



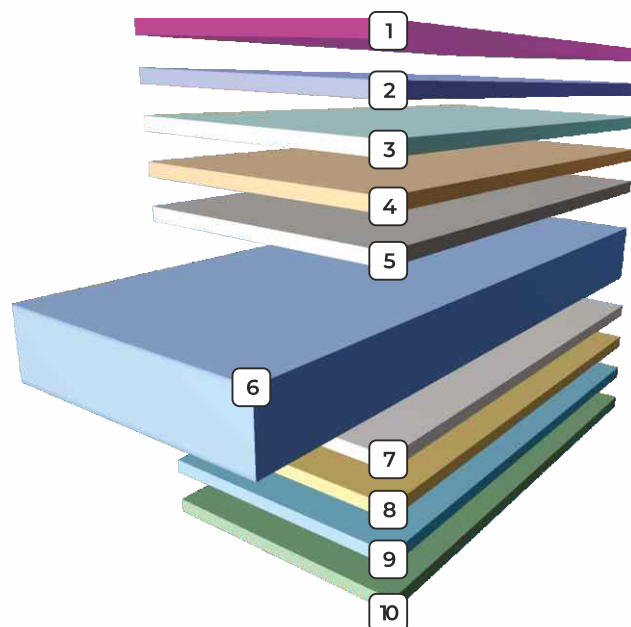
BILKA[®]

• roof system • rain system •

INSTALLATION GUIDE

METALLIC TILE

MATERIAL COMPOSITION - LAYER SYSTEM:



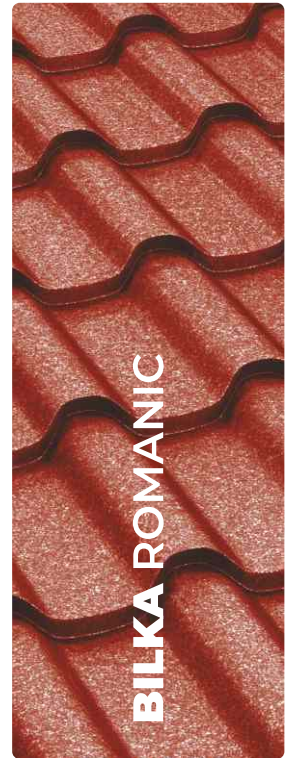
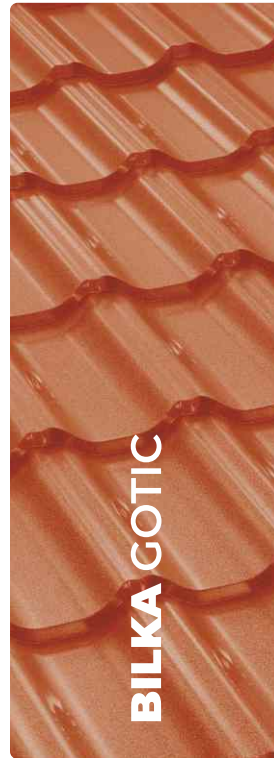
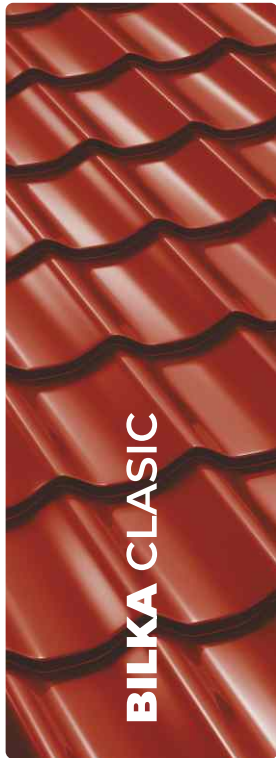
MATERIAL COMPOSITION - LAYER SYSTEM: MATTE

- 1 - PVC protective film: thickness 50 - 200 μm
(application according to the order)
 - 2 - surface varnish: polyester (PE) 35 μm *
 - surface varnish: polyester (PE), GrandeMat finish 50 μm
 - 3 - base layer: polyester (PE) min. 5 μm
 - 4/8 - passivation layer
 - 5/7 - zinc coating: 225 - 275 g/m²
 - 6 - steel sheet
 - 9 - base layer: polyester (PE) min. 7 μm
 - 10 - anti-condensation layer (application according to the order)
- * upon request, the paint layer can be of 200 μm ,
with a delivery deadline of maximum 60 days

MATERIAL COMPOSITION - LAYER SYSTEM: GLOSSY

- 1 - PVC protective film: thickness 50 - 200 μm
(application according to the order)
- 2 - surface varnish: polyester (PE) 25 μm
- 3 - base layer: polyester (PE) min. 5 μm
- 4/8 - passivation layer
- 5/7 - zinc coating: 225 - 275 g/m²
- 6 - steel sheet
- 9 - base layer: polyester (PE) min. 7 μm
- 10 - anti-condensation layer (application according to the order)

BILKA METALLIC TILE MODELS



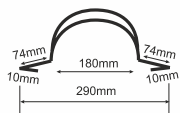
TECHNICAL CHARACTERISTICS	Material	Steel sheet zinc-plated on both sides and protected with a polyester coating
	Standard thickness	0,40 mm - 0,60 mm
	Zinc Coating	225 - 275 g/sqm
	Weight per area	3 - 5 Kg / m ²
	Warranty for glossy finishing	10-year warranty for color characteristics and corrosion
	Warranty for matte finishing	15-year warranty for color characteristics and corrosion
	Warranty for GrandeMat finishing	30-year warranty for color characteristics and corrosion
	Estimated life cycle	60-year lifespan, resistance to temperature changes

For more technical details about each metallic tile model, please consult a BILKA representative.

