e:nergycarbon
energy efficient ceiling heating

Produkt- und Systemübersicht **E-NERGY CARBON 36 V**

Elektrische Heizfolien für Decke, Wand und Boden

*Product overview **E-NERGY CARBON 36 V***

Electric heating foils for ceiling, wall and floor



Energy Carbon Ltd









TOP 100 top100.de Top-Innovator 2022

FAMILIEN FREUNDLICHE ARBEITGEBER OSNABRÜCK

Technologie | Innovation | Verantwortung

Den höchsten Stellenwert im Unternehmen hat die technologieoffene Entwicklung moderner und ressourcenschonender Systeme rund um die Flächenheizung und -kühlung sowie Wohnraumlüftung. Unterschiedliche Gebäudetypen bedingen individuelle Systemlösungen für maximale Effizienz und hohen Komfort.

Neue Wege zu gehen und innovative Gedanken zu verfolgen, um den Status quo in Bezug auf Kosten, Effizienz und Komfort zu verbessern ist ein wesentlicher Bestandteil der täglichen Arbeit im Unternehmen.

Als inhabergeführtes Unternehmen stehen wir jeden Tag in der Verantwortung für unsere Kunden, Lieferanten, Mitarbeiter und Familien. Das machen wir gerne und handeln nach sozialen sowie umweltgerechten Leitlinien.

Technology | Innovation | Responsibility

The company attaches the greatest importance to the open-technology development of modern and resource-conserving systems for panel heating and cooling as well as domestic ventilation. Different types of buildings require individual system solutions for maximum efficiency and comfort.

Breaking new ground and pursuing innovative ideas to improve the status quo in terms of costs, efficiency and comfort is an essential part of the company's daily work.

As an owner-managed company, we are responsible for our customers, suppliers, employees and families every day. We are happy to do this and act according to social and environmental guidelines.

unsere gesamte Produktvielfalt | Our full product range



IDEAL CLASSIC EPS

Flächenheizung- und kühlung für Boden, Wand & Decke – schnell reagierende & energiesparende Bedarfsheizung

Surface heating and cooling for floor, wall & ceiling – fast reacting & energy saving heating on demand



IDEAL CLASSIC ÖKO

Die ökologische Flächenheizung und -kühlung hat zusätzlich eine schalldämmende Wirkung

The ecological surface heating and cooling has an additional sound-absorbing effect



COMPACT FLOOR

Wärmeleitschichten für Fußbodenheizungen – innovative Trockenestriche und Entkopplungen

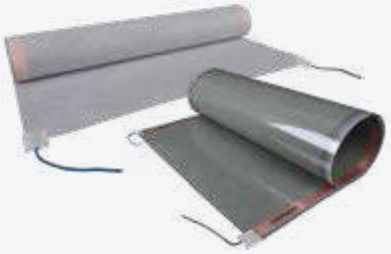
Thermal conductive layers for floor heating systems – innovative dry screeds and decoupling



E-NERGY IQ

Intelligentes Heizsystem – Innovativer Energieboden für Neubau & Sanierung

Intelligent heating system – Innovative energy floor for new buildings & renovation



E-NERGY CARBON

Elektrische Heizfolien auf 36 Volt-Basis für den Einbau in Decke, Wand und Boden

Electrical heating foils on 36 Volt basis for installation in ceiling, wall and floor



AIRUNIT

Dezentrale Wohnraumlüftung – Push-Pull-Lüftungssystem mit Wärmerückgewinnung

Decentralised residential ventilation – push-pull ventilation system with heat recovery

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Lieferung ab Werk
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Es gelten die allgemeinen Geschäftsbedingungen

Instructions

Delivery ex works
Price list without VAT
The general terms and conditions apply

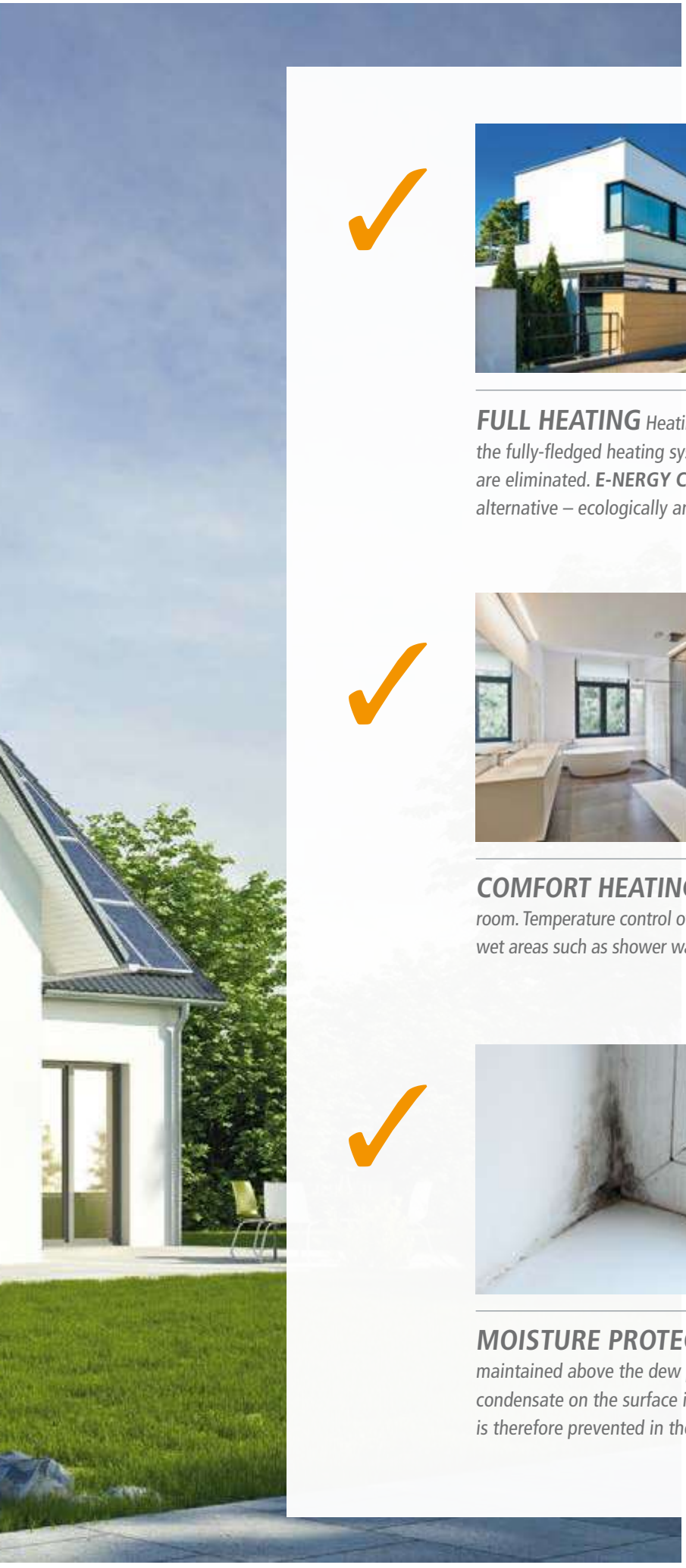
E-NERGY CARBON – DIE NEUE FLÄCHENHEIZUNG

ELEKTRISCH HEIZEN: KOMFORTABEL. PREISWERT. EINFACH.

E-NERGY CARBON – THE NEW SURFACE HEATING SYSTEM

ELECTRIC HEATING: COMFORTABLE. INEXPENSIVE. SIMPLE.





VOLLHEIZUNG

Heizen auf Knopfdruck mit **E-NERGY CARBON** – dem vollwertigen Heizsystem. Investitionskosten klassischer Heizsysteme entfallen. Durch **E-NERGY CARBON** wird Heizen mit Strom zu einer sinnvollen Alternative – ökologisch und ökonomisch!

FULL HEATING *Heating at the touch of a button with **E-NERGY CARBON** – the fully-fledged heating system. Investment costs of classic heating systems are eliminated. **E-NERGY CARBON** makes heating with electricity a sensible alternative – ecologically and economically!*

KOMFORTHEIZUNG

Genießen Sie Wohlfühlwärme punktuell und Raum für Raum. Temperierungen von Oberflächen mit gesunder, unsichtbarer Strahlungswärme und das sogar in Nassbereichen, wie z.B. in den Duschwänden – **E-NERGY CARBON** macht´s möglich.

COMFORT HEATING *Enjoy cosy warmth in specific areas and room by room. Temperature control of surfaces with healthy, invisible radiant heat, even in wet areas such as shower walls – **E-NERGY CARBON** makes it possible.*

FEUCHTESCHUTZ

Die Oberflächentemperatur wird mit **E-NERGY CARBON** dauerhaft über dem Taupunkt gehalten. Bildung von Kondensat an der Oberfläche wird verhindert. Feuchtigkeit, die Ursache für die Schimmelbildung, wird so nachhaltig unterbunden.

