



DAS ORIGINAL
UNGER
DIFFUTHERM®
Innovative Thermal Insulation Systems

Udi**PRODUCTS**

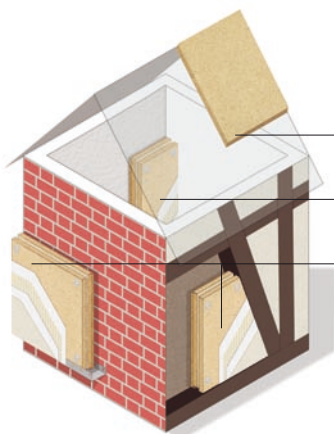
*Save energy, retain heat and
protect yourself from the cold with
wood-fibre insulation*



WWW.UNGER-DIFFUTHERM.COM

For property owners, developers and planners, maintaining the value of older and newly constructed buildings is an ongoing task. Our outstanding **UdiBRAND** products help you achieve this goal. For 20 years **UNGER-DIFFUTHERM** has been researching, developing, producing and marketing environmentally-friendly and innovative natural wood-based insulation systems.

The properties of our products are reflected in our company name **UNGER-DIFFUTHERM**
DIFFU – Our vapour-permeable systems are able to **DIFFUSE** the collected water vapour back into the air.
THERM – They provide excellent levels of **THERMAL** insulation.



UdiPRODUCTS

Retain the heat and protect yourself from the cold with our ecological wood-fibre insulation

- UdiTOP**^{SYSTEM}
The complete program for your roof
- UdiIN**^{SYSTEM} NEW
The interior insulation system for listed buildings and other beautiful facades
- UdiFRONT**^{SYSTEM} NEW
The proven insulation system for tomorrow, available today
- UdiSPEED**^{SYSTEM} NEW
The efficient insulation system for pre-fabricated buildings
- UdiRECO**^{SYSTEM} NEW
The wood-fibre, external thermal insulation composite system – with integrated levelling compensation
- UdiCLIMATE**^{SYSTEM} NEW
The interior insulation system with integrated climate chambers
- UdiLOAM**^{SYSTEM}
The complete, modern loam building system

Improved living quality for you and climate protection for our world

CONTENTS	
Udi GUARANTEES	4
Udi SERVICE	5
Udi TOP ^{SYSTEM}	6
Udi FRONT ^{SYSTEM}	7
Udi IN ^{SYSTEM}	8
Udi RECO ^{SYSTEM}	9
Udi CLIMATE ^{SYSTEM}	10
Udi SPEED ^{SYSTEM}	11
Udi FLEX ^{SYSTEM}	12
Udi STEAM ^{SYSTEM}	13
Udi DATA	14



Protection from the cold
UdiINSULATION SYSTEMS provide effective protection against energy losses and the biting cold.



Heat shielding
 Heat shielding in the summer helps provide a cool, comfortable room climate – and not only in hot regions.



Vapour permeable
 The composition of our products ensures an optimal room climate – without the need for any additional appliances



Fire protection
 A large number of tested constructions have proven that **UdiINSULATION SYSTEMS** provide excellent protection from the effects of flames.



Calming
UdiINSULATION SYSTEMS provide excellent soundproofing results – and not just on paper!



Tested
UdiINSULATION SYSTEMS are subject to strict quality controls and testing procedures for the CE – labelling designation and official technical approvals from the German Institute for Building Technology (DIBT).



Sustainable, ecological and health promoting
 A natural product manufactured from sustainably sourced wood-fibres



UdiGARANTEES®

15 Year protection – Insulate with the benefits of our guarantee package



The **UdiFRONT^{SYSTEM}** and **UdiIN^{SYSTEM}** have been tried and tested over many years and have established themselves in the top class of insulation systems. We are so convinced of the quality of our products that we offer a comprehensive **guarantee package**. In order to ensure the long-term maintenance of the value of your property, it is important that all architectural characteristics, building system components and their method of installation must correspond with our licensing specifications and be carried out by an **UdiCertified Installer**.



