

BENDERS ROOFING

CONCRETE AND INTERLOCKING



The natural choice

More about Benders
www.benders.se

EXPERTISE AND TRADITIONS

far beyond the factory walls

WE ARE THE PEOPLE AT BENDERS!

Ever since starting up in our “yard” at Edsvära in the heart of the Västergötland plain, our ambition has been to satisfy you, our customers. This has led to us establishing ourselves as one of the Nordic market’s leading manufacturers in each of our product areas – Roofing, Landscaping, Natural Stone, Infrastructure, Foundations and Walling. The same ambition is behind our pushing the company onwards by continually developing our products and production units. Our latest acquisitions are Benders Byggsystem (specialising in prefabricated construction element systems) and Norbergstrappan (manufacture of concrete stairs). In addition to our presence in the Nordic countries, we are now also in Germany, Greece, Poland, Estonia, Latvia, Lithuania and many of the “new markets” in the east. Our recipe for success remains the same – everything to satisfy the customer.

We have strategically located offices, warehouses and sales offices throughout major parts of Europe. Nonetheless, we have chosen to keep our head office in the yard at Edsvära. It offers us a glorious setting that nurtures the security and inspiration to methodically further expand the company for, we hope, many generations to come.

BUSINESS IDEA, VISION AND STRATEGIES

Our idea is to develop, produce and market competitive, high-quality products and services for buildings and other structures that contribute to the long-term sustainability of an environment in which people live, work and socialise. Our customer relations shall be built on a long-term commitment in which great value is placed on knowledge of the industry, experience and personal service. Benders shall combine experience and expertise with inquisitiveness as regards new trends. We shall always be one step ahead in developing new products. To create tomorrow’s best products, we shall develop along with our customers.

FORM AND FUNCTION IN HARMONY

Good fit, wear resistance and frost resistance are built into our products. However, we want them to deliver more than this. For us, it is equally important that you feel happy and proud whenever you take a look at the roof, outdoor areas, driveways or walls constructed using our products.

We hope that this brochure will inspire and help you in choosing good-value, high-quality products from Benders. Products that appeal to your sound judgement and, at the same time, are aesthetically pleasing. Choices that satisfy both heart and head. Knowing that you have made the right choices is a fantastic feeling. We hope you enjoy making your choices!

All best wishes,
Benders Sverige AB



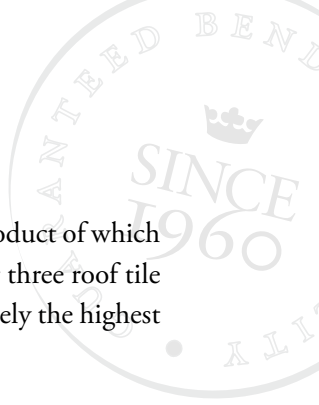
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LEADERS IN CONCRETE ROOF TILES!

For over half a century, we have continually developed and modified our roof tiles. The result is a product of which we are now truly proud – not least as regards both functionality and appearance. Whichever of our three roof tile models or five top coatings you choose, you can be sure that you will be getting a product of absolutely the highest quality with a hard-to-beat resistance to the merciless Nordic climate.

Other values and your personal preferences can also form the basis of your choice. Our combinations of models and top coatings mean that you can express yourself in many ways. Whatever your final choice, we would like to be the first to congratulate you on wisely choosing something that will give you and your house a smile for many years to come.



SAND

Our sand comes from local gravel pits. The sand from our own gravel pit goes to our main facility in Edsvära. From there, to protect the environment, it is transported by a special lorry that carries around 55 tonnes. When the sand is received, it goes through yet another meticulous screening check to ensure that the correct grade is used in the materials for our tiles.

CEMENT

All the cement used in our production comes from the world's cleanest producer – Svenska Cementa.

PIGMENTS

Benderit paint comprises a colouring pigment (iron oxide), water, binder and filler. Developed and produced in-house, the highest quality is assured. Benderit paint was specially developed for application to concrete roof tiles and has an extremely long service life.

Properties	Benderit	Candor	Brilliant
Frost resistance (as per SS-EN 490/491)	Yes	Yes	Yes
Watertightness (as per SS-EN 490/491)	Yes	Yes	Yes
Strength (as per SS-EN 490/491)	Yes	Yes	Yes
UV protected surface	++++	++++	+++++
Fade-resistant surface	++++	+++++	+++++
Heat-reflective surface	++++	++++	+++++
Dirt and growth-repellent surface	++++	+++++	+++++

Our guarantee on concrete roof tiles covers frost resistance, watertightness and strength. The guarantee period is always at least 10 years. When you lay a complete roof using our original accessories, you increase the guarantee period to 30 years.



STRENGTH

To ensure that our tiles withstand the tough conditions on a roof, there is continuous daily testing to check strength, thickness and weight. Thus, you can be sure that the Benders' tiles on your roof are of absolutely the highest quality!



DIRT AND GROWTH-REPELLENT SURFACE

No roof tile surface is completely dirt and growth repellent. None-theless, all our top coatings demonstrate good resistance in exactly this respect. Our Candor and Brilliant top coatings additionally have an extra hard surface that further inhibits growth.



FROST RESISTANCE

Tiles are very much exposed to precipitation, wind and large temperature variations. This is why it is critically important that tiles resist frost and cold. Our tiles are tested and satisfy the requirements of SS-EN 490/491.

WATERTIGHTNESS

What good would a roof tile be if it let water in? Quite simply, none at all. To ensure that those who use our tiles get full wind and precipitation protection, we regularly test the watertightness of our tiles.



FADE-RESISTANT SURFACE

Besides our tiles being painted twice, all our top coated roof tiles have an oxide added to the mix so that they are coloured all the way through and thus have an extra deep tone. Our top coatings have been developed over the years and optimised for long-term fade-resistance.

30-YEAR ROOF GUARANTEE

We at Benders want you to have great peace of mind when you select our roof tiles. That is why we give a full 30-year guarantee as regards the strength, watertightness and frost resistance of a Benders' roof laid using our original accessories.



CONCRETE OR INTERLOCKING CLAY TILES?

The roof is the fifth façade of a house. It is of great importance in the look of a home and the overall impression it gives. Benders sells both concrete roof tiles and interlocking clay roof tiles. Which you choose is a matter of taste and is largely determined by the look of a house. Making the right choice from our growing roof tile offerings is important. However, what is suitable where?

Both concrete roof tiles and clay roof tiles weigh roughly the same per square metre and can both be laid on roof pitches of down to 14 degrees. Benders offers appropriate accessories for all the profiles of both these product ranges. Choosing can be difficult. The major difference is price; concrete roof tiles are cheaper. A small suggestion from us at Benders – before choosing, lay several tiles on the roof and study them from a distance of 20 – 40 metres. This gives a useful idea of how the house will look with tiles of different colours and shapes.

CONCRETE ROOF TILES

Benders has been creating attractive, durable roofs for over 50 years and is now the market leader in concrete roofing in Sweden. Covering everything from classic to modern, we can offer several options that widen your choice when deciding on your roofing. Our concrete roof tiles are available in three profiles – traditional pantile, double pantile and flat. Which you choose is a matter of taste and is largely determined by the overall look of a house.

Our concrete roof tiles are available with seven different finishes, five treated and two natural. Benders' many combinations of finishes and colours make it possible for you to create a truly individual roof for your home.



Bender *Palema* is a double-pantile roof tile with a classic look that is suitable for all roofs. It has been Sweden's best-selling roof tile since the 1960s. Bender *Palema* is the tile that you will find easiest to lay!

Bender *Exklusiv* is a traditional-pantile roof tile. Compared to the double-pantile, the profile is higher and the S-shape is more pronounced. It adds more life to the roof. This classic traditional pantile design is suitable for both old and new properties. Thanks to double mounting lips on the back, *Exklusiv* sits securely on the battens and is easy to lay. Using our special clips, securing the tiles is easy.

