

NATURE POSITIVE JOURNEY

Let's grow our business and our environment

world of **wienerberger**





wienerberger

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The loss of biodiversity over the past 40 years has been unprecedented, and we are determined to counteract this development with our Biodiversity Program.“





Heimo Scheuch
CEO Wienerberger AG

Let's grow our business and our environment

Biodiversity loss is racing up the agendas of governments, financial institutions, businesses and local initiatives. Nature is no longer only a concern for ecologists. There is a growing realization that companies, economies, and our whole society depends on the thriving of nature and biodiversity¹. Nature-based solutions should make cities greener, healthier and more climate resilient². wienerberger, a leading international provider of building material and infrastructure solutions, has a responsibility in creating a more sustainable environment and is making every effort to contribute to a healthy global ecosystem.

This is why wienerberger has **expanded its activities on biodiversity**.

1) See, for example, the *Nature Economy Report Series (2020)* by World Economic Forum, BCG's report *The Biodiversity Crisis Is a Business Crisis (2021)* and the Dasgupta Review on *The Economics of Biodiversity (2021)*
2) *Geneva Declaration of Mayors (2020)*, *BiodiverCities (2021)*



”

With our Biodiversity Program, we actively contribute towards ensuring that future generations have the same opportunities as we have today.“

Heimo Scheuch

CEO Wienerberger AG

A global goal for nature

At the COP15, UN Biodiversity Conference in Montreal (Dec. 2022), the Global Biodiversity Framework was agreed upon³⁾. This guidance sets goals towards the global goal for nature: “Zero Net Loss of Nature from 2020, Net Positive by 2030, and Full Recovery by 2050⁴⁾”. Only by achieving this, together with financial institutions, NGO’s, governments and businesses, we can secure a sustainable future now and for the next generations.

Cities and urban developments (including industries) are a key element in the battle against climate change and biodiversity loss. By designing, building and managing them to be nature-positive, the connection with nature is re-established and people and nature can thrive.

This can be achieved by integrating nature into the urban infrastructure and redirecting the footprint.⁵⁾

This brochure will explain how wienerberger incorporates biodiversity on all its production sites and will give an insight in current products and system solutions that can be used to achieve a more nature-positive footprint in the built environment. As of 2024 we will be able to provide the knowhow and the digital process behind it in our value chain to increase the positive impact.

3) UNEP, UN Biodiversity Conference (COP 15) (2022) // 4) same as before // 5) WEF, nature-positive municipalities (2021)





Expanding on biodiversity

Biodiversity is recognized as one of the strategic pillars in wienerberger's Sustainability Program.

Extracting resources

wienerberger owns over 200 quarries throughout Europe, North-America and India and holds a long track record of monitoring and conserving biodiversity in its clay pits. The subsequent use of a depleted clay pit is, as a rule, defined by the competent public authority.

wienerberger recultivates and renatures clay extraction sites as much as possible or makes them available for the imposed use. As depleted clay pits provide ideal conditions to attract rare plants and animals, wienerberger restores them as much as possible to biodiversity-rich nature areas, like ... Dutch rivers. Also the conditions during the extraction phase create valuable habitats and this is taken into account when planning the extractions (e.g. breeding season, leaving puddles for amphibians and steep walls for birds).

Production process and sites

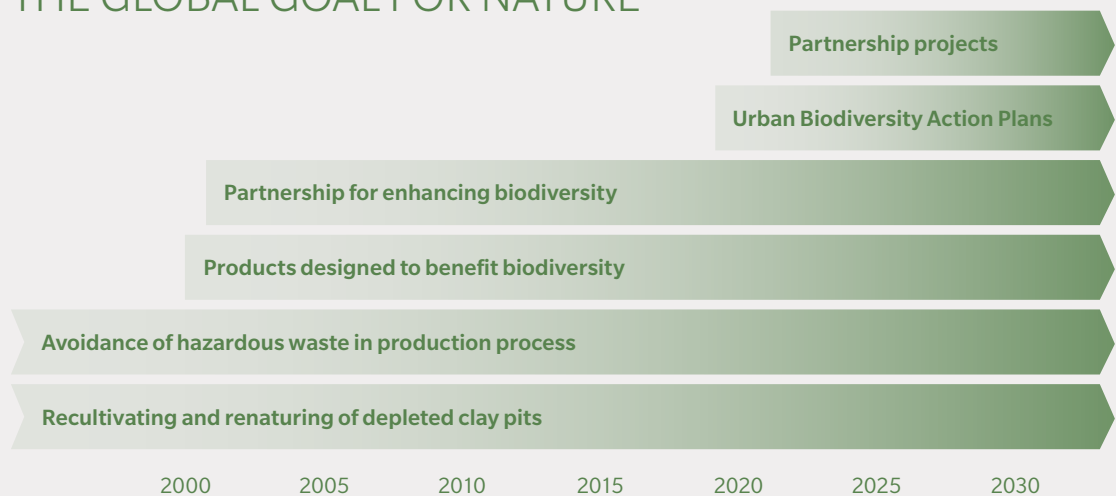
When it comes to wienerberger's own production sites, ongoing activities benefitting biodiversity include avoiding hazardous waste in the production process and partnerships for enhancing biodiversity and restorative measures on its assets (since 2002).

