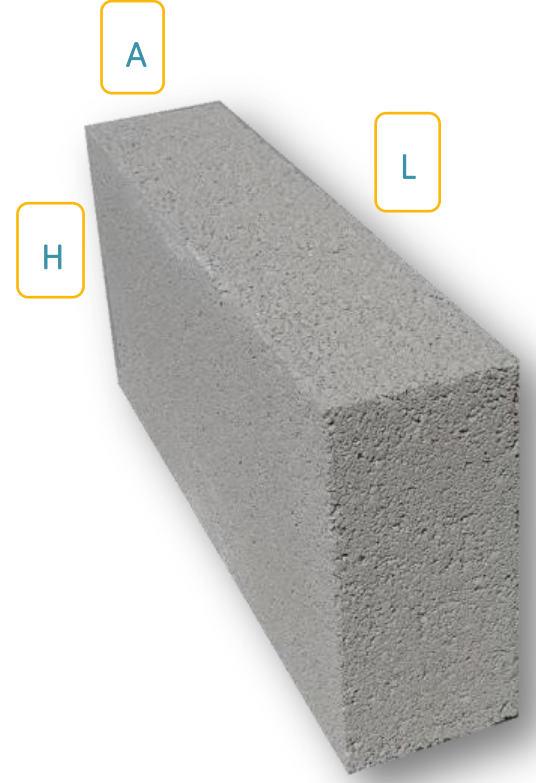
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# İZOLAS PRODUCT DIMENSIONS

## İZOLAS - DIMENSION

Product sizes -Cm				
Thickness A	Height H	Length L	Density Kg/m <sup>3</sup>	Unit weight -Kg
10	25	40	390	4
15	25	40	390	6
17,5	25	40	390	7
20	25	40	390	8



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# İZOLAS

## İZOLAS FROM THE GALLERY

The use of İZOLAS PorBeton allows you to build structures with low self-load. Thanks to this feature, it provides economy and speed. Recovers from loss of fire.



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