



Over Structural Floors

Whether it is in new construction or renovation, a great variety of subfloor types need a tile underlayment prior to setting tile or stone. Some of the reasons for the need to install tile underlayments include: they may reduce stresses from subfloors and protect tile; they may be used to build up height as needed to finish the tile surface flush with adjacent flooring surface; and they may be necessary for waterproofing or insulation purposes. Also very important, they should provide and support successful and lasting adhesion performance for thinset mortar and tile. wedi Building Panels offer a durable underlayment surface once tiled and it passes the Robinson Floor Test (ASTM C627) having achieved a "heavy duty use" rating. In combination with its ideal flat surface, it is a logical choice when installing either small tile or very large tile but possibly extremely thin tile on floors. Both require perfect thinset mortar coverage and adhesion, made easy when working on a most flat and even surfaces and they need the full support of a strong underlayment like the wedi Building Panel. It is, however, important to evaluate the suitability of a subfloor structure, or the layer below a tile underlayment, to ensure a proper tile installation and also the choice of a good underlayment fitting the application.

General Limitations/Requirements (Concrete & Wood Subfloors)

- wedi Product Systems are only used for interior installations.
- Do not use as a wear surface or without tile/stone or other suitable coverings.
- Do not use organic mastic adhesives for setting tile on wedi Systems in wet areas.
- Use only thinset mortar setting materials suitable for installation and adhesion to the specific substrate/subfloor type.
- In steam showers or steam rooms use only setting materials specifically recommended by the manufacturer for this application, and submerged and hot temperature areas. Setting materials recommended by wedi are commonly solid epoxies (meet or exceed ANSI 118.3) or high performance modified mortars (meet or exceed ANSI 118.15). Test the adhesion over vapor barriers.
- Adhesive coverage under tile or other suitable surface finishes in wet area installations must be a minimum of 95%.
- Certain substrates must be primed prior to thinset mortar attachment.
- Ensure tile and setting materials, including grout, are suitable for the application (e.g. submerged applications or steam rooms)
- Do not use where substrate is subject to excessive moisture and moisture content changes.
- Do not use over substrates including, but not limited to: general particle board (specific exceptions apply), luan, asbestos, plank, bamboo, hardwood, chipboard, sponge backed vinyl tile/flooring, laminates, fiberglass based surfaces, metal or steel surfaces. Do not install over any dimensionally unstable surfaces. Consult wedi for questions regarding specific approved installations not listed here.
- Subfloors must be clean, even, sufficiently load-bearing and dry (cured). Residues, oil, waxes, grease or other contaminants acting as possible bond breakers must be removed.
- Deflection of all subfloor installations must not exceed L/360 for ceramic tile installations and L/720 for dimensional stone installations over wedi product under consideration of live and dead loads measured between joists.
- Any leveling of the subfloor must be done prior to installing wedi product and tile. Subfloor maximum variation from plane must not exceed ¼" (6.4 mm) in 10 ft. (3050 mm) and 1/16" (1.6 mm) in 12" (304.8 mm) when tile over wedi product is used and all edges of the tile shorter than 15" (381 mm). For installations over wedi product using tile with at least one edge 15" (381 mm) or longer in length, maximum allowable variation is 1/8" (3.2 mm) in 10 ft. (3050 mm) and no more than 1/16" (1.6 mm) in 12" (304.8 mm). Make sure to use leveling materials adequate to the challenges of the application. When leveling or building up larger areas including outside the shower please do not use material that can be affected by even low water exposure.
- wedi products should not be installed over bowl shaped, uneven structures unless suitability is specifically determined for a wedi product.
- A wedi installation does not replace the need for Expansion and/or Movement joint placement within a tile installation. Please follow recommendations found in the TCNA guidelines (Detail EJ171).
- All installations shall be in conformance with IRC for residential installations and IBC for commercial installations or applicable building codes in a region including the consideration of properly designed substrates and subfloors. All installations including the consideration of properly designed substrates and subfloors should be in compliance with current TCNA Handbook for Ceramic, Glass and Stone Tile Installation,

use details specific to "Cementitious Coated Extruded Foam Backer Board". wedi's technical recommendations supersede all requirements of IRC, IBC, IPC or TCNA where in conflict and exceeding minimum requirements established by the above mentioned institutions.