Our roof tile for modern architecture! It gives architects new possibilities. *Carisma* allows the creation of a slate-like roof. The tile is made using state-of-the-art technology and its size means that, despite the flatness, it has in-built strength. Bender *Carisma* must be laid with a stretcher (running) bond (i.e. offset in relation to each other).

	Length	Width	Construction length	Construction height*	Construction width	Roof pitch	No./m ²	Weight/m ²	Weight/unit	No./pallet
Palema	420 mm	330 mm	310-375 mm	75 mm	300 mm	min 14°	8,9	ca 36 kg	4,0 kg	240
Exklusiv	420 mm	280 mm	310-375 mm	100 mm	250 mm	min 14°	10,7	ca 42 kg	3,9 kg	240
Carisma	420 mm	280 mm	310-350 mm	60 mm	250 mm	min 14°	11,5	ca 52 kg	4,5 kg	210

* Measured from top edge of the tile batten to the upper face of an overlapping roof tile. All measurements are approx.

INTERLOCKING CLAY ROOF TILES

Interlocking clay tiles are made from a natural product that has been around for thousands of years. While demonstrating the genuine charm of traditional roof tiles, the Benders' clay tile range has the easy to lay characteristics of our concrete roof tiles. Our various clay roof tiles (Tvilling, Tvilling straight front edge, Hansa, Hansa straight front edge and Piano) are all watertight, easy to lay and good value for money. This is why they are a good choice for those who want that little extra for their house.

If you are looking for something extra special, we can supply "bibersvans" ("beaver tail"), "Ravensberger eco" and several other clay roof tiles that also have a more continental look.



Bender *Hansa with a rounded front edge* is an interlocking clay tile. It is a modern development of the classic, extruded, traditional-pantile.



Bender *Tvilling with a rounded front edge* is an interlocking clay tile that has been newly developed to make laying clay tiles even easier. This classic interlocking roof tile in a large format simplifies cutting at valleys and hips.



Bender *Piano* is a flat, interlocking clay roof tile with a slate-like appearance that fits well with today's modern architecture. Piano must be laid with a stretcher bond. This adds exciting animation to the roof.



Bender *Hansa with a straight front edge* is an interlocking clay tile that replaces the market's old, traditional, extruded, roof tiles. Thanks to its straight front edge, it maintains a classically old-fashioned look. However, it is manufactured as a modern and more functional roof tile in an attractive format.



Bender *Tvilling with a straight front edge* is an interlocking clay tile that replaces the old, traditional, extruded, double-pantile roof tiles. Thanks to its straight front edge, it maintains a classically old-fashioned look. However, it is manufactured as a modern and more functional roof tile in an attractive format.



	Length	Width	Construction length	Construction height*	Construction width	Roof pitch	No./m ²	Weight/m ²	Weight/unit	No./pallet
Hansa	425 mm	264 mm	320-345 mm	95 mm	ca 211 mm	min 14°	approx. 14	ca 41 kg**	2,9 kg**	360**
Tvilling	365 mm	398 mm	266-285 mm	90 mm	ca 346 mm	min 14°	approx. 10	ca 44 kg	4,4 kg	192
Piano	410 mm	240 mm	330-345 mm	75 mm	ca 204 mm	min 14°	approx. 15	ca 46 kg	3,1 kg	240

* * Measured from top edge of the tile batten to the upper face of an overlapping roof tile. All measurements are approx.

** A Hansa tile with a straight front edge weighs 3.1 kg. Per m² this is 43 kg. They are packed 240 to a pallet.

CONCRETE ROOF TILE FINISHES

Our concrete roof tiles are made from sand, water, cement and iron oxide. The iron oxide, which is a colouring pigment, is added when the concrete is being mixed. In this way, the tiles are coloured all the way through. Our concrete roof tiles are available with seven different finishes, five treated and two natural. Benders' many combinations of finishes and colours make it possible for you to create a truly individual roof for your home. Whichever of our top coatings you choose, you can be sure that you will be getting a product of absolutely the highest quality with a hard-to-beat resistance to the merciless Nordic climate.

Our classic Bender Ytbehandlad (Top Coated) has now changed name to Bender Benderit. Benderit has been developed over many years. With its high-class properties, it gives your roof an attractive look and you the reassurance of a safe and secure choice.

Bender *Benderit* half-matt is our traditional roof tile. It is essentially coloured all the way through. The same colouring pigment used in Benderit paint is added in the first production stages. To further emphasise the top coating and roof colour, these roof tiles are then treated twice with Benderit paint.



Bender *Candor* is a glossy top coating that offers many advantages. Thanks to its greater wear resistance, it has a longer aesthetic service life. Being harder, the finish is more resistant to algae and moss.

Bender *Brilliant* is a unique treatment. A metal-based pigment gives a resistance that is far superior to that offered by other top coatings. The pigment in the colouring is flat. Consequently, gloss and colour change with changes in light. The result is a roof that is full of life.





Bender *Struktur* is an exciting top coating that is unlike any other. Crushed and coloured stone is here added to the Benderit paint to create a granular finish. Bender *Struktur* is a favourite in areas where there is a lot of snow. The granular finish means that snow stays on the roof longer and that the weight is more evenly distributed on the house.

Bender *Obehandlad* (natural) roof tiles have the same colour all the way through. Iron oxide is added to the concrete in the first stages of production. It is the iron oxide in natural roof tiles that gives them their optical colour. Natural roof tiles often experience natural precipitation of surface lime in their first year. This subsequently matures to give the tiles their natural colour.



Bender *Ecoline* roof tiles are, in essence, traditionally top-coated tiles. The difference is that titanium oxide has been added to the Benderit paint. Titanium oxide serves as a catalyst to reduce, throughout the roof's service life, nitrogen oxide in the air. This makes our *Ecoline* finishes our most environment-friendly choices.

Bender *Obehandlad Ecoline* roof tiles are essentially untreated tiles. The difference is that titanium oxide has been added to the concrete. Titanium oxide serves as a catalyst to reduce, throughout the roof's service life, nitrogen oxide in the air. This makes our *Ecoline* finishes our most environment-friendly choices.



CLAY ROOF TILE FINISHES

Benders' interlocking clay tiles are a natural product made in Germany from shale. Our interlocking clay tiles are pressed and predried before some of the models have a top coating applied to give the right finish and colour. They are then kiln-fired at around 1,040°C.

Our interlocking clay roof tiles are available with six different finishes, four treated and two natural. Benders' many combinations of finishes and colours make it possible for you to create a truly individual roof for your.



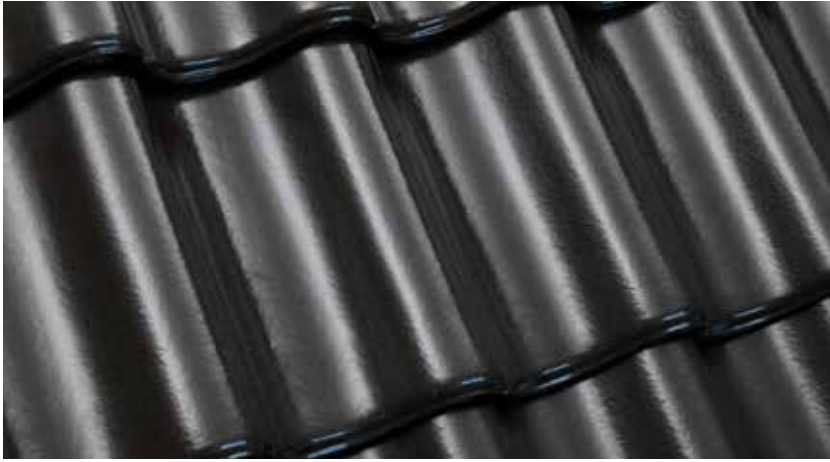
Bender *Natur* is a natural tile. This means it is made using an entirely homogeneous fired clay in its natural colour.



