

OPERATIVE ASSEMBLY MANUAL



ISOTEX,
THE CONSTRUCTION SYSTEM THAT COMBINES
QUALITY, SAFETY, SPEED OF INSTALLATION
AND COST REDUCTION



BUILDING SYSTEM
ISOTEX[®]
Wood-cement Blocks and Floor Slabs

★ ★ ★ ★ ★
EUROPEAN LEADER
FOR OVER 35 YEARS
★ ★ ★ ★ ★

BUILDING SYSTEM
ISOTEX[®]
Wood-cement Blocks and Floor Slabs

THE CONSTRUCTION SYSTEM WHICH MARRIES REINFORCED CONCRETE, THE MOST SOLID STRUCTURE, WITH MINERALIZED WOOD, A NATURAL MATERIAL FROM A THOUSAND RESOURCES.



The Isotex establishment

In 1985, ISOTEX started to produce and market wood-concrete blocks in Italy, after this construction system had been already used in Germany since 1946.

From that day on, some 400.000 dwellings have been built with ISOTEX all over Europe, of which some 90.000 in Italy alone, meeting with the approval of specialists, builders and end users.

1976



The Nurnberg Building

1985



The residential district of Fidenza (PR)

2004



The Capo Coda Cavallo Hotel Project (NU)

2019



Multi-floor buildings in Bologna



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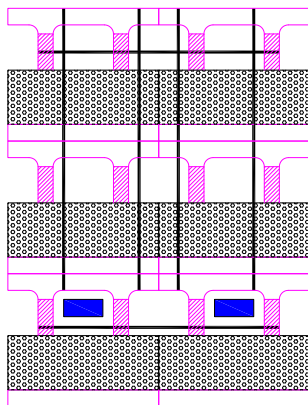
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CORRECT TRANSFER OF PACKS FROM THE VEHICLE TO THE GROUND

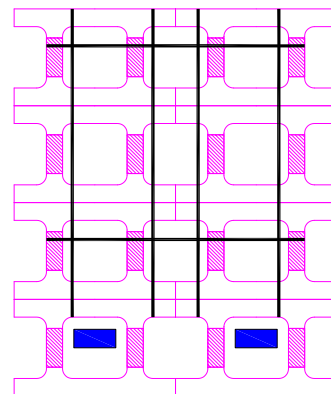
1. The packs are transferred one at a time, using equipment and procedures in full compliance with current applicable Standards on safety;
2. The packs are moved by insertion of the appropriate equipment into the first row of blocks through the whole depth of the pack itself (see figure);
3. The movement is carried out while avoiding brusque and sudden displacements;
4. The packs are rested on the ground, on a flat surface without changes of level or roughness;
5. Do not stack more than 2 packs on the ground;
6. Movement of packs on the ground within the yard must comply with the safety provisions of Legislative Decree 81/2008 - Heading IV;
7. Before moving the packs, check that the supports are in good condition.

CORRECT POSITION FOR UNLOADING

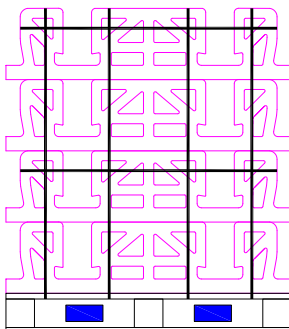
PACK OF "HDIII WITH INSULATOR" BLOCKS



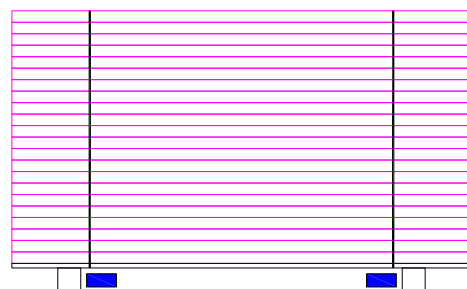
PACK OF "HB/HD WITHOUT INSULATOR" BLOCKS



PACK OF BLOCKS ON PALLET "CORNER BLOCK - ANGLED AS REQUIRED - FLOORING PANEL ELEMENTS"



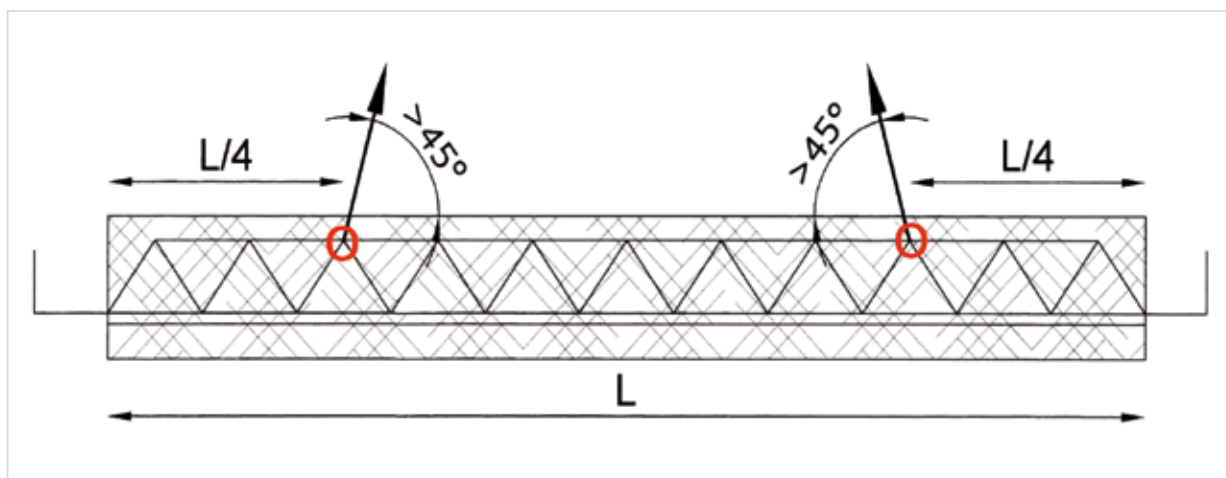
PACK OF PANELS



MOVEMENT OF FLOOR SLABS

The lifting points of flooring panels are identified in red on the panels themselves, and lifting must be carried out with four chains of suitable length (as in the illustration).

Movement operations must always comply with current applicable safety Standards.



STANDARD BLOCKS (NS)



Block HB 20



Block HB 25/16



Block HB 30/19



Blocco HB 44/15 - 2



Block HDIII 30/7 graphite
Neopor® BMBcert by BASF
(Low carbon footprint)



Block HDIII 33/10 graphite
Neopor® BMBcert by BASF
(Low carbon footprint)



Block HDIII 38/14 graphite
Neopor® BMBcert by BASF
(Low carbon footprint)



Block HDIII 44/20 graphite
Neopor® BMBcert by BASF
(Low carbon footprint)



Ventilate Block HDIII 44/11 graphite
Neopor® BMBcert by BASF
(Low carbon footprint)

SPECIAL BLOCKS AND COMPLEMENTARY BLOCKS



PASS block of 30 - 33 - 38 - 44 cm



Shoulder block of 38 - 44 cm



Universal block (UNI)
of 38-44 cm for external corners



Universal block (UNI) of 30-33 cm
for external corners and shoulders



Block for internal corners
of 30-33-38-44 cm



Wall pillar block of
33 cm section CLS 25x38 cm
*38 cm section CLS 30x38 cm
*44 cm section CLS 33x39 cm

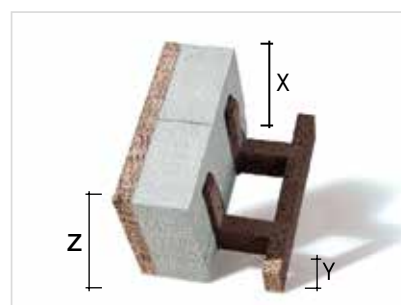
*Possibility of inserting 5 cm insulator
 **Possibility of inserting 8 cm insulator



Half block shoulder of 44 cm



Block with angle at will
of 25-30-33-38-44 cm
(special blocks)



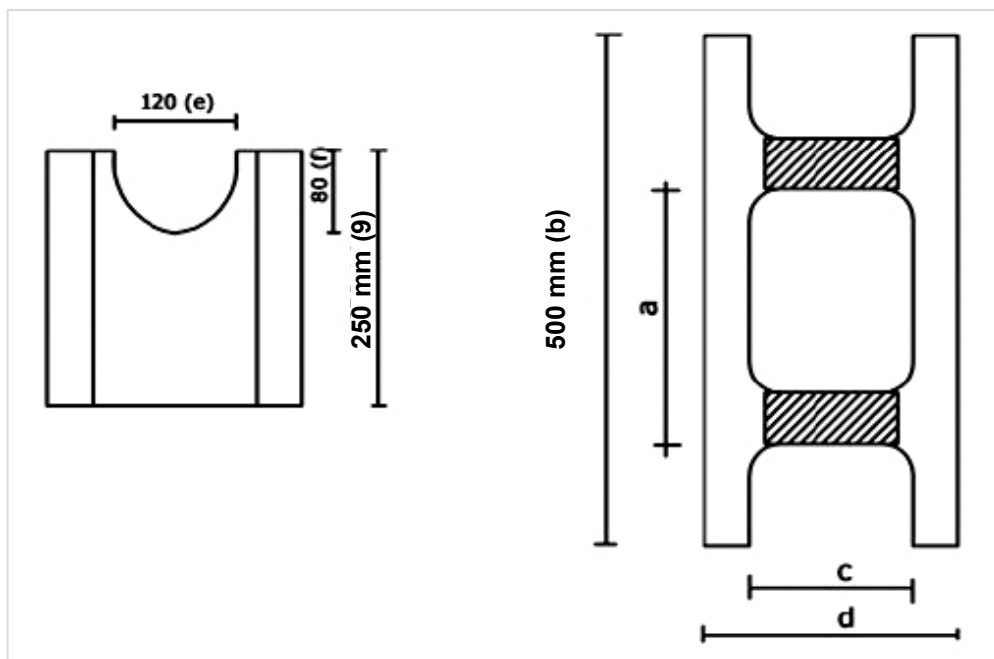
Correa slab block
x = as required
y = as required
z = x + y
(special blocks)

BLOCK DIMENSIONS AND TOLERANCES

PLEASE NOTE: all Isotex blocks are 500 mm length and 250 mm high. 1 square meter corresponds to 8 blocks

Length (b) and width (d) ± 5 mm
Height (G) ± 2 mm

Holes for concrete + 5 mm/ -2 mm
Horizontal lunettes (e-f) + 10 mm/ -3 mm



CUTTING OF BLOCKS

The blocks are easily cut using the following devices which will attach as utensils to the Widia tool:

- a. Multifunction saw;
- b. Band saw;
- c. Electric chain saw;
- d. Other appropriate equipment.

a.



b.



c.



METHOD FOR REQUESTING MATERIAL

- Applications for material must be forwarded by fax or e-mail at least 5 working days before the consignment date.
- Un an articulated lorry carries 52 packs
- A lorry carries 24 packs

BLOCKS WITHIN A PACK

• QUANTITY (in m²) OF BLOCKS WITHIN A PACK:

- 1 pack of 20 cm blocks measures 6 m²
- 1 pack of 25 cm blocks measures 5 m²
- 1 pack of 30 cm blocks measures 4 m²
- 1 pack of 33 cm blocks measures 4 m²
- 1 pack of 38 cm blocks measures 3 m²
- 1 pack of 44 cm blocks measures 3 m²

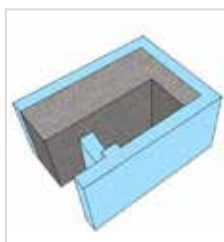
BLOCK PALLETS

• PACKS OF BLOCKS ARE SUPPORTED ON:

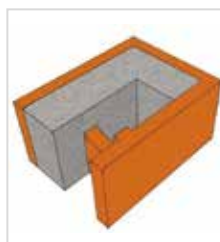
PASS blocks
 (length 45-42-37-31
 cm) = green supports



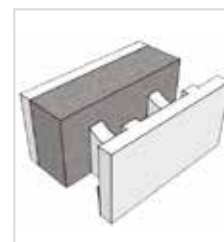
SHOULDER blocks
 (for doors and windows)
 = blue supports



UNI blocks
 (for corners) =
 orange supports



NS (standard) blocks
 = black supports



Please note: NS (normal) blocks of 33 cm = white or white/black supports

SLABS ON ARTICULATED LORRY

• ON AVERAGE, AN ARTICULATED LORRY CAN TRANSPORT:

- S20 SLAB = 170 ÷ 180 m²
- S25 SLAB = 160 ÷ 170 m²
- S25 + 5 SLAB = 140 ÷ 150 m²
- S39 SLAB = 110 ÷ 120 m²

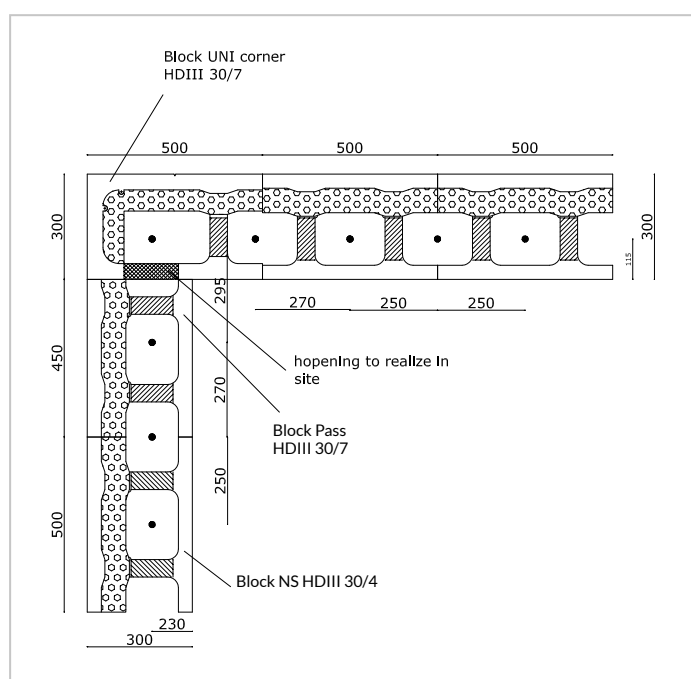
CORNER DETAIL HDIII 30/7

In corners with blocks of 30 cm thickness, the 45 cm PASSES are used, which are positioned on the side of the 30 cm UNI to carry the 25 cm module ($30+45=75$ cm). Subsequently, on both ends of the wall, 50 cm long blocks are laid.

The UNI is positioned in the subsequent course in order to cross and tie the corner in well, repeating the operation as above (45 cm block in

the direction of the 30 cm thickness of the UNI block). Before positioning the UNI blocks, an aperture must be created in the internal part of the block to allow for connection of the horizontal reinforcement and the concrete, to the size of the lunettes of normal blocks.

The packs of 45 cm PASS blocks have green supports.



The reinforcements drawn are indicative. Refer to the final drawings of the structure designer to specific situations.

The reinforcements shown in the following construction details refer to areas with high seismic risk.



