ALUPROF
ALUMINIUM SYSTEMS


# FIRE RATED AND SMOKE EXHAUST SYSTEMS

# FIRE-RATED, SMOKE-TIGHT & SMOKE EXHAUST SYSTEMS BY ALUPROF

A wide range of systems offered by Aluprof allows for fabrication of a variety of structural elements that are responsible for "fire protection zones" in buildings, and provide appropriate conditions for evacuation of their occupants. These solutions include products linked to window & door systems, extending to a typical "stick assembly" curtain wall system solution. The fire resistance performance of these solutions, depending on the project requirements, is available in a variety of classes, from EI 15 to EI 120 for vertical assemblies, and achieves a class of REI30 / RE45 for roofs.

Aluprof's products that ensure safety of buildings' users in the event of a fire include internal partition walls with doors MB-45EW (EW30), internal & external partition walls with doors MB-78EI (EI15 to EI90), internal partition walls with doors MB-60E EI (EI15, EI30), automatic sliding doors MB-78EI DPA (EI15 to EI30), external partition walls, windows and doors MB-86EI (EI30), fire-rated walls MB-118EI (EI120), fire-rated facades MB-SR50N EI (EI30, EI60) and MB-SR50N EI EFEKT (EI30, EI60), glazed fire roofs (RE20, RE30, REI20, REI30), smoke control doors MB-45D (Sa, S200 [Sm]) and smoke exhaust windows & vents.

An important feature of the ALUPROF fire-rated solutions is their ability to interface with each other, one system to the next, whilst maintaining the necessary fire resistance. This is demonstrated with the integration of the MB-78EI door into a facade, enabling the whole structure to achieve a EI 30 or EI 60 class performance.

All products featured in this publication have been successfully tested in laboratories & research institutes in Europe.

## Gain valuable time!

Note: the content contained in this brochure is for information purposes only, details can be found in the ALUPROF system catalogues."

# TECHNICAL REQUIREMENTS AS TO FIRE-RESISTING CONSTRUCTIONS IN BUILDINGS.

In accordance with the requirements of the building regulations as to buildings and their location, fire-resisting door and windows that are to be installed in the openings of vertical separating elements in a building should be designed and constructed in such a way, that in case of fire:

- prevent fire from spreading
- limit the spread of fire and smoke in the building to other rooms and zones,
- limit the spread of fire to other buildings,
- allow the evacuation of building occupants by limiting the level of heat radiation,
- ensure safety and facilitate the operation of emergency crews

The required fire resistance rating for partitions is determined by the provisions in force in the respective countries, and can be dependent on the fire resistance class, to which the building is suited.

Gain valuable time!

# CLASSIFICATION
# OF FIRE RESISTANCE CONSTRUCTIONS.

## E – INTEGRITY

- **no flames**
- **no smoke**
- **high temperature**

Integrity (E) is the ability of a component or construction to maintain the integrity of the element on one side only, without spreading the fire to a non-heated side as a result of penetration of flames or hot gases.

## EW – INTEGRITY AND RADIATION REDUCTION

- **no flames**
- **no smoke**
- **lower thermal radiation**

Reduction of radiation (W) is the ability of a component or construction to maintain the integrity of the element on one side only, to reduce the likelihood of fire spreading that may result from significant thermal radiation or through an element, or from its non-heated surface to adjacent materials.

## EI – INTEGRITY AND INSULATION

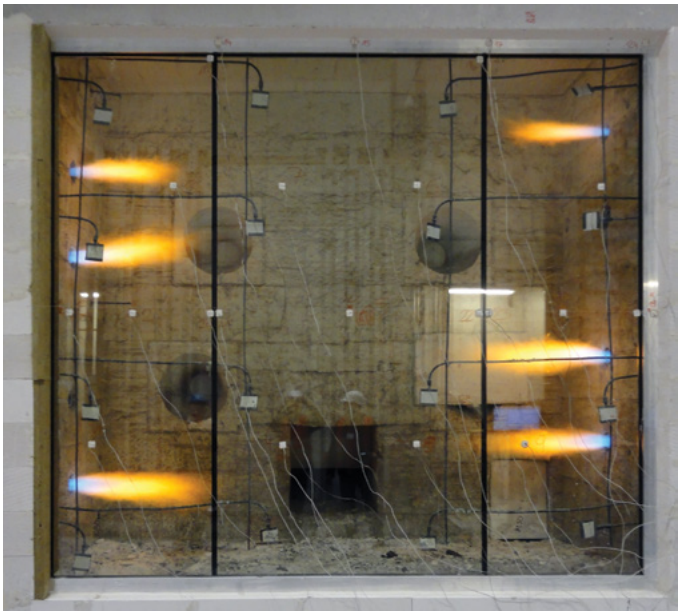
- **no flames**
- **no smoke**
- **high temperature insulation**