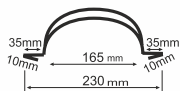
COLOR RANGE	Glossy shades	Matte shades	GrandeMat shades
	<p>RAL 3000 candy apple red RAL 3005 cherry red RAL 3009 brownish red RAL 3011 red RAL 5010 blue RAL 6005 green RAL 7024 grey RAL 8003 brass RAL 8004 brick-red RAL 8017 chocolate brown RAL 9002 white RAL 9005 black RAL 9006 silver</p>	<p>RAL 3005 cherry red RAL 3009 brownish red RAL 6020 green RAL 7024 grey RAL 8004 brick-red RAL 8017 chocolate brown RAL 8019 dark brown RAL 9005 black</p>	<p>RAL 3005 GrandeMat RAL 3011 GrandeMat RAL 6005 GrandeMat RAL 7024 GrandeMat RAL 8004 GrandeMat RAL 8017 GrandeMat RAL 8019 GrandeMat RAL 9005 GrandeMat</p>

*Color shades may differ from the real ones. In order to be sure, do not hesitate to ask the color chart from the BILKA representative.

METALLIC TILE ACCESSORIES



LARGE SEMICIRCULAR RIDGE
It closes the roof to the top at the intersection of two slopes, acting as a shield against seepage.



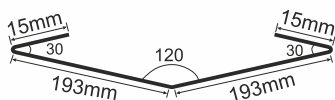
SMALL SEMICIRCULAR RIDGE
The alternative for the large ridge, it closes the roof to the top at the intersection of two slopes, acting as a shield against seepage.



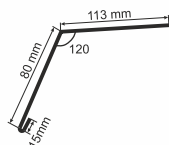
RIDGE CLOSURE
It seals and at the same time prevents the birds' access.



RIDGE CAP
It seals and at the same time prevents the birds' access.



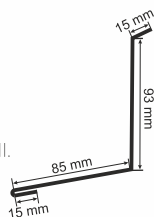
VALLEY
It is mounted under the cover at the junction of two slopes and it directs the water towards the rainwater system.



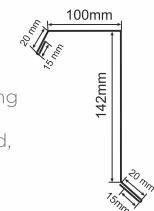
RAIN SHADOW BORDER
It connects to the drainage system allowing water to drain from the cover to the gutter.



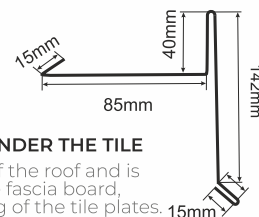
WALL BORDER
It is used at the intersection of the slopes with fire walls, dividing walls. It prevents water to seep on the wall.



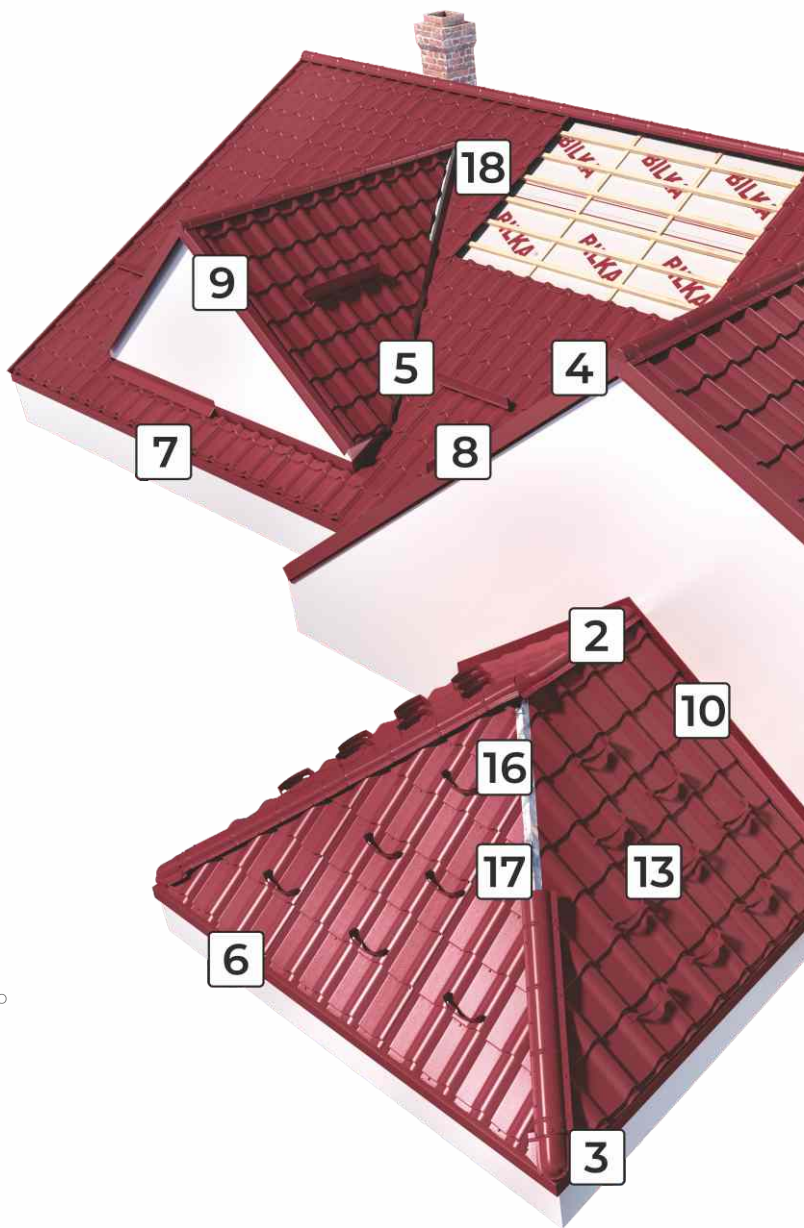
GABLE BORDER
It closes the sides of the roof covering the roof structure edges. It is assembled over the fascia board, after the fastening of the tile plates.