MOISTURE PROTECTION *The surface temperature is permanently maintained above the dew point with **E-NERGY CARBON**. Formation of condensate on the surface is prevented. Moisture, the cause of mould growth, is therefore prevented in the long term.*

» E-NERGY CARBON

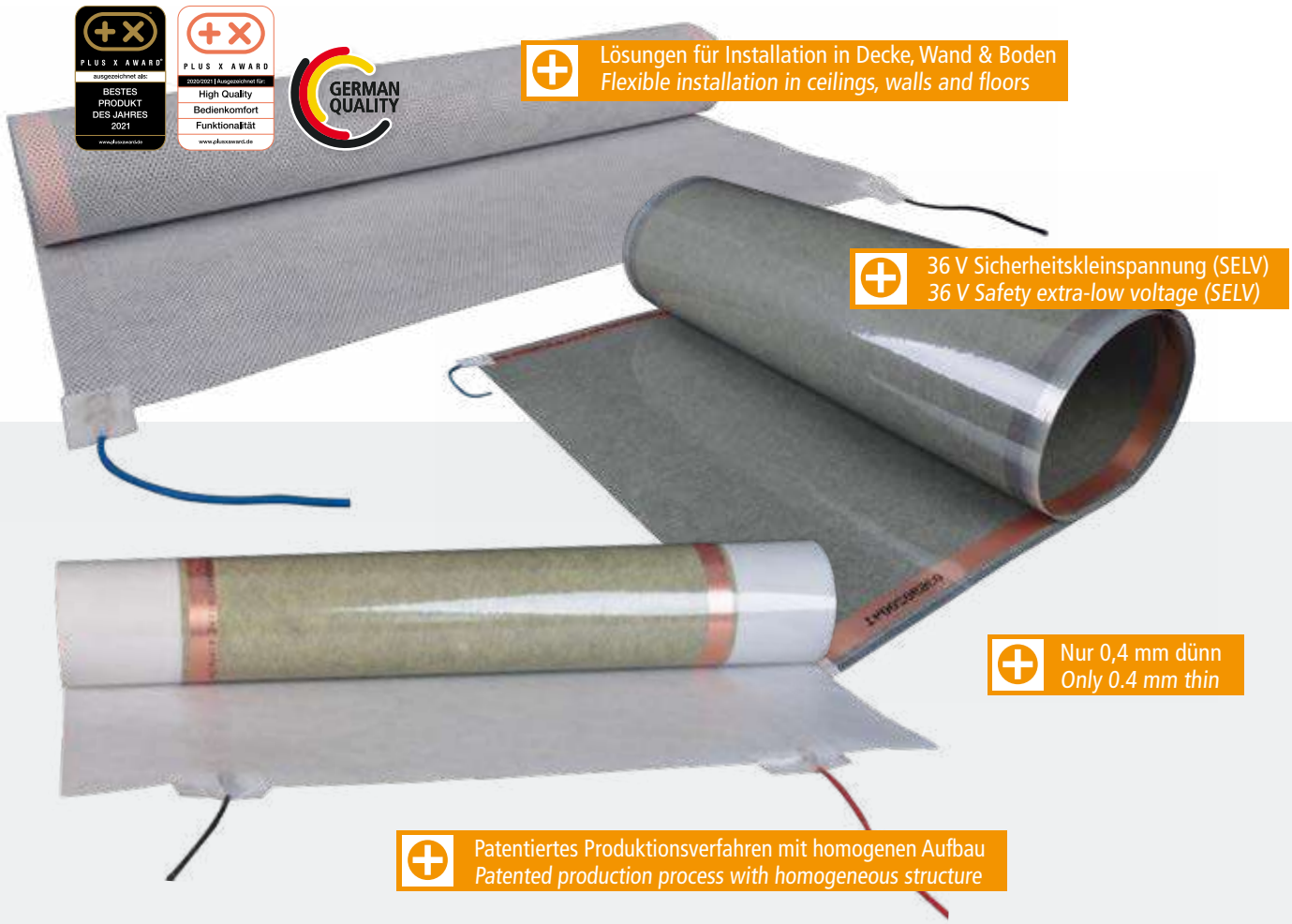
Das System **E-NERGY CARBON** ist eine zukunftsweisende elektrische Flächenheizung für Neubauten, Sanierungen und Renovierungen.

Die Basis des Systems sind Heizfolien, die in einem patentierten Produktionsprozess hergestellt werden Betrieben wird **E-NERGY CARBON** mit 36 V Schutzkleinspannung. Die einfache und schnelle Regelung erfolgt komfortabel durch den **E-NERGY** Raumthermostat mit Smart-Home Technologie.

*The **E-NERGY CARBON** system trend-setting electric panel heating for new buildings, refurbishments and renovations.*

*The system is based on heating foils that are manufactured in a patented production process **E-NERGY CARBON** is operated with 36 V protective low voltage. The **E-NERGY** room thermostat with smart home technology provides quick and easy control.*

Nachträgliches Einbringen von Löchern möglich
Subsequent drilling of holes possible



Lösungen für Installation in Decke, Wand & Boden
Flexible installation in ceilings, walls and floors

36 V Sicherheitskleinspannung (SELV)
36 V Safety extra-low voltage (SELV)

Nur 0,4 mm dünn
Only 0.4 mm thin

Patentiertes Produktionsverfahren mit homogenen Aufbau
Patented production process with homogeneous structure

» PATENTIERTER HERSTELLUNGSPROZESS – HOMOGENER AUFBAU
PATENTED PRODUCTION PROCESS – HOMOGENEOUS STRUCTURE

Die **E-NERGY CARBON** Heizfolien sind einzigartig. Die Herstellung erfolgt in einem patentierten Produktionsverfahren. Die **E-NERGY CARBON** Folien werden homogen verschmolzen und nicht in einzelnen Schichten aufgebaut. Dadurch sind Defekte durch Ablösen einzelner Schichten ausgeschlossen.

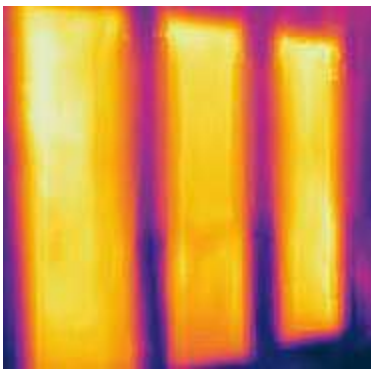
The E-NERGY CARBON heating foils are unique. They are manufactured in a patented production process. The E-NERGY CARBON foils are fused homogeneously and not built up in individual layers. This eliminates the possibility of defects caused by the detachment of individual layers.



» GLEICHMÄSSIGE WÄRMEVERTEILUNG
EVEN HEAT DISTRIBUTION

E-NERGY CARBON heizt schnell, besonders gleichmäßig und vollflächig. Dadurch ist das System komfortabel und entwickelt eine behagliche Strahlungswärme.

***E-NERGY CARBON** heats quickly, particularly evenly andacross the entire surface. This makes the system convenient and creates comfortable radiant heat.*



» UNEMPFINDLICH GEGEN BESCHÄDIGUNGEN
INSENSITIVE TO DAMAGE

E-NERGY CARBON ist unempfindlich gegenüber Beschädigungen. Einbauten, wie Unterputzdosen, sind direkt in der Heizfläche möglich.

***E-NERGY CARBON** is insensitive to damage. Installations, such as flush-mounted boxes, are possible directly in the heating surface.*







» VORTEILE *ADVANTAGES*

- ✓ Schnelle Reaktionszeit durch oberflächennahe Verlegung
  Fast reaction time due to installation close to the surface
- ✓ Geringe Investitions-, Installations- und Verbrauchskosten
  Low investment, installation and consumption costs
- ✓ Geringe Einbauhöhe für einfache und schnelle Nachrüstung – auch im bewohnten Zustand
  Low installation height for simple and fast retrofitting – even when room is occupied
- ✓ Flexible Installation an Decke, Wand & im Boden durch 36 V Sicherheitskleinspannung (SELV)
  Flexible installation on ceiling, wall & floor due to 36 V safety extra-low voltage (SELV)
- ✓ Nachträgliche Einbauten von Spots, Steckdosen oder Schrauben in der Heizfläche sind möglich
  Subsequent installation of spots, sockets or screws in the heating surface is possible

» EINSATZBEREICHE *FIELDS OF APPLICATION*

DECKE In der Decke gewährleistet das Material eine hervorragende, gleichmäßige Verteilung der Wärmestrahlung. Nach dem Verspachteln kann gestrichen oder tapeziert werden. Das nachträgliche Einbringen von Einbauten, wie Spots, ist problemlos möglich.

CEILING *In the ceiling, the material ensures an excellent, even distribution of heat radiation. After filling, it can be painted or wallpapered. The subsequent installation of fixtures, such as spots, is possible without any problems.*

WAND Die Heizfolie erlaubt innerhalb der Heizflächen das Befestigen von Bildern und Regalen mittels Dübel und Schraube. Ihren Gestaltungsideen und Wünschen sind keine Grenzen gesetzt.

WALL *The heating foil allows pictures and shelves to be fastened inside the heating surfaces using dowels and screws. There are no limits to your design ideas and wishes.*

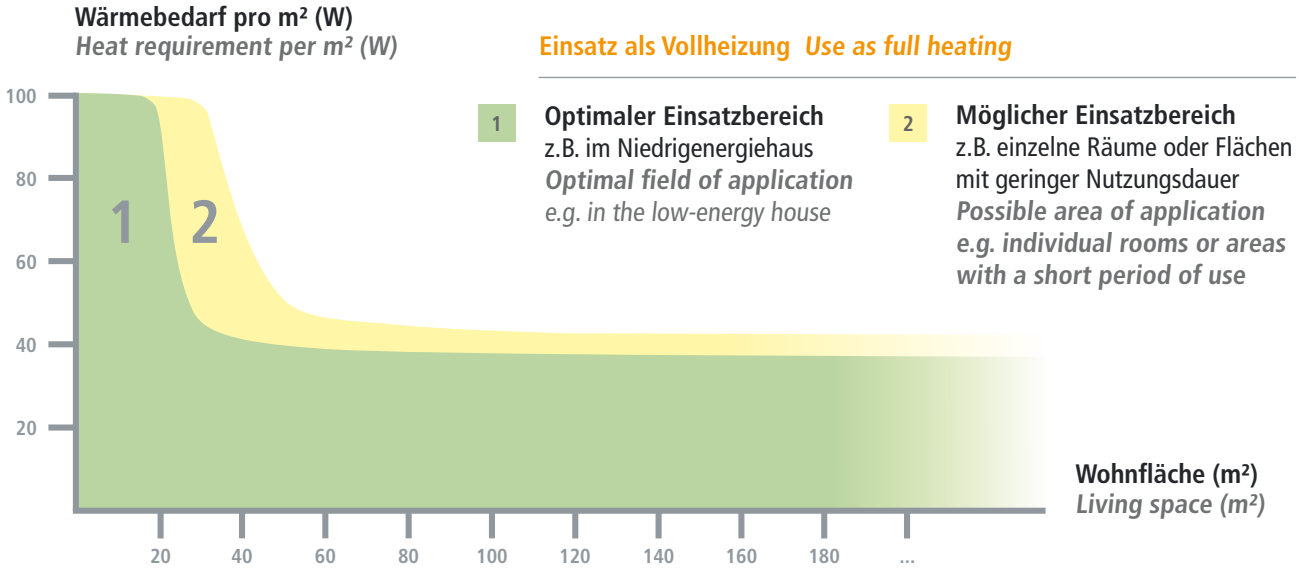
BODEN **E-NERGY CARBON** ist mit nahezu allen Belägen kombinierbar. Auch hier gilt: nachträgliches Durchbohren (z. B. für einen Türstopper) ist unproblematisch.

