



PAVUS[®]
FIRE TESTING INSTITUTE

Order number:

Z220230328

PAVUS, a.s.

**FIRE CLASSIFICATION APPROVAL
OF FIRE RESISTANCE
No. PKO-23-066**

for product

**Trap door JAP 400 with foldable stairs LUSO PP/LSF
Trap door JAP 600**

made on the basis of:
Test report of fire resistance No. Pr-20-2.132n

Sponsor: JAP FUTURE s.r.o.
Nivky 67
750 02 Přerov III-Lověšice
Česká republika

Normative documents:

ČSN EN 1634-1+A1 Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware - Part 1: Fire resistance test for door and shutter assemblies and openable windows
ČSN 73 0810 Fire protection of buildings - General requirements

Fire classification approval contains 6 text pages incl. Annexes.

Copies in total: 2
Copy number: 1

Fire classification approval is carried out on the base of the order from 10th April 2023 concluded among the sponsor, JAP FUTURE s.r.o. and issuer PAVUS, a. s.

1 TECHNICAL DESCRIPTION OF THE PRODUCT AND ITS IDENTIFICATION

Assessment of the fire resistance is the subject of fire classification approval for product *Trap door JAP 400 with foldable stairs LUSO PP/LSF*; *Trap door JAP 600* according to ČSN 73 0810.

Trap door JAP 400 with foldable stairs LUSO PP/LSF:

Clean opening dimensions in supporting ceiling construction for fitting of trap are 1 200 x 700 mm.

Frame with total dimensions 1 217 x 715 x 141,5 mm is made from steel profiles bent into the required shape with dimensions 49 x 141,5 x 15 x 14 mm from rolled sheet with thickness of 1,5 mm and welded in corners, steel L reinforcement 19 x 14 with thickness of 1,5 mm is welded on whole external perimeter along lower frame edge by spot-weld with distance of 75-95 mm.

Leaf frame from spruce timber prisms with dimensions 70 x 30 mm connected by butt joint.

Chipboard DTD (Dřevo Trust Kroměříž) with thickness of 10,0 mm stapled using steel staples 5,6x28x1,1 mm with distance of 160 mm and screwed using 30 pieces of the screws 4x30 mm with maximum distance of 200 mm on upper part of timber leaf frame, all timber parts are impregnated using water glass (LUKAPOL Lukavec).

Lamella mat from stone wool Rockwool Larock 40 ALS (A-Z izolace s.r.o.) with thickness of 30,0 mm and declared density 40 kg/m³ is used as thermal insulation core of the leaf.

Board with dimension 1 066 x 668 mm from ceramic fibers CCEWOOL STD 1260 Ceramic Fiber Board (CCEWOOL THERMOMAX INC, QINGDAO PORT, China) with thickness of 12,0 mm and declared density 350 kg/m³ is placed in lower part of the leaf (from view side).

Sandwich structure of the leaf with timber frame paneled on both sides using galvanized sheet with thickness of 0,6 mm (Alfun a.s., Bruntál) and closed around the perimeter using steel reinforcement – profile 54x68 mm from galvanized sheet with thickness of 0,8 mm forming the overlap 18x12 mm, self-adhesive intumescent tape CN 10x2,0 mm (Fire centre s.r.o.) put around the perimeter of the leaf on the both flats of overlap (into the corner), one more line of intumescent tape CN 10x2,0 mm added on hinge side throughout the thickness of leaf.

Leaf is hung into the frame from steel rolled sheet with thickness of 1,5 mm (VANHOZ Bohumín) using two hinges. Steel L profiles 40x20x3,0 mm are screwed on the upper part of the leaf using 10 pieces of screws Ø 4,5x30 mm with distance of 150 mm and 250 mm, they fix the foldable stairs LUSO together with fixtures (springs ŽDB Drátovna a.s., spring holder and rods).