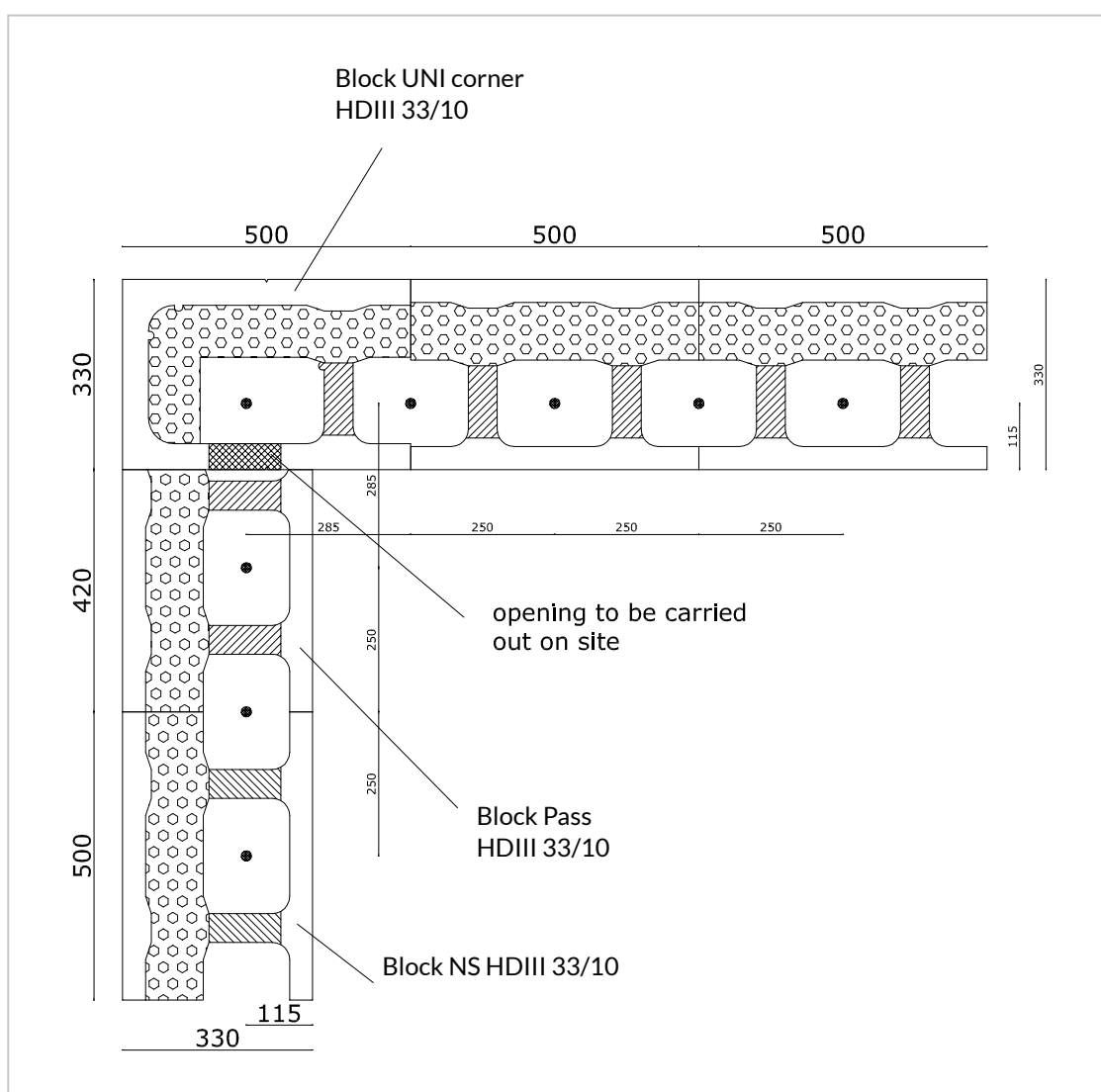
CORNER DETAIL HDIII 33/10

In corners with blocks of 33 cm thickness, the 42 cm PASSES are used, which are positioned on the side of the 33 cm UNI to carry the 25 cm module ($33+42=75$ cm). Subsequently, on both directions of the wall, 50 cm long NS blocks are laid.

The UNI is positioned in the subsequent course in order to cross and tie the corner in well, repeating the operation as above (42 cm block in the di-

rection of the 33 cm thickness of the UNI block). Before positioning the UNI blocks, an aperture (similar to the size of the lunettes of normal blocks) must be created in the internal part of the block to allow for connection of the horizontal reinforcement and the concrete.

The packs of 42 cm PASS blocks have green supports.



The drawn reinforcements are indicative. Refer to the final drawings of the structure designer to specific situations. **The reinforcements shown in the following construction details refer to areas with high seismic risk.**

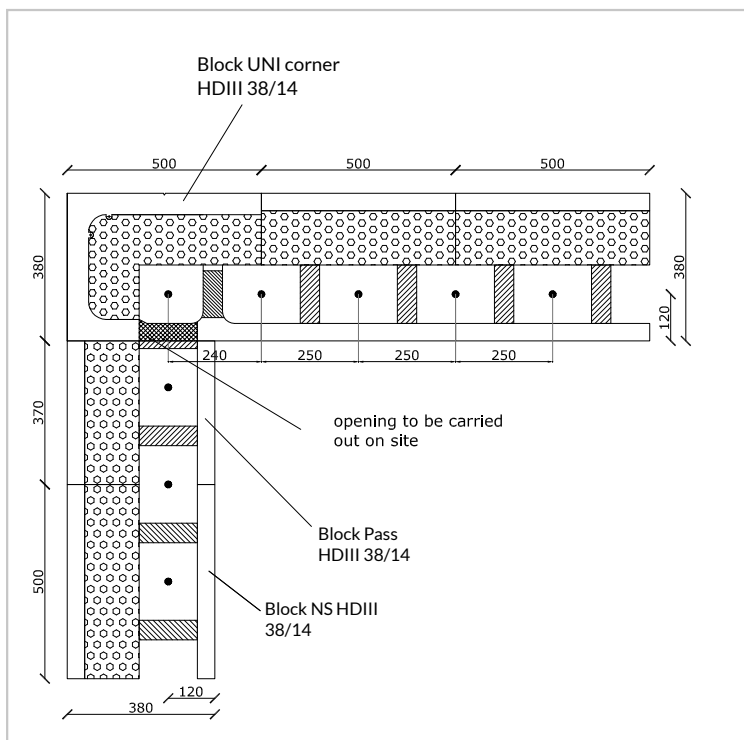
CORNER DETAIL HDIII 38/14

In corners with blocks of 38 cm thickness, the 37 cm PASSES are used, which are positioned on the side of the 38 cm UNI to carry the 25 cm module ($38+37=75$ cm). Subsequently, on both directions of the wall, 50 cm long NS blocks are laid.

For the subsequent course, the UNI block must

be turned over and laid in the opposite sense to the course below it. In making corners with 25 cm thick blocks, it is not necessary to use PASS blocks because the module remains at 25 cm ($25+50=75$ cm).

The packs of 37 cm PASS blocks have green supports.



The drawn reinforcements are indicative. Refer to the final drawings of the structure designer to specific situations.

The reinforcements shown in the following construction details refer to areas with high seismic risk.

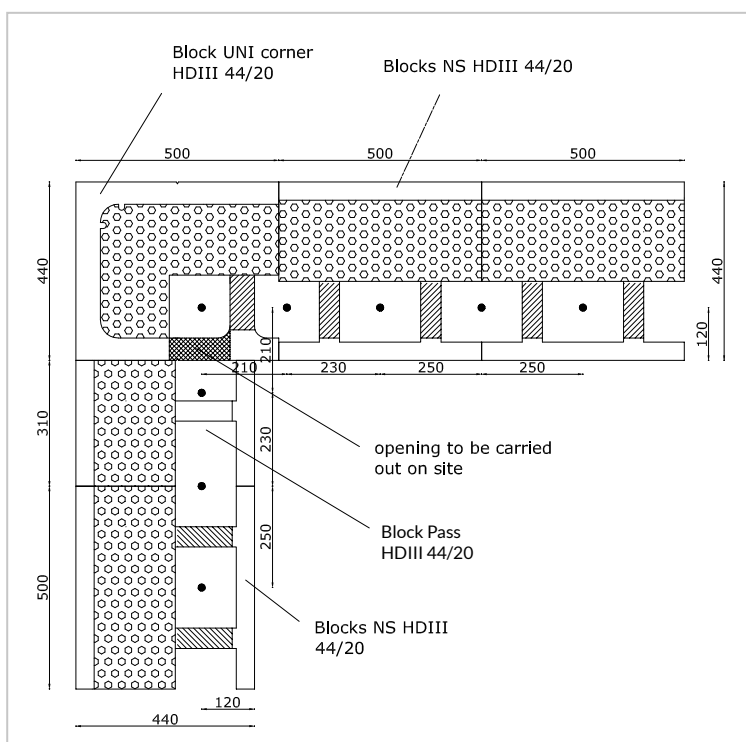


CORNER DETAIL HDIII 44/20

In corners with blocks of 44 cm thickness, the 31 cm PASSES are used, which are positioned on the side of the 44 cm UNI to carry the 25 cm module. On the side of the 50 cm UNI, after having placed the 31 cm PASS on the 44 side, continue with a 50 cm long block.

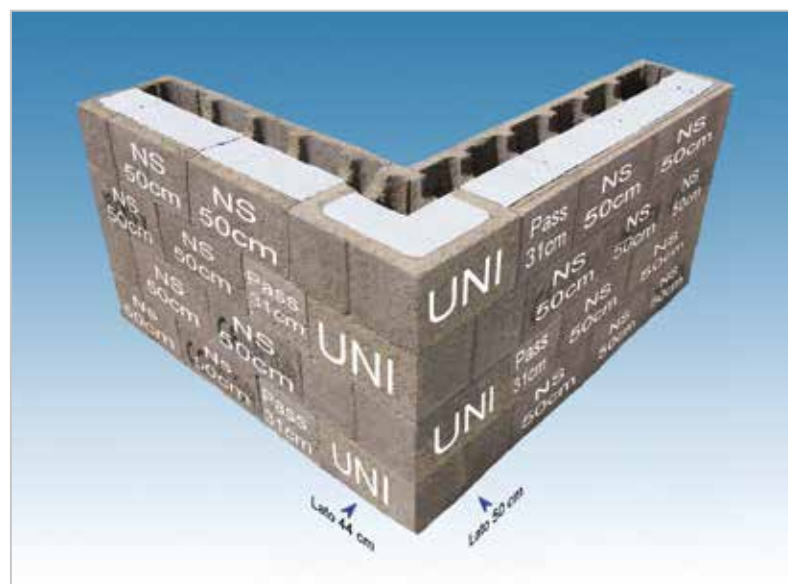
For the subsequent course, the UNI block must be turned over and laid in the opposite sense to the course below it.

The packs of 31 cm PASS blocks have green supports.



The drawn reinforcements are indicative. Refer to the final drawings of the structure designer to specific situations.

The reinforcements shown in the following construction details refer to areas with high seismic risk.

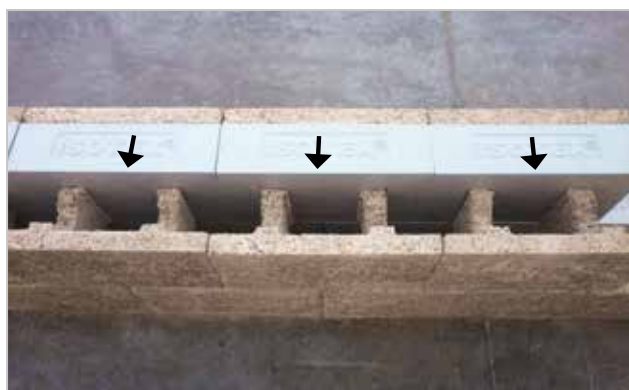


QUALITY CONTROL WHILE WORKING FOR THE LOCATION OF THE REINFORCEMENT



Location of the individual horizontal bars:

Rest the individual horizontal bars in the lunettes with spacers at every course of blocks. Overlapping must be 50% greater than that required by current applicable technical Standards.



Location of the vertical bars:

Position the vertical bar into the central position of the pillar, aligned with the vertical mark inscribed on the polystyrene, which operation is carried out at the same time as pouring the concrete. The above note on overlapping is also valid in this case.



Location of the horizontal bars:

In the event that double horizontal bars should be required, locate the same in the lunettes with distancers, fixed to the blocks with screws. The above note on overlapping is also valid in this case.

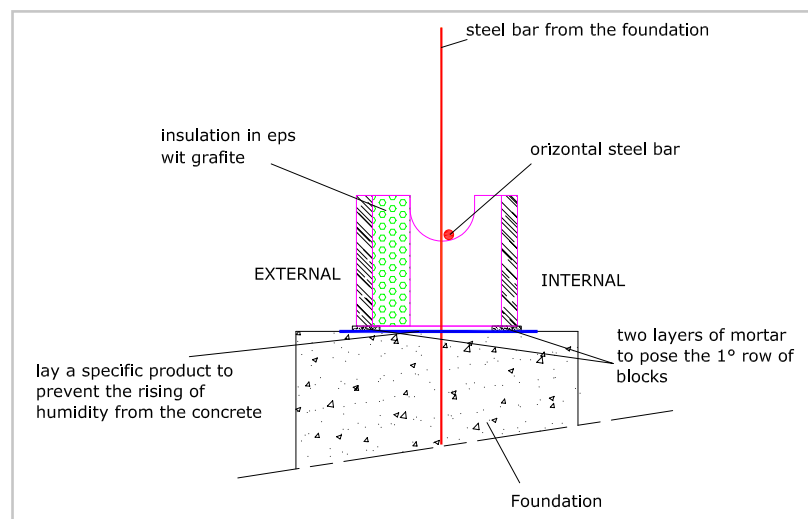
CORRECT LAYING OF THE FIRST COURSE

While laying the foundations, insertion of the vertical reinforcement should be taken into account with a width of 25 cm (the width of the hole in blocks).

The anchoring length conforming with technical standards must be indicated by the designer. The other possibility, once the foundation has been laid, is the insertion of this vertical reinforcement with resin on the first course of blocks laid (on the indication of the structure's designer).

Laying of the first course is carried out onto

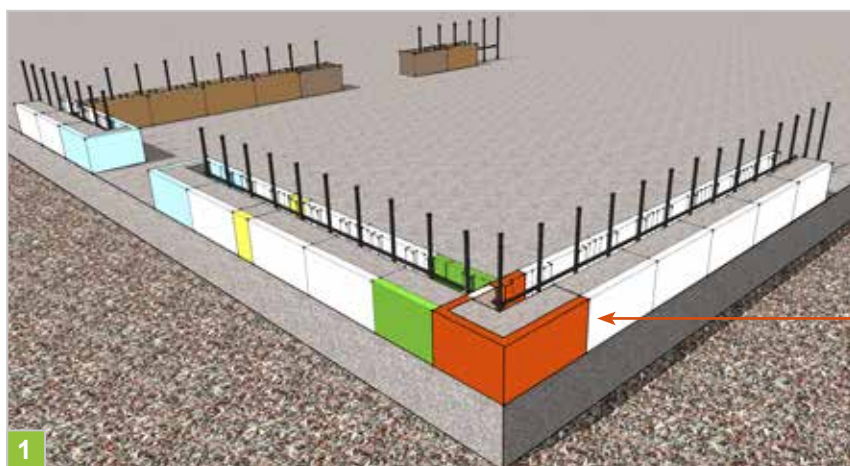
two layers of mortar positioned only in correspondence with the walls of the blocks in order to achieve a good level (use of a spirit level is advised). A layer of mortar over the whole width of the block is to be avoided. The mortar has a much lower resistance to compression to that of the concrete $R_{ck} \geq 30 \text{ N/mm}^2$. Position the corners with a plumb line and stretch the line between them. While laying the blocks, it is important to keep to the distance from the line to guarantee not straying from the vertical, the horizontal line of the courses and levelness.



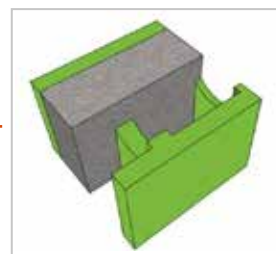
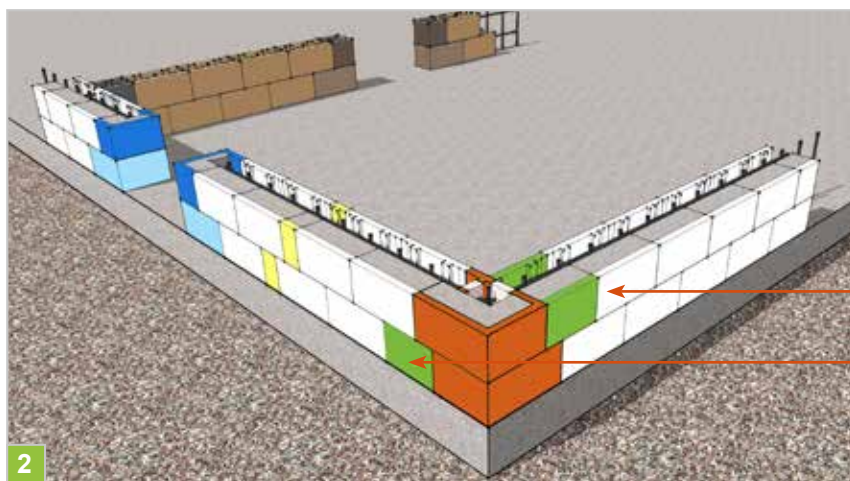
CORRECT LAYING OF SUBSEQUENT COURSES

Arranged well at the level of the first course, starting from the corner blocks (UNI), we proceed with the laying of the subsequent courses completely dry having the foresight to keep the blocks

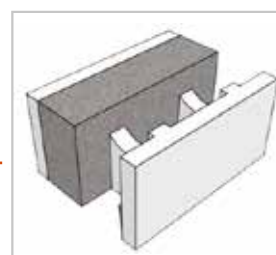
tightly closed to avoid thermal and acoustic bridges. In this way, given the precision of the blocks, the use of insulating foams is avoided which ISOTEX does not recommend the use of.



UNI Block (corner)



PASS Block



NS Block (Standard)

CORRECT LAYING OF SUBSEQUENT COURSES

It is very important to stagger subsequent courses by half a block, using the special pieces in order to obtain the maximum volume to concrete within the forms, as is necessary to achieve the wall's load bearing capacity.