Bender *Engoberad* (slip-coated) is a surface treated natural tile. A thin coating of pigmented clay slip is applied to the tile, which is then fired.

Bender *Trendglaserad* (glazed) is also a surface treated natural tile. A thin coating of pigmented clay slip is applied to the tile. Finely crushed glass is added to the slip and fired along with the tile. As the glazed finish is impermeable, it does not breathe.





Bender *Kristallengoberad* (crystal slip-coated) is, like Bender Engoberad, a surface treated natural tile. A thin coating of pigmented clay slip is applied to the tile. The difference here is that a small quantity of finely crushed glass is added to the slip. This coating is fired along with the tile. The crystal slip-coated finish is vapour-permeable and breathes.

Bender *Marcatoglasyr* (Marcato-glaze), developed in-house by Meyer Holsen, is one of our treated finishes. To give a deeper colouring and greater lustre, the Marcato glaze is many times thicker than other glazes.



Bender *Reduktionsbränd* (reduction-fired) is, like Bender Natur, a natural tile. This means it is made using an entirely homogeneous fired clay in its natural colour. The difference here is that, towards the end of firing, the oxygen supply is adjusted. This results in the colour changing throughout the tile.



CLOSENESS TO THE MATERIALS

develops our products and the company!

NATURAL MATERIALS

Closeness is important to us. Not only as regards production and transport, but also environmental awareness. Our roof tiles, paving stones and walling systems are created from materials that we take from nature. We get our cement from the world's cleanest producer – Svenska Cements. Sand is supplied from local gravel pits and, under meticulous control, pigments are added at company premises. Our products are environment-friendly and Benders was one of the world's first roof tile manufacturers to gain ISO 14001 environmental certification.

Benders' interlocking clay tiles are made from the highest quality materials by German manufacturers who share our values and environmental awareness.

SAFEGUARDING THE ENVIRONMENT

ISO 14001 certification means that we always work with the environment in focus and that all process control within the company is subordinated to the environmental management system. The water in our factories comes from our own well and all surplus material and cleaning water is used in the production of new roof tiles. "Excess" heat from product hardening processes is recycled to save energy. All pallets used in product packaging are of the return type. We use this feature to the full. Our sorting of waste at source at our main facility in Edsvära provides, along with the environmental station there, a model for the group's other plants.

COLOUR, FORM AND FINISH

Roof tiles are more than just good protection against wind, snow and rain. They also enhance your home, lift the overall look and form a fifth façade. When choosing the finish for your Benders' concrete roof tiles, we offer Obehandlad (natural), Benderit, Candor, Brilliant, Struktur and Eco. Our clay roof tiles are also available in several finishes: Natur (natural), Engoberat (slip-coated), Kristallengoberat (crystal slip-coated) and Glaserat (glazed). Double pantile, traditional pantile or flat roof tiles is a question of taste that is largely decided by the building's overall look. There are many colours to choose from. This brochure presents a selection of these. Original accessories are an important part of any roof. We offer a complete range of hoods, safety walkways, mountings and everything else necessary for a complete roof.

REASONS FOR CHOOSING BENDERS

We are the largest on the market. This gives a security that is appreciated by many. There are many other reasons too. Perhaps they are best summarised by the word "closeness". Through our network of distributors, we are close to you, the customer. Both physically and emotionally, our staff are also close to the company. We feel a closeness with our materials and put all our energies into maintaining complete ranges and providing you with good products at the right price, at the right time.

WE ARE LANDSCAPERS TOO!

When you have decided which of our products to use for your roof, why not also take a look at our landscaping products? We offer well-developed concrete and natural stone ranges of paving stones, slabs, walling systems and accessories. Our brochures are available from your building product retailer.

FOUNDATIONS ARE IMPORTANT

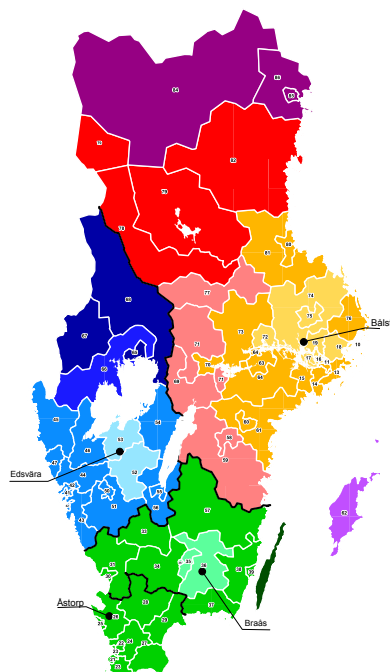
You can now also get Benders' foundations and walling systems for your buildings. Take a look at our website and see the most meticulously considered top-to-toe solution!

LOGISTICS – OUR FACTORIES

Benders' concrete roof tile factories are all strategically located for minimum possible distance to you, the customer. Edsvära, Braås and Bålsta are all small places, but they have good infrastructure for easily supplying the whole country. All these factories have identical products and the same packaging system. This ensures high readiness to cover all deliveries. Directions for getting to our factories can be found on our website.

WEBSITE FOR YOU

On our website, www.benders.se, you will find all our products, user instructions (guides when installing, laying, etc.) and our neat inspiration tool that can help you choose your roof tiles and colours. You will also find our roof calculation software. This helps you work out what you need when replacing your roof. No downloading is required. The tool is online. It is widely used by distributors and private individuals alike. Using three measurements and this programme, you can rapidly calculate the quantities of roof tiles and accessories necessary for your roof. This is where you can also see our brochures and find inspiration, information and contact details for our distributors.



GUARANTEE – UP TO 30 YEARS!

Benders' concrete and clay roof tiles are delivered with a 10-year guarantee in respect of frost resistance, watertightness and strength. Our tiles are manufactured in accordance with SS-EN 490/491. The guarantee does not cover colour. By using our cement roof tiles and original roof accessories for these, you can get a 30-year guarantee if you follow the user instructions issued by Benders and Sweden's National Board of Housing, Building and Planning. Benders' roof tiles are CE marked.

Your supplier of Benders' interlocking clay tiles will provide a 40-year full guarantee and a 20-year post-delivery guarantee. This guarantee note must be ordered when you place your order.

You can read about our unique 30-year guarantee at www.benders.se.



This brochure was printed by Rolf Tryckeri, Skövde
The printer has Swan eco-certificate no. 341 792.

BYGGVARUBEDÖMNINGEN

PRICE GUIDES



Price is, of course, a factor that plays a part in your choice of roof. To provide a little guidance, we have developed an indicator for a Palema roof equipped with the accessories that contribute to making your roof secure and safe. It can give you an idea of what our roof tiles cost in various formats of top coatings. In the example, we have costed and compared Benderit black, Candor black and Brilliant slate.

The guide prices include the cost of a materials package that comprises roof tiles, mountings, sealing, ventilation and roof safety (as per the 174 m² roof above). It also includes VAT, but excludes pallet, freight and labour costs for laying the roof. For more precise price details, please contact your Benders' distributor.



**COMPARISON
PRICES ARE
APPROX.**

PALEMA
BENDERIT BLACK
43 000 KR



PALEMA
CANDOR BLACK
48 000 KR



PALEMA
BRILLIANT SHALE
51 000 KR



Here is a selection of the roofing accessories included in the above price comparison.

- | | | | | | |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |  |  |
| Palema concrete roof tile | Cloak verge | Straight ridge tile | Straight ridge end | Soil pipe ventilator (concrete) | Ventilation hood |
|  |  |  |  |  | |
| Bird stop | Safety step | Ladder protector | Safety walkway | Ridge and eaves rails | Entrance snow guard |

DELIVERY, LAYING AND CARE OF YOUR ROOF



DELIVERY DIRECT ONTO THE ROOF

The cranes on our special lorries have an 18-metre reach. They are customised for lifting your tiles directly onto your roof or placing your paving stones where you want them in your garden. Simply ask when you are ordering and we will offer solutions. This means you can escape the cost of hiring a cherry picker or similar. Similarly, you do not need to have the bother of handling return pallets. We take them away for use in other deliveries.

