

[Logo]

**INSTYTUT TECHNIKI BUDOWLANEJ [BUILDING  
RESEARCH INSTITUTE]**

PL 00-611 WARSZAWA, ul. Filtrowa 1, [www.itb.pl](http://www.itb.pl)

[Logo]

## **NATIONAL TECHNICAL ASSESSMENT ITB-KOT-2017/0089 edition 3**

This National Technical Assessment was issued in accordance with the Regulation of the Minister of Infrastructure and Construction of 17 November 2016 on National Technical Assessment (Dz. U. [Journal of Laws] 2016, item 1968) by the Building Research Institute in Warsaw, at the request of:

**FIBERLAB S.A.  
32-014 Brzezcie, Brzezcie 387**

The National Technical Assessment ITB-KOT-2017/0089 edition 3 is a positive assessment of the performance of the following construction product for the intended use:

**Set of decking boards and complementary elements of  
the TIMBERNESS system**

The expiration date of the National Technical Assessment:  
**March 31, 2027.**

[Round red seal]

DIRECTOR  
authorized by  
Deputy Director  
for the Technical Assessment  
and European Harmonization  
[Illegible signature]  
*Anna Panek, M.Sc.*

Warsaw, March 31, 2022.

The document of the National Technical Assessment ITB-KOT-2017/0089 edition 3 contains 24 pages, including 1 Appendix. National Assessment

Technical Assessment ITB-KOT-2017/0089 edition 3 replaces the National Technical Assessment ITB-KOT-2017/0089 edition 2. Text

This document can only be copied in its entirety. Publication or dissemination in any other form of excerpts from the

National Technical Assessment requires written agreement of the Building Research Institute

**SWORN TRANSLATOR**  
English - Polish



Andrzej Pasterny M.A.  
ul. F. Hajduka 10, 43-400 Cieszyn  
POLAND tel. +48 600 507 071  
[www.tlumacz-cieszyn.pl](http://www.tlumacz-cieszyn.pl)



*CERTIFIED TRANSLATION FROM POLISH*

---

Building Research Institute

ul. Filtrowa 1, 00-611 Warszawa

tel: 22 825 04 71; NIP [taxpayer ID]: 525 000 93 58; KRS [National Court Register]: 0000158785



## 1. TECHNICAL DESCRIPTION OF THE PRODUCT

The subject of the National Technical Assessment is a set of decking boards and complementary elements of the TIMBERNESS system, manufactured by FIBERLAB S.A., Brzezcie 387, 32-014 Brzezcie, at its manufacturing plant in Brzezcie.

The National Technical Assessment covers the types of products specified by the manufacturer and resulting from the performance characteristics given in Section 3 and a combination of elements forming part of the system.

The set of decking boards and complementary elements of the TIMBERNESS system includes the following products:

- (a) decking boards, made of a composite of polyvinyl chloride (PVC) and wood flour with modifying additives:
  - PRIME, with cross-sectional dimensions of 145 x 30 mm, according to Figure A1,
  - SELECT, with cross-sectional dimensions of 180 x 25 mm, according to Figure A2,
  - CITY, with cross-sectional dimensions of 152 x 24 mm, according to Figure A3,
  - FOREST, with cross-sectional dimensions of 145 x 30 mm, according to Figure A4,
- (b) complementary elements:
  - a low joist, with cross-sectional dimensions of 20 x 40 mm, according to Figure A5, made of a composite of polyvinyl chloride (PVC) and wood flour with modifying additives,
  - standard joist, with cross-sectional dimensions of 40 x 50 mm, according to Figure A6, made of a composite of polyvinyl chloride (PVC) and wood flour with modifying additives,
  - reinforced joist, with cross-sectional dimensions of 40 x 50 mm, according to Figure A7, made of a composite of polyvinyl chloride (PVC) and wood flour with modifying additives,
  - aluminum joist, with cross-sectional dimensions of 35 x 30 mm, according to Figure A8, made of aluminum alloy EN AW-6063 according to PN-EN 573-3:2019, standard T6 according to PN-EN 515:2017,
  - connecting profile to the joist 35 x 30 mm, with cross-sectional dimensions of 30.6 x 25.6 mm, according to Figure A9, made of aluminum alloy EN AW-6063 according to PN-EN 573-3:2019, state T6 according to PN-EN 515:2017,
  - horizontal connecting angle, with cross-sectional dimensions of 54 x 50 x 14 mm, according to Figure A10, made of aluminum alloy EN AW-6063 according to PN-EN 573-3:2019, state T6 according to PN-EN 515:2017,
  - vertical connecting angle, with cross-sectional dimensions of 53.5 x 35 x 14 mm, according to Figure A11, made of aluminum alloy EN AW-6063 according to PN-EN 573-3:2019, state T6 according to PN-EN 515:2017,
  - finishing strip A with cross-sectional dimensions of 80 x 12 mm, according to Figure A12, made of a composite of polyvinyl chloride (PVC) and wood flour with modifying additives,
  - finishing strip B with cross-sectional dimensions of 80 x 12 mm, according to Figure A13, made of a composite of polyvinyl chloride (PVC) and wood flour with modifying additives,
  - finishing strip with cross-sectional dimensions of 82 x 42 mm, according to Figure A14, made of aluminum alloy EN AW-6063 according to PN-EN 573-3:2019, state T6 according to PN-EN 515:2017,



- starter clip, with dimensions of 25 x 26 x 8 mm, according to Figure A15, made of corrosion-resistant steel, grade 1.4301 (AISI 304) according to PN-EN 10088-1:2014,
- T-clip, with dimensions of 34 x 16 x 12 mm, according to Figure A16, made of corrosion-resistant steel, grade 1.4301 (AISI 304) according to PN-EN 10088-1:2014,
- OMEGA sliding clip, with dimensions of 65 x 19 x 8.2 mm, according to Figure A17, made of corrosion-resistant steel, grade 1.4301 (AISI 304) according to PN-EN 10088-1:2014,
- Alu-Fix Clip, with dimensions of 25 x 30 x 17.4 mm, according to Figure A18, made of corrosion-resistant steel, grade 1.4301 according to PN-EN 10088-1:2014,
- Forest-Clip, with dimensions of 25 x 30 x 9.63 mm, according to Figure A19, made of corrosion-resistant steel, grade 1.4301 according to PN-EN 10088-1:2014,
- Uni-Clip, with dimensions of 25 x 30 x 8.64 mm, according to Figure A20, made of corrosion-resistant steel, grade 1.4301 according to PN-EN 10088-1:2014,
- M-Clip, with dimensions of 30 x 30 x 15 mm, according to Figure A21, made of PA6 polyamide,
- PVC PRIME connector, according to Figure A22, made of polyvinyl chloride (PVC),
- PVC SELECT connectors, according to Figure A23, made of polyvinyl chloride (PVC),
- screws with dimensions of  $\varnothing$  3.9 x 25 mm and head diameter of  $\varnothing$  7.5 mm, made of corrosion-resistant steel, grade 1.4301 according to PN-EN 10088-1:2014,
- screws with dimensions of  $\varnothing$  3.9 x 19 mm, made of stainless steel, grade AISI 304,
- screws of dimensions  $\varnothing$  3,9 x 25 mm, TX20, made of unalloyed structural steel, grade 1.0037.

Products made from a composite of polyvinyl chloride (PVC) and wood flour with modifying additives are produced in light brown (RAL 8008), gray (RAL 7037), graphite (RAL 9005) and dark brown (RAL 8028). The composite of polyvinyl chloride (PVC), wood flour and modifying additives has a softening temperature according to Vicat (VST/B50)  $> +75^{\circ}\text{C}$ , as determined according to EN ISO 306:2014.

Decking boards are characterized by the following linear mass: 3.00 kg/m  $\pm$  10% - for SELECT and FOREST boards, 2.58 kg/m  $\pm$  10% - for PRIME boards and 2.00 kg/m  $\pm$  10% - for CITY boards, determined according to PN-EN 15534-1+A1:2017.