UdiMould-free-GUARANTEE®

- Unique freedom from mould growth guarantee
- Lifelong health-promoting insulation system for you, your family and your children



UdiWarp-free-GUARANTEE®

- Unique guarantee that the insulation boards will remain warp-free
- Storm-proof façade – up to wind speeds of 185 mph
- The surfaces always remain smooth and even
- Warp-free – even under thermal stresses i.e. temperature extremes



UdiCrack-free-GUARANTEE®

- Unique crack-free guarantee for rendered façades
- The **UdiFRONT^{SYSTEM}** and **UdiIN^{SYSTEM}** ensure that the substance of the building remains dry
- Over 2 million square metres have been installed since 1989 – without any cracks developing!



UdiColour choice-GUARANTEE®

- Your individual dream colours for the exterior render are available in the complete colour spectrum

UdiSERVICE®

From professionals, for professionals
Friendly and competent



Prompt and punctual deliveries



Telephone support and advisory service



Planning and technical support service



Regular seminars

Further detailed information, including example texts for tenders for architects and tradesmen, technical approvals, comprehensive product information and price lists can be found on our web site under:

www.unger-diffutherm.com.

- I am planning a building project and require a quotation for:
- UdiTOP^{SYSTEM}** **UdiIN^{SYSTEM}** **UdiCLIMATE^{SYSTEM}**
- UdiFRONT^{SYSTEM}** **UdiRECO^{SYSTEM}** **UdiSPEED^{SYSTEM}**
- UdiFLEX^{SYSTEM}** **UdiSTEAM^{SYSTEM}** **UdiPRODUCT CATALOGUE**
- Please send me the complete documentation for:
- Please contact me per telephone.

PREFIX AND TEL-NO.

.....

SHORT DESCRIPTION OF YOUR BUILDING PROJECT

.....

.....

.....

.....

.....

.....

MY ADDRESS

.....

.....

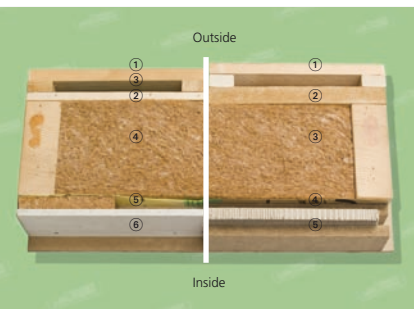
.....

FAX: +49(0) 371- 81 56 464



UdiTOP[®] SYSTEM

The complete program for your roof



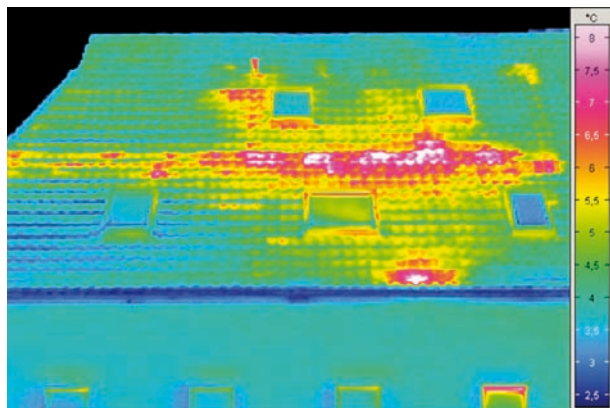
- ① Battens for the roof tiles
- ② UdiSTEAM Tex 155 'breather' membrane, Sealed wind-tight
- ③ Roof cladding
- ④ UdiFLEX 200 mm Compact insulation layer
- ⑤ UdiSTEAM 10 plus Moisture variable vapour retarder
- ⑥ Battens with fibre-board cladding

- ① Battens for the roof tiles
- ② UdiTOP Premium wood-fibre sark board
- ③ UdiFLEX 200 mm Compact insulation layer
- ④ UdiSTEAM 3,5 Ecological vapour retarder
- ⑤ UdiCLIMATE 60 mm Interior insulation with a rendered finish

A third of the energy generated to heat a house is lost through an un-insulated roof. Whether you own an old house or are planning to build a new one, the UdiTOP[®] SYSTEM provides you with an uncomplicated, ecological and energy efficient means of reducing your heating bills. Property owners and developers would like the option of a simple, quick, multi-functional and ecological high-performance insulation system.

The UdiTOP[®] SYSTEM deliberately does not employ water vapour barriers thereby ensuring that the roof can 'breathe' – allowing a natural moisture exchange between the interior and exterior air. The system blocks the radiation of the cold from the outside and ensures that the interior remains warm, thereby creating a healthy and comfortable room climate.