FLOOR ***E-NERGY CARBON*** *can be combined with almost all types of flooring. Here too, subsequent drilling through (e.g. for a doorstop) is unproblematic.*

» WIRTSCHAFTLICHKEIT ALS VOLLHEIZUNGSSYSTEM
ECONOMIC EFFICIENCY AS A FULL HEATING SYSTEM

Mit dem **E-NERGY CARBON** System können Häuser mit geringem Heizwärmebedarf effizient und kostengünstig beheizt werden. Zudem reduziert die einfache, unkomplizierte Technologie die Investitionskosten und gibt dem Nutzer die Kontrolle über seine Heizung. Die Bewohner entscheiden wo und wann geheizt werden soll.
Heizen nur bei Bedarf.

*With the **E-NERGY CARBON** system, houses with low heating requirements can be heated efficiently and economically. In addition, the simple, straightforward technology reduces investment costs and gives the user control over their heating. The residents decide where and when to heat. Heating only when required.*



Einsatz als Vollheizung ***Use as full heating***

1 **Optimaler Einsatzbereich**
z.B. im Niedrigenergiehaus
Optimal field of application
e.g. in the low-energy house

2 **Möglicher Einsatzbereich**
z.B. einzelne Räume oder Flächen mit geringer Nutzungsdauer
Possible area of application
e.g. individual rooms or areas with a short period of use

» SCHNELLES REAKTIONSVERHALTEN
FAST REACTION TIME

Heizen nur, wenn heizen nötig. Die einfachste Art Kosten zu sparen, **E-NERGY CARBON** machts durch seine oberflächennahe Verlegung und schnelle Reaktionszeit möglich.

*Heating only when required.. The easiest way to save costs, **E-NERGY CARBON** makes it possible thanks to its near-surface installation and fast reaction time.*



Morgens: 06:00 – 08:00 Uhr
Beheizte Räume: Bad & Küche
In the morning: 06:00 AM – 08:00 AM
Heated rooms: Bathroom & Kitchen



Tagsüber: 08:00 – 15:00 Uhr
Beheizte Räume: keine
In the daytime: 08:00 AM – 03:00 PM
Heated rooms: none



Abends: 15:00 – 22:00 Uhr
Beheizte Räume: Küche, Wohnzimmer & Bad
In the evening: 03:00 PM – 10 :00 PM
Heated rooms: Kitchen, Living room & Bathroom

» BEISPIELRECHNUNG
EXAMPLE CALCULATION

Grundlage der Beipielrechnung ist ein Einfamilienhaus mit 170 m² als Effizienzhaus 40. Die Betrachtung berücksichtigt die Gesamtanlagentechnik nach GEG. Bestandteile der Anlage sind:

The example calculation is based on a detached house with 170m² as an Efficiency House 40. The analysis takes into account the overall system technology in accordance with GEG. Components of the system are:

E-NERGY CARBON

WARMWASSERBEREITUNG
HOT WATER PREPARATION

LÜFTUNGSANLAGE
VENTILATION SYSTEM

PHOTOVOLTAIK
PHOTOVOLTAICS

» BETRIEBSKOSTEN
OPERATING COSTS

GESAMTKOSTEN 769,61 £ / JAHR*
TOTAL COSTS 769.61 £ / YEAR*



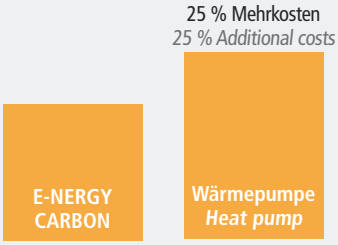
Basis der Berechnung | *Basis of calculation*

* Stromkosten 0,32 £/kWh
Electricity costs 0.32 £/kWh

[1] Lüftung & Zirkulationspumpe für Warmwasser
Ventilation & circulation pump for hot water

» INVESTITIONSKOSTENVERGLEICH
COMPARISON OF INVESTMENTS

Gesamtanlagenkonfiguration in Anlehnung an Richtlinie für Effizienzhaus 40 (siehe Betriebskostenvergleich)
Overall system configuration in accordance with guideline for Efficiency House 40 (see comparison of operating costs)



E-NERGY CARBON FLEECE

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E-NERGY CARBON FLEECE ist eine diffusionsoffene, vlieskaschierte und haftungsoptimierte Heizfolie, welche durch ihre Perforation optimal für Putzsysteme und Spachtelmassen für Decken-, Wand- oder Bodeneinbauten geeignet ist.

E-NERGY CARBON FLEECE *is a diffusion-open, fleece-laminated and adhesion-optimised heating foil which, due to its perforation, is ideally suited for plaster systems and puttys for ceiling, wall or floor installations.*

1 Geringe Einbauhöhe durch 0,4 mm dünne Heizfolien
Low installation height due to 0.4 mm thin heating foils



2 Perforation und Vlieskaschierung für sichere Haftung und flexible Installation in Decke, Wand und Boden
Perforation and fleece lamination for secure adhesion and flexible installation in ceiling, wall and floor

3 Sicherer Anschluss mit 36 V Sicherheitskleinspannung (SELV)
Safe connection with 36 V safety extra-low voltage (SELV)

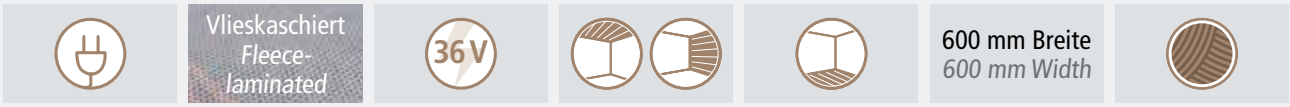






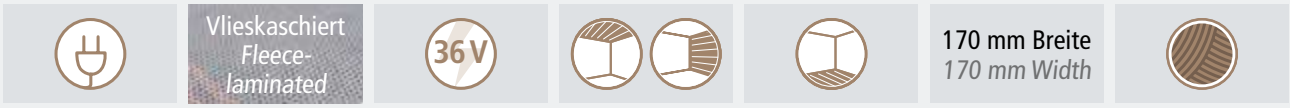

E-NERGY CARBON FLEECE

- Gute Wärmeleitung und schnelles Aufheizen *Good heat conductivity and fast heating*
- Flexible Installation in Decke, Wand & Boden *Flexible installation in ceiling, wall & floor*
- Haftungsoptimiert durch Perforation *Adhesion-optimised through perforation*



E-NERGY CARBON FLEECE S

- Haftungsoptimiert durch Perforation *Adhesion-optimised through perforation*
- Diffusionsoffene Struktur für die Wandinstallation *Diffusion-open structure for wall installation*
- Schimmelprävention in Laibungen *Mould prevention in reveals*





E-NERGY CARBON FLEECE

Heizfolien FLEECE | Heating foils FLEECE

Diffusionsoffene, vlieskaschierte und haftungsoptimierte Heizfolie, welche durch ihre Perforation optimal für Putzsysteme und Spachtelmassen für Decken-, Wand- und Bodeneinbauten geeignet ist.

Diffusion-open, fleece-laminated and adhesion-optimised heating foil which, due to its perforation, is ideally suited for plaster systems and fillers for ceiling, wall and floor installations.

36 W/lfm (60 W/m²)



Artikel *Article*	**Abmessung (LxBxH)** *Dimension (LxWxH)*	**Art-Nr.** *Item-no.*	**VPE** *PU*	**Preis/Stk.** *Price/Item*
Heizfolie 36 V – 36 W/lfm (60 W/m²), 1 m *Heating foil 36 V – 36 W/m (60 W/m²), 1 m*	1.000 x 600 x 0,4 mm *1,000 x 600 x 0.4 mm*	2 02 612	1 Stk. *1 pc.*	67,50 £ *67.50 £*
Heizfolie 36 V – 36 W/lfm (60 W/m²), 1,5 m *Heating foil 36 V – 36 W/m (60 W/m²), 1.5 m*	1.500 x 600 x 0,4 mm *1,500 x 600 x 0.4 mm*	2 02 613	1 Stk. *1 pc.*	101,25 £ *101.25 £*
Heizfolie 36 V – 36 W/lfm (60 W/m²), 2 m *Heating foil 36 V – 36 W/m (60 W/m²), 2 m*	2.000 x 600 x 0,4 mm *2,000 x 600 x 0.4 mm*	2 02 600	1 Stk. *1 pc.*	135,00 £ *135.00 £*
Heizfolie 36 V – 36 W/lfm (60 W/m²), 2,5 m *Heating foil 36 V – 36 W/m (60 W/m²), 2.5 m*	2.500 x 600 x 0,4 mm *2,500 x 600 x 0.4 mm*	2 02 601	1 Stk. *1 pc.*	168,75 £ *168.75 £*
Heizfolie 36 V – 36 W/lfm (60 W/m²), 3 m *Heating foil 36 V – 36 W/m (60 W/m²), 3 m*	3.000 x 600 x 0,4 mm *3,000 x 600 x 0.4 mm*	2 02 602	1 Stk. *1 pc.*	202,50 £ *202.50 £*
Heizfolie 36 V – 36 W/lfm (60 W/m²), 3,5 m *Heating foil 36 V – 36 W/m (60 W/m²), 3.5 m*	3.500 x 600 x 0,4 mm *3,500 x 600 x 0.4 mm*	2 02 610	1 Stk. *1 pc.*	236,25 £ *236.25 £*
Heizfolie 36 V – 36 W/lfm (60 W/m²), 4 m *Heating foil 36 V – 36 W/m (60 W/m²), 4 m*	4.000 x 600 x 0,4 mm *4,000 x 600 x 0.4 mm*	2 02 603	1 Stk. *1 pc.*	270,00 £ *270.00 £*
Heizfolie 36 V – 36 W/lfm (60 W/m²), 5 m *Heating foil 36 V – 36 W/m (60 W/m²), 5 m*	5.000 x 600 x 0,4 mm *5,000 x 600 x 0.4 mm*	2 02 611	1 Stk. *1 pc.*	337,50 £ *337.50 £*
Heizfolie 36 V – 36 W/lfm (60 W/m²), 6 m *Heating foil 36 V – 36 W/m (60 W/m²), 6 m*	6.000 x 600 x 0,4 mm *6,000 x 600 x 0.4 mm*	2 02 604	1 Stk. *1 pc.*	405,00 £ *405.00 £*
Heizfolie 36 V – 36 W/lfm (60 W/m²), 7 m *Heating foil 36 V – 36 W/m (60 W/m²), 7 m*	7.000 x 600 x 0,4 mm *7,000 x 600 x 0.4 mm*	2 02 605	1 Stk. *1 pc.*	472,50 £ *472.50 £*
Heizfolie 36 V – 36 W/lfm (60 W/m²), 8 m *Heating foil 36 V – 36 W/m (60 W/m²), 8 m*	8.000 x 600 x 0,4 mm *8,000 x 600 x 0.4 mm*	2 02 606	1 Stk. *1 pc.*	540,00 £ *540.00 £*
Heizfolie 36 V – 36 W/lfm (60 W/m²), 9 m *Heating foil 36 V – 36 W/m (60 W/m²), 9 m*	9.000 x 600 x 0,4 mm *9,000 x 600 x 0.4 mm*	2 02 607	1 Stk. *1 pc.*	607,50 £ *607.50 £*
Heizfolie 36 V – 36 W/lfm (60 W/m²), 10 m *Heating foil 36 V – 36 W/m (60 W/m²), 10 m*	10.000 x 600 x 0,4 mm *10,000 x 600 x 0.4 mm*	2 02 608	1 Stk. *1 pc.*	675,00 £ *675.00 £*
Heizfolie 36 V – 36 W/lfm (60 W/m²), 11 m beidseitiger Anschluss *Heating foil 36 V – 36 W/m (60 W/m²), 11 m double-sided connection*	11.000 x 600 x 0,4 mm *11,000 x 600 x 0.4 mm*	2 02 609	1 Stk. *1 pc.*	742,50 £ *742.50 £*

