

Institute of Building Technology

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SERIES: TECHNICAL APPROVAL

ITB TECHNICAL APPROVAL

AT-15-8855/2015

On the basis of the Regulation of the Minister for Infrastructure of 8 November 2004 on technical approvals and bodies authorized to issue them (Journal of Laws of 2014, Pos. 1040) as a result of approval proceedings done in the Institute of Building Technology (ITB) in Warsaw, at the request of:

WINDOOR Paweł Redestowicz

26-600 Radom, ul. Rodziny Ziętałów 5

it has been stated that the products:

Set of decking boards and profiles as well as supplementary elements the WINFLOOR system

are suitable for use in the construction industry within the scope and under conditions determined in the Attachment which is an integral part of this ITB Technical Approval.

Expiry date:

30 December 2020

Attachment:

General and technical provisions

Warsaw, 30 December 2015

The document of Technical Approval by the Institute of Building Technology AT-15-8855/2015 is a novelization of the ITB Technical Approval AT-15-8855/2012. The ITB Technical Approval AT-15-8855/2015 consists of 15 pages. The text may be copied only as a whole document. Any publication or dissemination of fragments of the Technical Approval requires a written agreement from the Institute of Building Technology.

GENERAL AND TECHNICAL PROVISIONS

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1. SUBJECT MATTER OF APPROVAL

The subject matter of the Technical Approval is a set of decking boards and profiles as well as supplementary elements of the WINFLOOR system produced by WINDOOR Paweł Redestowicz from Radom.

The set of products of the WINFLOOR system includes:

- decking boards 145 or 140 mm wide, made of wood dust composite and PVC,
- assembly profiles – joists, made of wood dust composite and PVC,
- supplementary elements made of wood dust composite and PVC, i.e. corner connectors, protective profiles, longitudinal connectors, connecting clips, as well as end stops for corner connectors and floor profiles.

Decking boards and profiles as well as protective strips, corner and longitudinal connectors are produced in colors according to the Manufacturer's template.

Shape and dimensions of wares covered by this Approval are shown in the Figure 1+7.

Required technical and utility properties of the set of decking boards and supplementary elements of the WINFLOOR system are specified in the clause 3.

2. PURPOSE, SCOPE AND CONDITIONS OF USE

The set of decking boards and profiles as well as supplementary elements of the WINFLOOR system are designated to be used for lying floors outside buildings, i.e. terraces, porches, balconies etc; in places where no rules concerning fire safety are required.

Decking boards should be laid on assembly profiles – joists placed every 30, 40 or 50 cm with keeping the distance from the walls and other fixed elements of at least 10 cm.

Assembly profiles – joists – should be fixed to a stable ground with screws or expander fittings. The joists may be fixed to concrete blocks set in sand or gravel e.g. in case of assembly in the soil. In case of an impermeable ground, the joists should be laid so that the water drainage is provided.

In case of a construction on existing structures or supports, the joists of the WINFLOOR system may be replaced by steel, wooden or aluminum elements.

Decking boards should be fixed to joists with clips or connectors from the WINFLOOR system. Before the clip is screwed, one should drill the joist or use self-drilling screws. Sides of the boards should be masked with protective strips.

Use of the set of decking boards and profiles as well as supplementary elements of the WINFLOOR system should be compliant with the technical project designed for a particular facility with consideration of:

- applicable norms and technical-construction provisions, in particular the Regulation of the Minister for Infrastructure of 12th April 2002 on technical conditions which must be fulfilled by buildings and their location (Journal of Laws of 2002, No. 75, Post 690 with further amendments),
- provisions of this Technical Approval,
- assembly manual developed by the Manufacturer which is delivered to the customers with every batch of the products.

3. TECHNICAL PROPERTIES. REQUIREMENTS

Required technical and utility properties of elements from the WINFLOOR system made of wood flour composite and PVC are specified in the Table 1.