wienerberger concluded the implementation of a Biodiversity Action Plan on all its production locations worldwide. Based on this Action Plan, different measures are already installed on the production locations that boost the urban biodiversity. Together with the trained Biodiversity Ambassadors, we will be able to demonstrate this increase in the local fauna and flora.





STEPS TOWARDS OUR NATURE POSITIVE JOURNEY IN ACCORDANCE WITH THE GLOBAL GOAL FOR NATURE



Enhancing biodiversity towards customers

Related to the downstream side of its value chain, wienerberger is developing biodiversity-enhancing products (such as nesting boxes and water permeable paving).

This brochure provides information for, clients and partners in the value chain and other stakeholders with whom wienerberger cooperates. It explains its approach to the creation of biodiversity and highlights various products that augment biodiversity in the built environment.



Martina Macpherson

*Head of ESG Strategy ODDO BHF
Asset Management GmbH*

“At ODDO BHF AM, our active ownership strategy focuses on the climate, ecological and just transition. We continuously analyze, monitor and engage with portfolio companies, and the broader market, to identify corporate best in class biodiversity policies, practices and processes.

We congratulate wienerberger on the completion of its biodiversity action plan. It provides a nature-based concept and concrete actions on how to green and rewild our cities supporting a nature-positive, regenerative and climate resilient transition.

Nature-based solutions are a fundamental concept to enable the protection, preservation and restoration of the biological ecosystem on which our planet, our society, our species and ultimately our global economies and financial markets directly depend.”

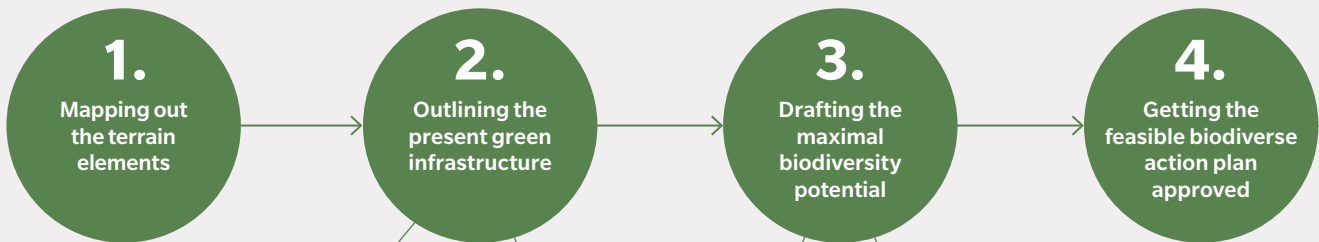




Biodiversity action plans in six steps

wienerberger follows a six-step approach to drafting Biodiversity Action Plans for its urban production locations.

- › To start with, the terrain elements on the site are mapped using GIS.
- › Secondly, the actual current green infrastructure is outlined.
- › Together with the support of wienerberger's biodiversity specialists, the maximum biodiversity potential is drafted on top of these maps.
- › Taking into account budgetary and practical considerations, the feasible biodiverse action plan is approved by the local management team, ensuring true commitment.
- › Implementations of these biodiversity measures can start hereafter, together with a local (ecological) garden maintenance company.
- › The last step in the process is to analyze the effectiveness of the applied measures through monitoring.





