



Villeroy & Boch
1748

 **vilbo***garden*

There's no place like the great outdoors!

When the sun is shining, you can enjoy life in the fresh air – preferably quite relaxed and in a good mood in your own, private oasis of wellness. A green home designed creatively and with attention to detail is truly a feel-good place, offering additional space for rest and comfort, particularly in the warmer times of the year.

Whether its a balcony or a terrace, a garden path or an entrance, a driveway or a carport – with **vilbogarden** by Villeroy & Boch Tiles, the most beautiful designs around the home are sure to be a great success. High-quality **vilbostone** porcelain stoneware tiles combine the practical properties of ceramics with selected trend designs to create an attractive exterior.

Produced using state-of-the-art manufacturing technology, all **vilbogarden** ranges are light- and colour-fast and weather-resistant as well. That's why, even after many years of exposure to the elements, they still look just as good as they did on the first day. Without any need for special cleaning or upkeep, and without subsequent impregnation.

vilbogarden offers a suitable solution for every outdoor concept. The robust tiles are suitable for conventional or loose laying on a range of foundations. In thicknesses of 20 mm and 30 mm, they are ready to meet all the demands of outdoor use.



 44 kg/m²

 70 kg/m²



With rectified edges cut with millimetre precision, the 20-mm tiles permit installation with narrow joints to create a fine and stylish appearance.



With their slightly rounded edge, the 30-mm tiles underscore their robust and authentic character and create a natural joint pattern.



The advantages of



MATERIAL

vilbostone, high-quality, scratch- and abrasion-proof, solid porcelain stoneware, one-piece with a **thickness of 20 and 30 mm**.



FROST-PROOF

Frost-proof and weather-resistant when laid professionally.



COLOUR-FAST

No changes in colour as a result of sunlight.



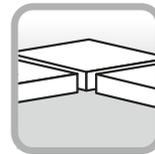
NON-SLIP

Non-slip class R11/B for outdoor areas.



ACCESSIBILITY TO VEHICLES

If installed professionally in **bonded construction**, these tiles can be driven over by a car, SUV or truck with a total weight of up to 7.5 tonnes.



LAYING

Conventional or loose laying on a range of foundations.



EASY TO CLEAN

Surface-sealed in the factory with **vilbostoneplus** to prevent stains.



STYLE

Attractive designs for balconies, terraces, pathways and garden paths, entrances, driveways and carports.

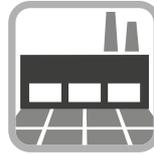


Additional advantages for 30 mm tiles



ACCESSIBILITY TO VEHICLES

Also suitable for vehicular traffic in **unbonded form**, when installed in a proper and correct manner.



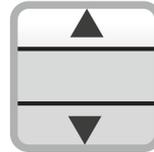
INDUSTRY

Suitable for heavy-duty industrial and commercial applications.



STABILITY

Tiles lie more firmly and with greater weight in the laying bed and are sturdy on less-compact substrates, too.



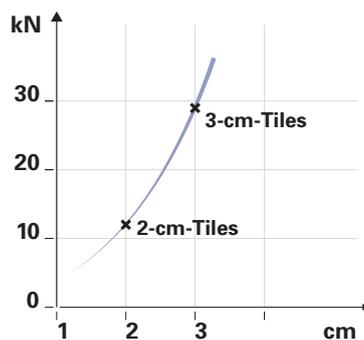
MASS

With 50% more mass, extremely robust and safe, **even with with loose or non-bonded laying systems**.



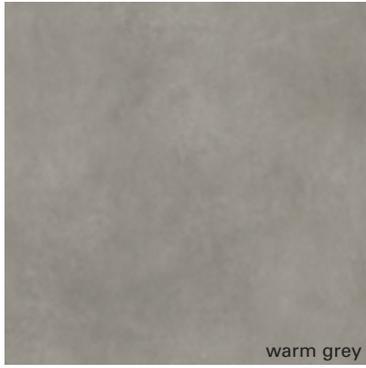
BREAKING STRENGTH

Extremely durable and highly shatter-proof, thanks to 2.5 times more the breaking strength of ceramics that are 20 mm thick.





silver grey



warm grey



dark grey



MEMPHIS GARDEN

– *Authentic concrete character*

Minimalist design with charisma – with its appearance inspired by purist facing concrete, the MEMPHIS GARDEN range adds a vivid touch to modern outdoor design scenarios. The three harmonious grey variants featuring delicate plays of colour and a subtle relief conjure up an elegant minimalism in private and public areas.





milk



caramel



walnut



OAK LINE GARDEN



OAK LINE GARDEN

– *Soothing natural radiance*

Full of tranquillity and comfort, the OAK LINE GARDEN range interprets a soft oak texture in porcelain stoneware. The light shades of milk and caramel are fine and delicate while the multi-colour walnut radiates comforting warmth. Whether the furnishings have a fresh, Scandinavian touch or feature Mediterranean flair, this authentic design conveys a feeling of well-being.







graphite



midnight



TORONTO GARDEN



TORONTO GARDEN

– *Concrete meets terrazzo*

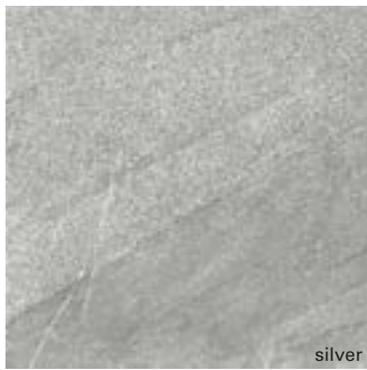
Concrete and terrazzo are popular coverings for use in outdoor applications. The TORONTO GARDEN range combines these two trendy looks in one homogeneous ceramic design. In the graphite and midnight variations, these tiles are perfect for calm, minimalist designs in modern outdoor settings.