66 W/lfm (110 W/m²)



Artikel *Article*	Abmessung (LxBxH) *Dimension (LxWxH)*	Art-Nr. *Item-no.*	VPE *PU*	Preis/Stk. *Price/Item*
Heizfolie 36 V – 66 W/lfm (110 W/m²), 1 m *Heating foil 36 V – 66 W/m (110 W/m²), 1 m*	1.000 x 600 x 0,4 mm *1,000 x 600 x 0.4 mm*	2 02 627	1 Stk. *1 pc.*	75,00 £ *75.00 £*
Heizfolie 36 V – 66 W/lfm (110 W/m²), 1,5 m *Heating foil 36 V – 66 W/m (110 W/m²), 1.5 m*	1.500 x 600 x 0,4 mm *1,500 x 600 x 0.4 mm*	2 02 628	1 Stk. *1 pc.*	112,50 £ *112.50 £*
Heizfolie 36 V – 66 W/lfm (110 W/m²), 2 m *Heating foil 36 V – 66 W/m (110 W/m²), 2 m*	2.000 x 600 x 0,4 mm *2,000 x 600 x 0.4 mm*	2 02 620	1 Stk. *1 pc.*	150,00 £ *150.00 £*
Heizfolie 36 V – 66 W/lfm (110 W/m²), 2,5 m *Heating foil 36 V – 66 W/m (110 W/m²), 2.5 m*	2.500 x 600 x 0,4 mm *2,500 x 600 x 0.4 mm*	2 02 624	1 Stk. *1 pc.*	187,50 £ *187.50 £*
Heizfolie 36 V – 66 W/lfm (110 W/m²), 3 m *Heating foil 36 V – 66 W/m (110 W/m²), 3 m*	3.000 x 600 x 0,4 mm *3,000 x 600 x 0.4 mm*	2 02 621	1 Stk. *1 pc.*	225,00 £ *225.00 £*
Heizfolie 36 V – 66 W/lfm (110 W/m²), 3,5 m *Heating foil 36 V – 66 W/m (110 W/m²), 3.5 m*	3.500 x 600 x 0,4 mm *3,500 x 600 x 0.4 mm*	2 02 625	1 Stk. *1 pc.*	262,50 £ *262.50 £*
Heizfolie 36 V – 66 W/lfm (110 W/m²), 4 m *Heating foil 36 V – 66 W/m (110 W/m²), 4 m*	4.000 x 600 x 0,4 mm *4,000 x 600 x 0.4 mm*	2 02 622	1 Stk. *1 pc.*	300,00 £ *300.00 £*
Heizfolie 36 V – 66 W/lfm (110 W/m²), 4,5 m beidseitiger Anschluss *Heating foil 36 V – 66 W/m (110 W/m²), 4.5 m double-sided connection*	4.500 x 600 x 0,4 mm *4,500 x 600 x 0.4 mm*	2 02 629	1 Stk. *1 pc.*	337,50 £ *337.50 £*
Heizfolie 36 V – 66 W/lfm (110 W/m²), 5 m *Heating foil 36 V – 66 W/m (110 W/m²), 5 m*	5.000 x 600 x 0,4 mm *5,000 x 600 x 0.4 mm*	2 02 626	1 Stk. *1 pc.*	375,00 £ *375.00 £*
Heizfolie 36 V – 66 W/lfm (110 W/m²), 6 m beidseitiger Anschluss *Heating foil 36 V – 66 W/m (110 W/m²), 6 m double-sided connection*	6.000 x 600 x 0,4 mm *6,000 x 600 x 0.4 mm*	2 02 623	1 Stk. *1 pc.*	450,00 £ *450.00 £*

132 W/lfm (220 W/m²)



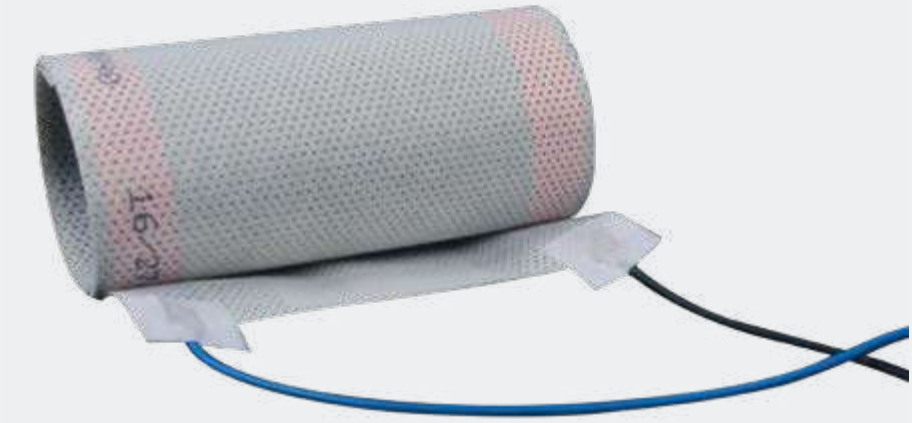
Artikel *Article*	Abmessung (LxBxH) *Dimension (LxWxH)*	Art-Nr. *Item-no.*	VPE *PU*	Preis/Stk. *Price/Item*
Heizfolie 36 V – 132 W/lfm (220 W/m²), 1 m *Heating foil 36 V – 132 W/m (220 W/m²), 1 m*	1.000 x 600 x 0,4 mm *1,000 x 600 x 0.4 mm*	2 02 642	1 Stk. *1 pc.*	82,50 £ *82.50 £*
Heizfolie 36 V – 132 W/lfm (220 W/m²), 1,5 m *Heating foil 36 V – 132 W/m (220 W/m²), 1.5 m*	1.500 x 600 x 0,4 mm *1,500 x 600 x 0.4 mm*	2 02 640	1 Stk. *1 pc.*	123,75 £ *123.75 £*
Heizfolie 36 V – 132 W/lfm (220 W/m²), 2 m *Heating foil 36 V – 132 W/m (220 W/m²), 2 m*	2.000 x 600 x 0,4 mm *2,000 x 600 x 0.4 mm*	2 02 643	1 Stk. *1 pc.*	165,00 £ *165.00 £*
Heizfolie 36 V – 132 W/lfm (220 W/m²), 2,2 m beidseitiger Anschluss *Heating foil 36 V – 132 W/m (220 W/m²), 2.2 m double-sided connection*	2.200 x 600 x 0,4 mm *2,200 x 600 x 0.4 mm*	2 02 645	1 Stk. *1 pc*	181,50 £ *181.50 £*
Heizfolie 36 V – 132 W/lfm (220 W/m²), 2,5 m *Heating foil 36 V – 132 W/m (220 W/m²), 2.5 m*	2.500 x 600 x 0,4 mm *2,500 x 600 x 0.4 mm*	2 02 644	1 Stk. *1 pc.*	206,25 £ *206.25 £*
Heizfolie 36 V – 132 W/lfm (220 W/m²), 3 m beidseitiger Anschluss *Heating foil 36 V – 132 W/m (220 W/m²), 3 m double-sided connection*	3.000 x 600 x 0,4 mm *3,000 x 600 x 0.4 mm*	2 02 641	1 Stk. *1 pc.*	247,50 £ *247.50 £*

E-NERGY CARBON FLEECE

VIDEO







36 V

E-NERGY CARBON FLEECE S

Heizfolien FLEECE S | Heating foils FLEECE S

Diffusionsoffene, vlieskaschierte und haftungsoptimierte Heizfolie in 17 cm Breite. Optimal geeignet für den Einsatz in Laibungen zur Vermeidung von Kondensation und Feuchteschäden.

Diffusion-open, fleece-laminated and adhesion-optimised heating foil in 17 cm width. Ideally suited for use in reveals to prevent condensation and moisture damage.