The UdiTOP[®] SYSTEM combines environmental-friendliness with comfort. This sophisticated combination of thermal insulation and vapour permeability means your roof is optimally insulated. The UdiTOP[®] SYSTEM is totally safe, causing no health problems at all. This factor combined with its excellent building physics values makes it the right insulation system for you and your property!

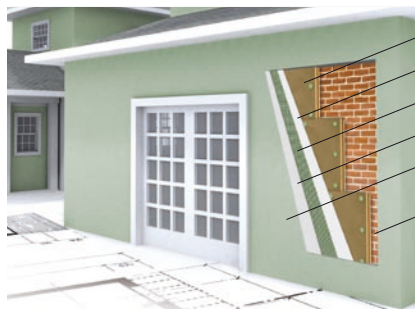


The red and light coloured areas are wasting valuable energy

UdiFRONT[®] SYSTEM

15 YEAR GUARANTEE

The proven insulation system for tomorrow, available today



- UdiUNGER-DIFFUTHERM[®]
- UdiFOUNDATION COAT[®]
- UdiREINFORCEMENT[®] Strengthening mesh
- UdiPERL[®] Fine structured render
- UdiPERLplus[®] Fine quality façade paint (on request)
- Foundation (Timber, Masonry etc.)

UdiFRONT[®] SYSTEM is an established, top quality, proven and certified composite thermal insulation system. Our highly efficient wood-fibre sandwich layer construction is available in combination with our tested and specially selected top quality renders in a wide range of attractive colours and textured finishes for all types of external walls.

The UdiFRONT[®] SYSTEM with its water vapour permeable design allows walls to 'breathe' naturally. It absorbs and relieves stresses in the building structure and provides outstanding protection against heat loss, the effects of the cold and excess heating of the building due to the sun. This ensures an excellent room climate combined with super sound-proofing qualities.

In addition to the environmentally-friendly aspects, UdiFRONT[®] SYSTEM insulation solutions offer ecological and building physics benefits for new buildings and for the modernisation of all types of existing buildings whether these are masonry, timber or half-timbered structures. The result is a tried and tested, external wall insulation system that means you don't have to make compromises.



Timber-framed house with UdiFRONT[®] SYSTEM 60 mm



The ecological interior insulation system



- Udi[®]LOAM[®] Paint
- Udi[®]PERL[®] Interior structured plaster
- Udi[®]LOAM[®] Fine quality render
- Udi[®]REINFORCEMENT[®] Strengthening mesh
- Udi[®]MULTIGRUND[®] Base coat
- Udi[®]ASSEMBLY[®] Fixing
- Udi[®]UNGER-DIFFUTHERM[®]
- Udi[®]LOAM[®] Base Render
- Foundation (Timber, Masonry etc.)

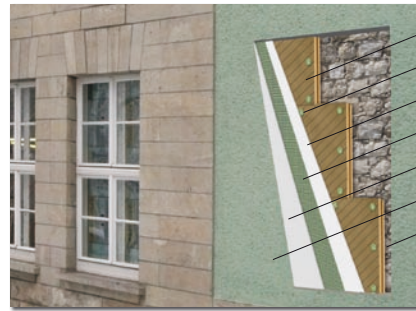
The **UdiIN[®]SYSTEM** is an environmentally-friendly insulation system with outstanding building physics values that delivers what it promises! Its solid, void-free construction is achieved using highly efficient, wood-fibre sandwich-layer insulation boards which are coated with UNGER-DIFFUTHERM[®]'s specially developed, water vapour regulating **Udi[®]MULTIGRUND[®]** and reinforced with a strengthening mesh. This forms the base for further coats of loam or other types of render. These are available in a wide range of colours of your choice. For existing buildings, in which it is not possible to insulate the exterior walls from the outside e.g. due to preservation order restrictions, proximity to property boundaries or adjacent buildings etc or perhaps just to preserve the existing optical impression, the **UdiIN[®]SYSTEM** is the ideal solution – even for the most demanding developers.

The **UdiIN[®]SYSTEM** blocks the radiation of the cold and benefits from its active vapour diffusion properties and an integrated water vapour retarder which ensures a controlled moisture level within the insulation layer and a short drying-out. The system naturally regulates the humidity level of the rooms providing a warm and comfortable room climate.