For it to be scientifically rigorous, a baseline monitoring is carried out in step 2 by wienerberger’s biodiversity specialists together with an independent, ecological partner. The species and the quantities of birds, butterflies and bees/bumblebees/hoverflies are recorded.

These groups of species are a good proxy indicator for habitat quality and allow easy and pragmatic monitoring. Once the biodiversity measures have been implemented, trained employees repeat the monitoring of the species and quantities of birds, butterflies and bees/bumblebees/hoverflies three times a year.

By involving these employees as biodiversity ambassadors, the biodiversity action plan becomes a story which can be shared within wienerberger and with local communities.

This six-step process is the company’s standard for drafting Biodiversity Action Plans and allows wienerberger to enrich its locations and deliver biodiversity measures in a consistent way. The Biodiversity Action Plans offer a pragmatic contribution to increasing the number of species of flora and fauna on these urban production sites. This brings wienerberger one step closer in the journey towards nature positive.

5.
Starting
with the imple-
mentations

6.
Monitoring
the
effectiveness





”

The biodiversity action plans become a story by involving employees, local nature organizations and communities. wienerberger tries to inspire and be inspired. “

Design principles for maximizing biodiversity

The following 15 design principles will guide the drafting and implementation of Biodiversity Action Plans at wienerberger's urban production locations, regardless of the site design and intended measures. They help to maximize biodiversity and climate adaptation in a production context, and can be adapted to every urban location, even your private garden. The design principles relate to four topics: vegetation and flora, water and soil management, people and 'fit for context'.

Vegetation

1. Variation in planting

By using a variety of species and structure in planting, habitat and food are created for different animal species. In addition, a diverse ecosystem is more resilient to external influences, such as weather conditions and pests.

2. Use of native species

Native plants provide food for native fauna. Therefore, when planting, use mainly native species rather than exotics or cultivated varieties. Assure that the planted species are appropriate to the abiotic factors of the location.

3. Flowering and fruit-bearing plants

Flowery and fruit-bearing plants provide food for various species of insects, birds and mammals. Do not use cultivated varieties or commercial seed mixes because they are grown for beautiful flowers, but therefore contain little or no nectar, pollen or fruits. With this, they attract fauna, but do not provide food.

4. Connecting green elements

Create corridors by connecting green elements as much as possible. Green stepping stones make it easier for animal species to move through areas and meet other individuals.

5. Leaving dead wood

Dead wood is a food source for all kinds of fauna. Leaving dead wood in safe places attracts species such as beetles, butterflies, and birds.

6. Ecological management

Increasing plant diversity only makes sense if ecological management is carried out. In grasslands, for example, this means: mowing later (waiting until after flowering), mowing and extraction, no use of pesticides, leaving parts, etc.

Water and soil

7. Reduce hardening

There are very few plants that can grow on hardened surfaces. In addition, pavement causes heat stress and forms a break in green corridors or connections. Reducing the pavement on a site benefits biodiversity and climate adaptation.

8. Water-permeable pavement

Infiltration holes in pavements that do not carry heavy traffic or the construction of grow-through stones ensure that water can drain into the soil and gives plants the opportunity to grow through the pavement. This also prevents flooding, water damage and decreases peak runoff. Semmelrock provides a range of products that are water permeable.



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Enhancing the company’s construction sites for biodiversity is ground-breaking in itself, however, involving staff in the monitoring of these improvements is too. This will help ensure that biodiversity is embedded into the culture of the company. Construction companies, such as wienerberger, often have land that is inherently good for biodiversity. Enhancing such land for nature and monitoring can help lead the way for others such companies to follow.

“

Dusty Gedge

Biodiversity Professional, President European Federation of Green roof and wall Associations

9. Collecting, infiltrating and using water

By collecting water, flooding is prevented in case of heavy rainfall. This water can be used in drier periods to irrigate existing vegetation (such as planters). This in turn benefits nature. Pipelife can provide the necessary products, designs and know-how.

10. Healthy soil

A healthy soil is important for the vegetation and therefore for the fauna. In order to keep the soil healthy, leakage of harmful substances into the soil must be prevented. Furthermore, the soil can be covered with plants where possible, to prevent erosion by wind and water.