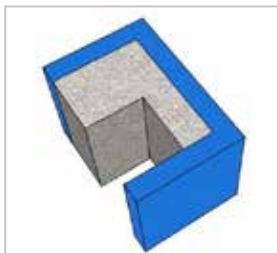
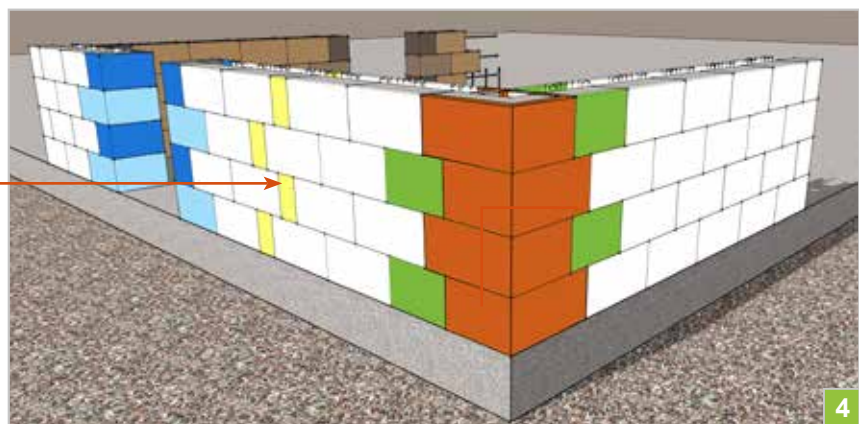
The blocks are always laid with the lunettes facing upwards, for connection of the reinforcement and the concrete. The parts with insulation towards the outside (see the illustration on page 15) and any necessary cut to the block for building the wall to

the design measurements, is done at the centre of the wall. The cut is kept in the same position over subsequent courses to avoid staggering of the pillars within the blocks, with the consequent reduction of load bearing and the difficulty of filling the forms with concrete.

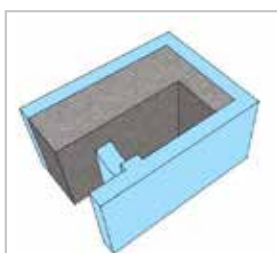
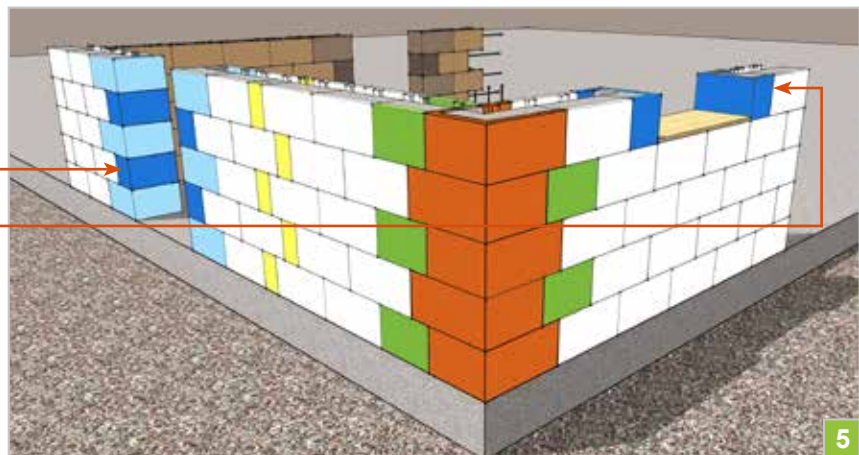
The horizontal reinforcement will be inserted into the appropriate block lunettes at every course, taking care to safeguard the reinforcement cover (see the photo on page 12).



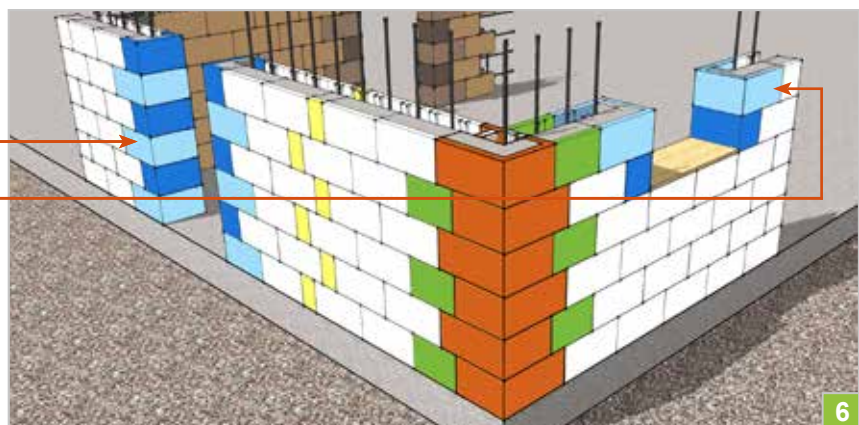
NS Block to be cut to correct size on building site



Half SHOULDER Block to be cut on building site



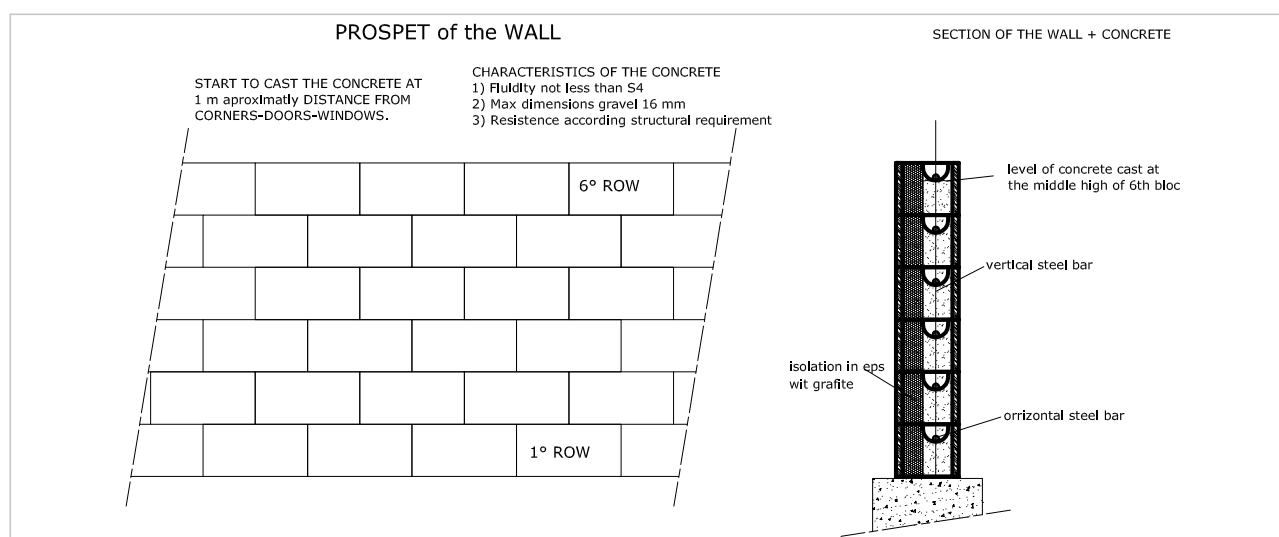
SHOULDER Block



PROCEDURE FOR POURING THE CONCRETE

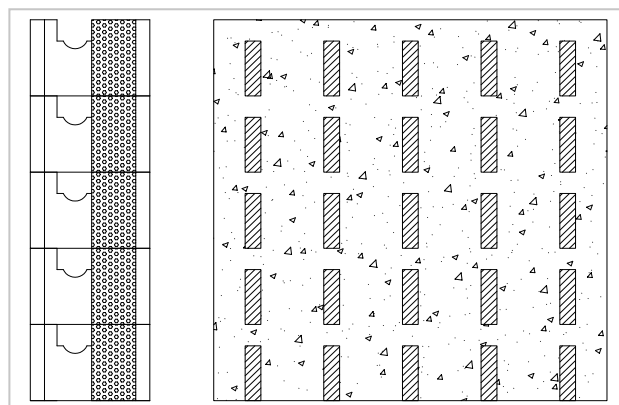
Having reached a height of 6 courses, equivalent to 1.5 m, complete refilling of the walls with concrete is carried out, possibly by bucket or pump, taking care not to apply excessive pressure which might shift the alignment of the blocks. The concrete must

have a class of consistency (fluidity) of not less than S4 with a class of resistance taken from the calculated requirements and the granulometry of the aggregates (<16 mm), in order to ensure a complete filling of the blocks.



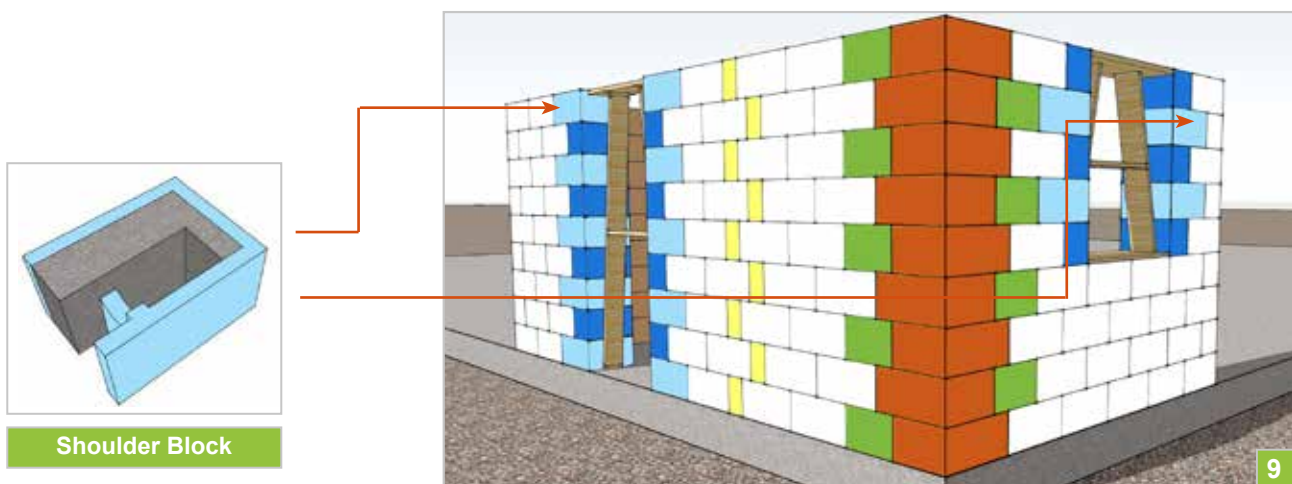
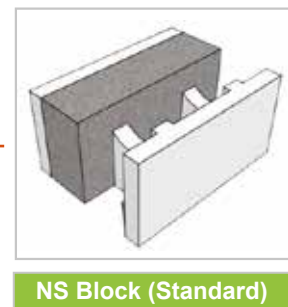
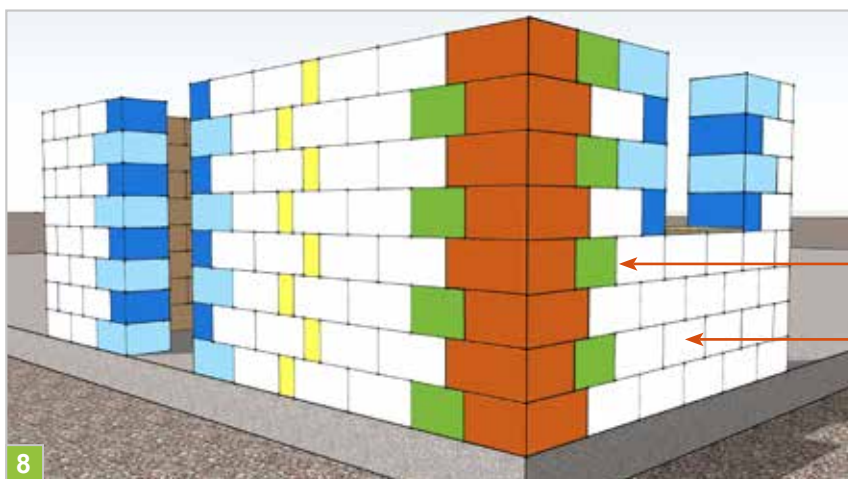
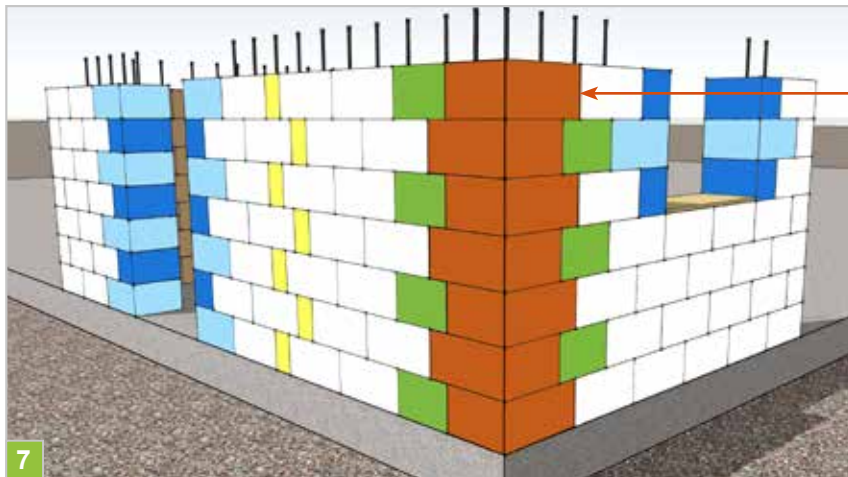
It is essential to start filling the perimeter walls with concrete at a distance of approximately one metre from the corners as well as the door and window shoulders, in order that the concrete, passing from the block lunettes, applies a lesser pressure and thereby does not shift the blocks. Having completed the perimeter walls, the internal walls are then filled.

At the first pouring of the 6 courses, it is very important to keep the concrete level at mid-level of the sixth course. Subsequently, insert the vertical reinforcement to a height of 2 m, inserting it at the centre of the pillar at the same time as the pour (see the photograph on page 11), and vibrate this last with a small bodkin to ensure filling the walls.

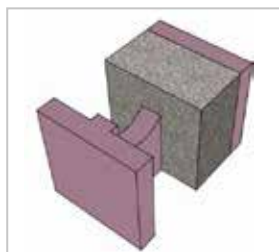


Distribution of the concrete within the blocks.

CORRECT LAYING OF SUBSEQUENT COURSES



CORRECT LAYING OF CORREA BLOCK AND LINTEL FOR DOORS AND WINDOWS



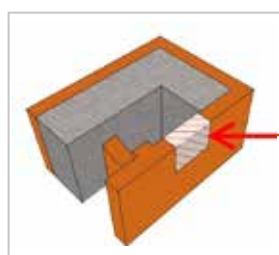
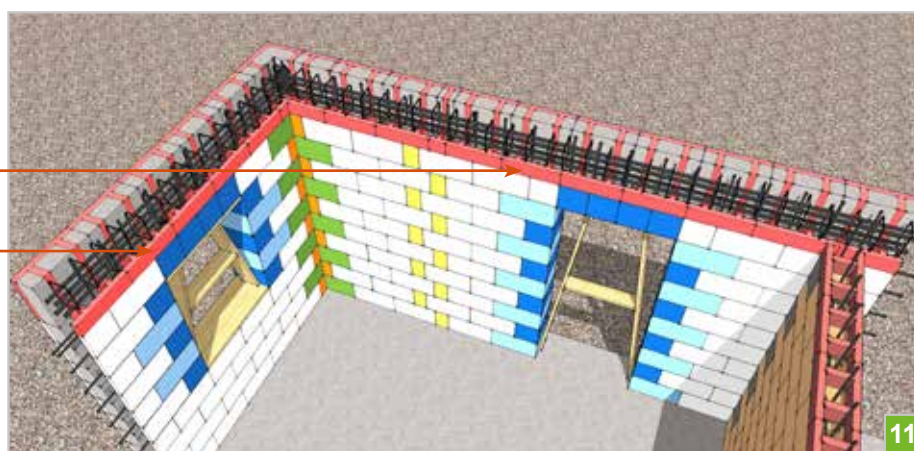
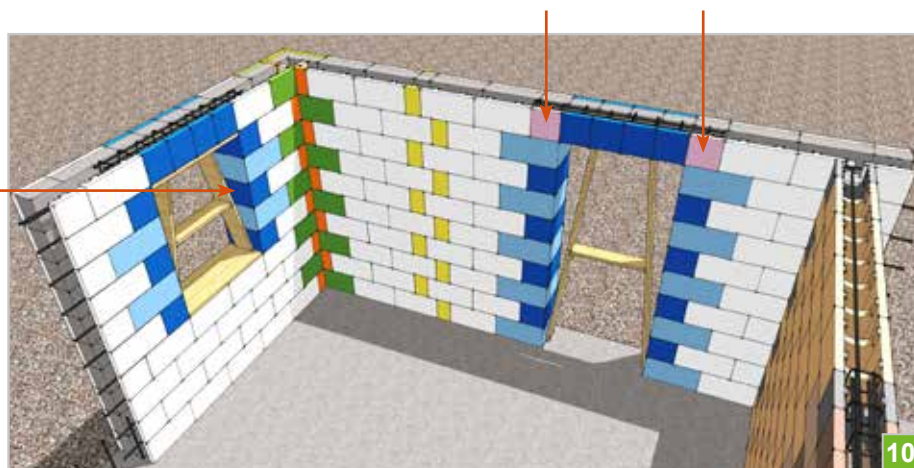
Half NS Block to be cut on building site



