

Note on English translation / Hinweise zur englischen Fassung

This is a translation of the product data sheet valid in Germany.

All stated details and properties are in compliance with the regulations of the German standards and building regulations. They are only applicable for the specified products, system components, application rules, and construction details in connection with the specifications of the respective certificates and approvals.

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KNAUF



Floor Systems

F473d.de

Product Data Sheet

2020-12



Bituperl®

Bulk leveller made of bitumen coated perlite under pre-fab floor screed

Product description

Bituperl® is an all-purpose bulk leveller made of bitumen coated perlite under pre-fab floor screed for equalization. The Bituperl® bonds to a stable and load bearing equalization layer by compaction thanks to the partial bitumen encasement layer.

Storage

Store dry on pallets. It can be stored indefinitely.

Quality

In compliance with ETA 17/1024, the product is subject to initial type testing and continuous factory production control and bears the CE marking.

Properties and added value

- Can be subjected to high loads
- Reduces footfall sound
- Compacts to a stable, homogeneous levelling and insulation layer under light area pressure
- No drying times due to waterless bonding
- Minimum load on the basic ceiling (e.g. wood joist ceiling) due to the low weight of just approx. 1.85 kg/m² per layer thickness
- Suitable for leveller heights from 1 cm
- For leveller heights up to 200 mm
- For screed constructions with proof, e.g. acc. to DIN 4102-4 or suitable for other certificates of usability
- Fulfils the demands on a levelling layer in bound form acc. to DIN 18560-2 as well as the BEB Code of Practice 4.6

Field of application

On all basic ceilings and floors as well as on wood joist ceilings or wooden floorboards, Bituperl® forms a particularly stable, highly loadable substrate for floor construction. Every suitable pre-fab floor screed or wet screed can subsequently be applied on the compacted and covered bulk leveller. For the construction of solid floors, particularly in public or commercial buildings, we recommend Bituperl® in combination with pre-fab floor screed units as the optimum solution. Bituperl® is not suitable for use under floors of sports facilities.

Application

Substrate and pretreatment

Check the residual moisture and loadbearing capacity. Ensure that there is a load-bearing substrate made of planks or wooden composite boards with wood joist ceilings. Use permeable trickling protection on wooden substrates (e.g. Knauf Schrenzlage synthetic coated kraft paper) and apply on the walls and other rising constructional components.

Check the location and construction design of installations (pipes, cables, ducts, and similar). Clean the raw ceiling. Apply a cover of PE foil of least 0.2 mm thickness as protection against rising residual moisture from the floor that overlaps by at least 20 cm or in case of concrete slabs touching the soil, sealing acc. to DIN 18533, e.g. Abdichtungsbahn Katja Sprint sealing membrane and up the walls to the height of construction.

A rule mark is applied to the walls at spacings of approx. 2 m. The floor height is marked using this rule mark as a reference.

Bituperl® must be applied with about 10 % excess height to compensate for subsequent compaction. This height is marked additionally and the alignment rails aligned accordingly.

Application

Spreading

Starting at the wall (opposite the entrance doorway) a 25 cm wide strip should be spread high enough so that the upper marking line (incl. 10 % excess height) is slightly covered over. Bituperl® must be at least 1 cm thick over the pipes at the narrowest location.

Load capacity for Bituperl®

Maximum installation height	Only for bulk leveller with prefab floor screed (Fasoperl®-A8 recommended)				With Fasoperl®-A8			
	30 mm		60 mm		100 mm		200 mm	
	kN/m ²	kN	kN/m ²	kN	kN/m ²	kN	kN/m ²	kN
Screed element with rebated edge 18 – 20 mm, e.g. Knauf Brio 18	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0
+ Additional layer of gypsum fibre board > 10 mm, e.g. Knauf Vidiwall	3.0	2.0	3.0	2.0	2.0	1.0	2.0	1.0
Screed element with rebated edge 20 – 25 mm, e.g. Knauf Brio 23	2.0	2.0	2.0	2.0	2.0	1.0	2.0	1.0
+ Additional layer of gypsum fibre board > 10 mm, e.g. Knauf Vidiwall	3.0	3.0	3.0	2.0	2.0	1.0	2.0	1.0

Higher load combinations up to 4.0 kN/m² area load and 3 kN point load on request.

The maximum length of the stone as standard for natural stone, ceramic stoneware and tiles is 33 cm.

Floating application of parquet or laminate flooring is possible. Mosaic parquet with a chequered design and multi-level parquet can be glued directly onto pre-fab floor screeds. More detailed information can be found in Code of Practice - Coverings on pre-fab floor screeds (German) from the Bundesverband der Gipsindustrie (German Gypsum association).

Ruling

Using the long guide rails, the spread strips are ruled to the height of the marking and then at a spacing of approx. 5 cm to the wall are left lying on the bulk leveller. Parallel at the spacing corresponding to the length of the first levelling rule a second strip is visually estimated and spread, the second guide rail is placed and levelled with the levelling rule. Then Bituperl® is spread between the guide rails and levelled. Do not walk on the bulk leveller to avoid undesired precompaction.

Covering / compaction

Without walking on the bulk leveller, the cover boards, e.g. Fasoperl®-A8 boards are laid starting at the door and extending across the entire surface while avoiding cross joints. This facilitates walking. For up to 6 cm bulk leveller the Fasoperl®-A8 boards are compacted by walking on the full surface. Alternatively, the pre-fab floor screed units with rebated edge are applied directly onto the bulk leveller layer. In case of bulk leveller heights exceeding 6 cm, Bituperl® is covered with compression-proof Fasoperl®-A8 wood fibre insulation boards. Compaction is undertaken with a hand stamper or mechanically compacted using an electrical area vibrator on laid form panels. The maximum bulk leveller for work stage is 10 cm with up to 20 cm in two work stages.