Table 1

No.	Properties	Requirements	Testing method
1	2	3	4
1	Density of the material, g/cm ³	1,35±10%	PN-EN ISO 1183-1:2013, met A
2	Weight in reference to length, g/m - decking board 145 mm wide - decking board 140 mm wide - assembly profile – a joist	2428±10% 2049±10% 912±10%	p. 5.6.1.
3	Deviations in dimensions: - length - width - height - thickness of walls	-2/+10 mm ±15% ±15% ±10%	PN-EN 15534-1:2014
4	Resistance to impact <ul style="list-style-type: none"> of a decking board 145 mm wide: <ul style="list-style-type: none"> - in temp. of 23 °C, at energy of 15 J - in temp. -20 °C, at energy of 15 J of a decking board 140 mm wide: <ul style="list-style-type: none"> - in temp. of 23 °C, at energy of 10 J - in temp. -20 °C, at energy of 6 J 	little indentations are possible	PN-EN 477:1997
5	Coefficient of linear thermal expansion at temperature between – 20 °C ÷ + 80 °C, 1/ °C	≤ 3,5 x 10 ⁻⁵	PN-EN 1771:2000 (the rate of a temperature increase: 5 °C/min)
6	Durability – resistance to ageing after 1000 hours of irradiation defined as resilience tested by Charpy impact test, kJ/m ² - before ageing - after ageing	≥ 10 ≥10	PN-EN ISO 4892-2:2009+A1:2009 PN-EN ISO 179-1:2010 MET. 1fu
7	Absorption of water, %, after being: - 24 hours in water - 7 days in water	≤ 3,5 ≤ 7,5	PN-EN 317:1999/Ap:2002
8	The influence of moisture on thickness and hardness of the product: <ul style="list-style-type: none"> swelling, %, after being: <ul style="list-style-type: none"> - 24 hours in water - 7 days in water hardness characterized by Brinnel scale, N/mm²: <ul style="list-style-type: none"> - in air-dry state - after being 24 hours in water - after being 7 days in water 	≤ 1,0 ≤ 2,5 ≥ 40 ≥ 35 ≥ 30	PN-EN 317:1999/Ap1:2002 PN-EN 1534:2011
9	Bending strength (decking board), MPa	≥ 20	PN-EN 310:1999/Ap1: 2002
10	Tensile modulus while bending, MPa: - decking board - assembly profile - joist	≥ 2000 ≥ 2500	PN-EN 310:1999/Ap1: 2002 PN-EN 13706-2:2004

No.	Properties	Requirements	Testing method
1	2	3	4
11	Compression strength (decking board), MPa	$\geq 4,0$	PN-EN 408:2010
12	Load bearing capacity of connectors determined by: - destructive power: decking board-connecting clip-screw, N - resistance of the connector to pulling, MPa	≥ 800 ≥ 50	PN-EN 408:2010
13	Sliding friction, CEN slider, PTV: - dry surface - moisten surface	≥ 62 ≥ 45	PN-EN 13036-4:2011

4. PACKING, STORAGE, TRANSPORT

4.1 Packing

The products included in the set of decking boards and profiles as well as supplementary elements of the WINDOOR system should be delivered in original packages of the Manufacturer. On each package, there should be a label including at least the following data:

- name and address of the Manufacturer,
- name of the product,
- number of the ITB Technical Approval AT-15-8855/2015.
- number and date of issuing of the national conformity declaration,
- construction mark.

The way of marking the product with the construction mark should be compliant with the Regulation of the Minister for Infrastructure of 11th August 2004 on the methods of declaring conformity of construction products and their marking with the construction mark (Journal of Laws No. 198/2004, Pos. 2041, with further amendments).

Moreover, if separate provisions imply an obligation of marking the product on the basis of the Regulation of the Minister for Health of 20 April 2012 on marking of packages of dangerous substances and mixtures, and some mixtures (uniform text: Journal of Laws of 3015, Pos. 450) and Regulation (EC) 1272/2008 of the European Parliament and of the Council on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006, (CLP) as well as including information determining hazard for health or life resulting from the MSDS on the basis of the Regulation (EC) no. 1907/2006 (with amendments) of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), the product should include documentation in an appropriate form with markings and information required by legal provisions.

4.2. Storage and transport

Products included in the set of decking boards and profiles as well as supplementary elements of the WINFLOOR system should be stored and transported so that they are prevented from damage, dirt and mechanical damages, in accordance with the Manufacturer manual.

