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# European Technical Assessment

# ETA-20/0890 of 12/01/2021

## General Part

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|---|---|
| **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<br>EAD 210005-00-0505 “Internal partition kits for use as non-loadbearing walls” |

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## Specific Part

### 1 Technical description of the product

The ALUPROF MB-118EI EI120 is an internal partition kit for use as non-loadbearing walls.

The internal partition kit ALUPROF MB-118EI EI120 consists of:

- aluminum profiles, Annex A1:
  - aluminum profiles of construction frames, mullions and transoms, no K518397X, filled with the fire protection inserts of F type gypsum plasterboards (no. 80462109) - placed in the external chambers of the profile and the fire protection inserts made of CI Palstop Pax boards (no. 80462185) made by Branndex - placed in the internal chamber of the profile,
  - aluminum reinforcing profiles with the cover, no. K413923X + K413924X,
  - aluminum glazing beads, no K430310X, K430304X and K430300X,
- glass panes made of Pyrostop 120-10 glass made by Pilkington, with the maximum dimensions (width x height) of 1400 x 2500 mm, thickness of 58 mm and the maximum area of 3,50 $m^2$,
- glass panes made of POLFLAM EI120 glass made by Polflam, with the maximum dimensions (width x height) of 1500 x 3000 mm, thickness of 35 mm and the maximum area of 4,50 $m^2$,
- sandwich opaque elements with the maximum dimensions (width x height) of 1500 x 2500 mm, thickness of 62 mm and the maximum area of 3,75 $m^2$, made of four F type gypsum plasterboards 15 mm thick each, covered with the steel sheet of the 1,0 mm thick on both sides,
- stainless steel and aluminum accessories as given in Annex A3,
- gaskets, intumescent seals, pane pads and fire protection inserts as given in Annex A3.

Pyrostop 120-10 glass panes are fixed in the frame made of aluminum profiles by means of glass supports made of hard wood (no. 80957037) and pane pads made of CI Palstop Pax boards (no. 80462208) and fixed by means of stainless steel handles (consisting of 1 pcs of clamp no. 80322102 and 2 pcs of angles no. 80322105) in the maximum spacing of 300 mm, and aluminum glazing beads no. K430300X. Between the aluminum glazing beads and glass panes the EPDM gaskets no. 120541 are used.

POLFLAM EI120 glass panes are fixed in the frame made of aluminum profiles by means of glass supports made of hard wood (no. 80957037 + 80957034) and pane pads made of CI Palstop Pax boards (no. 80462206) and fixed by means of stainless steel handles (consisting of 1 pcs of clamp no. 80322102 and 2 pcs of angles no. 80322101 covered by fire protection inserts made of CI Palstop Pax boards, no. 80462182, fixed by means of steel screws no. 87222206) in the maximum spacing of 300 mm, and aluminum glazing beads no. K430310X. Between the aluminum glazing beads and glass panes the EPDM gaskets no. 120540 are used.

The sandwich opaque elements are fixed in the frame made of aluminum profiles by means of glass supports made of hard wood (no. 80957037) and pane pads made of CI Palstop Pax boards (no. 80462208), stainless steel handles (consisting of 1 pcs of clamp no. 80322102 and 2 pcs of angles no. 80322106) in the maximum spacing of 300 mm, and aluminum glazing beads no. K430300X. Between the aluminum glazing beads and glass panes the EPDM gaskets no. 120540 are used.

The intumescent seals Flexpan made by Rolf Kuhn with a cross section of 27 x 1,8 mm (no. 120791) and 7 x 1,5 mm (no. 120653) are glued on the aluminum profiles from the infill side.

The aluminum profiles of construction frames, mullions and transoms are joined in the corners by aluminum corner elements no. 80124237, by crimping or pinning method. Other connections, i.e. mullions and transoms with frame elements are made by mechanical connectors of a "T" type, no. 80122109, by pinning method.

Aluprof MB-118EI EI120 system partition is fixed to supporting structures by means of steel plates (no. 80322073 or 80322086) which are directly fastened to outer frames by means of Ø4 x 9,5 mm steel rivets (no. 80377106) 2 pcs per fixing point. Fixing plates are fastened to supporting construction by means of Ø8 x 80 mm steel dowels, in the maximum spacing of 600 mm and the maximum distance of 250 mm from the corners. Gaps maximum width of 20 mm, formed between frames and supporting construction, are filled with the mineral wool with the minimum density of 70 $kg/m^3$.

The mullions can be optionally reinforced (one-sided or two-sided) with aluminum reinforcing profiles with the cover, no. K413923X + K413924X, fixed by means of steel screws no. 87252503, with the maximum spacing of 400 mm.

The maximum height of the internal partition is 4000 mm and width without limitation.

The glass panes with the height over the 1500 mm must be installed in the bottom part of the wall. The first panes from the bottom of the structure has to be glass pane.

In order to keep the fire resistance class given in clause 3 walls made of the ALUPROF MB-118EI EI120 kit shall be fixed to the masonry, concrete or reinforced concrete walls with the minimum thickness of 240 mm and the minimum density of 650 kg/m$^3$ (minimum resistance to fire class EI 120).

The partitions made of the internal partition kit ALUPROF MB-118EI EI120 are given in Annex A.

The components, description of materials and detailed material specifications are given in Annexes B and C.

The components, dimensions, tolerances and material properties which are not stated in the Annexes, shall be in accordance with the indication given in the technical documentation to this European Technical Assessment.

## 2 Specification of the intended use in accordance with the applicable European Assessment Document (EAD)

The internal partition kit ALUPROF MB-118EI EI120 is intended to be used as non-load bearing partitions in an average air temperature range from 5 to 35 °C and an average daily air relative humidity range from 20% RH to 75% RH (maximum air relative humidity only exceeding 85% for short periods of time).

The provisions made in this European Technical Assessment are based on an assumed intended working life of the internal partition kit of 25 years, provided that the internal partition kit is subjected to an appropriate use and maintenance. The indications given on the working life cannot be interpreted as a guarantee given by the producer or the Technical Assessment Body, but are to be regarded only as a means for choosing the appropriate product in relation to the expected economically reasonable working life of the works.

## 3 Performance of the product and references to the methods used for its assessment

### 3.1 Performance of the product

#### 3.1.1 Safety in case of fire (BWR 2)

##### 3.1.1.1 Reaction to fire

The reaction to fire classifications of the partition kit components according to EN 13501-1 are given in Annex C.

Materials classified in respect to reaction to fire without the need for testing according to European Commission Decision are given in Annex C with reference to the related Commission Decision.

##### 3.1.1.2 Resistance to fire

The resistance to fire of the partitions made of the internal partition kit ALUPROF MB-118EI EI120 was classified to EI 120 / EW 120 / E 120 resistance to fire class according to EN 13501-2.

#### 3.1.2 Hygiene, health and the environment (BWR 3)

##### 3.1.2.1 Content, emission and/or release of dangerous substances

No performance assessed.

##### 3.1.2.2 Water vapour permeability

No performance assessed.

### 3.1.3 Safety and accessibility in use (BWR 4)

#### 3.1.3.1 Sill height

The sill height is 0,85 m. The sill height was assessed in accordance with clause 2.2.5 of EAD 210005-00-0505.

#### 3.1.3.2 Resistance to damage and functional failure from horizontal loads

The resistance to damage and functional failure from horizontal loads was assessed in accordance with clause 2.2.6 of EAD 210005-00-0505 and the results are given in Tables 1 and 2.

**Table 1**

| Partition variant | Use category and energy level | |
|---|---|---|
| | Resistance to damage from soft body impact load – 50 kg bag | Resistance to damage from hard body impact load – 1 kg steel ball |
| *1* | *2* | *3* |
| ALUPROF MB-118EI EI120 with glass panes | 900 Nm | 10 Nm |
| | **Use category IVc** | |
| ALUPROF MB-118EI EI120 with sandwich opaque elements | 500 Nm | 10 Nm |
| | **Use category IVb** | |

**Table 2**

| Partition variant | Use category and energy level | |
|---|---|---|
| | Resistance to functional failure from soft body impact load – 50 kg bag | Resistance to functional failure from hard body impact load – 0,5 kg steel ball |
| *1* | *2* | *3* |
| ALUPROF MB-118EI EI120 with glass panes | 120 Nm | 6 Nm |
| ALUPROF MB-118EI EI120 with sandwich opaque elements | **Use category IV** | |

#### 3.1.3.3 Resistance to damage and functional failure from eccentric vertical loads

No performance assessed.