For listed buildings and the preservation of other beautiful façades

A new exterior insulation system- specially designed for uneven surfaces



- Udi[®]RECO[®] Insulation boards
- Udi[®]SD RECO[®] Adjustable fixing
- Udi[®]FOUNDATION COAT[®]
- Udi[®]REINFORCEMENT[®] Strengthening mesh
- Udi[®]PERL[®] Fine structured render
- Udi[®]PERLplus[®] Fine quality façade paint
- Foundation (Timber, Masonry etc.)

The **UdiRECO[®]SYSTEM** is the result of innovative research work in dealing with the problems presented when insulating partially crooked and uneven substrates. **UdiRECO[®]SYSTEM** external thermal insulation composite system has been developed by UNGER-DIFFUTHERM[®] for use in newly constructed buildings and the renovation of older buildings.

The vapour-permeable characteristics of the **UdiRECO[®]SYSTEM** ensure that the walls can 'breathe' by storing and dispersing water vapour naturally. It absorbs and relieves stresses and movements in the building's structure; it retains the warmth and provides all-over protection from the cold; acts as a heat shield in hot weather and has excellent sound-proofing properties. The result is a comfortable and healthy room climate and lower energy consumption.

In addition to the environmentally-friendly aspects, **UdiRECO[®]SYSTEM** insulation solutions offer ecological and building physics benefits for new buildings and for the modernisation of all types of existing buildings. The result is a tried and tested wall insulation system that means you don't have to make compromises.

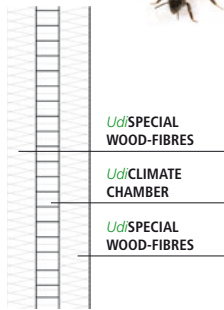
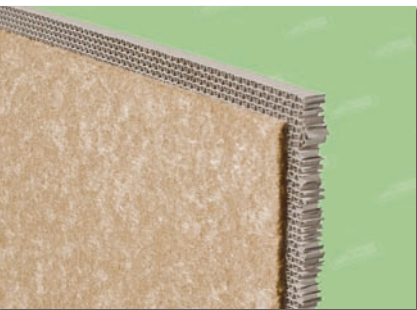


Ingenious: the UdiRECO-Principle adapts to the level of the foundation substrate



UdiCLIMATE[®] SYSTEM **NEW**

The interior insulation system with integrated climate chambers



The new, universal renderable insulation board is easy to work with and can be installed in roof spaces, ceilings and walls. It is ecological and free from harmful substances. Three effective, vapour-permeable insulation layers are combined to create this unique insulation system. The distinctive feature of this system is that it combines the use of numerous, almost stationary, columns of air. Through the use of special climate chambers arranged in a honeycomb form in combination with specially selected wood-fibre insulation boards, the stationary columns of air are enclosed within the insulation system. The tongue and groove edged construction eliminates thermal bridges. The special climate chamber structure in combination with the wood-fibre insulation boards ensures a very high flexural strength for the application of loads e.g. interior plaster/render coats or blown-in insulation applied behind the insulating layer, without any warping of the external surface. The system ensures a comfortable and stable room climate and the effective storage and dispersion of air vapour. The UdiCLIMATE[®] SYSTEM is the modern alternative to traditional gypsum boards providing outstanding levels of sound-proofing, thermal insulation and an effective heat shield in the summer. In addition, the positive vapour-permeable properties help to prevent the development of mould growth.



UdiCLIMATE[®] is the modern alternative to traditional plasterboard.

UdiSPEED[®] SYSTEM **NEW**

The efficient 40mm render-bearer insulation board system for timber buildings



UNGER-DIFFUTHERM's many years of experience, attention to quality and precision and our depth and range of development work have enabled us to create a unique and convincing, universal 40 mm render-bearer insulation board. The newly developed, high-tech, surface technology makes possible a permanently warp-free, rendered surface in combination with a wood-fibre, bearer insulation layer.

The UdiSPEED[®] SYSTEM in combination with UdiPERL[®] Fine quality render fulfils all the requirements for a professional renovation using external chipboard and for new timber-framed constructions, both without a vapour barrier.