5. ASSESSMENT OF CONFORMITY

5.1 General rules

Pursuant to Art. 4, Art. 5 Paragraph 1 Clause 3 and Art. 8 Paragraph 1 of the Act of 16th April 2004 on construction materials (Journal of Laws No. 92/2004, pos. 881 with further amendments), the products which are covered by the Technical Approval may be put on the market and used during construction works within the scope corresponding to the technical properties and intended use of the products. This can take place when the Manufacturer has assessed conformity, issued the statement of conformity with the ITB Technical Approval AT-15-8855/2015 and marked the products with the construction mark in accordance with the applicable provisions.

Pursuant to the Regulation of the Minister for Infrastructure of 11th August 2004 on the methods of declaring conformity of construction products and their marking with the construction mark (Journal of Laws No. 198/2004, Pos. 2041, with further amendments), the conformity assessment of the products covered by this ITB Technical Approval AT-15-8855/2015 is made by the Manufacturer (or his/her authorized representative), who has the official seat in Poland, by applying the system 4.

In case of the conformity assessment of the system 4, the Manufacturer can issue the national conformity declaration with the ITB Technical Approval AT-15-8855/2015 on the basis of:

- 1) an initial type testing conducted by the Manufacturer or at his/her request,
- 2) company's production control.

5.2 Initial type testing

An initial type testing is a test confirming required technical and utility properties. It is conducted before the set is put on the market.

The initial type testing of the set of decking boards and supplementary elements of the WINFLOOR system includes:

- a) resistance level to impact energy,
- b) coefficient of linear thermal expansion,
- c) durability – resistance to aging,
- d) absorption of water,
- e) influence of moisture,
- f) bending strength (of decking board),
- g) tensile modulus while bending (the decking board),
- h) compressive strength,
- i) load bearing capacity of connectors,
- j) sliding friction.

The tests, which in the approval proceedings are the basis for determination of technical and utility properties of the set of decking boards and profiles as well as supplementary elements of the WINFLOOR system, constitute the initial type testing in the conformity assessment.

5.3 Company's production control

The company's production control includes:

1. specification and inspection of components and materials,
2. control and testing during the production and testing of finished products (see clause 5.4) carried out by the Manufacturer in accordance with the established testing plan and procedures specified in the documentation of company's production control. These are adapted to the production technology and aimed at obtaining products that possess the required properties.

Production control is supposed to ensure that the products are compliant with the Technical Approval AT-15-8855/2015. The results of the production control should be registered systematically. The records of the register should confirm that the products meet the criteria of the conformity assessment. Particular products or product batches and production details related to them have to be easy to identify and reproduce.

5.4 Finished products testing

5.4.1. Testing scheme

The testing scheme includes:

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

5.4.2. Ongoing tests

The ongoing tests include inspection of:

- a) dimensions,
- b) material density,
- c) mass in relation to length.

5.4.3. Periodic tests

The periodic tests include inspection of:

- a) resistance level to impact energy,
- b) absorption of water,
- c) influence of moisture,
- d) coefficient of linear thermal expansion,
- e) bending strength (of decking board),
- f) tensile modulus while bending (the decking board),
- g) compressive strength,
- h) load bearing capacity of connectors.

5.5. Frequency of tests

Ongoing tests should be conducted in compliance with the determined testing scheme, at least for each batch of products. The size of products' batch should be determined in the documentation of company's production control. The periodic tests should be conducted at least every three years.

5.6. Testing methods

Testing of technical properties of the set of decking boards and profiles as well as supplementary elements of the WINDOOR system should be conducted in accordance with the methods specified in the Table 1, column 4 as well as in accordance with the following description.

5.6.1 Inspection of mass in relation to length.

A prepared sample, which is 1 meter long, is weighed with accuracy to 1 g. The result shall be the arithmetical mean of five measurements.

5.7. Collecting test samples

The test samples should be collected randomly, in compliance with the norm PN-N-03010:1983.

5.8 Assessment of test results

Manufactured products should be assessed in accordance with the requirements of this ITB Technical Approval if the results of all tests are correct.

6. FORMAL AND LEGAL ARRANGEMENTS

6.1. The ITB Technical Approval AT-15-8855/2015 replaces the ITB Technical Approval AT-15-8855/2012.

6.2. The ITB Technical Approval AT-15-8855/2015 is a document which confirms the suitability of the decking boards and profiles as well as supplementary elements of the WINFLOOR system in construction industry to the extent specified in the Approval.