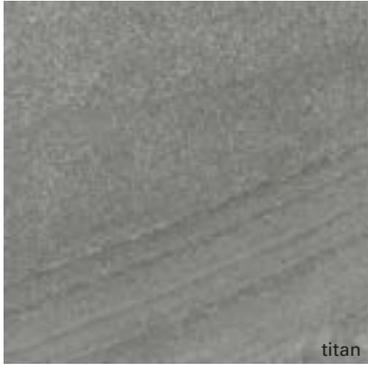




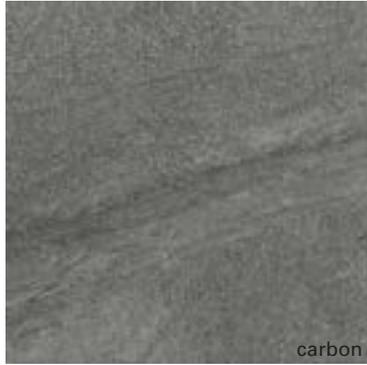
sahara



silver



titan



carbon



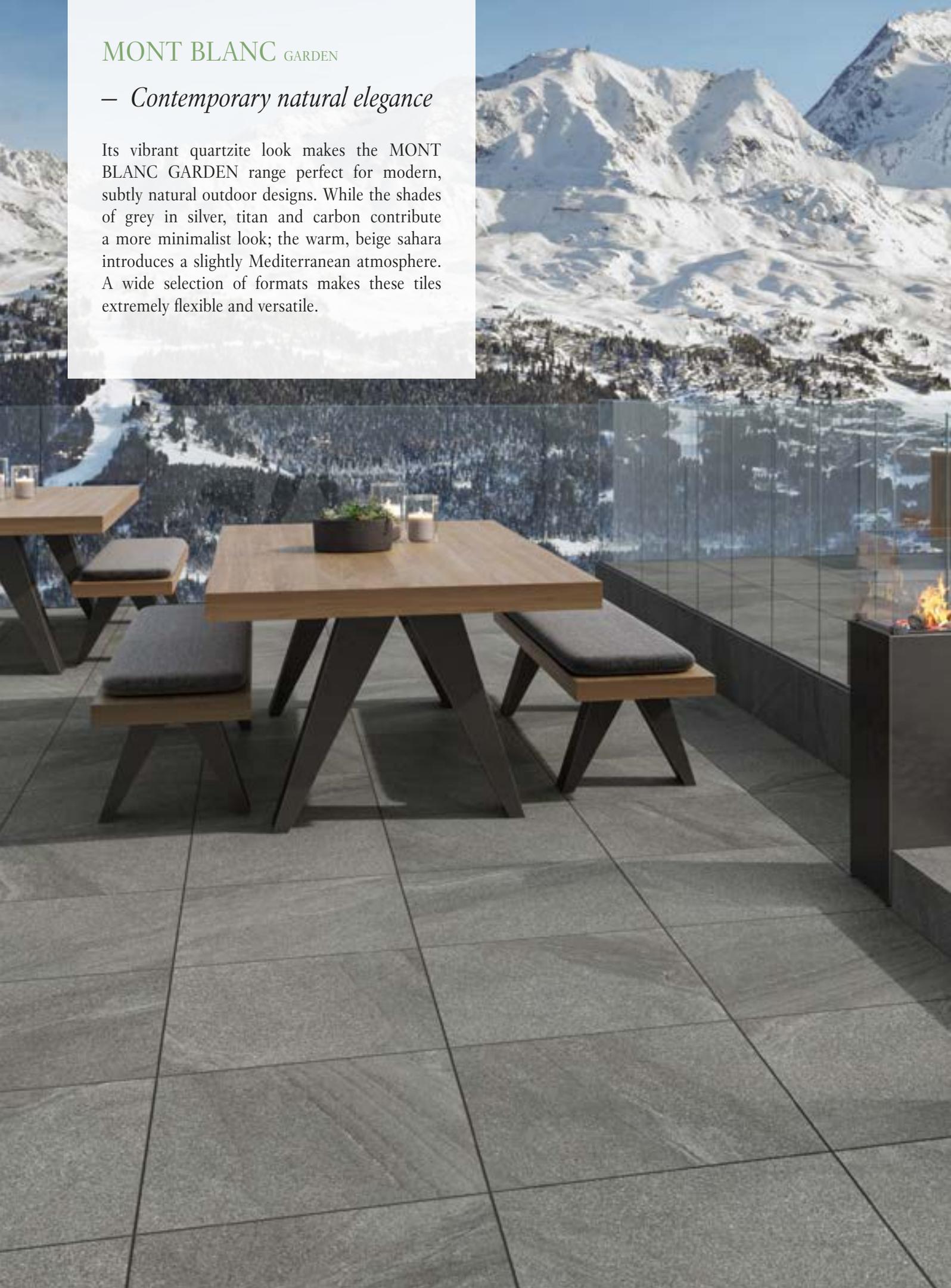
MONT BLANC GARDEN



MONT BLANC GARDEN

– *Contemporary natural elegance*

Its vibrant quartzite look makes the MONT BLANC GARDEN range perfect for modern, subtly natural outdoor designs. While the shades of grey in silver, titan and carbon contribute a more minimalist look; the warm, beige sahara introduces a slightly Mediterranean atmosphere. A wide selection of formats makes these tiles extremely flexible and versatile.











light rock



warm rock



— *Powerfully charming
naturalness*

With its touch of rustic charm, the TUCSON GARDEN range introduces cosy, warm accents in outdoor areas. 30 mm thick, these expressive tiles skilfully display the variety of textures and colours of natural stone. The bright variation, light rock, and its darker counterpart, warm rock, allow for individual designs with a fascinating, powerfully natural look.



grey multicolour



anthracite multicolour



MY EARTH GARDEN



MY EARTH GARDEN

– *Variations of stone textures*

The MY EARTH GARDEN range varies a simple stone look in such a sophisticated way that all manner of new, individual surfaces can be achieved. The two multicoloured hues, grey and anthracite, shimmer in many nuances, producing a particularly lively and natural effect over large areas. With a thickness of 30 mm, these robust tiles are real all-rounders for all outdoor areas.







gold



FOSSILE GARDEN

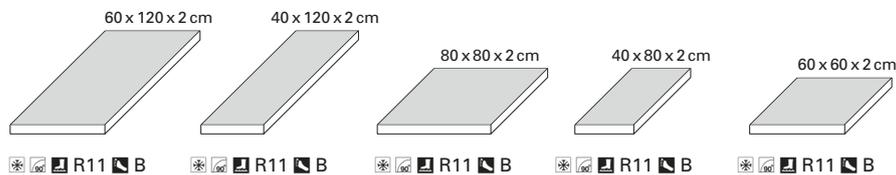
— *Gently vibrant harmony*

The design of the FOSSILE GARDEN range is based on the popular Solnhofen limestone. Inspired by the typical appearance of natural stone, the very homogeneous surface is broken up by inclusions reminiscent of fossils dating back millions of years. In an authentic gold hue, these tiles create an unmistakable, soothing atmosphere in modern and rural-traditional outdoor settings alike.