#### 3.1.3.4 Resistance to horizontal linear static loads

The resistance to horizontal linear static loads was assessed in accordance with clause 2.2.8 of EAD 210005-00-0505 and the results are given in Table 3.

**Table 3**

| Partition variant | Total load *) kN/m | Maximum deflection *) mm |
|---|---|---|
| *1* | *2* | *3* |
| ALUPROF MB-118EI EI120 with the glass panes | 2,41 | 25 |
| | 3,14 | the tension in the glass panes reached a limit value |
| ALUPROF MB-118EI EI120 with the sandwich opaque elements | 2,77 | 25 |
| | 3,0 | the tension in the sandwich opaque elements reached a limit value |
| *) Load and deformation do not cause damage | | |

#### 3.1.3.5 Resistance to functional failure from point loads parallel or perpendicular to the surface

No performance assessed.

#### 3.1.3.6 Rigidity of partitions to be used as a substrate for ceramic tiling

No performance assessed.

#### 3.1.3.7 Safety against personal injuries by contact

When properly installed the internal partition kit ALUPROF MB-118EI EI120 does not contain any sharp and cutting edges which cause the risk of abrasion or cutting people or peoples clothing.

#### 3.1.3.8 Resistance to deterioration caused by: physical agents, chemical agents, biological agents

No performance assessed.

### 3.1.4 Protection against noise (BWR 5)

#### 3.1.4.1 Airborne sound insulation

No performance assessed.

#### 3.1.4.2 Sound absorption

No performance assessed.

### 3.1.5 Energy economy and heat retention (BWR 6)

#### 3.1.5.1 Thermal resistance

No performance assessed.

#### 3.1.5.2 Thermal inertia

No performance assessed.

## 3.2 Methods used for the assessment

The assessment of the internal partition kit ALUPROF MB-118EI EI120 has been made in accordance with the EAD 210005-00-0505 "Internal partition kits for use as non-loadbearing walls".

The performance of the kit as described in this chapter is valid provided that the components of the kit comply with Annexes A, B and C.

## 4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base

According to the Decision 98/213/EC of the European Commission amended by the Decision 2001/596/EC of the European Commission the system 3 of assessment and verification of constancy of performance applies (see Annex V to regulation (EU) No 305/2011).

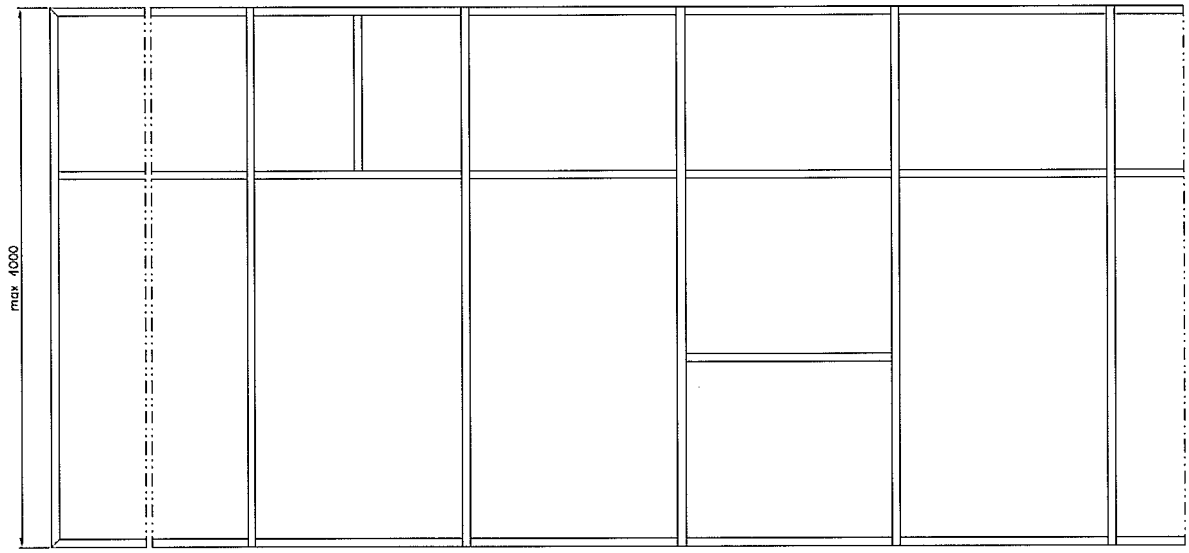
## 5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable European Assessment Document (EAD)

Technical details necessary for the implementation of the AVCP system are laid down in the control plan which is deposited at Instytut Techniki Budowlanej.

For type testing the results of the tests performed as part of the assessment for the European Technical Assessment shall be used unless there are changes in the production line or plant. In such cases the necessary type testing has to be agreed between Instytut Techniki Budowlanej and the notified body.

Issued in Warsaw on 12/01/2021 by Instytut Techniki Budowlanej

Anna Panek, MSc
Deputy Director of ITB

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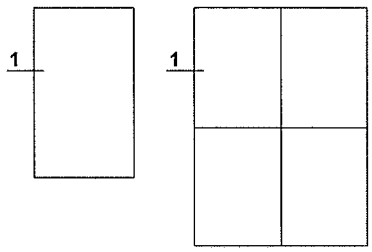
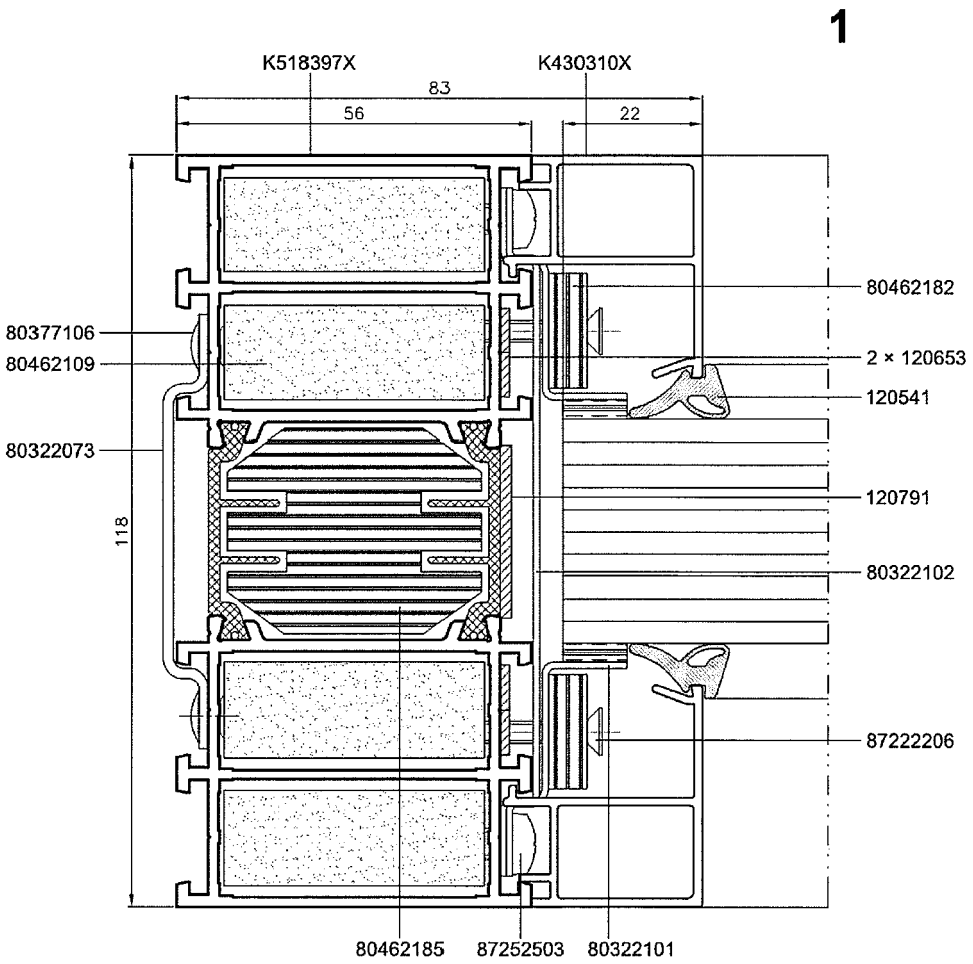
| **ALUPROF MB-118EI EI120** | **Annex A1** of European Technical Assessment ETA-20/0890 |
| Scheme | |

