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European Technical Assessment

**ETA 15/0852 – version 01
of 18/01/2016**

General Part

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: **Technický a skúšobný ústav stavebný, n. o.**

Trade name of the construction product

Bitumen Shingles IZOLMAT / IZOLMIX / IZOHAN / Nexler / EXTRA / Q-FLEX / ULTRAGONT / DRAGONT / ROOFER SHINGLES

Product family to which the construction product belongs

Product area code: 22
Roof coverings, Roof lights, Roof windows, and ancillary products. Roof kits

Manufacturer

IZOHAN Sp. z o.o.
ul. Łużycka 2
81-963 Gdynia
Poland
<http://www.izohan.pl/>

Manufacturing plant

IZOHAN Sp. z o.o.
Zakład Produkcyjny w Jaśle
ul. 3 Maja 101
38-200 Jasło
Poland

This European Technical Assessment contains

13 pages including 2 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

EAD 220020-00-0402

This version replaces

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Specific part

1 Technical description of the product

1.1 General

Bitumen Shingles IZOLMAT / IZOLMIX / IZOHAN / Nexler / EXTRA / Q-FLEX / ULTRAGONT / DRAGONT / ROOFER SHINGLES are produced by covering glass fibre reinforcement with oxidized bitumen; upper side is covered with coloured coarse-grained mineral finish, bottom side is protected with foil. The shingle is not laminated. The shapes, dimension and mass of bitumen are given in Table 1. The singles are depicted in Annex 1.

Table 1 – Dimensions and mass of bitumen

Type		Mass of bitumen (g/m ²)	Thickness (mm)	Width (mm)	Height (mm)
Bitumen Shingles IZOLMAT / IZOLMIX / IZOHAN / Nexler / EXTRA / Q-FLEX / ULTRAGONT / DRAGONT / ROOFER SHINGLES	Karpiówka – Fish scale – 1000	959 ± 150	2,7 ± 5 %	1 000 ± 3	340 ± 3
	Karpiówka – Fish scale – 800			800 ± 3	320 ± 3
	Trapez – Trapeze – 1000			1 000 ± 3	320 ± 3
	Trapez – Trapeze – 800			800 ± 3	285 ± 3
	Prostokat – Rectangle – 1000			1 000 ± 3	335 ± 3
	Prostokat – Rectangle – 800			800 ± 3	320 ± 3

The product is identified by characteristics given in Clause 3.

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

2.1 Intended use

Bitumen Shingles IZOLMAT / IZOLMIX / IZOHAN / Nexler / EXTRA / Q-FLEX / ULTRAGONT / DRAGONT / ROOFER SHINGLES are intended to act as a water-shedding element on walls, ceilings, soffits, and pitched roofs and as a protective covering to the wall structure, ceiling structure or roof deck from weathering elements such as rain, snow, ice, windborne dust, UV radiation and other matters. Bitumen Shingles IZOLMAT / IZOLMIX / IZOHAN / Nexler / EXTRA / Q-FLEX / ULTRAGONT / DRAGONT / ROOFER SHINGLES are applied on roofs with a slope in the range of 14° to 80°. Minimal allowed roof slope is 12,5°.

Roof surfaces are not accessible without protection and security assessment. The products are not assessed for slipperiness.

2.2 Manufacturing

The European Technical Assessment is issued for the low bitumen shingle in the basis of agreed data/information, deposited with the Technical Assessment Body Technický a skúšobný ústav stavebný, n. o., which identified the low bitumen shingle that has been assessed and judged. Changes to the low bitumen shingle or production process, which could result in this deposited data/information being incorrect, shall be notified to the Technical Assessment Body Technický a skúšobný ústav stavebný, n. o. before the changes are introduced. The Technical Assessment Body Technický a skúšobný ústav stavebný, n. o. will decide whether or not such changes affect the ETA and consequently the validity of the CE marking on the basis of the ETA and if so whether further assessment or alternations to the ETA, shall be necessary.

2.3 Packaging, transport and storage

Packaging of the low bitumen shingle protects the product from humidity, weathering, sunlight and mechanical damage during transport and storage unless there are other measures for this purpose provided for.

The information on packaging, transport and storage is given in the manufacturer's technical documentation and were assessed by the TAB.

It is the responsibility of the manufacturer(s) to ensure that this information is made known to the concerned people.