Pursuant to Art. 4, Art. 5 Clause 1 Subclause 3 and Art. 8 Clause 1 of the Act of 18th April 2004 on construction materials (Journal of Laws No. 92/2004, pos. 881 with further amendments), the products which are included in the Technical Approval can be put on the market and used during construction works within the scope corresponding to the technical properties and intended use of the products. This can take place when the manufacturer has assessed conformity, issued the national conformity declaration with the Technical Approval AT-15-8855/2015 and marked the products with the construction mark in compliance with the applicable provisions.

6.3. The ITB Technical Approval does not prejudice any rights resulting from the regulations referring to the protection of the industrial property, especially from the Act of 30th June 2000 on Industrial Property Law (uniform text: Journal of Laws of 2013, pos. 1410 with further amendments). It is the obligation of all users of the Technical Approval to provide these rights.

6.4. By issuing this Technical Approval, the Institute of Building Technology does not take responsibility for possible infringements of exclusive and acquired rights.

6.5. The ITB Technical Approval does not exempt the Manufacturer of the set of decking boards and profiles as well as supplementary elements of the WINFLOOR system from responsibility for appropriate quality of products as well as the designers of facilities and executors of construction works from responsibility for their appropriate use.

6.6. Published advertisements and announcements as well as other documents related to putting on market and use in construction industry the set of decking boards and profiles as well as supplementary elements of the WINFLOOR system should contain information about the Technical Approval AT-15-8855/2015.

7. EXPIRY DATE

The ITB Technical Approval AT-15-8855/2015 is valid until 30th December 2020. The validity of the Technical Approval may be extended if an applicant or a legal successor applies to the Institute of Building Technology for extending the validity not later than 3 months before the Technical Approval expires.

THE END

ADDITIONAL INFORMATION

Related norms

PN-83/N-03010	Statistical quality control. Selecting samples of individual products at random
PN -EN 310:1999/Ap1:2002	Wood-based panels. The code for tensile modulus while bending and bending strength
PN-EN 317:1999/Ap1:2002	Chipboards and fiberboards. Determination for swelling after being put in water
PN-EN 408:2010	Wood constructions. Solid wood and laminated lumber. Determination for some of the physical and mechanical properties
PN-EN 477:1997	Structural steels made of PVC-U for manufacturing windows and doors. Determination for the resistance level of structural steels to the impact energy
PN-EN 1383:2000	Wooden floor. The code for resistance to indentation (using Brinell method). Testing method
PN-EN 13706-2:2004	Specifications of the profiles which are construed using pultrusion method. Part 2. Testing methods and general requirements
PN-EN ISO 1183-1:2006	Plastic. Methods of marking the density of unexpanded plastic. Part 1: Immersed body method, the method with the use of pycnometer and titration
PN-EN ISO 4892-2:2009	Plastic. Methods of exposure to laboratory sources of light. Part 2: Xenon arc lamps

Reports on research, assessments and classifications

1. Research work on decking board of the WINFLOOR system with regard to novelization of AT-15-8855/2012, no. 01655/15/Z00NK (LK00-01655/15/Z00NK), ITB's Plant for Construction and Constructing elements.
2. Report on research no. LM00-01655/15/Z00NK, ITB's Plant for Construction and Constructing elements.
3. Research work on the set of decking boards of the WINFLOOR system with regard to obtaining the technical approval, no. 2265/11/Z00NK (LK00-2265/11Z00NK and LM00-2265/11/Z00NK), ITB's Plant for Construction and Constructing elements.

