So easy.

Watch the application video for **Thermozell**

eco speed

Thermozell

Frequently Asked Questions

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Thermozell Leveling Fill
Used to compensate for height tolerances and to cover installation and drainage pipes that are usually laid directly on the raw concrete floor. Thermozell thermal insulation lightweight concrete enables screed and tile installers to quickly, economically, and in compliance with standards, construct floor systems. During deconstruction, connected sections can be removed and, thanks to the material's properties, crushed back into granulate form. The material is not self-leveling and can be pumped over a maximum distance of 60 to 80 meters, depending on the machine technology. Depending on the application, the following types are available:

Thermozell 160
For applications requiring good thermal insulation, such as attic insulation, sloped concrete layers, insulation against basements and the ground.

Thermozell 250
For applications requiring good thermal insulation, such as attic insulation, sloped concrete layers, insulation against basements and the ground.

Thermozell 400
For applications involving higher compressive loads, such as subfloors in industrial halls and frost protection layers (from 20 cm thickness) for roads and parking areas. Thermozell 400 is non-combustible and complies with fire classification A2 according to DIN EN 13501-1.

What is Thermozell eco?
Thermozell eco is a factory-prepared, cement-bound leveling fill with refined EPS granulate, supplied in 80-liter bags. By simply adding water, a load-bearing leveling compound with excellent insulating properties is produced.

What is Thermozell pro?
Thermozell pro enables fast, standard-compliant, and economical construction of floor systems. It consists of refined EPS granulate supplied in 200-liter bags. Mixing with cement and water takes place directly on the construction site.

What is the difference to speed?
The difference lies in our specially developed additives.
For eco/pro, readiness for covering is achieved after approximately 10 days. For eco speed/pro speed, this is achieved within approximately 24 hours, depending on layer thickness, ventilation, and ambient temperature.

Processing and Installation

Where and how can Thermozell be used?
Thermozell can be used in various application areas, such as:
- Level compensation: installations, vaulted and timber beam ceilings, slopes, etc.
- Substructure: screeds, tile coverings, underfloor heating systems, terraces, etc.
- Backfilling: walls, ceilings, pools, etc.

How must the substrate be prepared before laying Thermozell?
The substrate must be fundamentally load-bearing, dimensionally stable, dry, broom-clean, and free of contaminants. In the case of rising damp, appropriate sealing measures according to DIN 18533 (sealing of ground-contacting components) must be taken.

For wooden constructions, any loose floorboards and wooden panels must be firmly screwed down to the subfloor or replaced before applying Thermozell. We recommend installing a separation layer (a vapor-permeable membrane) to protect the wood beforehand.

For absorbent substrates, we recommend using a commercially available primer to ensure more even drying.

Which cement can be used for Thermozell pro / pro speed?
Depending on the amount of added cement, the product types Thermozell pro speed and pro 400/250/160 are created, each with their specific properties and areas of application. For mixing, commercially available cement (e.g. CEM 42.5 N/R, CEM 32.5 N/R) or special cement / binders suitable for producing bound leveling fills can be used.

How is Thermozell mixed?
For Thermozell pro speed/pro, the required amount of cement must first be added depending on the desired product type.For Thermozell eco speed / eco, this step is not necessary, as the cement is already pre-mixed at the factory.

First, thoroughly mix the dry compound to ensure even distribution of the binder. Then, gradually add the specified amount of water and continue mixing thoroughly until a homogeneous, earth-moist consistency is achieved.

Start by using the minimum specified water quantity. If necessary, additional water may be added, within the guidelines of the mixing instructions, to reach the desired consistency.

Do I need to consider expansion joints?
As a rule, Thermozell can be applied without expansion joints. However, if expansion joints are already present in the structure, they must also be reflected in the leveling layer.

Does Thermozell need to be compacted?
No, Thermozell does not need to be compacted. The mixed material only needs to be leveled with a straightedge. 1 m^3 of Thermozell yields 1 m^3 of finished leveling fill. When installed professionally, no post-compaction or settling occurs.

What is the minimum fill height?
Can I taper Thermozell down to 0 mm?
According to our European Technical Assessment (ETA), the minimum fill height is 30 mm. Thermozell cannot be tapered down to 0 mm. If a taper to 0 mm is required, you can apply Thermozell up to 30 mm and then transition from 30 mm to 0 mm using a leveling compound.

When is Thermozell ready for covering?
Before installing the next layers of the floor structure, the leveling layer must be sufficiently dry. The CM (calcium carbide) test has proven effective for measuring residual moisture. The residual moisture should not exceed 12 %.