25 W/lfm (145 W/m²)



Artikel *Article*	**Abmessung (LxBxH)** *Dimension (LxWxH)*	**Art-Nr.** *Item-no.*	**VPE** *PU*	**Preis/Stk.** *Price/Item*
Heizfolie 36 V – 25 W/lfm (145 W/m²), 1 m *Heating foil 36 V – 25 W/m (145 W/m²), 1 m*	1.000 x 170 x 0,4 mm *1,000 x 170 x 0.4 mm*	2 02 663	1 Stk. *1 pc.*	55,00 £ *55.00 £*
Heizfolie 36 V – 25 W/lfm (145 W/m²), 1,5 m *Heating foil 36 V – 25 W/m (145 W/m²), 1.5 m*	1.500 x 170 x 0,4 mm *1,500 x 170 x 0.4 mm*	2 02 664	1 Stk. *1 pc.*	82,50 £ *82.50 £*
Heizfolie 36 V – 25 W/lfm (145 W/m²), 2 m *Heating foil 36 V – 25 W/m (145 W/m²), 2 m*	2.000 x 170 x 0,4 mm *2,000 x 170 x 0.4 mm*	2 02 660	1 Stk. *1 pc.*	110,00 £ *110.00 £*
Heizfolie 36 V – 25 W/lfm (145 W/m²), 2,5 m *Heating foil 36 V – 25 W/m (145 W/m²), 2.5 m*	2.500 x 170 x 0,4 mm *2,500 x 170 x 0.4 mm*	2 02 661	1 Stk. *1 pc.*	137,50 £ *137.50 £*
Heizfolie 36 V – 25 W/lfm (145 W/m²), 3 m *Heating foil 36 V – 25 W/m (145 W/m²), 3 m*	3.000 x 170 x 0,4 mm *3,000 x 170 x 0.4 mm*	2 02 665	1 Stk. *1 pc.*	165,00 £ *165.00 £*
Heizfolie 36 V – 25 W/lfm (145 W/m²), 3,5 m *Heating foil 36 V – 25 W/m (145 W/m²), 3.5 m*	3.500 x 170 x 0,4 mm *3,500 x 170 x 0.4 mm*	2 02 666	1 Stk. *1 pc.*	192,50 £ *192.50 £*
Heizfolie 36 V – 25 W/lfm (145 W/m²), 4 m beidseitiger Anschluss *Heating foil 36 V – 25 W/m (145 W/m²), 4 m double-sided connection*	4.000 x 170 x 0,4 mm *4,000 x 170 x 0.4 mm*	2 02 662	1 Stk. *1 pc.*	220,00 £ *220.00 £*

Heizfolien FLEECE S | Heating foils FLEECE S

Diffusionsoffene, vlieskaschierte und haftungsoptimierte Heizfolie in 17 cm Breite. Optimal geeignet für den Einsatz in Laibungen zur Vermeidung von Kondensation und Feuchteschäden.

Diffusion-open, fleece-laminated and adhesion-optimised heating foil in 17 cm width. Ideally suited for use in reveals to prevent condensation and moisture damage.

49 W/lfm (290 W/m²)



Artikel *Article*	**Abmessung (LxBxH)** *Dimension (LxWxH)*	**Art-Nr.** *Item-no.*	**VPE** *PU*	**Preis/Stk.** *Price/Item*
Heizfolie 36 V – 49 W/lfm (290 W/m²), 3 m beidseitiger Anschluss *Heating foil 36 V – 49 W/m (290 W/m²), 3 m double-sided connection*	3.000 x 170 x 0,4 mm *3,000 x 170 x 0.4 mm*	2 02 670	1 Stk. *1 pc.*	180,00 £ *180.00 £*

Kabel & Verbinder (36 V-Anschluss) | Cables & connectors (36 V connection)

Halogenfreie und für die Unterputzmontage geeignete Zwillingsleitung zur Verlängerung der werkseitig angecrimpten Anschlusskabel. Verfügbar in 2,5 und 6 mm² inklusive zugelassener Verbinder. *Halogen-free twin cable suitable for flush mounting for extending the factory-crimped connection cables. Available in 2.5 and 6 mm² including approved connectors.*

Für Entfernungen bis zu 10 m zum Trafo *For distances up to 10 m to the transformer*





Artikel *Article*	Abmessung (LxBxH) *Dimension (LxWxH)*	Art-Nr. *Item-no.*	VPE *PU*	Preis/Stk. *Price/Item*
PUR-Zwillingsleitung *PUR twin cable*	2 x 2,5 mm² *2 x 2.5 mm²*	2 00 604	10 lfdm *10 m*	4,30 £ / lfdm *4.30 £ / m*
PUR-Zwillingsleitung *PUR twin cable*	2 x 2,5 mm² *2 x 2.5 mm²*	2 00 600	25 lfdm *25 m*	4,30 £ / lfdm *4.30 £ / m*
PUR-Zwillingsleitung *PUR twin cable*	2 x 2,5 mm² *2 x 2.5 mm²*	2 00 601	50 lfdm *50 m*	4,30 £ / lfdm *4.30 £ / m*
Quetschverbinder *Crimp connector*	2,5 mm² *2.5 mm²*	2 00 652	5 Stk. *5 pcs.*	*5,40 £ / Beutel* *5.40 £ / pouch*
Quetschverbinder *Crimp connector*	2,5 mm² *2.5 mm²*	2 00 650	20 Stk. *20 pcs.*	*20,50 £ / Beutel* *20.50 £ / pouch*

Für Entfernungen bis zu 25 m zum Trafo *For distances up to 25 m to the transformer*





PUR-Zwillingsleitung *PUR twin cable*	2 x 6,0 mm² *2 x 6.0 mm²*	2 00 602	25 lfdm *25 m*	8,20 £ / lfdm *8.20 £ / m*
PUR-Zwillingsleitung *PUR twin cable*	2 x 6,0 mm² *2 x 6.0 mm²*	2 00 603	50 lfdm *50 m*	8,20 £ / lfdm *8.20 £ / m*
Quetschverbinder *Crimp connector*	6,0 mm² *6.0 mm²*	2 00 651	20 Stk. *20 pcs.*	*27,50 £ / Beutel* *27.50 £ / pouch*

Universalverbinder zur Verbindung unterschiedlicher Kabelquerschnitte und zum Verbinden mehrerer PUR-Zwillingsleitungen.
Universal connector for connecting different cable cross-sections and for connecting several PUR twin leads



Universalverbinder *Universal connector 6 – 10 mm²*	6 – 10 mm² *6 – 10 mm²*	2 00 656	10 Stk. *10 pc.*	20,50 £ *20.50 £*
Universalverbinder *Universal connector 10 – 16 mm²*	10 – 16 mm² *10 – 16 mm²*	2 00 657	10 Stk. *10 pc.*	21,75 £ *21.75 £*
Presszange für Universalverbinder *Crimping pliers for universal connectors*	6 – 16 mm² *6 – 16 mm²*	2 09 071	1 Stk. *1 pc.*	345,50 £ *345.50 £*

Zum Verbinden von zwei PUR-Leitungen 2,5 mm² mittels Heißluftföhn *For connecting two PUR cables 2.5 mm² by means of hot air blow dryer*



Lötverbinder *Solder connectors*	5,0 mm² *5.0 mm²*	2 00 658	10 Stk. *10 pc.*	13,95 £ *13.95 £*

Quetschverbinder *Crimp connector*

Leitungskombination *Line combination*	Verbinder *Connector*
2 x 2,5 mm²	Quetschverbinder *Crimp connector* 2,5 mm²
2 x 6,0 mm²	Quetschverbinder *Crimp connector* 6,0 mm²

Universalverbinder *Universal connector*

Leitungskombination *Line combination*	Querschnittssumme *Cross-section sum*	Verbinder *Connector*
3 x 2,5 mm²	7,5 mm²	Universalverbinder *Universal connector* 6 – 10 mm²
1 x 2,5 mm² + 1 x 6,0 mm²	8,5 mm²	Universalverbinder *Universal connector* 6 – 10 mm²
4 x 2,5 mm²	10,0 mm²	Universalverbinder *Universal connector* 6 – 10 mm²
2 x 2,5 mm² + 1 x 6,0 mm²	11,0 mm²	Universalverbinder *Universal connector* 10 – 16 mm²
2 x 6,0 mm²	12,0 mm²	Universalverbinder *Universal connector* 10 – 16 mm²
3 x 2,5 mm² + 1 x 6,0 mm²	13,5 mm²	Universalverbinder *Universal connector* 10 – 16 mm²
4 x 2,5 mm² + 1 x 6,0 mm²	16,0 mm²	Universalverbinder *Universal connector* 10 – 16 mm²

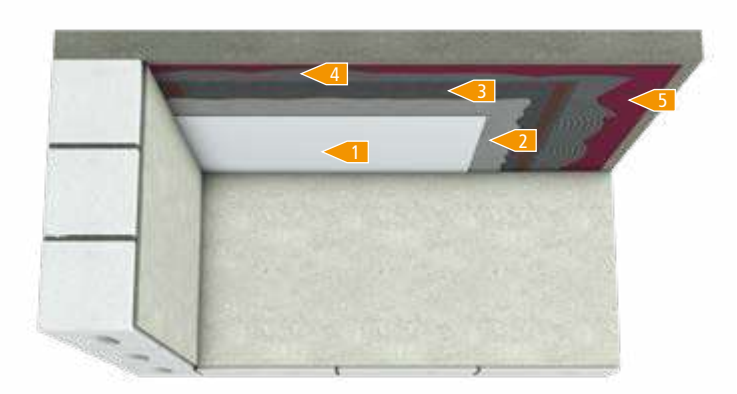
Lötverbinder *Solder connectors*

Leitungskombination *Line combination*	Querschnittssumme *Cross-section sum*	Verbinder *Connector*
2 x 2,5 mm²	5,0 mm²	Lötverbinder *Solder connectors* 5,0 mm²

» KONSTRUKTIONSAUFBAU DECKE
CEILING CONSTRUCTION

E-NERGY CARBON FLEECE

1	Deckenbelag *Ceiling covering*	
2	Spachtelmasse / Putzsystem min. 2mm *Filler / plaster system min. 2mm*	2 mm
3	E-NERGY CARBON FLEECE	0,4 mm
4	Spachtelmasse / Kleber *Putty / adhesive*	2 mm
5	Grundierung *Primer*	
		5 mm