The shingles should be protected from direct sunlight during storage.

Bitumen shingles are packed in packages and protected against damage and deformation with PE foil. Each package is appropriately marked with indication of the name of the product, the address of the manufacturer and manufacturing plant, the number of metres in a package, basic characteristics. The packages should be placed flat on the pallets, in stacks of no more than 15 layers. The pallets should be protected against UV radiation with plastic pallet covers or with other protective material.

The pallets with bitumen shingles should be stored on even surface, away from heat sources. They should be protected against weather conditions.

The pallets with bitumen shingles should be transported in max. one layer by covered means of transport. The pallets should be protected against damage and displacement during transport.

2.4 Installation of the product in the works

The installation instructions including special installation techniques and provisions for the qualifications of the personnel are given in the manufacturer's technical documentation.

When installing the manufacturer's installation instructions shall be observed. The manufacturer's installation instructions were assessed by the TAB. The cornerstones are specified in the Annex 2.

2.5 Assumed working life

The assumed working life of Bitumen Shingles IZOLMAT / IZOLMIX / IZOHAN / Nexler / EXTRA / Q-FLEX / ULTRAGONT / DRAGONT / ROOFER SHINGLES is 25 years, provided that the assembled product is subject to appropriate installation in accordance with Clause 2.4 of this ETA. These provisions are based upon the current state of the art and the available knowledge and experience. When this expected working life has elapsed, the product may, under normal use conditions, maintain its functionality even for a longer period without major degradation affecting the essential requirements.

The indication on the working life cannot be interpreted as a guarantee given by the manufacturer, but it only has to be regarded as a means for choosing the right products in relation to the expected economically reasonable working life of the works¹.

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

Characterisation of the product is summarized in Tables 2 to 4.

Table 2 – Characteristics of the shingle Bitumen Shingles IZOLMAT / IZOLMIX / IZOHAN / Nexler / EXTRA / Q-FLEX / ULTRAGONT / DRAGONT / ROOFER SHINGLES

Characteristic/property	Verification method	Declared value
Thickness (mm)	UEAtc Guide 64, § 4.2.1	2,7 ± 5%
Mass of bitumen (g/m ²)	EAD – 2.2.6.1	959 ± 150
Mass per unit area (kg/m ²)	UEAtc Guide 64, § 4.2.2	3,2 ± 15 %
Width (mm)	EAD – 2.2.6.2	1 000 ± 3/800 ± 3
Height (mm)		340 ± 3/320 ± 3 320 ± 3/285 ± 3 335 ± 3/320 ± 3
Straightness (mm)	EAD – 2.2.6.3	- 2,0 < e < 2,0
Squareness	EAD – 2.2.6.4	$d < 2$
Height of slits (mm)	EAD – 2.2.6.5	Fish scale: ≥ 160/150 Trapeze: ≥ 137/125 Rectangle: ≥ 159/150
Tensile strength (N/50 mm)	EAD – 2.2.10.1	$W \geq 600$ $H \geq 400$
Elongation at maximum tensile force (%)	EAD – 2.2.10.1	≥ 2,0
Adhesion of mineral granules and flakes of slate (g)	EAD – 2.2.7.2	≤ 2,5

Table 3 – Characteristics of the coating medium

Characteristic/property	Verification method	Declared value
Fines content (%)	UEAtc Guide 64, § 4.2.8-A	50 ± 5 %
Ring and ball softening temperature (°C)	UEAtc Guide 64, § 4.2.9	≥ 100

¹ The real working life of a product incorporated in a specific works depends on the environmental conditions to which that works is subject, as well as on the particular conditions of the design, execution, use and maintenance of that works. Therefore, it cannot be excluded that in certain cases the real working life of the product may also be shorter than the assumed working life.

Table 4 – Characteristics of the reinforcement

Characteristic/property	Verification method	Declared value
Mass per unit area (g/m ²)	UEAtc Guide 64, § 4.2.12	86 ± 15 %
Maximum tensile strength (N)	UEAtc Guide 64, § 4.2.13	≥ 170 (direction of fibres) ≥ 120 (orthogonal to the direction of fibres)

3.1 Mechanical resistance and stability (BWR 1)

Not relevant.

3.2 Safety in case of fire (BWR 2)

3.2.1 Reaction to fire (EAD – 2.2.3, EN 13501-1)

The shingles are classified according to EN 13501-1+A1 in class E.