GABLE BORDER UNDER THE TILE
It closes the sides of the roof and is assembled over the fascia board, before the fastening of the tile plates.




FASTENING PLATES ONTO THE WALL
It is used at the intersection of one slope with a wall and prevents water to seep on the wall.





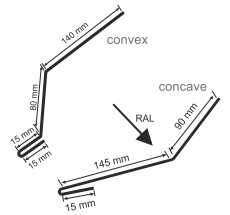
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Slope Breaking

SLOPE BREAKING

It is used in areas where roof slopes change their pitch.



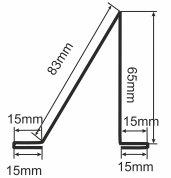
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Snow Stopper

SNOW STOPPER

It is assembled on the cover and prevents snow slides off the roof.



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Omega Snow Stoppers

OMEGA SNOW STOPPERS

It is an alternative to conventional snow stoppers.

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Funnel Front Piece

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Funnel Side Piece

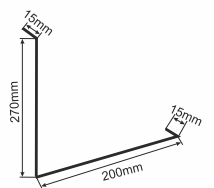
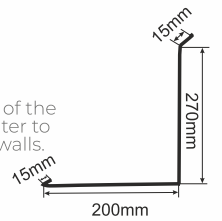
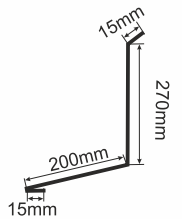
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Funnel Rear Piece

FUNNEL SET

It is mounted at the base of the funnel and it prevents water to seep in along the funnel walls.



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Bitumen Tape

BITUMEN TAPE

Flexible self adhesive waterproofing tape, recommended for insulation and anti-moisture protection.

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Universal Sealing Tape

UNIVERSAL SEALING TAPE

It is used on the valley and under the ridge. It has a sealing role.

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Under Gable Flashing

UNDER GABLE FLASHING

This element is used to prevent water infiltration if the eaves are not positioned at right angles to the gable line.

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Woodscrew

WOODSCREW

It fastens the sheet plates and accessories on the wood lath.

* Any other sheet-metal works are available upon request. For details, please do not hesitate to contact your BILKA representative.

RULES FOR HANDLING, TRANSPORT, RECEPTION AND STORAGE OF THE PRODUCTS

1. Transport and handling

Metal roofing panels are shipped on wooden pallets. It is recommended to be handled the pallets by using a crane or forklift/ledge. If the panels are moved by hand, it is recommended to grip the panels at the edges along their longer sides by the required number of people in order to prevent any damage to the edges and any deformation of the panel. Products shall not be moved by dragging. The covers shall be transported using tarpaulin lorries. The pallets shall not overhang the loading area and must be fastened using proper devices. Furthermore, the fastening means must not damage the metallic panels.

2. Acceptance of the products

Upon delivery, it is recommended to check the products received against the shipping bill in order to identify any product defects or any missing products from the order placed by the customer.

3. Storage of the products

It is recommended to store the metal roofing panels indoors, in dry and well ventilated locations, without any major temperature fluctuations. For short periods, the products may be stored outdoors, but the pallets must be placed on supports, at a suitable distance from the floor to allow draining and venting. If the panels are stored for periods exceeding 45 days outdoors and 180 days indoors, it is considered a breach of the warranty conditions, and no further claims shall be accepted in such cases.

GENERAL INSTALLATION PRINCIPLES

1. The installation of the roof involves working at heights and risk of injury, therefore it is important for the fitters to wear protective equipment - fixed cords, hats, gloves. In addition tinner tools are required to cut the panels and the accessories - scissors for straight cuts, cutter, coated wire, lines for the alignment of the gutters, tinner marker, wedge hammer, grooved prism, folding pliers, pliers, screwdriver machine and proper bits for it.

2. It is prohibited to cut the products using abrasive blades or other cutting tools that cause excessive local heating of the processed parts (failure to comply with this requirement is considered a breach of the warranty conditions).