- Contact wedi for installation of tile or stone smaller than 2 x 2" (50.8 x 50.8 mm) and larger than 12 x 12" (304.8 x 304.8 mm) over wedi product, and where wedi Building Panel is used in commercial use areas, to learn more about the best practices and requirements applied in such applications. Follow tile manufacturers' recommendations for appropriate flooring tile choice, setting materials and installation techniques.

Installation over structural wooden surfaces – Flooring

- Plywood subfloor joist spacing must not exceed 16" (406.4 mm) o.c. with minimum thickness of T&G exterior grade plywood of 23/32" (19 mm). Joist spacing in excess of 16" (406.4 mm) o.c. and up to 24: a structure comprised of one 23/32" (19 mm) exterior grade plywood with 1/8" (3.2 mm) of a gap between sheets and one additional layer of minimum 3/8" (10 mm) thick exterior plywood with 1/8" (3.2 mm) gap between sheets.
- Plywood subfloor sheets must be properly glued and fastened.
- Wood subfloors and structures attached to wooden subfloors must be kept dry and wood moisture content must be maintained at consistent service and use levels and must not exceed 15%. Where constant moisture or vapor is present, ventilation must be installed to eliminate exposure of the wood structure from below the wedi product layer.

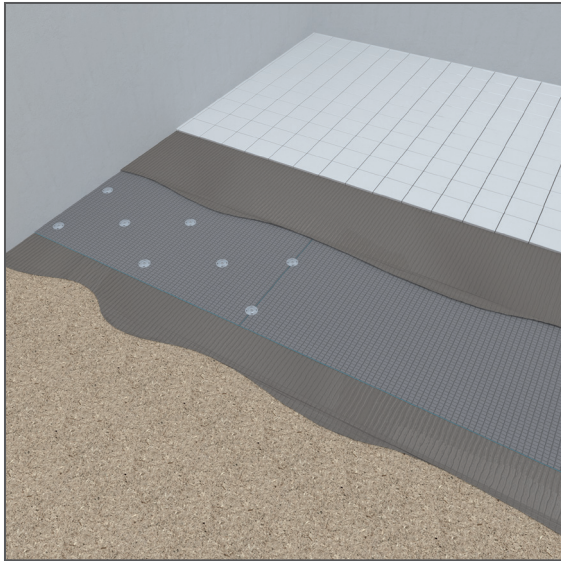
Installation over structural concrete/ cement base surfaces – Flooring

- Concrete slabs or other structural cement based substrates must be fully cured (at least 28 days but up to 3 months for new Portland cement based concrete or lightweight concrete under normal conditions, mix ratio and ambient climate). Field verification of full cure (see moisture level indicators below) is necessary to determine a full cure.
- Residual humidity must not exceed the following value per each floor type when setting wedi product and/or tile coverings:
 - Calcium Sulphate Screeds: 0.5 %
 - Calcium Sulphate Screeds, heated: 0.3 %
 - Cement Screeds: 3.5 %
 - Gypsum based underlayment: 1 % or per manufacturer recommendation
 - Anhydrite Screeds: 0.5 %
- Conduct measures with CM device.
- Please note that wedi product systems might trap rising moisture during cure time or in general from unisolated concrete ground floors not equipped with a vapor barrier.
- Concrete Subfloors must not be subject to hydrostatic water pressure.
- Existing cracks in subfloor must be filled and secured.
- Do not use over control and/or expansion joints subject to out-of-plane movement or in-plane movement.



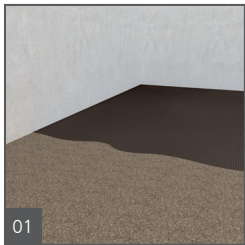
Over Wooden Subfloors

wedi Building Panels are excellent underlayments for tile over interior wood subfloors. When applied over wood subfloors – wedi Building Panels act as a waterproof membrane and offer a superior bonding surface for tile. Additionally, the thermal insulating qualities of the panels support installations including floor warming systems under the tile covering. The ease of cutting and installing the wedi Building Panels make for a great renovating experience. Crisp cuts around installations or obstacles provide for full surface tile support even in underlayment edge areas and tricky spots. When used for waterproofing the exact cut outs and perfect joint alignment provide tight and closed waterproofed surfaces.

