PAVUS, a.s.
AUTHORIZED BODY 216
NOTIFIED BODY 1391
ACCREDITED CERTIFICATION BODY FOR PRODUCTS N^{O} 3041

Branch: **FIRE TESTING LABORATORY VESELÍ NAD LUŽNICÍ**
Čtvrť J. Hybeše 879
CZ 391 81 Veselí nad Lužnicí
Czech Republic

Address::
Prosecká 412/74, CZ 190 00 Praha 9 – Prosek
Tel.: +420 286 019 587 Fax: + 420 286 019 590
E-mail: mail@pavus.cz, http://www.pavus.cz

Tel.: + 420 381 477 418
Fax: + 420 381 477 419
E-mail: veseli@pavus.cz

FIRE RESISTANCE CLASSIFICATION REPORT

The object of classification:: *Loadbearing floors and roofs with fire-separating function as per ČSN EN 13501-2, clause 7.3.3*

Identification number: ***PK2-03-18-004-E-1***

Name and type of element: *Horizontal Load-Bearing Structure*
Double Skin Roof LMR600

Sponsor: ***Astron Buildings S.A.***
Route d´Ettelbruck 34
L-9230 Diekirch
Luxembourg

Issuing organization: *PAVUS, a.s.*
Authorised body 216
Notified Body 1391
Accredited Certification body for products 3041
- Accreditation issued by the Czech Accreditation Institute, Certificate of Accreditation No. 762/2017
Prosecká 412/74
190 00 Praha 9
Czech Republic
Fire testing Laboratory Veselí nad Lužnicí
Order reference: Z210180073

Date of issue: *2018-06-27*

Copies in total: *4*

Copy number: *1*

Pages in total: *5*

1 INTRODUCTION

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

1.2 This classification report consists of 5 pages and may only be used or reproduced in its entirety.

1.3 This classification report replaces and cancels classification report PK2-03-18-004-E-0 issued on 18th June 2018.

2 DETAILS OF CLASSIFIED ELEMENT

2.1 General

Double Skin Roof LMR600 is defined as a loadbearing roof construction with a fire separating function considering the characteristics of the properties stated in clause 5 of ČSN EN 13501-2.

2.2 Description

The subject matter of the classification is *Double Skin Roof* LMR600 having a total size of 10000 x 3760 mm (a thermally exposed pane having the expanse of 6000 mm with double-sided unexposed cantilevers in length of 2000 mm) was prepared for the test.

Roof composition:

- 3x binding rafter (ZLE 6648) of “Z” profile 2.67 mm thick and 203 mm high with bay 1400 mm, screwed above the supports, of the adjacent spans’ binding rafters, the binding rafters screwed to the section HEB 160 (BKE-A) as the support with screws M12x30 (BZD 12030);
- the lower membrane composed of the profiled sheets (LSE 3720) 0.54 mm thick, height of undulation 38 mm, placed upon the binding rafters and screwed with self-drilling screws SX5/12-S19-5.5x35 (HC 310);
- thermal insulation ISOVER ASTROTHERM (WNC 16500) 60 mm thick;
- spacing omega profiles (CL 294) screwed to the binding rafters with screws 6.3x32 (HC 163) and channel rail (HA 262) laid upon omega profiles and screwed with screws 6.3x32;
- thermal insulation ISOVER ASTROTHERM (WNE 12500) 80 mm thick;
- a strap of ISOBLOCK (PP 13) polystyrene insulation board inserted between the channel rail and upper profiled sheet;
- the upper membrane composed of the profiled sheets (XLM) 0.66 mm thick, with 50 mm high major corrugations and 70mm to the top of the formed seam, placed upon the channel rail with high clips (HY 2046), tab of the clip roll-formed into the double-lock seam during the site seaming operation.

Detailed description of the product with drawings is in the Test Report *No. Pr-18-2.098-En* issued on *5th June 2018*.

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**	**Name of sponsor**	**Test report No** **Date of issue**	**Test method**
PAVUS, a. s. *Veselí nad Lužnicí* *AZL No. 1026*	***Astron Buildings S.A.*** *Route d´Ettelbruck 34* *L-9230 Diekirch* *Luxembourg*	*Pr-18.2.098-En* *2018-06-05*	*ČSN EN 1365-2*

3.2 Stress conditioning and tests results

Test method, **Test report No** **Date of issue**	**Parameter**	
ČSN EN 1365-2 *Pr-18.2.098-En* *2018-06-05*	Exposure conditions Direction of exposure Loading conditions Support conditions	*Standard temperature / time curve* *Heat exposure from below* *Static loads replacing the uniform continuous load of 0.39 kN/m on the middle purlin and 0.41 kN/m on the side purlin* *Simple beam of span 6000 mm with double-sided unexposed cantilevers in length of 2000 mm*
	Loadbearing capacity (R) - deflection - rate of deflection	 *62 minutes, no failure* *62 minutes, no failure*
	Integrity (E) - cotton pad - gap gauges - sustained flaming	 *62 minutes, no failure* *62 minutes, no failure* *62 minutes, no failure*
	Insulation (I) - average temperature - maximum temperature	 *25 minutes* *22 minutes*

4 CLASSIFICATION AND FIELD OF APPLICATION

4.1 Reference of classification

This classification has been carried out in accordance with clause 7.3.3 of ČSN EN 13501-2.

4.2 Classification

Double Skin Roof LMR600 is classified according to the following combinations of performance parameters and classes.

R 60 / RE 60 / REI 20

4.3 Field of application

The results of the fire test - *Double Skin Roof LMR600* - are directly applicable in conformity with ČSN EN 13501-2 and ČSN EN 1365-2 to a similar untested floor construction provided the following is true:

- 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 cavity
  - no material is added to the cavity unless the same amount (in terms of both weight and fire load) of material was included in the test specimen;
- with respect to the inclination of roof constructions
  - for roofs incorporating one or more purlins, tested at an inclination angle of ≤ 10°, the results are valid for installation in practice under an angle from 0° up to 80°.

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 Report does not represent type approval or certification of the product.

Prepared by:	*Reviewed by:*	*Approved by:*
Jiří VANĚK Fire Testing Laboratory PAVUS, a. s. Autorizovaná osoba AO 216 Pobočka 391 81 Veselí nad Lužnicí	Zdeňka STARÁ	Jaroslav DUFEK