Underfloor heating systems: comfortable, efficient and economical

Healthy heat from below

Underfloor heating keeps your feet warm and at the same time creates more space for living: it frees your walls from radiators. On top of that, underfloor heating also goes easy on your wallet: the operating costs are around ten percent lower than those of radiator heating systems.

These days, surface heating systems have already been installed in every second new building – in most cases underfloor heating systems. This is the result of a survey published by the Federal Association of Surface Heating and Surface Cooling. There are good reasons for the popularity of underfloor heating systems since they distribute the heat evenly throughout the room. As a result, the residents no longer suffer from cold feet. In addition to the high living comfort, underfloor heating systems also feature low energy consumption. The operating costs are therefore about ten percent lower than those of radiator heating systems. In principle, any type of floor covering can be installed on underfloor heating. However, the aspect of healthy living plays a key role today. The building materials used in our homes should always carry the EMICODE® EC1 seal awarded by GEV.

While it is naturally warmer near the radiator than in the middle of the room, underfloor heating radiates the heat evenly over the entire surface. As a result, there are no „cold corners“ in the room. Warm feet are not the only advantage of underfloor heating systems, however. Unlike radiators, they do not take up any space. The residents can therefore give free rein to their creativity and furnishing ideas. On top of that, underfloor heating is also easy on the wallet: the operating costs of underfloor heating systems are around ten percent lower than those of radiator systems. It is therefore not surprising that almost every second building owner today opts for this heating system (source: Bundesverband Flächenheizungen und Flächenkühlungen – Federal Association of Surface Heating and Surface Cooling).

Whether water-based or electric: floor heating systems can be a wonderful thing. However, it must be ensured that the flooring installed on top is well able to conduct the heat. Tiles and natural stone slabs have proven to be a good choice. They not only have excellent thermal conductivity but also store the heat, which makes the system particularly efficient. Also parquet flooring can be laid on underfloor heating. The only important thing is that the flooring material needs to be fixed to the substrate over its entire surface with a parquet adhesive. This allows the heat to flow unimpeded through the screed and adhesive right into the wood, without the formation of disturbing air pockets.

Vinyl flooring, laminate and carpet also qualify as possible flooring materials. Here, too, it is crucial that the floor is level and dry before installation and that the craftsman bonds the floor covering over the entire screed surface. Only floor coverings should be selected that have been approved and marked by the manufacturer for use on underfloor heating. This is what energy consultants strongly recommend. To ensure optimum heat transfer, the thermal resistance of the floor covering must not exceed R = 0.15 m^2 K/W. It is best to ask the manufacturer for the exact value.

Underfloor heating also contributes a lot to the health of our home. Unlike radiators, they do not stir up dust. Allergy sufferers can therefore breathe freely within their own four walls. To ensure that the products used for installation protect our health and the environment, have a quick look at the packaging: if it carries the EMICODE® seal, products like adhesives, primers, levelling compounds and many others are certified to comply with the world's most stringent emission limits. Before they receive the certificate, the products are tested by independent laboratories using the test chamber method. Regular spot checks carried out by neutral experts and testing institutes monitor long-term compliance with the limit values. This is a major advantage of EMICODE® over other certification systems for health and environmental compatibility.

More information about the EMICODE®
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