» MONTAGE | *INSTALLATION*







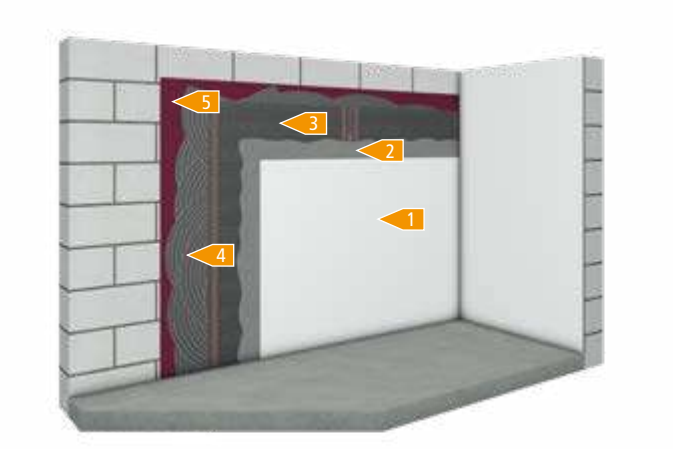

» FAKTEN | *FACTS*

- Angenehme Oberflächentemperatur von 38-42°C erzeugt behagliche Strahlungswärme
  Pleasant surface temperature of 38-42°C generates comfortable radiant heat
- Kosteneffizienz durch reduzierten Belegungsgrad von 20-50 % der Deckenfläche
  Cost efficiency due to reduced occupancy rate of 20-50 % of the ceiling area
- Nachträglicher Einbau im bewohnten Zustand leicht realisierbar
  Subsequent installation in inhabited condition easily realisable

» KONSTRUKTIONSAUFBAU WAND
WALL CONSTRUCTION

E-NERGY CARBON FLEECE

1	Wandbelag *Wall covering*	
2	Spachtelmasse / Putzsystem min. 2mm *Filler / plaster system min. 2mm*	2 mm
3	E-NERGY CARBON FLEECE	0,4 mm
4	Spachtelmasse / Kleber *Putty / adhesive*	2 mm
5	Grundierung *Primer*	
		5 mm



» MONTAGE | *INSTALLATION*







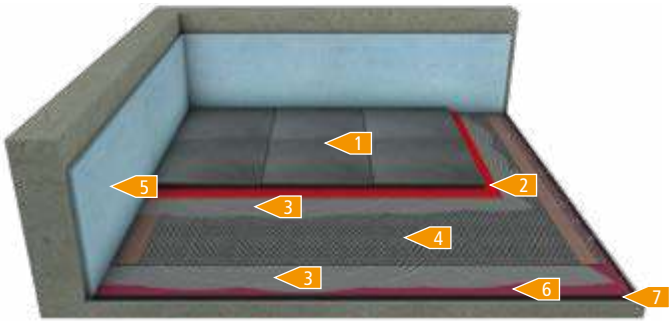

» FAKTEN | *FACTS*

- Normkonforme elektrische Wandheizung durch 36 V Sicherheitskleinspannung (SELV)
  Standard-compliant electrical wall heating through 36 V safety extra-low voltage (SELV)
- Angenehme Oberflächentemperatur von 32-37°C
  Pleasant surface temperature of 32-37°C
- Einsetzbar als Feuchteschutz und zur Schimmelprävention
  Can be used as moisture protection for mould prevention

» KONSTRUKTIONSAUFBAU BODEN (VERKLEBT)
FLOOR CONSTRUCTION (GLUED)

E-NERGY CARBON FLEECE

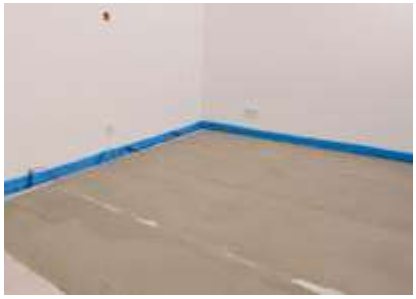
1	Fliesen | Naturstein *Tiles | Natural stone*	
2	ggf. Abddichtung in Feuchträumen *Sealing in damp rooms if necessary*	
3	Fliesenkleber ca. 2 mm je Lage *Tile adhesive approx. 2 mm per layer*	4 mm
4	E-NERGY CARBON FLEECE	0,4 mm
5	Randdämmstreifen EPS | NEO *Edge insulation strips EPS | NEO*	
6	Grundierung *Primer*	
7	ggf. Feuchtigkeitssperre (Verbund zum Untergrund) *If necessary moisture barrier (bond to the substrate)*	
		5 mm



» MONTAGE | *INSTALLATION*



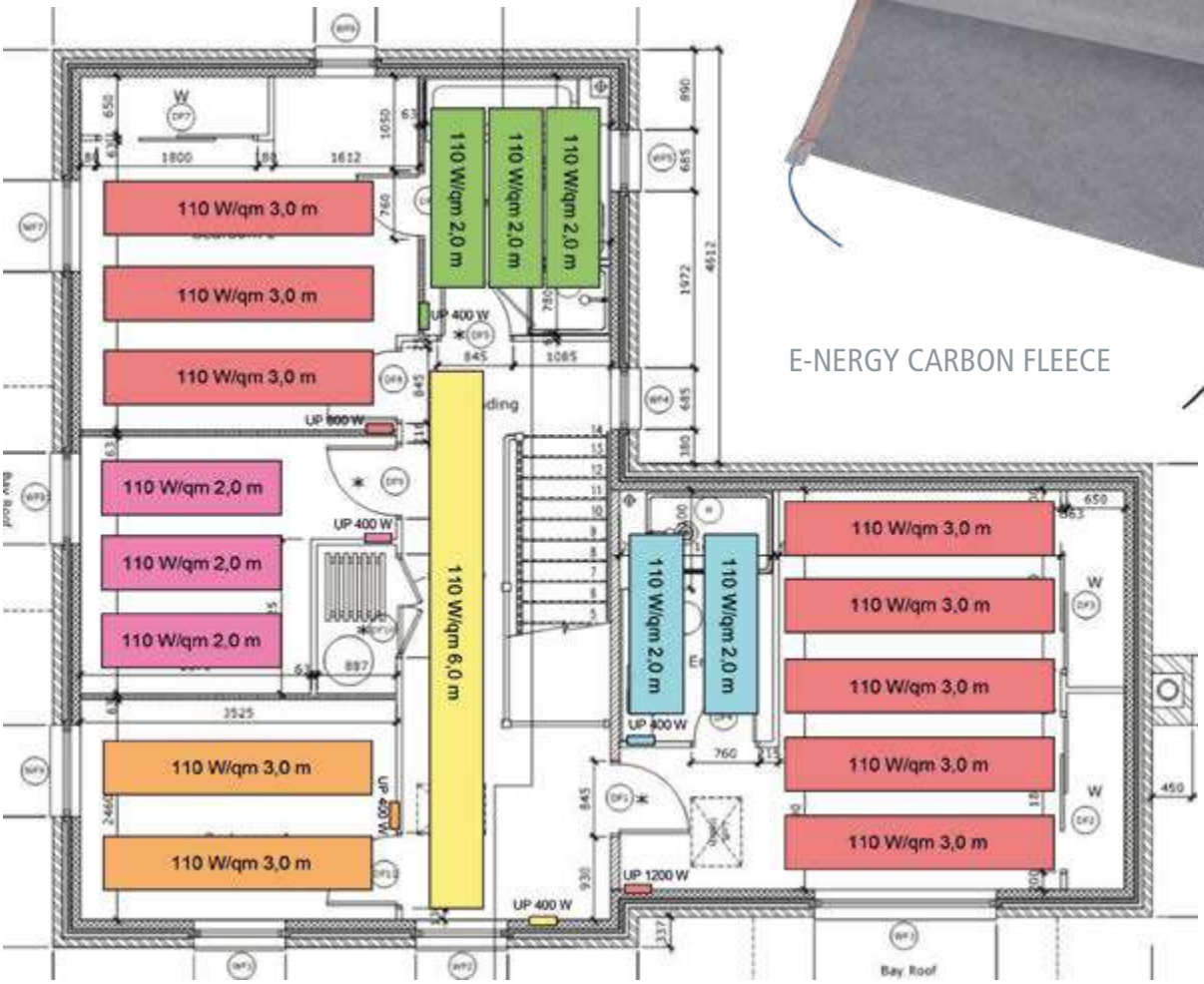


» FAKTEN | *FACTS*

- Geringste Aufbauhöhe durch 0,4 mm Heizfolienstärke
  Lowest installation height due to 0.4 mm heating foil thickness
- Norm- & Produktkonforme Oberflächentemperatur von 29°C durch Bodenfühler einstellbar
  Standard & product-compliant surface temperature of 29°C adjustable by floor sensor
- Gleichmäßige und schnelle Wärmeabgabe im Raum
  Uniform and rapid heat emission in the room

» AUSLEGUNGSBEISPIEL DECKENHEIZUNG
DESIGN EXAMPLE CEILING HEATING



Montagezeiten & Belegungsgrad | Installation time & occupancy rate

Die genannten Montagezeiten sind Erfahrungswerte und dienen als Kalkulationshilfe. Die Angaben zum Heizsystem beziehen sich auf einen Monteur (1-Mann-Montage).

The assembly times stated are empirical values and serve as a calculation aid. The information on the heating system refers to one fitter (1-man installation).

Montagezeiten *Installation time*		
	E-NERGY CARBON FLEECE	20-30 min / m²
	Trafo *Transformer*	30 min / Trafo *30 min / transformer*
	Anschluss Heizfolie *Connection heating foil*	2 min / Heizfolie *2 min / heating foil*
	Raumthermostat *Room thermostat*	30 min / Raumthermostat *30 min / transformer*

Belegungsgrad *Occupancy rate*		
	Decke *Ceiling*	20 - 50 %
	Wand *Wall*	20 - 50 %
	Boden *Floor*	70 - 90 %

E-NERGY CARBON DRYTEC

e:nergycarbon
energy efficient ceiling heating

E-NERGY CARBON DRYTEC ist für die Wand- und Deckenmontage hinter Trockenbauplatten (z. B. Gipskarton) vorgesehen. Sie besteht aus einer zentralen Heizzone (elektrisch aktive Fläche) und zwei seitlichen Montagestreifen zur Befestigung an der Unterkonstruktion ohne die elektrisch aktive Heizzone zu beeinträchtigen.