People

11. Involvement of employees and local nature organisations

By letting employees think about the biodiversity measures at their work location and showing them internal best practices projects, they will feel more involved, ownership increases and they will become ambassadors. Together with local nature organisations, they can take on (part of) the construction and maintenance. A break and lunch spot can be designed with green elements to promote the value of biodiversity.

12. Use your own materials

By using own manpower, hours, machines and materials from the whole wienerberger group, costs can be reduced and the employees experience their biodiverse creations.

Fit for context

13. Safety

The safety and production context must be guaranteed on the site. Therefore, the biodiversity action plan should always be approved by the local management and safety manager. The visibility for drivers of mobile work equipment (forklifts, bulls, semi-trailers, etc.) must be guaranteed at all times. In order to prevent fire danger, tall trees should be planted 10 metres from buildings. Animal-friendly fencing should be placed around waterbodies and any other potentially dangerous areas.

14. Legal context

Planned biodiversity measures should fit into the local and national legislation. For example, permission is sometimes needed to change an area’s relief or to prune or fell trees.

15. Local/regional ecosystem

Production sites do not exist in isolation, but are embedded in a landscape. Planned biodiversity measures should fit into the local and regional ecosystem. Before designing measures, check out which (native) species have been observed in the surroundings of the site, and try to cater to their needs.





Measures for biodiversity on urban sites

In its internal **Biodiversity Measures Catalogue**, wienerberger describes 31 concrete measures that can be taken to enhance biodiversity on its production sites, including guidance on design, costs, species and maintenance. The infographic on the next page highlights some of these measures, and shows which fauna groups are expected to benefit most.

As a provider of building material and infrastructure solutions, the greening of its production sites offers wienerberger an opportunity to use its own products. Production locations will be used as living labs to develop new products and monitor their performance in enhancing urban biodiversity and climate adaptation.

This infographic shows measures on a fictive production site. For every measure, the infographic shows which fauna groups benefit most. Furthermore, examples of co-benefits are shown (e.g. water infiltration, fruit harvest, aesthetics).



Birds



Bats



Other mammals



Amphibians and reptiles



Butterflies and bees



Other insects

Green roofs and façades



+ cooling effect
+ increases solar panel efficiency

Climbing plants along fencing




**Single trees/
tree lane**



+ cooling effect
+ shade




Orchard




+ fruit harvest

Dead branch hedge



Pond




+ water infiltration

Nest boxes/insect hotel



Flowering/perennial plants in borders



+ aesthetics





Eco-habitat products and solutions

Because of the position of leading provider of wall, roof, pipes and other solutions for the building envelope, wienerberger is able to provide their customers with a whole suite of added value systems and services, also for biodiversity. The Eco-habitat products are integrated wildlife boxes in buildings. These are designed with the help of specialist ecological consultants to provide durable and discrete habitats for birds, bats, bees and other insects. This increases the biodiversity value of the project and complements eco-friendly building design.

The wildlife boxes are built into the fabric of the building using the same masonry expanding and retracting just as the building would, making them durable and long lasting. They can be supplied to either match seamlessly into the fabric of your building or produced to a contrasting colour to encourage wildlife habitation. Our wildlife boxes can be faced in almost any brick type, stone finish or suitable for render which offers plenty of installation options. As such they make a pragmatic contribution to increasing the size of species of flora and fauna.

wienerberger's eco-habitat products are designed to seamlessly integrate into the façade of the building and fitted during the build stage or fitted retrospectively to existing buildings. Some of the eco-habitat products can be used as stand-alone elements or even used as a temporary home for wildlife while renovating the existing building.

The wildlife boxes can be adapted and suit different aesthetic needs or sizes. All the products should be placed correctly according to weather characteristics and adapted to specific species. The eco-habitat products ensure a habitat for the nesting of wildlife if the surroundings provide sufficient food and shelter.

For more information about possibilities and product specifics, contact biodiversity@wienerberger.com or your local wienerberger product supplier.





Bat Boxes

Wall systems

Bat boxes are solid boxes made of insulating concrete that provide an internal roost space. Because of the facing brick finish, they are ready to be integrated into the fabric of a building as it is built or renovated. Suitable for most species commonly found, the single chambered unit features an integrated V system to increase the surface for bats to roost against, whilst allowing freedom of movement.