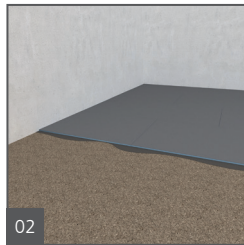


Installation over Wooden Subfloors

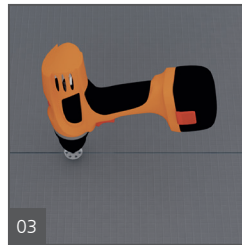
All wedi Building Panel sizes and thicknesses can be used as tile underlayments over wood subfloors. A modified thinset mortar is applied to the floor with a 3/16" (4.8 mm) to 1/4" (6.4 mm) square notch trowel to provide a ribbed bed. The wedi Building Panels are then laid into the mortar. All joints should be staggered so that no seam continues throughout the length of the floor. wedi fasteners, in this application tabless washers and wood screws, are applied every 1 ft. into seams to create flush transitions between panels making use of the wedi washer and are generally set at a rate of 1 fastener per 1 square foot across the panel surface. All seams should be taped with wedi alkali resistant mesh tape in dry areas or with wedi Sealing Tape or wedi Joint Sealant in wet areas. Fastener points are waterproofed using wedi Joint Sealant before tiling begins once the thinset mortar has set up below the wedi Building Panels. Use weights over wedi Building Panels and especially across panel transitions to ensure full bond and smooth transitions.



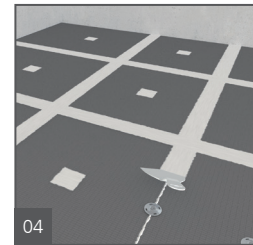
Simply spread modified thinset mortar over a clean wood subfloor using a 1/4" x 1/4" (6.4 x 6.4 mm) notch trowel provided the subfloor is even and load-bearing.



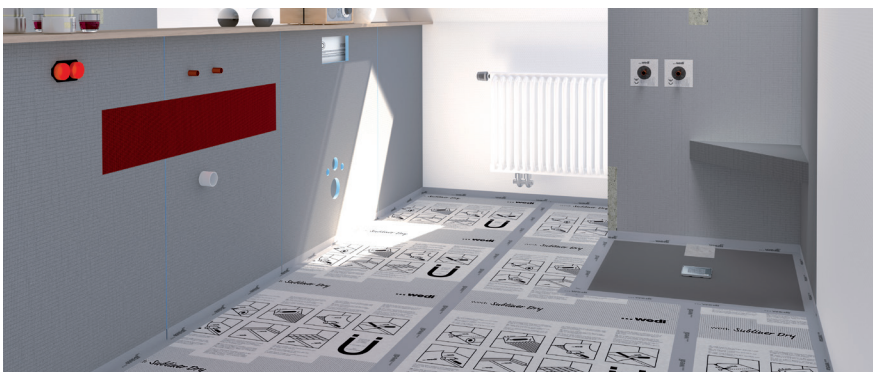
Apply the wedi Building Panel by laying the panels into the mortar. Stagger all panel joints. Apply weights, such as tile boxes, equally across the wedi Building Panel surface and especially over transitions.



Fasten with wedi Fasteners. Use wedi Tabless Washers and wood screws.



Tape all joints with wedi fiberglass mesh tape in dry areas or wedi Joint Sealant in wet areas. Fastener locations should be waterproofed too using wedi Joint Sealant. Begin tiling once tile adhesive has cured below wedi Building Panel.

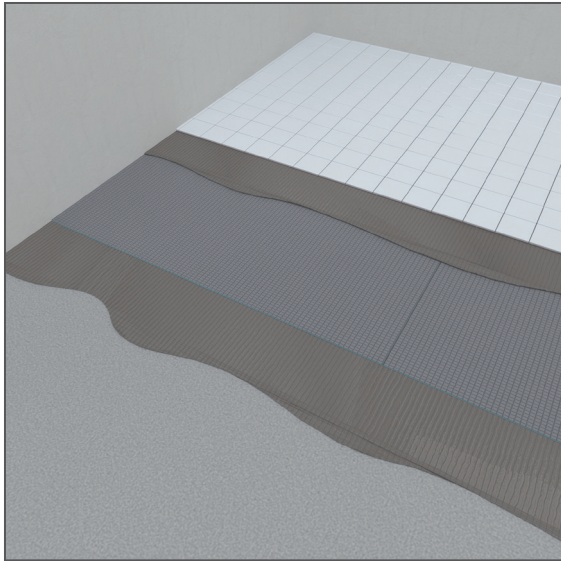


Extend your waterproofing from shower and tub areas into the whole bathroom with wedi Building Panels or the wedi Subliner Dry Sheet Membrane system on your floor. Especially when installing floor level entry showers, a waterproof tile underlayment is needed in the front of a shower entrance. wedi Building Panels and wedi Subliner Dry can help you create both in one step: your waterproofing and tile underlayment as well.



