

How does Termik help to reduce heating costs?

The principle of heating involves converting energy from a primary source (gas, electricity) into thermal energy.

This energy must then be transferred to the space being heated.

Water-based heating:

In the case of water-based heating, hot water is supplied to the radiators via pipes.

Heat is then transferred from the radiators into the room via air flowing around the surface of the radiator. With conventional radiators, this process is very slow.

With this system, the outflowing water cools by approximately 4 °C, which means very low utilisation of heating energy. Natural air flow is influenced by the temperature of the radiator. The higher the radiator temperature, the higher the air flow rate.

At 90 °C, this is approximately 46 m³/h, but at 50 °C it is only approximately 24 m³/h. If we place a Termik device beneath the radiator, the flow rate increases by 150 m³/h.

As a result, the radiator cools down more quickly and the outlet water temperature can be up to 17 °C lower. This means that 13 °C more energy from the heating water is transferred to the room.

The temperature thus rises several times faster and the heating time is reduced to as little as one-fifth. This depends on the type of radiator. The highest efficiency is achieved with so-called panel radiators.

When using the Termika system, it is possible to reduce the temperature of the heating water from the boiler by up to 30 °C.

Heating with electric direct heaters:

In the case of electric direct heaters, primary electrical energy is converted directly into thermal energy. The airflow is the same as with water-filled radiators; without the Termik system, efficiency is several times lower. According to our tests, it is possible to heat the same room to the same temperature using only 30 per cent of the power consumption with the help of the Termik system.

This means that with an original heater with a power consumption of 1,500 W

, we can reduce the power consumption to as low as 500 W whilst maintaining the same heating output, and also shorten the heating time. For this heater, which is used for approximately 8 hours a day, the saving is:

$$1,500 \text{ W} - 500 \text{ W} = 1,000 \text{ W} \times 8 \text{ hours} = 8,000 \text{ Wh per day (8 kWh per day)}$$

A room measuring 4 x 4 metres and 3 metres high has a volume of 48 m³. Without the Termik device, it takes much longer to heat the room.

Termik aids air circulation and ensures an air flow rate of 150 m³ per hour through the radiator. This reduces the time needed to heat such a room several times over.

Procedure for setting up the heating system with Termik:

1. Measure the time taken to heat the room to the desired temperature.
2. Set the start of heating as follows:
The heating time between the maintenance temperature and the desired temperature is 0:20 hours. I want the room to be warm by 6:00 – I'll start heating at 6:00 – 0:20 = 5:40 hours.
3. Most room thermostats are not designed for such a rapid rise in temperature, and the temperature sensor is too close to the wall, which is cold and lowers the measured temperature. The ideal solution is to insert expanded polystyrene between the wall and the thermostat to act as thermal insulation.
4. Sometimes the room temperature exceeds the set point by as much as 6 °C. Lowering the heating water temperature, or reducing the power output of the electric heater, will help.