Bat Box

Bat boxes are made in various sizes and can be finished with any facing brick to ensure an aesthetically pleasing finish. The layout can be either stretcher bond or stack bond facing brick detail, but the internal configuration stays the same.

Maternity bat box

Aesthetically this bat box appears no different than the other bat boxes but internally it accommodates the bats during the breeding season. The maternity bat box provides only one access point that is larger and enhances the inner workings for ease of movement. These changes provide comfortable roost space for the bats.

Retro-fitted bat box and Temporary bat box

An existing building can be equipped with an externally mounted bat box to provide a habitat for bats. If an existing building is being renovated or demolished a temporary bat roost can be provided, pending the renovation/new building integrated bat boxes. The external bat box is made out of concrete and the standalone habitat bat box from high quality plywood (19mm). Both are used by crevice dwelling bats only.

Roof systems

Bat access tiles are specifically designed to provide the right kind of space to protect bats from the elements in their new habitat. This is done by offering a simple way to give bats access through small gaps whilst preventing rainwater ingress to your building. Depending on the aesthetics of the (existing) roof this tile can be made in slate and plastic or in clay.



WALL SYSTEMS

Habat Premium Bat Box

- › **Dimensions** 440mm wide
440mm high
102mm deep
- › **Material** Concrete and facing brick



Habat Bat Box & Habat Maternity Bat Box

- › **Dimensions** 215mm wide
440mm high
102mm deep
- › **Material** Concrete and facing brick



Habat Three Course Bat Box

- › **Dimensions** 215mm wide
215mm high
102mm deep
- › **Material** Concrete and facing brick



Habat Four Course Bat Box

- › **Dimensions** 215mm wide
290mm high
102mm deep
- › **Material** Concrete and facing brick





Habat Rocket Box

- › **Dimensions** 300mm wide
1200mm high
300mm deep
- › **Material** 19mm high quality plywood



Habat Concrete External Mounted Box

- › **Dimensions** 215mm wide
450mm high
102.5mm deep
- › **Material** Concrete



ROOF SYSTEMS

Habat Bat Access Slate Tile

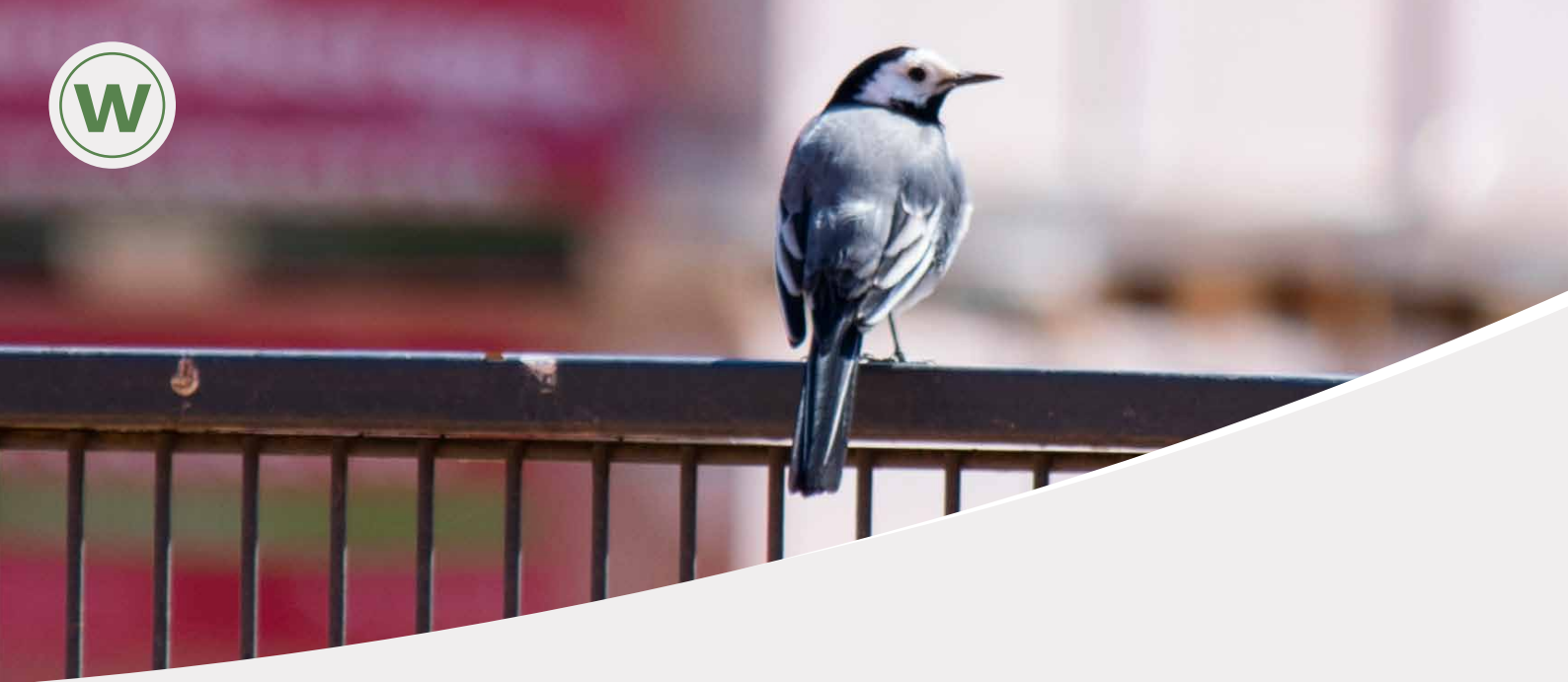
- › **Dimensions** 370mm wide
500mm high
60mm deep
- › **Material** Slate and plastic



