HOME
THERMOLINE

ISOFOLIE®

The Problem

The changeover from radiant heat (stove heating) to convective heat (central hot water heating) about 60 years ago resulted in deficiencies in building physics, which were supposed to be remedied by subsequent solutions (insulation, insulating glass windows, ventilation systems), but led to ever new kinds of problems.

In building physics, stationary conditions are assumed for the theoretical calculation of the heat demand of buildings. The U-value, which describes the theoretical instantaneous or steady-state condition, is completely unrelated to practice and can only be simulated in a climate chamber in the laboratory. Wind, humidity and solar radiation in and on building envelope constructions are significantly involved in heating energy consumption.

Wherever there are people, animals and plants, wherever climatic conditions determine our lives, it is transient and dynamic conditions that lead to heat loss in buildings.
The EnEV (Energy Saving Ordinance) is supposed to lead to less energy being consumed, but the opposite is the reality.

The Solution

The prerequisite for heating cost-saving alternatives is to create dry and thus heatable building components. Contrary to conventional heating systems, where warm air is generated in living spaces, the temperatures of the surfaces on the inside of the exterior walls are to be increased by our problem solvers.

Creating Synergies

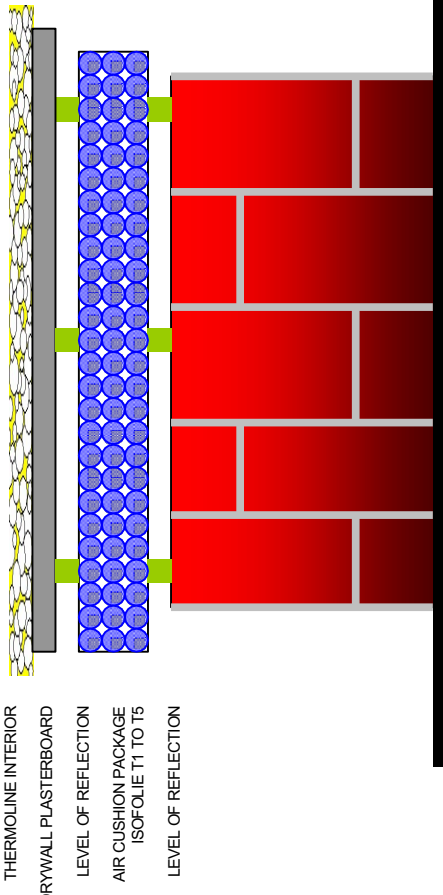
The products described below have these energy-saving properties. In combination, synergies with high energy-saving potential are created. Heating energy savings and comfort by raising wall surface temperatures with surface temperature control systems, reflection levels and moisture regulation of building components with glass-filled wall paints.

1. **Surface Tempering**
2. **Heat Reflection**
3. **Humidity Regulation**

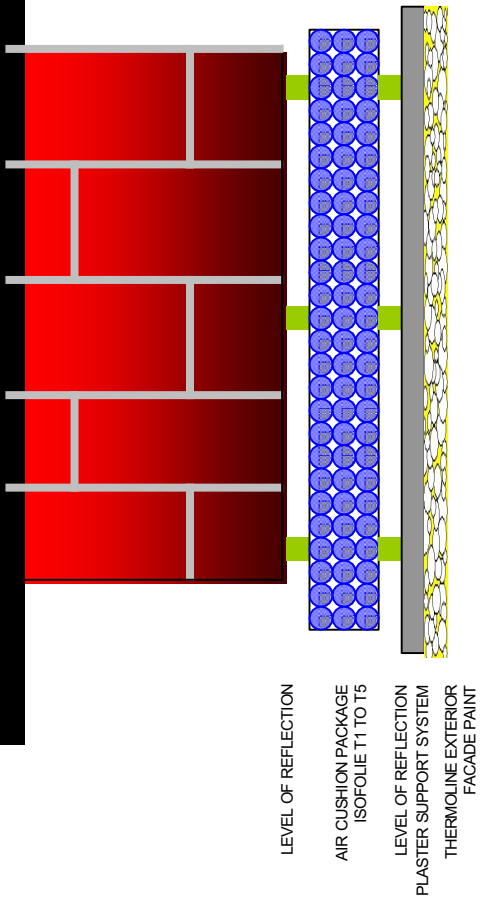
Reflective Insulation – Indoor Application

Advantages for the User

- DIN EN ISO standard 6946 compliant calculation
- Interior application
- Enables slim building constructions
- Simple installation
- Improved heat reflecting radiation into the room
- Improved heat reflection effect against solar radiation
- Very high heating cost savings
- No conduction through aluminium on the outside of the construction
- Constant reflection values even after years, as the reflection layer is protected against dust and further contamination.
- R-value from 2.049 to 7.049 (m²K/W) for wall and roof, depending on 1 or 2 reflective layers and the thickness of the foil package
- Prevents thermal bridges
- Can be used as a moisture barrier
- Reflects up to 99% of solar radiation and thermal radiation
- Thermal conductivity lambda = 0.0198 (W/mK) according to EN12667
- No toxic emissions



Reflective Insulation – Roof and Facade



Advantages for the User

- DIN EN ISO standard 6946 compliant calculation
- Exterior application
- Enables slim building constructions
- Simple installation
- Improved heat reflecting radiation into the room
- Improved heat reflection effect against solar radiation
- Very high heating cost savings
- No conduction through aluminium on the outside of the construction
- Constant reflection values even after years, as the reflection layer is protected against dust and further contamination.
- R-value from 2.049 to 7.049 (m^2K/W) for wall and roof, depending on 1 or 2 reflective layers and the thickness of the foil package
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CE 16 Ref: 4010

ISOFOLIE-T4,0
Insulation system covered with a 9.5 mm paper faced plasterboard

Isolationssystem für Dach und Wandpanele
(Isolation system for roof and wall panels)

Technical Specifications

R-value for roof and wall with up to 2 reflection levels and depending on the foil package thickness

	Thickness mm	Width m	Length m	R-Value (m²K/W)
T 1,0	**18**	**1,20**	**25,0**	**≤ 2,049**
T 2,5	**36**	**1,20**	**12,4**	**≤ 2,958**
T 3,0	**54**	**1,20**	**10,0**	**≤ 3,867**
T 3,5	**63**	**1,20**	**8,4**	**≤ 4,321**
T 4,0	**81**	**1,20**	**8,4**	**≤ 5,230**
T 4,5	**99**	**1,20**	**5,0**	**≤ 6,140**
T 5,0	**117**	**1,20**	**5,0**	**≤ 7,049**

λ-value 0.0198 (W/mK) according to EN12667
determined with T4 by testing institute SGS from 04.09.2015

Interior application for roofs and walls with **ISOFOLIE**,
the air cushion reflection film for preventing heat radiation losses and reducing cooling loads

Exterior application with
ISOFOLIE, the
Air cushion reflection film to prevent solar radiation penetration

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