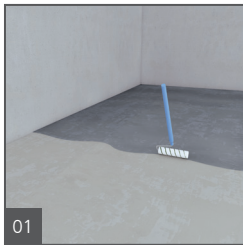
Over Concrete Subfloors

When installed over concrete, wedi Building Panels function as a crack-bridging underlayment, as cracks are not likely to transfer through the polystyrene core. The polystyrene foam also acts as a water barrier, when the seams are properly treated, making the system 100 % waterproof. The panels have excellent thermal insulation qualities, which is especially beneficial when used under floor warming systems. The wedi Building Panel can help smooth out slightly uneven slabs if appropriate mortars or wedi Building Panel thicknesses are used.

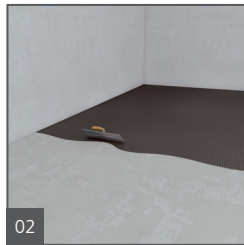


Installation over Concrete Subfloors

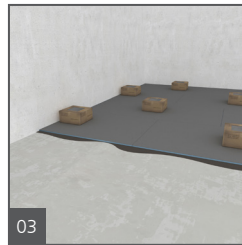
All wedi Building Panel sizes and thicknesses can be used as tile underlayments over concrete subfloors. Modified thinset mortar, combed through with a 3/16" (4.8 mm) to 1/4" (6.4 mm) square notch trowel, will then provide a ribbed bed into which the wedi Building Panels will be laid. All joints should be staggered so that no seam continues throughout the length of the floor. Apply weights (i.e. tile boxes) onto the surface and where transitions are located while the mortar is setting up. After the mortar has set, wedi alkali resistant fiberglass mesh tape, wedi Sealing Tape or wedi Joint Sealant should be applied to all seams, then tiling can begin.



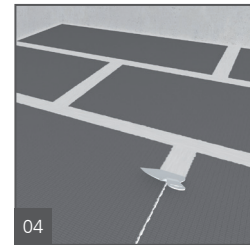
Make sure the concrete floor is fully cured and free of debris, oil or waxes. Some concrete floors might require priming or vapor retarders prior to thinset mortar installation.



The panels are installed in a full coverage setting bed using modified thinset mortar allowing best connection between subfloor and wedi Building Panel.



Stagger all joints when laying wedi Building Panels on the floor. Apply some weights such as tile boxes equally distributed over the wedi Building Panel surface and especially over transitions.



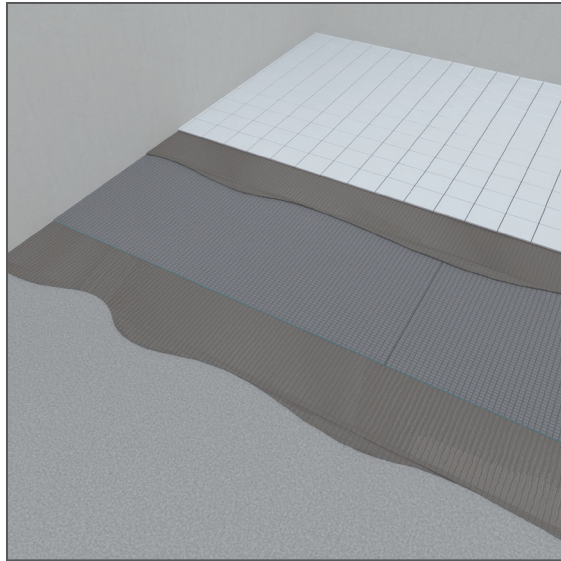
Tape all joints with wedi fiberglass mesh tape in dry areas or wedi Joint Sealant in wet areas. Begin tiling once thinset has cured below wedi Building Panel.