Habat Bat Access Clay Tile

- › **Dimensions** Custom made by order
- › **Material** Clay





Bird Boxes

Wall systems

Bird boxes can be an attractive feature for your building as well as providing the best possible artificial accommodation for a variety of different birds. They integrate in new buildings or can be fitted retrospectively or build to order. The bird boxes are constructed using insulating concrete blocks and provide an internal roost space with a facing brick finish. The access holes can have different sizes depending on the type of bird the box is for.

Roof systems

The bird access tiles prevent water to pass into the building but provide a safe habitat for birds to nest in. the access hole is specific to different species and the tile used can be matched to the already existing roof tiles.





WALL SYSTEMS REDSTARTS & ROBINS

Habibat Premium Redstart Nest Box

- › **Dimensions** 440mm wide
215mm high
150mm deep
- › **Material** Concrete plus facing brick



Habibat Redstart Nest Box

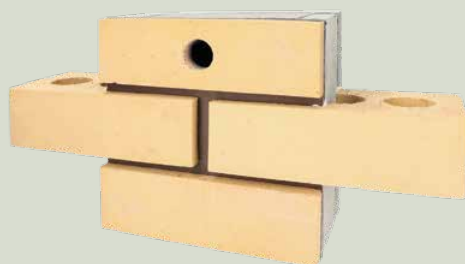
- › **Dimensions** 215mm wide
215mm high
150mm deep
- › **Material** Concrete plus facing brick



WALL SYSTEMS TITS & WRENS

Habibat Premium Tits Nest Box

- › **Dimensions** 440mm wide
215mm high
120mm deep
- › **Material** Concrete plus facing brick



Habibat Tits Nest Box

- › **Dimensions** 215mm wide
215mm high
120mm deep
- › **Material** Concrete plus facing brick



WALL SYSTEMS SWIFTS

Habibat Premium Swift Box

- › **Dimensions** 552mm wide
140mm high
200mm deep
- › **Material** Concrete plus facing brick



Habibat Swift Box

- › **Dimensions** 328mm wide
140mm high
200mm deep
- › **Material** Concrete plus facing brick



Habibat Swift Brick

- › **Dimensions** 215mm wide
65mm high
275mm deep
- › **Material** Concrete plus facing brick



WALL SYSTEMS STARLINGS

Habibat Premium Starling Nest Box

- › **Dimensions** 440mm wide
215mm high
150mm deep
- › **Material** Concrete plus facing brick



Habibat Starling Nest Box

- › **Dimensions** 215mm wide
215mm high
150mm deep
- › **Material** Concrete plus facing brick





WALL SYSTEMS SPARROWS

Habibat Premium Sparrow Nest Box

- › **Dimensions** 440mm wide
215mm high
150mm deep
- › **Material** Concrete plus facing brick



Habibat Terraced Sparrow Box

- › **Dimensions** 665mm wide
215mm high
150mm deep
- › **Material** Concrete plus facing brick



