

# REI 60



## TEST REPORT FIRES-FR-100-14-AUNE

**Loadbearing wall, system BORABELA**

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Reg. No. 041/S-159



## TEST REPORT

### FIRES-FR-100-14-AUNE

**Tested property:** Fire resistance  
**Test method:** EN 1365-1:2012/AC:2013  
**Type of test:** Accredited  
**Date of issue:** 22. 07. 2014

**Name of the product:** Loadbearing wall, system BORABELA

**Manufacturer:** BORABELA s.r.o.,  
Anenské nám. 948/3, Staré Město, 110 00 Praha 1, Czech Republic

**Sponsor:** BORABELA s.r.o.,  
Anenské nám. 948/3, Staré Město, 110 00 Praha 1, Czech Republic

**Test carried out:** Fires, s.r.o., Testing laboratory  
**Task No.:** PR-14-0140  
**Specimen received:** 20. 05. 2014  
**Date of the test:** 30. 05. 2014

**Technician responsible for the technical side of this report:** Michaela Gotlická

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## 5. CARRYING OUT OF THE TEST

### 5.1 CONDITIONS OF THE TEST

Conditions in the test furnace (temperature – standard temperature/time curve, pressure, content of O<sub>2</sub>) as well as in the testing room (ambient temperature) corresponded to EN 1363-1 during the test. Detailed information is part of this test report, or in quality records of the testing laboratory.

Values characterizing environment in the testing room directly before the test:

Relative air humidity [%]	Ambient air temperature [°C]
49,1	15,2

### 5.2 RESULTS OF THE TEST

Measured values are stated in this test report. Description of the specimen behavior during the test:

Time [min:s]	Face of specimen	Observation
15:00	NS	Specimen without significant changes;
18:00	ES	Joints of boards are closed and compact;
24:00	NS	Cracking of mastic in plaster boards joints;
28:00	ES	Soft flaming from joints of plasterboards.
	NS	No further significant changes visible.
40:00	ES	Increase in distance between plaster boards;
50:00	NS	No further significant changes visible.
62:00	NS	Soft fuming above joint of plaster boards at the top of specimen;
	ES	Flaming from under the plaster boards; Partial falling down of plaster boards;
65:20		termination of the test.

ES exposed face of specimen

NS unexposed face of specimen

## 6. CLOSING

Evaluation of the test:

Performance criterion	Time till the performance criterion is achieved
integrity – sustained flaming	65 minutes no failure
integrity – gap gauges $\varnothing$ 6 mm and $\varnothing$ 25 mm	65 minutes no failure
integrity – cotton pad	65 minutes no failure
loadbearing capacity – vertical contraction (negative elongation) [mm]	65 minutes no failure
loadbearing capacity – rate of vertical contraction (negative elongation) [mm/min]	65 minutes no failure
insulation – average temperature (140 K)	65 minutes no failure
insulation – maximal temperature (180 K)	65 minutes no failure
radiation 15 kW.m <sup>-2</sup>	65 minutes no failure

The fire test was terminated after period of 65 minutes at the request of sponsor.

Regarding to low temperatures on unexposed specimen surface below 300°C the performance criteria of radiation is to be complied as satisfied.



#### 4. PREPARATION OF THE TEST

##### 4.1 DESCRIPTION OF THE SPECIMEN STRUCTURE

The specimen is a loadbearing wall, system BORABELA.

##### Dimensions

overall specimen dimension (height x width x thickness)

(3000 x 3000 x 180) mm

Construction of wall is made of 6 vertically oriented and 3 horizontally oriented perforated steel C profiles (150 x 45 x 10) mm, made of steel zinc coated sheet, 1,6 mm thick (grade of steel S GD350 Zn 275\_EN 10-346). Perforation of profiles:  $\varnothing$  34,1 mm and  $\varnothing$  13 mm in spacing 1500 mm. Distance between these holes is 200 mm.

Vertical C profiles are placed at the edges of specimen and next in spacing 600 mm. Horizontal C profiles are placed at the horizontal edges of specimen and in mid-height of specimen.

Profiles are jointed together by steel screws SL4 – F- 4,8 x 16 mm (manufacturer: SFS intec).



Construction of wall is covered by plaster boards RigiStabil (DFRIEH2) (manufacturer: Rigips), 15 mm thick, with bulk density 840 kg/m<sup>3</sup>. The boards are fixed to the wall construction by means of steel pneumatic target nails RNC-SB 28/40 NK placed at the edges of boards and next in spacing 200 mm – 250 mm. The joints of plaster-boards are covered by glass tape and standard gypsum mastic Rigips Vario (manufacturer: Rigips).

The core of wall is filled by blown cellulose type CLIMATIZER PLUS with bulk density 30 – 60 kg/m<sup>3</sup> (manufacturer: CIUR a.s.).

More detailed information about construction of specimen is shown in the drawings which form an integral part of this test report. Drawings were delivered by sponsor.

All the information about technical specifications of used materials and semi-products, information about their type sign were delivered by spncsor. This information was not subject of the inspection of specimen. Parameters which were checked are quoted in paragraph 4.3.