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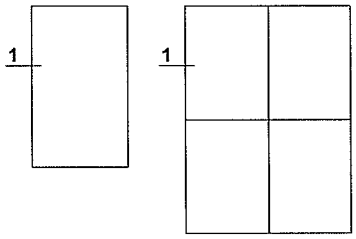
| **ALUPROF MB-118EI EI120** | **Annex A2** of European Technical Assessment ETA-20/0890 |
| Cross sections with the POLFLAM EI120 glass panes | |

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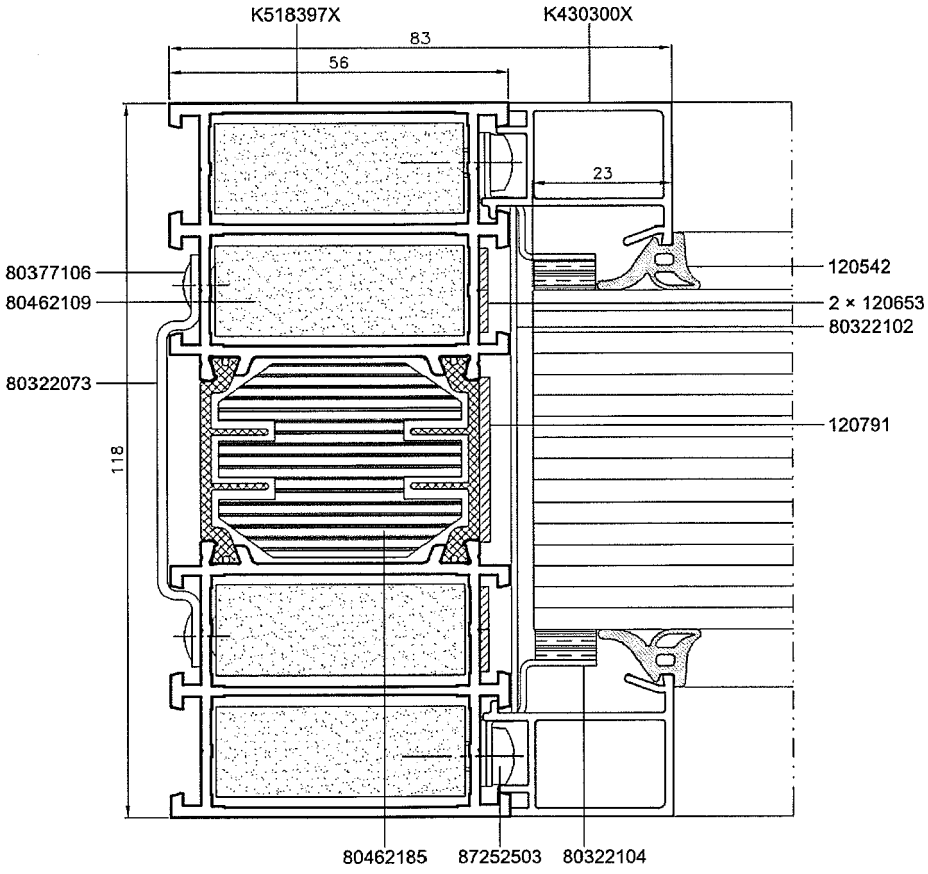


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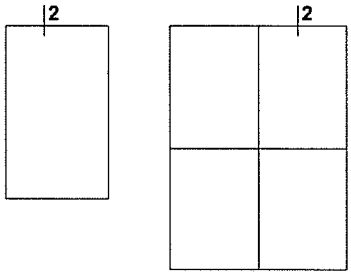
| **ALUPROF MB-118EI EI120** | **Annex A3** of European Technical Assessment ETA-20/0890 |
| Cross sections with the Pyrostop 120-10 glass panes | |

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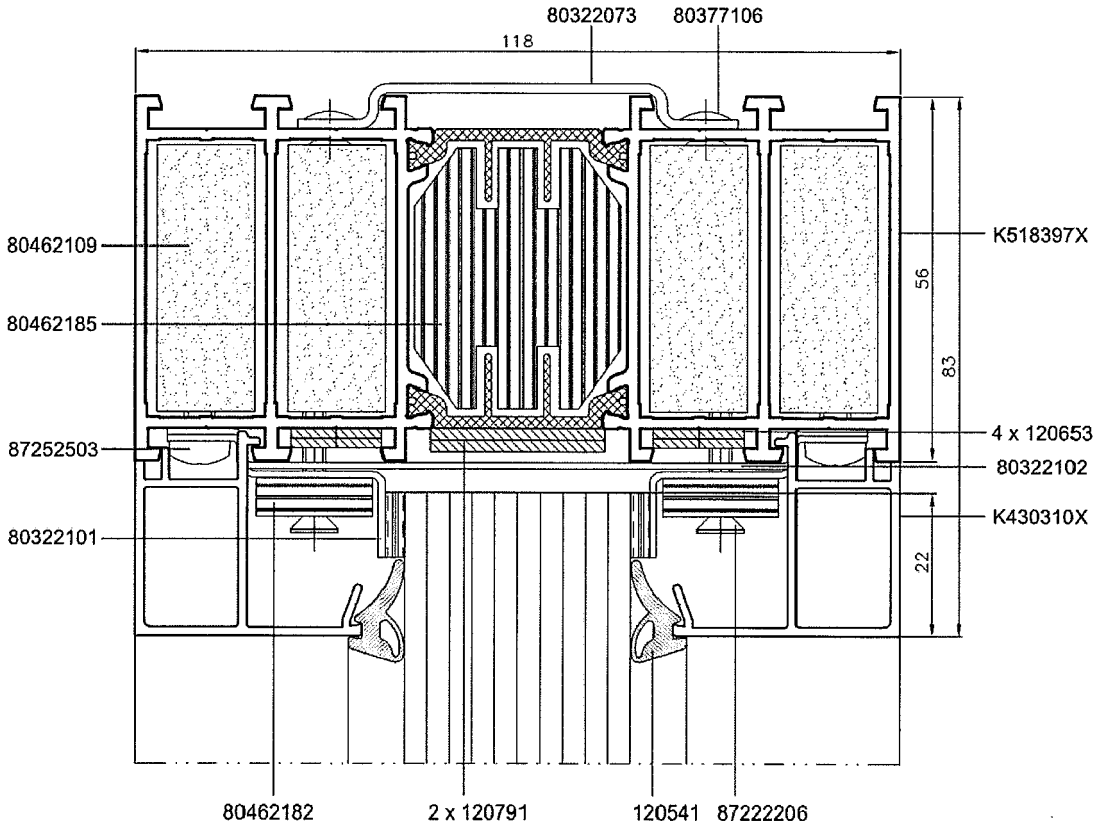


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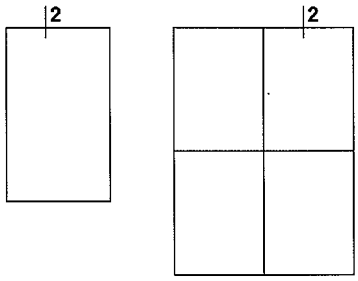
| **ALUPROF MB-118EI EI120** | **Annex A4** of European Technical Assessment ETA-20/0890 |
| Cross sections with the POLFLAM EI120 glass panes | |