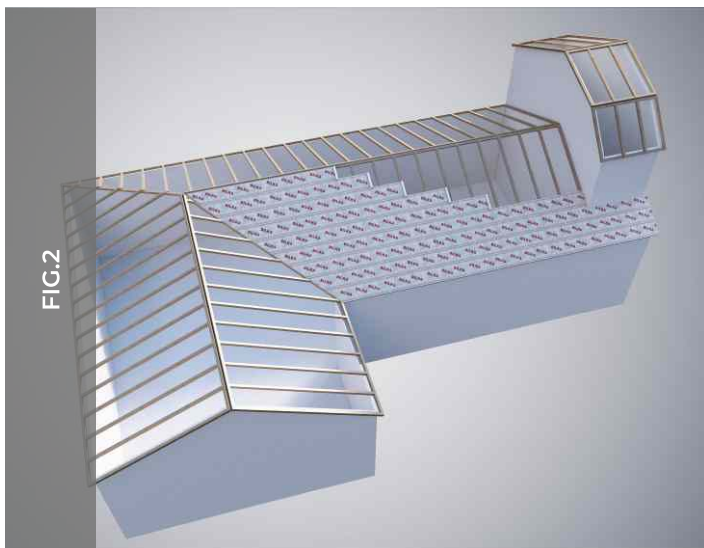
3. Use shoes with soft soles when stepping on the cover, and only step on the area where the wood laths are placed (the sole must always be checked for any trimmings).

4. During the installation the trimmings must be removed from the surface of the sheet using a soft brush.



ANTI-CONDENSATION FILM

1. The anti-condensation film must be installed from bottom to top, as the first row must be installed parallel with the line of the rain shadow.
 - “ It must be installed considering the direction of the water flow, and may cross over the ridge of the roof.
 - “ It must be laid horizontally (without any wrinkles) over the rafters or the heat insulation and under the cover.
2. From the second row it is recommended to allow an overlap based on the colored stripe (min. 10 cm) on the sides of the film reel.
3. It must be fastened to the roof boarding using 50x30 mm battens along the rafter. The batten and the wood lath must be fastened using 100 mm nails or wood screws.
 - “ For roofs with a slope exceeding 20 degrees that can be created without roof boarding, the anti-condensation film must be installed parallel with the line of the rain shadow directly on the rafters.



MOUNTING THE HOOKS

The most commonly used supporting structure for the roof cover is the wooden roof framing. If this is improperly installed, the installation of the entire roof system will be difficult.

“ The installation of the wood lath must start from the rain shadow towards the ridge.

1. The first row of wood laths must be fastened at the level of the roof boardings or rafters, as applicable.
 2. The second row of wood laths shall be installed parallel with the first row, at a distance of approximately 380 mm from the first row to the upper side of the second row.
 3. The third row of wood laths shall be installed taking into consideration a distance of 350 mm from the upper side of the precedent row to the upper side of the row being installed.
- “ Any deviation from the recommended dimensions makes it impossible to correctly fix the metal tile to the wood lath.

