

FLOOR AND/OR WALL HEATING

3-48 V.



HEATING OF A NEW GENERATION

- ✓ ECONOMICAL
- ✓ ULTIMATE PLEASURE
- ✓ LONG TERM
- ✓ SAFE

WHY CHOOSE ECO 12V UNDERFLOOR HEATING?

COST EFFICIENT:

1 – INITIAL INVESTMENT

Eco heating 12V is a type of local heating, which do not require a boiler room, a chimney, or a fuel tank. They are therefore much cheaper than central heating systems. The cost of constructing a boiler room, chimney, and a fuel tank generally exceeds the full initial investment for our heating system.

If you invest your savings into photovoltaics, you will have free heating.

2 – HEATING EFFICIENCY (energy consumption)

Our heating has no energy loss characteristic for central systems (boiler heat loss, loss in transfer to the heat exchangers, loss on regulation). As an underfloor heating system, it has an almost ideal temperature profile. The large heat exchanger allows an extremely low temperature regime. Regulation is direct and adjustable, for every space separately. In this manner, we fulfilled all conditions for maximum energy efficiency.

It is simply impossible to ensure quality heating with less energy! Heating costs are therefore also very low.

3 – MAINTENANCE COSTS

Regular maintenance: **Regular maintenance is simply not required.** This eliminates annual costs of maintenance for a boiler, fuel tank, chimney, and heat exchangers. Extraordinary maintenance (malfunctions) is rare and inexpensive.

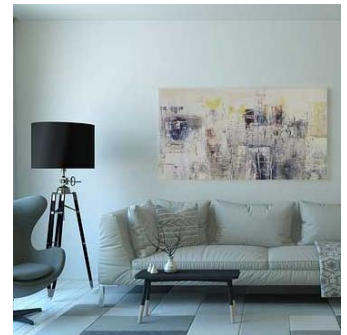
4 – SERVICE LIFE (DURABILITY)

The projected service life of the heating strips **exceeds 100 years.**

The projected service life of the transformers **exceeds 50 years.**

Our heating system most likely has no competition in the maintenance costs and service life categories.

Conclusion: The system completely negates the relatively high energy (electricity) cost with a low initial investment, maximum energy efficiency, durability, and negligible maintenance costs.



HIGHEST COMFORT

With an extremely low temperature regime and enormous heat exchanger, this heating provides nothing but pure comfort. Living comfort was, in fact, our primary focus. The results are as follows:

- steady and balanced heat exchange
- even temperature distribution across the floor and throughout the room
- almost ideal temperature profile (warm feet and cool head)
- temperature regime setting for each room separately
- acceptability from the perspective of room design (no radiators)
- does not cause any noise, smells, dust circulation, or surface temperatures not suitable for contact
- good regulation features
- option of floor, wall, or combined installation

HYGIENE

The basic difference between “radiator” and underfloor heating is in the method of heat exchange. Floor heat exchangers radiate or transfer heat evenly, while radiators convert heat, i.e. exchange heat by air circulation. Thus, dust and biological growths, which generally develop on moist floors, are transferred into the room in addition to the heat. By heating and drying the floor, underfloor heating systems to a large degree prevent the development of such organisms.

Therefore: less dust, less mites, less bacteria, less allergies...

SAFETY

The system operates at a safe voltage of 3–48 V. Heating strips can be drilled through or wet without any consequences. Restoration of potential interruptions of strips is quite easy. An interruption can be located under the screed and flooring. There is no danger of spilling.

Electromagnetic radiation values are significantly below the permitted limits. For ease of mind, if so requested, we do not install heating strips below beds. **Therefore, there is no harmful effect of EM radiation!**

Adverse effects on the vascular system?

The system has an enormous heat exchanger and an appropriate, extremely low, temperature regime / operating temperature. The floor temperature in rooms where we spend most time is approximately 26°C, which is a full 10°C below body temperature.