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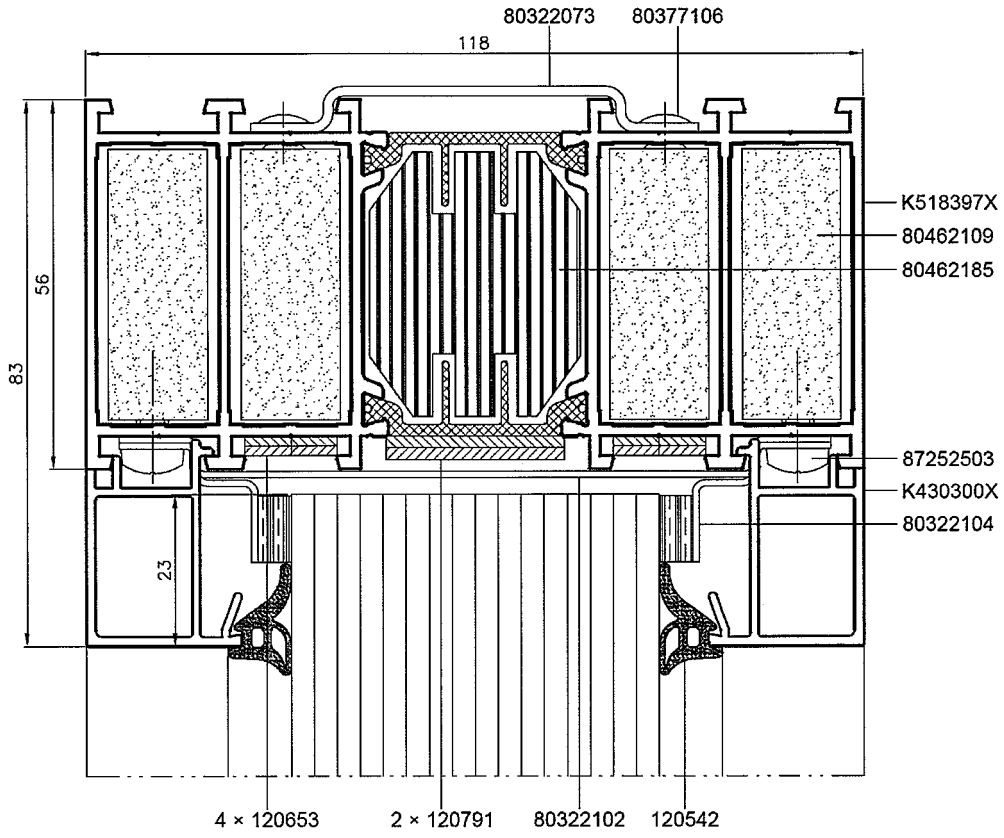


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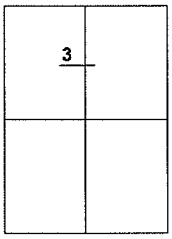
| **ALUPROF MB-118EI EI120** | **Annex A5** of European Technical Assessment ETA-20/0890 |
| Cross sections with the Pyrostop 120-10 glass panes | |

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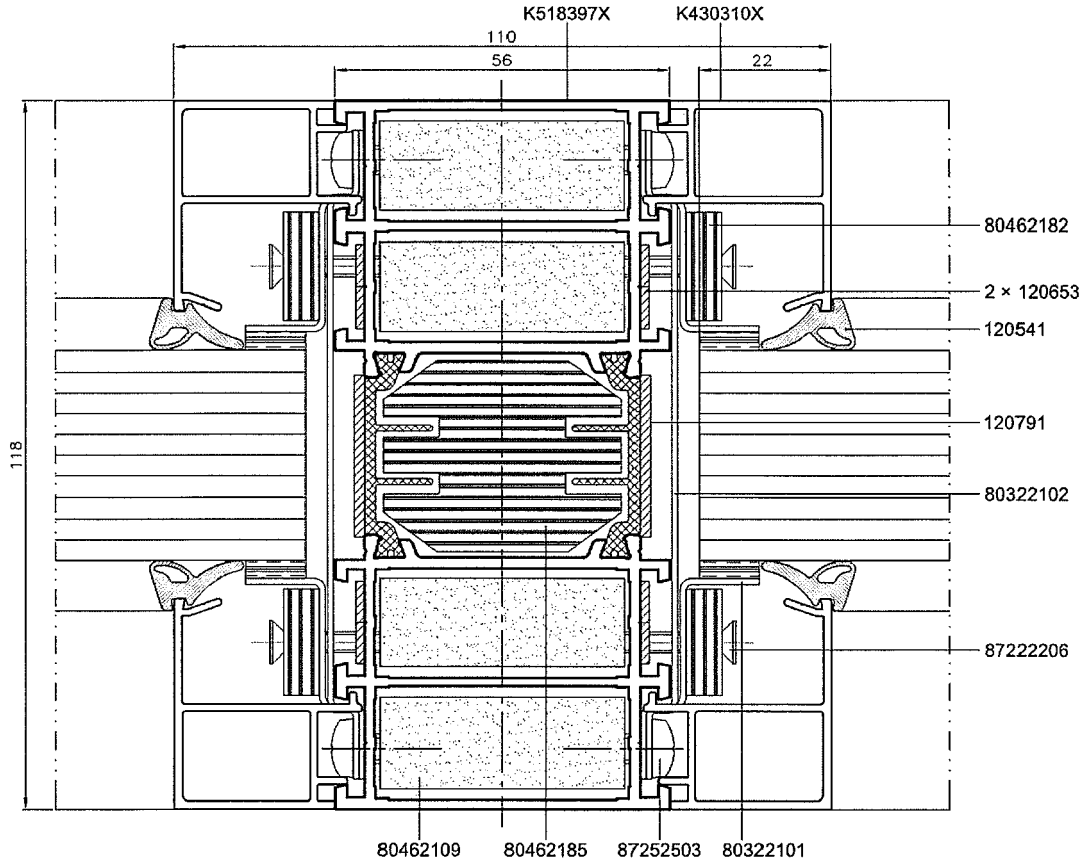
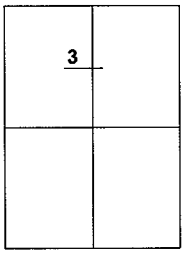