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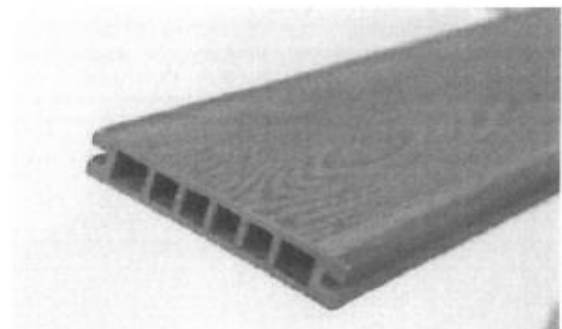
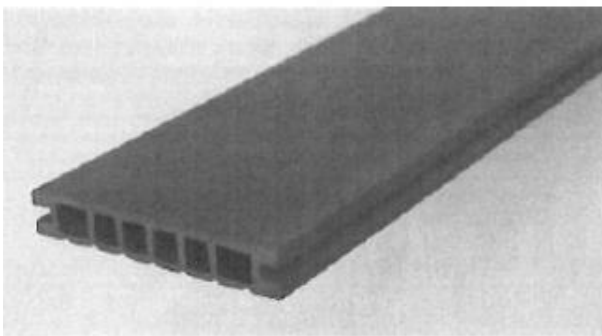
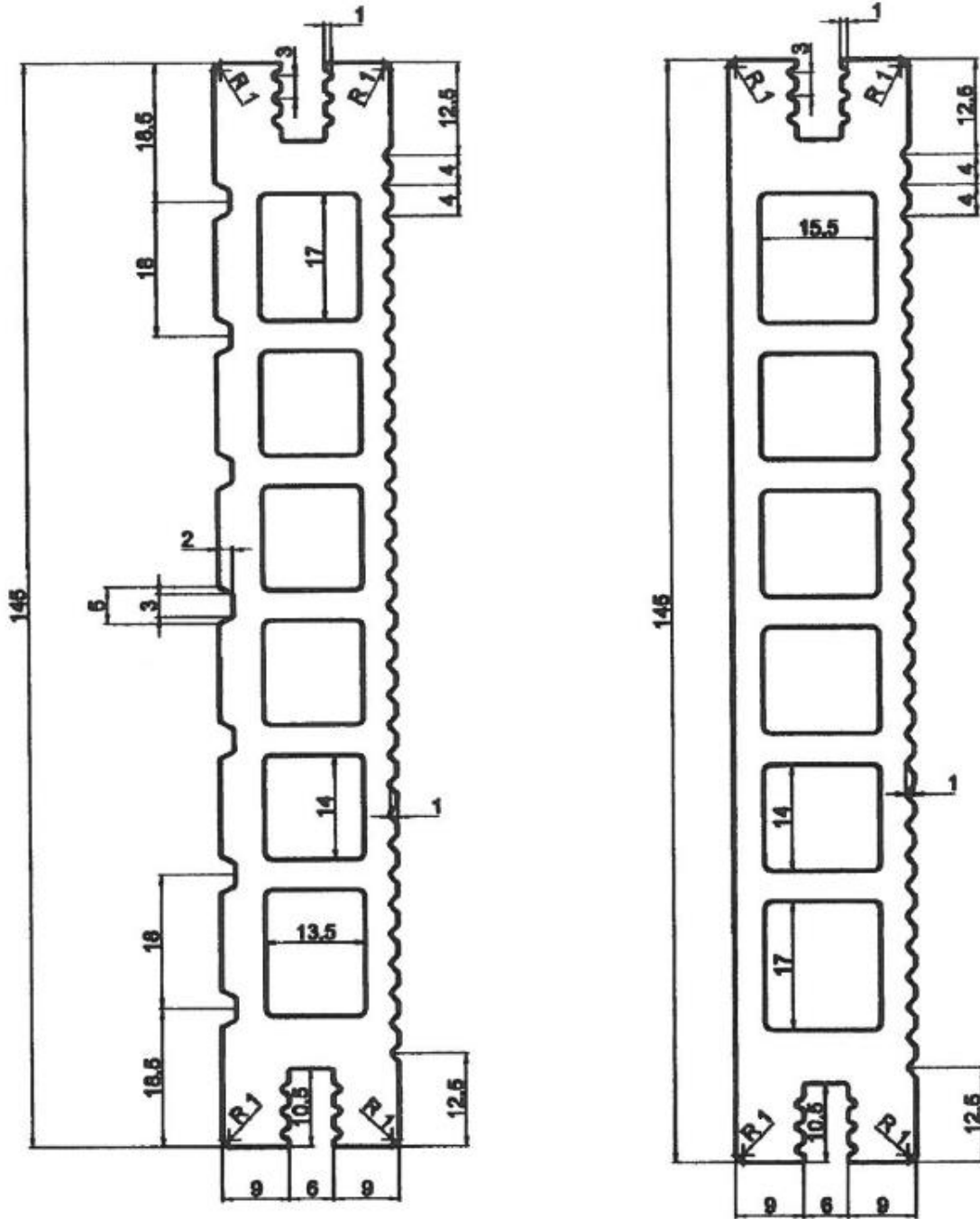