20 Basic tile
Tile thickness 20 mm



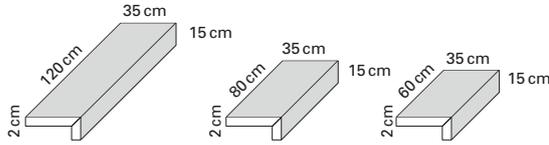
				Dimensions	595 x 1195 x 20 mm	395 x 1195 x 20 mm	795 x 795 x 20 mm	395 x 795 x 20 mm	595 x 595 x 20 mm
FOSSILE GARDEN		SH20	gold				Art. 2880	Art. 2849	Art. 2800
MEMPHIS GARDEN		MT06	silver grey						
		MT70	warm grey						
		MT60	dark grey						
MONT BLANC GARDEN		GS20	sahara		Art. 2861		Art. 2889	Art. 2847	Art. 2869
		GS06	silver		Art. 2861		Art. 2889	Art. 2847	Art. 2869
		GS60	titan		Art. 2861		Art. 2889	Art. 2847	Art. 2869
		GS90	carbon		Art. 2861		Art. 2889	Art. 2847	Art. 2869
MY EARTH GARDEN		RU60	grey multicolour						
		RU90	anthracite multicolour						
OAK LINE GARDEN		WZ10	milk			Art. 2896		Art. 2831	
		WZ20	caramel			Art. 2896		Art. 2831	
		WZ80	walnut			Art. 2896		Art. 2831	
TORONTO GARDEN		BE60	graphite						Art. 2800
		BE90	midnight						Art. 2800
TUCSON GARDEN		RN10	light rock						
		RN60	warm rock						
Unit of measure					m ² 44,44 kg 1,39 pce	m ² 46,56 kg 2,08 pce	m ² 44,38 kg 1,56 pce	m ² 45,31 kg 3,13 pce	m ² 44,44 kg 2,78 pce
Per box					0,72 m ² 32 kg 1 pce	0,48 m ² 22,35 kg 1 pce	0,64 m ² 28,4 kg 1 pce	0,64 m ² 29 kg 2 pce	0,72 m ² 32 kg 2 pce
Per pallet					23,04 m ² 1024 kg 32 box	23,04 m ² 1072,80 kg 48 box	23,04 m ² 1022,40 kg 36 box	17,28 m ² 783 kg 27 box	21,60 m ² 960 kg 30 box
Min. sales unit					P (box)	P (box)	P (box)	P (box)	P (box)
Calculation unit					m ²	m ²	m ²	m ²	m ²
Price group					P130	P121	P122	P111	P111

= Rectified
 = Frostproof DIN EN ISO 10545-12

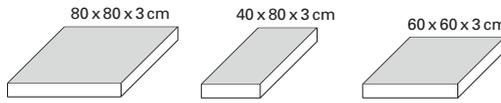
= Anti-slip in workshop areas
 = Anti-slip in barefoot areas

= Shade variation

20 Nosing tile*
Tile thickness 20 mm



30 Basic tile
Tile thickness 30 mm



Nosing tile* Tile thickness 20 mm			Basic tile Tile thickness 30 mm			Dimensions			
350 x 1195 x 145 mm 20 mm	350 x 795 x 145 mm 20mm	350 x 595 x 145 mm 20 mm	Rectified edges 795 x 795 x 30 mm	Natural edges 400 x 800 x 30 mm	Natural edges 600 x 600 x 30 mm				
	Art. 2884	Art. 2883		Art. 2940		gold	SH20		FOSSILE GARDEN
			Art. 2980			silver grey	MT06		MEMPHIS GARDEN
			Art. 2980			warm grey	MT70		
			Art. 2980			dark grey	MT60		
Art. 2885	Art. 2884	Art. 2883	Art. 2989	Art. 2945		sahara	GS20		MONT BLANC GARDEN
Art. 2885	Art. 2884	Art. 2883			Art. 2965	silver	GS06		
Art. 2885	Art. 2884	Art. 2883	Art. 2989		Art. 2965	titan	GS60		
Art. 2885	Art. 2884	Art. 2883	Art. 2989	Art. 2945		carbon	GS90		
			Art. 2984	Art. 2934		grey multicolour	RU60		MY EARTH GARDEN
			Art. 2984	Art. 2934		anthracite multicolour	RU90		
Art. 2885				Art. 2944		milk	WZ10		OAK LINE GARDEN
Art. 2885				Art. 2944		caramel	WZ20		
Art. 2885				Art. 2944		walnut	WZ80		
		Art. 2883				graphite	BE60		TORONTO GARDEN
		Art. 2883				midnight	BE90		
					Art. 2936	light rock	RN10		TUCSON GARDEN
					Art. 2936	warm rock	RN60		
m 21,95 kg 0,83 pce	m 22,04 kg 1,25 pce	m 22,08 kg 1,67 pce	Piece 42,20 kg 1 pce	Piece 22,70 kg 1 pce	Piece 24,40 kg 1 pce	Unit of measure			
1,21 m 26,45 kg 1 pce	0,80 m 17,63 kg 1 pce	0,60 m 13,22 kg 1 pce	1 Piece (lose) 42,20 kg 1 pce	1 Piece (loose) 22,70 kg 1 pce	1 Piece (loose) 24,40 kg 1 pce	Per box			
-	-	-	24 Piece 1.012,8 kg 24 pce	45 Piece 1021,50 kg 45 pce	44 Piece 1073,60 kg 44 pce	Per pallet			
E (pce)	E (pce)	E (pce)	full pallet	full pallet	full pallet	Min. sales unit			
Piece	Piece	Piece	m ²	m ²	m ²	Calculation unit			
E164	E155	E144	P144	P133	P133	Price group			

* The nosing tile can be used to edge a tiled area or as a stairtread.
The depth of the tile and height of the edging can be specified as required.