The low temperature regime completely eliminates the possibility of a negative impact on the vascular system!

To illustrate: if you want to notice the warmth of the floor heated to 26°C, you have to place one hand on the floor and the other on the wall.

The theory that underfloor heating can have a negative effect on the vascular system arose years ago, when the same boilers with a high-temperature heating regime were used for both underfloor and “radiator” heating.

PRODUCT DESCRIPTION AND TECHNICAL SPECIFICATIONS

The product consists of the power supply, the heat exchanger, and regulator (thermostat).

The power supply is delivered in a steel housing, protected against corrosion and the usual physical loads. It is usually installed under the plaster, close to the electrical cabinet. The only thing visible is the cover.

The heat exchanger consists of aluminium strips, 6, 8, 12, or 17 cm wide, and 0.2 mm thick. They are installed under or on top of screen in the floor, or under plaster panels or plaster in the walls, and powered with a low-voltage electricity (from 3 V to 48 V).

Heating strips can be installed on top of existing flooring.

POWER DIMENSIONING

The power supply capacity is determined by the heat loss of the room heated. Heating strip dimensions depend on the desired specific heat output (W/m^2) of heating.

Specific heat output is limited by the recommended floor temperature in individual rooms.

Specifically:

23–28°C for living areas (specific heat output 30–80 W/m^2)

28–32°C for bathrooms or margins along external walls or under glass surfaces (specific heat output 120 W/m^2)

For heating open areas or surfaces (terraces, balconies, driveways), we use a heat output of 80–150 W/m^2

If heat loss of closes areas required a higher specific output than recommended, we can supplement it with wall installation or by redirecting into passive floor surfaces.

SETTINGS

Settings are entered using a digital, adjustable room thermostat for each room separately. Remote management is also available.



ECO HEATING 12V – TECHNICAL DATA

Heat exchanger	insulated Al strips
Power supply	3–48 V (optional connection to alternative energy sources)
Heating floor coverage	up to 80%
Specific power	by calculation or optional
Floor temperature	23–28°C, bathrooms 32°C (or optional)
System power supply	220–230 V, 50–60 Hz
Maximum power consumption	12 A
Settings	by room, stationary or remote
Protection	OF, F1 + F2, soft-start
Heat exchanger protection	chemical, physical
Warranty period	20 years for heating strips, 7 years for electronic circuitry
Flooring	all types
Installation	floor, wall, or combined
Screed	wet or dry
Issued by:	SIQ, Slovenian Institute of Quality and Metrology Tržaška cesta 2, SI-1000 Ljubljana

INSTALLATION

FLOOR VERSION:

The heating tapes are usually laid under the screeds, on insulation, but no less effective if they are laid on screeds or under floor coverings. The soil level is raised only by 0.4mm.

Although it may sound strange, we also put the straps on existing floor coverings (mobile version). The only condition is that they are covered with something due to the visual effect. You can use anything: warm floor, laminate, rubber, carpet, plasterboard, artificial grass, etc. Of course you can also use ceramics or stone, if the existing flooring permits.

Therefore, the heating tapes allow dry and wet screeds and all types of floor coverings. You will be warmed up wherever you place them.

WALL CONSTRUCTION:

In the case of wall mounting, mounting options are unlimited. The tapes can be placed under or above the plaster. It is only important that there is a heat seal for heating bodies (from the outside or inside the wall), otherwise heat will emerge.

When adapting to the wall, we usually place a layer of insulation, fixing the heating strips to it (up to 180-200 cm) and covering them all with plasterboards. If the walls are too guilty of such an intervention, we align them with Al-profiles. In any case, the procedure is not too demanding. With a little effort, you can get heating equivalent to the floor.

A ceiling design is also possible.

ELECTRONIC CIRCUIT:

Usually it is installed in the wall, so that after the installation, only the cover is visible. assemblies and thermostats, but different solutions are also possible. Housing dimensions are 22x35x10 or 35x35x10. There is no need to install an electronic assembly or assemblies in a room that is heated. Users are most often choosing to install in the hallway. In other rooms, only the thermostats are left.