3.2.2 External fire performance of roofs (EAD – 2.2.4, EN 13501-5)

The shingles have an external fire performance roof class F_{ROOF} in accordance with EN 13501-5+A1, without testing.

3.3 Hygiene, health and the environment (BWR 3)

3.3.1 Content and/or release of dangerous substances of dangerous substances

The product does not contain/release dangerous substances specified in TR 034: 2012

In addition to the specific clauses relating to dangerous substances contained in this European Technical Assessment, there may be other requirements applicable to the product falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet provisions of the EU Construction Products Regulation, these requirements need also to be complied with, when and where they apply.

3.3.2 Water permeability (of the roof covering)

3.3.2.1 Mass of bitumen

The shingle mass of bitumen is 959 g/m² < 1 300 g/m², with tolerance of ± 150 g/m². The shingles comply with the criteria for mass of bitumen specified in the Clause 2.2.6 of EAD.

3.3.3 Durability of water permeability (of the roof covering)

3.3.3.1 Flow resistance at elevated temperature

The shingles meet the requirements of EN 544: 2011, 4.4.4 when tested in accordance with EN 544: 2011, 6.4.6.

3.3.3.2 Adhesion of mineral granules and flakes of slate

The shingles comply with the criteria of EN 544: 2011, 4.4.5, when tested in accordance with EN 544: 2011, 6.4.6.

3.3.3.3 Water absorption

The shingles comply with the criteria of EN 544: 2011, 4.4.5, when tested in accordance with EN 544: 2011, 6.4.6.

3.3.3.4 Resistance to peeling for metal-surfaced shingles

Not applicable for this product.

3.3.3.5 Resistance to blistering (freeze/thaw resistance)

The shingles meet the requirements of EN 544: 2011, 6.4.5 and 4.4.3 having been subjected to freeze/thaw cycles specified in EAD, 2.2.8.

3.3.4 Packaging

The shingles meet the requirements for packaging specified in EAD, 2.2.9.

3.4 Safety and accessibility in use (BWR 4)

3.4.1 Mechanical resistance

3.4.1.1 Tensile strength (in the direction of the shingle height)

The shingles have a tensile strength larger than 400 N/50 mm and thus fulfil the requirement of EAD for tensile strength (in the direction of the shingle height).

3.4.1.2 Tensile strength (in the direction of the shingle width)

The shingles have a tensile strength larger than 400 N/50 mm and thus fulfil the requirement of EAD for tensile strength (in the direction of the shingle width).

3.4.1.3 Nail shank tear resistance

The shingles have a tear resistance larger than 100 N and comply with criteria of EN 544: 2011, 4.3.2.

3.4.2 Durability of mechanical resistance

3.4.2.1 Resistance to UV radiation

After exposure to UV radiation in accordance with EN 544: 2011, 6.4.4 the following characteristics apply:

3.4.2.1.1 Tensile strength (in the direction of the shingle height)

The shingles have a tensile strength larger than 400 N/50 mm and thus fulfil the requirement of EAD, for tensile strength (in the direction of the shingle height).

3.4.2.1.2 Tensile strength (in the direction of the shingle width)

The shingles have a tensile strength larger than 400 N/50 mm and thus fulfil the requirement of EAD for tensile strength (in the direction of the shingle width).

3.4.2.1.3 Nail shank tear resistance

The shingles have a tear resistance larger than 100 N in accordance with EN 544, when tested in accordance with EN 544: 2011, 6.4.2.

3.4.2.2 Resistance to heat aging

After exposure to conditions specified in EAD, 2.2.11.2 the following characteristics apply:

3.4.2.2.1 Flow resistance at elevated temperature

The shingles meet the requirements EN 544: 2011, 4.4.4 when tested in accordance with EN 544: 2011, 6.4.6.

3.4.2.2.2 Tensile strength (in the direction of the shingle height)

The shingles have a tensile strength larger than 400 N/50 mm and thus fulfil the requirement of EAD for tensile strength (in the direction of the shingle height).

3.4.2.2.3 Tensile strength (in the direction of the shingle width)

The shingles have a tensile strength larger than 400 N/50 mm and thus fulfil the requirement of EAD for tensile strength (in the direction of the shingle width).

