Renewal Sheet No. **22/2**

Material class report no. RS12-042

Version of 29/06/2022

N/Ref: P-00097115– AC/JP – 22.043

Only the complete reproduction of the reference material class report, of the present renewal form and of any extensions allows a normal exploitation of the results and the verification of conformity necessary for the validity of the object. Only electronic documents signed with a valid digital certificate are authentic in the event of a dispute. All documentation is kept at CSTB for a minimum of 10 years. **It comprises 1 page.**

PERIOD OF VALIDITY

Date of the test : 30/08/2012

This material class report issued on 22/10/2012 and all its possible extensions are valid until: **30/08/2027***

* unless the product is CE marked at level 1.

NOTE: *After this date, this material class report is no longer valid, unless it is accompanied by a new renewal form issued by the present approved laboratory. The element and its assembly must comply with the detailed description in the material class report In the event of a dispute concerning the element covered by this classification report, the test report and/or the laboratory assessment may be requested from the owner, without any obligation to surrender the document. New extensions may be issued during the period of validity of the material class report*

CONCERNING

This is a load-bearing wall.

Trade mark / Identification : **"ISOTEX HDIII 44/21 NS"**

AT THE REQUEST OF

ISOTEX
EX: C&P COSTRUZIONI SRL
Via d'Este 5/7 – 5/8
42028 POVIGLIO (RE)
ITALIE

Disclaimer: This classification document does not represent type approval or product certification

Executed at Marne-la-Vallée, on 29 June 2022

Renewal form approved by : Mr José PESTANA

Remarks: Not applicable.

Digital signature of Jose PESTANA Date : 2022.06.29 11:35:22 +02'00'

Document prepared by : Audrey CASSEGRAIN Document modified by :

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Safety, Structure and Fire Department
Partition Studies and fire resistance Tests

RECORD OF CLASSIFCATION No. RS12-042 RELATIVE TO THE BULDING ELEMENT

This record proves only some features of the proposed object to tests and does not prejudge the features of similar products. Therefore it does not create a certification of the product under article L 115-27 of the consumer code and under the law of 3rd June 1994.

That conformity can be proved by qualification certificates accepted by the Ministry of Industry.

In case of issue of this record by electronic methods and/or physical electronic supports, only the record in a hard copy format signed by CSTB (i.e. Centro Scientifico e Tecnico per l'Edilizia) has approval in cases of controversy. The hard copy form of this record is stored by CSTB for a minimum of 10 years.

The reproduction of this record is authorised only in its complete form.

It consists of 6 pages and 2 pages of attachments.

REQUESTED BY:

C&P COSTRUZIONI SRL
Via d'Este 5/7 – 5/8
42028 POVIGLIO (RE)
ITALY

OBJECTIVE

Fire resistance tests to a load bearing wall

REFERENCE TESTS

- The ordinance of 22nd March 2004 modified
- NF EN 1365-1 (June 2000)
- NF EN 13501-2 (May 2004)

Test date

30th August 2012

Expiration date

This record of classification and any integrations are valid until:

30th August 2017

REFERENCE REPORT

Report of test No. RS12-042

ORIGIN AND FEATURES OF THE SAMPLES

Material provided by	: C&P COSTRUZIONI
Commercial label	: "ISOTEX HDIII 44/21 NS"
Producer	: C&P COSTRUZIONI
Origin :	Factory of POVIGLIO (ITALY)

1. INTRODUCTION

This record of classification of fire resistance defines the classification for load bearing walls conforming to the operative procedure under the law NF EN 13501-2 (May 2004 edition)

2. Description summary of the object

(The measurements are in mm).

The load bearing wall is mainly built in breeze blocks

The features of the breeze block

The blocks of wood concrete, reference "ISOTEX HDIII 44/21 NS", have a dimension of 500 x 250 (L x H) and a minimum depth of 440. They are made of two sides , with a minimum width of 40 and two transversal partitions, width 50, that forms a single cavity with a minimum size of 200 x 150 (L x W).

Inside the breeze block it is possible to insert a polystyrene graphite insulate. That insulate is bound by force to the partitions of the block through cut grooves.
It will have a maximum thickness of 210 forming a buffer cavity with a minimum size of 200 x 150 (L x s). It will be covered by wood on the side of the breeze block, without bonds nor continuity, directed towards the external face of the wall.

Implementation

The first row of breeze blocks are laid without bonds on restored (cleared) and levelled ground.

Laying the next breeze blocks is done by horizontal layers held together by dry bonds. This same system of bonding is used for the vertical joints between breeze blocks of the same row, which following the assembly, form a cavity with a minimum dimension of 200 x 150 (L x s). The space between vertical and horizontal bonds is a maximum of 3.

The vertical joints are broken up with a semi block from one row to another with the cavities a lined to the height of the wall.

The internal re-enforcement is made of a metal net, with square mesh of max. 250, formed by straight HA8 bars.

The horizontal bars have to be positioned in the groove created by the partitions in the breeze blocks. Therefore, a bar is applied from the right of every layer, with the exception of the last, highest layer where two bars of 8 are placed.