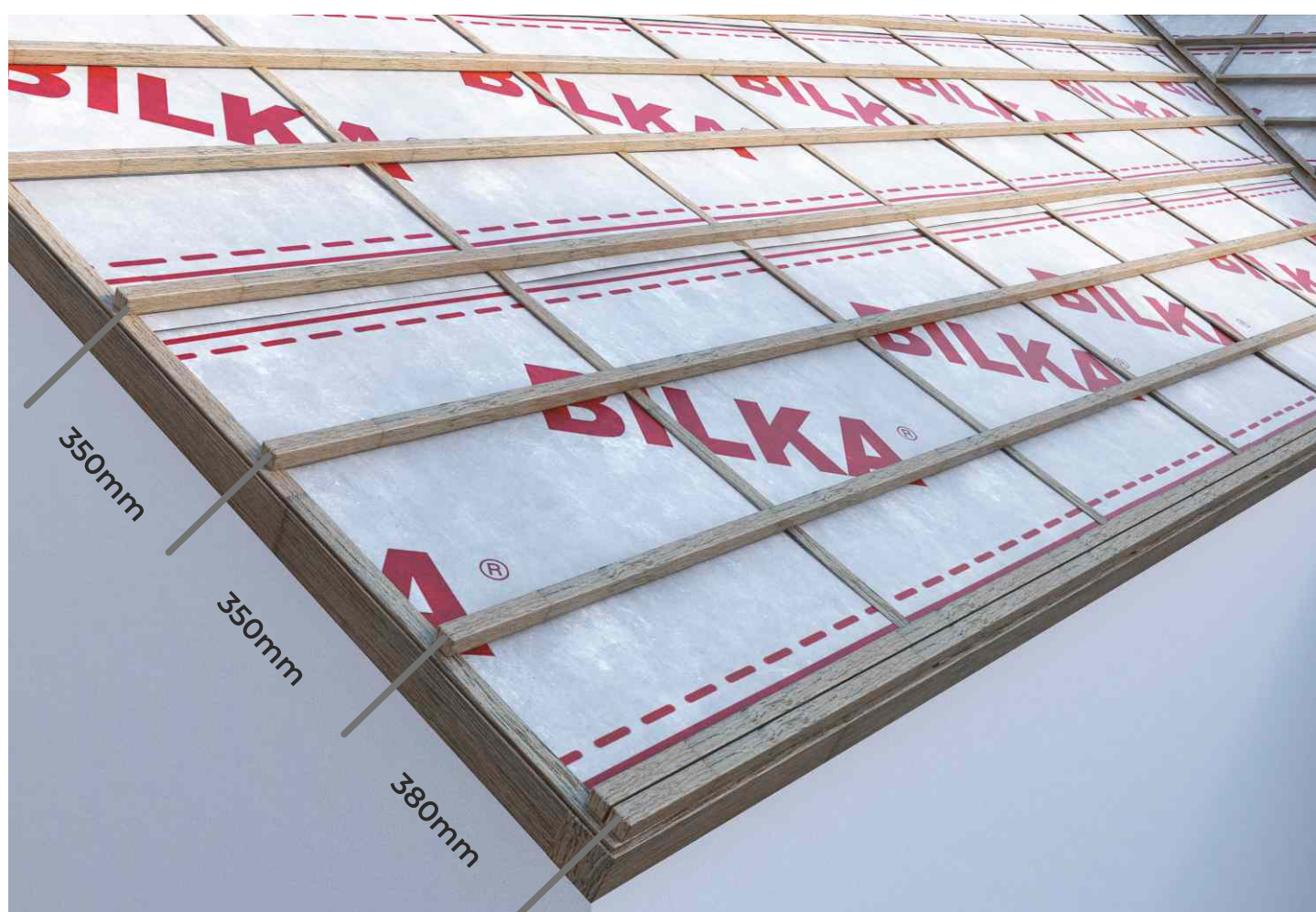


FIG.3

RAIN SHADOW BORDER INSTALLATION

The installation of the rainwater system must be followed by the installation of the rain shadow border, whose purpose is to create a joint between the metal roofing panels and the gutter, allowing the water to flow from the cover into the gutter.

1. The rain shadow border must be installed over the entire length of the rain shadow.

“ The fastening shall be made using jointing self-tapping screws (4,8x35), at about every 250 mm.

2. When it is necessary to use two or several pieces of rain shadow border, it is recommended that the joint be made by overlapping the accessories about 50-100 mm.

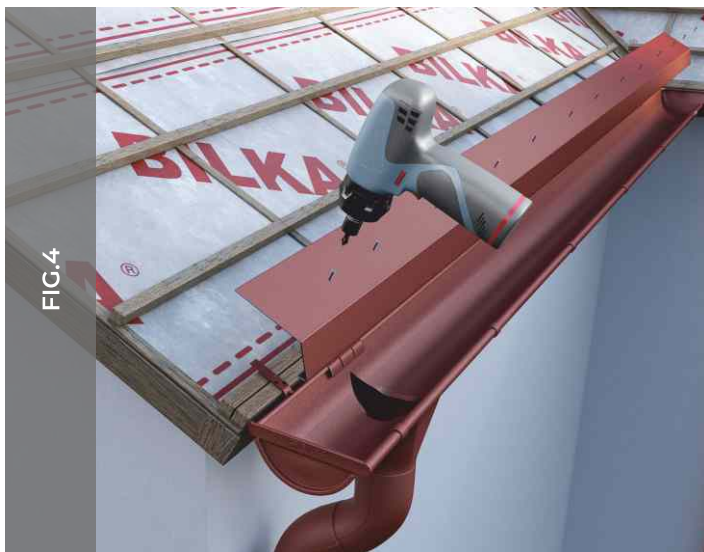


FIG.4



FIG.5

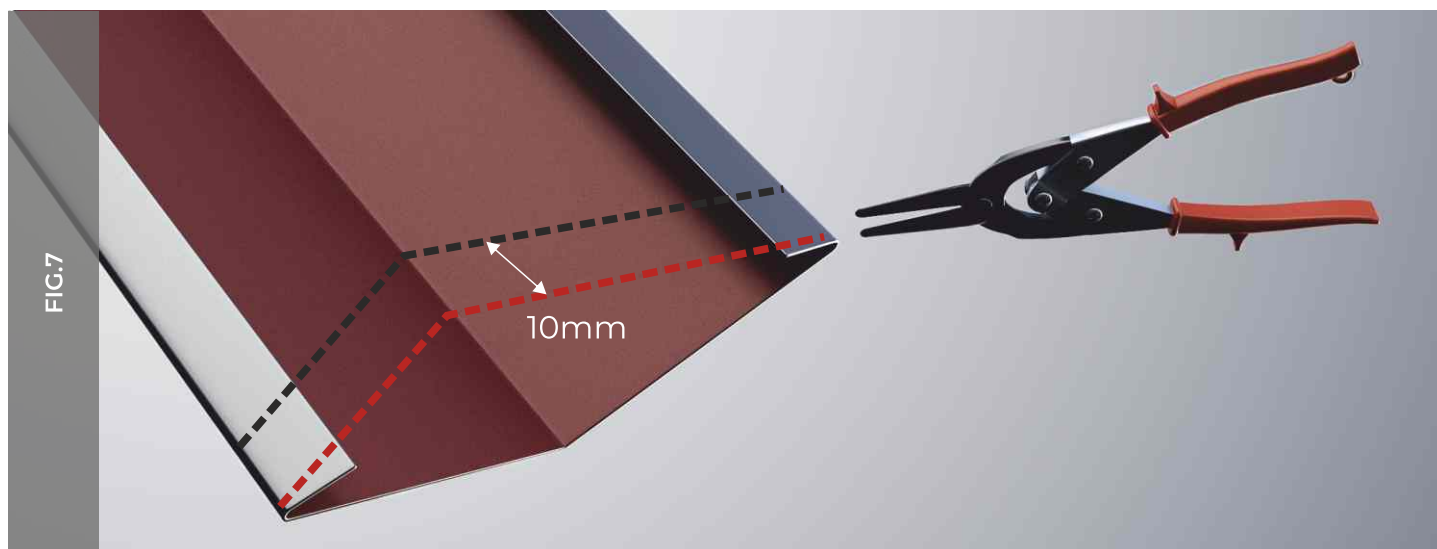
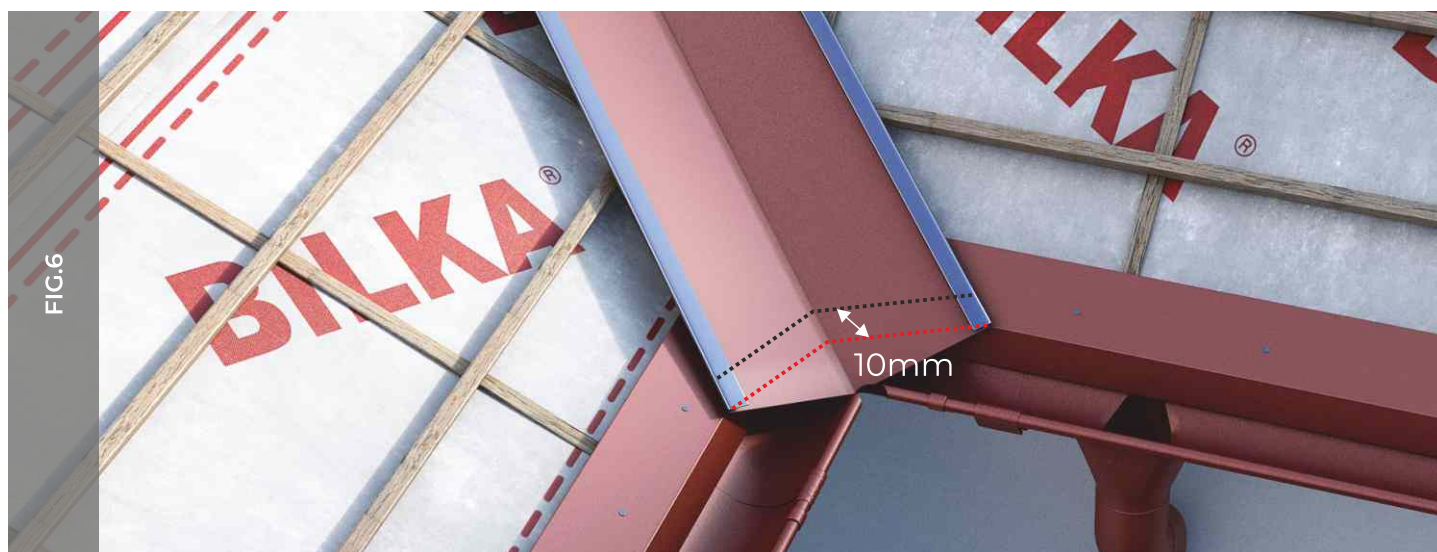
INSTALLATION OF THE EAVES