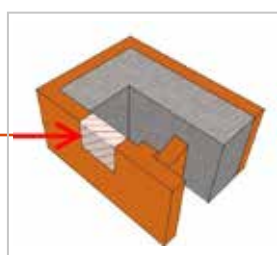
Half shoulder Block to be cut on building site



CORREA Block



Course corners
1-3-5-7-9



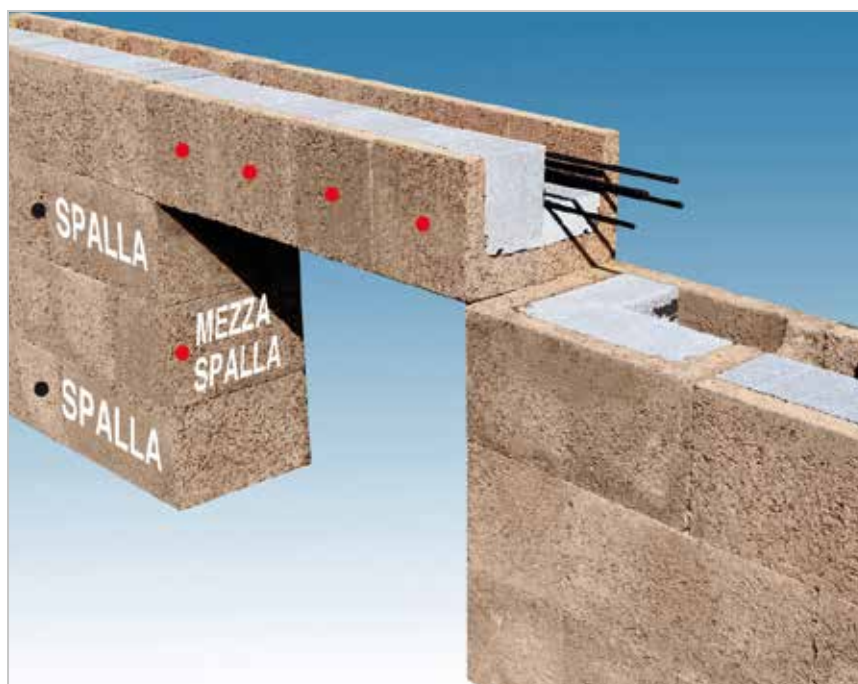
Course corners
2-4-6-8-10

CORNER BLOCKS:
the cutting of the
lunettes is performed
for the connection
of the reinforcement
steel bars
and concrete

CORRECT LAYING OF LINTEL FOR FLOOR SLABS LAYING

The door and window frames are formed by alternating SHOULDER blocks while laying the blocks. Door and window lintels are made by cutting the SHOULDER blocks at the yard

(of 30 and 38 cm) or the laying of 44 cm blocks. In this manner, thermal bridges are eliminated. The lintel reinforcement must be indicated by the structure designer.



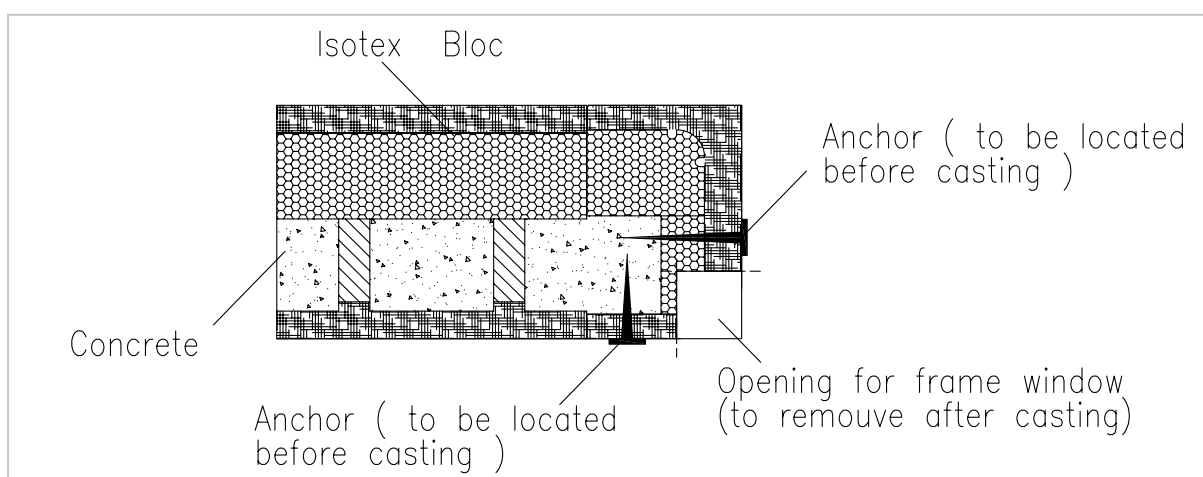
Esempio HDIII 44/20



BLOCK CUTTING FOR REBATES

When rebates are required, these can be cut into the SHOULDER blocks after pouring the concrete. Plastic anchors must nevertheless must be inserted (as in the diagram) before the

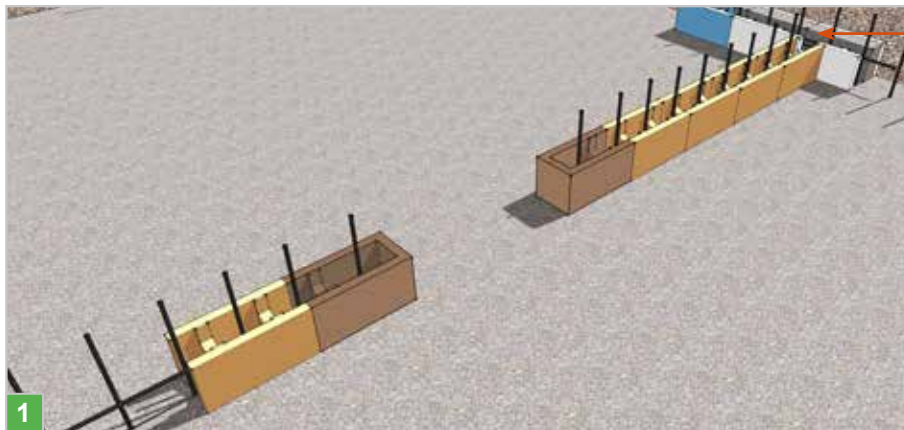
pour in order to avoid possible detachments while cutting. Proceed in the same manner for rebates in the lintels above doors and windows.



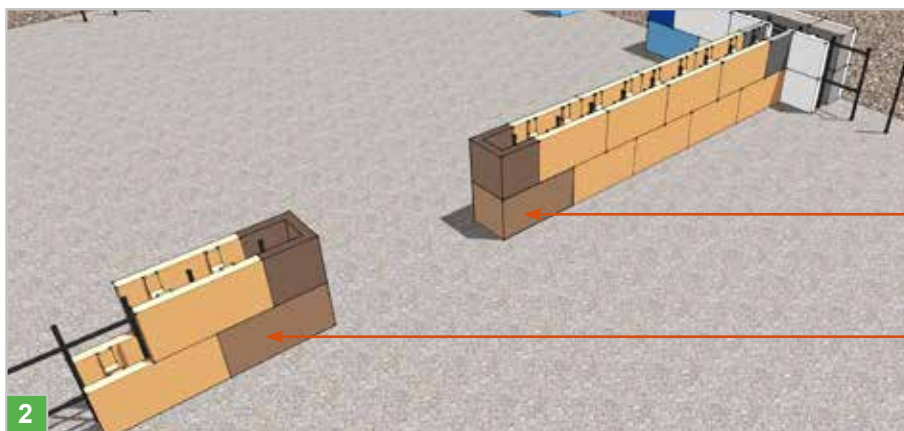
INTERNAL WALL: 3-4 WAY JUNCTION

For making three or four way nodes, proceed with laying the internal wall, arriving at abutting the external wall, creating an aperture at the

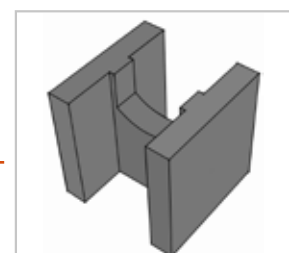
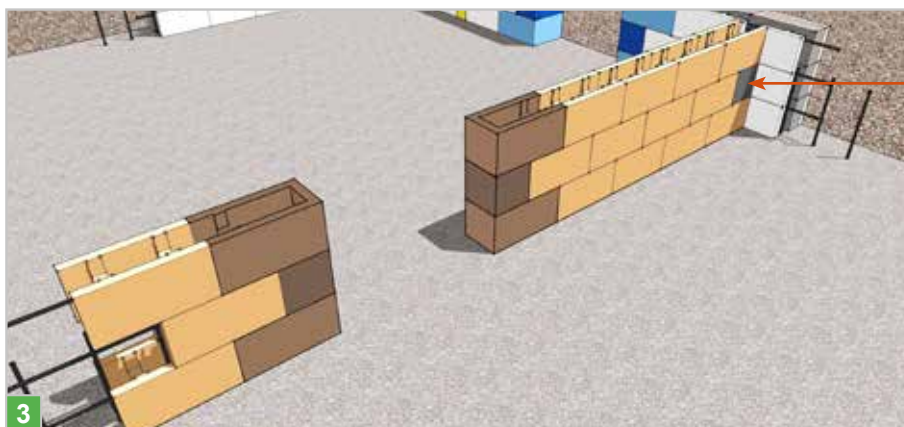
point of contact with that external wall to permit the lodging and connection of the horizontal reinforcement and the concrete.



3-4 way junction



UNI Block for internal walls

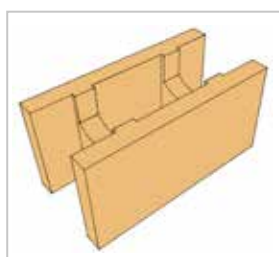


Half NS Block to be cut on building site

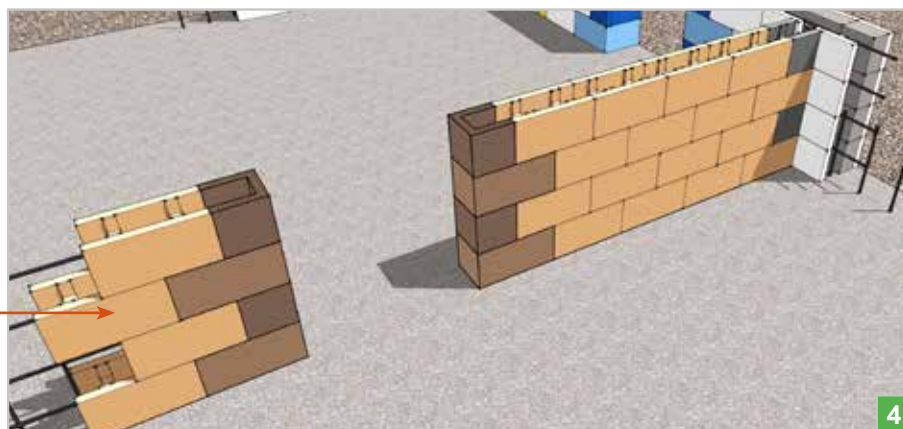
INTERNAL WALL: SHOULDER REALIZATION

To be avoided on the other hand, as is otherwise usual with traditional blocks, are the “ties” because, with the ISOTEX system, connection be-

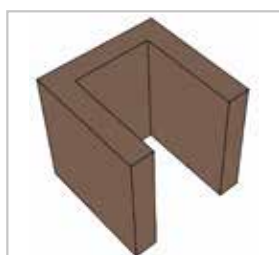
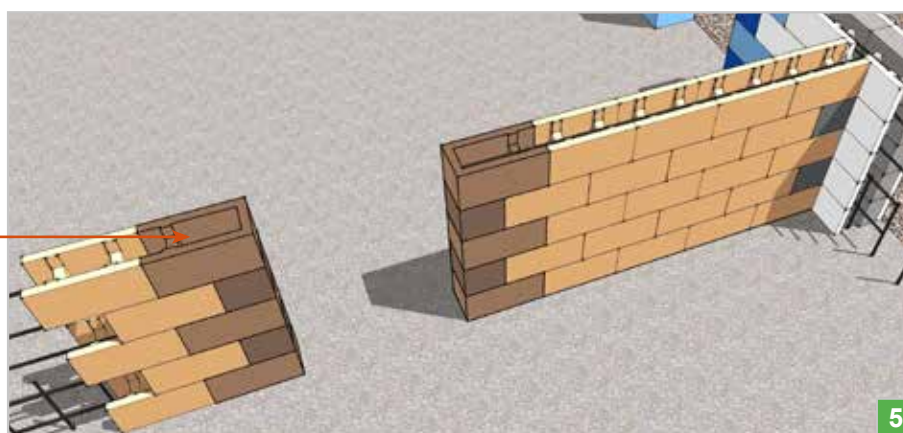
tween the three or four way nodes is made with the steel reinforcement and the concrete.



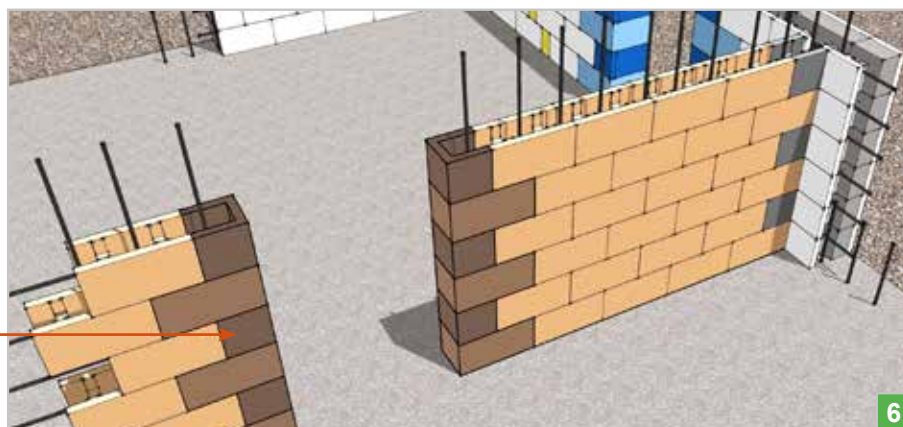
NS Block for internal walls



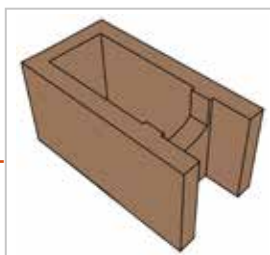
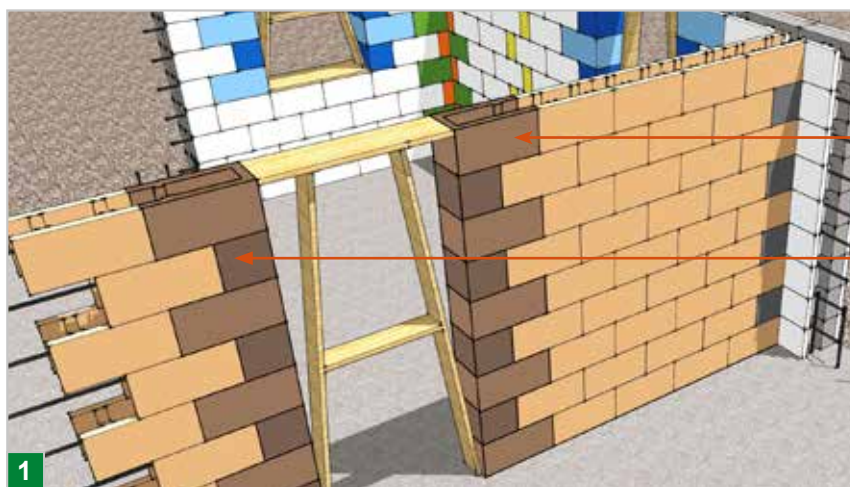
UNI Block for internal walls



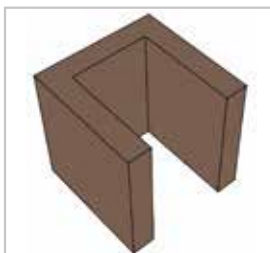
Half UNI Block to be cut on building site