Insulation (I) is the ability of a component or construction to maintain the integrity of the element on one side only, without spreading the fire as a result of a significant heat flow from a heated side to a non-heated side. During the fire, the construction on the non-heated side reaches a temperature of not more than +140°C up to +180 °C.

All the above-mentioned parameters are given in minutes. The number after a given symbol gives the laboratory time from starting of a fire, in which a parameter is maintained.

# Research and Development, Testing, Certification

Aluprof S.A. strives to continuously improve the quality of its products. The company's quality management system meets the requirements of standards EN ISO 9001 / EN ISO 14001, which has been confirmed by the inspection body TÜV NORD. The products offered by Aluprof meet all the requirements of the European standards as to the quality of alloys, tolerance and resistance characteristics. The company cooperates with many European research centres and building research laboratories, also specializing in the fire-resisting constructions: Building Research Institute (Poland), IFT Rosenheim (Germany), Warrington Certificate Exova (Great Britain), UBAtc (Belgium), Fires Institute (Slovakia), ÉMI Institute (Hungary) Incerc Institute (Romania), Efectis Institute (Netherlands), and others. The cooperation involves fire testing and reviews of the company's documents (reports and classifications). These documents enable ALUPROF systems-based products to be applied in fire-resisting constructions throughout Europe and beyond.



# Examples of documents issued for ALUPROF systems-based fire-resisting constructions


Instytut Techniki Budowlanej

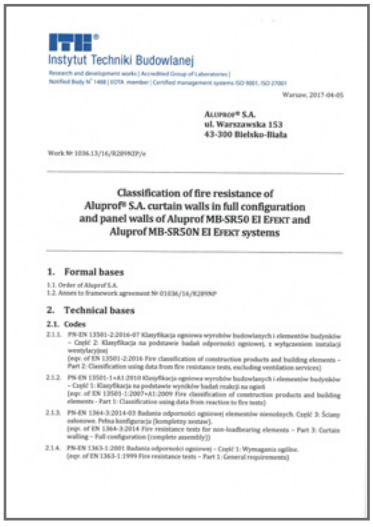
EXTENDED APPLICATION REPORT FOR FIRE RESISTANCE


Instytut Techniki Budowlanej

EXTENDED APPLICATION REPORT FOR FIRE RESISTANCE


Instytut Techniki Budowlanej

CLASSIFICATION OF FIRE RESISTANCE
IN ACCORDANCE WITH EN 13501-2:2016


Instytut Techniki Budowlanej

Classification of fire resistance of Aluprof® S.A. curtain walls in full configuration and panel walls of Aluprof MB-SR50 EI EFEKT and Aluprof MB-SR50N EI EFEKT systems


European Technical Assessment

ETA-21/0516
of 30/06/2021


certifire

CERTIFICATE OF APPROVAL
No CF 5138

ALUPROF S.A.

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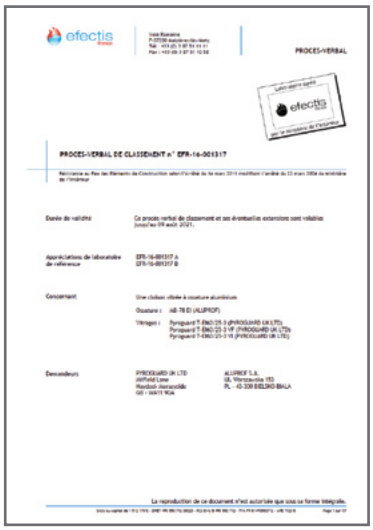
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PROCES-VERBAL