Joists are characterized by the following linear mass: 0.68 kg/m  $\pm$  10% - for a low joist, 1.35 kg/m  $\pm$  10% - for a standard joist, 1.58 kg/m  $\pm$  10% - for a structural joist and 0.76 kg/m  $\pm$  10% - for an aluminum joist, determined according to EN 15534-1 +A1:2017.

The shape and dimensions of the products included in the TIMBERNESS set are given in Appendix A. The dimensional deviations of the non-toleranced aluminum complementary elements comply with the requirements of PN-EN 12020-2:2010. The dimensional deviations of non-toleranced composite and plastic complementary elements correspond to tolerance class *v* according to PN-EN 22768-1:1999, and steel complementary elements - to tolerance class *m* according to PN-EN 22768-1:1999.



## 2. INTENDED USE OF THE PRODUCT

The set of decking boards and complementary elements of the TIMBERNESS system is designed for outdoor flooring (terraces, verandas, balconies, piers, paving around outdoor pools, etc.).

A set of products of the TIMBERNESS system, consisting of SELECT or PRIME boards and complementary elements: composite joists, composite finishing strips, aluminum finishing strips, starter clips, OMEGA sliding clips, Ø 3.9 x 25 mm screws, SELECT PVC connectors and PRIME PVC connectors, used on primers with class A1 or A2 reaction to fire according to PN-EN 13501-1:2019, was classified in class Bfi-s1 reaction to fire according to PN-EN 13501-1+A1:2010 and as flame retardant according to the Regulation of the Minister of Infrastructure and Construction of 12 April 2002 on technical conditions to be met by buildings and their location (Dz. U. [Journal of Laws] 2019, item 1065, as amended).

A set of products of the TIMBERNESS system, consisting of CITY boards and complementary elements: aluminum joists, connecting profiles to the joist, horizontal connecting angles, vertical connecting angles, Uni-Clip, M-Clip, Ø 3.9 x 19 mm screws and Ø 3.9 x 25 mm screws, TX20, used on washers with class A1 or A2 reaction to fire according to PN-EN 13501-1:2019, was classified in class Cfi-s1 reaction to fire according to PN-EN 13501-1:2019 and as flame retardant according to the Regulation of the Minister of Infrastructure and Construction of 12 April 2002 on technical conditions to be met by buildings and their location (Dz. U. [Journal of Laws] 2019, item 1065, as amended).

A set consisting of FOREST boards and complementary elements: composite finishing strips, aluminum joists, joist connection profiles, horizontal connection angles, vertical connection angles, Forest-Clip and Ø 3.9 x 19 mm screws, used on washers with class A1 or A2 reaction to fire according to PN-EN 13501-1:2019, has been classified in class Cti-s1 reaction to fire according to PN-EN 13501-1:2019 and as flame retardant according to the Regulation of the Minister of Infrastructure and Construction of 12 April 2002 on technical conditions to be met by buildings and their location (Dz. U. [Journal of Laws] 2019, item 1065, as amended).

PRIME, SELECT, CITY and FOREST decking boards are laid on joists placed at a spacing (axial) of no more than 500 mm, perpendicular to the joists. Elements of the TIMBERNESS set should be laid with a distance from walls and other fixed elements, such as columns, of at least:

- 10 mm for joists,
- 8 mm for boards,
- 5 mm for finishing strips.

For elements longer than 4 m, the above distances should be increased by 2 mm for each additional meter.



An expansion gap should be maintained between the leading edges of the elements:

- 6 mm for joists,
- 8 mm for boards,
- 5 mm for finishing strips.

For elements longer than 4 m, the above distances should be increased by 2 mm for each additional meter.

Elements of the TIMBERNESS set should be laid with a slope in the direction of water drainage of not less than 0.5%.

PRIME, SELECT and CITY decking boards should be fixed to the joists with screw-fastened clips:

For composite joists: with starter clips, T-clip or Uni-Clip and Ø 3.9 x 19 mm screws or M-Clip and Ø 3.9 x 25 mm screws,

For aluminum joists: with Alu-Fix Clip and Ø 3.9 x 19 mm screws.

FOREST decking boards should be fixed to aluminum joists with Forest-Clip, screwed to the joists with Ø 3.9 x 19 mm screws.

Finishing strips should be attached to PRIME and SELECT boards using, respectively, PRIME PVC and SELECT PVC connectors and OMEGA slip clips and Ø 3.9 x 25 mm screws.

PVC PRIME or PVC SELECT connectors are fixed to the boards with PVC-U adhesive, which is not covered in the National Technical Assessment.

It is possible to install aluminum joists on aluminum joists (Figure A24) using connecting profiles and connecting angles. The spacing of the joists and the type, number and placement of mechanical fasteners should be specified in the technical design.

The products covered by this National Technical Assessment should be used in accordance with the technical design, developed for a specific object taking into account:

- Polish standards and technical and construction regulations, in particular, the Regulation of the Minister of Infrastructure of 12 April 2002 on the technical conditions to be met by buildings and their location on the technical conditions to be met by buildings and their location (Dz. U. [Journal of Laws] 2019, item 1065, as amended),
- the provisions of the National Technical Assessment,
- user manuals developed by the manufacturer and provided to customers with each batch of products.

### **3. THE PERFORMANCE CHARACTERISTICS OF THE PRODUCT AND THE METHODS USED TO ASSESS THEM**

#### **3.1. Product performance characteristics**

The performance characteristics of the TIMBERNESS system's decking boards and complementary elements, as well as the TIMBERNESS system's flooring, are listed in Table 1.

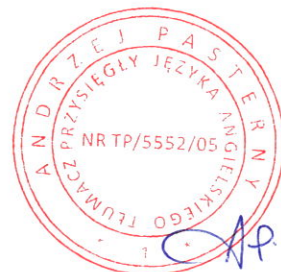


Table 1

Item	Essential characteristics	Performance characteristics	Assessment methods
1	2	3	4
1	Dimensional deviations of decking boards and joists, mm: - lengths - widths - overall thickness - upper wall thickness - bottom wall thickness	$\pm 10.0$ $\pm 1.0$ $\pm 0.8$ $\pm 0.6$ $\pm 0.6$	PN-EN 15534-1 +A1:2017 PN-EN 15534-4:201
2	Straightness of edges, mm/m	$\leq 1.0$	
3	Transverse curvature, mm	$\leq 0.5$	
4	Resistance of the boards to impact with a hard body, at an energy of 7 J, at +23°C and -20°C	Absence of cracks $\geq 10$ mm long and indentations $\geq 0.5$ mm deep	
5	Properties of the boards in bending: - breaking force, N	average value $\geq 3300$ single value $\geq 3000$	
	- deflection under load of 500 N, mm	Average value $\leq 2.0$ singular value $\leq 2.5$	
	- Bending strength (support spacing: PRIME and SELECT boards - 500 mm; CITY and FOREST boards - 450 mm), MPa,	$\geq 35$	
	- elastic modulus on bending, MPa	$\geq 3000$	
6	Resistance of boards to wet conditions as determined by decrease in bending strength after moisture cycles, %	average value $\leq 20$ singular value $\leq 30$	
7	Swelling after 28 days of immersion in water at (+20 $\pm$ 2)°C, %:	Average value $\leq 0.4$ Singular value $\leq 0.6$	
	- along the length	average value $\leq 0.8$ singular value $\leq 1.2$	
	- along the width	average value $\leq 4$ singular value $\leq 5$	
8	Moisture absorption after 28 days of immersion in water at (+20 $\pm$ 2)°C, %.	average value $\leq 7$ singular value $\leq 9$	
	Dimensional stability, % determined by change after 24 h of storage at temp: - +70°C - -20°C	$\leq 0.2$ $\leq 0.1$	p. 3.2.1
10	Resistance to accelerated aging after 300 h of irradiation, determined by color difference: - boards in light brown color (RAL 8008)	$\Delta E_{ab}^* \leq 5$	PN-ISO 7724-2:2003 PN-ISO 7724-3:2003 PN-EN ISO 4892-2:2013 +A1:2009 (met. A) PN-EN 15534-4:2014
	- boards in gray color (RAL 7037)	$\Delta E_{ab}^* \leq 6$	
	- boards in graphite color (RAL 9005)	$\Delta E_{ab}^* \leq 3$	
	- boards in dark brown color (RAL 8028)	$\Delta E_{ab}^* \leq 2$	
11	Resistance to dynamic load, Nm	$\geq 736$	PN-EN 1195:1999 (bag with a weight of 30 kg and a diameter of 250 mm, impact at the center of the support spacing)