Habibat Sparrow Nest Box

- › **Dimensions** 215mm wide
215mm high
150mm deep
- › **Material** Concrete plus facing brick



ROOF SYSTEMS

Swift Roof Tile

(Sparrow Roof Tiles are also available)

- › **Dimensions** 261mm wide
371mm high
93mm deep
- › **Material** Clay





Insect Bricks

The insect bricks can be made to correspond to any brick format and therefore can be easily placed as a standard brick. Different holes sizes are used to provide much needed nesting spaces for different insect species. Insects are an important food source for other animals like birds and bats. Some are essential pollinators for flowers and crops and others are useful workers when it comes to decomposition and giving us nutrient rich soil. Especially here, it is recommended to have sufficient food and shelter sources available in the surroundings because the foraging area of these insects is sometimes limited.

Habitat Solitary bee brick

The cavities in the solitary bee brick are 90mm deep which reduces the risk of predation and also ensures bees and their larvae are contained entirely within the specifically designed brick. Solitary bees lay their eggs in these cavities before sealing the entrance with mud and/or chewed-up vegetation. The offspring emerge in spring and the cycle repeats.

Bumble bee box

The Bumble bee box provides a dry and dark space for the entire colony to live in. They can be installed in the same way as standard masonry. The entrance hole does not travel through the entire brick meaning there is no disruption to the cavity wall.

Bug brick

The bug bricks have different sizes of access holes and have dark nooks and crannies in which insects like to explore.

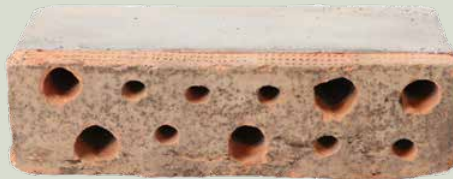




BUG BRICK

Bug Brick

- › **Dimensions** 215mm wide
65mm high
102.5 mm deep
- › **Material** Concrete plus facing brick



BEE BRICK

Habitat Solitary Bee Brick

- › **Dimensions** 215mm wide
65mm high
103mm deep
- › **Material** Concrete plus facing brick