It is installed under the cover at the junction of two slopes and directs the water towards the rainwater system. It must be installed over the horizontal wood lath and over the rain shadow border, as follows:

1. At the junction with the rain shadow border, the eaves must be cut as seen in fig. 6 and 7.

“ This is how you mark the junction of the eaves with the rain shadow border, by adding 10 mm, then, by using folding pliers or a rubber hammer, it must be folded over the rain shadow border as seen in fig.9.

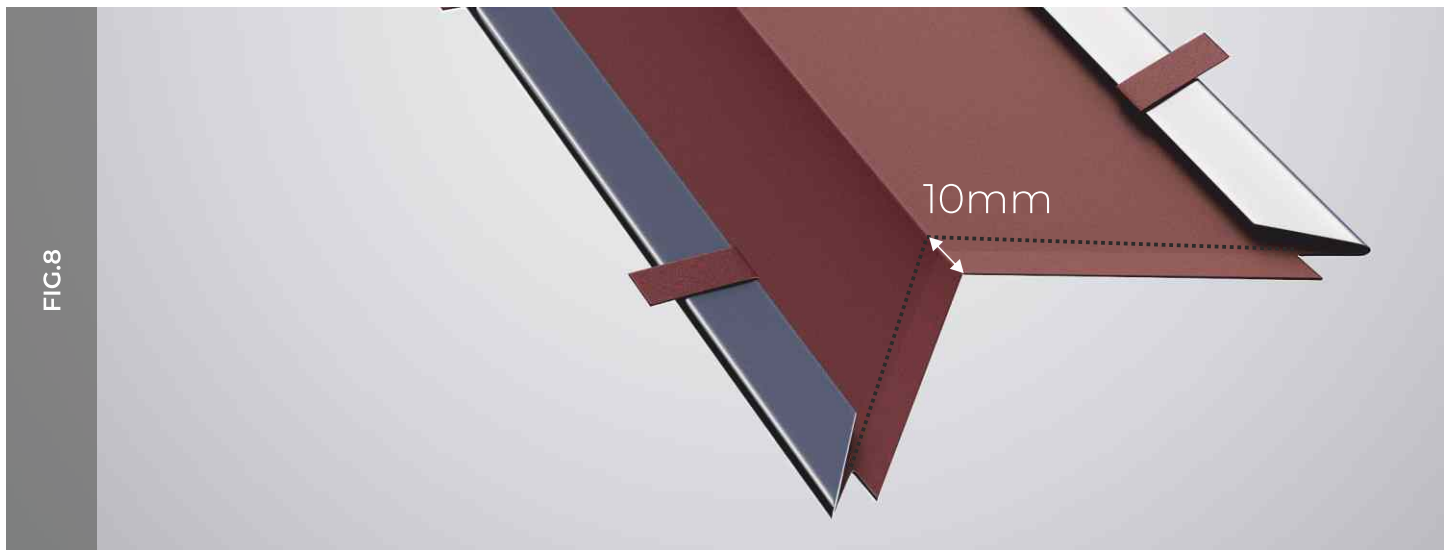
“ In case of small slope roof edges, it is recommended to do the eaves folding according to the 10 mm folding.