3.4.2.2.4 Nail shank tear resistance

The shingles have a tear resistance larger than 100 N in accordance with EN 544, when tested in accordance with EN 544: 2011, 6.4.2.

3.5 Protection against noise (BWR 5)

Not relevant.

3.6 Protection against noise (BWR 5)

Not relevant.

3.7 Energy economy and heat retention (BWR 6)

Not relevant.

3.8 Sustainable use of natural resources (BWR 7)

Not relevant.

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

According to the European Commission decision 97/556/EC amended by the European Commission decision 2001/596/EC, the AVCP systems (further described in Annex V to Regulation (EU) No. 305/2011) given in the Table 2 apply.

Table 5 – Assessment and verification of constancy of performance system

Product(s)	Intended use(s)	Level(s) or class(es)	AVCP system(s) ^a
Wall and roof shingles	Roof coverings subject to reaction to fire regulations	E	3
	Roof coverings subject to external fire performance regulations*	F _{ROOF}	4
	Roof coverings subject to regulations on dangerous substances, in particular those substances defined in Council Directive 76/769/EEC, as amended	–	3
	All uses not referred to above	–	4

^a See Annex V to Regulation (EU) N° 305/2011.

* Only applicable for shingles intended to be used on pitched roofs.

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan prepared according to EAD and deposited at the Technický a skúšobný ústav stavebný, n. o.

Technický a skúšobný ústav stavebný, n. o.
Building Testing and Research Institute
Studená 3, 821 04 Bratislava, Slovak Republic

On behalf of the Technický a skúšobný ústav stavebný, n. o.
Bratislava, 18 January 2016



prof. Ing. Zuzana Sternová, PhD.
Head of Technical Assessment Body

Annexes

- Annex 1 – Shapes and dimensions of Bitumen Shingles IZOLMAT / IZOLMIX / IZOHAN / Nexler / EXTRA / Q-FLEX / ULTRAGONT / DRAGONT / ROOFER SHINGLES
- Annex 2 – Cornerstones of the manufacturer's installation instructions

Annex 1

Shapes and dimensions of Bitumen Shingles IZOLMAT / IZOLMIX / IZOHAN / Nexler / EXTRA / Q-FLEX / ULTRAGONT / DRAGONT / ROOFER SHINGLES

