



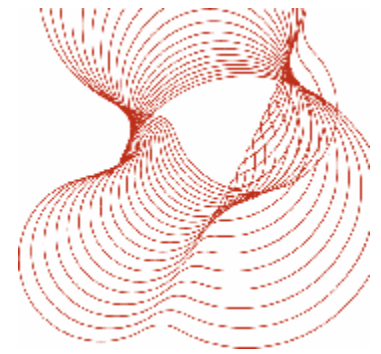
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**An assessment of the  
fire resistance of a  
loadbearing wall system**

Prepared for:  
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15 December 2005

**Assessment report number  
CC 226877**



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**Date of this report** 15 December 2005

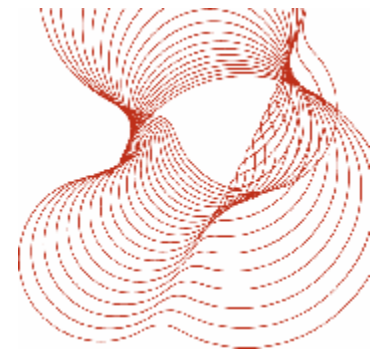
**Date of next review** 15 December 2010

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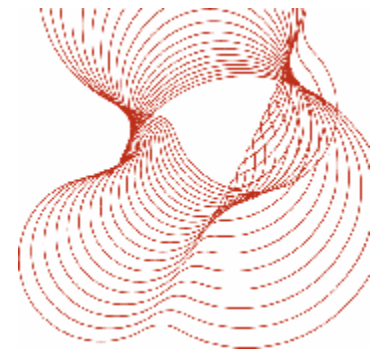
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## 1 Introduction

Fire resistance tests have been carried out on wall systems in France and Belgium in accordance with their national test standards. This report considers the likely fire performance of a similar wall system when tested in accordance with BS 476 : Part 21 : 1987.

## 2 Scope

This report considers the likely fire resistance of a wall system when tested in accordance with BS 476 : Part 21 : 1987.

## 3 Supporting Data

This assessment is based on supporting test data, some of which is more than five years old. This supporting data has therefore been reviewed against current test procedures.

### 3.1 CSTB test report no. RS00-204

A fire resistance test in accordance with article 13 of the French decree was carried out on 17 January 2001 on a loadbearing wall, 2850mm high x 2830mm wide, comprising Ytong reinforced aerated concrete panels, 150mm thick.

The panels were installed with their long edges horizontal. The bottom panel was 360mm wide, and the remaining panels were 600mm wide. The four joints between panels had a tongue and groove type joint sealed with one of the following methods:- a) Ytocol thin layer mortar, b) Superwool X607, c) Stop Fire T306, or d) Cerablanket.

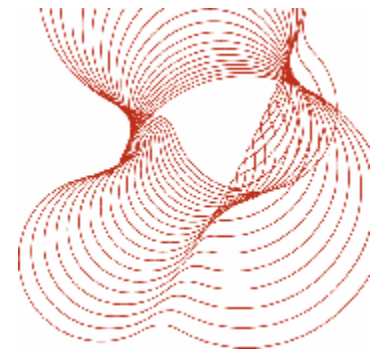
The wall was uniformly loaded to a total of 56.8kN, i.e. 20.07kN/m.

The test specimen satisfied the performance criteria as follows:

Imperviousness to flames and hot flammable gases – 360 minutes

Insulation – 360 minutes.

For full details refer to CSTB test report no. RS00-204.



### **3.2 G.C. Liege report no. 31.244 – 136**

A fire resistance test in accordance with the Belgian test standard NBN 713.020 and ISO 834 was carried out on 17 August 1981 on a non-loadbearing wall, 2980mm high x 2980mm wide, comprising reinforced Durox aerated concrete panels, 150mm thick.

The panels were installed with their long edges horizontal. The panels were nominally 750mm wide. The four joints between panels had a tongue and groove type joint sealed with Durofix PA thin layer mortar.

The specimen satisfied the performance criteria as follows:

Stability – 360min

Integrity – 360min

Insulation – 360min

For full details refer to G.C. Liege test report no. 31.244 – 136.

## **4 Description of the Proposed System**

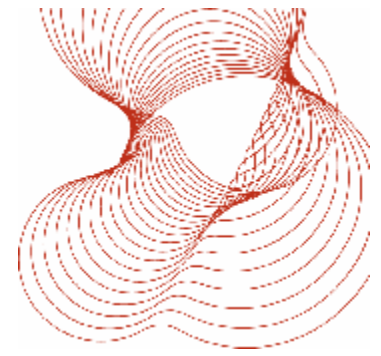
The proposed system is the same as the system that was tested as described in section 3.1 of this report, except that all joints are filled with Ytocol cementitious thin layer mortar. The reinforced aerated concrete panels are 150mm thick x 600mm wide, and are fitted with their long edges horizontal. A typical panel is shown in figure 1.

## **5 Assessment**

Xella BE nv/sa have stated that they now market the products referred to in section 3 of this report and that the products tested have the same constituents.

It has been stated that the proposed panels are the same composition, design, and dimensions as the panels tested as reported in RS00-204, and the detail and mortar at joints is the same as the lower joint in test RS00-204 and the same as all the joints in test 31.244 – 136. Although it is considered that testing to the French Standard may be less onerous as the furnace pressure is lower than that required when testing to BS 476 : Part 21 : 1987, the furnace pressure and the other heating conditions in the GC Liege test are similar to the British Standard. The performance criteria of the three test standards are similar. In addition, the products used in the wall system are non-combustible and so flaming at joints is not expected.