INSTALLATION OF THE EAVES

2. The eaves must be fastened to the wood lath using clips made of sheet metal, as seen in fig. 8, 9 or packed self-tapping screws 4.8x35.

“ Irrespective of the method chosen, the fastening shall be done for each lath.



FIXING PLATES TO THE WALL INSTALLATION

It is used at the intersection of the slopes with fire walls or dividing walls.

“ The purpose of this accessory is to prevent water to seep on the wall.

It is fastened before the metal roofing panels and under them, with packed self-tapping screws (4.8 x 35).
The fastening onto the wall shall be made using self-tapping screws or tap bolts, depending on the material on which the fastening is done.



INSTALLATION OF METAL ROOFING PANELS

The installation of metal roofing panels shall be done perpendicularly on the rain shadow from right to left in case of metal tiles models BILKA BALCANIC and CLASIC.

For the models BILKA IBERIC, GOTIC and ROMANIC, the innovative joining system allows the overlapping of modules on both sides, the installation can be done from right to left or from left to right. For this installation guide we took the example of BILKA BALCANIC tile model.

Installation steps

1. The metal roofing panel is placed on the roof, perfectly perpendicularly on the rain shadow - fig. 12.
2. The panel is fastened on the wood laths rows using packed self-tapping screws 4.8 x 35, displayed on a straight line or in ric-rac - fig. 14, 15. It is recommended to use, in average, 8-10 packed self-tapping screws 4.8 x 35 per square meter.

Recommendation:

- “ The end of the metal roofing panels, from the rain shadow and ridge, is fastened on the wood laths rows using packed self-tapping screws 4.8 x 35, in each space between the panel corrugation - fig. 13.



INSTALLATION OF METAL ROOFING PANELS

3. The second metal roofing panel is aligned to the rain shadow with the already fastened panel and is overlapping the previous panel, taking into account its overlapping border.

The panel overlapping is of 8-12mm, depending on the chosen BILKA metal tile model.

The end of panels aligned to the rain shadow is fastened according to the model of the first panel, and the fastening of joining panels, also known as panel sewing, is done with packed self-tapping screws, 4.8 x 20 or 4.8 x 35, on each corrugation on the joining area - fig. 14.



METAL ROOFING PANELS JOINING

For long roof frameworks, it is recommended to join two or several metal roofing panels. When joining two panels, on the framework length, it is recommended to take into account the indicated overlapping of 150 mm.

For roofs requiring the joining of two or several metal roofing panels, it is recommended to use long panels for rain shadows.

“ It is recommended to use the shortest panels for the ridge.

1. Just like the rain shadow panels, these are aligned with previous panels and fastened using packed self-tapping screws 4.8 x 35, in each space between the panel corrugation - fig.16.

The panels are fastened on the wood laths rows using packed self-tapping screws 4.8 x 35, displayed on a straight line or in ric-rac (see the notes on metal roofing panels installation).



METAL ROOFING PANELS JOINING

2. Fastening the joined panels shall be done exactly like in the case of rain shadow panels, by "sewing" with packed self-tapping screws 4.8 x 20 or 4.8 x 35 on each corrugation of the joining area - fig. 18.



PANEL JOINING ON THE EAVES

It shall be done in this manner:

1. The metal roofing panel shall be aligned with the previous panel fig.20.
2. The panel shall be marked and cut, leaving a space of 50-80 mm for water to drain, from the middle of the eaves to the panel line - fig. 20, 21 (also see eaves installation).



PANEL JOINING ON THE EAVES



FIG.22



FIG.23

GABLE BORDER INSTALLATION

It closes the sides of the roof while covering the edges of the roof framework.
To be assembled over the fascia board, after the metal roofing panels are fastened - fig. 24.

The gable border is fastened onto the metal roofing panel with packed self-tapping screws (4.8 x 35).

“ It is recommended to fasten the screws on each module of the panel - fig. 24.

In case of roofs where the gable border does not completely cover the corrugation of the metal roofing panel (see fig. 35), in order to prevent infiltrations, use the accessory called gable header.

“ It is installed under the metal roofing panel and under the gable border, directing water towards the rainwater system.



GABLE BORDER UNDER THE TILE INSTALLATION

It closes the sides of the roof while covering the edges of the roof framework. The gable border under the tile shall be assembled over the fascia board, but before fastening the metal roofing panels - fig. 26.

“ Fastening shall be done by using packed self-tapping screws (4.8 x 35), on each wood lath.



WALL BORDER INSTALLATION

It is used at the intersection of the slopes with fire walls or dividing walls.

“ The purpose of this accessory is to prevent water to seep on the wall.

It is fastened onto the metal roofing panels with packed self-tapping screws (4.8 x 35).

The fastening onto the wall shall be made using self-tapping screws or tap bolts, depending on the material on which the fastening is done - fig.29.



INSTALLATION OF THE CONVEX/CONCAVE SLOPE BREAKER

Convex/concave slope breaker is used in areas where roof slopes change their pitch.

Below is the description of the convex/concave slope breaker installation.