Over structural floors and with Floor Heating Systems

wedi Building Panels are ideal for use beneath floor heating systems whether you have a warm water heating or an electrical floor warming or heating system. The panel's insulation properties isolate the heat from the substrate and guide it straight into the room which then saves energy and reduces warm-up time, as well as supports equal distribution of warmth.

Electric floor heating systems can be installed as per manufacturer's instructions onto already installed wedi Systems and underlayments (i.e. wedi Building Panels, Fundo floor elements, Sanoasa benches, Sanoasa loungers). In wet areas, only products approved for such individual application and areas, such as showers, should be used.

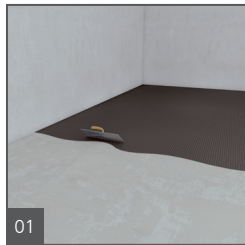


Installation of Electric Floor Warming Systems

The wedi Building Panels save time and money while conserving energy when used in conjunction with any common electric floor heating system. The extruded polystyrene foam core construction makes the system 100% waterproof and the perfect heat insulator and thermal barrier. wedi Building Panels are equipped with a cement resin surface that is reinforced with a fiberglass mesh and provides an ideal bond to any common tile adhesive or selfleveling product which may be needed to integrate an electric cable or mat system.

wedi installation requirements:

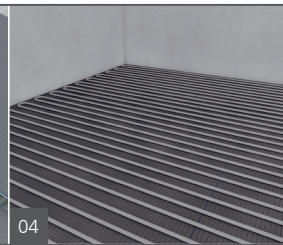
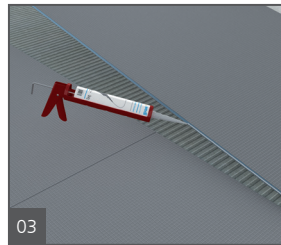
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01 Make sure the concrete floor is even, fully cured and free of debris, oil or waxes. The wedi Building Panels are installed using modified thinset mortar using a 1/4" x 1/4" (6.4 x 6.4 mm) notch trowel.

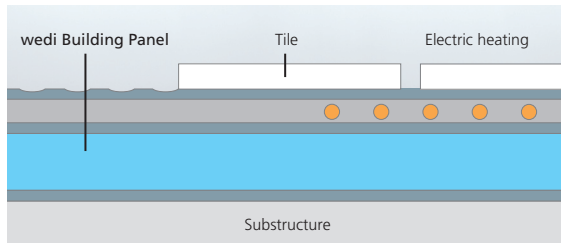


02 Stagger all joints when laying wedi Building Panels on the floor. Apply some weight on the boards during initial thinset setting time and especially over board transitions.



03 wedi Joint Sealant can be applied with a continuous 1/4" (6.4 mm) bead while setting the panels in position (seams butted tightly) or after they are set and with the bead of sealant installed over the seam before it is spread flat using a putty knife. All excess sealant must be spread flat so joint sealant covers the seams at least 1/2" (12.7 mm) to 3/4" (19 mm) on either side of the seam. In dry areas, wedi selfadhesive alkali resistant mesh tape can be used to reinforce the seams.

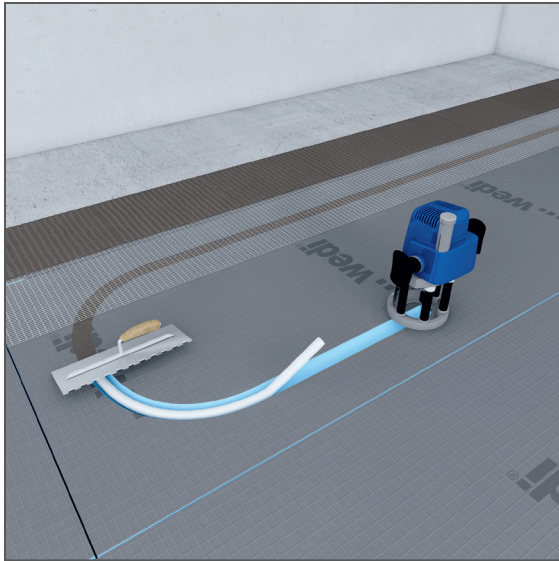
Install electric floor warming system according to manufacturer's recommendations. Please make sure the wedi Building Panels are not punctured by staples or other mounting devices.



Electric under floor heating systems are easy to mount on the wedi Building Panel and downward heat loss is prevented, making the heating system noticeably more effective.