FOSSILE GARDEN



gold



80 x 80 x 2 cm



40 x 80 x 2 cm



40 x 80 x 3 cm



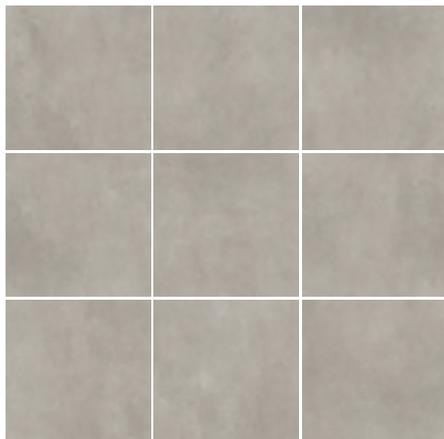
60 x 60 x 2 cm



MEMPHIS GARDEN



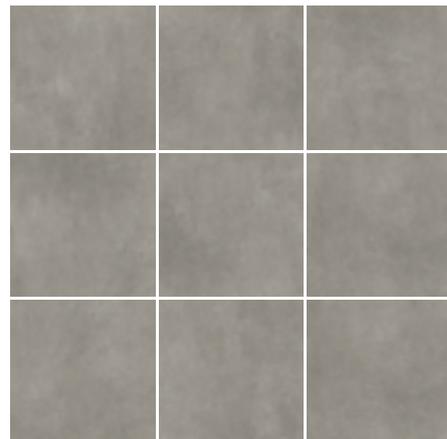
silver grey



80 x 80 x 3 cm



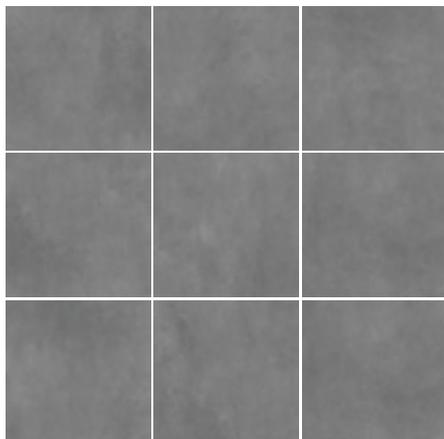
warm grey



80 x 80 x 3 cm



dark grey



80 x 80 x 3 cm



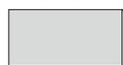


MONT BLANC GARDEN

sahara



60 x 120 x 2 cm



80 x 80 x 2 cm 80 x 80 x 3 cm



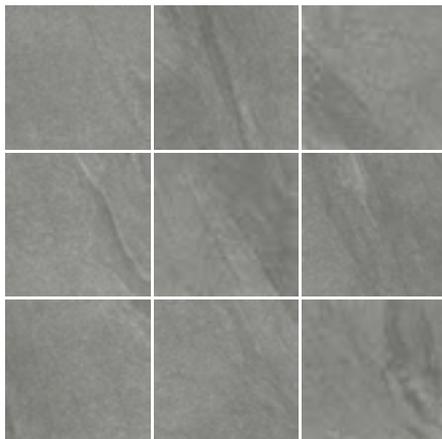
40 x 80 x 2 cm 40 x 80 x 3 cm



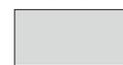
60 x 60 x 2 cm



titan



60 x 120 x 2 cm



80 x 80 x 2 cm 80 x 80 x 3 cm



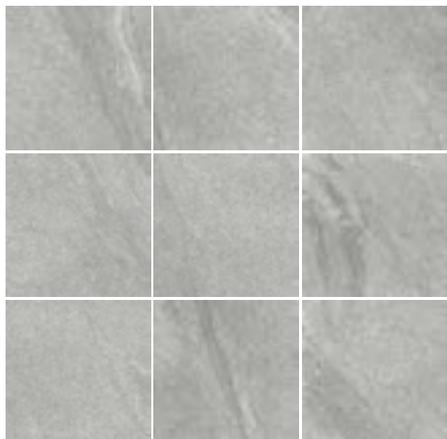
40 x 80 x 2 cm



60 x 60 x 2 cm 60 x 60 x 3 cm



silver



60 x 120 x 2 cm



80 x 80 x 2 cm



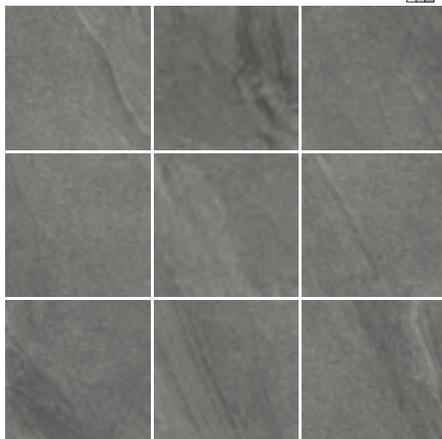
40 x 80 x 2 cm



60 x 60 x 2 cm 60 x 60 x 3 cm



carbon



60 x 120 x 2 cm



80 x 80 x 2 cm 80 x 80 x 3 cm



40 x 80 x 2 cm 40 x 80 x 3 cm



60 x 60 x 2 cm



MY EARTH GARDEN



grey multicolour



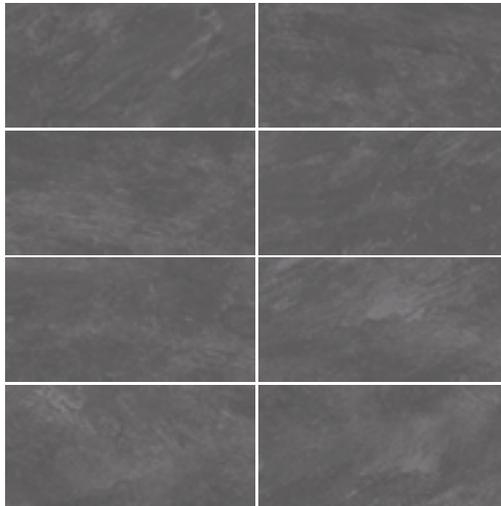
80 x 80 x 3 cm



40 x 80 x 3 cm



anthracite multicolour



80 x 80 x 3 cm



40 x 80 x 3 cm

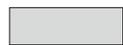


OAK LINE GARDEN 20 30

milk



40 x 120 x 2 cm



40 x 80 x 2 cm

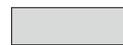
40 x 80 x 3 cm



caramel



40 x 120 x 2 cm



40 x 80 x 2 cm

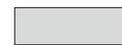
40 x 80 x 3 cm



walnut



40 x 120 x 2 cm



40 x 80 x 2 cm

40 x 80 x 3 cm



TORONTO GARDEN 20

graphite



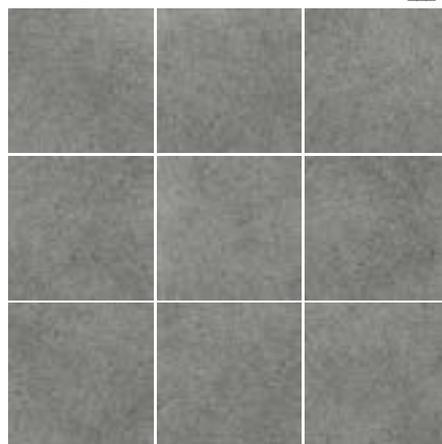
60 x 60 x 2 cm



midnight



60 x 60 x 2 cm



TUCSON GARDEN 30

light rock



60 x 60 x 3 cm



warm rock



60 x 60 x 3 cm



vilbostone unglazed porcelain stoneware in acc. with DIN EN 14411, Group BIa (Water Absorption E ≤ 0.5%)