LAYING

Whether or not you are laying your own roof, it is good to know that everything is being done correctly. For advice and tips, visit www.benders.se. Detailed user instructions can also be found there.



Remember there are risks when working on a roof. For your and your workers' sakes, be careful. Follow the relevant work environment rules and always use scaffolding and guards.

BEAR IN MIND...

- ✓ Replace your roof in good time. This saves major work with tongue and groove boarding, etc. When you are thinking about renovating your roof, check the condition of your sub-roofing.
- ✓ Is your house in an exposed position, subject to the full force of the wind? Take extra care with the mounting of tiles and ridges!
- ✓ Carefully consider your choice of roof tiles. Which model and colour is right for your house? Read the ideas and tips on our website. Speak with a roofing expert at your local building product retailer. If you are uncertain, do not hesitate to ask for a trial tile.
- ✓ If you are building new, consider subroofing. You can choose between, tongue and groove boarding and roofing felt or a light underlay.
- ✓ Check with your local planning authority to see if it has any views and guidelines on the colour of your roof. It may have if you are in a controlled area.
- ✓ In some countries, grants may still be available to have your roof replaced by authorised tradesmen. Take advantage of this now and have a safe roof for winter!



HOW LONG DOES A ROOF LAST?

People have been laying concrete roof tiles since the 1920s. For the past 50 years, they have been the dominant choice in Sweden and the other Nordic countries. A roof with concrete tiles such as those from Benders lasts a long time. Exactly how long the tiles last is difficult to say. A lot depends on how you care for your roof. However, we do know that other materials such as battens and roofing felt usually give out long before the tiles do.

USE ORIGINAL ACCESSORIES

A comprehensive programme of original accessories is essential for safe, reliable roofing and ventilation. Amongst other things, we have developed special cloak verge and ridge tiles, roof steps, roof walkways, roof hatches, hoods and vents. Benders' accessories are meticulously tested to be optimum partners for our products. We leave nothing to chance. It is enormously important that they mount correctly, are guaranteed to be safe and are approved environmentally.

TAKING CARE OF YOUR ROOF

Check your roof at least once a year and do take the time to make an extra check if there has been a storm. Do not look only at the outside. If possible, also examine the subroof from the inside. If you find any broken tiles, replace them immediately. It is important that you clean gutters and ensure that valleys are free from leaves and twigs. They prevent water getting off the roof. Also repair any gaps and cracks around skylights and dormers. This will help prevent damp and rot in the roof structure.

Remember to keep the roof free from algae and lichen. Use Benders' Tak & Markrent ("roof and stone/slab cleaner") to remove such growths and stop them having a negative impact on the overall look of your home. This is a simple way of recreating the beautiful roof that you chose to invest in.

We paint our houses when they look scruffy and we tidy our gardens. Yet roofs are simply there. Follow our simple instructions for an attractive and safe roof for many years to come.



BENDER PALEMA BENDERIT



Clay red 0200 24

Clay red 0200 24



Black 0200 20



Brown 0200 22



Red 0200 26



Middlegrey 0200 28



Burgundy 0200 31



Light grey 0200 37



Dark grey 0200 48



Green 0200 23

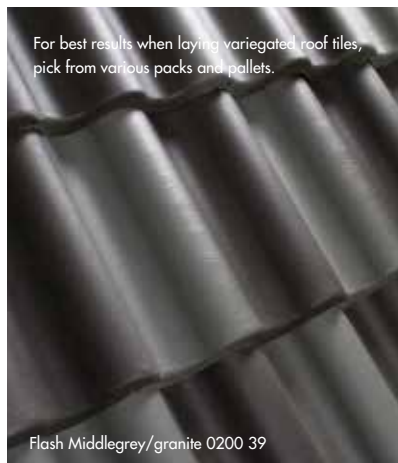


Yellow 0200 25



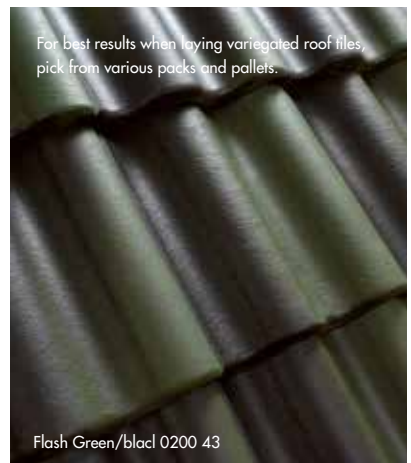
For best results when laying variegated roof tiles,
pick from various packs and pallets.

Flash Clayred/brown 0200 29



For best results when laying variegated roof tiles,
pick from various packs and pallets.

Flash Middlegrey/granite 0200 39



For best results when laying variegated roof tiles,
pick from various packs and pallets.

Flash Green/black 0200 43

BENDER PALEMA NATURALS



ANTIQUÉ CLAYRED STD/BLACK 0200 19



For best results when laying natural roof tiles, pick from various packs and pallets.

Graphite 0200 01

For best results when laying natural roof tiles, pick from various packs and pallets.

Clayred Std 0200 14

For best results when laying natural roof tiles, pick from various packs and pallets.

Antique Yellow/brown 0200 08

For best results when laying natural roof tiles, pick from various packs and pallets.

Antique Clayred Std/black 0200 19

BENDER PALEMA CANDOR

Glossy and hardwearing



In 2011, Benders introduced its new Candor. A good product made even better! The tile has been given a harder and glossier finish that provides even more protection for your roof. Our long experience of glossy tiles is a further guarantee of a secure choice.



BLACK 0200 80

BENDER PALEMA BRILLIANT

For connoisseurs!



SHALE 020051



Shale 0200 51



Copper 0200 55

BENDER PALEMA STRUKTUR

For areas with lots of snow



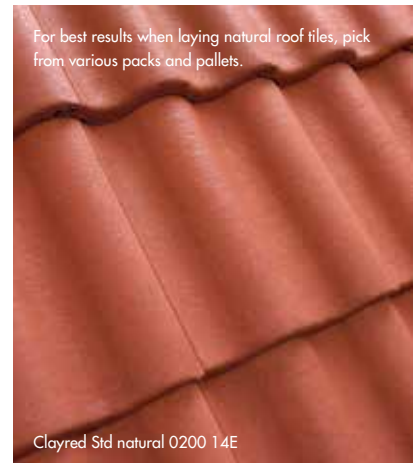
For best results when laying variegated roof tiles,
pick from various packs and pallets.

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BENDER PALEMA ECOLINE

The environment friendly choice



ECOLINE

The concrete industry has launched a method for reducing nitrogen oxide gases (NOx). These are harmful in themselves and known to promote acidification. In our ranges, we at Benders use the term Ecoline for products that are based on the method.

ecoline

TX ACTIVE

TX Active® is a quality marking for the photocatalytic activity of construction materials used in Europe.





CLAYRED 0200 24E

KNOWLEDGE AND TECHNOLOGY

Almost everything mankind does has an effect on our environment. One way of reducing negative impact is to be aware of and consider what we should do in various situations (e.g. driving less and in a more environment-friendly way). A complementary way is to use smart technology to reduce the harmful emissions created by mankind's activities.

The concrete industry has launched a method for reducing nitrogen oxide gases (NO_x). These are harmful in themselves and known to promote acidification. In our ranges, we at Benders use the term Ecoline for products that are based on the method.