Dimensions in millimetres

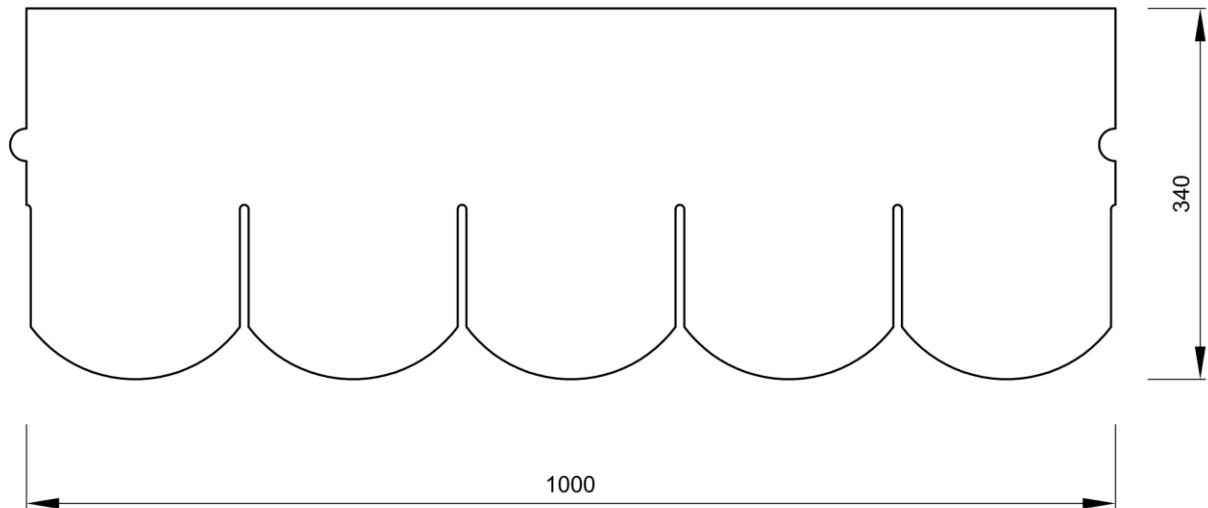


Figure 1 – Karpiówka – Fish scale – 1000

Dimensions in millimetres

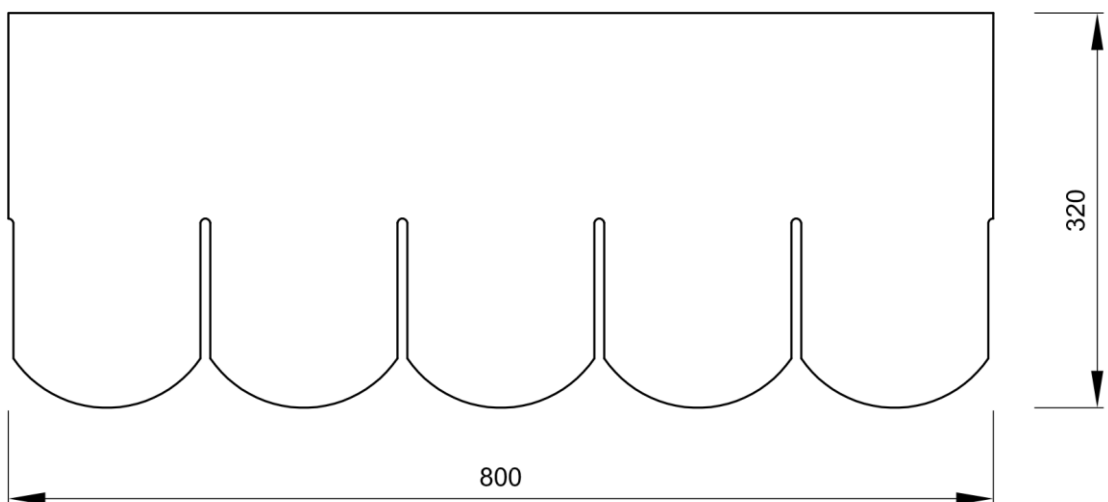


Figure 2 – Karpiówka – Fish scale – 800

Dimensions in millimetres

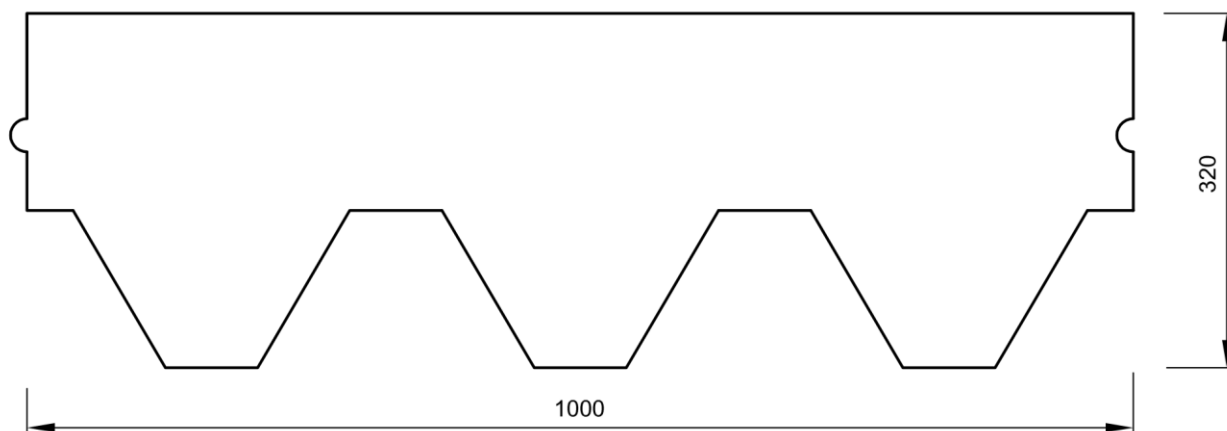


Figure 3 – Trapez – Trapeze – 1000

Dimensions in millimetres

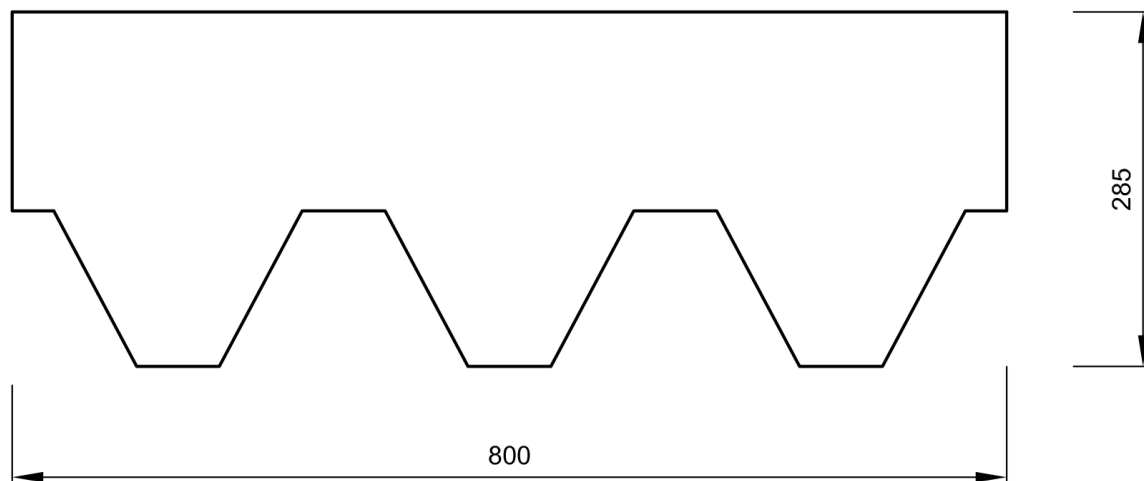


Figure 4 – Trapez – Trapeze – 800

Dimensions in millimetres

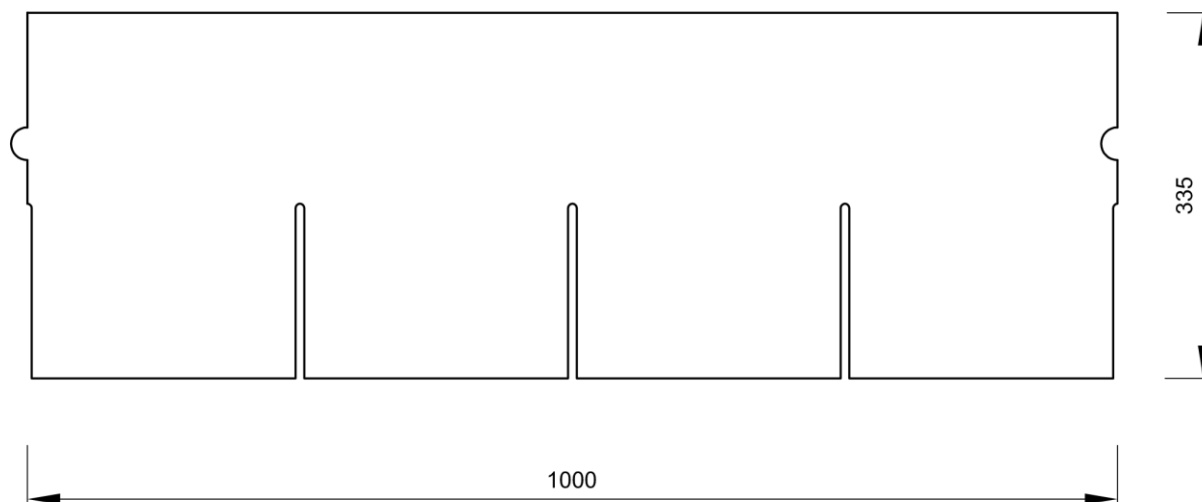


Figure 5 – Prostokat – Rectangle – 1000

Dimensions in millimetres

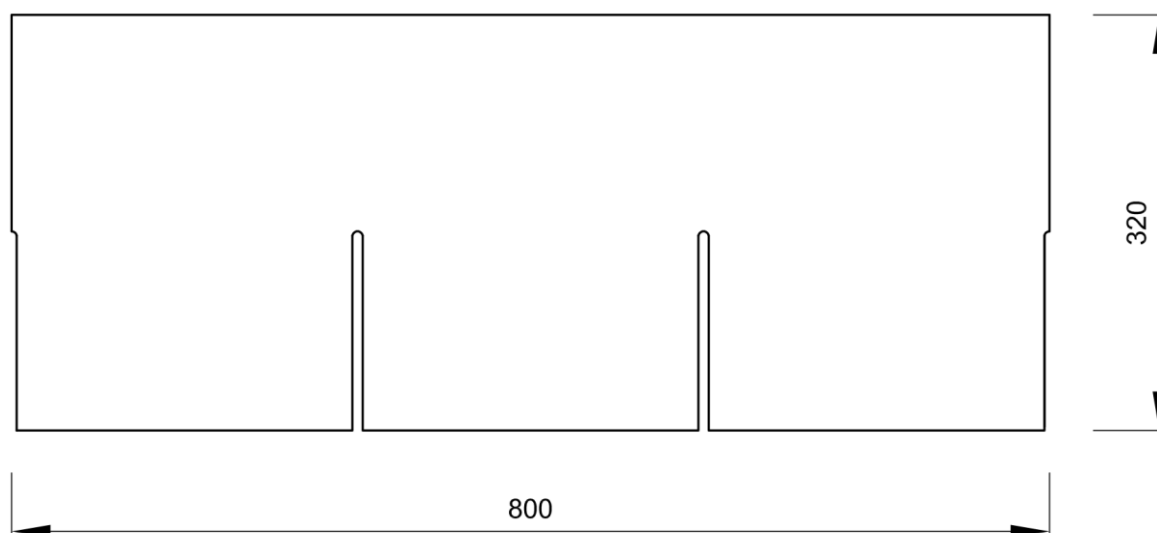


Figure 6 – Prostokat – Rectangle – 800

Annex 2

Cornerstones of the manufacturer's installation instructions

Roof decking requirements:

Roof sheathing should be made of OSB, maximum 14 cm wide wooden boards, plywood or other nailable material.

Underlayment:

Before applying shingles, cover roof with single ply of bitumen membrane (for example P/64/1200 or Izolmat Plan Optimax PV), and make all metal flashing. Before applying shingles, cover roof with single ply of bitumen membrane (for example P/64/1200 or Izolmat Plan Optimax