Grouping: Table ZA.1.1 Outdoor floor covering



Characterization	Test according to DIN EN ISO	Requirements	Test result 40 x 80 cm	Test result 60 x 60 cm
Dimensions	10545-2	Compliance to the tolerances required	Passed	Passed
Surface quality	10545-2	min. 95 % free from visible defects	Passed	Passed
Water absorption % by weight	10545-3	≤ 0,5 / individual max. 0,6%	< 0,5	< 0,5
Modulus of rupture in N/mm ²	10545-4	min. 35 N/mm ² individual min. 32 N/mm ²	≥ 45	≥ 45
Breaking strength	10545-4	min. 700N (thickness <7,5 mm) min. 1.300N (thickness ≥7,5 mm)	≥ 11.200	≥ 11.200
Breaking load	10545-4	Declared value	≥ 5.700	≥ 11.400
Resistance of impact (Measurement of the rebound coefficient)	10545-5	Declared value	≥ 0,55	≥ 0,55
Resistance to deep abrasion	10545-6	max. 175 mm ³	≤ 145	≤ 145
Linear thermal expansion from ambient temperature to 100° C in K ⁻¹	10545-8	Declared value	Not tested	Not tested
Thermal shock resistance	10545-9	Declared value	Not tested	Not tested
Moisture expansion in mm/m	10545-10	Declared value	Not tested	Not tested
Frost resistance	10545-12	Required	Passed	Passed
Resistance to household chemicals and swimming pool salts	10545-13	min. class B	A	A
Resistance to acids and alkalics - low concentration	10545-13	Declared value	LA	LA
Resistance to acids and alkalics - high concentration	10545-13	Declared value	HA	HA
Resistance to staining	10545-14	min. class 3	Class 5	Class 5
Release of lead and cadmium	10545-15	Declared value	Not tested	Not tested
Minor differences in colour	10545-16	ΔEcmc < 1.0	Not tested	Not tested
Determination of slip-resistance – commercial area	CEN/TS 16165	Declared value	R11	R11
Determination of slip-resistance – barefoot area	CEN/TS 16165	Declared value	B	B

Grouping: Table ZA.1.1 Outdoor floor covering



Characterization	Test according to DIN EN ISO	Requirements	Test result 40 x 80 cm	Test result 60 x 60 cm
Dimensions	10545-2	Compliance to the tolerances required	Passed	Passed
Surface quality	10545-2	min. 95 % free from visible defects	Passed	Passed
Water absorption % by weight	10545-3	≤ 0,5 / individual max. 0,6%	< 0,5	< 0,5
Modulus of rupture in N/mm ²	10545-4	min. 35 N/mm ² individual min. 32 N/mm ²	≥ 45	≥ 45
Breaking strength	10545-4	min. 700N (thickness <7,5mm) min. 1.300N (thickness ≥7,5mm)	≥ 25.500	≥ 25.000
Breaking load	10545-4	Declared value	≥ 11.000	≥ 25.000
Resistance of impact (Measurement of the rebound coefficient)	10545-5	Declared value	≥ 0,55	≥ 0,55
Resistance to deep abrasion	10545-6	max 175 mm ³	≤ 145	≤ 145
Linear thermal expansion from ambient temperature to 100° C in K ⁻¹	10545-8	Declared value	Not tested	Not tested
Thermal shock resistance	10545-9	Declared value	Not tested	Not tested
Moisture expansion in mm/m	10545-10	Declared value	Not tested	Not tested
Frost resistance	10545-12	Required	Passed	Passed
Resistance to household chemicals and swimming pool salts	10545-13	min. class B	A	A
Resistance to acids and alkalics - low concentration	10545-13	Declared value	LA	LA
Resistance to acids and alkalics - high concentration	10545-13	Declared value	HA	HA
Resistance to staining	10545-14	min. class 3	Class 5	Class 5
Release of lead and cadmium	10545-15	Declared value	Not tested	Not tested
Minor differences in colour	10545-16	ΔEcmc < 1.0	Not tested	Not tested
Determination of slip-resistance – commercial area	CEN/TS 16165	Declared value	R11	R11
Determination of slip-resistance – barefoot area	CEN/TS 16165	Declared value	B	B

The *vilbogarden* tiles can be installed on various substrates and by means of various construction methods:

- Installation as an unbonded construction
- Installation as a bonded construction
- Laying on pile foundations or mortar bags

Important: Our installation guidelines constitute general recommendations only. The individual conditions which apply at the site concerned are always to be examined separately and cannot be included in these general recommendations. Due consideration must also be given to the laying materials employed in the individual case concerned. Please consult your specialist dealer and supplier on this. All the information provided here is non-binding.

Additional Technical Contractual Terms for Path and Road Construction, basic principles for traffic areas away from road traffic areas

A key factor which prompted the Forschungsgesellschaft Landschaftsentwicklung Landschaftsbau e.V. (FLL) to draw up its “Technical Contractual Terms for Path and Road Construction” (German: “ZTV Wegebau”) was the fact that under ATV DIN 18318 privately used areas in which relatively low loads apply, such as terraces and pathways, were subject to the same rules as applied to traffic areas in which high loads applied.

As the applications in privately used areas generally involve lower loads and fall within the scope of the Technical Contractual Terms for Path and Road Construction, smaller dimensions are generally required here than are specified in ATV DIN 18318.

The Technical Contractual Terms for Path and Road Construction were published in 2013. They are to be regarded as additional technical contractual terms tailored specifically to the prevailing requirements in the area of landscape gardening. The Technical Contractual Terms for Path and Road Construction represent the state of the art.

They expressly state in their scopes of application that in case of doubt it is always to be checked whether the Technical Contractual Terms for Path and Road Construction or the technical contractual terms “ZTV Pflaster/RStO 12” are applicable. The Technical Contractual Terms for Path and Road Construction are not intended to improve existing rules and regulations, but rather provide recommendations for paving and tiling which are subject to low loads in the area of landscape gardening.

For the purposes of specifying the thickness of the frost-resistant surfacing and the selection of building materials in accordance with the planned loads, the Technical Contractual Terms for Path and Road Construction drawn up by Forschungsgesellschaft Landschaftsentwicklung Landschaftsbau e.V. (FLL) distinguish between 3 usage categories.