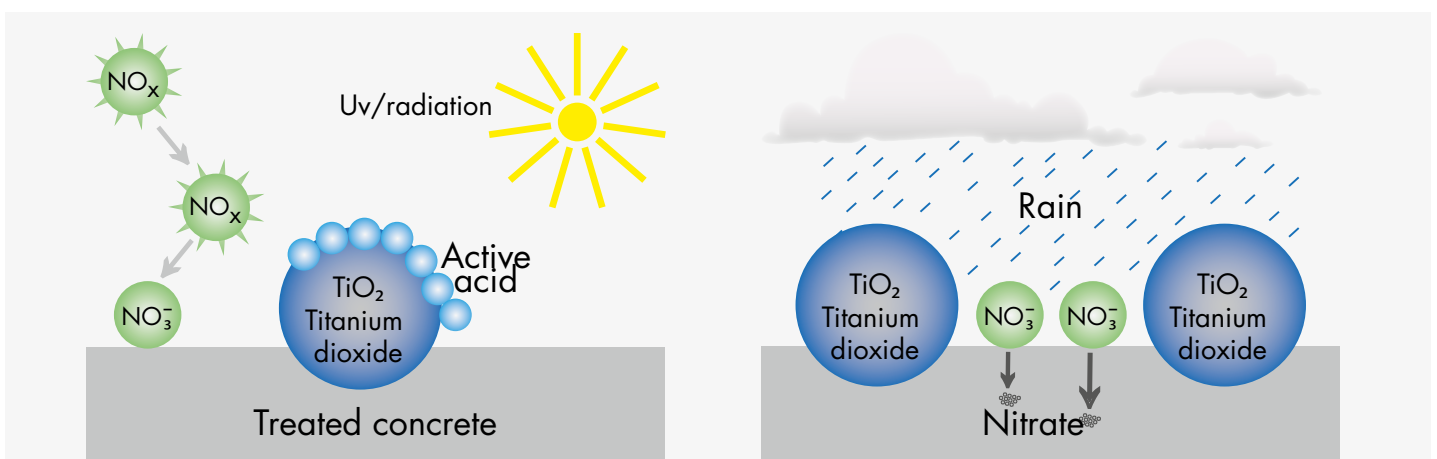
WHAT ARE NO_x?

NO_x arise through a reaction between the nitrogen and the oxygen in the air. The reaction takes place at high temperatures. One major source of emissions is the modern combustion engine. This uses a high pressure fuel/air mixture and high temperatures. Although favourable as regards fuel efficiency and carbon dioxide emissions, it creates harmful nitrogen oxides. High concentrations can trigger allergies, throat problems and even regional disturbances such as woodland loss and acidification. Nitrogen oxides also serve as a catalyst in the formation of harmful ground-level ozone.

HOW DOES ECOLINE WORK?

The concrete products in our Ecoline range have titanium dioxide (TiO₂) added in the form of Cementa's TiO mix. In a photocatalytic process that reduces the content of harmful nitrogen oxides in the air, this reacts with daylight and oxygen. The nitrogen oxides are converted into harmless nitrate, which is washed away by rain. Best results are achieved when the sun is shining and there are thus high levels of NO_x. Nonetheless, good results are also obtained without direct sunlight. The titanium dioxide is not consumed and the effect is thus maintained throughout the entire service life of the products.

THE NO_x REDUCTION SEQUENCE



TOO GOOD TO BE TRUE?

No, not at all! Full-scale tests, in laboratories and urban areas in both Europe and the USA, show that titanium dioxide has an immediate and major impact on reducing NO_x. It is also known that this impact is greatest when emissions are highest – most vehicle trips are made during daylight when the photocatalytic effect is at its maximum.

BENDER ECOLINE ROOF TILES

Today, vehicles have catalytic converters that reduce harmful emissions. Tomorrow, your new roof can serve as a giant catalytic converter that reduces the impact of harmful emissions not only from cars, but also from aircraft and industry. All you need to do is choose Ecoline roofing from Benders. It is a little dearer than standard concrete roofing, but cheaper than clay tiles. However, the roof of a normal-sized detached house can nullify NOx emissions from a car, perhaps your car, that drives around 15,000 kilometres a year. It can do this every year throughout the roof's entire service life.

BENDER ECOLINE PAVING STONES

Our paving stones are manufactured in two layers. One of these is some 10 mm thick and comprises concrete with titanium dioxide. Just as the roof tiles, the stones serve as a giant catalytic converter. Currently, there are no requirements as regards environment-improving ground coverings in our heavily trafficked towns. However, it is presumably only a question of time before legislation is passed. By laying Bender Ecoline paving stones today, you can improve our environment immediately.



TX ACTIVE®

TX Active® is a quality marking for the photocatalytic activity of construction materials used in Europe.



Bender Eco Delta



Bender Eco Delta Drain

BENDER EKKLUSIV BENDERIT





Black 0100 20



Brown 0100 22



Clayred 0100 24



Red 0100 26



Middlegrey 0100 28



Green 0100 23



Yellow 0100 25



Flash Clayred/brown 0100 29



Glash Middlegrey/granite 0100 39

For best results when laying variegated roof tiles, pick from various packs and pallets.

For best results when laying variegated roof tiles, pick from various packs and pallets.

For best results when laying natural roof tiles, pick from various packs and pallets.

Graphite 0100 01

For best results when laying natural roof tiles, pick from various packs and pallets.

Clayred Std 0100 14

For best results when laying natural roof tiles, pick from various packs and pallets.

Antique Clayred Std/black 0100 19



BENDER EXKLUSIV NATURALS



ANTIQUÉ CLAYRED STD/BLACK 0100 19

BENDER EXKLUSIV CANDOR

Old-fashioned charm





CLAYRED 0100 84

BENDER EXKLUSIV BRILLIANT



Shale 0100 55

SHALE 0100 51



BENDER CARISMA BENDERIT



GRANITE C000 21



Granite C000 21



Clayred C000 24



Middlegray C000 28

CLOAK VERGE TILES

There are now cloak verge tiles in the Carisma range too. Benders' cloak verge tiles are a smart alternative to barge board flashings. They give reliable sealing and save maintenance of barge boards. Furthermore, they bring an aesthetic completeness to the roof. Carisma cloak verge tiles are available only in a top-coated design (no natural variants).

LAYING

Do not forget to go through and follow our special user instructions for Carisma. They can be found at www.benders.se.

BENDER CARISMA NATURALS



GRAPHITE C000 01



For best results when laying natural roof tiles, pick from various packs and pallets.

Graphite C000 01

BENDER CARISMA BRILLIANT

NEW!



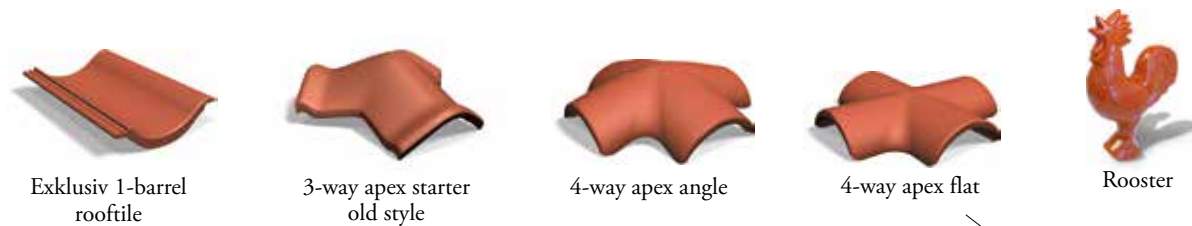
When laying Carisma, remember that this tile has its grooved edge at the lowest point. Consequently, we recommend that you always use good quality tongue and groove boarding and roofing felt when laying Carisma. Do not forget to go through and follow our special user instructions for Carisma. They can be found at www.benders.se.

There are now cloak verge tiles (see below) in the Carisma range too. Benders' cloak verge tiles are a smart alternative to barge board flashings. They give reliable sealing and save maintenance of barge boards. Furthermore, they bring an aesthetic completeness to the roof. Carisma cloak verge tiles are available only in a top-coated design (no natural variants).