“ The installation shall be done according to the same principles, for both models.

1. The slope breaker shall be installed, on the lower side, over the metal roofing panel - fig. 30-31, and in the upper side, over the wood laths rows and under the cover - fig. 32-33.



INSTALLATION OF THE CONVEX/CONCAVE SLOPE BREAKER

2. Joining the metal roofing panels with the slope breaker can be done following the same steps used in the case of the panels from the rain shadow - fig. 32 - 33. (see the installation and joining of metal roofing panels).



RIDGE INSTALLATION

The ridge closes the roof to the top at the intersection of two slopes, acting as a shield against seepage.

1. At the contact area between the ridge and the metal roofing panels use sealant tapes (sealing sponge or ridge tape) for better sealing. They are bound to the ridge and take the shape of the metal tile during fastening - fig. 34 - 35.
 2. The ridge must be fastened by using packed self-tapping screws (4.8 x 35), on each panel corrugation see fig. 35.
 3. Use a ridge cap to close the ridge with gable border - fig.35.
- “ At the intersection of the oblique ridge with the rain shadow border, use the ridge closure accessory.



SNOW STOPPERS INSTALLATION

They prevent the snow sliding off the roof.

1. The snow stoppers must be installed parallel to the rain shadow, on a straight line or interlaid.

“ For long roof frameworks, it is recommended to join two or several stoppers. The maximum distance between the rows should not exceed 2 -3 meters.

2. The first row is installed at about 500-800 mm from the rain shadow - fig. 36, 37.

3. The ridge must be fastened by using packed self-tapping screws (4.8 x 35), on both sides of the stoppers and on each panel corrugation - fig.37.



OMEGA SNOW STOPPERS INSTALLATION

They prevent the snow sliding off the roof.

1. The Omega snow stoppers must be installed parallel to the rain shadow, on a straight line or interlaid (fig.39). For long roof frameworks, it is recommended to join two or several stoppers.

“ The maximum distance between the rows should not exceed 2 -3 meters.

2. The first row is installed at about 500-800 mm from the rain shadow - fig.39.

3. The fastening is done by using packed self-tapping screws (4.8 x 35), on the metal roofing panels corrugations, on both sides of the stoppers - fig.39.

“ It is recommended to use between 3-5 Omega snow stoppers for linear meter.



WARRANTY CERTIFICATE

EN-BLK 00001

BILKA STEEL hereby guarantees that the products subject matter of this certificate are manufactured and certified by the manufacturer in accordance with the applicable standards and parameters, and that they comply with the European quality standards. The warranty is granted pursuant to Law No. 449/2003.

The guarantee granted by BILKA STEEL for **COLOR and CORROSION** characteristics is:



GENERAL WARRANTY TERMS & CONDITIONS



GENERAL WARRANTY TERMS AND CONDITIONS

covers the products delivered by BILKA STEEL in . BILKA STEEL shall not be held liable for any direct or indirect damages as a result of the facts or omissions below:

have been chemically damaged in a corrosive environment or because of the prolonged contact with other materials: wet concrete, copper, mortar, soil, paint.

have been subject to mechanical or other kind of changes due to inadequate transport, handling or storage (unless BILKA STEEL is liable for such events).

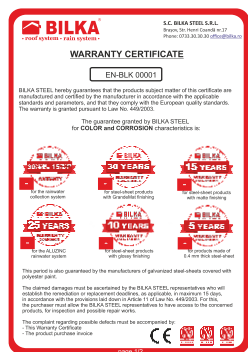
have been cut with abrasive blades or other cutting tools that cause excessive local heating of the processed parts.

The BILKA STEEL products have been machined at a working temperature below - 10 degrees C, when machine bending has been used.

The warranty covers the products delivered by BILKA STEEL.

BILKA STEEL shall not be held liable for any direct or indirect damages as a result of the facts or omissions below:

- The products have been chemically damaged in a corrosive environment or because of the prolonged contact with other materials: wet concrete, copper, mortar, soil, paint.
- The products have been subject to mechanical or other kind of changes due to inadequate transport, handling or storage (unless BILKA STEEL is liable for such events).
- The pre-painted BILKA STEEL products have been cut with abrasive blades or other cutting tools that cause excessive local heating of the processed parts.
- The BILKA STEEL products have been machined at a working temperature below - 10 degrees C, when machine bending has been used.
- The BILKA STEEL products have been tooled at a working temperature below +5 degrees C, when manual bending has been used.
- During the storage and mounting period, the products have been in direct contact with wet concrete, copper, soil, other corrosive materials or in permanent or prolonged contact with water.
- During the use period, direct contact with wet concrete, copper, or other corrosive materials has not been prevented.
- The BILKA STEEL products have been stored for more than 45 days in open space.
- The warranty does not cover product damages because of the beneficiary's failure to use the accessories recommended and supplied by BILKA STEEL, or because of the faulty assembly.
- The warranty does not cover damages arising from events of force majeure, such as: war, riot, natural disasters, fire, etc.
- The beneficiary shall lose its rights to warranty if, upon the notification of a defect of the BILKA STEEL products, it fails to provide the original invoice related to the purchase of the goods.



 **BILKA**[®]
• roof system • rain system •

 EN



BILKA STEEL SRL

Address: Henri Coanda Street No. 17, Brasov, Romania
Telephone: +40 733 30 30 30
Fax: +40 268 548 116
E-mail: office@bilka.ro

follow us on:



www.bilka.com