Usage category N1*

This category covers paving suitable for foot traffic which is located away from road traffic areas and which cannot be driven on by vehicles (e.g. private terraces for hotels, sports and wellness areas, garden paths, other seating areas)

Usage category N2*

Paving suitable for vehicular traffic up to a permissible gross vehicle weight of 3.5 t away from road traffic areas (e.g. garage driveways, car parking spaces)

Usage category N3*

Paving suitable for vehicles up to 3.5 t, also suitable for occasional use by vehicles with a permissible gross weight of up to 20 t with wheel loads of under 5 t away from road traffic areas (e.g. care and maintenance ways, escape routes, fire brigade, garage and building access ways)

*Source: Technical Contractual Terms for Path and Road Construction (“ZTV Wegebau”)

TECHNICAL INFORMATION

In addition to the specifications in the Technical Contractual Terms for Path and Road Construction, at a tile thickness of 20 mm or over our *vilbogarden* tiles in 60x60, 80x80, 40x80 and 60x120 cm format are suitable for vehicular traffic when installed in the form of a bonded construction.

These tiles can be driven over by passenger cars, SUVs and even trucks with a permissible total weight of 7.5 tonnes.

By way of illustration, here are two sample calculations:

1st case: truck with a possible total weight of up to 7.5 tonnes. This vehicle is usually equipped with 2 axles, with tyres that are typically at least 205 mm wide.

The load is distributed evenly over both axes.

Based on these assumptions, one can calculate a mean pressure of approx. 1.15 N/mm².

2st case: SUV with a possible total weight of up to 2.5 tonnes. This vehicle is usually equipped with 2 axles, with tyres that are typically at least 225 mm wide.

The load is distributed evenly over both axes.

Based on these assumptions, one can calculate a mean pressure of approx. 0.40 N/mm².

In both cases, the load is classified as wear-resistance group II (pressure of up to 2 N/mm²) according to Table 2 of the leaflet “Hard-wearing ceramic coverings” issued by the Central association of the German building industry [Zentralverband Deutsches Baugewerbe (ZDB)].

Tiles in wear-resistance group II must demonstrate a **breaking strength of 1,500 – 3,000 N**.

- The ultra-strong square tiles mentioned above have a **breaking load/strength of 13,500 – 15,000 N** in compliance with DIN 14411-4. The load capacity is many times higher than required. The tiles are classified as the highest wear-resistance group (BK V).
- The rectangular formats mentioned above have a **breaking load/strength of 6,500 – 7,500 N** in compliance with DIN 14411-4. Their load capacity is also considerably higher than required. The tiles are classified as the highest wear-resistance group (BK I).

This system’s load-bearing capacity requires a sufficiently thick and compacted gravel-crushed rock supporting layer. This is followed by a water-permeable covering (non-woven cloth) in compliance with the ZDB leaflet on ‘Outdoor coverings’. Subsequently, a suitable drain mortar must be introduced in a thickness that corresponds to the expected loads but is at least 50 mm thick.

The outdoor tiles must be laid on this fresh drain mortar using fresh spray plaster. This is necessary in order to obtain better adhesion of the mono-grit drain mortar to the back of the tiles.

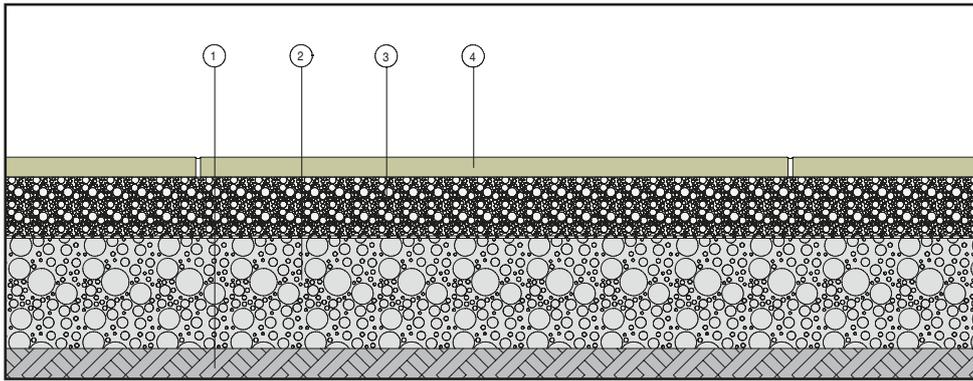
The construction design and its surface must be provided with adequate drainage.

The covering should be grouted with a suitable, drainable joint mortar.

The entire surface must be provided with a suitable border (e.g. border tiles) to prevent damage to tile edges.

LAYING VARIANTS

A. Installation in unbonded form based on usage category N1, in accordance with ZTV Path Construction



Detail A
Installation in unbonded form

- ① Subsoil
- ② Frost-protection layer
- ③ Bedding
- ④ *vilbogarden* tiles
as necessary with contact layer

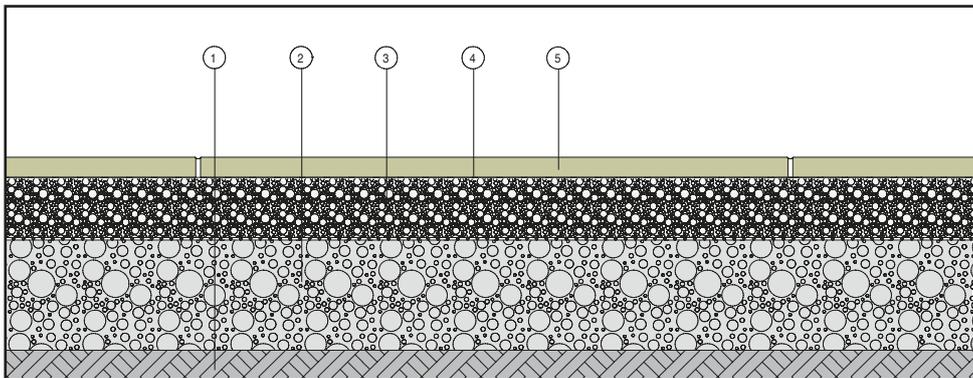
Advantages:

- Suitable for terraces accessible at ground-level
- It is possible to simply lay the tiles on concrete slabs or on a natural bearing course/subsoil
- Replacement of individual *vilbogarden* tiles is quite straightforward when laid in unbonded bedding mortar

Laying on natural soil:

- The subsoil must be sufficiently compacted
- The 20 - 40 cm thick mineral frost-protection layer should have a grain size of approx. 0/32 to 0/56 mm depending on the frost sensitivity class (F1 - F3 in accordance with ZTV E-STB)
- Apply 4 - 6 cm thick of unbonded bedding, suitable for draining purposes (grit bed)
- To reduce subsequent shifting and tilting of the tiles, a bonding course should be applied to the back of the tiles. This must be applied in such a way that the water permeability of the joints is maintained.
- Fill joints with water-permeable jointing sand in accordance with FGSV - Fact sheet for permeable paving
- Surface slope of at least 2.5%

B. Installation in bonded form based on usage categories N1 and N2 in accordance with ZTV Path Construction



Detail B
Installation in bonded form based on usage categories N1 and N2 in accordance with ZTV Path Construction

- ① Subsoil
- ② Frost-protection layer
- ③ Bedding, corresponding to N1 (6 cm), N2 (10 cm)
- ④ Contact layer
- ⑤ *vilbogarden* tiles

Advantages:

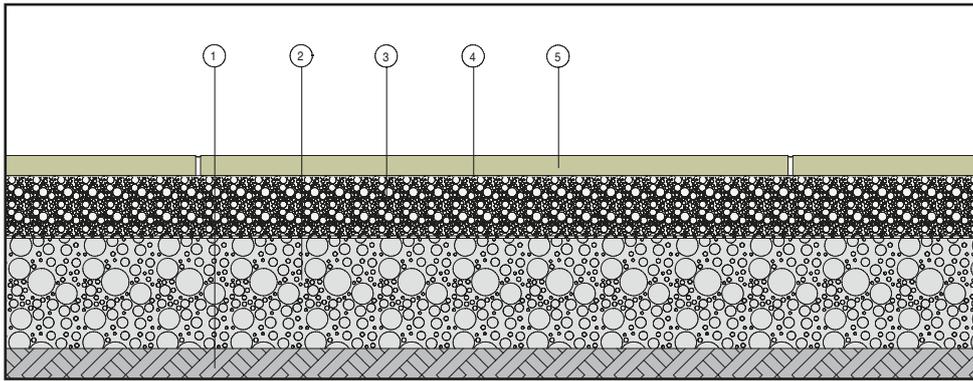
- Suitable for usage categories N1 and N2
- It is possible to simply lay the tiles on concrete slabs or on a natural bearing course/subsoil

Laying on natural soil:

- The subsoil must be sufficiently compacted
- The 20 - 45 cm thick mineral frost-protection layer should have a grain size of approx. 0/32 to 0/56 mm depending on the frost sensitivity class (F1 - F3 in accordance with ZTV E-STB) and usage category
- Apply water-permeable bonded bedding, thickness corresponding to N1 (6 cm), N2 (10 cm)
- A suitable bonding course/contact layer must be applied to the back of the tiles during installation. This must be applied in such a way that the water permeability of the joints is maintained.
- Fill joints with water-permeable jointing sand in accordance with FGSV - Fact sheet for permeable paving
- Surface slope of at least 2.5%

LAYING VARIANTS

C. Installation in fully-bonded form based on usage categories N1 – N3 in accordance with ZTV Path Construction



Detail C

Installation in fully-bonded form based on usage categories N1 – N3 in accordance with ZTV Path Construction

- ① Subsoil
- ② Frost-protection layer, drainage concrete, N1 ≥ 10 cm, N2 + N3 ≥ 15 cm
- ③ Bedding, 4 - 6 cm
- ④ Contact layer
- ⑤ vilbogarden tiles

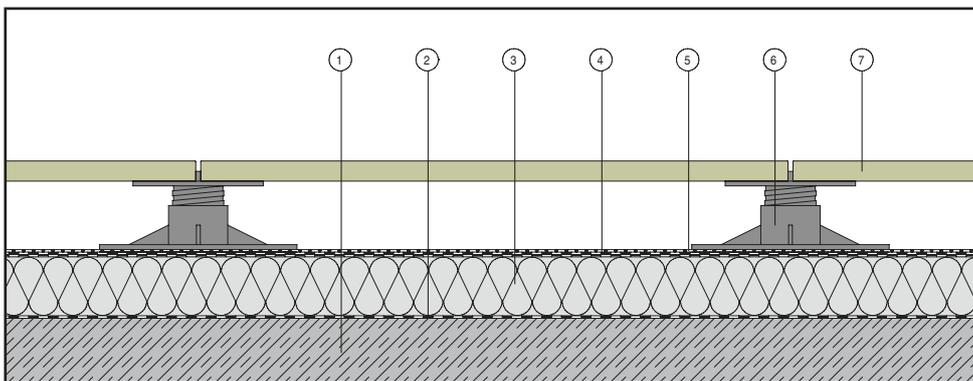
Advantages:

- Suitable for usage categories N1 – N3
- It is possible to lay the tiles on subsoil

Laying on natural subsoil:

- In conjunction with the thickness of the concrete drainage course according to the applicable usage category and frost sensitivity class (F1 – F3 in acc. with ZTV E-STB - Technical Contractual Terms for Earthworks in Road Construction), the mineral frost protection layer should have a thickness of 15 – 30 cm, at a grain size of approx. 0/32 to 0/56 mm.
- The following thicknesses apply for the drainage concrete bearing course according to usage category: N1 ≥ 10 cm, N2 + N3 ≥ 15 cm.
- Apply water-permeable bonded bedding (4 – 6 cm)
- A suitable bonding course/contact layer must be applied to the back of the tiles during installation. This must be applied in such a way that the water permeability of the joints is maintained.
- Water-permeable joints are to be produced using a bonding agent consisting of reaction resin or polybutadiene, in accordance with FGSV – Fact sheet for permeable paving.
- Surface slope of at least 2.5%

D. Laying on pile foundations or mortar bags



Detail D

Loose laying on pile foundations on thermally-insulated, flat-roof construction

- ① Uncovered floor
- ② Vapour barrier
- ③ Tapered insulation
- ④ Seal in accordance with DIN 18195
- ⑤ Separation layer / Protective mat
- ⑥ Pile foundations (e.g. Schlüter®-TROBA-LEVEL)
- ⑦ vilbogarden tiles

Advantages:

- Suitable for use on existing coverings taking into account the new height
- Both laying variants can be performed quickly
- When laid on pile foundations or mortar bags, replacing individual vilbogarden tiles is quite straightforward
- This also allows for the concealment of cables, pipes etc. under the structure

Laying the tiles:

- Prepare the substrate with a slope of at least 2% and seal in accordance with DIN18531
- In order to protect against mechanical impairment, a protective mat should also be installed on top of the sealant
- A vapour barrier is required above heated rooms
- Place the pile foundations (with integrated spacers) or mortar bags in the desired grid and align horizontally.
- Lay the vilbogarden tiles by placing them around the spacers with approx. 5 mm wide joints
- If higher loads are expected, it is recommended that support also be provided beneath the centre of each tile

Tiles by Villeroy & Boch meet every aspect of the international parameters required for “sustainable building”.