To emphasise the flat look, ridge tiles can, thanks to their unique design, be laid either overlapping or edge to edge. Carisma must be laid with a stretcher bond. This adds exciting animation to the roof. Special tiles are available that split easily to form half tiles.



BENDERS ACCESSORIES – CONCRETE



Exklusiv 1-barrel rooftile

3-way apex starter old style

4-way apex angle

4-way apex flat

Rooster



Carisma flat rooftile



Halftile Palema



Ventilation tile Palema



3-way apex



Palema 2-barrel rooftile



Gable tile right Palema



Gable tile left Palema



Mansard tile Palema



Mono ridge tile Palema



Rake tile



Betongdel för avloppsluftare och genomföringar Palema



Euro tile Carisma



Halftile Carisma

BENDERS ORIGINAL ACCESSORIES

We are particularly keen that you should be able to find original accessories, in concrete, especially developed for our normal tiles. Using our concrete accessories ensures an excellent fit and colour matching. More information about installation can be found in our user instructions and on our website.



Lead-through tile Carisma



Soil pipe ventilation Carisma



3-way apex Carisma



BENDERS ACCESSORIES – CONCRETE



Ridge tile end
old style



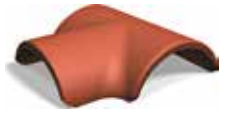
Ridge tile old style



Ridge tile start
old style



T-apex end



T-apex starter



Ridge tile starter



Ridge tile end



T-apex end
old style



T-apex starter
old style



Ridge tile



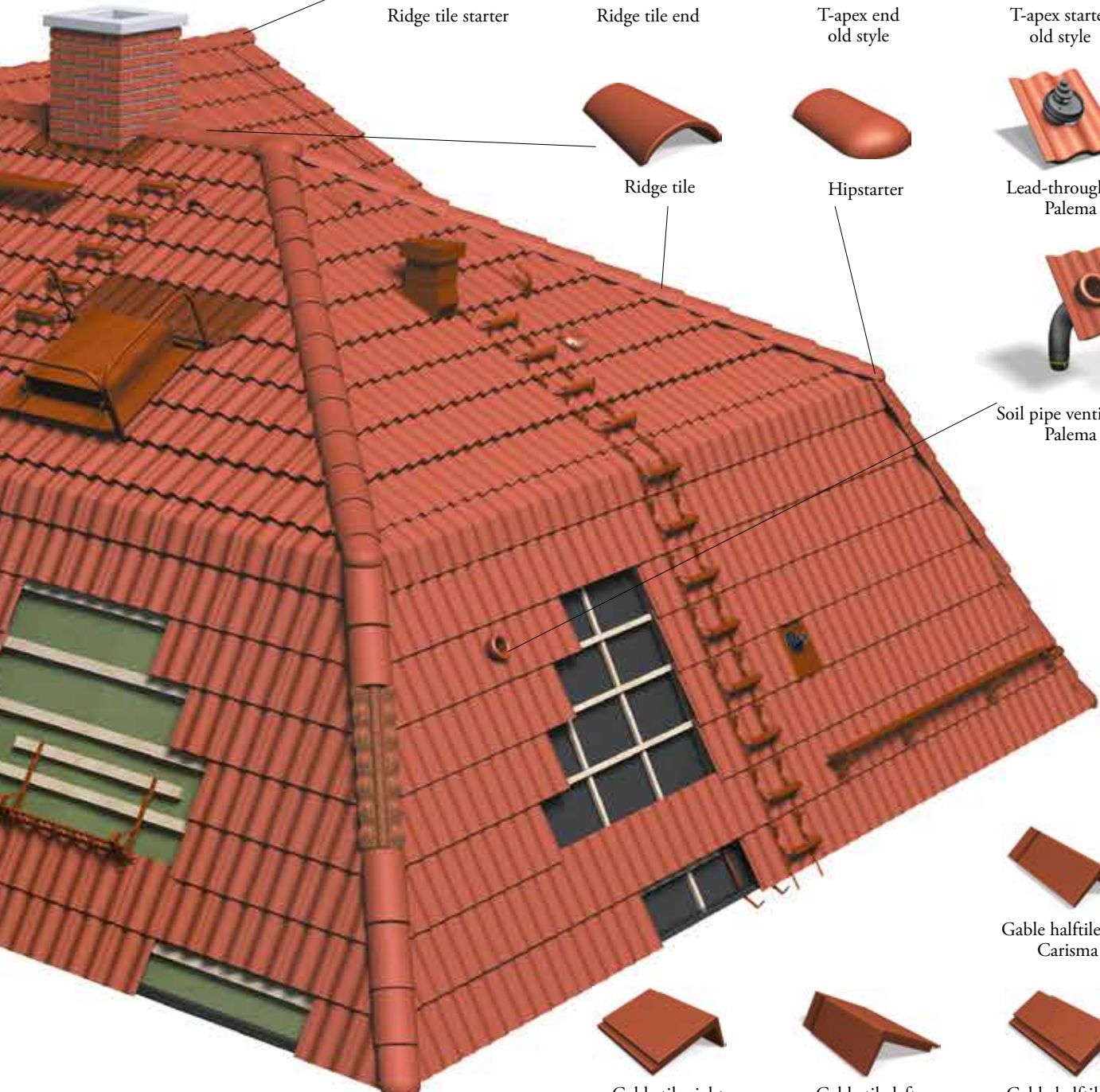
Hipstarter



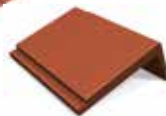
Lead-through tile
Palema



Soil pipe ventilation
Palema



Gable halftile left
Carisma



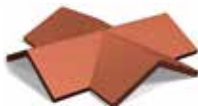
Gable tile right
Carisma



Gable tile left
Carisma



Gable halftile right
Carisma



4-way apex flat
Carisma



4-way apex angle
Carisma



Ridge tile start
Carisma



Ridge tile Carisma



T-apex Carisma

This is just a selection from our wide range. For further details of each product, see the information sheets on www.benders.se.

BENDER HANSA INTERLOCKING CLAY TILE



BONGOSSIBROWN H100 84



Natural red H100 24



Old fashioned red H100 26



Bongossibrown H100 84



Indired H100 86



Titanium black H10087



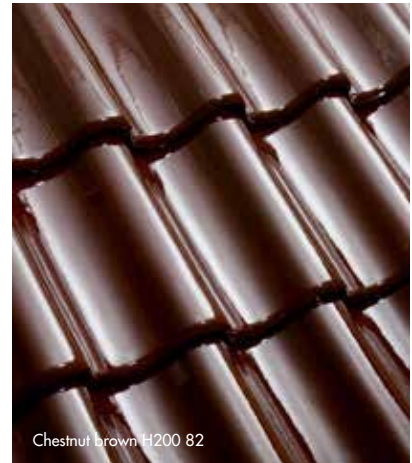
Bender Hansa with a **straight front edge** is an interlocking clay tile that replaces the market's old, traditional, extruded, roof tiles. Thanks to its straight front edge, it maintains a classically old-fashioned look. However, it is manufactured as a modern and more functional roof tile. Easier to lay, better watertightness, superior protection against precipitation and, above all else, more attractive.



Natural red cut frontend H101 24

BENDER TVILLING INTERLOCKING CLAY TILE

Easy to lay, attractive and secure



Bender Tvilling with a **straight front edge** is an interlocking clay tile that replaces the old, traditional, extruded, double-pantile roof tiles. Thanks to its straight front edge, it maintains a classically old-fashioned look. However, it is manufactured as a modern and more functional roof tile. Easier to lay, better watertightness, superior protection against precipitation and, above all else, a more attractive design.