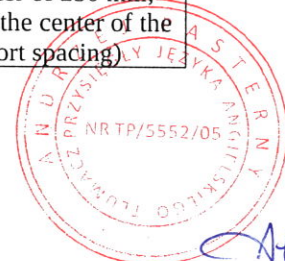


Table 1, continued

Item	Essential characteristics	Performance characteristics		Assessment methods
1	2	3		4
12	Ability to maintain fasteners, determined by: - destructive force, N - drag resistance, MPa	$\geq 700$ $\geq 40$		PN-EN 1383:2000 (joist - clip - screw system)
13	Floor slip resistance, PTV: - PRIME board: ▪ along ▪ across - SELECT board: ▪ along ▪ across - CITY board: ▪ along ▪ across - FOREST board: ▪ along ▪ across	dry surface:  $\geq 80$ $\geq 90$  $\geq 70$ $\geq 75$  $\geq 70$ $\geq 70$  $\geq 36$ $\geq 36$	Wet surface:  $\geq 60$ $\geq 75$  $\geq 50$ $\geq 65$  $\geq 70$ $\geq 70$  $\geq 36$ $\geq 36$	PN-EN 15534-1 + A1:2017 PN-EN 15534-4:2014
14	Coefficient of linear thermal expansion in the temperature range from -20 to 70°C, K1: - SELECT board - PRIME board - CITY board - FOREST board	$\leq 5 \cdot 10^5$ $\leq 5 \cdot 10^5$ $\leq 5 \cdot 10^5$ $\leq 5 \cdot 10^5$		PN-EN 1770:2000
15	Reaction-to-fire classification: - set of products with PRIME or SELECT boards and complementary elements according to item 2. - set of products with CITY board and complementary elements according to item 2 - set of products with FOREST board and complementary elements according to item 2	Bfi-s1 <sup>1)</sup>	Cn-s1 <sup>1)</sup> Cfi-s1 <sup>1)</sup>	PN-EN 13501-1+A1:2010 PN-EN 13501-1:2019
<sup>1)</sup> the classification applies to sets used on primers with a reaction-to-fire class A1 or A2 according to PN-EN 13501-1:2019				

### 3.2. Methods used to assess performance

Assessment methods are given in Table 1 and Section 3.2.1.

#### 3.2.1. Verification of dimensional stability.

The test is carried out on samples of decking boards with a length of 250 mm, which, after measuring the distance at the marked measuring points, are subjected to:

- temperature of +70°C for 24 h,
- temperature of -20°C for 24 h.

The samples are then seasoned for 2h under laboratory conditions. The change in linear dimensions is calculated according to the formula:

$$\frac{l_1 - l_0}{l_0} \times 100\%$$

Where:

$h$  - final measurement, i.e. after exposure to temperatures of +70°C and -20°C, mm,  
 $l_0$  - initial measurement, mm.



#### 4. PACKAGING, TRANSPORT, STORAGE AND HOW TO LABEL THE PRODUCT

Products included in the TIMBERNESS set should be delivered in original manufacturer's packaging and stored and transported in such a way as to ensure the invariability of their technical properties.

The method of marking products with the construction mark should be in accordance with the Regulation of the Minister of Infrastructure and Construction of 17 November 2016 on the method of declaring the performance of construction products and the method of marking them with the construction mark (Dz. U. [Journal of Laws] 2016, item 1966, as amended).

The marking of the product with the construction mark should be accompanied by the following information:

- the last two digits of the year in which the construction mark was first placed on the construction product,
- name and address of the manufacturer's registered office or an identification mark that makes it possible to uniquely identify the name and address of the manufacturer's registered office,
- name and designation of the construction product type,
- number and year of issue of the national technical assessment, according to which the performance characteristics were declared (ITB-KOT-2017/0089 edition 3),
- national declaration of performance number,
- level or class of declared performance,
- address of the manufacturer's website, if the national declaration of performance is made available there.

Along with the national declaration of performance, a safety data sheet and/or information on hazardous substances contained in the construction product, as referred to in Article 31 or 33 of Regulation (EC) No. 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) and establishing a European Chemicals Agency, should be provided or made available, as appropriate.

In addition, the labeling of a construction product that is a hazardous mixture according to REACH should comply with the requirements of Regulation (EC) no. 1272/2008 of the European Parliament and of the Council on classification, labeling and packaging of substances and mixtures (CLP), amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) no. 1907/2006.

#### 5. ASSESSMENT AND VERIFICATION OF CONSTANCY OF PERFORMANCE

##### 5.1. National system of assessment and verification of constancy of performance

In accordance with the Regulation of the Minister of Infrastructure and Construction of 17 November 2016 on the manner of declaring the performance of construction products and the manner of marking them with the construction mark (Dz. U. [Journal of Laws] 2016, item 1966, as amended) applies system 4 of assessment and verification of constancy of performance.



## 5.2. Type testing

The performance characteristics assessed in item 3 constitute a type test of the product as long as there are no changes in raw materials, components, production line or production facility.

## 5.3. Factory production control

The manufacturer should have a factory production control system in place at the production site. All elements of this system, requirements and provisions, adopted by the manufacturer, should be documented in a systematic way, in the form of policies and procedures, including records of tests conducted. Factory production control should be adapted to the production technology and ensure that the declared performance of the product is maintained in series production.

Factory production control includes specification and checking of raw materials and components, inspection and testing in the manufacturing process, and control tests (according to section 5.4), carried out by the manufacturer in accordance with the established test plan and according to the principles and procedures specified in the factory production control documentation.

The results of production control should be systematically recorded. The records of the register should confirm that the products meet the criteria for assessment and verification of constancy of performance. Individual products or batches of products and related manufacturing details must be fully identifiable and reproducible.

## 5.4. Control tests

**5.4.1. Program of tests.** The program includes:

- (a) ongoing tests,
- (b) periodic tests.

**5.4.2. Ongoing tests.** Ongoing tests include checking:

- (a) dimensional deviations,
- (b) straightness of edges,
- (c) transverse curvature,
- (d) linear mass.

**5.4.3. Periodic tests.** Periodic tests include checking:

- (a) impact resistance of the boards,
- (b) the bending properties of the boards,
- (c) swelling
- (d) moisture absorption,
- (e) slip resistance of the floor,
- (f) the ability to maintain fasteners,
- (g) reaction to fire.



### 5.5. Frequency of tests

Ongoing tests should be conducted in accordance with the established test program, but not less frequently than for each batch of products. The batch size of the products should be specified in the factory production control documentation.

Periodic tests should be performed at least once every 3 years.

## 6. NOTICE

**6.1.** The National Technical Assessment ITB-KOT-2017/0089 edition 3 replaces the National Technical Assessment ITB-KOT-2017/0089 edition 2.

**6.2.** The National Technical Assessment ITB-KOT-2017/0089 edition 3 is a positive assessment of the performance characteristics of those essential characteristics of a set of decking boards and complementary elements of the TIMBERNESS system, which, according to the intended use, resulting from the provisions of the Assessment, affect the fulfillment of the basic requirements by the construction objects in which the product will be used.