Note on electric floor warming systems

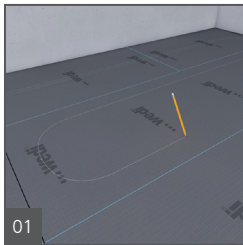
Electric floor heating systems can be installed as per manufacturer's instructions onto already installed wedi product system or underlayment surfaces and reinforced elements (e.g. wedi Building Panels, Fundo floor elements, Sanoasa benches, Sanoasa loungers). Here only products approved for such individual application and areas such as i.e. wet rooms should be used.



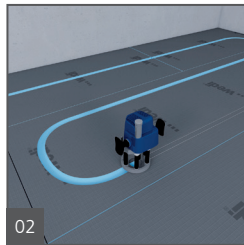
Installation of Hydronic/Water heating systems

wedi Building Panels are ideally suited for use beneath floor and even wall warming systems. The wedi Building Panels good insulation properties keep the heat away from the ground and reflect it back up in to the room, regardless of whether you have a hot-water heating system or an electric system. wedi Building Panels save energy and provide shorter warm-up times around your heating system. The warmth is evenly distributed across the entire floor.

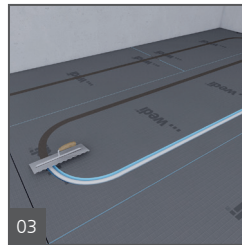
You can also use wedi building panel and customize channels for hydronic tubes. Choose the appropriate thickness adding a minimum of 3/8 in. to the diameter of the tubes or pipe for insulation you want to always keep strong enough below the channels (add for any connector fittings that may require deeper channels).



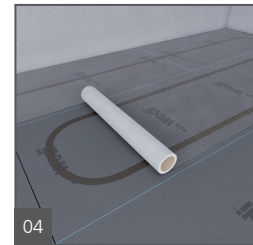
01 Draw ducts/grooves onto the wedi Building Panel for installation of the heating system.



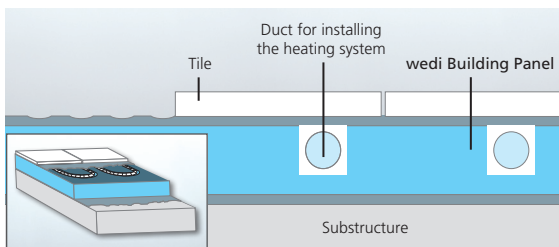
02 Cut grooves using a router. Cutting width should be the same as the pipe width; cutting depth should be at least 1/8" (3.2 mm) deeper. Make sure at minimum a remaining wedi Building Panel foam thickness of 1/4" (6.4 mm) remains intact below the pipe.



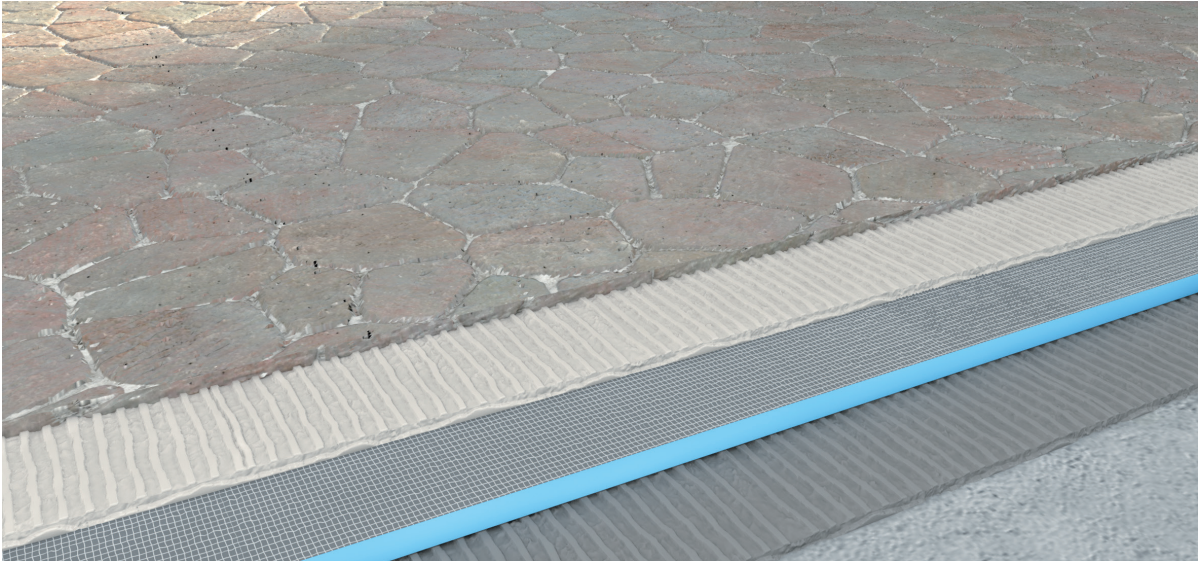
03 Install tubing into the groove. Fill tile adhesive into the pipe duct to cover pipe and fill voids.