As the test specimen was restrained at the vertical edges from horizontal deflection, this assessment only covers walls with widths up to the tested width between vertical supports, i.e. 2830mm.



Therefore, it is our opinion that if the specimen described in the CSTB report RS00-204, but with all the joints sealed with Ytocol mortar, is tested in accordance with BS 476 : Part 21 : 1987, a similar result would be achieved.

## 6 Conclusion

In our opinion, if the wall system as described in CSTB report no. RS00-204, but with all the joints filled with Ytocol mortar, is tested in accordance with BS 476 : Part 21 : 1987, the test specimen would satisfy the performance criteria of the standard for 360min.

## 7 Validity of the Assessment

### 7.1 Declaration by applicant

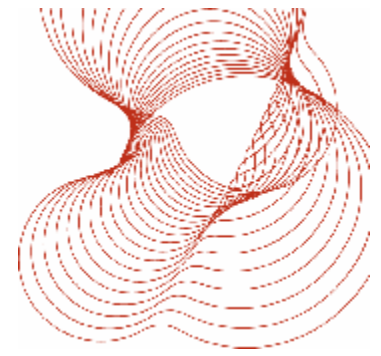
- We the undersigned confirm that we have read and complied with the obligations placed on us by the UK Fire Test Study Group Resolution No. 82 : 2001.
- We confirm that the component or element of structure, which is the subject of this assessment, has not to our knowledge been subjected to a fire test to the Standard against which this assessment is being made.
- We agree to withdraw this assessment from circulation should the component or element of structure be the subject of a fire test to the Standard against which this assessment is being made.
- We are not aware of any information that could adversely affect the conclusions of this assessment.
- If we subsequently become aware of any such information we agree to cease using the assessment and ask BRE Testing to withdraw the assessment.

Signed: \_\_\_\_\_

For and on behalf of: \_\_\_\_\_

### 7.2 BRE Testing declaration

This assessment is based on test data, experience and the information supplied. If contradictory evidence becomes available to BRE Testing the assessment will be unconditionally withdrawn and the applicant will be notified in writing. Similarly the assessment is invalidated if the assessed construction is subsequently tested since actual test data is deemed to take precedence over an expressed opinion. The assessment is



valid for a period of five years after which it should be returned for review to consider any additional data which has become available or any changes in the fire test procedures. Any changes in the specification of the product will invalidate this assessment.

This assessment has been carried out in accordance with Fire Test Study Group Resolution No. 82. It relates to the fire performance of the product and does not cover aspects of quality, durability, maintenance nor service requirements. This assessment relates only to the specimen(s) assessed and does not by itself infer that the product is approved under any Loss Prevention Certification Board approval or certification scheme or any other endorsements, approval or certification scheme.

Next review date: 15 December 2010

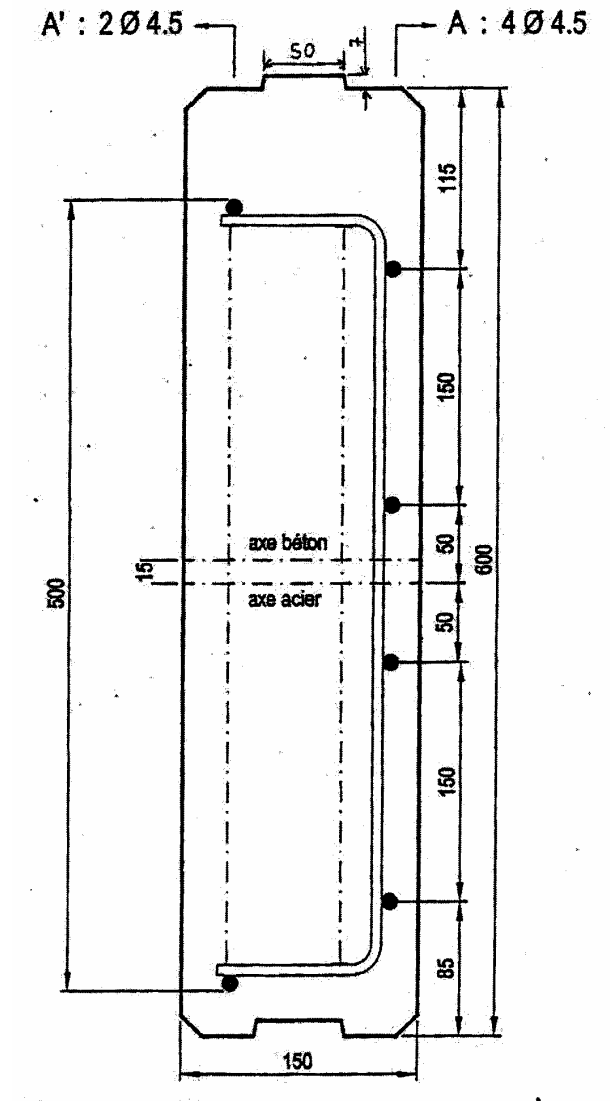
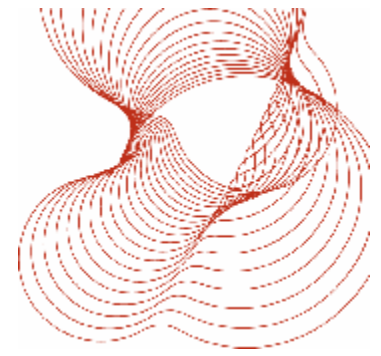


Figure 1 Ytong panel

=====REPORT ENDS=====