**6.3.** The National Technical Assessment ITB-KOT-2017/0089 edition 3 is not a document authorizing the marking of a construction product with a construction mark.

In accordance with the Act of 16 April 2004 on construction products (Dz. U. [Journal of Laws] 2021, item 1213), the set to which this National Technical Assessment applies may be placed on the market or made available on the domestic market if the manufacturer has assessed and verified the constancy of performance, prepared a national declaration of performance in accordance with the National Technical Assessment ITB-KOT-2017/0089 edition 3 and marked the products with the construction mark, in accordance with the applicable regulations.

**6.4.** The National Technical Assessment ITB-KOT-2017/0089 edition 3 does not violate the rights arising from the provisions on the protection of industrial property, in particular the Act of 30 June 2000. - Industrial Property Law (Dz. U. [Journal of Laws] 2021, item 324). It is the responsibility of those using this ITB National Technical Assessment to ensure these rights.

**6.5.** Issuing the National Technical Assessment does not mean that ITB [Building Research Institute] takes responsibility for possible infringement of exclusive and acquired rights.

**6.6.** The National Technical Assessment does not relieve the manufacturer of products from responsibility for their proper quality, and construction contractors from responsibility for their proper application.

**6.7.** The validity of the National Technical Assessment may be renewed for successive periods, not exceeding 5 years.



## 7. LIST OF DOCUMENTS USED IN THE PROCEEDINGS

### 7.1. Reports, test reports, evaluations, classifications

- 1) LZM00-01600/21/Z00NZM. Test report. WPC composite profiles and complementary elements in the TIMBERNESS system. Department of Building Materials Engineering of the Building Research Institute.
- 2) 01665.1/21/Z00NZP. Reaction-to-fire classification. ITB Fire Research Department
- 3) 01665.2/21/Z00NZP. Reaction-to-fire classification. ITB Fire Research Department
- 4) LZP01-01665/21/Z00NZP. Test report. ITB Fire Research Department
- 5) LZP02-01665/21/Z00NZP. Test report. ITB Fire Research Department
- 6) LZP03-01665/21/Z00NZP. Test report. ITB Fire Research Department
- 7) LZP04-01665/21/Z00NZP. Test report. ITB Fire Research Department
- 8) LZM00-01661/20/Z00NZM. A test report on aluminum joists. Department of Building Materials Engineering of the Building Research Institute.
- 9) LZM01-02948/16/Z00NZM. Test report on Timberness hybrid composite profile system, ITB Building Materials Engineering Department
- 10) LZM02-02948/16/Z00NZM. Test report on Timberness hybrid composite profile system, ITB Building Materials Engineering Department
- 11) 02609/16/Z00NZP. Reaction-to-fire classification. ITB Fire Research Department
- 12) LZP01-02609/16/Z00NZP. Test report. ITB Fire Research Department
- 13) LZP02-02609/16/Z00NZP. Test report. ITB Fire Research Department

### 7.2. Standards and related documents

PN-EN 515:2017	Aluminum and aluminum alloys. Plastically transformed products. State designations
PN-EN 573-3:2019	Aluminum and aluminum alloys. Chemical composition and types of plastically processed products. Part 3: Chemical composition and types of products
PN-EN 1195:1999	Wood structures. Test methods. Behavior of structural floor sheathing
PN-EN 1383:2000	Wood structures. Test methods. Drag resistance of wood connectors
PN-EN 1770:2000	Products and systems for the protection and repair of concrete structures. Test methods. Determination of the coefficient of thermal expansion
PN-EN 12020-2:2010	Aluminum and aluminum alloys. Precision extruded sections in EN AW-6060 and EN AW-6063 alloys. Part 2: Permissible deviations in size and shape
PN-EN 13501-1+A1:2010	Fire classification of building products and building elements. Part 1: Classification based on the results of fire reaction tests
PN-EN 13501-1:2019	Fire classification of building products and building elements. Part 1: Classification based on the results of fire reaction tests



PN-EN 15534-1+A1:2017	Composites made from cellulose-based materials and thermoplastics (commonly referred to as wood-polymer composites (WPC) or natural fiber composites (NFC)). Part 1: Test methods designed to characterize mixtures and products
PN-EN 15534-4:2014	Composites made from cellulose-based materials and thermoplastics (commonly referred to as wood-polymer composites (WPC) or natural fiber composites (NFC)). Part 4: Floor profile and tile specifications
PN-EN 10088-1:2014	Corrosion-resistant steels. Part 1: List of corrosion-resistant steels
PN-EN 22768-1:1999	General tolerances. Tolerances of linear and angular dimensions without individual tolerance markings
PN-EN ISO 306:2014	Plastics. Thermoplastics. Determination of mottling temperature by Vicat method (VST)
PN-EN ISO 4892-2:2013	Plastics. Methods of exposure to laboratory light sources. Part 2. Xenon arc lamps
PN-ISO 7724-2:2003	Paints and varnishes - Colorimetry. Part 2: Color measurement
PN-ISO 7724-3:2003	Paints and varnishes - Colorimetry. Part 3: Calculation of color differences
ITB-KOT-2017/0089	Set of decking boards / complementary elements of the system
2nd edition	TIMBERNESS