The system is easy to handle for a simple time-saving installation. The tongue and groove joints around the whole circumference provide stability and a formed fit without thermal bridges. UNGER-DIFFUTHERM'S many years of manufacturing experience and our depth and range of development work guarantee reliability.

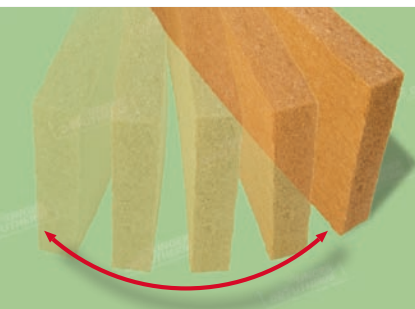


Timber building with the UdiSPEED[®] SYSTEM 40 mm



UdiFLEX[®]SYSTEM

Plan and insulate flexibly –
to meet the highest demands



UdiFLEX[®] is suitable for use in the following areas (in accordance with EN 4108-10):



Exterior wall insulation



The insulation of timber-framed constructions



The insulation of partition walls



Insulation between rafters and battens



Interior wall insulation



The interior insulation of ceilings and roofs

Due to its improved snug-fitting characteristics, adaptability and resistance to settling, it is particularly suited as insulation for voids, exterior and partition walls and ceilings in timber-framed constructions. It is also an excellent roof insulation material for newly constructed buildings and the modernisation of existing buildings. The UdiFLEX[®]SYSTEM is very kind to the skin and does not cause any irritation when preparing or installing.

Using the UdiFLEX[®]SYSTEM in combination with our UdiSTEAM[®]SYSTEM Air- and Wind-Tight Program, it is possible to construct insulated roofs and partition walls which are vapour permeable whilst at the same time air-tight and free from the build up of condensation.

Moisture is absorbed and then released again without affecting the building structure or the properties of the insulation. Buildings insulated with the UdiFLEX[®]SYSTEM remain cooler for longer in the hot summer months. A heat shield of over 10 hours is possible with an insulation thickness of only 20 cm – without the need to use any extra air-conditioning systems.



UdiFLEX[®] fits in every gap

UdiSTEAM[®]SYSTEM

Efficient and ecological,
air- and wind-tight sealants



Kraft-paper vapour retarders and wind sealant sheeting with our specially developed adhesives

After many years of research and development work in the area of thermal optimisation, we have managed to achieve a symbiosis between ecology and functionality with our UdiSTEAM[®]SYSTEM. This system provides a high level of air-tightness whilst ensuring that the building remains vapour permeable.








Our ecological vapour retarders and wind sealant sheeting, combined with our specially developed adhesive systems, provide a comprehensive range of solutions in order to protect your house from the effects of external and internal moisture ingress.

These include high-performance vapour retarders made from Kraft-paper and also modern, 'intelligent' vapour retarders with moisture variable SD-values between 0.5 and 10 metres which adapt to the humidity level. The material composition of our products provides the highest possible levels of quality and functionality – which has been proven time and again in laboratory tests and in practise.