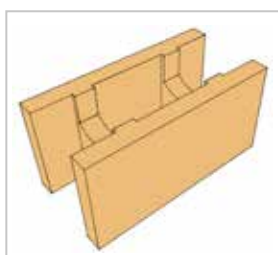
LINTELS, SHOULDERS AND INTERNAL WALLS



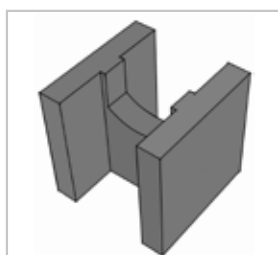
UNI Block for internal walls



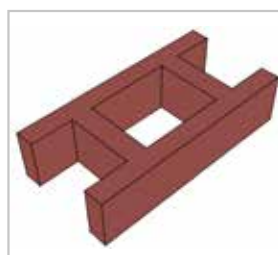
Half Block to be cut on building site



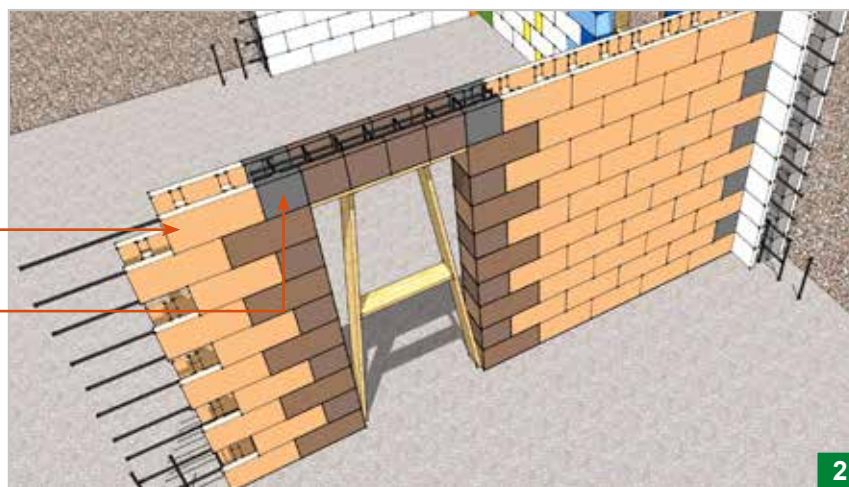
NS Block for internal walls



Half NS Block to be cut on building site

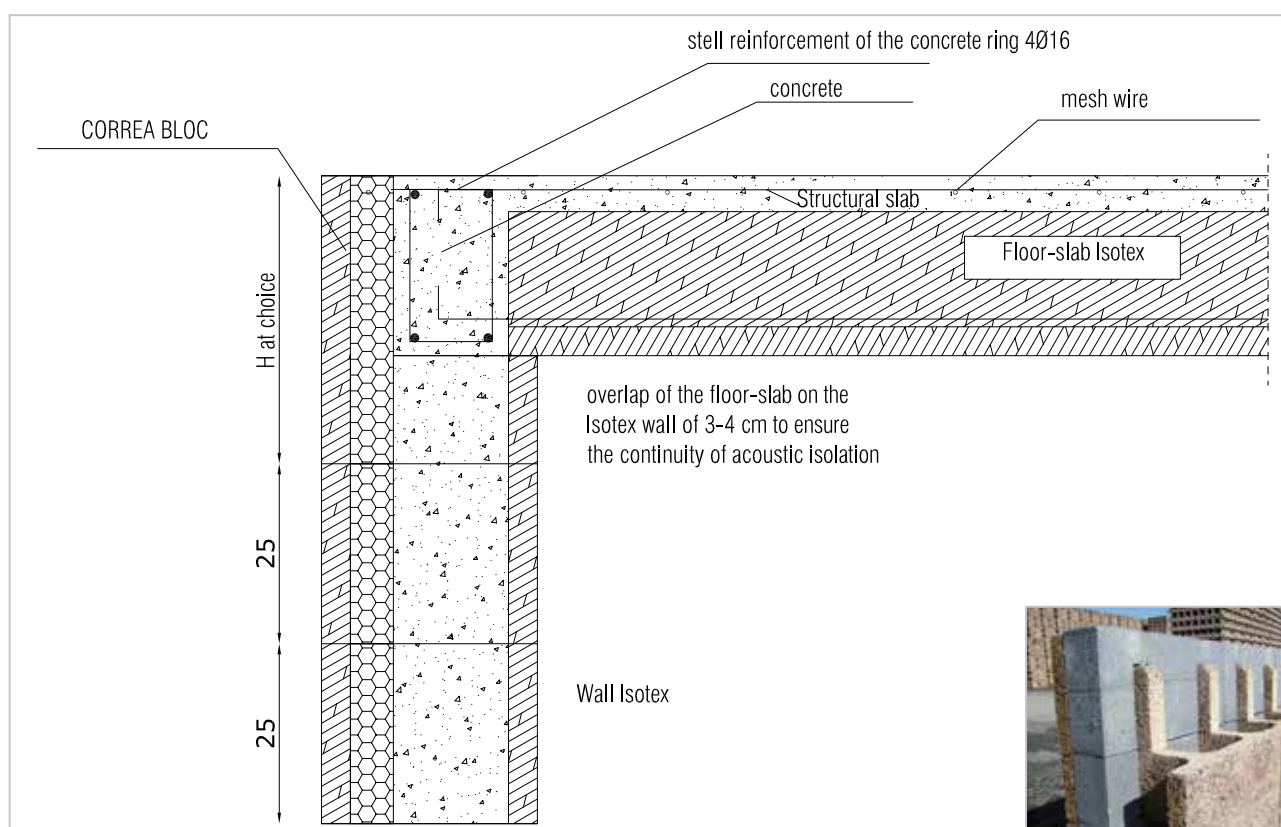
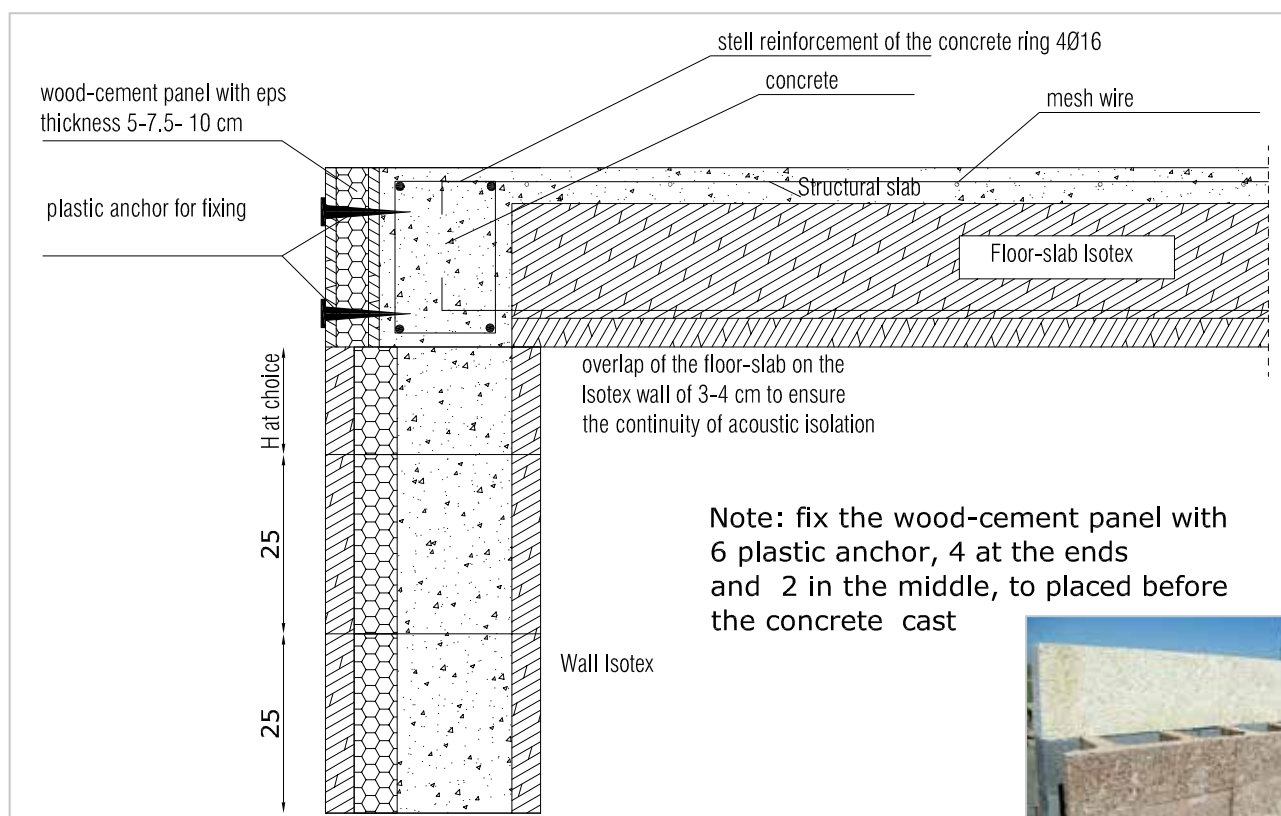