PV), and make all metal flashing. Membrane should be parallel to roof slope (slope above 20°) or parallel to the ridge (slope below 20°) with overlaps and side laps according to producer requirements.

Application:

Independently of ambient temperature at the installation time, it is recommended to paste every other tile of shingles with roofing glue.

When installing shingles, the side cut-outs in the strips, so-called “tongue and groove” should be matched with each other – it simplifies proper fitting of the shingles in on layer.

All edge stripes of shingles (shingles installed on eaves, on valley, on ridge, on rake edges, by chimneys, on steep slope surfaces above 55° (e.g. on steep mansard roofs) and shingles at risk of strong wind influence, or installed on places without sunlight access must be pasted/glued/. Pasting must be made under shingles tabs by making 5 cm diameter circles, or by making 5 cm wide solid stripe. Pasting should be made with roofing glue in cartridge IZOHAN klej dekarSKI, bitumen mastic IZOHAN IZOBUD ROOFIX, or with IZOLFLEX KLEJ and IZOHAN WK.

Standard fixing of next shingle strip on the previous strip should be made in such a way that the edge of upper tab touches the highest cut-outs of underlayer shingle. The rule applies to roof slope of 25° to 80°, for slope roofs below 25° overlap of 4 cm upper tab below highest cut-out of lower shingle is required.

Fastening:

Fasten with galvanized roof nails. Fastening shingles with min. 18 mm long corrosion resistant staples is allowed for wood-based panels OSB. Recommended fixing nails positioning is 1 to 2 cm from each cut-outs edges of shingle. Length of nails should be 25 to 35 mm, or accommodated to roof sheathing thickness (nail must be driven in min. ¼ roof sheathing depth.) Drive nails 1 to 2 cm above shingle's cutouts.

Ventilation:

Between thermo-insulation and roof sheathing 3 to 4 cm air gap, must be constructed to allow water vapour circulation. Ventilation gaps are on ridge and eaves area. Inlet and exit holes must be covered with special moulding and shingles

Valleys:

a) Standard finishing

On valleys extra strip of valley membrane of 50 to 60 cm width should be installed. Membrane with polyester fabric or with fibre glass reinforcement is recommended for valley membrane.