Fig. 1 Decking boards 145 mm wide

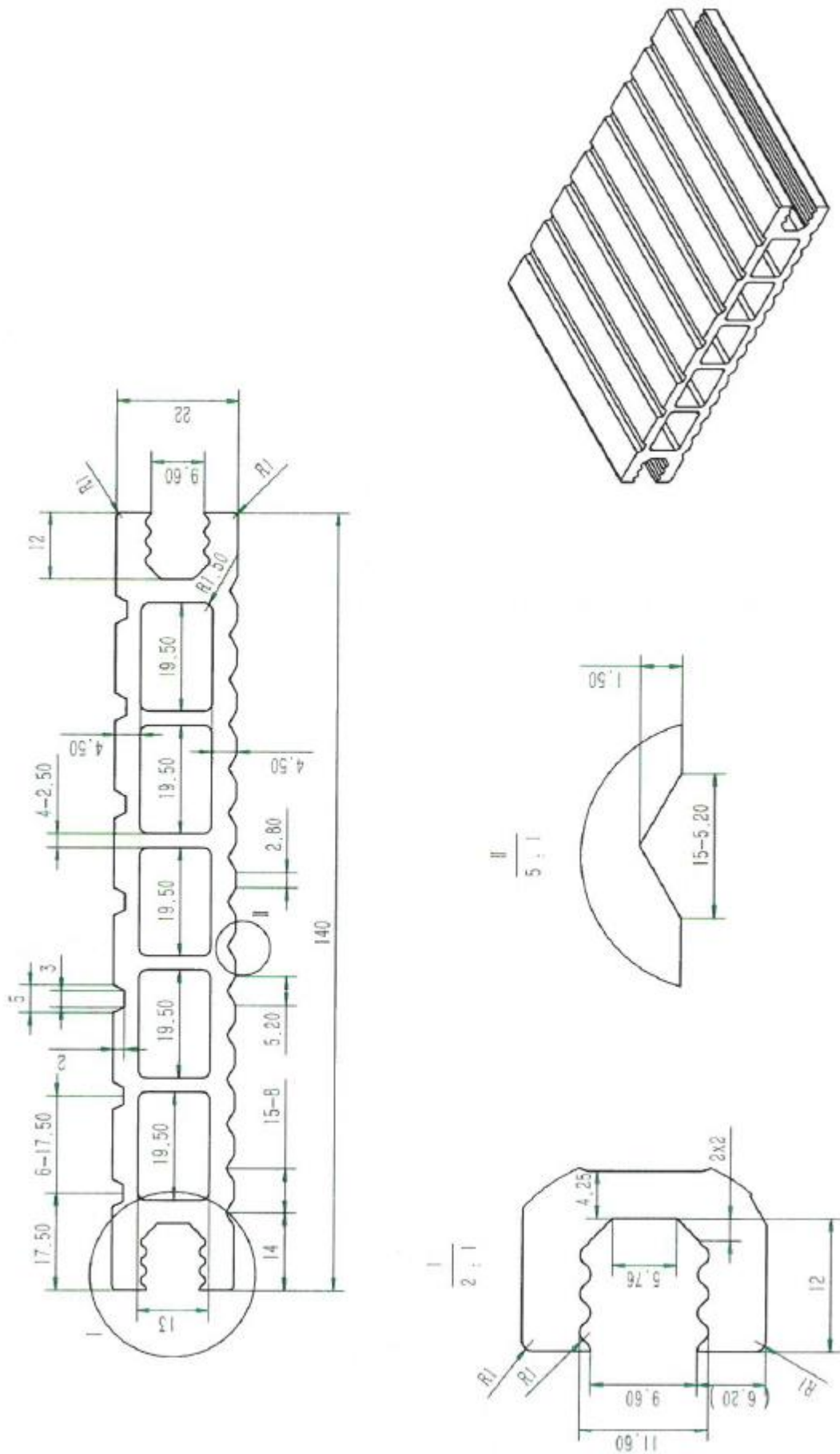


Fig. 2 Decking boards 140 mm wide

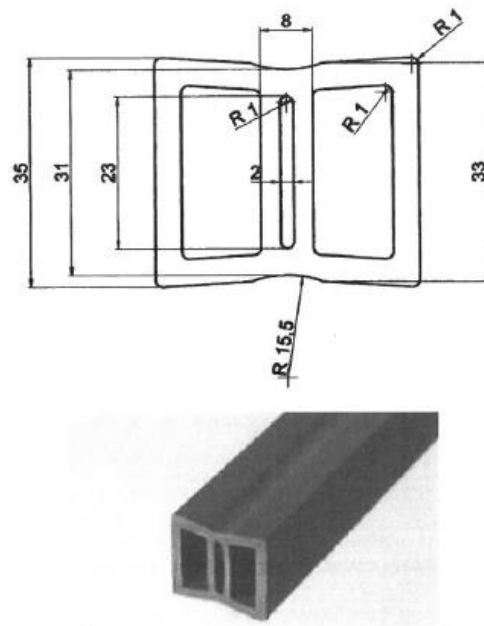