**ALUPROF MB-118EI EI120**

Cross sections with the POLFLAM EI120 glass panes

**Annex A6**
of European Technical Assessment
ETA-20/0890

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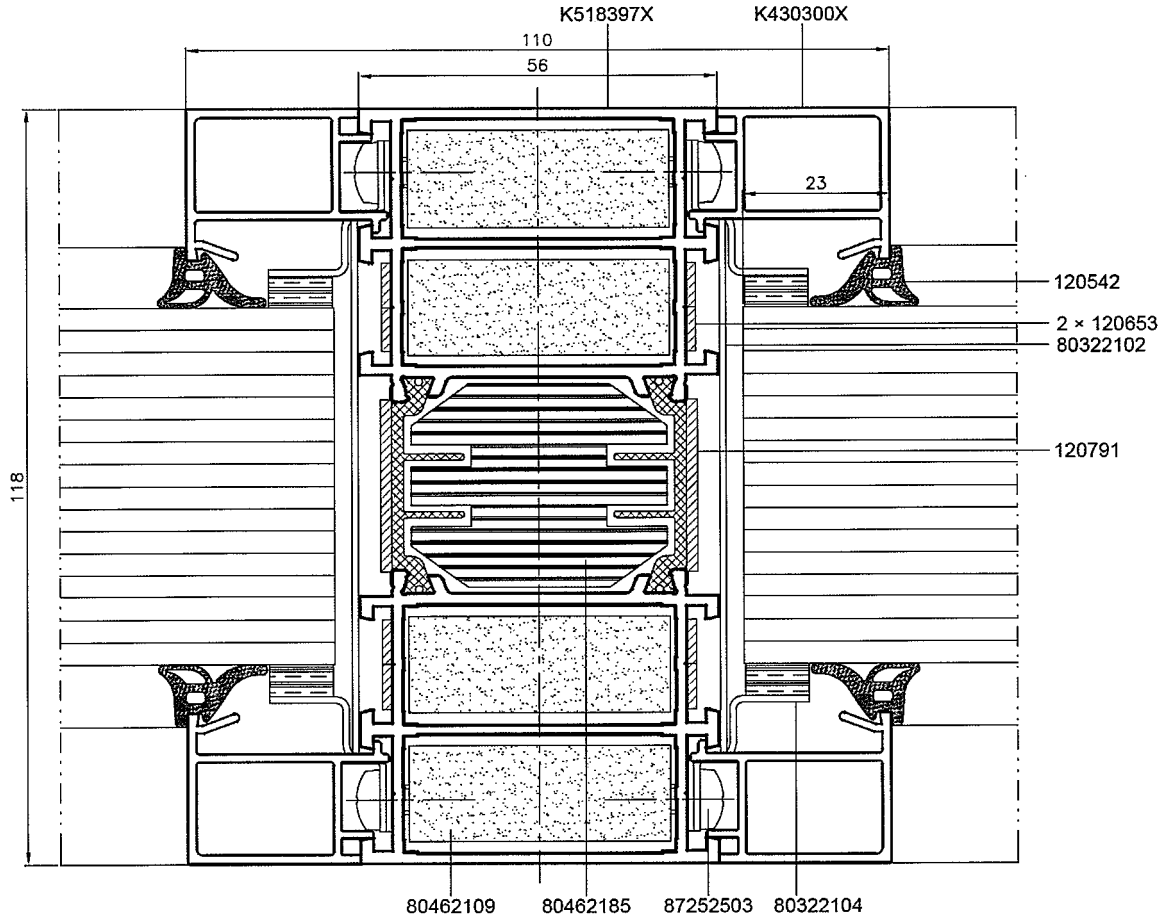


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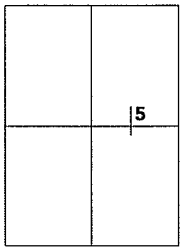
| **ALUPROF MB-118EI EI120** | **Annex A7** of European Technical Assessment ETA-20/0890 |
| Cross sections with the Pyrostop 120-10 glass panes | |

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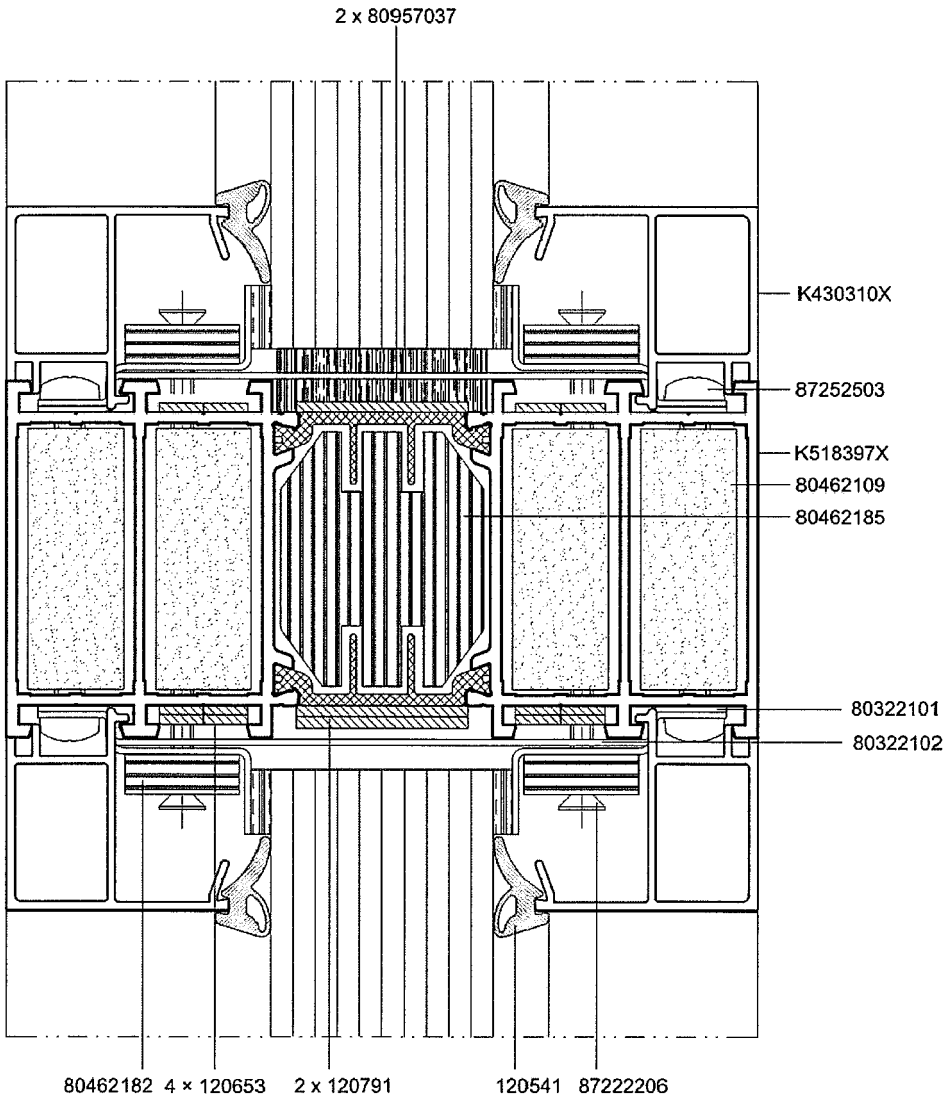


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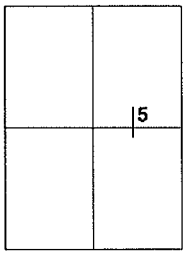
| **ALUPROF MB-118EI EI120** | **Annex A8** of European Technical Assessment ETA-20/0890 |
| Cross sections with the POLFLAM EI120 glass panes | |

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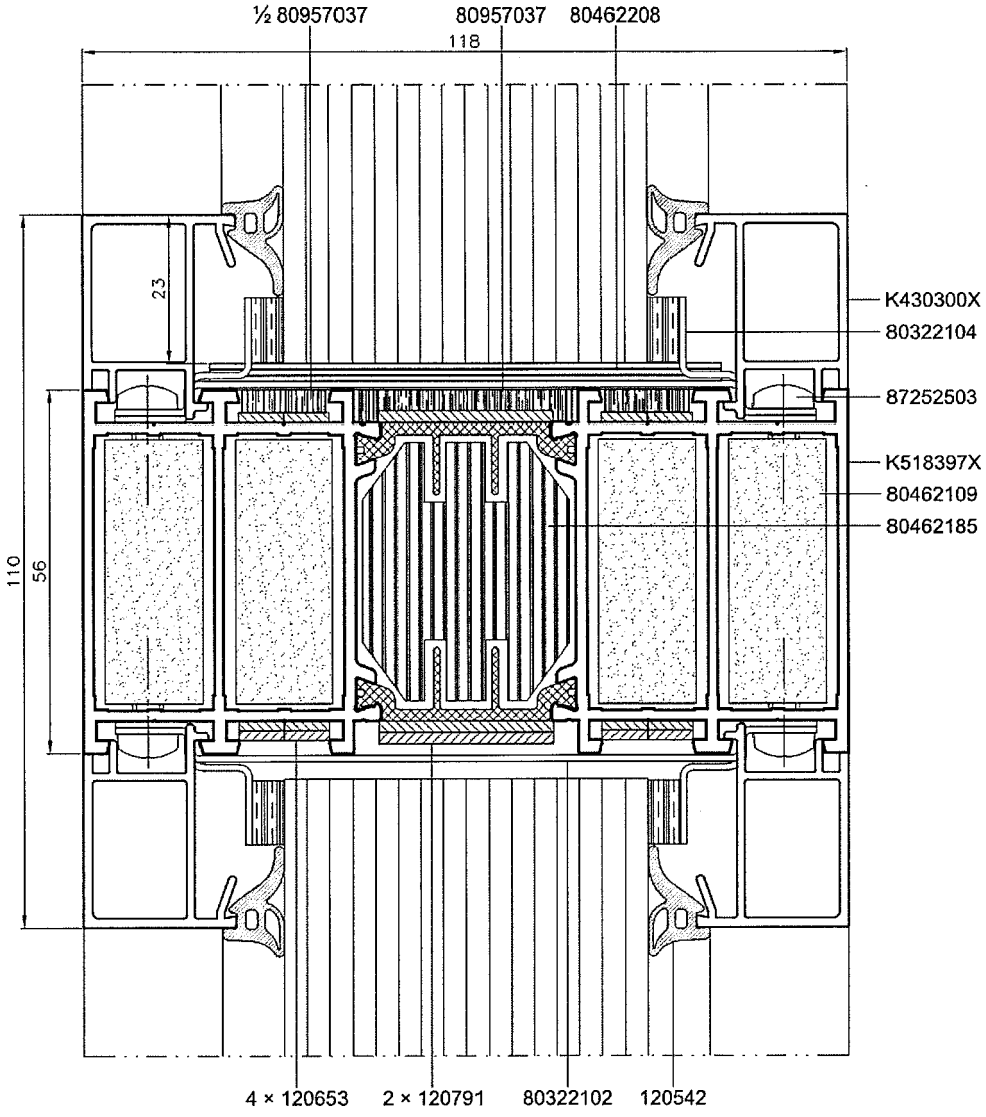