NATURAL RED H200 24

BENDER PIANO INTERLOCKING CLAY TILE



PLATINUM GREY H000 27



Black shale H000 20



Platinum grey H000 27



Graphite H000 80



BENDERS ACCESSORIES – INTERLOCKING CLAY TILES



Tvilling 2-barrel claytile
cut frontend



Tvilling 2-barrel claytile



3-way apex universal



Hansa 1-barrel claytile
cut frontend



Hansa 1-barrel claytile



Piano flat claytile



Soil pipe ventilation
Tvilling



Soil pipe ventilation
Hansa



Gable tile left



Gable tile right



Ridge tile starter Pluss



T-apex starter Universal



Ridge connecting tile
gable left



Ridge connecting tile
gable right



Ridge tile end Pluss



T-apex end Universal

BENDERS ACCESSORIES – INTERLOCKING CLAY TILES



Ridge connecting tile cut frontend Tvilling



Ridge connecting tile Tvilling



Ridge connecting tile cut frontend Hansa



Ridge connecting tile Hansa



Half tile Tvilling



Hipstarter



Ridge tile Kleblatt



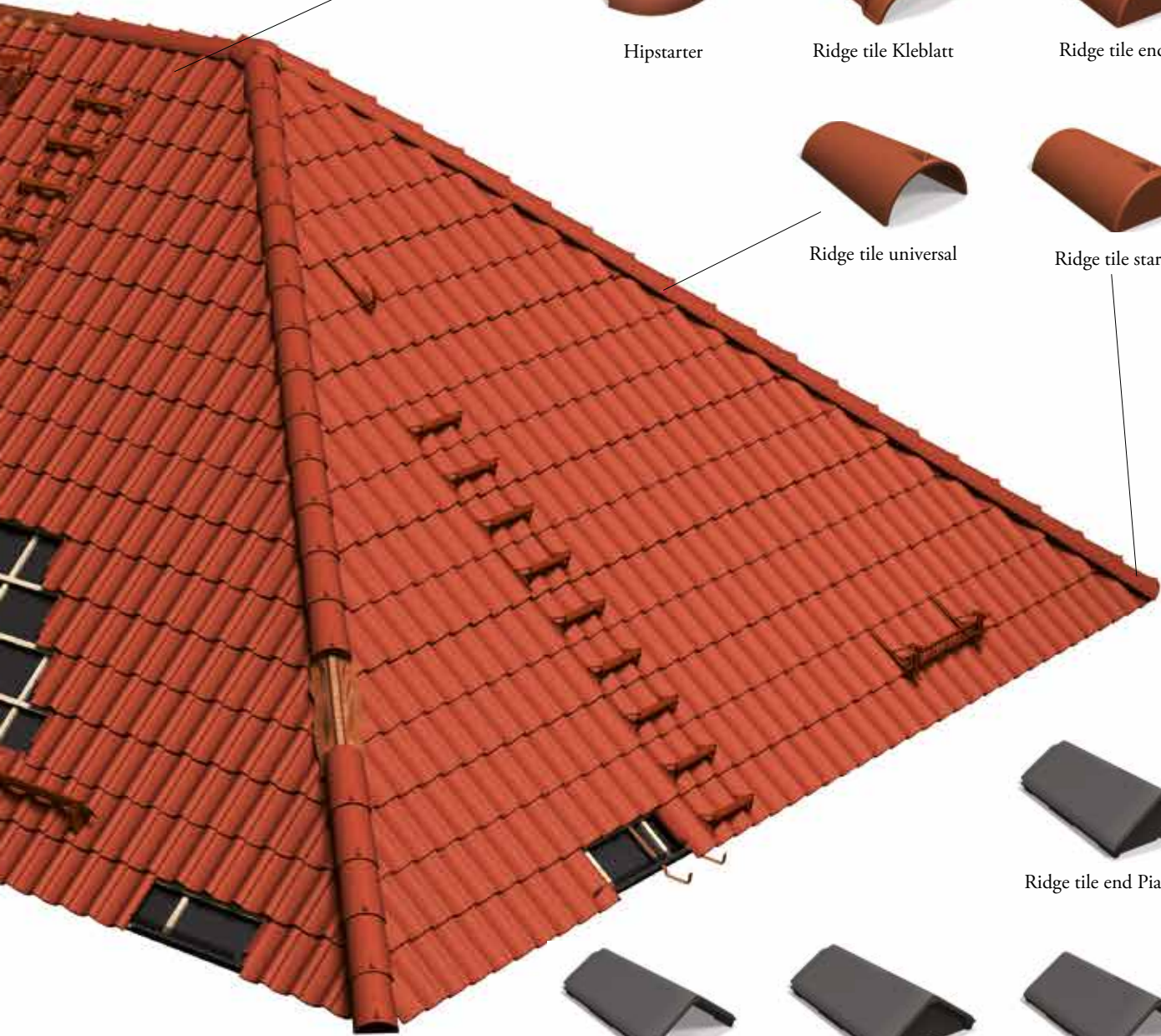
Ridge tile end



Ridge tile universal



Ridge tile starter



Ridge tile end Piano



Ridge tile Piano



Ridge tile starter Piano



Ridge tile double rim Piano



Euro tile Piano



3-way apex Piano



Soil pipe ventilation Piano



Half tile Piano



BENDERS VENTILATION/LEAD THROUGH



Soil pipe ventilation concrete Palema

Complete soil pipe ventilator, in concrete, that matches the tile's colour. Fits 75 and 110 mm pipes. Base plate required with light-duty subroof.



Soil pipe ventilation concrete Carisma

Complete soil pipe ventilator, in concrete, that matches the tile's colour. Fits 75 and 110 mm pipes. Base plate required with light-duty subroof.



Soil pipe ventilation in plate

Complete soil pipe ventilator in metal. Adjustable for roof pitches up to 45°. Fits 75 and 110 mm pipes. Base plate required with light-duty subroof.



Soil pipe ventilation clay Hansa

Complete soil pipe ventilator, in clay, that matches the tile's colour. Fits 100 and 125 mm pipes.



Soil pipe ventilation clay Tvilling

Complete soil pipe ventilator, in clay, that matches the tile's colour. Fits 100 and 125 mm pipes.



Soil pipe ventilation clay Piano

Complete soil pipe ventilator, in clay, that matches the tile's colour. Fits 100 and 125 mm pipes.



Lead-through tile concrete Palema

Complete tile with black rubber sleeve coupling for 20 – 50 mm inlet/outlet. Base plate required with light-duty subroof.



Lead-through tile concrete Carisma

Complete tile with black rubber sleeve coupling for 20 – 50 mm inlet/outlet. Base plate required with light-duty subroof.



Lead-through tile in plate

Complete metal tile with separate black rubber sleeve coupling for 30 – 60 mm in-let/outlet. Can be drilled anywhere. Base plate required with light-duty subroof.



Ventilation hood isolated single duct

Ø 125/160 mm. Complete, insulated hood for mechanical ventilation (e.g. certain kitchen hoods). Adjustable up to 45°. Base plate required with light-duty subroof. Includes adapter.



Loft ventilator Palema

Complete natural ventilation hood for unfurnished attics. Base plate required with light-duty subroof.



Sky-vent Palema

Complete natural ventilation hood for furnished attics. Fits 75 and 110 mm pipes. Base plate required with light-duty subroof.



Riffi

For secure mounting of hoods where there is a light-duty subroof. Fit on the attic side.



Reinforcement mounting

For secure mounting of hoods where there is a light-duty subroof. Fit on the attic side.

This is just a selection from our wide range. For further details of each product, see the information sheets on www.benders.se.

BENDERS ROOF SAFETY



Attachment rail

Used with linked roof steps To be fitted across two rafters.



Linked safety step

Simple fitting of fixed roof ladders on all roofs. Approved for mounting of safety lines. Fitted using a mounting rail.



Safety step

Step for accessing roofs where the façade height is less than 4 metres. Hooks onto tiles/tile battens.