Fig. 3 Assembly profiles – joists

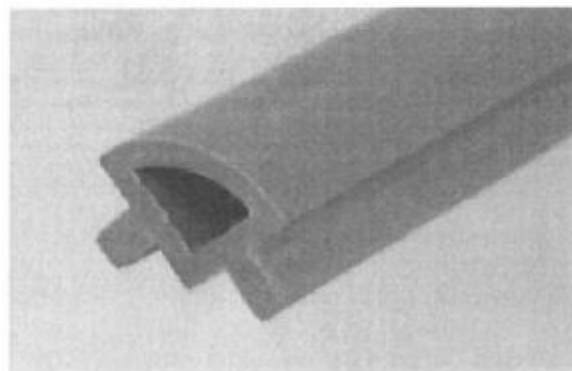
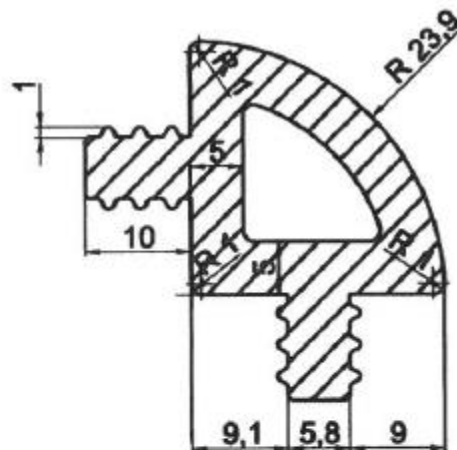