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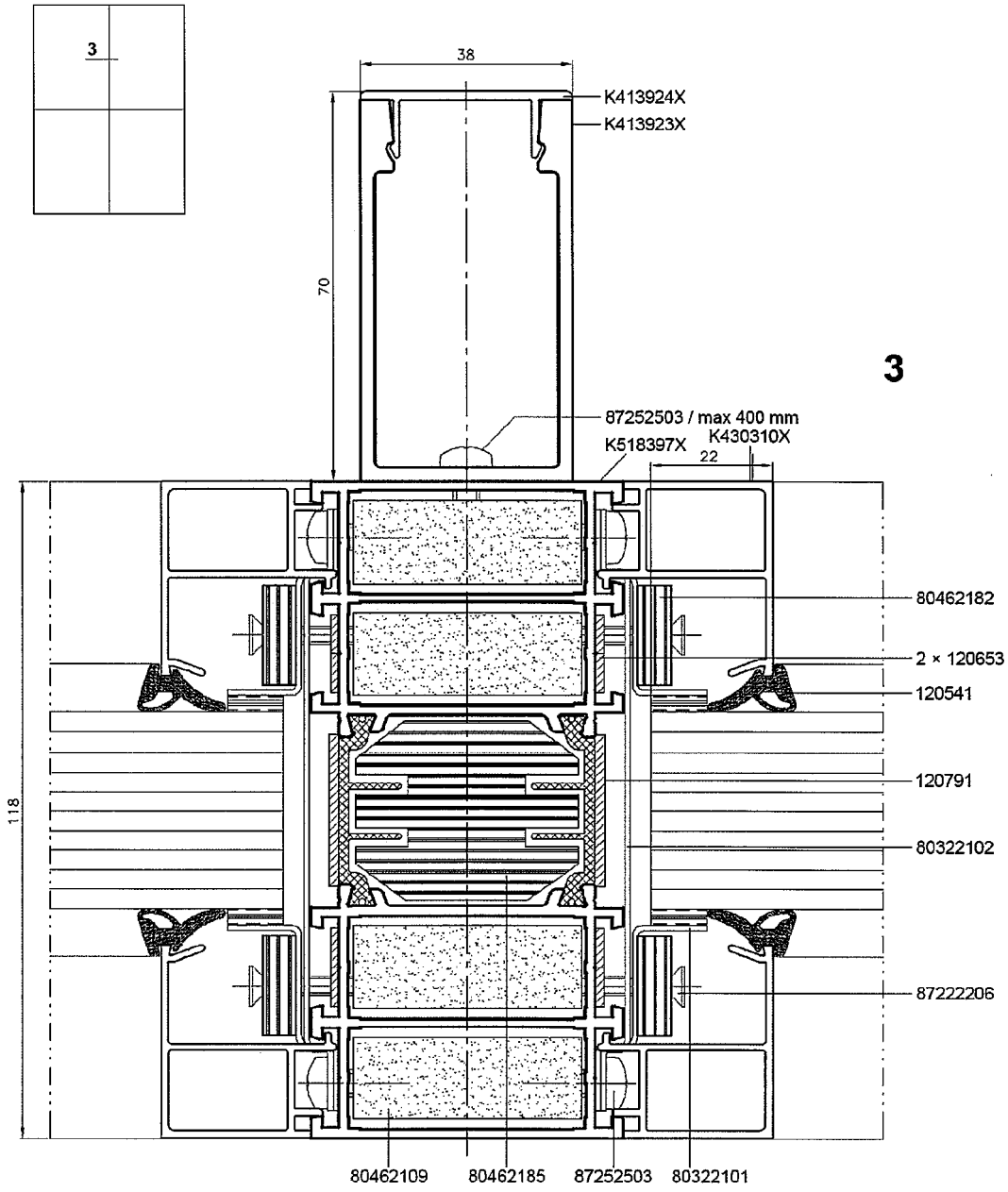
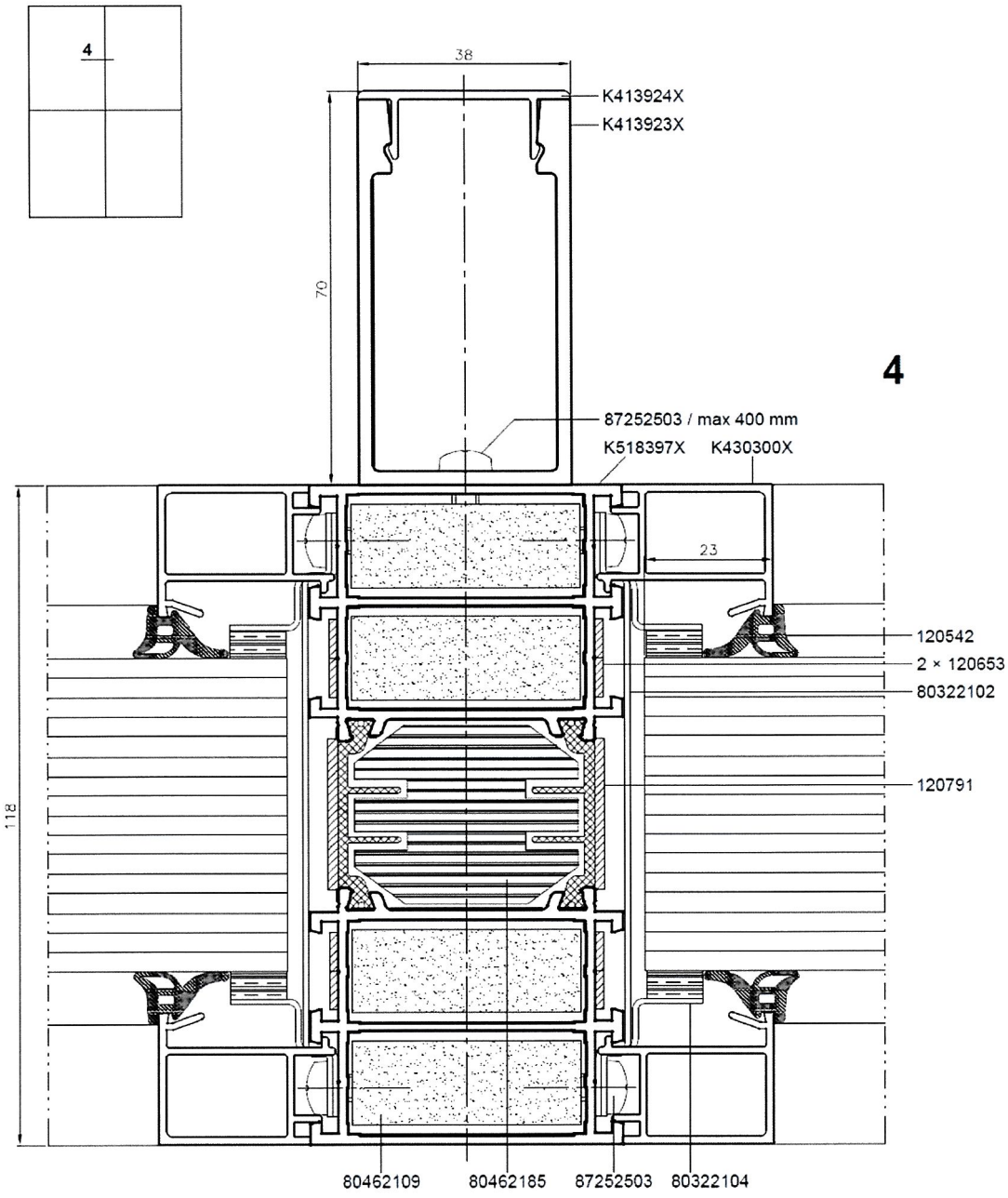
| **ALUPROF MB-118EI EI120** | **Annex A9** of European Technical Assessment ETA-20/0890 |
| Cross sections with the Pyrostop 120-10 glass panes | |