Safety step Kombi

Fits all profiles (both concrete and clay). Adjustable width. Used where façade height is max. 4 metres. Replaces fixed ladders.



Ladder protector

Prevents ladders slipping. Fits all roofs. Complete with mounting screws.



Snowcather

Protection from snow slides. Used where façade height is less than 4 metres. Simple, rapid fitting.



Snowguards

Simple hook for protection from rapid snow slides. Hooks easily around a roof tile.



Safety walkway

For safely accessing ridges and roof service points.



Safety hook

Safety line mounting system for fitting to load-bearing structures.



Snowcatcher 3-pipe entrance

Provides protection from snow slides and can be used as a foot support where the façade height is large. 3-pipe guard. Also for use above entrances (fitted more closely with more brackets).



Ridge- and eave railing

For attaching safety lines at ridges and eaves.



Roof hatch safety rail

Protection from falling when climbing out of a roof hatch.



Roof hatch

Condensation insulated hatch. Daylight opening, 600 x 900 mm. Includes transition flashing.



Snowcather Alpha

Provides protection from snow slides. Hooks onto a roof tile with no other fitting required. Available for each profile.



Snowcather Beta

Provides protection from snow slides. Hooks onto a roof tile with no other fitting required. The Beta snow slide hook is universal.



Foot plate

Mounting of roof safety with tongue and groove boarding and min. 25 x 38 mm batten. Adjustable.



Foot plate Carisma/Piano

Mounting of roof safety with Carisma tiles, tongue and groove boarding and min. 25 x 38 mm batten.



Safety step mount

Mounting of roof safety with light-duty subroof and min 45 x 70 mm tile batten. Not adjustable. Available for both single and double pantiles.

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BENDERS SEALING/AIRING



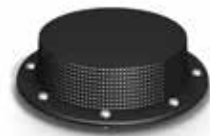
Ridge roll

Seals and ventilates hips and ridges. Available in 300 and 370 mm widths (5 metres per roll).



Venti ridge

Seals and ventilates ridges. Length coverage, 0.9 m. Per ridge linear metre, 2.2 units. For double-pantile concrete roof tiles only.



Underlay ventilator Doldis

Ventilates "hidden" spaces beneath the subroof. Complete with premounted screws.



Wall connector

For sealing at joins with walls (single-pitch roofs and similar). Sticky coating along edges of the underside. 300 mm x 5 m.



Concrete glue PL800

For fitting small pieces of tile when cutting at valleys and hips.



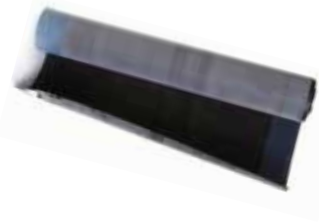
Ridge sealing strip

Strip for sealing between ridge tiles.



Chimney roll Premium Flex

Easy-to-fit EPDM flashing with full sticky coating on the reverse and internal aluminium mesh reinforcement. Widths, 300 mm and 450 mm. Length, 5 metres.



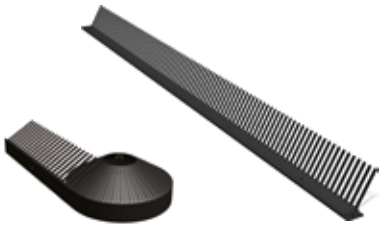
BTS underlay roofing

Diffusion proof subroof designed for laying on tongue and groove boarding that is then covered by roof tiles.



Corrugated sheet

Aluminium; dimensions, 600 x 1,200 mm. For sealing intricate structures.



Bird stopper

Seals and prevents birds building nests in eaves. 1 or 5 metres.



Ventilated bird stopper

Seals and prevents birds building nests in eaves. Increases eaves height by 25 mm. 1 metre.



Ventilated eave Carisma

Increases eaves height by 25 mm. 1 metre.



Valley isolation strip

Seals (for example) valleys and cap plates. Edges have sticky coating for easy fitting. 1 metre.



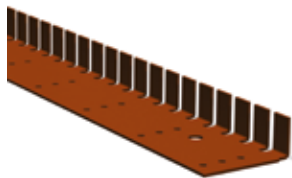
Sealing block Carisma

Used to seal gables. To be bonded in dry weather.



Paperboard glue

Roofing felt adhesive is used to bond subroofing at, for example, joints.



Roof valley clip

Used to minimise valley damage, especially in areas with lots of snow. Mounted as a support (against the line) using sawn pieces cut to fit.



Ridge bracket Carisma

Lifts Carisma ridge tiles for ventilation and also seals joints. Used when laying ridge tiles edge to edge.



Concealed draining Carisma

Used against barge boards to ensure water runs off.

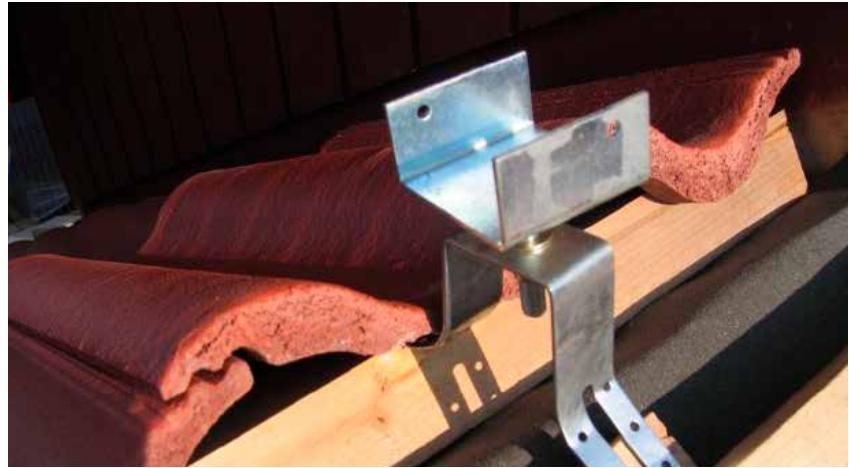
This is just a selection from our wide range. For further details of each product, see the information sheets on www.benders.se.

BENDERS MOUNTING



Adjustable ridge batten holder

Replaces ridge plank. Height adjustable for rapid fitting.



Ridge tile clip concrete

For fastening ridge tiles where exposed to high winds. Locks the ridge tile at both ends.



Roof tile clip

For fastening roof tiles. Locks bottom edge of an overlapping tile. Always used with Exklusiv roof tiles.



Eave clip

100 per packet. Fastens tiles in difficult positions at eaves.



Palema Easy Clip

Easy-to-fit tile clip; no tools needed. Can be prefitted to batten. Available for 25 mm and 50 mm battens.



Ridge tile clip clay

For laying Hansa, Tvilling and Piano ridge tiles.



Diagonal clip

For fastening interlocking clay tiles. Available for 25 mm and 45 mm battens.



Side interlocking staple

For fastening interlocking clay tiles.



Roof tile nails

For fastening roof tiles. Annular ring shank nail, 3.1 x 75 mm.



Tile screw

For ridge tiles use: 4.2 x 60 mm ridge screw; 4.2 x 60 mm ridge screw with rubber washer; 4.5 x 80 mm long ridge screw with rubber washer. For roof tiles use: Palema 4.8 x 75 mm screw; Carisma 4.5 x 50 mm screw.

BENDERS ADDITIONAL ACCESSORIES



Concrete roof decorations

A cockerel, elk or sleepwalker to decorate your roof. Complete with mount for fastening to a ridge tile. For concrete roof tiles only.



Vane

Complete with mount. Black lacquered.



Tak & Markrent

Cleaning agent for concrete and clay products. Environment-friendly and easy to apply.



Benderit improvement paint

Top coating for concrete roof tiles.



Topcoating clay

Touch-up paint for clay roof tiles.

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We support:



BENDERS | GB | 2017 - 05

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