04 Apply wedi's wide self adhesive reinforcement tape over the installed ducts. You can then start tiling. Tiles smaller than 4 x 4" (101.6 x 101.6 mm) should not be used over hydronic system installation surfaces.

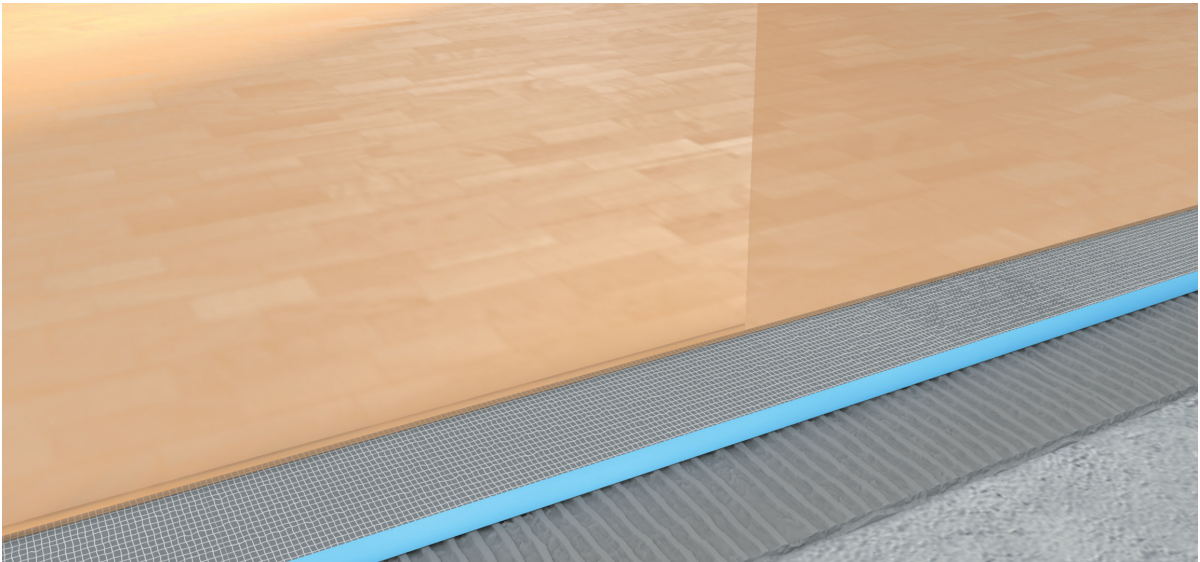


For hot-water systems, ducts can be cut into the building panel and other wedi elements quickly and easily. The wedi Building Panel serves as a combined form of heat insulation and a base for installation of tile and serves as waterproofing protection if needed.



On Floors: wedi under Ceramic and Stone Tile Coverings

Virtually all mosaic and larger or thin tile formats, such as dimension stone or thin porcelain tile, can be installed over wedi Building Panels, which are an ideal carrier element and allow for easy and fast installation. Natural stone is also properly supported and cannot transfer soluble salts causing efflorescence due to the impervious nature of the wedi substrate, separating it from concrete subfloors. Please contact wedi for suitable tile choice and formats for use in various types of installations, such as residential or commercial.



Alternative Floor Coverings: wedi under Laminates and Ready-to-Lay Parquets

Laminates and ready-to-lay parquets are an alternative to ceramic floor coverings. Laminate is a comparatively low-cost material that is only coated with a decorative layer; parquet is a wood flooring that – depending on quality – may be very durable. Both floor coverings are available in many different wood designs and colors as well as various qualities. Also here, the wedi Building Panel is the perfect carrier element, where the laminate is laid as a floating floor.