Block to reach the correct dimension of ceiling



ELIMINATION OF THERMAL BRIDGES

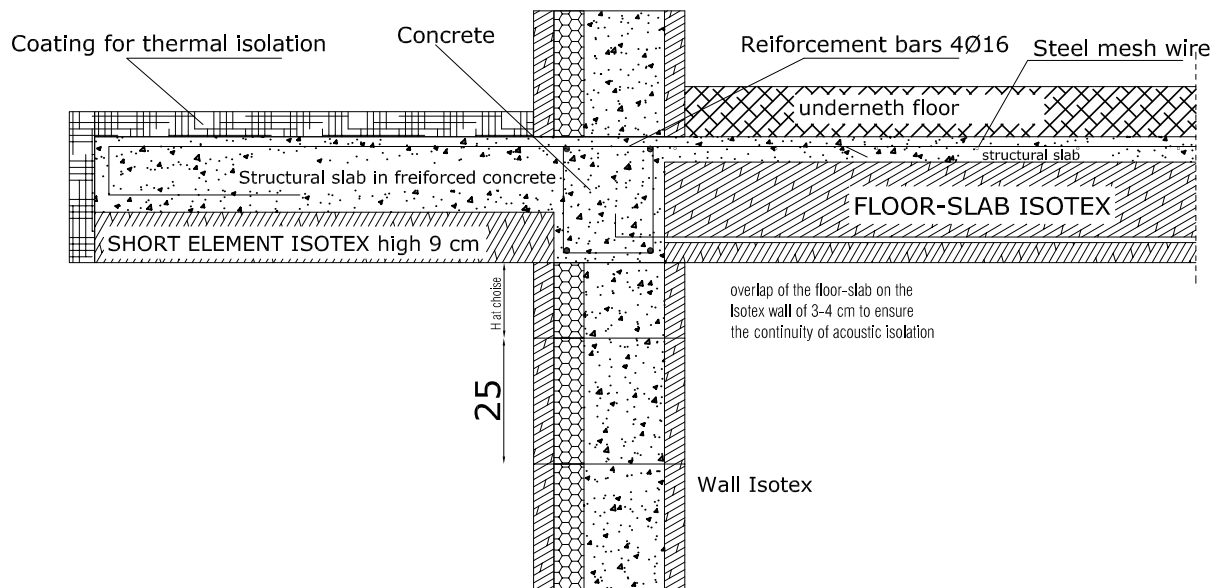
Floor panel beam detail



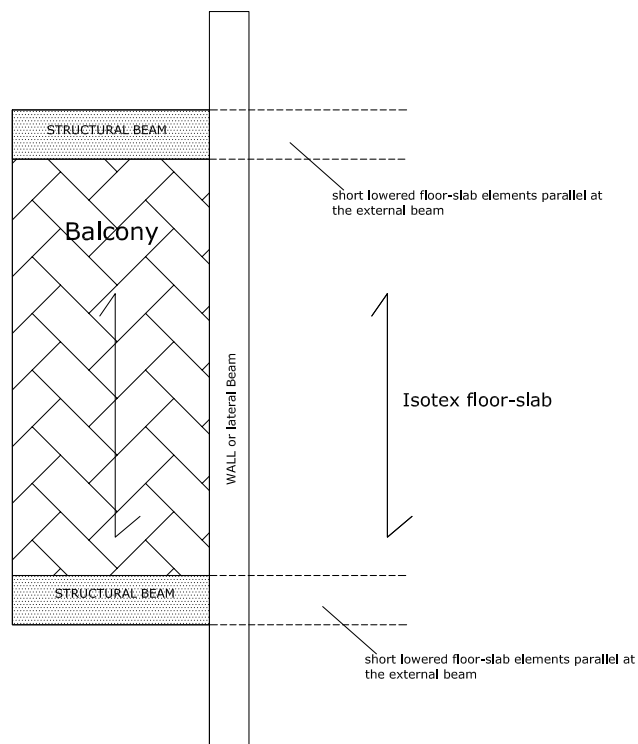
ELIMINATION OF THERMAL BRIDGES

Balcony detail

1) shelft Balcony with short elements Isotex



2) Balcony on structural beam, not shelft

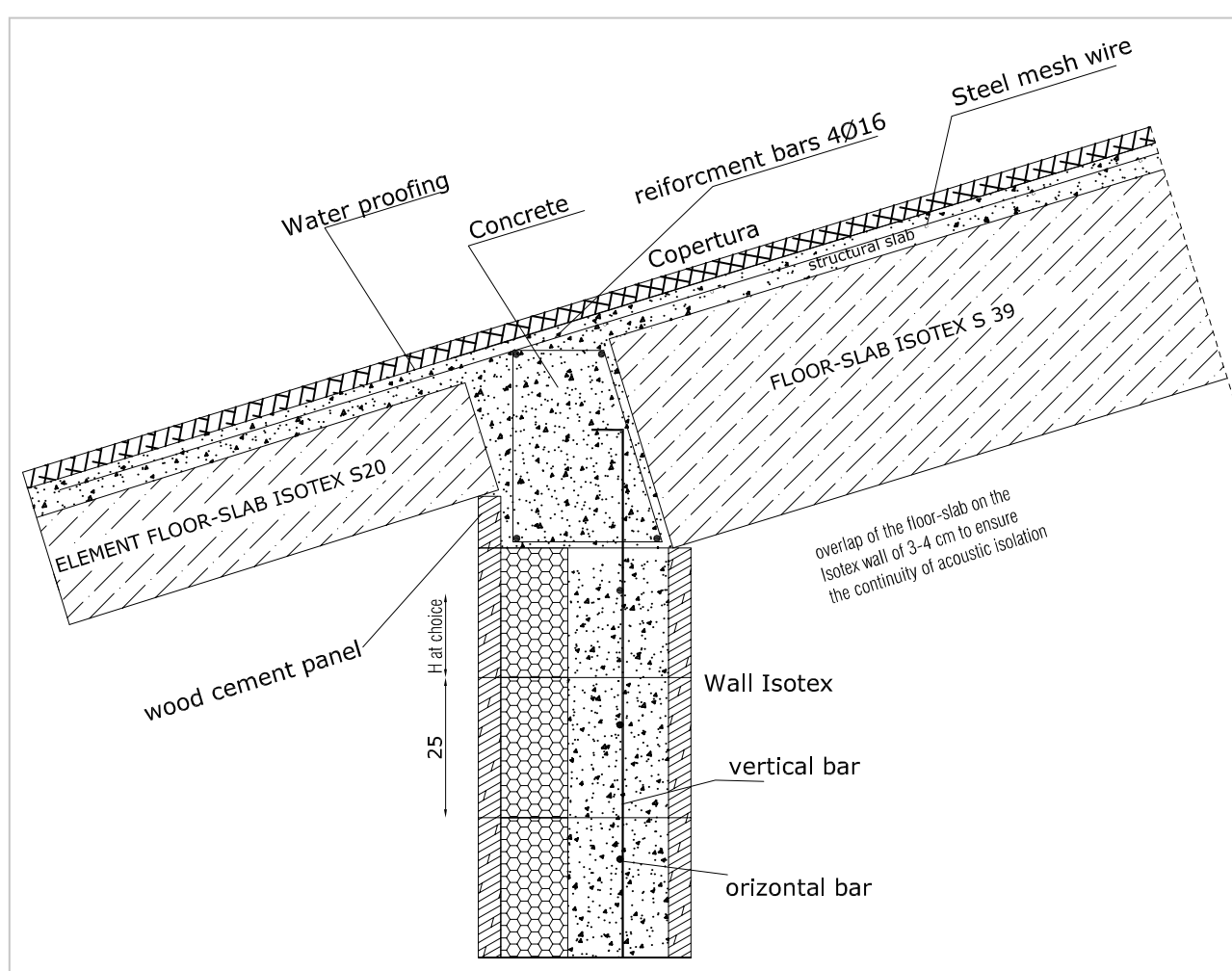


ELIMINATION OF THERMAL BRIDGES

Proposals for eaves

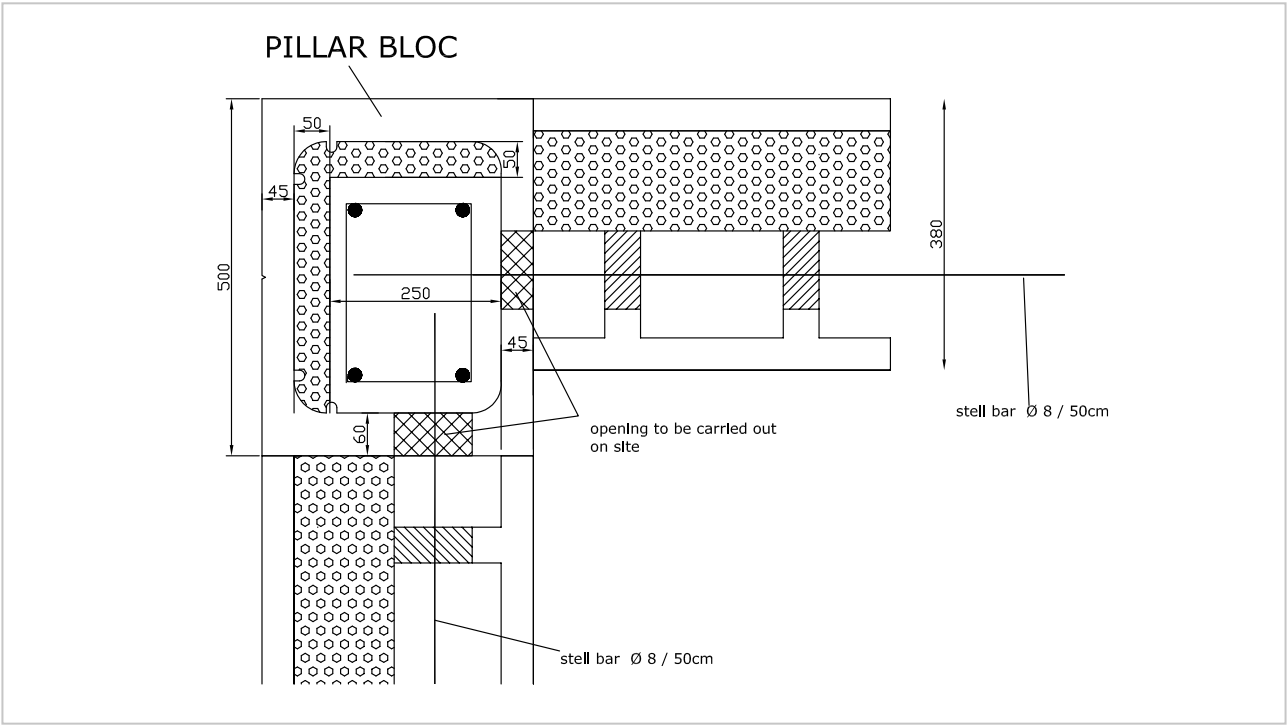
ISOTEX makes available detailed documentation for the solution to these and other thermal

bridges present in the structure of the building.

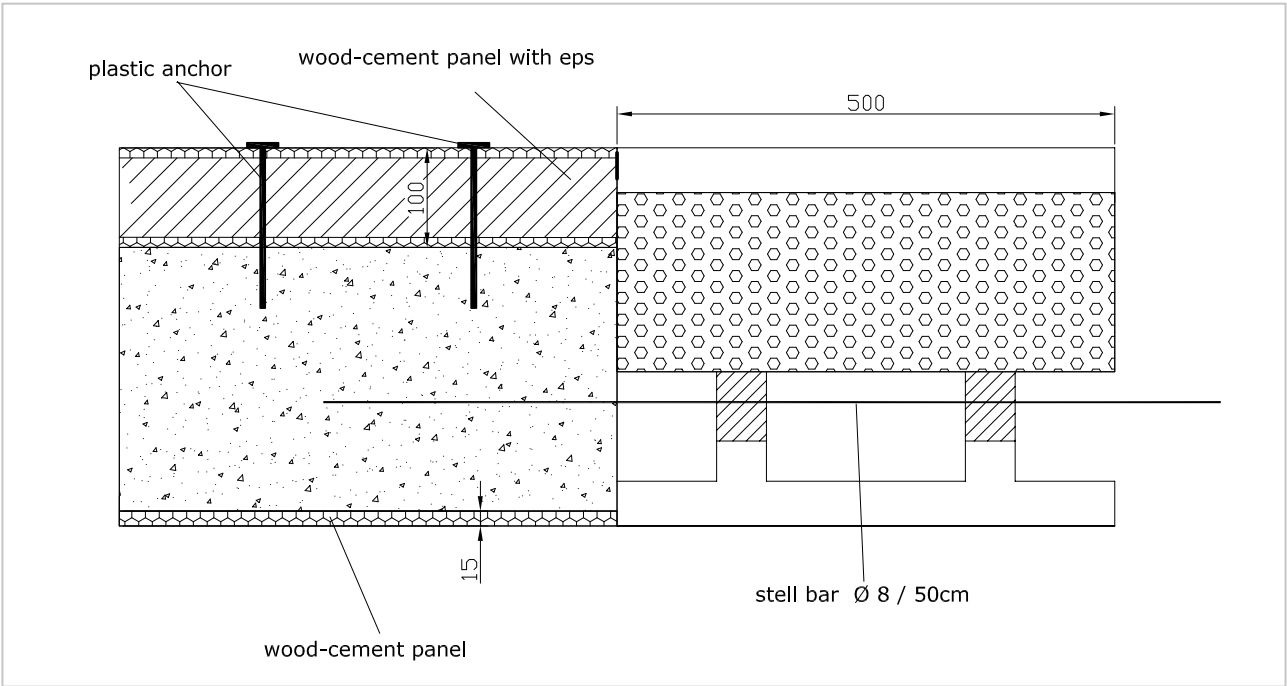


ELIMINATION OF THERMAL BRIDGES

Attachment to pillar blocks



Attachment to traditional pillars

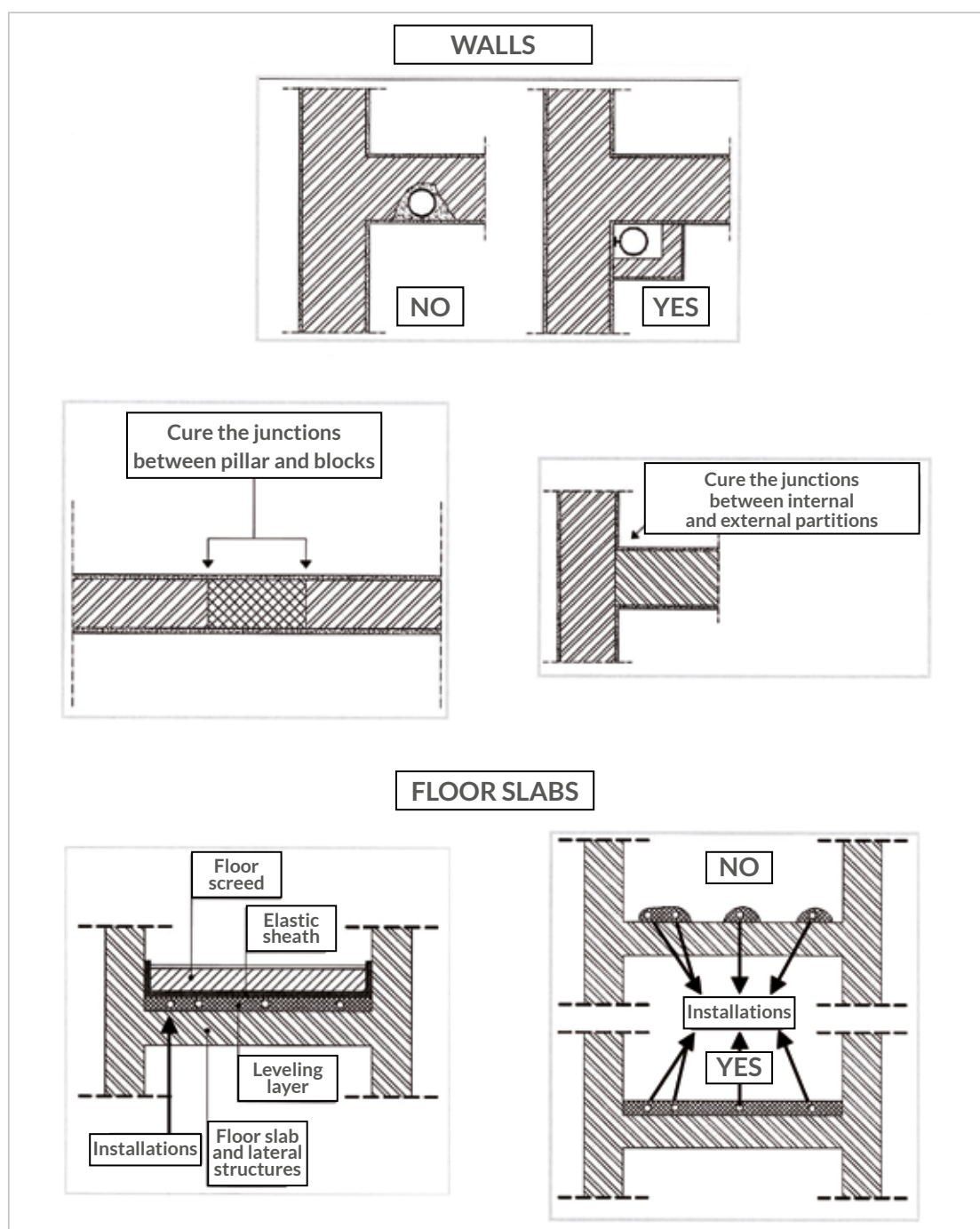


OPTIMIZATION OF ACOUSTIC PERFORMANCE

Construction details to be complied with

It is important to use construction materials whose certification comes within the values of regulations and correct building procedures.

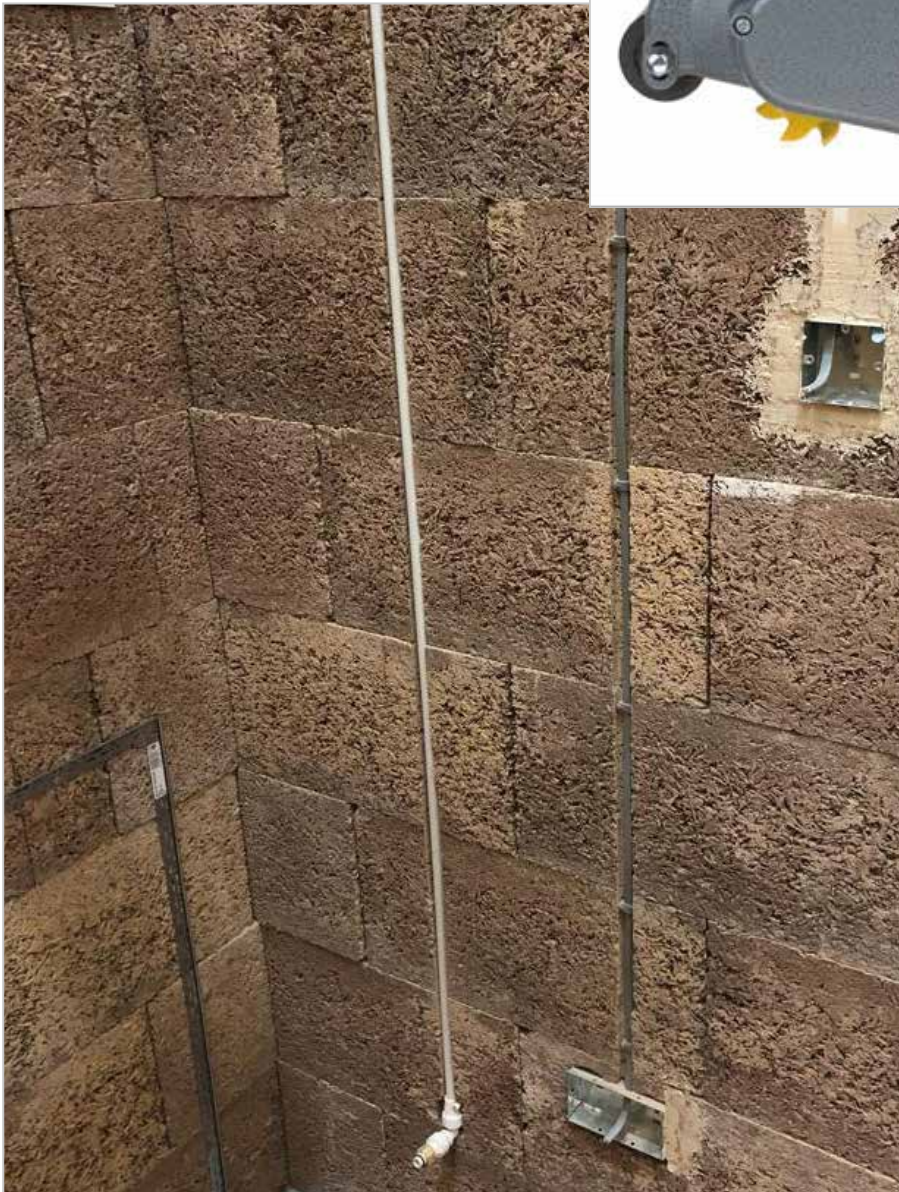
To avoid incurring problems with the purchaser (there are thousands of them), it is important to use construction materials whose certification fall within the values of regulations and correct building procedures.



HOW TO MAKE CHANNELS IN ISOTEX WALLS

In order to make channels for plant, it is advised that, over the 4-5 cm of wood chip cement, a wall chaser is used which allows for adjusting the

width and depth in order to obtain the required dimensions rapidly and precisely.



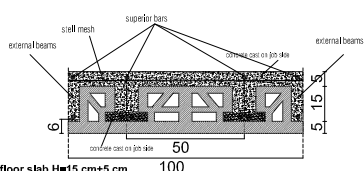
EXAMPLE OF ASSEMBLY SCHEME FOR ISOTEX FLOOR

SOLAIO S20 passo 33 cm

Resistenza minima garantita del CLS alla
consegna come da pto.4,2,2,2 EN 15037-1

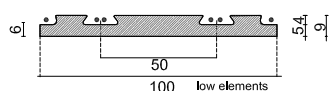
*N.B.=weight of the panel is aproxmatly 220 Kg/m when
the panel is wet*

section of the floor slab after the concrete cast on site

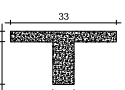


floor slab H=15 cm+5 cm
3 beams for meter.

low element used when needed for transverse distribution
beams or at the ends of the panels.