E-NERGY CARBON DRYTEC is designed for wall and ceiling mounting behind drywall panels (e.g. plasterboard). It consists of a central heating zone (electrically active surface) and two lateral mounting strips for fastening to the substructure without affecting the electrically active heating zone.

1 Schnelle, einfache Installation im Trockenbau
Quick, easy installation in drywall



2 Seitliche Montagestreifen für sichere Installation an Metall- oder Holzprofilen
Lateral mounting strips for secure installation on metal or wooden profiles

3 Trennung der Gewerke und Gewährleistungsbereiche
Separation of trades and warranty areas

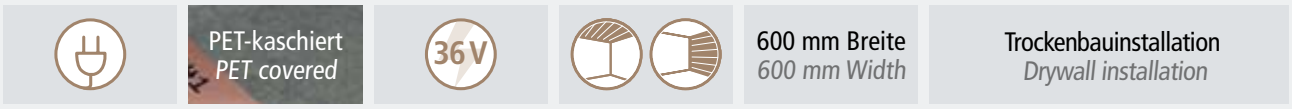







E-NERGY CARBON DRYTEC

- Für den Trockenbau
  For dry construction
- Reduzierung von Schnittstellen
  Reduction of interfaces
- Schnelle, einfache Montage
  Quick, easy assembly





E-NERGY CARBON DRYTEC

Heizfolien | Heating foils

Innovative Heizfolie für Metall- und Holzkonstruktionen im Trockenbau. Optimal geeignet für die Verlegung hinter Trockenbauplatten und zur direkten Befestigung am Ständerwerk.
Innovative heating foil for metal and wood constructions in drywall construction. Ideally suited for installation behind drywall panels and for direct attachment to the stud frame.

45 W/lfm (112 W/m²)



Artikel *Article*	**Abmessung (LxBxH)** *Dimension (LxWxH)*	**Art-Nr.** *Item-no.*	**VPE** *PU*	**Preis/Stk.** *Price/Item*
Heizfolie 36 V – 45 W/lfm (112 W/m²), 1,1 m *Heating foil 36 V – 45 W/m (112 W/m²), 1.1 m*	1.100 x 600 x 0,4 mm *1,100 x 600 x 0.4 mm*	2 12 601	1 Stk. *1 pc.*	75,90 £ *75.90 £*
Heizfolie 36 V – 45 W/lfm (112 W/m²), 2,2 m *Heating foil 36 V – 45 W/m (112 W/m²), 2.2 m*	2.200 x 600 x 0,4 mm *2,200 x 600 x 0.4 mm*	2 12 603	1 Stk. *1 pc.*	151,80 £ *151.80 £*
Heizfolie 36 V – 45 W/lfm (112 W/m²), 3,3 m *Heating foil 36 V – 45 W/m (112 W/m²), 3.3 m*	3.300 x 600 x 0,4 mm *3,300 x 600 x 0.4 mm*	2 12 605	1 Stk. *1 pc.*	227,70 £ *227.70 £*
Heizfolie 36 V – 45 W/lfm (112 W/m²), 4,4 m *Heating foil 36 V – 45 W/m (112 W/m²), 4.4 m*	4.400 x 600 x 0,4 mm *4,400 x 600 x 0.4 mm*	2 12 607	1 Stk. *1 pc.*	303,60 £ *303.60 £*

Kabel & Verbinder (36 V-Anschluss) | Cables & connectors (36 V connection)

Halogenfreie und für die Unterputzmontage geeignete Zwillingsleitung zur Verlängerung der werkseitig angecrimpten Anschlusskabel. Verfügbar in 2,5 und 6 mm² inklusive zugelassener Verbinder. *Halogen-free twin cable suitable for flush mounting for extending the factory-crimped connection cables. Available in 2.5 and 6 mm² including approved connectors.*

Für Entfernungen bis zu 10 m zum Trafo *For distances up to 10 m to the transformer*





Artikel *Article*	Abmessung (LxBxH) *Dimension (LxWxH)*	Art-Nr. *Item-no.*	VPE *PU*	Preis/Stk. *Price/Item*
PUR-Zwillingsleitung *PUR twin cable*	2 x 2,5 mm² *2 x 2.5 mm²*	2 00 604	10 lfdm *10 m*	4,30 £ / lfdm *4.30 £ / m*
PUR-Zwillingsleitung *PUR twin cable*	2 x 2,5 mm² *2 x 2.5 mm²*	2 00 600	25 lfdm *25 m*	4,30 £ / lfdm *4.30 £ / m*
PUR-Zwillingsleitung *PUR twin cable*	2 x 2,5 mm² *2 x 2.5 mm²*	2 00 601	50 lfdm *50 m*	4,30 £ / lfdm *4.30 £ / m*
Quetschverbinder *Crimp connector*	2,5 mm² *2.5 mm²*	2 00 652	5 Stk. *5 pcs.*	*5,40 £ / Beutel* *5.40 £ / pouch*
Quetschverbinder *Crimp connector*	2,5 mm² *2.5 mm²*	2 00 650	20 Stk. *20 pcs.*	*20,50 £ / Beutel* *20.50 £ / pouch*

Für Entfernungen bis zu 25 m zum Trafo *For distances up to 25 m to the transformer*





PUR-Zwillingsleitung *PUR twin cable*	2 x 6,0 mm² *2 x 6.0 mm²*	2 00 602	25 lfdm *25 m*	8,20 £ / lfdm *8.20 £ / m*
PUR-Zwillingsleitung *PUR twin cable*	2 x 6,0 mm² *2 x 6.0 mm²*	2 00 603	50 lfdm *50 m*	8,20 £ / lfdm *8.20 £ / m*
Quetschverbinder *Crimp connector*	6,0 mm² *6.0 mm²*	2 00 651	20 Stk. *20 pcs.*	*27,50 £ / Beutel* *27.50 £ / pouch*

Universalverbinder zur Verbindung unterschiedlicher Kabelquerschnitte und zum Verbinden mehrerer PUR-Zwillingsleitungen.
Universal connector for connecting different cable cross-sections and for connecting several PUR twin leads



Universalverbinder *Universal connector 6 – 10 mm²*	6 – 10 mm² *6 – 10 mm²*	2 00 656	10 Stk. *10 pc.*	20,50 £ *20.50 £*
Universalverbinder *Universal connector 10 – 16 mm²*	10 – 16 mm² *10 – 16 mm²*	2 00 657	10 Stk. *10 pc.*	21,75 £ *21.75 £*
Presszange für Universalverbinder *Crimping pliers for universal connectors*	6 – 16 mm² *6 – 16 mm²*	2 09 071	1 Stk. *1 pc.*	345,50 £ *345.50 £*

Zum Verbinden von zwei PUR-Leitungen 2,5 mm² mittels Heißluftföhn *For connecting two PUR cables 2.5 mm² by means of hot air blow dryer*



Lötverbinder *Solder connectors*	5,0 mm² *5.0 mm²*	2 00 658	10 Stk. *10 pc.*	13,95 £ *13.95 £*

Quetschverbinder *Crimp connector*

Leitungskombination *Line combination*	Verbinder *Connector*
2 x 2,5 mm²	Quetschverbinder *Crimp connector* 2,5 mm²
2 x 6,0 mm²	Quetschverbinder *Crimp connector* 6,0 mm²

Universalverbinder *Universal connector*

Leitungskombination *Line combination*	Querschnittssumme *Cross-section sum*	Verbinder *Connector*
3 x 2,5 mm²	7,5 mm²	Universalverbinder *Universal connector* 6 – 10 mm²
1 x 2,5 mm² + 1 x 6,0 mm²	8,5 mm²	Universalverbinder *Universal connector* 6 – 10 mm²
4 x 2,5 mm²	10,0 mm²	Universalverbinder *Universal connector* 6 – 10 mm²
2 x 2,5 mm² + 1 x 6,0 mm²	11,0 mm²	Universalverbinder *Universal connector* 10 – 16 mm²
2 x 6,0 mm²	12,0 mm²	Universalverbinder *Universal connector* 10 – 16 mm²
3 x 2,5 mm² + 1 x 6,0 mm²	13,5 mm²	Universalverbinder *Universal connector* 10 – 16 mm²
4 x 2,5 mm² + 1 x 6,0 mm²	16,0 mm²	Universalverbinder *Universal connector* 10 – 16 mm²

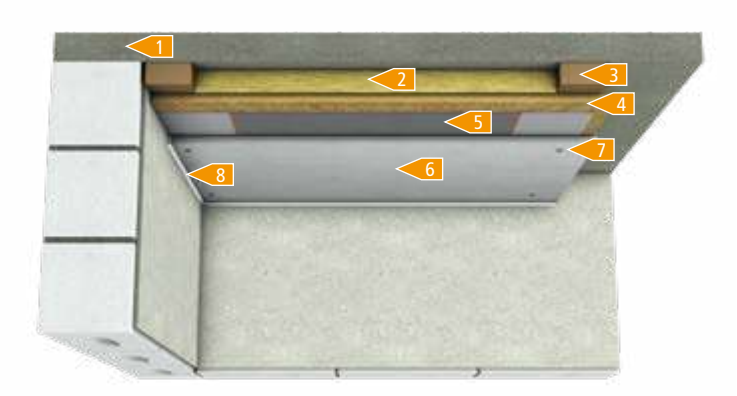
Lötverbinder *Solder connectors*

Leitungskombination *Line combination*	Querschnittssumme *Cross-section sum*	Verbinder *Connector*
2 x 2,5 mm²	5,0 mm²	Lötverbinder *Solder connectors* 5,0 mm²