Closing of the trap leaf is secured using 2 pieces of hinges (JAP FUTURE s.r.o., Přerov) with distance of 410 mm, one central steel latch (customer did not state producer/supplier) with thickness of 3,8 mm with protruding length 13 mm and 2x 2 pieces of steel springs, steel reinforcement profile L 10x20x0,8 mm with length of 264 mm is riveted on the leaf in place of hinges. Leaf opens using a rod with a hook.

The gap with dimension 7-12 mm between the frame of fire closure and opening in reinforced concrete panel is filled using gypsum milk (GYPSTREND s.r.o., Czech Republic).

Fire closure is fixed – hung up in the opening in the ceiling panel through corners using steel corner sheet with opening together with steel beam profile U 20x20x2,0 mm with length of 300 mm and secured using screws, washers and nuts M10.

Lower leaf side is treated with white PES paint (customer did not state producer/supplier), upper leaf part and frame without surfacing.

Dimensions of trap: 670 x 1 170 mm, thickness 55,6 mm.

Dimensions of lower edge of frame: 715 x 1 217 mm.

Dimensions of upper edge of frame: 680 x 1 180 mm.

Clean opening dimension: 650 x 1 150 mm.

Detailed description of the product including drawings is given in the Test report No. Pr-20-2.132n from 31st August 2020.

Trap door JAP 600:

For the description, see *Trap door JAP 400 with foldable stairs LUSSO PP/LSF*, without a folding stringer fixed with steel L profiles 40 x 20 x 3 mm screwed using 10 pieces of steel screws (\varnothing 4,5x30 mm with distance of 150 mm and 250 mm) and fixtures (springs, spring holder and rods).

2 OVERVIEW OF THE TECHNICAL STANDARDS AND USED DOCUMENTS FOR PROCESSING FIRE CLASSIFICATION APPROVAL

Fire classification approval for product *Trap door JAP 400 with foldable stairs LUSSO PP/LSF; Trap door JAP 600* was issued on the basis of these technical standards and documents:

- [1] ČSN 73 0810 Fire protection of buildings - General requirements
- [2] ČSN EN 1634-1+A1 Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware - Part 1: Fire resistance test for door and shutter assemblies and openable windows
- [3] Test report of the fire resistance No. Pr-20-2.132n, issued by PAVUS, a.s., ATL Veselí nad Lužnicí, dated 31.8.2020
- [4] Fire classification approval of fire resistance No. PKO-20-082, issued by PAVUS, a.s., dated 7.10.2023

3 TEST RESULTS

3.1 Test reports

Name of the lab Address Accreditation number	Sponsor of the report	Report number Date of issue	Test method
PAVUS a.s. čtvrť J. Hybeše 879 391 81 Veselí nad Lužnicí ATL No. 1026	JAP FUTURE s r. o. Nivky 67 750 02 Přerov III – Lověšice Czech Republic	Pr-20-2.132n 2020-08-31	ČSN EN 1363-1 taking into account ČSN EN 1634-1+A1

3.2 Stress conditions and test results

Test method, Report number Date of issue	Parameter	
ČSN EN 1363-1 <i>taking into account</i> ČSN EN 1634-1+A1 Pr-20-2.132n 2020-08-31	<i>Trap door JAP 400 with foldable stairs LUSSO PP/LSF</i>	
	Fire scenario	<i>Standard temperature / time curve</i>
	Direction of fire exposure	<i>From visible side of the specimen, i.e. from below from the side with hinges</i>
	Number of exposed faces	<i>1</i>
	Applied load	<i>0</i>
	Supporting construction	<i>Reinforced concrete panel 3500 x 2000 x 150 mm with opening for specimen fitting</i>
	Integrity (E)	
- cotton pad ignition		<i>71 minutes, no failure</i>
- cracks or opening exceeding the given limits ¹⁾		<i>71 minutes, no failure</i>
- sustained flaming on the unexposed face		<i>71 minutes, no failure</i>
Insulation I₁		
- average temperature		<i>60 minutes</i>
- maximum temperature		<i>63 minutes</i>
- maximum temperature – supporting process		<i>62 minutes</i>
- maximum temperature on door frame 180 °C		<i>not measured ²⁾</i>
Insulation I₂		
- average temperature		<i>60 minutes</i>
- maximum temperature		<i>63 minutes</i>
- maximum temperature on the door frame 360 °C		<i>not measured ²⁾</i>
Radiation (W) (not measured) ³⁾		
- heat flux 15 kW.m ⁻²		<i>71 minutes, not reached</i>