Supplementary system elements

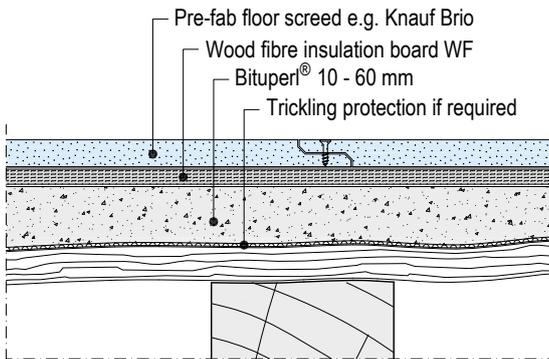
Description	Product name
Cover and footfall sound insulation boards	Knauf Fasoperl®-A8
	Knauf Holzfaserdämmplatte WF wood fibre board
Pre-fab floor screed units, e.g.	Knauf Brio 18 / 23
	Knauf Brio WF
	Knauf Brio MW
	Knauf Brio EPS

Can also be combined with other insulation panels and pre-fab floor screed available on the market. Refer to the individual product data sheets for further information.

Drawings

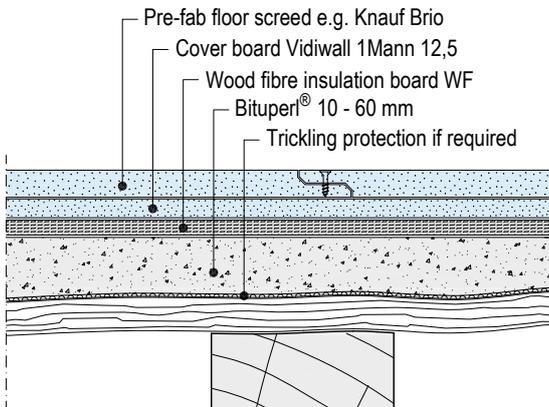
Notes	Bulk leveller height always ≥ 1 cm
	Bound form acc. to DIN 185602 In the installed state, the perlite levelling layer sticks and interlocks. Thus a material results that complies with the demands on a levelling layer in <i>bound form</i> acc. to DIN 18560-2.

Construction above wood joist ceiling with Bituperl and Brio WF

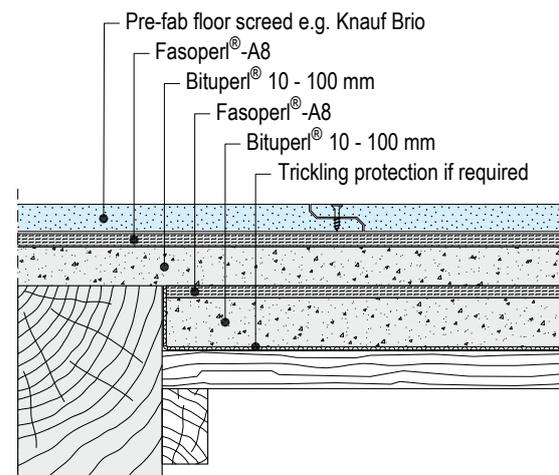


Multi-layer prefab floor screed construction over a wood joist ceiling with Bituperl® and Brio + Vidiwall for enhanced load-bearing capacity

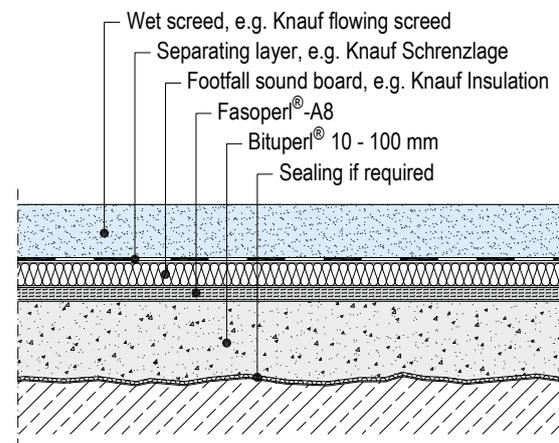
In case of bulk leveller heights from > 60 to 100 mm, compact Bituperl with Fasoperl®-A8 cover boards.



Level with Bituperl on load-bearing capable false ceiling



Screed construction above concrete cover



Technical data

Description	Standard	Unit	Bituperl®
Graining	–	mm	0 – 6
Bulk density ρ_s in non-compressed state	–	kg/m ³	approx. 165 ± 20 %
Weight per unit area (installed)	–	kg/m ² per cm	approx. 1.85
Rated value of thermal conductivity λ_B	DIN 4108-4	W/(m·K)	0.060
Rated value of thermal conductivity $\lambda_{D 23/50}$	EN 12667	W/(m·K)	0.058
Reaction to fire	EN 13501-1	–	E
Compressive strength (compressive stress with 10 % compression)	Following EN 826	kPa	≥ 90
Water vapour diffusion resistance μ	EN 14316-1	–	3
Application	DIN 4108-10	–	DEO
European technical assessment	–	–	ETA-17/1024

Material requirement and efficiency

Material	Consumption per m ² and 1 cm levelling
Bituperl®	Approx. 11 l depending on the compression

Product range

Description	Application	Packaging unit	Material number	EAN
Bituperl®	100 l/bag	22 bags / pallet	00086824	4003352124000



Observe safety data sheet!

For safety data sheets and CE marking see
pd.knauf.de



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