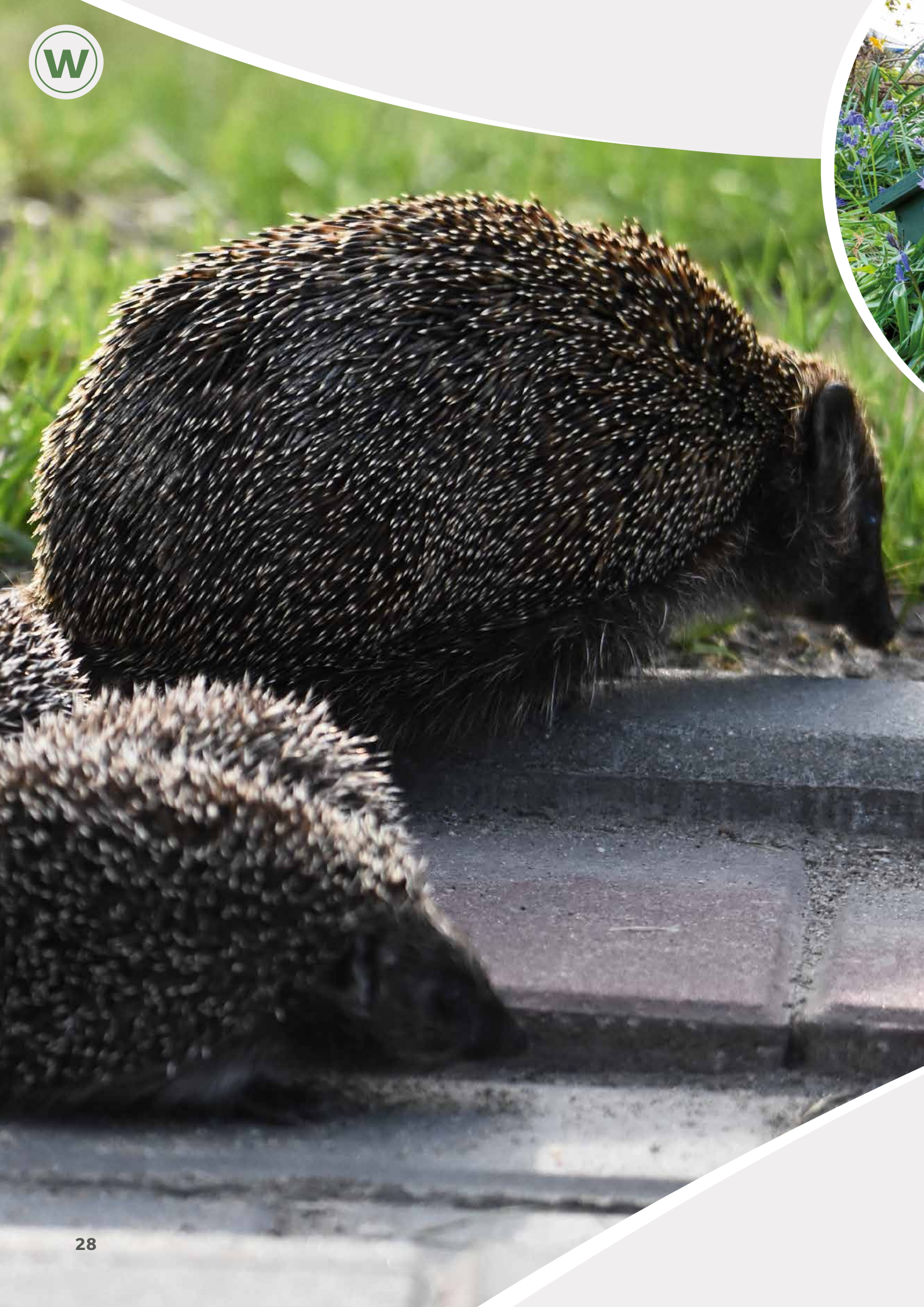


BUMBLEBEE BRICK

Habitat Bumble Bee Box

- › **Dimensions** 215mm wide
150mm high
102.5mm deep
- › **Material** Concrete plus facing brick







Hedgehog Boxes

Hedgehogs like a quiet, shady, sheltered and dry place to nest with the protection of vegetation around. This hedgehog box provides them a safe place to shelter and hibernate through the winter. An interior baffle system ensures that predators cannot enter.

Habitat Hedgehog Box

- › **Dimensions** 490mm wide
245mm high
370mm deep
- › **Material** Plywood from FSC sustainable source



”

All businesses have a significant impact and dependency on nature. When a business puts a biodiversity prioritization and plan into action, it is future-proofing its investment and profitability. It is great to see more and more corporates engaging on this. “

Akanksha Khatri

Head, Nature and Biodiversity, World Economic Forum





Next steps

By 2023, wienerberger will have created a Biodiversity Action Plan for all its production locations. The implementation of these plans will be an important step in the journey towards nature positive. The knowledge and experience gained along the way will put wienerberger in a strong position to start engaging with its suppliers and customers on the biodiversity topic. As of 2022, wienerberger asks its suppliers to disclose the CO₂-footprint of their materials and their performance in the area of circular economy. After 2023, additional supplier engagement will focus on reducing negative biodiversity impacts throughout the value chain and will continue improving its production locations according to the Biodiversity Action Plans.

The development of new products and system solutions is another area for biodiversity action. The products and system solutions, seen in this brochure, and the newly developed will not only be fully re-usable and/or recyclable in the coming decade, but should also help to make cities greener, healthier and more resilient to climate change. This creates room for positive biodiversity impact. Finally, wienerberger will create partnerships for biodiversity conservation in order to compensate any residual negative biodiversity impacts its production locations have. The combination of on-site, upstream and downstream biodiversity action should allow wienerberger to realise its journey towards nature positive.

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Media owner (publisher)

Wienerberger AG
A-1100 Wien, Wienerbergerplatz 1
T +43 1 601 92 0

If you have questions or want to cooperate in a specific project, don't hesitate to contact us biodiversity@wienerberger.com or your local wienerberger facility. We look forward in working together and exchanging information to make the planet a better place for biodiversity and people.

Mr. Mark van Loon
Ms. Rena De Mey
E-mail address: biodiversity@wienerberger.com
Telephone number: +32 479 88 38 76

Creative support

DA*DARUM GmbH
E-mail address: office@dadarum.at

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