

Translated from Czech to English:

PAVUS

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PROTOCOL ON CLASSIFICATION OF ROOFS EXPOSED TO EXTERNAL FIRE

Subject of classification: Roofs and roof coatings in accordance with the standard ČSN EN 13501-5: 2017,
Article 8.3

Identification number: PK5-03-17-907-C-0

Name and type of the component:

Structure of roofs with roof coating made of PVC membrane
PLASTFOIL ECO

Ordering company: **PENOPLEX Spb Limited**
RF-191014
St. Petersburg, Saperny per. 1 lit A
Russia

Company that prepared the protocol:

PAVUS, a.s.
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Accredited certification body for certification
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190 00 PRAGUE 9

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1. INTRODUCTION

- 1.1. This classification protocol classifies the specified component in accordance with the methods set forth in standard ČSN EN 13501-5.
- 1.2. This classification protocol consists of 4 pages and can be used only in its entirety.

2. DETAILED INFORMATION ON THE CLASSIFIED COMPONENT

2.1. General

The structure of the roof coating must correspond to the classification parameters of the roof exposed to external fire, which parameters are set forth in standard ČSN EN 13501-5, table 1.

2.2. Detailed description of the roof

This classification is applied to the following structures of roof coatings (from the upper layer)

Structure 1:

- Roof coating – PVC film (membrane) specified in table A.
- Glass textile; weight 120 g/m²
- EPS 100; thickness 40 – 350 mm, reaction-to-fire class: E and higher
- Steam tight protective liner made of polythene film; 0.2 mm thick, reaction-to-fire class: E and higher
- Standard layer of wood chipboard
(Slope of the roof coating is 5°)

Structure 2:

- Roof coating – PVC film (membrane) specified in table A.
- Glass textile; weight 120 g/m²
- EPS 100; thickness 40 – 350 mm, reaction-to-fire class: E and higher
- Steam tight protective liner made of polythene film; 0.2 mm thick, reaction-to-fire class: E and higher
- Standard layer of wood chipboard
(Slope of the roof coating is 5°)

The roof was secured on the base mechanically, with the use of plastic fixtures and bolts, film seams were made *by overlap welding*.

Table A. Roof coating – PVC film

No	Name of PVC film	thickness
1.1.	PLASTFOIL ECO 1.2	1.2 mm
1.2	PLASTFOIL ECO 1.5	1.5 mm
1.3	PLASTFOIL ECO 1.8	1.8 mm
1.4	PLASTFOIL ECO 2.0	2.0 mm

3. TEST PROTOCOLS / ADVANCED APPLIED USE PROTOCOLS AND TESTING RESULT USED FOR THIS CLASSIFICATION.

3.1. Test protocols / Classification protocols / Advanced applied use protocols

Laboratory name Address Accreditation number	Person who ordered test protocol / classification protocol / advanced applied use protocol /	Protocol number Date of issue Test date:	Testing method
PAVUS, a.s. Fire testing facility Veselí nad Lužnicí Accredited testing laboratory No 1026	PENOPLEX Spb Limited RF – 191014 St. Petersburg, Saperny per. 1 lit A Russia	Pr-17-2.084 2017-05-09 2017-04-19	ČSN P CEN 1187 – testing method 3
		Pr-17-2.085 2017-05-09 2017-04-19	
		Pr-17-2.086 2017-05-09 2017-04-20	
	EUROTEC Praha, a.s. Shkroupovo namesti 1255/9 130 00 Prague 3 – Žižkov The Czech Republic	Pr-17-2.105 2017-06-02 2017-05-26	
PAVUS, a.s. Prosecka 412/74 190 00 Prague 9 – Prosek COV 3041	PENOPLEX Spb Limited RF – 191014 St. Petersburg, Saperny per. 1 lit A Russia	PRA5-03-17-907-C-0 2017-10-23	ČSN P CEN/TS 16459

*) Attached is the Owner's Consent to the use of this testing protocol by the person who ordered this document.

3.2. Results of testing of roofs exposed to external fire

Parameter	Criterion			Testing results				Conformance		
	Class B _{ROOF} (t3)	Class C _{ROOF} (t3)	Class D _{ROOF} (t3)	Test 1		Test 2		Class B _{ROOF} (t3)	Class C _{ROOF} (t3)	Class D _{ROOF} (t3)
				Sample 1	Sample 2	Sample 3	Sample 4			
Duration of external fire spreading T _E	≥ 30 minutes	≥ 10 minutes		≥30 minutes	≥30 minutes	≥30 minutes	≥30 minutes	yes	-	-
Time until burning-out T _p	≥ 30 minutes	≥ 15 minutes	≥ 5 minutes	-	-	-	-	yes	-	-

Parameter	Criterion			Testing results				Conformance		
	Class B _{ROOF} (t3)	Class C _{ROOF} (t3)	Class D _{ROOF} (t3)	Test 3		Test 4		Class B _{ROOF} (t3)	Class C _{ROOF} (t3)	Class D _{ROOF} (t3)
				Sample 5	Sample 6	Sample 7	Sample 8			
Duration of external fire spreading T _E	≥ 30 minutes	≥ 10 minutes		≥30 minutes	≥30 minutes	≥30 minutes	≥30 minutes	yes	-	-
Time until burning-out T _p	≥ 30 minutes	≥ 15 minutes	≥ 5 minutes	-	-	-	-	yes	-	-

4. CLASSIFICATION AND APPLICATION AREA

4.1. Reference to classification

This classification was conducted in accordance with articles 8.3 and 9 of standard ČSN EN 13501-5:2017.

4.2. Classification

Structures of the roof correspond to their response during roof testing, exposed to external fire and classified as

B_{ROOF} (t3)

4.3. Direct application area

This classification is valid for the following end-use applications:

Testing results obtained at a 5° incline in accordance with article 6.5.4.4.1 are valid for the inclines of up to 10°.

Testing results obtained for chipboards produced in accordance with article 6.5.4.4.1 are valid for:

- all wooden continuous panels with the minimum thickness of 12 mm;
- all panels made of wooden boards with even edges;
- all non-flammable panels with the gaps exceeding 5.00 mm.

Note: non-flammable panels with the gaps exceeding 5.00 mm include, for example, roof made of trapezium-shaped profile, concrete panels, reinforced concrete panels etc.

5. LIMITATION

This classification is valid unless the conditions, under which it was issued, have changed.

The customer may require the company that prepared this protocol, to check how the changes have affected the classification.

Validity period of this classification protocol is 5 years from its date of issue.

This classification protocol does not substitute the document confirming the product type or the product's certificate.

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Accredited certified body for certification of
products No 3041. PAVUS

This is certified to be a true copy in English.

Deputy General Director for sales of PVC
Penoplex SPb Limited



/Samarin M.V./