Fig. 4 Corner connectors

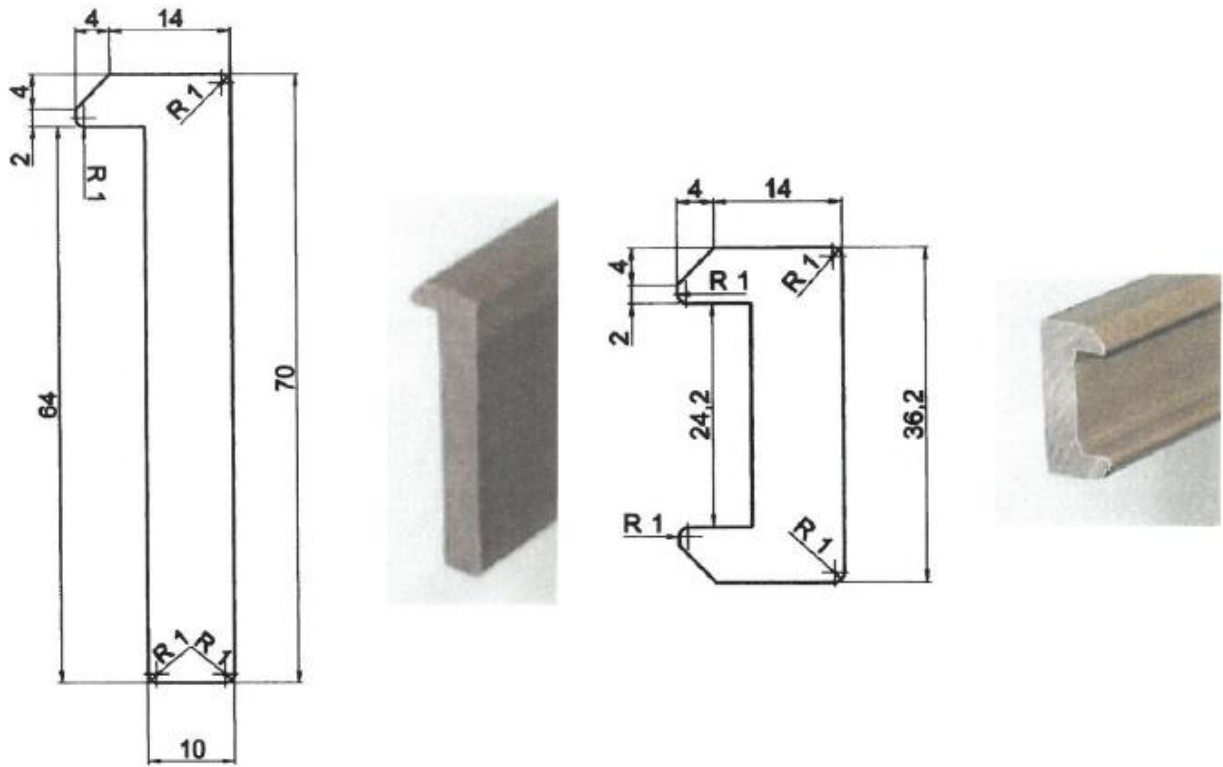


Fig 5. Protective profiles

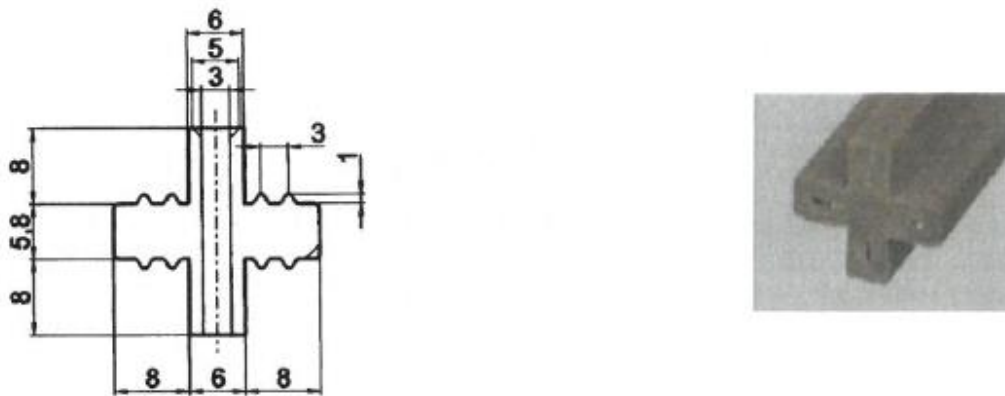


Fig. 6 Longitudinal connector

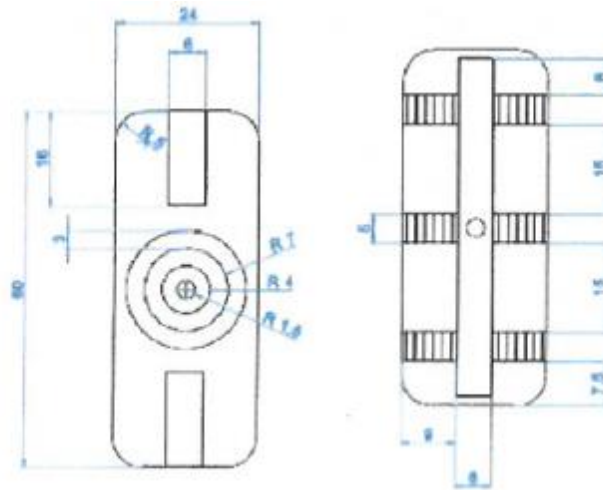


Fig. 7 Connecting clip