All over the world, our tiles feature in architectural projects that are classified by the German DGNB, and in accordance with the American LEED and the British BREEAM. The closed manufacturing processes that include both traditional and state-of-the-art technologies, such as digital print, meet the very highest environmental standards. All raw materials used in the ceramic mass, glazes and pastes, as well as for packaging the tiles, are evaluated according to strict ecological principles.

The entire manufacturing process avoids emissions into the water, soil and air that would have a detrimental effect on the environment. Heat recovery and continuous energy-efficiency measures, as well as environmentally aware waste management, are testimony to the environmental

compatibility of our production. At least 85% of the waste produced is recycled. The waste water generated by the manufacturing process and the solids it contains are almost entirely re-used. Thanks to heat recovery, CO₂-emissions can be reduced by about 3000 tons per year.

Not only manufacturing considerations but also the lasting quality of the designs of our tiles earn them the “sustainable building” accolade at international level. Both manufacture and the products themselves are continuously assessed in accordance with the latest independent system and product certifications.

For further information about projects and certifications, as well as videos and brochures about our environmental management, please go to www.respecting-nature.com

Certification - DIN EN ISO 9001

The DIN EN ISO 9001 quality management system has been documenting the ongoing optimisation of work processes throughout the company since 1995.

Certification - DIN EN ISO 14001

Based on the plan-do-check-act cycle and ongoing improvement in environmental performance, DIN EN ISO 14001 specifies the main requirements for identification, monitoring and supervision of direct and indirect environmental aspects in the company.

All certifications are carried out by Bureau Veritas.



EMAS validation

V & B Fliesen GmbH was the first German tile manufacturer to participate in the EMAS (Eco-Management and Audit Scheme), currently the strictest test system for environmental criteria, at Merzig. It calls for a continuous, performance-oriented and regularly measurable optimisation process in which employees must also be involved. In 2019, V & B Fliesen GmbH was certified for another three years by an external environmental auditor.

CE mark

The CE mark indicates that the product complies with the requirements of the corresponding EU directive – in particular with regard to health protection and the safety of users and consumers – and may thus be freely circulated on the Community market.

At www.villeroy-boch.com/ce you will find information on compliance with requirements for the CE mark by porcelain stoneware, glazed vitreous and nonvitreous products from Villeroy & Boch Tiles.

Ecological, environmentally friendly production

Our tiles have been awarded the Environmental Product Declaration (EPD) label by the IBU (Institut für Bauen und Umwelt e.V.). The Environmental Product Declaration provides relevant, verifiable and comparable information on the environmental impact of products. This certification allows architects and planners to utilise our products in all properties that have been certified as satisfying the BREEAM, LEED, DGNB or other comparable international requirements for sustainable building.

The IBU, as the administrator of the German EPD program, is part of the ECO PLATFORM, through which it works to promote the harmonisation of national EPD programmes at the European level.

Declaration of Performance in accordance with the Construction Products Regulation [BauPVO]

305/2011 (EU) dated 9 March 2011:

The Declaration of Performance specifies the characteristics that are applicable in accordance with the product standard DIN EN 14411 for which our compliance is obligatory. In our company this applies to the following product groups:

- Porcelain stoneware (Group BIa)
- Vitreous stoneware (Group BIb)
- Nonvitreous stoneware (Group BIII)

This can be viewed and downloaded from our homepage at www.villeroy-boch.com/pvo.



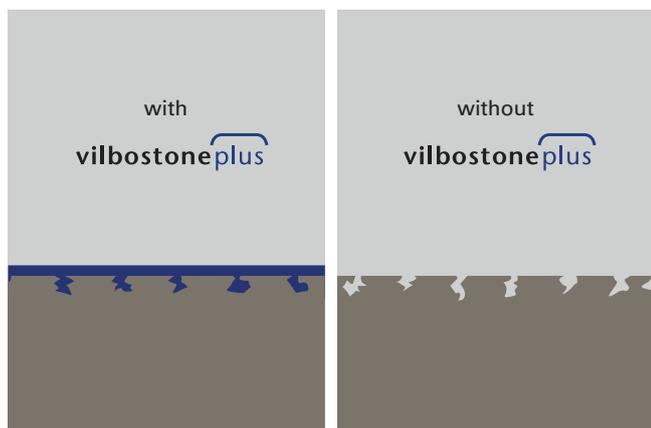
CLEANING AND CARE

General

On account of their properties, tiles are considered to be easy to clean. The cleaning methods and cleaning agents must, however, be adapted to the type of floor and local conditions.

It should be noted that hydrofluoric acid and related substances are able to attack or destroy the surface of porcelain stoneware tiles.

Consequently, no cleaning agents containing hydrofluoric acid are to be used!



vilbostoneplus

Unglazed vilbostone porcelain stoneware with a matt or rough-polished surface finish have the vilbostoneplus seal, which renders the tiles particularly resistant to dirt and stains. During the manufacturing process, the structure of the tile surface is sealed in order to further increase the tiles' resistance to staining and dirt, as a result of which subsequent treatment with impregnating agents is no longer necessary.

Cleaning

Final cleaning after tiling / Basic cleaning	Product and dosage	Cleaning equipment
Loose dirt	-	Broom and vacuum cleaner
Cement film, mineral soiling, such as limescale deposits, soap residue	Acidic cleaner (available from specialist retailers)	Sponge, scrubbing brush, brush, cloth, microfibre cloth
Grease, oils, waxes, cosmetics, shoe marks	Alkaline cleaner (available from specialist retailers)	Sponge, scrubbing brush, brush, cloth, microfibre cloth
Routine cleaning		
Normal dirt, such as dust, light dirt, street dirt	Neutral cleaning agents (available from specialist retailers)	Broom and vacuum cleaner Sponge, scrubbing brush, brush, cloth, microfibre cloth

Please note: All of the information we provide about cleaning, care and removing stains from ceramic tiles is based on the latest knowledge and material research. It is, however, of a general nature and cannot cover every single eventuality. Therefore, please observe the instructions provided by the cleaning agent manufacturer.

V & B Fliesen GmbH

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9108-WIF2-00-10 · 02/2020

Shades and dimensions subject to the usual tolerances. We reserve the right to make technical modifications to the range and alter colours.