**ALUPROF MB-118EI EI120**

Cross sections with the POLFLAM EI120 glass panes

**Annex A10**
of European Technical Assessment
ETA-20/0890

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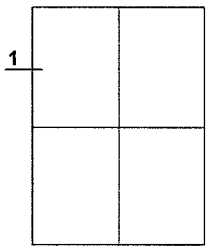
| **ALUPROF MB-118EI EI120** | **Annex A11**<br>of European Technical Assessment<br>ETA-20/0890 |
| Cross sections with the Pyrostop 120-10 glass panes | |

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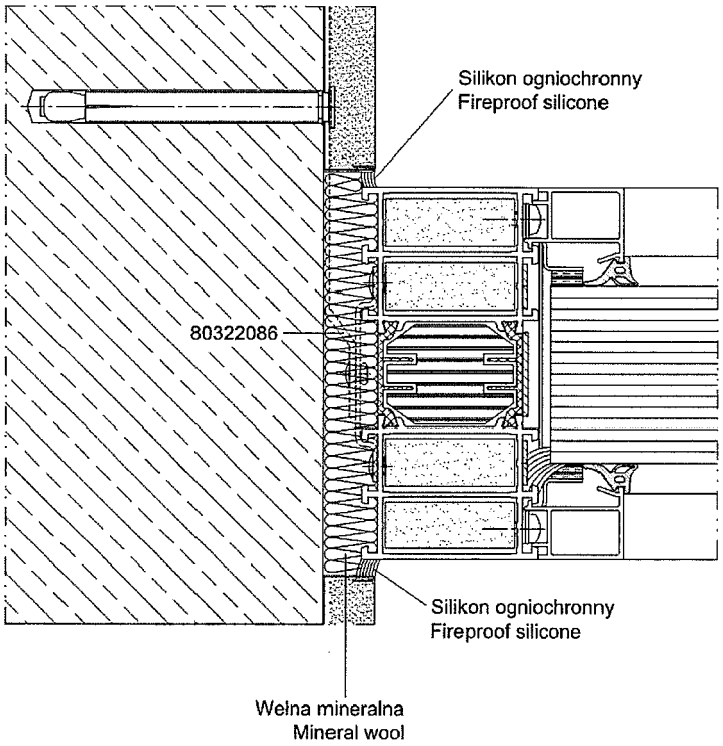


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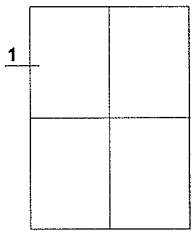
| **ALUPROF MB-118EI EI120** | **Annex A12** of European Technical Assessment ETA-20/0890 |
| Fixing of the frame | |

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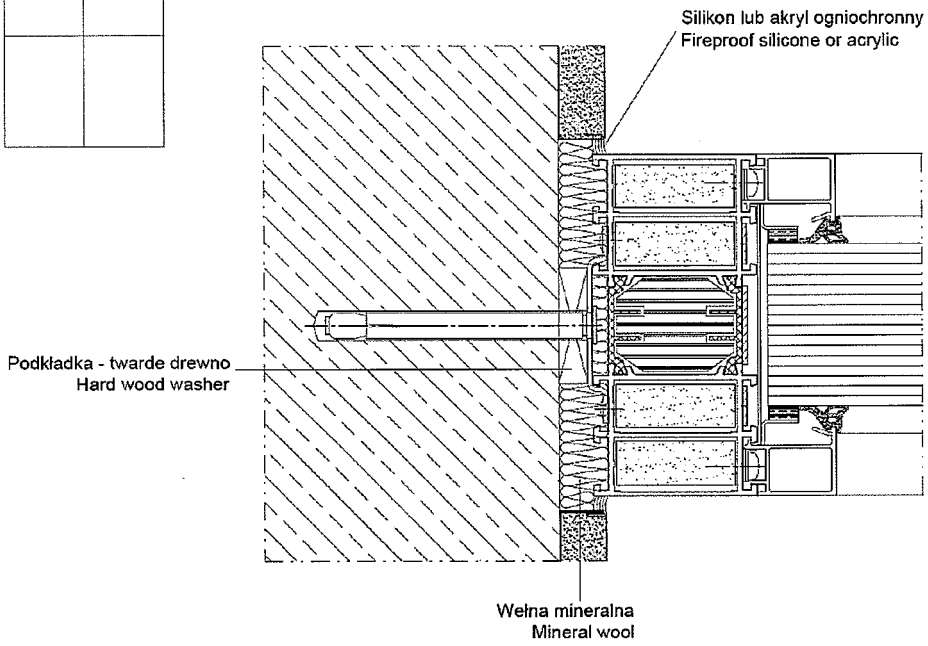


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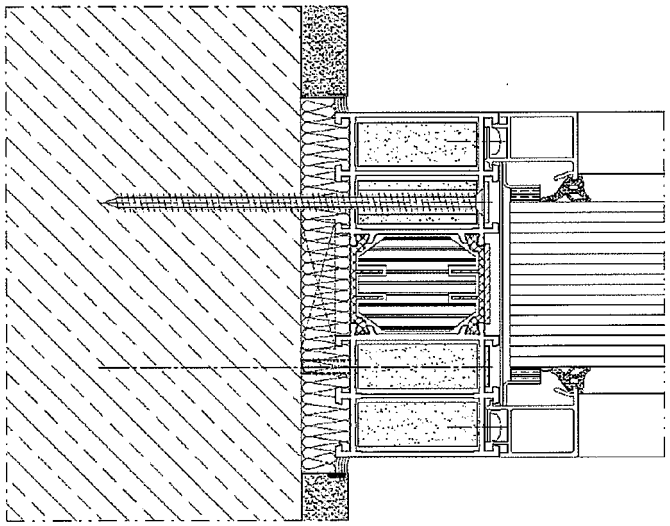

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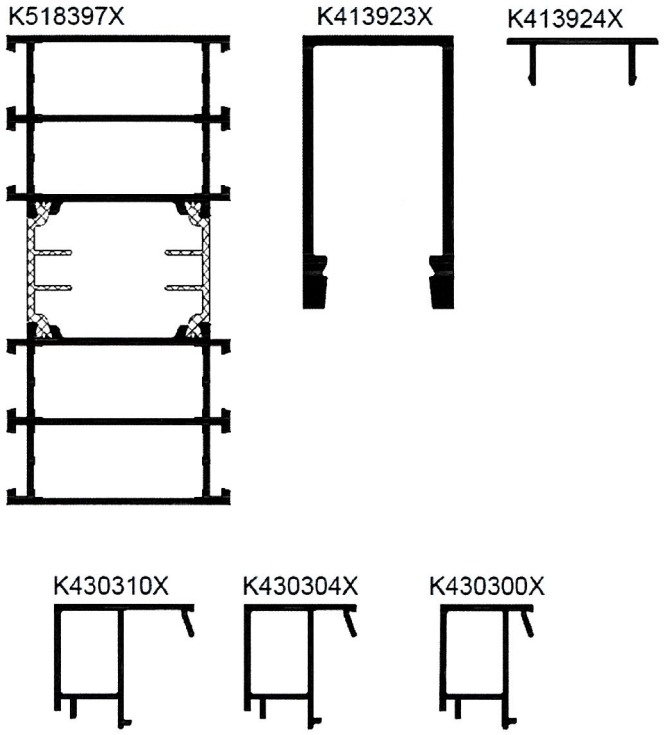
| **ALUPROF MB-118EI EI120** | **Annex A13** of European Technical Assessment ETA-20/0890 |
| Fixing of the frame | |