¹⁾ Integrity was not measured using gap gauges due to the horizontal laying of specimen – it was evaluated visually

²⁾ Temperatures on the frame was not measured (see ČSN EN 1634-1+A1 art. 9.1.2.3)

³⁾ Measuring of radiation of temperature lower than 300 °C is not required because the radiation from such surface is low (see ČSN EN 1363-2 art. 8.1) – average temperatures did not exceed 300 °C on unexposed side of specimen. Criterion of radiation was not achieved in the test duration for none of radiation levels according to ČSN EN 1363-2 art. 8.4

4 CLASSIFICATION OF THE TEST RESULTS

This classification was carried out in conformity with ČSN 73 0810.

Trap door JAP 400 with foldable stairs LUSSO PP/LSF or Trap door JAP 600, fire exposure from visible side, i.e. from below from the side with hinges has been classified according to the following combination of performance characteristics into the fire resistance classes:

EI₁ 60 / EI₂ 60 / EW 60

Note: Trap door JAP 600 differs from Trap door JAP 400 with foldable stairs LUSSO PP/LSF by not having a folding stringer fixed with steel L profiles 40 x 20 x 3 mm screwed using 10 pieces of steel screws (Ø 4,5x30 mm with distance of 150 mm and 250 mm) and fixtures (spring, spring holder and rods). The removal will not have negative effect on integrity, thermal insulation and radiation criteria. Therefore, it has the same classification.

5 DIRECT FIELD OF APPLICATION

ČSN EN 1634-1+A1: 2018 is not valid either for shutter built-in in horizontally construction (ceiling, roof, nonloadbearing ceilings, and like) or rules for direct field of application of the test results for shutter built-in in the horizontally construction was not specified in the previous versions. In this time rules don't exist for these shutters as extended application of the test results.

- trap door construction has to be the same and control method may not be changed.
- conditions for dimension variants of the trap door were specified on basis of test specimen behavior, attained value of the fire resistance, construction design of the trap door and material composition in conformity with allowable dimension variants for shutter built-in in the vertically construction.
- increase of the test dimensions is not allowed, it is allowed decrease of the dimensions to 50 % from shorter dimension and to 75 % longer dimension; it is not allowed either decrease or increase of the trap door thickness.
- it has to be kept by products with shorter decrease dimensions number of the fixings for trap door fitting to supporting constructions and number of locks and hinges identically with tested for trap door with dimensions 700 mm x 1200 mm.
- number of movement restrictors (locks, latch, hinges) can be increase
- number of fixings used to cover ⇔ manhole (frame) can be increase, distance between fixing may be reduced.
- using for fitting in the other ceiling construction is allowed provided that thickness of the reinforced concrete panel is the same or greater than ceiling construction in which shutter was tested

6 VALIDITY OF THE FIRE CLASSIFICATION APPROVAL

Time validity of this Fire classification approval is until **2026-10-06**.

This fire classification approval supersedes and cancels Fire classification approval No. PKO-20-082 (see [4], chap. 2 of this document).

This fire classification approval is valid only as a whole; each page has to be provided with the identification number of fire classification approval and page number of the total number of pages. This fire classification approval does not substitute either the type of approval or the certification of products.


Elaborated by:

Checked by:

Approved by:


Ing. Jaroslav Kopečný


Ing. Zdenka Stará


Ing. Jan Tripes
Executive director of PAVUS, a.s.

Prague, 6th October 2023



PAVUS, a.s.
Prosecká 412/74, 190 00 Praha 9
IČ: 60193174; DIČ: CZ60193174