PROCES-VERBAL DE CLASSEMENT n° EFR-16-001317


IBS Institut für Brandschutztechnik und Sicherheitsforschung

NATIONALER ANHANG FÜR ÖSTERREICH

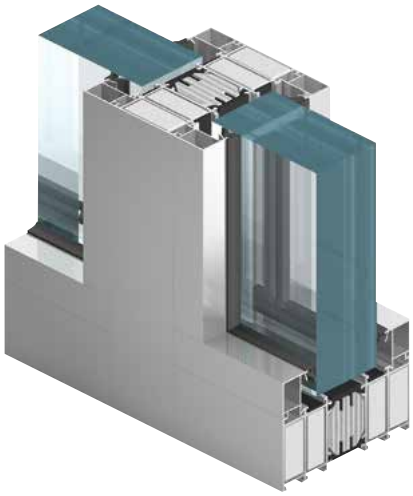
BEWERTUNG FÜR DIE VERWENDBARKEIT


UBAtc

Agrément Technique ATG avec Certification

ATG 3039

Valable du 03/05/2016 au 02/05/2021



FIRE RATED PARTITION WALLS

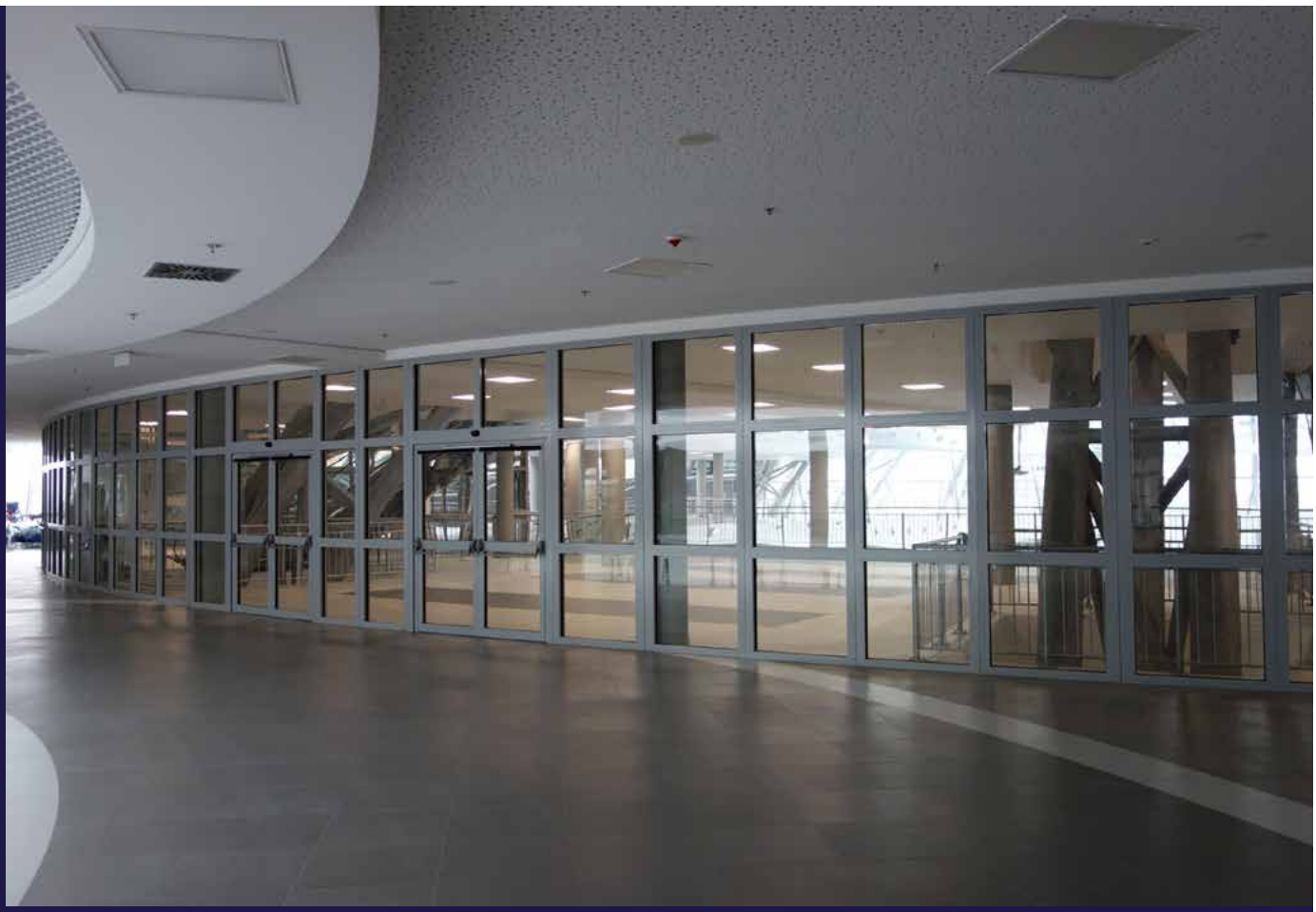
# MB-118EI

The MB-118 EI fire rated walls are used to make fire partitions with fire resistance class of EI 120. The system is classified as non-fire spreading (NRO). It's design & construction is such that, it provides a technical connection with the MB-78EI door, which means a number of common components (such as glazing beads, cooling inserts, expanding tapes, seals and most accessories) and also similar to the basic system, production and installation technology.

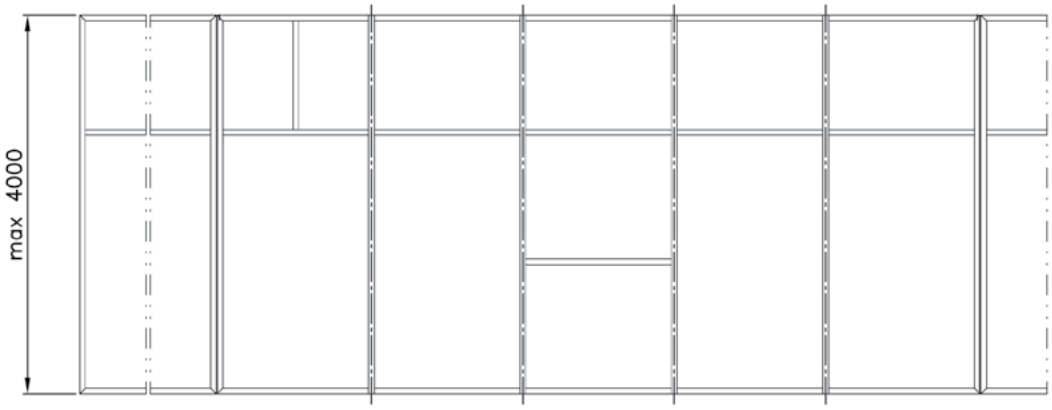
The MB-118EI system has been developed on the basis of a five chamber insulated aluminium profile, with a front to back depth of 118 mm. The inner chamber profiles, as well as insulating space between them, are filled with fire insulation elements. On the outer surfaces there are expanding tapes which are additionally mounted, and the whole structure is completed by steel accessories components, joining both sides of the profiles. The MB-118EI system can accommodate infills of a thickness 31-84 mm. This system can also be the basis for constructions in EI 30 or EI 60 classes, in which, due to high thermal or acoustic requirements, triple glazing units must be used.

Thanks to its symmetrical composition, the structures that are made of it remain fire resistant in EI 120 class, both exposed to fire from the outside and the inside. An important feature affecting the functionality of these fire partitions is the possibility to install the MB-78EI doors.