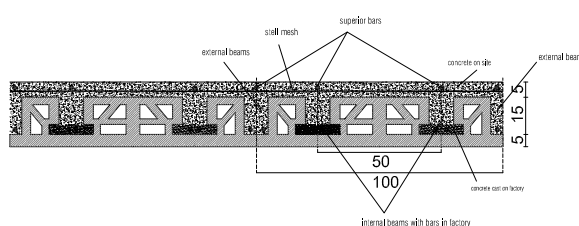
Reagent section considered for the calculation



low elements armed with 2+2
diam, 12mm, rings diam, 8/20"



section complete of the floor slab zone A-B-H



Solaio ISOTEX (5)+15+5

vertical loads:

- 1) Weight of the slab 325 daN/mq
- 2) permanent load 210 daN/mq
- 3) variable load 200 daN/mq

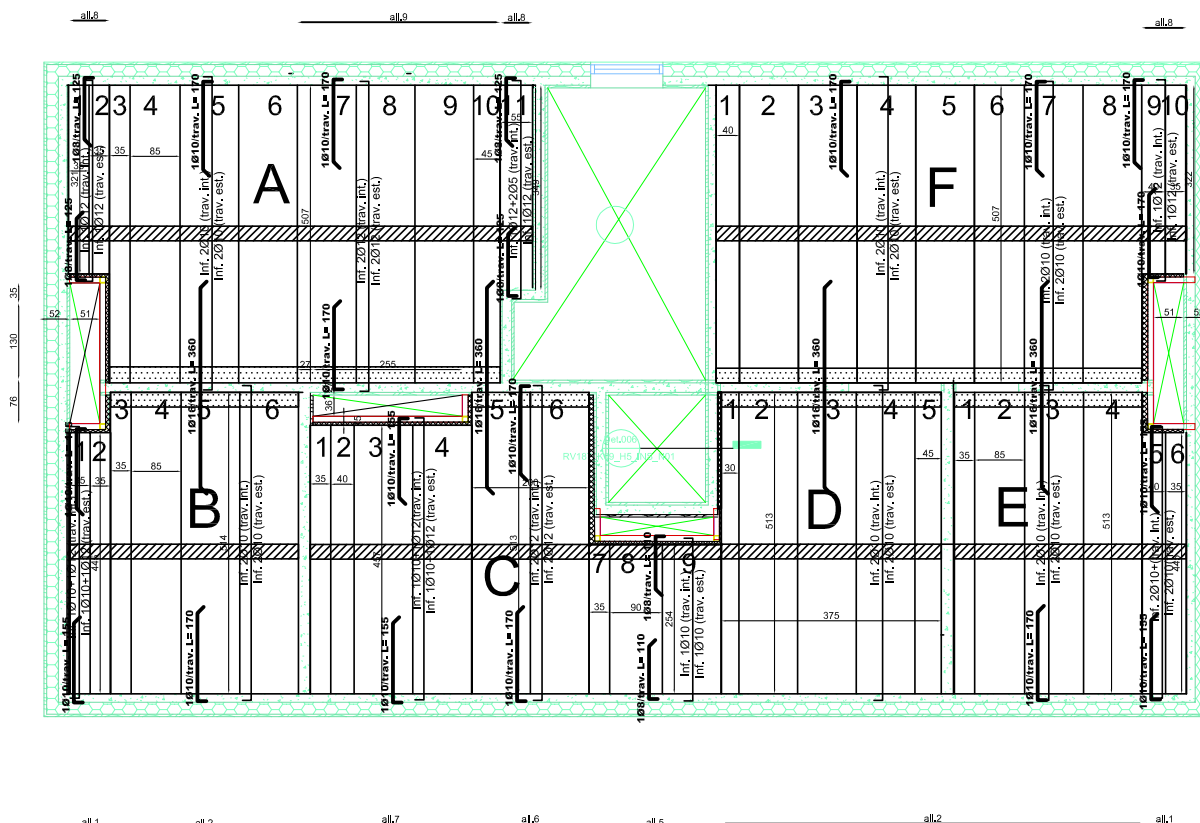
panel in wood-cement type
Celent thickness 5 cm

low element for trasversal beam

low elements

16x upper steel bars non Included in
the supply

10x inferior steel bars not Included in
the supply

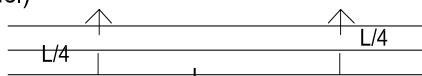


EXAMPLE OF ASSEMBLY SCHEME FOR ISOTEX FLOOR

Example of assembly scheme

Laying Method for floor-planks

1) Positions where to lift the panels as in the picture (are marked red on the panel)



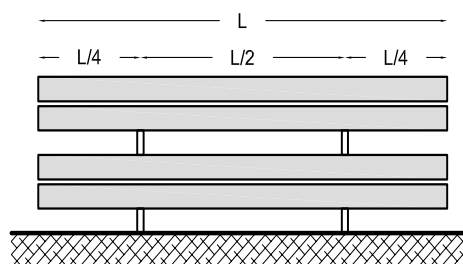
2) Start the pose of a zone respecting the numbers and starting from number 1,2 3,... (Dont reverse the panel according the position of the numbers on the drawing)

Prescriptions in charge of the Executing Company on job site

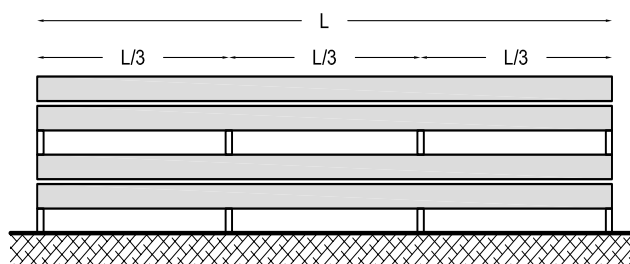
- 1) Beton- Concrete C25/30
- 2) Steel B500B .
- 3) Collaborating compression slab h=5 cm
- 4) Integration steel bars at upper for each beam (3 beams per meter) to pose 2 cm under the top of the finished slab over the wire mesh.
- 5) In the collaborating compression slab collocate wire mesh diam. 8mm/20x20, to overlap only in the middle of the lenght of the panel and never at the ends of the panel .
- 6) Elements for the support of the panels every 1,5 m maximum.
- 7) precamber of 1 cm for panels lenght of 4-5 m, of 2 cm for panels lenght of 6 m
- 8) Not included in the supply:
 - Steel bars for upper positionig;
 - Wire steel mesh according to law codes;
 - Steel bars for transverse ripartition beams.
- 9) Isotex reccomende, to improve the thermal-acoustic isolationton to overlap the panels of 3-4 cm on the Isotex walls.

storage methods on work site

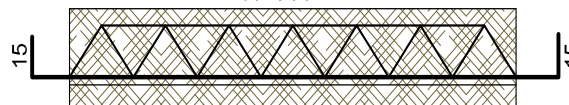
Per $L < 5m$



Per $L > 5m$



Floor slab



Note= the carrying out of the works is subject at the approval of this drawing for the Structural Engineer of the building and of the Executing Company .

It is in charge at the Structural Engineer of the building to indicate the reinforcement steel bars of balcony and cantilever slabs.

ISOTEX S.R.L.

42028 POVIGLIO (RE) - VIA D'ESTE N.5/7
TEL. 0522/965555 Fax 0522/965500
e-mail: info@blocchiisotex.it

ISOTEX FLOOR SLABS RANGE



Floor slab S20



Floor slab S25



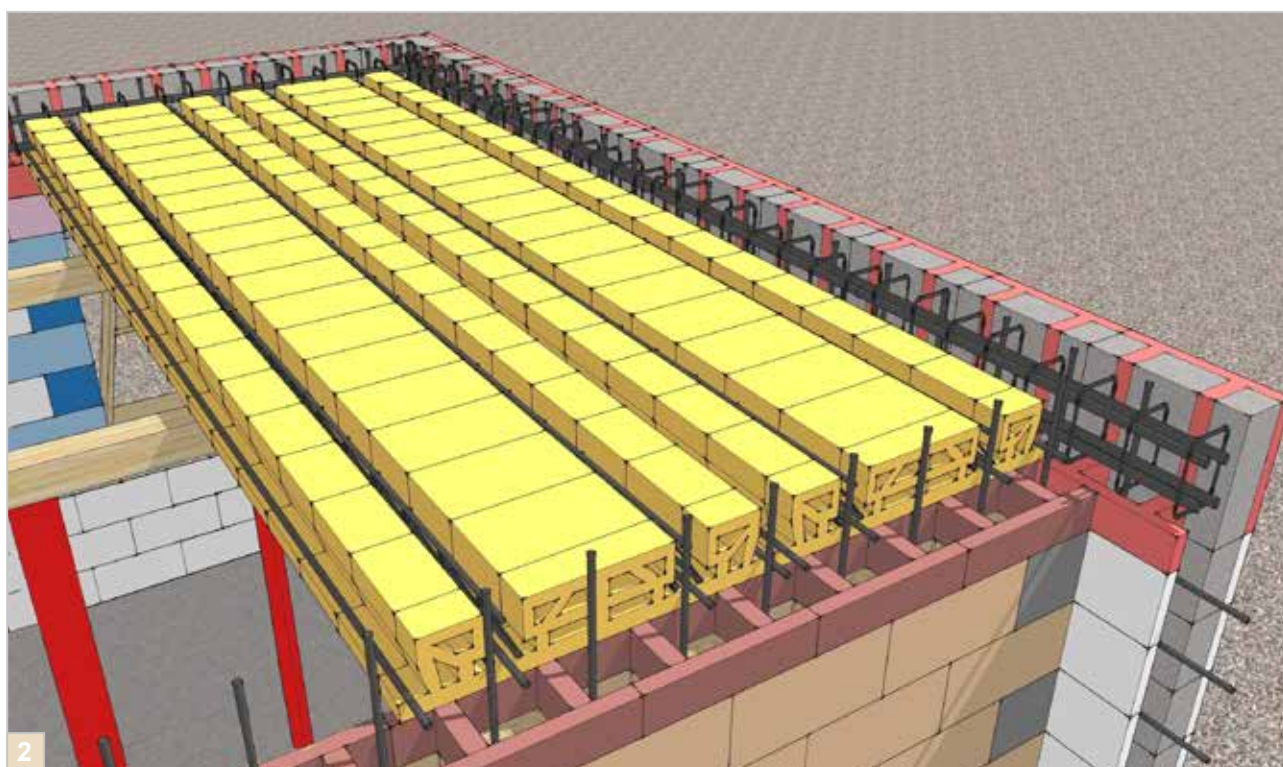
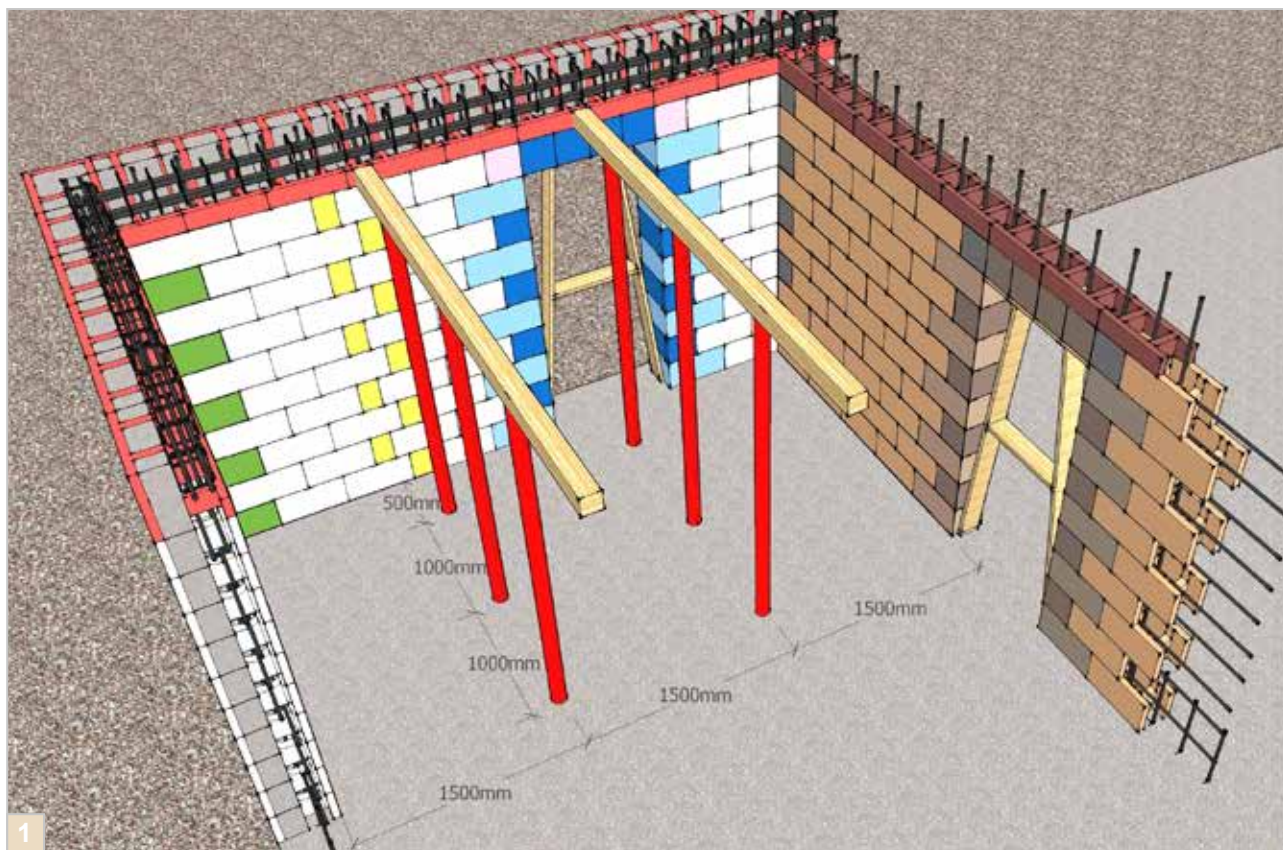
Floor slab S30



Floor slab S39



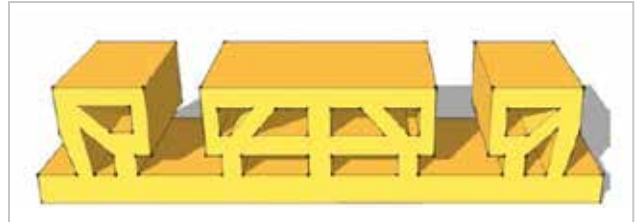
CORRECT LAYING OF ISOTEX FLOOR SLABS



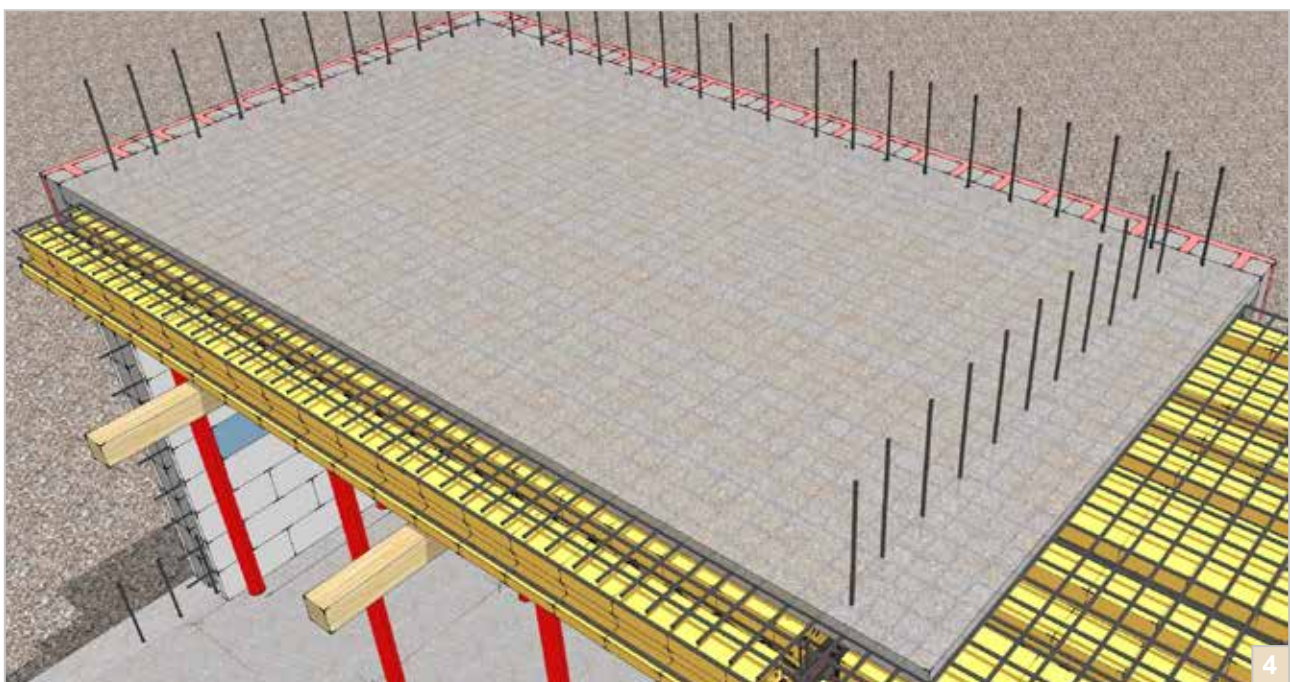
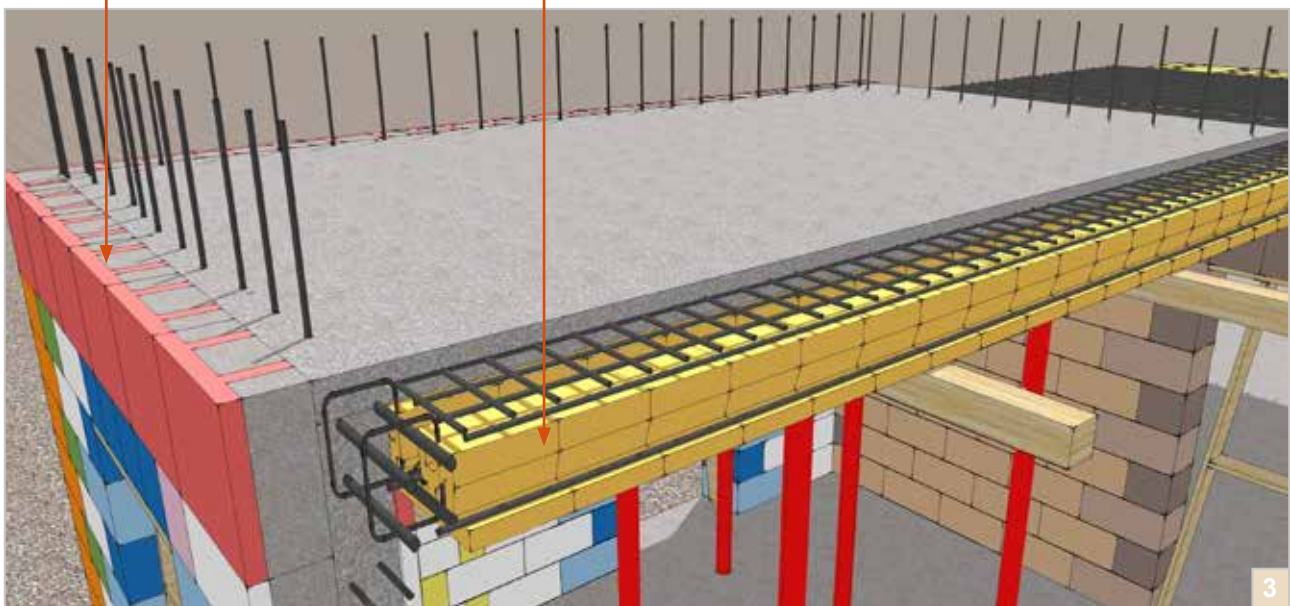
CORRECT LAYING OF ISOTEX FLOOR SLABS



Correa block



Floor slab S25



RECOMMENDATION FOR CORRECT APPLICATION OF PLASTERS AND COLOURED FINISHES

The application of the plaster must be performed only on dry surfaces. Avoid, therefore, application on walling wet from rain, frozen or with unset concrete. Do not apply the plaster with temperatures less than 4°C as this can delay significantly the hardening of the plaster and, consequently, the application of finishings.