USABILITY

The system can meet almost all user demands

ECO 12V UNDERFLOOR HEATING IS SUITABLE FOR ALL TYPES OF FLOORING

The system uses the largest heat exchanger on the market. It covers up to 80% of floor surface (water pipes – up to 20%, wires at 230 V – up to 8%), with an appropriate temperature regime and operating temperature. It can therefore heat a room without temperature overload of any flooring, ensuring a top-of-the-line distribution of heat throughout the floor and space.

ECO 12V UNDERFLOOR HEATING IS SUITABLE FOR ALL TYPES OF FLOOR

The thickness of heating strips is only 0.250 mm. They can be installed under or on top of the screed, or on top of existing flooring.

ECO 12V UNDERFLOOR HEATING CAN BE ADAPTED TO ALL TEMPERATURE PROFILES

Strips can be installed on the floor, walls, or ceilings. We can also combine installation types. Regardless of its location, the heat exchanger ensures the highest comfort.

HEAT DISTRIBUTION

Heating strips are not installed in a raster pattern, but as required for particular parts of the room. Less power along internal walls, more power under windows and along external walls, ideal power on walking surfaces. Increased power ensures better insulation of external walls and elimination of condensation on glass surfaces (recuperation).

RATED POWER

The lower the temperature regime, the lower the necessary rated power. The system thus solves the issues of overloaded electrical installations.

SPATIAL ISSUES

Eco 12V heating and heating with aluminium strips does not require a boiler room, a chimney, or a fuel tank. Furthermore, it allows a more free room design, without the limitations of radiators or other visible heat exchangers. The price of the saved living area usually exceeds the investment on heating.

Adaptable installation

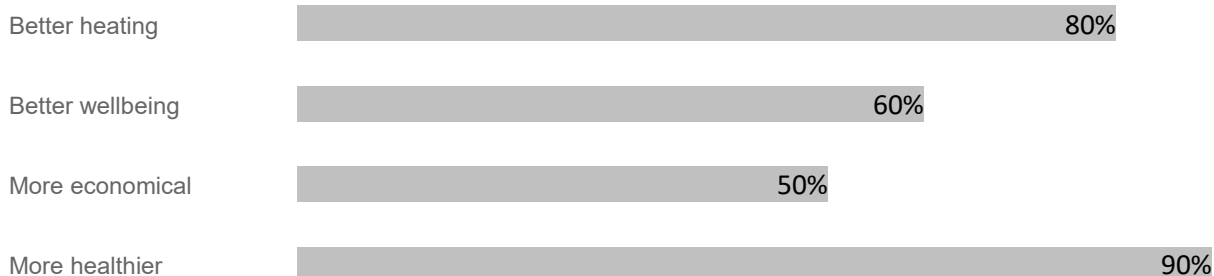
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MULTIPLE ENERGY SOURCES

Eco 12V underfloor heating can be connected to the power grid, directly or indirectly to renewable energy sources (photovoltaics, wind power stations) or accumulators. Usable at holiday cottages, mobile units, or during longer power supply interruptions.

OUR GOAL IS YOUR SATISFACTION

IN our Company, we constantly strive for the quality of our systems and consequently customer satisfaction, so your feedback is most valuable for us. Check our satisfaction indicators, which show that the i-eco underfloor heating system actually exceeded the high expectations of our customers.



SEND REQUEST and arrange a free consultation.

If it is a single room, please give us the information in the table below.

Room area (m2);

Room height (cm);

Floor (-1,0,1,2 ..);

Purpose of the room (e.g. kitchen, toilet, hall, terrace ..);

Object isolation (cm);

Location of the property (eg Zagreb, Vienna, Munchen);

If there is more than one room (apartment building, etc.), please let us know the floor plans.

.. for more information, contact us by email and we will answer you as soon as possible.

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