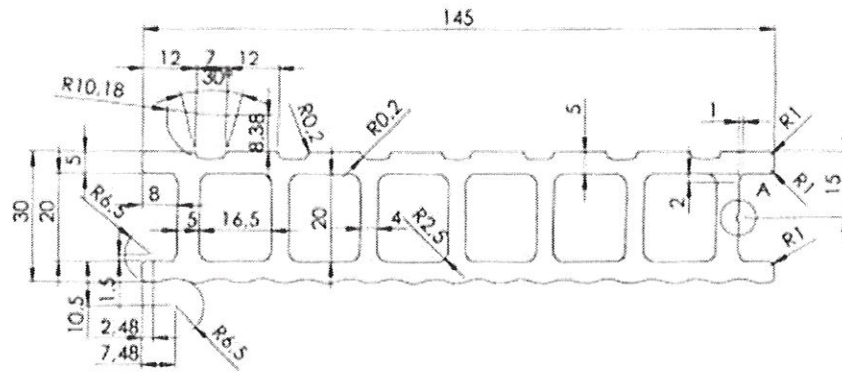


Figure A1. PRIME decking board

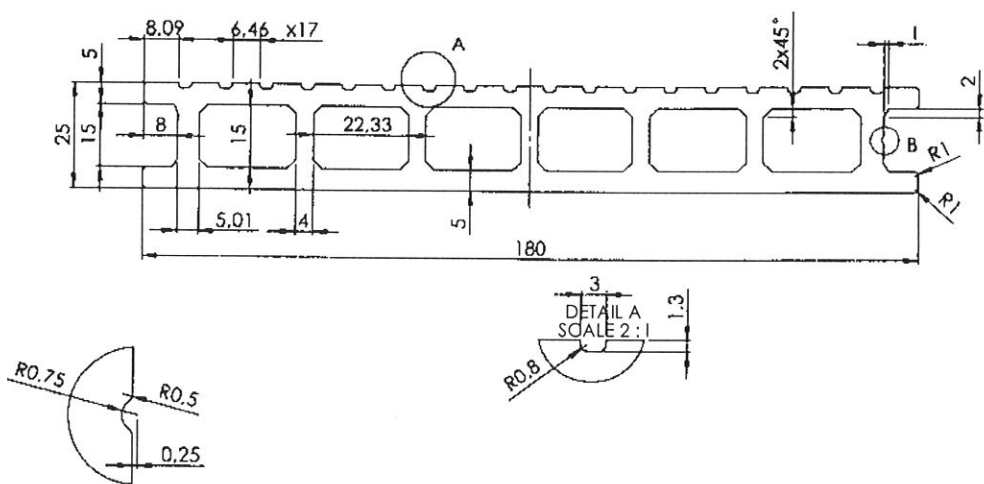


Figure A2. SELECT decking board



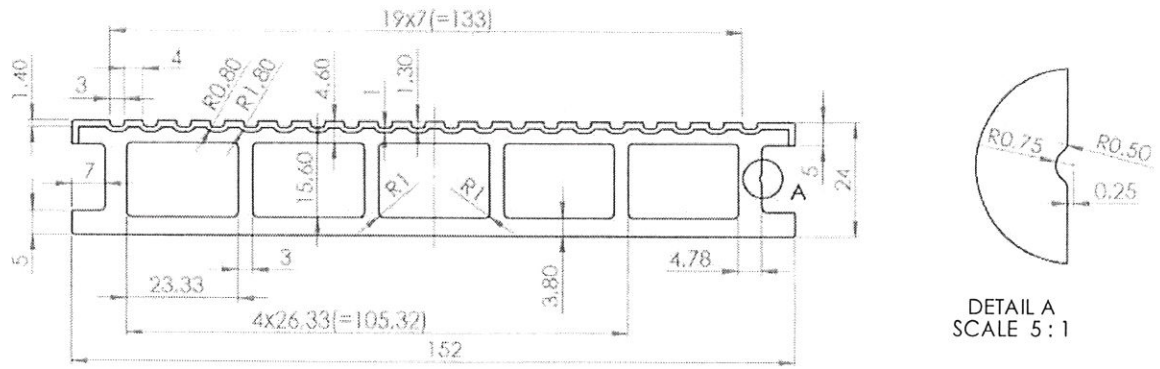


Figure A3. CITY decking board

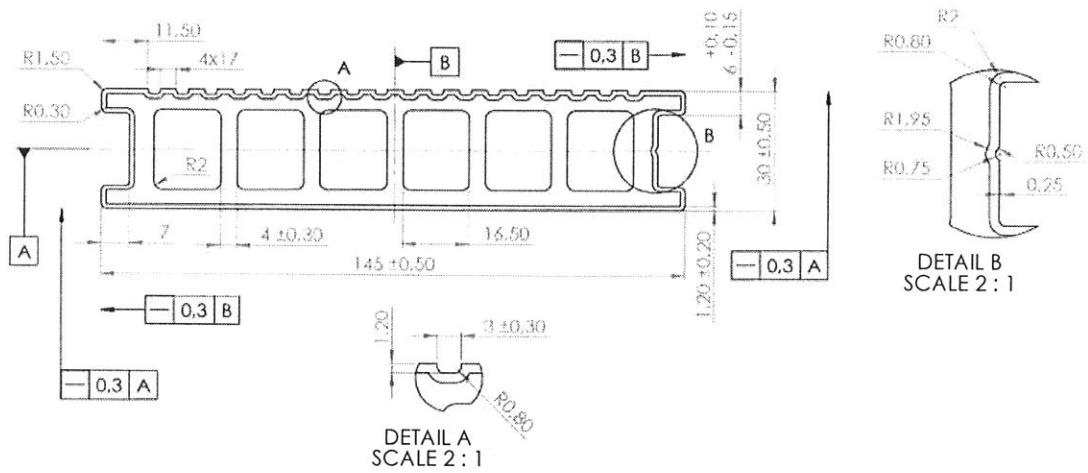


Figure A4. FOREST decking board

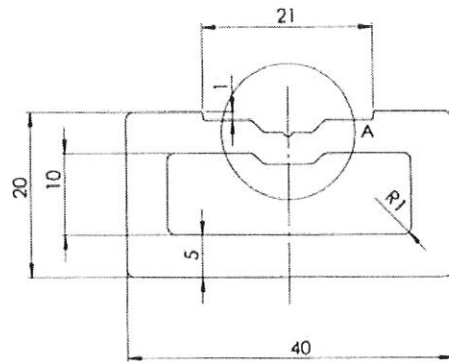


Figure A5. Low joist

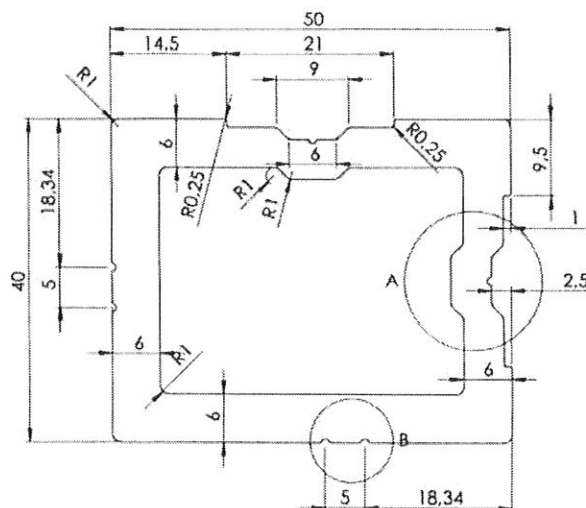


Figure A6. Standard joist

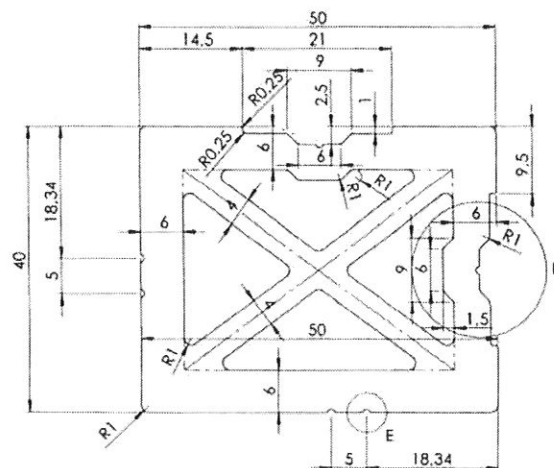


Figure A7. Reinforced joist



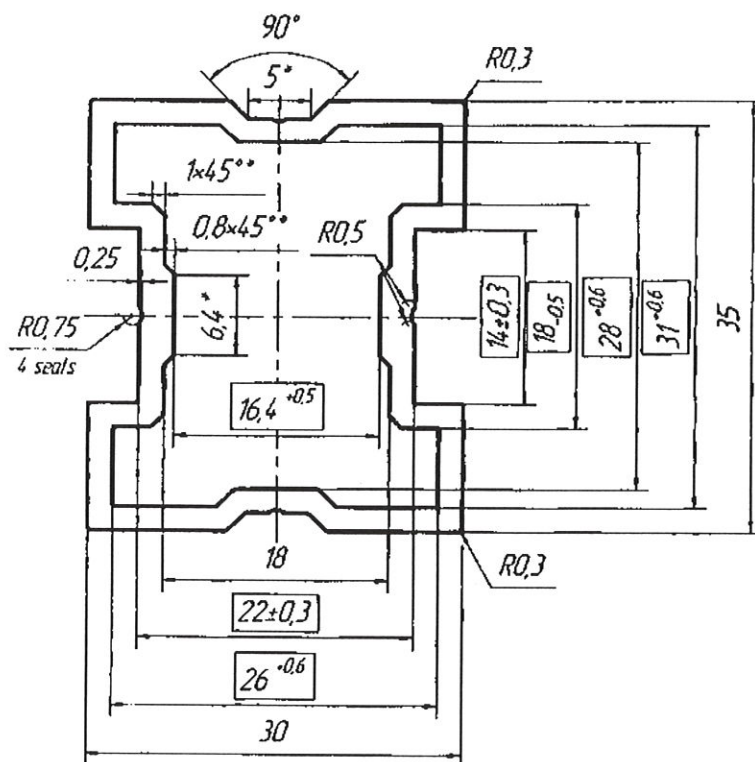