The vertical bars have to be inserted from the top of the wall and between the horizontal bars in the highest layer of the wall. Those vertical bars have to be placed at a maximum spacing of 250 and bound to those horizontal bars.

The filling cement

The metal net made in this way has to be placed within the thickness of the cavities to be covered in at least 71 of cement.
Type S5 cement is poured, from the highest edge of the blocks, in a single phase.

See the object design, attachments No.1 and 2

3. Object representation

Through the original production materials, and through the principles of on-site assembly, the element, applied under laboratory conditions and following the manufacturer's application instructions, can be considered as a representation of its real use.

It Follows the release of a confirmed record.

4. TEST REPORT AND RESULTS OF THE MATERIAL TEST UNDER THIS CLASSIFICATION

4.1 Test report

This record of classification is associated with the test report No. RS12-042.

The authority which performed the test	Address of the authority	Notification No./ The authority's statue	Reference No. Of the test report	Test date
CSTB	84 avenue Jean Jaurès Champs sur Marne 77447 Marne la Vallèe Cedex 2 France	Laboratory Approved by The Internal Ministry According to The ordinance of 5th February 1959	RS12-042	30th August 2012

The test report has been drawn up on behalf of the applicant of the current verbal classification

4.2. Test results

Exposure conditions:
Temperature/time curve: $T = 345 \log_{10} (8t + 1) + 20$

Test results:

Load bearing capacity	
Vertical contraction limit (negative stretching)	172 minutes (without failure)
Limited velocity of vertical contraction (negative stretching)	172 minutes (without failure)
Fire resistance	
Inflammability continues to	172 minutes (without failure)
Inflammability of the cotton buffer to	172 minutes (without failure)
Penetration or movement of a bore opening	172 minutes (without failure)
Thermal insulation	
Cause limit: interruption of the test	172 minutes (without failure)

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 elemnt, the aim of this document, is classified according to the following combination of parameters and performances. **No other classification is aurthorised.**

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. RS12-042, 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 ≤ 40000 daN/ml 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.

- Minimum thickness of 40 for the sides of the breeze block.
- Minimum dimensions of the cavity modelled following the assembly of 200 x 150 (L x s).

5.3.8 WARNING

This record of classification does not represent type approval or the object's certification.

The results of the fire resistance test are directly applicable to similar constructions if one or more modifications have been made and the construction continues to conform to the design code corresponding in terms of its own rigidness and stability:

- Reduction in height
- Increasing the thickness of the wall due to **only** thickening its cement core.
- Increasing the thickness of the component materials, expect:
- The thickness of the insulate layer limited to a max. 120
- The thickness of the partitions maintained at 50
- The reduction of mechanical stress (cfr. Paragraph 5.3.4 of this verbal classification for the maximum accepted value).
- The increase of perpendicular section of the wall object of this verbal classification.

Given in Marne-la-Vallèe, 22nd October 2012

The technician undertaking the test
"Polo Mezzi of Prova Fissi"