Cut shingles to leave uncovered max. 15 cm wide stripe on valley membrane. Edges of shingles should overlap valley membrane min. 10 cm and be fastened to membrane with bituminous glue.

b) Overlap finishing

Install base membrane and extra valley membrane according to solution described on standard finishing. Overlap should be about 30 cm wide. Shingle edges on the crease line area must be fastened by using bituminous glue about 20 cm from creasing line.

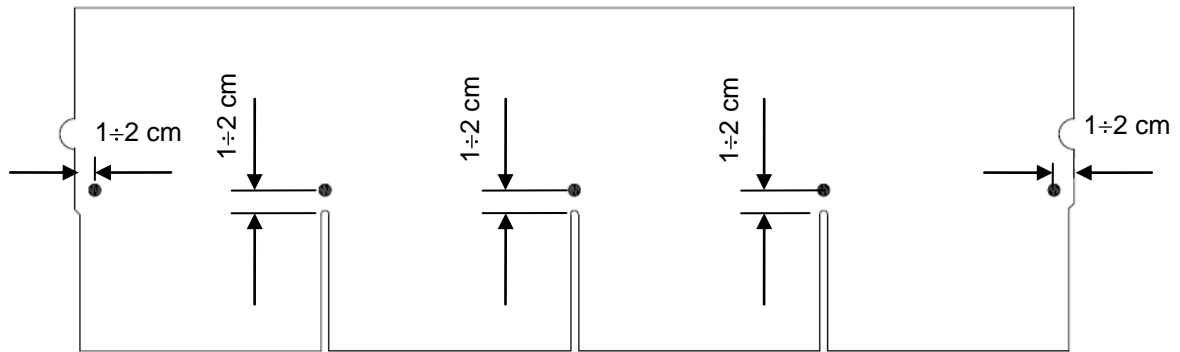


Figure 7 – Position of nails – rectangular

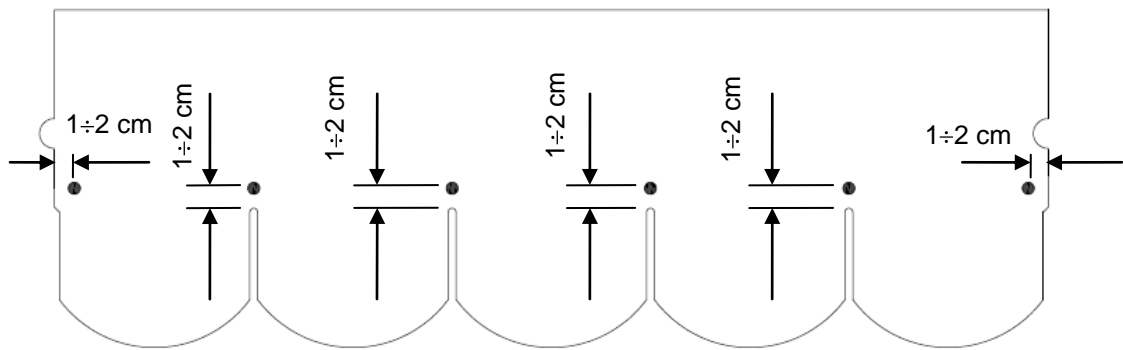


Figure 8 – Position of nails – fish scale

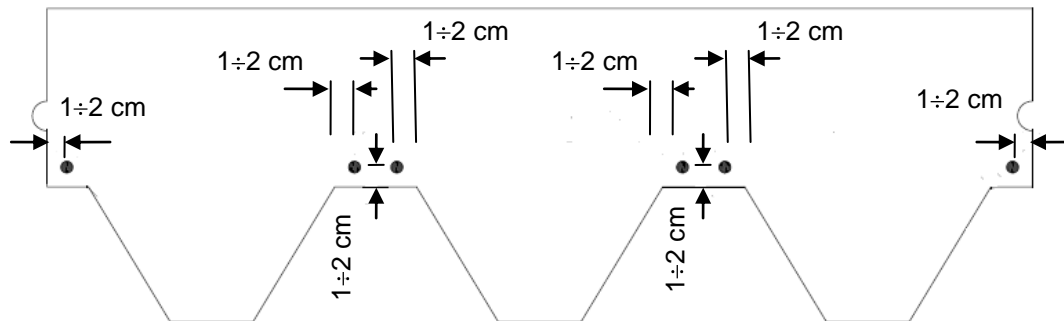


Figure 9 – Position of nails – trapeze