The week before applying plaster, close any gaps caused by incorrect laying with mortar in order to avoid notable thicknesses of plaster which might result in areas of crazing. The walls should be adequately levelled and squared during installation as the application of thicknesses of plaster to straighten and square off walling is inconceivable and ineffective.

A thicknesses of plaster greater of 2 cm may lead to the formation of cracks and crazing. Where it is necessary to apply plaster thicker than 2 cm, it is essential that it is applied in two coats separated by at least 28 days.

With these important premises, the plaster can be applied, pre-mixed or traditionally prepared, considering the fact that it must protect the walling from weather and wear and that its thickness must be as uniform as possible at 15 mm, bearing in mind that a greater or lesser thickness can facilitate the formation of cracks. Over the last few years, insulation is becoming ever more efficient which makes it all the more important to consider inserting a suitable netting, in alkali-resistant fibre glass with CE marking, positioned half way through the plaster; that being 7-8 mm from the support. Finishings (e.g. fine mortar or other) should always be applied after a coat of adhesive of hardened plaster, generally at least 3-4 weeks

beforehand, depending on climatic conditions.

Isotex Srl does not recommend the use of this type of finish (for exteriors), which in order to work well must have a fully hardened base coat of about 15 mm so as to avoid the formation of shrinkage cracks, given the enormous difficulties in verifying that application and timing conditions are met. From the experience gained since 1995 on various construction sites and considering that in recent years structural blocks have improved heat performance thus subjecting the plaster to greater stress, the solution we suggest consists in applying directly on the plaster base coat (15mm), levelled during application, a thick coloured finish after 4-6 weeks, thus obviating the need for fine mortar or other.

When applying the base coat and leveling with a straight edge it is important to maintain a uniform and consistent covering to avoid chalking the surface. Isotex Srl can provide information on the characteristics of these products for external finishes and methods of application to ensure waterproofing yet breathability. For interiors, we recommend an interval of 4-5 days between plaster foundation and fine mortar (or other finish) to ensure a good and thorough maturation of the plaster before applying the mortar.

Consider the particularities of the S39 panelling, which for thermal reasons has joints but not concrete between the panels. In correspondence with these junctions micro-cracks may form and therefore, to avoid this, it is recommended to use a plasterboard finish. For intermediate floors (S20-S25-S30), if a plaster finish with a thickness of 15 mm (no less) is chosen, the recommendation is to "embed" half way through the thickness, a reinforcing net in alkali-resistant fibre with CE marking. Then wait 4/5 days, depending on the season, before applying the finish and 4/6 weeks before painting.

Please note that, Isotex Srl, due to the fact that it is unable to physically monitor on a day to day basis compliance with these recommendations, the quality of materials used (plaster and coloured finishes) and timings between applications, disclaims any responsibility for issues that may occur in the future.



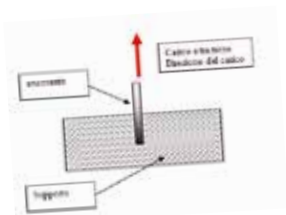
TESTING OF ANCHORS SEAL AND TEAR STRENGTH ON ISOTEX WALL

On website www.blocchiisotex.com you can find and download the reports of the complete tests and the technical data sheets of the different types of fixing.

fischer	Progettazione e Sviluppo Prodotti	Format RP Rev. C Data: 06/02/08
	RELAZIONE DI PROVA	Doc. n°. RP 026-13 Rev. 1 Pagina 8 di 28
Oggetto: Prove di carico su prodotti ISOTEX®.		

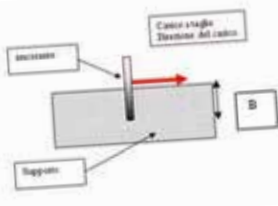
2.3. Schema di prova e attrezzature

Carico a trazione
Prove di carico eseguite con macchina di prova Spider BEAM cella di carico da 5 kN certificato di taratura N°27887 emesso da TMT e valido fino al 25/02/14



Carico a taglio
Prove di carico eseguite con macchina di prova

- Spider BEAM cella di carico da 50 kN N° 27885 emesso da TMT e valido fino al 25/02/14.
- Zwick Roell cella di carico da 250 kN N° 27879 emesso da TMT e valido fino al 25/02/14.



B=Braccio di leva : distanza di applicazione del carico misurato dalla linea superficiale del calcestruzzo in cui è inserito l'ancorante pari pertanto allo spessore dell'isolante e la parete in legno cemento.

fischer	Progettazione e Sviluppo Prodotti	Format RP Rev. C Data: 06/02/08
	RELAZIONE DI PROVA	Doc. n°. RP 026-13 Rev. 1 Pagina 27 di 28
Oggetto: Prove di carico su prodotti ISOTEX®.		

4. Resistenza trazione Schiuma poliuretano fischer FASTGRIP800



Prova di carico a trazione schiuma poliuretano fischer Fastgrip800
Prova eseguita incollando sulla superficie del blocco Isotex piastrelle in ceramica misura 200 x 200 mm
Trazione eseguita fino al cedimento del sistema.



Dati di prova

Prova	Carico (daN)	Esito
1	100	Rottura piastrella
2	100	
3	100	
4	100	
5	110	
media	120	
	106	

Nessun cedimento legato alla superficie del blocco

CERTIFICATES

Partial extract of certification in the verbatim version on the site www.blocchiisotex.com

ISOTEX®		DECLARATION OF PERFORMANCE N. 09-CPR-2013-06-12	CE																																							
1. Unique identification code of the product	BLOCK ISOTEX® HD																																									
2. Form, finish or serial number or any other element allowing identification of the construction product as required under Article 1(1)(b) of the CE Marking Regulation	BLOCK ISOTEX® HD 44																																									
3. Intended use or uses of the construction product in accordance with the appropriate harmonized technical specification, as required by the manufacturer	Wood-chip concrete shabbling blocks, with or without supplementary thermal insulation, to be dry stacked, intended use for the construction of external walls, internal walls and partitions, load or non-load walls, where filled with concrete.																																									
4. Name, registered trade name or registered trade mark and contact address of the manufacturer as required under Article 1(1)(b)	ISOTEX S.R.L. Via D'Este, 5/7 - 5/8 42028 POGGIOLO (RE) Italia																																									
5. System of assessment and verification of conformity as required under Article 1(1)(b)	System 4																																									
6. System of assessment and verification of conformity as required under Article 1(1)(b)	Not Applicable																																									
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8. DECLARED PERFORMANCE	<table border="1"> <thead> <tr> <th>ESSENTIAL CHARACTERISTICS</th> <th>PERFORMANCE</th> <th>REFERENCE TECHNICAL SPECIFICATION</th> </tr> </thead> <tbody> <tr> <td>1. Length</td> <td>300 mm ± 3 mm</td> <td rowspan="4"></td> </tr> <tr> <td>2. Width</td> <td>140 mm ± 3 mm</td> </tr> <tr> <td>3. Height</td> <td>100 mm ± 3 mm</td> </tr> <tr> <td>4. Web width</td> <td>140 mm ± 3 mm</td> </tr> <tr> <td>5. Moisture movement</td> <td>0.001 mm/m</td> <td rowspan="4">EN 12608:2008</td> </tr> <tr> <td>6. Water vapor permeability</td> <td>0.001 m/s</td> </tr> <tr> <td>7. Mechanical strength</td> <td>0.12 MPa</td> </tr> <tr> <td>8. Thermal conductivity</td> <td>0.12 W/mK</td> </tr> <tr> <td>9. Compressive strength</td> <td>0.12 MPa</td> <td rowspan="4"></td> </tr> <tr> <td>10. Flexural strength</td> <td>0.12 MPa</td> </tr> <tr> <td>11. Tensile strength</td> <td>0.12 MPa</td> </tr> <tr> <td>12. Compressive strength</td> <td>0.12 MPa</td> </tr> <tr> <td>13. Thermal conductivity of wood-chip concrete</td> <td>0.12 W/mK</td> <td rowspan="4"></td> </tr> <tr> <td>14. Density</td> <td>0.12 t/m³</td> </tr> <tr> <td>15. Sound absorption</td> <td>0.12</td> </tr> <tr> <td>16. Fire resistance</td> <td>0.12</td> </tr> </tbody> </table>			ESSENTIAL CHARACTERISTICS	PERFORMANCE	REFERENCE TECHNICAL SPECIFICATION	1. Length	300 mm ± 3 mm		2. Width	140 mm ± 3 mm	3. Height	100 mm ± 3 mm	4. Web width	140 mm ± 3 mm	5. Moisture movement	0.001 mm/m	EN 12608:2008	6. Water vapor permeability	0.001 m/s	7. Mechanical strength	0.12 MPa	8. Thermal conductivity	0.12 W/mK	9. Compressive strength	0.12 MPa		10. Flexural strength	0.12 MPa	11. Tensile strength	0.12 MPa	12. Compressive strength	0.12 MPa	13. Thermal conductivity of wood-chip concrete	0.12 W/mK		14. Density	0.12 t/m³	15. Sound absorption	0.12	16. Fire resistance	0.12
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16. Fire resistance	0.12																																									
9. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 8. This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.																																										

Example of DOP (Protected Designation of Origin)

AENOR
Confia

**Certificato di conformità
del controllo della produzione in fabbrica**

CE
0099

0099/CPR/A87/Q390

In conformità a Regolamento del Parlamento Europeo (CE) 1305/2013 e Regolamento Europeo (CE) 305/2011, l'organismo di certificazione AENOR ha verificato che questo certificato per

ISOTEX S.R.L.

Circolo Legale presso Via F.lli S. S. 5/7-5/8, POGGIOLO (RE) Italia
Prodotto da costruzione Traversi per scale a piastre e blocchi
Norma in costruzione EN 12608:2008
Rilasciato in Allegato al Certificato
Stabilimento di produzione Via F.lli S. S. 5/7-5/8, POGGIOLO (RE) Italia
Sistema di certificazione

Questo certificato attesta che sono state applicate tutte le disposizioni del regolamento (CE) 1305/2013 e regolamento (CE) 305/2011 per la produzione di blocchi di legno e cemento a schiuma, e che il controllo di produzione in fabbrica soddisfa tutti i requisiti previsti nella norma armonizzata.

Questo certificato rimane valido fino alla data di scadenza a condizione che non siano intervenuti eventi significativi e non per il controllo della produzione in fabbrica in base alla norma armonizzata per valutare la produzione in fabbrica e la qualità del prodotto, e che le condizioni di produzione non siano cambiate in modo significativo.

Data prima emissione: 2010-12-14
Data ultima emissione: 2015-12-14
Data di scadenza: 2020-12-14

AENOR INTERNACIONAL S.A.U.
Sede: C/ San Juan, 10 - 28014 Madrid, España
Tel: 91 451 50 00 - www.aenor.com

Deposito del documento AENOR al Registro del Ministerio de Industria.

Obligatory flooring EC marque dated 01.01.2011

CSTB
The future of construction

Record of classification No. R812-042

5. CLASSIFICATION AND SCOPE OF DIRECT APPLICATION

5.1 Classification reference
This record of classification has been delivered conforming to article 7.3.2 of the Law NF EN 13501-2 (May 2004).

5.2 Classifications
The building element, the aim of this document, is classified according to the following combination of parameters and performances. No other classification is authorised.

RE	120
REI	120

5.3 Validation conditions of the classification

5.3.1 Use and application
The object and its assembly have to conform to the detailed description made in the test report No. R812-042, which can be requested without the obligation of document disposition in case of object identification challenges.

5.3.2 The environment and direct application
To maintain the validity of the classification, its extension can be used in application environments stated by norm NF EN 1365-1 (June 2000 edition) or conforming to extensions formed by the laboratory.

5.3.3 Exposure conditions
Fire on the internal side (core side in cement and, as need be, from the opposite part of the insulate cushion).

5.3.4 Load
Load 4 000 000 daN/m² equally spread across the thickness of the core in cement (centre leaning).

5.3.5 Length extension
The perpendicular section of the wall is not limited.

5.3.6 Height extension
The height of the wall is limited to 3 metres.

5.3.7 WALL THICKNESS
The minimum thickness of the wall 440 of which:
• Minimum thickness of 150 for the cement core.
• Maximum thickness of 210 for the insulate.

No. REF.: 20030703 - AMBIL
DISPENSE 12.03

DISPENSE/RECORD - Ref. 04

REI120 - CSTB classification

DNV

**MANAGEMENT SYSTEM
CERTIFICATE**

Certificate No.: CERT-0017-09-AD-BOL-EN-2015
Issue/revision date: 20 July 2015
Valid: 14 July 2015 – 13 July 2020

This is to certify that the management system of
ISOTEX S.r.l.
Via D'Este 5/7 - 5/8 - 42028 Poggio (RE) - Italy

has been found to conform to the Quality Management System standard:
ISO 9001:2015

This certificate is valid for the following scope:
Manufacture and trade of wood-chip concrete shabbling blocks, floor slabs, construction elements and artifacts in general
(IAF 16, 29)

Place and date:
Vimercate (MB), 24 June 2015

For the issuing office:
DNV - Business Assurance
Via Energy Park, 14 - 20071 Vimercate (MB) - Italy

Carlo Bazzani
Managing Representative

Certification of quality ISO 9001:2008

Certificate of Conformity
Institute for Ethical and Environmental Certification

certifies that

ISOTEX S.r.l.

is conform to the general and specific requirements of the
ANAB Standard for Eco-Building Materials
(MAT-BR001-09 Ed.09 Rev.01)

This Certificate covers the following products:
Wood - cement shabbling block
Wood - cement roofing element
Wood - cement sound absorbing element for noise barriers
Wood - cement internal partitions
<ISOTEX®>

Renewable resources: More than 70% of the product is made from renewable wood that fulfills the set of requirements for wood.

Responsible production: The production and distribution of the product are in accordance with the requirements of the standard.

Responsible use: The product and its components are not dangerous for the environment.

Production process: Production process is in accordance with the requirements of the standard.

Logo and Certification:
Logo: ANAB
Certification: MAT-BR001-09 Ed.09 Rev.01 and MAT-BR001-09 Ed.09 Rev.01

Issue of this Certificate: January 17, 2015
Rev. Certification: February 17, 2015
Rev. Certification: February 17, 2015

Issue of this Certificate: December 17, 2015
Rev. Certification: December 17, 2015
Rev. Certification: December 17, 2015

Sustainable housing certification

EPD
Environmental Product Declaration

**ENVIRONMENTAL PRODUCT DECLARATION (EPD) FOR
WOOD CEMENT BLOCKS**

ISOTEX®
Building & construction solutions

Company: ISOTEX Srl
Via D'Este, 5/7-5/8/2028 Poggio (RE)
www.blocchiisotex.com
Programme operator: The International EPD® System -
c/o EPD International AB
Väthallavägen 81 SE-114 27 Stockholm Sweden
www.envides.com

PCR: 2012-01 Construction products and construction services version 2.3
Geographical scope: Europe
EPD registration number: S-P-01472
ECO EPD reference number: 00000795
Date of publication: 2018-12-15
Date of validity: 2023-12-18

EPD - Environmental Product Declaration

This Document named "Operational Assembly Manual" is the exclusive property of ISOTEX Srl.

ISOTEX makes the operational assembly manual available to its clients as a useful and important compendium for the correct laying and use of Blocks and Flooring panels, made up of the ISOTEX® anti-seismic construction method.

The operational assembly manual contains and illustrates the particulars of applying ISOTEX® products with related recommendations. The document has been produced by ISOTEX Srl, and consequently must only and exclusively be used in relation to the ISOTEX® construction method.

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Maximum seismic safety & living comfort, always.



BUILDING SYSTEM
ISOTEX®
Wood-cement Blocks and Floor Slabs

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