Ecological and water vapour retardant



Application areas	UdiTOP ^{SYSTEM}	UdiIN ^{SYSTEM}	UdiFRONT ^{SYSTEM}	UdiRECO ^{SYSTEM}	UdiCLIMATE ^{SYSTEM}	UdiSPEED ^{SYSTEM}	UdiFLEX ^{SYSTEM}	UdiSTEAM ^{SYSTEM}
 Roofs	•	•	–	–	•	–	•	•
 Exterior walls	–	–	•	•	–	•	•	•
 Ceilings	•	•	•	–	•	•	•	•
 The internal side of exterior walls	•	–	•	–	•	•	•	•
 Partition walls	–	•	•	•	•	•	•	•
Application types of wood-fibre insulation materials as per DIN 4108-10	DAD-dg/-dm, DAA, DZ, DI-zk/-zg, WAB-dg/-dm, WH, WI-zk/-zg, WTR	DAD-dg/-dm, DZ, DI-zk/-zg, DEO-dg/-dm, WAB-dg/-dm, WH, WI-zk/-zg, WTR	DAD-dg/-dm, DZ, DI-zk/-zg, DEO-dg/-dm, WAB-dg/-dm, WAP-zh/-zg WH, WTR	DAD-dg/-dm, DZ, DI-zk/-zg, WAB-dg/-dm, WAP-zh/-zg WH, WI-zk/-zg, WTR	DAD-dg/-dm, DZ, DI-zk/-zg, DEO-dg/-dm, WAB-dg/-dm, WH, WI-zk/-zg, WTR	DAD-dg/-dm, DZ, DI-zk/-zg, DEO-dg/-dm, WAB-dg/-dm, WAP-zh/-zg WH, WI-zk/-zg, WTR	DAD-dg/-dm, DZ, DI-zk/-zg, WAB-dg/-dm, WH, WI-zk/-zg, WTR	Application as per DIN 4108-7, Air- and wind- tightness
Tests/ Technical approvals	Z-23.15-1625 DIBT Berlin	Z-23.15-1429 DIBT Berlin	Z-33.47-663 Z-33.43-204 DIBT Berlin	(Approval pending) DIBT Berlin	Z-23.15-1429 DIBT Berlin	Z-23.47.663 DIBT Berlin	Z-23.15-1625 DIBT Berlin	
<small>DIBT (German Institute for Building Technology)</small>								
Board format in cm:	250 x 67.5 135 x 57.5	130 x 79	130 x 79	130 x 79	115 x 75	130 x 79	135 x 57.5	
Components Insulation boards	Wood-fibre < 7 %	Wood-fibre PVAC < 2 %	Wood-fibre PVAC < 2 %	Wood-fibre PVAC < 2 % Binding fibres < 6 %	Wood-fibre Cellulose Dispersion < 2 %	Wood-fibre PVAC < 2 %	Wood-fibre Binding fibres < 7 %	Cellulose or PP-fibres Butyl or Acrylic adhesive
Thermal conductivity W/(mK) (Design value)	0.038 – 0.05	0.045	0.045	0.041	0.049	0.05	0.038	0.4
Vapour diffusion resistance μ	5	5	5	5	5	5	1	60 to 8000 Dependent on type or variable as per moisture content
Specific enthalpy capacity J/(kgK)	2100	2100	2100	2100	2100	2100	2100	190
Apparent density kg/m ³ Surface area weight in kg		ca. 190	ca. 190	55/240	ca. 210	240	55	
Fire classification DIN 4102-1	B 2	B 2	B 2	B 2	B 2	B 2	B 2	B 2
Euro class DIN EN 13501-1	E	E	E	E	E	E	E	E
CE-Labelling 	•	•	•	•	•	•	•	•
Quality controlled Ü-Symbol 	•	•	•	•	•	•	•	-
Udi GUARANTEE-PACKAGE		15 Year	15 Year					15 Year

DAS ORIGINAL
UNGER
DIFFUTHERM®

Innovative Thermal Insulation Systems

Unger-Diffutherm offers you top quality wood-fibre insulation systems:

UdiTOP®
SYSTEM

The complete program for your roof

UdiIN®
SYSTEM

The interior insulation system for listed buildings and other beautiful facades

UdiFRONT®
SYSTEM

The proven insulation system for tomorrow, available today

UdiSPEED®
SYSTEM

The efficient insulation system for pre-fabricated buildings

UdiRECO®
SYSTEM

The wood-fibre, external thermal insulation composite system – with integrated levelling compensation

UdiCLIMATE®
SYSTEM

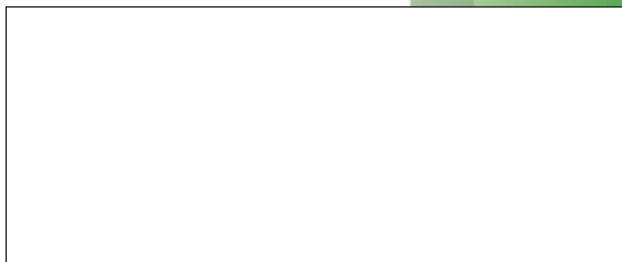
The interior insulation system with integrated climate chambers

UdiLOAM®
SYSTEM

The complete, modern loam building system



Both we and our specialist merchants are always happy to provide you with a personal service to answer any questions you may have. Don't hesitate to contact us.



Unger-Diffutherm GmbH
Blankenburgstr. 81
09114 Chemnitz (Germany)

Tel +49(0)371-81 56 40
Fax +49(0)371-81 56 4-64
eMail info@unger-diffutherm.de

