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FIRE RESISTANCE CLASSIFICATION REPORT

Subject of classification: *Loadbearing floors and roofs with fire separating function according to ČSN EN 13501-2:2010, cl. 7.3.3*

Identification number: ***PK2-03-16-003-E-0***

Name and type of element: *Attic Rigips 4.70.14 (VK12) with application of ICYNENE insulation*

Test sponsors:

Saint-Gobain Construction Products CZ a.s.
Division Rigips
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1. INTRODUCTION

1.1. This Classification Report defines the resistance to fire classification assigned to the element in accordance with the procedures given in ČSN EN 13501-2+A1.

1.2. This Classification Report consists of 4 pages and may only be used or reproduced in its entirety.

2. DETAILS OF CLASSIFIED PRODUCT

2.1. General

Attic Rigips 4.70.14 (VK12) with application of ICYNENE insulation has been defined as an element of loadbearing construction with a fire separating function with regards to its parameters of fire resistance mentioned in cl. 5 of ČSN EN 13501-2+A1:2010.

2.2. Description

- Roof construction with an inclination of 30° and with total thickness of 285 mm;
- Wooden rafters of 100x160 mm (spruce) in spacings of 750 - 1200 - 750 mm (4 pcs / 3 m of specimen width), the rafters are layed in an inclination of 30° on wooden wall plates of 140x100 mm (spruce) and in the joints, they are anchored with screws; the wall plates are screwed to the supporting construction usin steel angles;
- Onto the rafters, a diagonally oriented ceiling Rigips 4.70.14 (VK12) consisting of supporting R-CD profiles oriented perpendicular to the rafters is suspended. Spacing of R-CD profiles is 500 mm (in diagonal length). The ceiling is suspended using rafter hangers screwed to the side of the rafters by means of always a pair of screws FN 50. The distance of the ceiling from the lower edge of rafters is approximately 100 mm;
- The ceiling sheath consists of two layers of Rigips RF boards of 12.5 mm in thickness. The gaps of first layer are covered with boards of the second layer and the gaps in both layers are provided with gypsum joint filler MAX without reinforcing strip. For the first layer, screws TN 25 in spacings of 350 mm and for the second layer, screws TN 35 in spacings of 170 mm were used.
- The space above the ceiling up to the level of the upper edge of loadbearing rafters is filled with spray foam insulation ICYNENE of 260 mm in thickness (PUR, 8.3 kg/m^3). At the front, the insulation is bound with gypsum board Rigips RF dimension stocks.

Manufacturer of the tested specimen: ***Saint-Gobain Construction Products CZ a.s. division Rigips***
The top surface of the tested roof was not covered with any roofing.

The descprition of the element construction including drawing is given in Test Report No. *Pr-16-2.037 from March 11th, 2016.*

3. TEST REPORTS / EXTENDED APPLICATION REPORTS AND TEST RESULTS IN SUPPORT OF THE CLASSIFICATION

3.1. Test reports / extended application reports

Name of laboratory Address Accreditation number	Sponsor of the report	Report number Date of issue	Test method
PAVUS, a. s. *Veselí nad Lužnicí* *ATL No. 1026* *Czech Republic*	***Saint-Gobain Construction Products CZ a.s.*** ***Division Rigips*** *Počernická 272/96* *108 03 Praha 10* *Czech Republic*	*Pr-16-2.037* *2016-03-11*	*ČSN EN 1365-2*

3.2. Stress conditions and test results

Test method, Report number Data of issue	Parameter	
ČSN EN 1365-2 *Pr-16-2.037* *2016-03-11*	Fire scenario	*Standard temperature / time curve*
	Direction of fire exposure	*From below*
	Applied load	*Loads representing uniform continuous load of 200 kg/m² in floor area*
	Supporting conditions	*Simple beam with an inclination of 30° and with floor span of 4100 mm*
	Loadbearing capacity (R)	
	- Limiting deflection	***48 minutes**, not attained*
	- Limiting rate of deflection	***48 minutes**, not attained*
	Integrity (E)	
	- Cotton pad	***47 minutes***
	- Gap gauges	***48 minutes**, no failure*
	- Sustained flaming	***47 minutes***
	Insulation (I)	
	- Average temperature	***47 minutes*** [1)]
	- Maximum temperature	***47 minutes*** [1)]

[1)] The performance criteria "insulation" shall automatically be assumed no to be satisfied when the "integrity" criterion ceases to be satisfied (ČSN EN 13501-2 cl. 5.2.3.3).

4. CLASSIFICATION AND FIELD OF APPLICATION

4.1. Reference

This classification has been carried out in accordance with cl. 7 of ČSN EN 13501-2+A1:2010.

4.2. Classification

Attic Rigips 4.70.14 (VK12) with application of ICYNENE insulation has been classified according to the following combinations of performance parameters and fire resistance classes:

REI 45

4.3. Field of application

The fire resistance test results of the specimen – **Attic Rigips 4.70.14 (VK12) with application of ICYNENE insulation** – can be applied directly to similar constructions – in accordance with ČSN EN 13501-2+A1 and ČSN EN 1365-2 - where one or more changes listed below are made and the construction continues to comply with the appropriate design code for its stiffness and stability:

with respect to the structural building member:

- The maximum moments and shear forces, which when calculated on the same basis as the test load, shall not be greater than those tested.

with respect to the ceiling system:

- The size of panels of the ceiling lining may be increased by a maximum of 5 % but limited to a maximum of 50 mm. The length of the grid members can be increased accordingly.
- The total area occupied by fixtures and fittings relative to the area of the ceiling lining is not increased and the maximum tested opening in the lining is not exceeded.

with respect to the inclination of roof constructions:

- The test results of elements tested with an inclination of 30° may be applied for an inclination of 15°÷45°.

5. LIMITATIONS

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 classification document does not represent type approval or certification of the product.

Processed by:	*Checked by:*	*Approved by:*
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