Figure A8. Aluminum joist

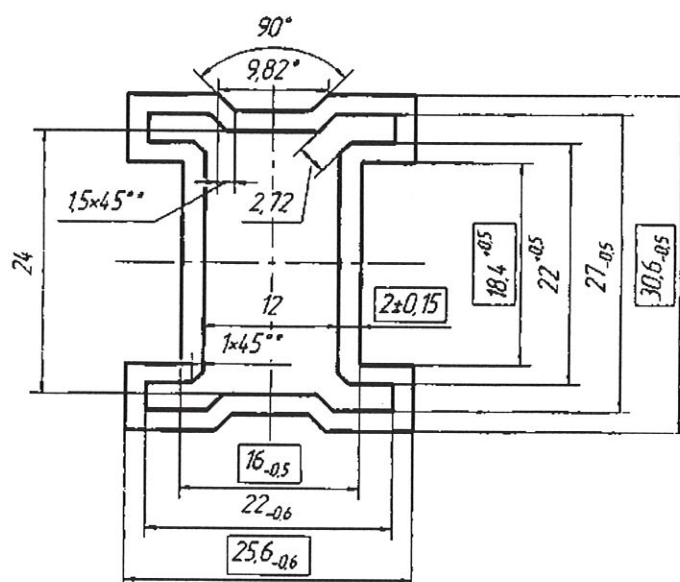


Figure A9. Connecting profile



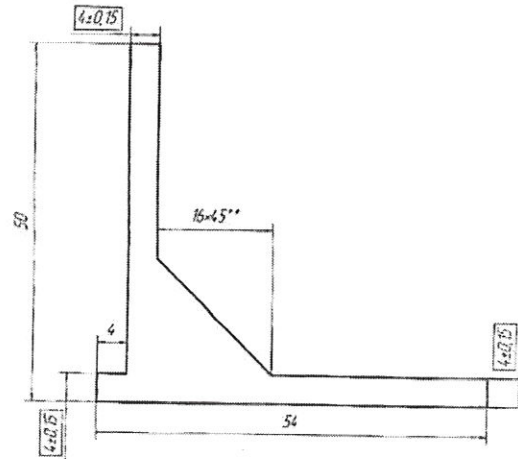


Figure A10. Horizontal connecting angle

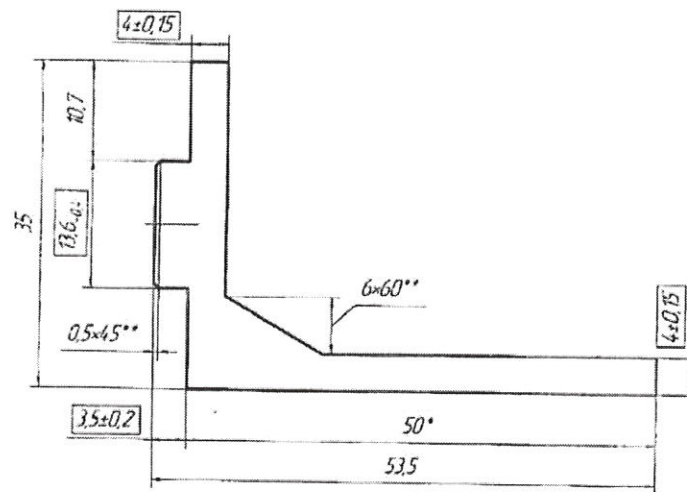


Figure A11. Vertical connecting angle

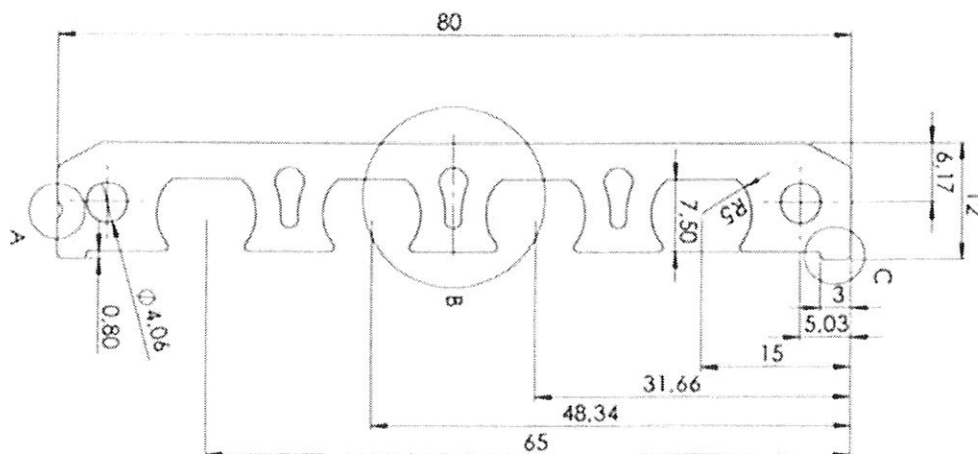
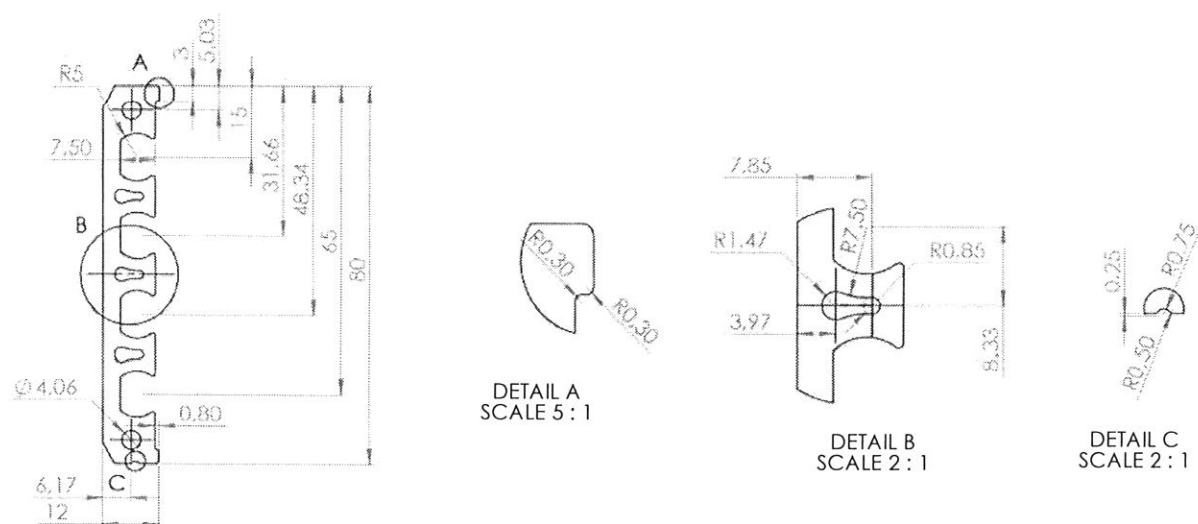


Figure A12. Finishing strip A





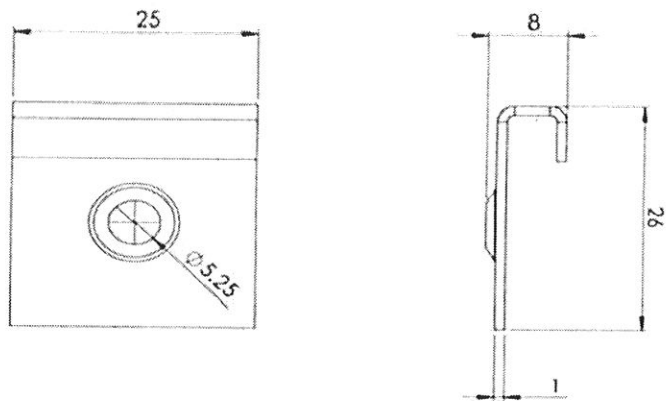


Figure A15. Starter clip

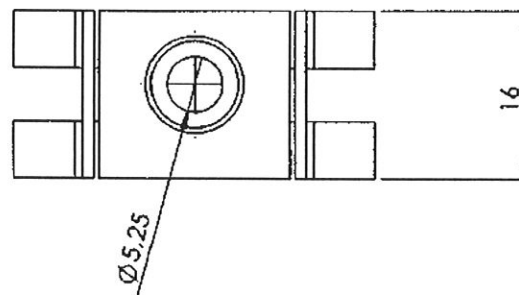
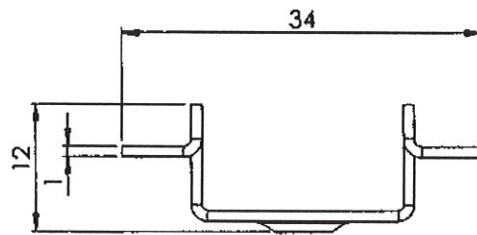