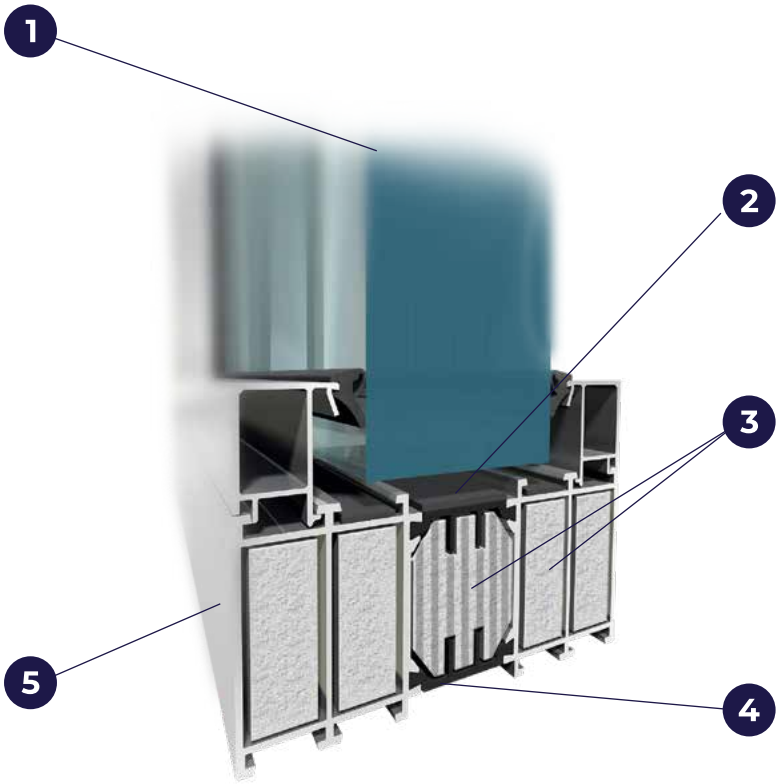
**EI 120**



Max. dimensions of the walls




| TECHNICAL SPECIFICATION | | TECHNICAL PARAMETERS | |
|---|---|---|---|
| Depth of wall frame | 118 mm | Fire resistance | Class EI 120, EN 13501-2 |
| Glazing range | 54 mm | | |




**1** Single or double (sealed unit) fire resistant glasses, of a thickness to 84 mm.
**2** Steel accessories and expanding tapes that protect the structure from high temperatures
**3** GKF or CI type fire protection infills inside the profiles allowing to obtain EI120 class
**4** Profiled thermal break that provides adequate protection against heat loss
**5** 5-chamber, symmetrical design, where fire resistance is maintained regardless the side of the fire

The MB-118EI system holds an ITB's Classification No. 1036/19/ and European Technical Assessment No ETA-20/0890

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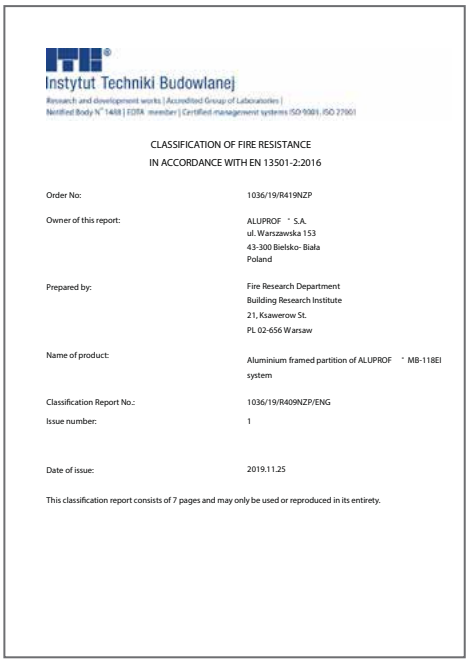
**European Technical Assessment** **ETA-20/0890 of 12/01/2021**

**General Part**

| | |
|---|---|
| **Technical Assessment Body issuing the European Technical Assessment** | Instytut Techniki Budowlanej |
| **Trade name of the construction product** | ALUPROF MB-118EI EI120 |
| **Product family to which the construction product belongs** | Internal Partition Kit for use as non-load bearing walls |
| **Manufacturer** | ALUPROF S.A.<br>ul. Warszawska 153<br>43-300 Bielsko-Biała, Poland |
| **Manufacturing plant** | ALUPROF S.A.<br>ul. Warszawska 153<br>43-300 Bielsko-Biała, Poland |
| **This European Technical Assessment contains** | 23 pages including 3 Annexes which form an integral part of this Assessment |
| **This European Technical Assessment is issued in accordance with regulation (EU) No 305/2011, on the basis of** | European Assessment Document EAD 210005-00-0505 "Internal partition kits for use as non-loadbearing walls" |



Instytut Techniki Budowlanej
Research and development works | Accredited Group of Laboratories |
Notified Body N° 1488 | EOTA member | Certified management systems ISO 9001, ISO 27001

CLASSIFICATION OF FIRE RESISTANCE
IN ACCORDANCE WITH EN 13501-2:2016

| | |
|---|---|
| Order No: | 1036/19/R419NZP |
| Owner of this report: | ALUPROF ˚ S.A.<br>ul. Warszawska 153<br>43-300 Bielsko- Biała<br>Poland |
| Prepared by: | Fire Research Department<br>Building Research Institute<br>21, Ksawerow St.<br>PL 02-656 Warsaw |
| Name of product: | Aluminium framed partition of ALUPROF ˚ MB-118EI system |
| Classification Report No.: | 1036/19/R409NZP/ENG |
| Issue number: | 1 |
| Date of issue: | 2019.11.25 |

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