Readiness for covering is reached when:
- eco speed / pro speed: after approx. 24 hours (depending on <12 % CM reading and building climate). This 24-hour value assumes a room temperature of 20 °C and 65 % relative humidity.
- eco / pro: after approx. 10 days

How can residual moisture be measured?
In practice, the CM method is widely used. A 10 g sample should be taken from the full cross-section. A pressure reading of max. 1.2 bar indicates readiness for covering, which corresponds to 12 % residual moisture. Detailed instructions on how to perform the CM test can be found on our product pages:
- https://thermozell.hirsch-gruppe.com/eco/
- https://thermozell.hirsch-gruppe.com/pro/

Can installation pipes, conduits, and ducts in the installation layer be filled with Thermozell according to DIN 18560-2?
The Thermozell types eco speed / eco 250 and pro speed 250 meet the required minimum compressive strength of 100 kPa at 10 % deformation in accordance with DIN EN 826. They can be combined with other leveling layers. When using multiple leveling layers side by side, make sure that the stiffness is equivalent. Additionally, ensure that no insulation boards are undercut, and that the height of the Thermozell layer is flush with the insulation layer.

Can Thermozell be used in combination with metal pipes?
Aluminum-coated pipe insulation is not suitable for use in cement-bound fills. The applicable DIN 4140 (corrosion protection) must be applied and followed accordingly.

... and with plastic pipes?
We are not aware of any incompatibilities with plastic pipes.

What is the processing time?
- eco speed / pro speed: at least 15 minutes at 20 °C
- eco / pro: at least 30 minutes at 20 °C

What is the required processing temperature?
The processing temperature (air and substrate) must be at least 5 °C and no more than 30 °C.

What must be observed during the drying phase?
Thermozell must be protected from drying too quickly, for example due to drafts. Direct sunlight should also be avoided, and the freshly applied surface must be shielded from it.

Can Thermozell remain in the component after water damage?
If Thermozell is exposed to clean (fresh) water, the leveling layer can be dried using air dryers. However, if wastewater has entered the leveling layer, microbial contamination is likely. For hygienic and health reasons, the affected section must be removed generously in the area of contamination.

Which mixing equipment is suitable?
Screed pump, truck mixer, compulsory mixer, drum mixer, free-fall mixer, paddle mixer, LB-Mix, mixing truck

Is Thermozell suitable for impact sound insulation?
Thermozell lightweight concrete has compressive strength but does not provide impact sound insulation. If such insulation is required, an impact sound insulation board can be added on top of the Thermozell layer in the floor structure.

How do I lay tiles or floor coverings on Thermozell?
If you want to lay tiles or other floor coverings on Thermozell, Type 400 is the minimum requirement. To prepare the surface for tiling or covering, apply a commercial leveling or smoothing compound (observe manufacturer instructions) in a layer of approx. 10 mm, with an embedded reinforcing mesh to ensure a smooth, even surface.

Construction layer recommendations are available upon request.

Sustainability

Is Thermozell free from...?
Thermozell is free from HBCD (hexabromocyclododecane).
Thermozell is free from CFCs, HCFCs, and HFCs.

Is Thermozell QNG ready?
The “Qualitätssiegel Nachhaltiges Gebäude” (QNG) is an official quality seal issued by the German Federal Ministry for Housing, Urban Development and Building for sustainable buildings. The associated requirement catalog (313) for the avoidance of harmful substances in insulation materials mandates freedom from HBCD and halogenated blowing agents. The QNG certificate is a prerequisite for KfW funding in new buildings aiming to achieve the sustainability class (NH). Thermozell pro speed is free from both HBCD and halogenated blowing agents, and is therefore QNG ready.

Is Thermozell suitable for DGNB or BNB certification?
The DGNB system (German Sustainable Building Council) evaluates the sustainability of various building types. It is suitable for large-scale commercial and residential projects as well as smaller housing units. The 2023 version sets high standards for ecological, economic, sociocultural, and functional aspects across the entire life cycle of a building.

The BNB assessment system (Sustainable Building Rating System) is a tool for evaluating office and administrative buildings, educational institutions, laboratory buildings, and outdoor facilities in Germany. It was developed by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) to reduce the ecological footprint of buildings and promote sustainable construction.

Thermozell eco speed & pro speed can be used without restriction for both DGNB and BNB certification.

EU Taxonomy
The EU Taxonomy classifies economic activities and products based on their environmental impact. At the product level, the EU regulation sets clear requirements regarding formaldehyde and volatile organic compounds (VOC). The Sentinel Holding Institut GmbH certifies qualified products that meet these standards. Thermozell meets these requirements.

For Thermozell eco speed & pro speed, we have obtained a product certificate from the Sentinel Holding Institut GmbH confirming that it fulfills the criteria for: DGNB certification, BNB certification, EU Taxonomy compliance, and is QNG-ready.

Storage and Disposal

How should I store Thermozell?
The bags must be protected from UV radiation and heat, and stored in a dry place.

- The maximum storage time for the ready-mix Thermozell eco speed / eco in 80-liter bags is 6 months.
- The Thermozell pro speed / pro in 200-liter bags can be stored for up to 1 year.

Frozen material:
If Thermozell material freezes during the winter months, there is no reduction in freeze-thaw resistance. The material can therefore be reused without concern.

Where can I dispose of Thermozell?
To dispose of Thermozell lightweight concrete, please contact a local recycling center or waste collection facility in your area.

If you did not find the answer to your question, please contact our technical support team.

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