



PAVUS, a.s.
AUTHORIZED BODY 216
NOTIFIED BODY 1391
ACCREDITED CERTIFICATION BODY FOR
PRODUCTS N° 3041

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FIRE RESISTANCE CLASSIFICATION REPORT

The object of
classification:

*Loadbearing walls with fire separating function
according to ČSN EN 13501-2:2017, cl. 7.3.2*

Identification number:

PK2-02-18-014-E-0

Name and type of
element:

System 3E loadbearing wall

Sponsor:

SYSTEM 3E S.A.
Rondo ONZ 1,
00-124 Warszawa
Poland

Issuing organization:

PAVUS, a.s.
Authorized Body 216
Notified Body 1391
Accredited certification body for products N° 3041
- Accreditation issued by Czech Accreditation Institute, Public Service Company
- Certificate of Accreditation N° 762/2017

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1. INTRODUCTION

- 1.1. This Classification Report defines the resistance to fire classification assigned to the given element in accordance with procedures given in ČSN EN 13501-2.
- 1.2. This Classification Report includes 4 pages and may only be used or reproduced in its entirety.

2. DETAILS OF CLASSIFIED PRODUCT

2.1. General

„System 3E loadbearing wall” has been defined as an element of loadbearing construction. It has been designated as a fire separating construction with regard to its fire resistance parameters mentioned in art. 5 of ČSN EN 13501-2:2017.

2.2. Description

The subject matter of classification is a loadbearing wall made of System 3E elements with total dimensions of 3 150 mm (width) × 3 200 mm (height) × 360 mm (thickness). The wall is provided with a layer of adhesive with reinforcing mesh on both sides - symmetrical construction.

Description of the construction:

The wall is made of perlite-cement System 3E elements (blocks) with nominal density in dry conditions ($390 \pm 10 \%$) kg/m³. The blocks are made with grooves of 50 mm in depth on the horizontal sides so that the individual blocks overlap each other by half length of the block in the bond pattern. The outer dimensions of the block in the wall area are 704 x 352 x 300 mm (length x width x height). The blocks on the top and bottom edge of the wall have one side without grooves and their height is 250 mm. System 3E elements are executed as a dry set masonry, without the use of mortar or adhesive.

The layer of adhesive Weber KS143 with the fibreglass reinforcing mesh Weber PH913 of approximately 5 mm in total thickness (Weber, Saint-Gobain Construction Products) is applied on both sides of the wall.

Element manufacturer was a company SYSTEM 3E S.A.

For a detailed product description including drawings see Test Report No. Pr-18-2.215-En dated December 14th, 2018.

3. TESTS REPORTS / EXTENDED APPLICATION REPORTS AND TEST RESULTS IN SUPPORT FOR THIS CLASSIFICATION

3.1. Test reports / Extended application reports

| Name of the Laboratory Address Accreditation number: | Sponsor of the Report | Report number Date of test | Testing Procedure |
|--|---|-------------------------------|-------------------|
| PAVUS, a.s. Veseli nad Luznici Accr. T.Lab. No. 1026 | SYSTEM 3E S.A. Rondo ONZ 1, 00-124 Warszawa Poland | Pr-18-2.215-En 2018-11-10 | ČSN EN 1365-1 |

3.2. Stress conditions and test results

| Testing Procedure, Report number Date of issue | Parameter | |
|--|---|--|
| ČSN EN 1365-1 Pr-18-2.215-En 2018-12-14 | Exposure conditions Direction of fire exposure Number of exposed faces Load application Supporting conditions | <i>standard temperature / time curve</i> <i>side symmetrical construction</i> 1 <i>continuous axial load 150 kN.m⁻¹</i> <i>masonry YTONG type P2 - 550, 250 mm</i> <i>in thickness, both free vertical edges</i> |
| | Loadbearing capacity (R) - limiting vertical contraction - limiting rate of vertical contraction | 184 minutes, not attained 184 minutes, not attained |
| | Integrity (E) - cotton pad - gap gauges - sustained flaming | 184 minutes ²⁾ 184 minutes ²⁾ 184 minutes ²⁾ |
| | Insulation (I) - average temperature - maximum temperature | 184 minutes ²⁾ 184 minutes ²⁾ |
| | Radiation (W) ¹⁾ - < 15 kW.m ⁻² (was not measured) | 191 minutes, not attained |
| | Mechanical action (M) | no failure |

1) There is no requirement to measure the radiation from a surface with a temperature below 300 °C because the radiation from such a surface is low (see ČSN EN 1363-2:2000 cl. 8.1).

2) Failure of loadbearing capacity automatically means failure of integrity and insulation criterion (see ČSN EN 1363-1:2013 cl. 11.4.1) - removal of the test load.

Impact test was performed according to ČSN EN 1363-2 cl. 7 on the centre of the test specimen, the 1st and the 2nd impact was performed in 183rd min and 184th min, when the specimen was fully loaded. Removal of the test load was after the 2nd impact and then the 3rd impact was performed in 186th min. No criteria failed during or after the impact test.

4. CLASSIFICATION AND APPLICATION FIELD

4.1. Reference

This classification was carried out in conformity with clause 7 ČSN EN 13501-2:2017.

4.2. Classification

System 3E loadbearing wall is classified according to the following combinations of the fire resistance class and property parameters:

REI 180-M / REW 180

4.3. The field of application

The results of the fire test of specimen - *System 3E loadbearing wall* - are directly applicable to similar constructions where one or more of the changes listed below are made and the construction continues to comply with the appropriate design code for its stiffness and stability:

- decrease in height;
- increase in the thickness of the wall;
- increase in the thickness of component materials;
- decrease in the applied load;
- increase in the width.

5. RESTRICTIONS

This classification is valid unless the conditions, under which it was issued, have been changed. The sponsor may request the issuing authority to review the influence of changes to the classification validity.

The time limitation of the validity of this classification report is 5 years after the issue date of this report.

This report does substitute neither the type approval nor the product certificate.

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