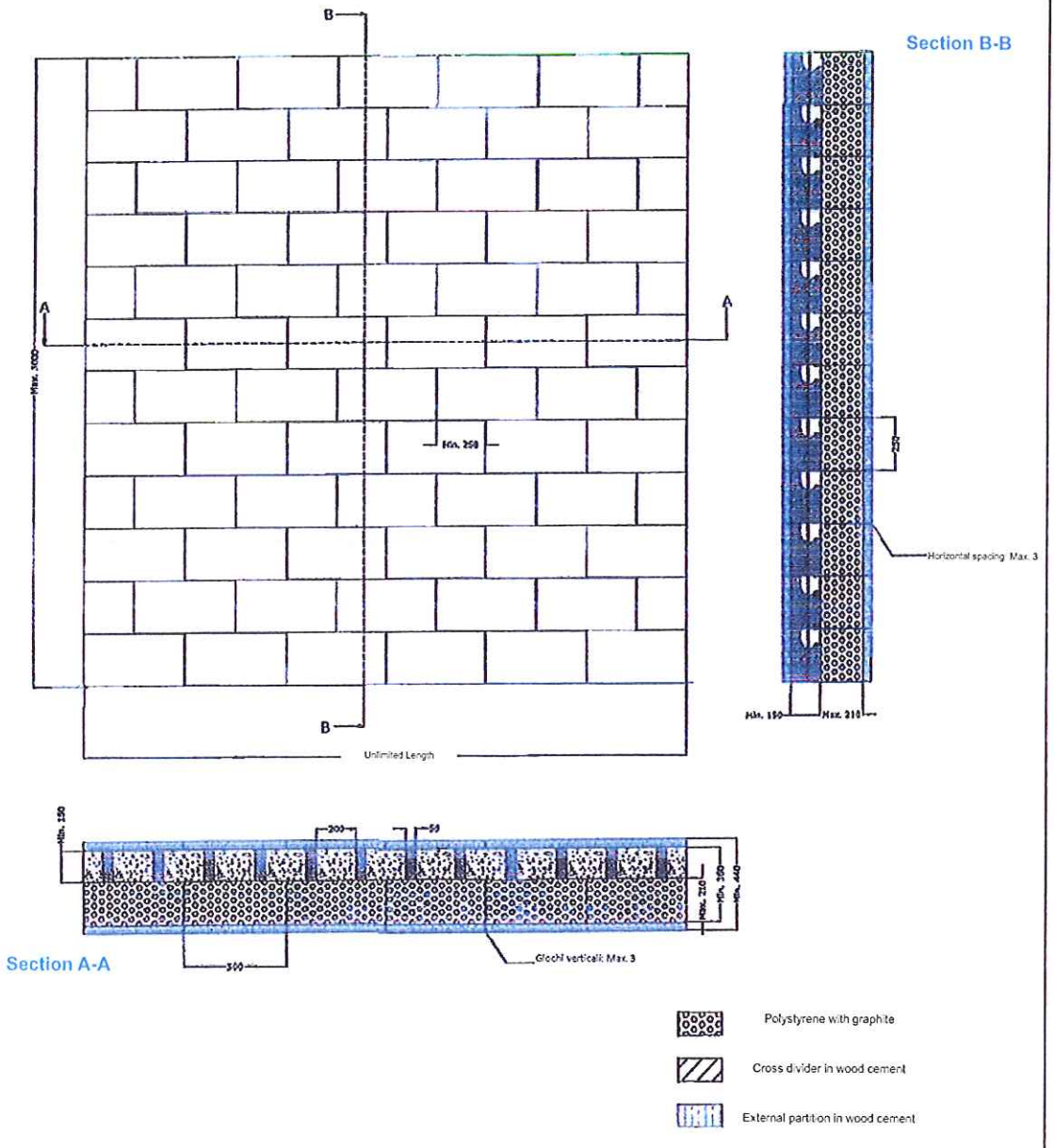
Anthony MALARA

The responsible of Polo Mezzi of Prova Fissi
Partition Studies and fire resistance tests"

Romuald AVENEL

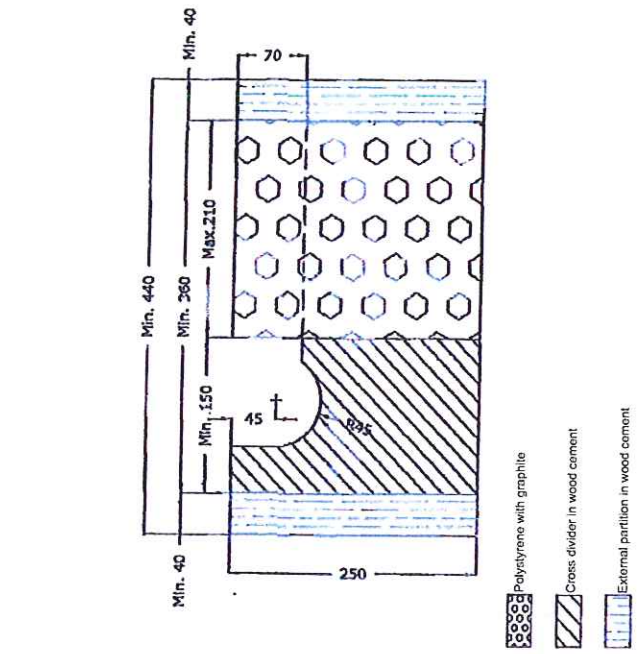
THE END OF THE VERBAL CLASSIFICATION PROCESS

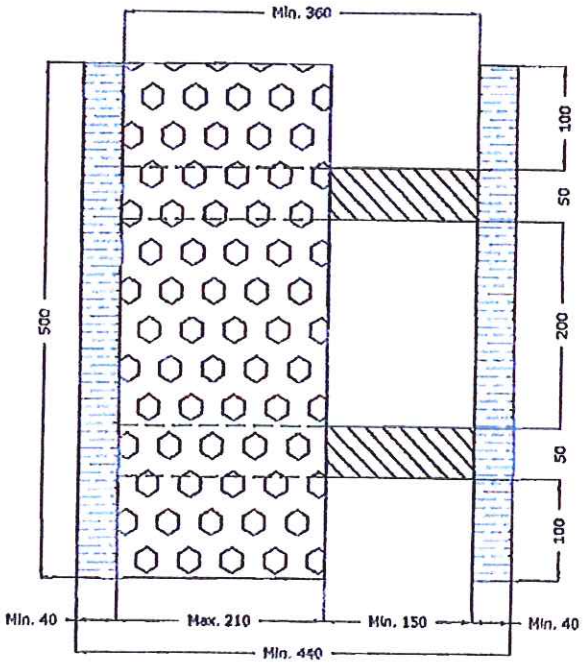
CSTB	Verbal classification No. RS12-042	Attachment No. 1



Drawing of the slab positions	Date: 30/08/2012
	Client: C&P COSTRUZIONI

CSTB	Verbal classification No. RS12-042	Attachment No. 2





Drawing of a block	Date: 30/08/2012
	Client: C&P COSTRUZIONI