Figure A16. Klips T-clip



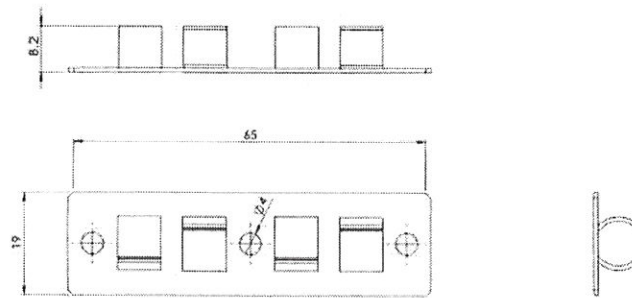


Figure A17. OMEGA slip clip

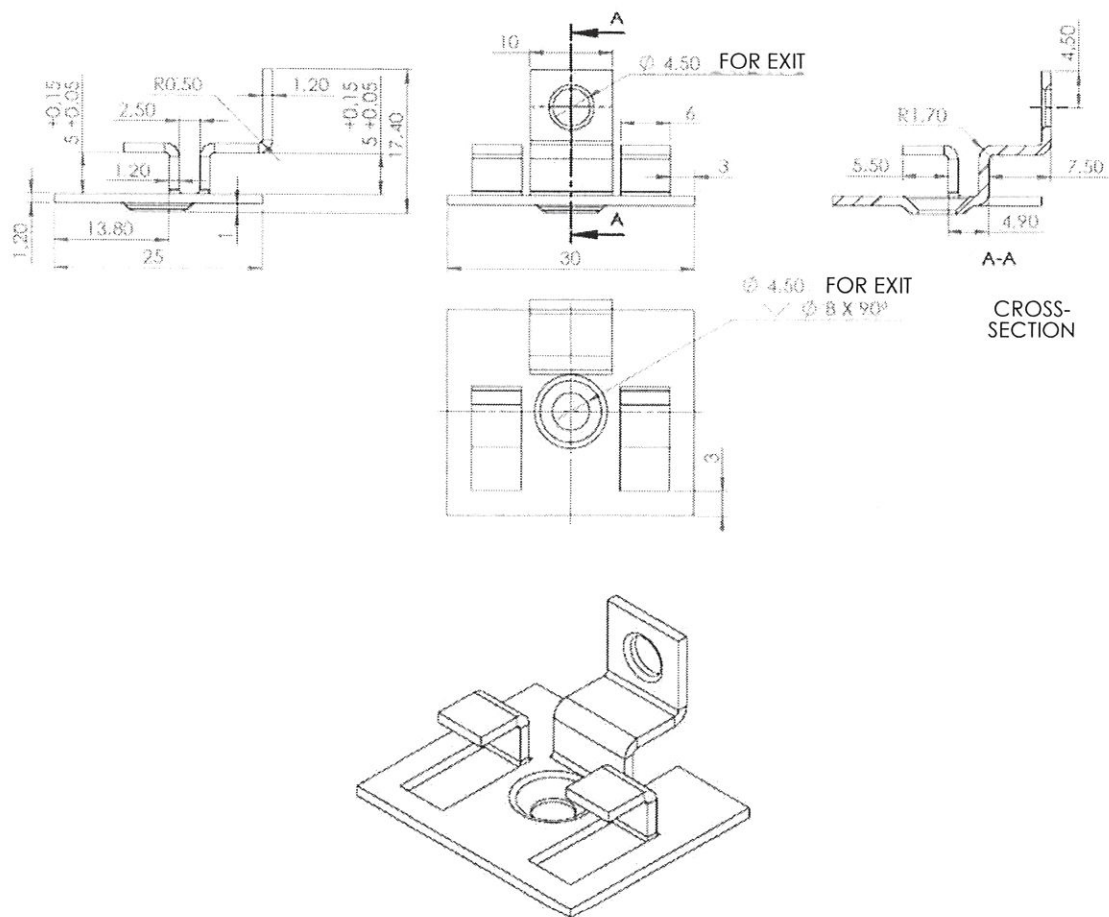


Figure A18. Alu-Fix Clip

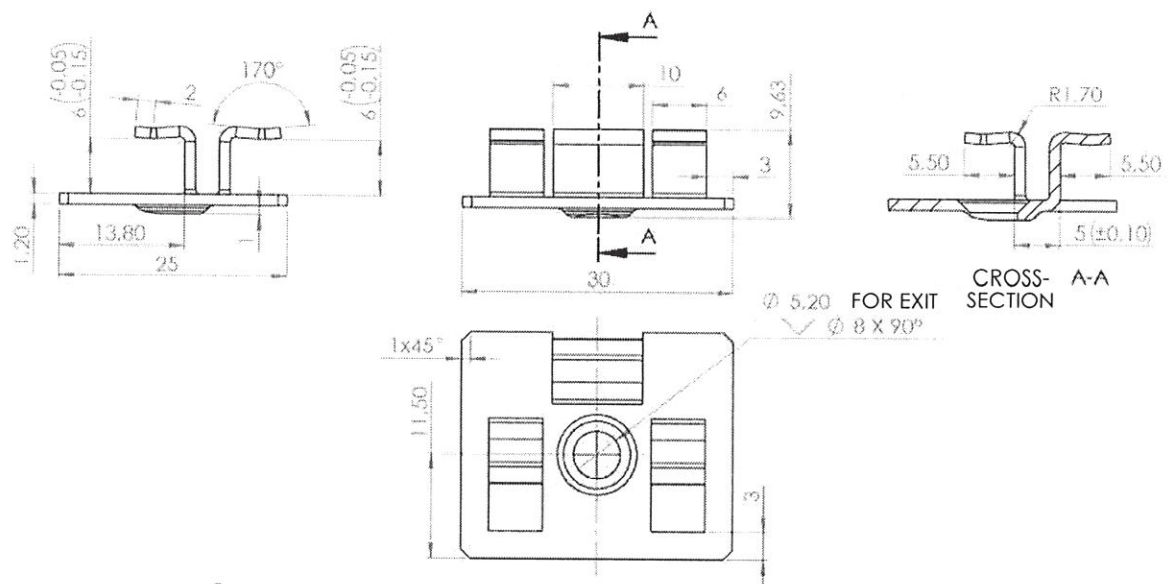


Figure A19. Klips Forest-Clip

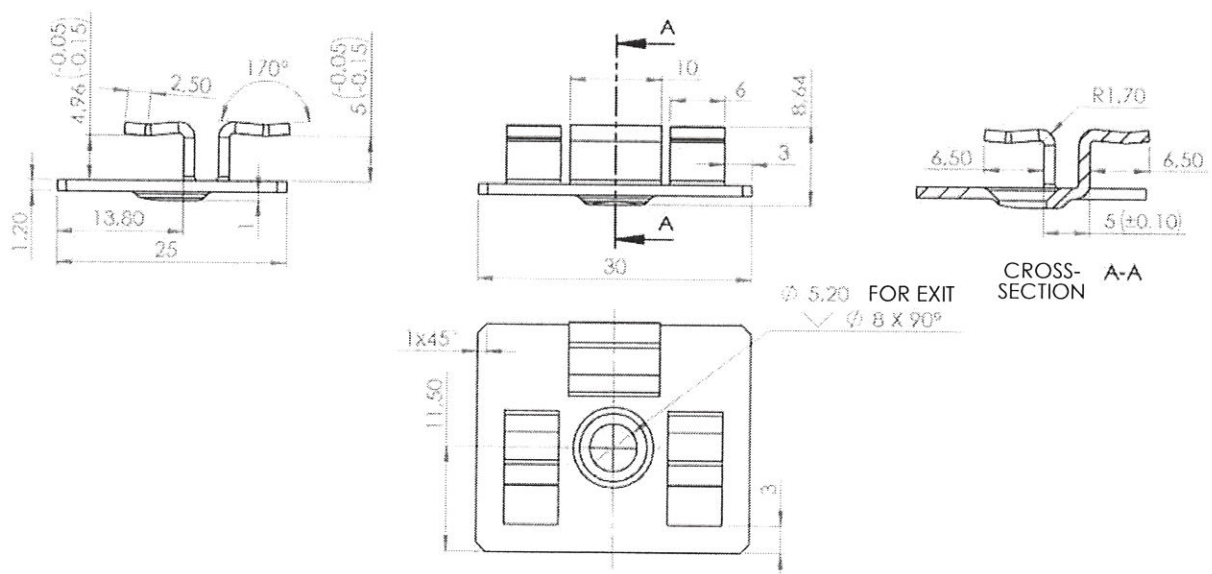


Figure A20. Uni-Clip

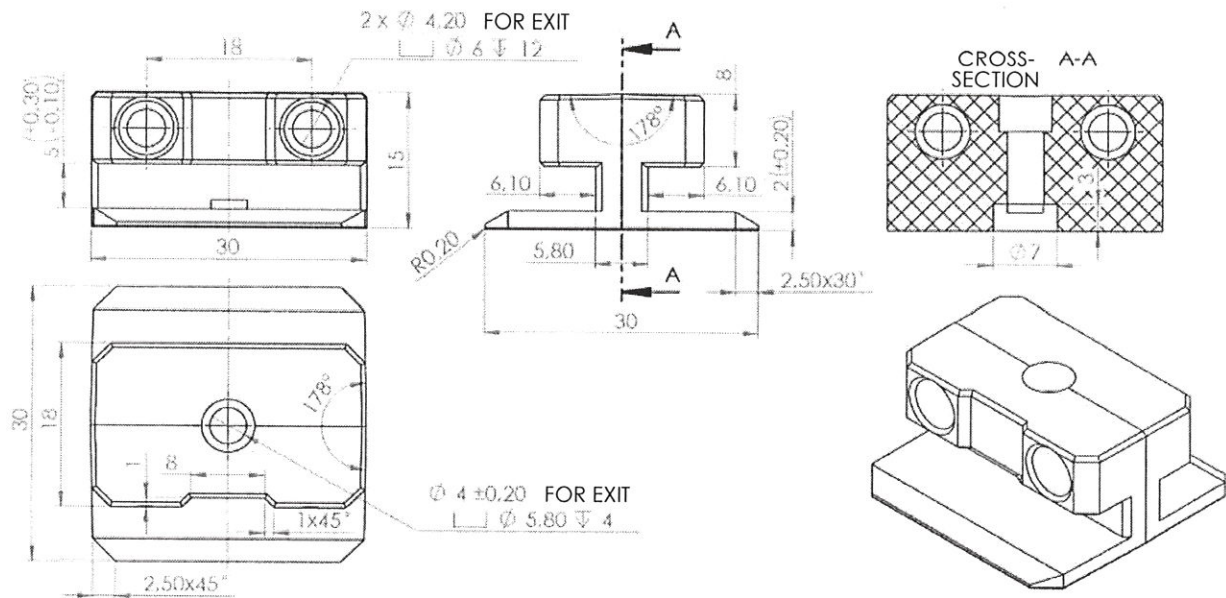


Figure A21. Klips M-Clip

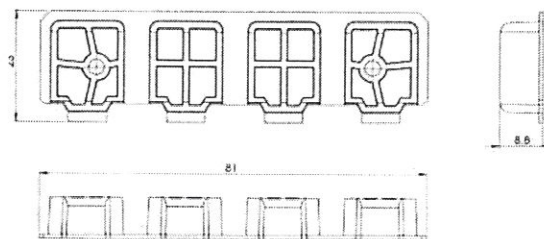


Figure A22. PVC PRIME connector

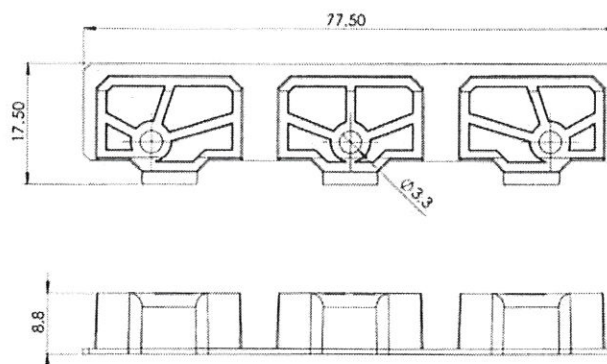
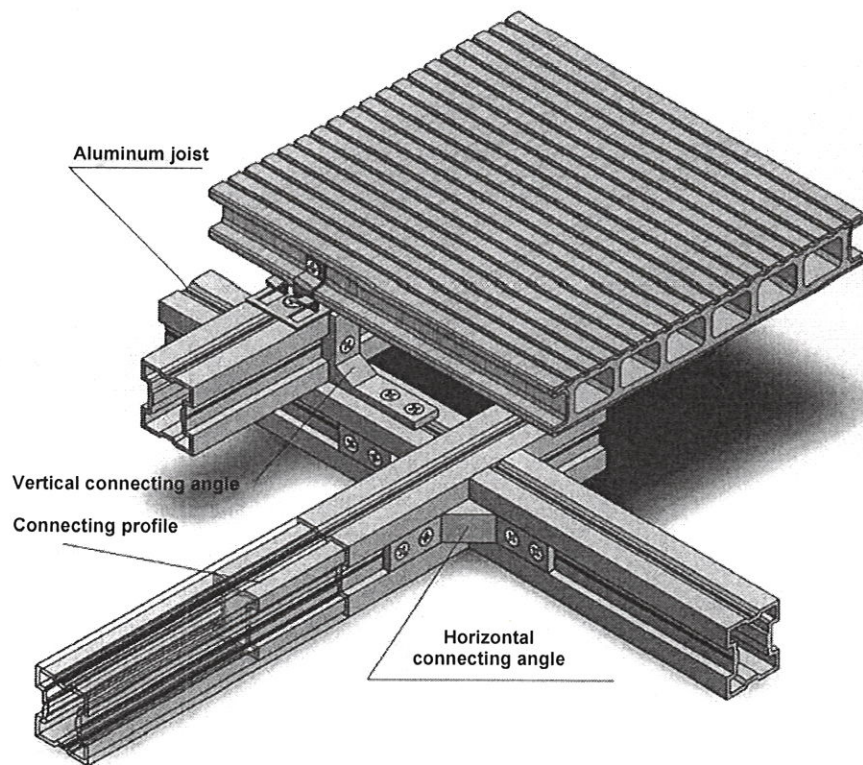


Figure A23. PVC SELECT connector



**Figure A24.** Installation of aluminum joists - example

***Certified to be a true and accurate translation by:***

*Andrzej Pasterny, certified translator and court interpreter with registered office in Ustroń, Poland, entered into the list of sworn translators maintained by the Minister of Justice under No TP 5552/05.*

Register No: **98/2023**

Ustroń, dated: **2023-03-04**



**SWORN TRANSLATOR**  
**English - Polish**



Andrzej Pasterny M.A.  
ul. F. Hajduka 10, 43-400 Cieszyn  
POLAND tel. +48 600 507 071  
[www.tlumacz-cieszyn.pl](http://www.tlumacz-cieszyn.pl)