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| **ALUPROF MB-118EI EI120** | **Annex B1**<br>of European Technical Assessment<br>ETA-20/0890 |
| Components – aluminium profiles | |

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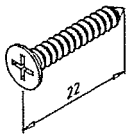


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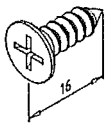


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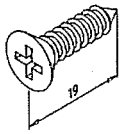


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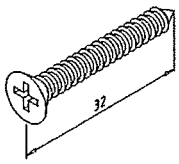


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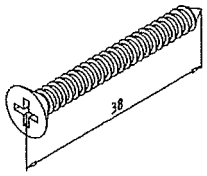


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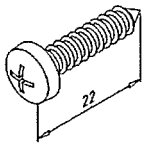


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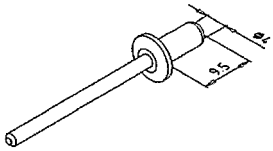


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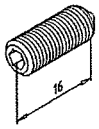


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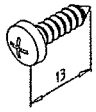


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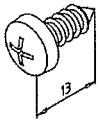


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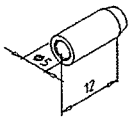


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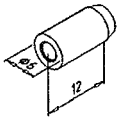


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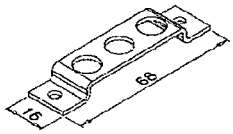


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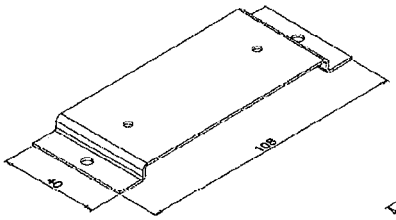


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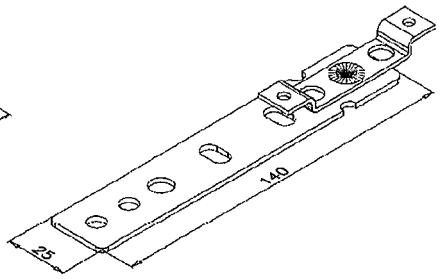


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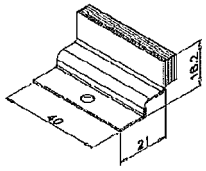


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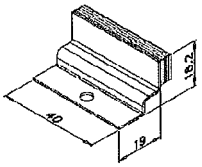


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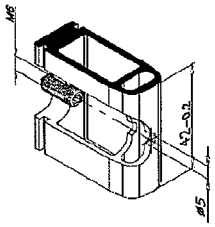


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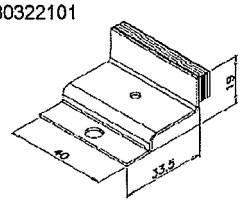


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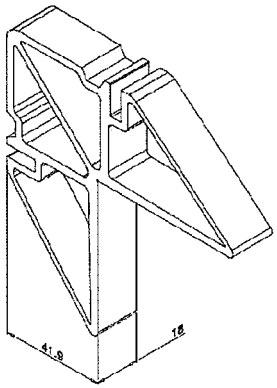


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|---|---|
| **ALUPROF MB-118EI EI120** | **Annex B2** of European Technical Assessment ETA-20/0890 |
| Components – stainless steel and aluminum elements | |

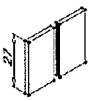
120540


120541


120542


120653


120791

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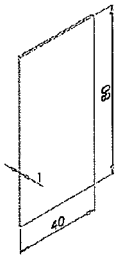


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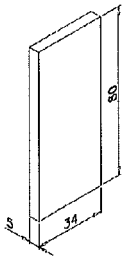


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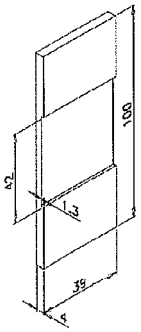


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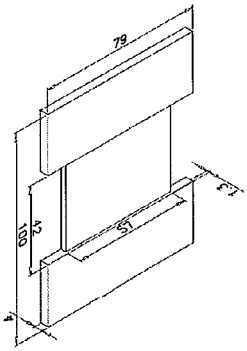


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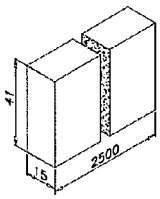


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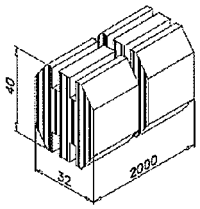


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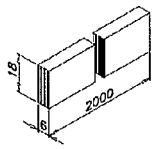


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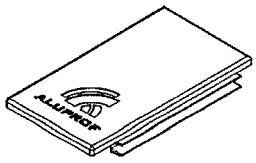


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|---|---|
| **ALUPROF MB-118EI EI120** | **Annex B3** of European Technical Assessment ETA-20/0890 |
| Components – gaskets, intumescent seals, pane pads and fire protection inserts | |

| Components | Specification | | Reaction to fire class | |
|---|---|---|---|---|
| Aluminium profiles with anodic coating | Aluminium alloy EN AW-6060<br>Metallurgic state T66<br>Thickness of anodic coating: ≥ 5 µm<br>Dimensions and shape acc. to Annex B1 | EN 573-3<br>EN 515 | A1 | 96/603/EC[1)] |
| Aluminium profiles with powder organic coating | Aluminium alloy EN AW-6060<br>Metallurgic state T66<br>Thickness of powder coating: ≥ 60 µm<br>Dimensions and shape acc. to Annex B1 | EN 573-3<br>EN 515 | No performance assessed | |
| EDPM gaskets | EPDM<br>Dimensions and shape acc. to Annex B3 | - | No performance assessed | |
| Intumescent seals | Flexpan produced by Rolf Kuhn GmbH<br>Dimensions and shape acc. to Annex B3 | - | No performance assessed | |
| Protection inserts | F type gypsum plasterboards<br>Dimensions and shape acc. to Annex B3 | EN 520 | No performance assessed | |
| Protection inserts | Palstop PAX (made by Branddex)<br>Dimensions and shape acc. to Annex B3 | - | No performance assessed | |
| Wooden glass supports | Density ≥ 490 kg/m$^3$<br>Dimensions and shape acc. to Annex B3 | - | No performance assessed | |
| Stainless steel handles | Stainless steel 1.4301<br>Dimensions and shape acc. to Annex B2 | EN 10088-1<br>EN 10088-2 | A1 | 96/603/EC[1)] |
| Screws and rivets | Stainless steel A2 | EN ISO 3506-1 | No performance assessed | |
| Steel mounting plate | Stainless steel 1.4301<br>Dimensions and shape acc. to Annex B2 | EN 10088-1<br>EN 10088-2 | A1 | 96/603/EC[1)] |
| Glass | POLFLAM EI120 produced by Polflam Sp. z o.o.<br>Thickness: 35 mm | EN 14449 | No performance assessed | |
| Glass | Pyrostop 120-10 produced by Pilkington<br>Thickness: 58 mm | EN 14449 | No performance assessed | |
| Thermal barrier | Polyamide reinforced with glass fiber PA 6,6 GF25<br>Dimensions and shape acc. to Annex B1 | - | No performance assessed | |

[1)] amended by Commission Decisions 2000/605/EC and 2003/424/EC