» KONSTRUKTIONSAUFBAU DECKE MIT UNTERDECKPLATTE
CEILING CONSTRUCTION WITH LOWER DECK PANEL

E-NERGY CARBON DRYTEC

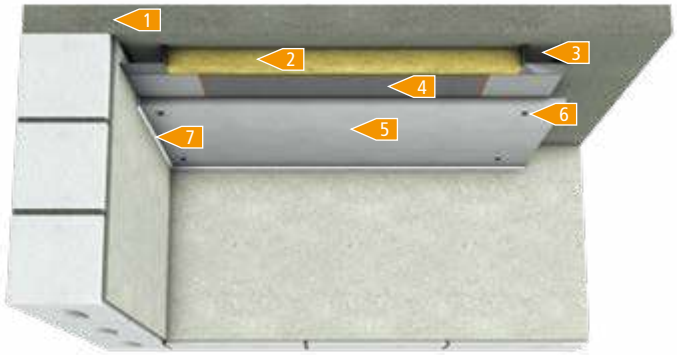
1	Rohdecke *Raw ceiling*	
2	Zusatzdämmung Mineralwolle 032 (30 mm) *Additional insulation mineral wool 032 (30 mm)*	30 mm
3	Traglattung *Support battens*	15 mm
4	Unterdeckplatte z. B. OSB *Underlay board e.g. OSB*	0,4 mm
5	E-NERGY CARBON DRYTEC	12,5 mm
6	Trockenbauplatte *Drywall board*	
7	Befestigungsschraube *Fixing screw*	
8	Bewegungsfuge *Movement joint*	
		58 mm



» KONSTRUKTIONSAUFBAU DECKE MIT TROCKENBAUPROFILEN
CEILING CONSTRUCTION WITH DRYWALL PROFILES

E-NERGY CARBON DRYTEC

1	Rohdecke *Raw ceiling*	
2	Zusatzdämmung Mineralwolle 032 (25 mm) *Additional insulation mineral wool 032 (25 mm)*	
3	Trockenbauprofil z. B. CD 60/27 *Drywall profile e.g. CD 60/27*	27 mm
4	E-NERGY CARBON DRYTEC	0,4 mm
5	Trockenbauplatte *Drywall board*	12,5 mm
6	Befestigungsschraube *Fixing screw*	
7	Bewegungsfuge *Movement joint*	
		40 mm



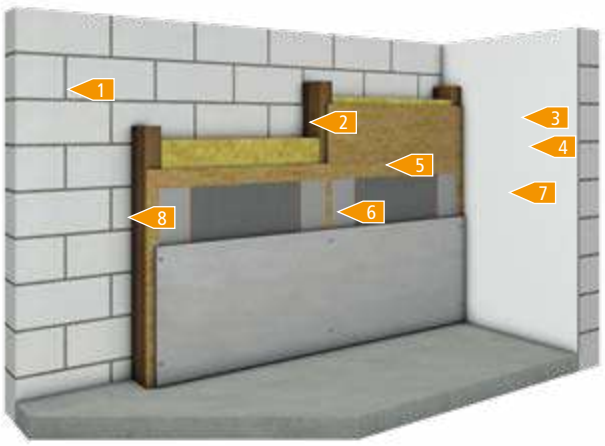
» FAKTEN | *FACTS*

- Angenehme Oberflächentemperatur von 38 – 42 °C erzeugt behagliche Strahlungswärme
  Pleasant surface temperature of 38 – 42 °C generates comfortable radiant heat
- Kosteneffizienz durch reduzierten Belegungsgrad von 20 – 50 % der Deckenfläche
  Cost efficiency due to reduced occupancy rate of 20 – 50 % of the ceiling area
- Direkte oder indirekte Installation realisierbar
  Direct or indirect installation possible

» KONSTRUKTIONSAUFBAU WAND MIT UNTERDECKPLATTE
WALL CONSTRUCTION WITH LOWER DECK PANEL

E-NERGY CARBON DRYTEC

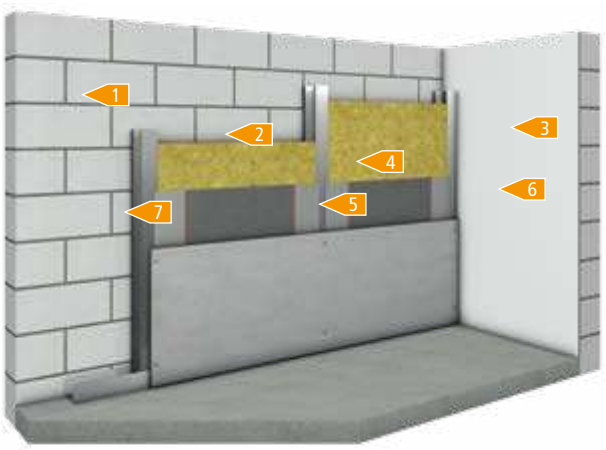
1	Rohdecke *Raw ceiling*	
2	Zusatzdämmung Mineralwolle 032 (30 mm) *Additional insulation mineral wool 032 (30 mm)*	
3	Traglattung *Support battens*	30 mm
4	Unterdeckplatte z.B. OSB *Underlay board e.g. OSB*	15 mm
5	E-NERGY CARBON DRYTEC	0,4 mm
6	Trockenbauplatte *Drywall board*	12,5 mm
7	Befestigungsschraube *Fixing screw*	
8	Bewegungsfuge *Movement joint*	
		58 mm



» KONSTRUKTIONSAUFBAU WAND MIT TROCKENBAUPROFILEN
WALL CONSTRUCTION WITH DRYWALL PROFILES

E-NERGY CARBON DRYTEC

1	Rohdecke *Raw ceiling*	
2	Zusatzdämmung Mineralwolle 032 (25 mm) *Additional insulation mineral wool 032 (25 mm)*	
3	Trockenbauprofil z.B. CD 60/27 *Drywall profile e.g. CD 60/27*	27 mm
4	E-NERGY CARBON DRYTEC	0,4 mm
5	Trockenbauplatte *Drywall board*	12,5 mm
6	Befestigungsschraube *Fixing screw*	
7	Bewegungsfuge *Movement joint*	
		40 mm



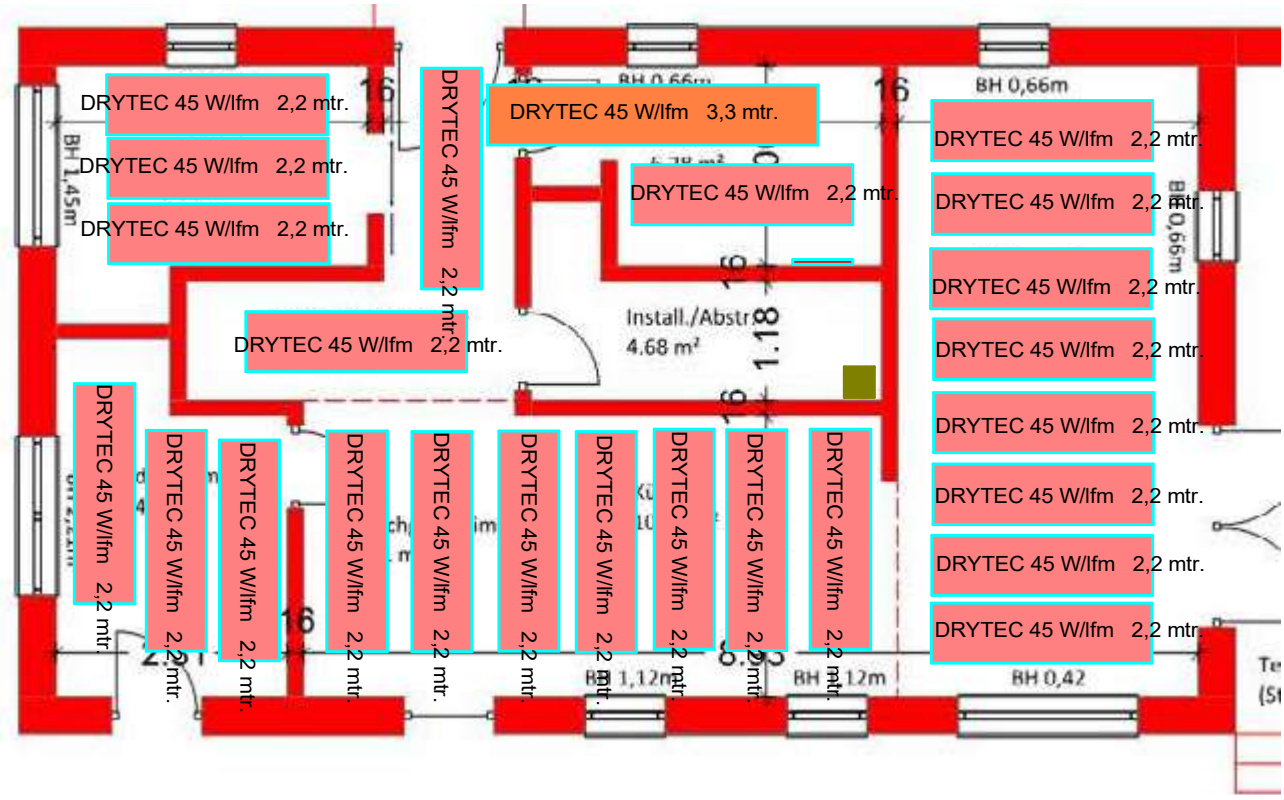
» FAKTEN | *FACTS*

- Normkonforme elektrische Wandheizung durch 36 V Sicherheitskleinspannung (SELV)
  Standard-compliant electrical wall heating through 36 V safety extra-low voltage (SELV)
- Angenehme Oberflächentemperatur von 32-37°C
  Pleasant surface temperature of 32-37°C
- Direkt am Ständerwerk oder mittels Unterdeckplatte installierbar
  Can be installed directly on the stud frame or using a soffit panel

» AUSLEGUNGSBEISPIEL DECKENHEIZUNG
DESIGN EXAMPLE CEILING HEATING



E-NERGY CARBON DRYTEC



Montagezeiten & Belegungsgrad | Installation time & occupancy rate

Die genannten Montagezeiten sind Erfahrungswerte und dienen als Kalkulationshilfe. Die Angaben zum Heizsystem beziehen sich auf einen Monteur (1-Mann-Montage).

The assembly times stated are empirical values and serve as a calculation aid. The information on the heating system refers to one fitter (1-man installation).

Montagezeiten *Installation time*		
	E-NERGY CARBON DRYTEC	5 min / m²
	Trafo *Transformer*	30 min / Trafo *30 min / transformer*
	Anschluss Heizfolie *Connection heating foil*	2 min / Heizfolie *2 min / heating foil*
	Raumthermostat *Room thermostat*	30 min / Raumthermostat *30 min / transformer*

Belegungsgrad *Occupancy rate*		
	Decke *Ceiling*	40 - 70 %

E-NERGY CARBON DRYTEC

VIDEO











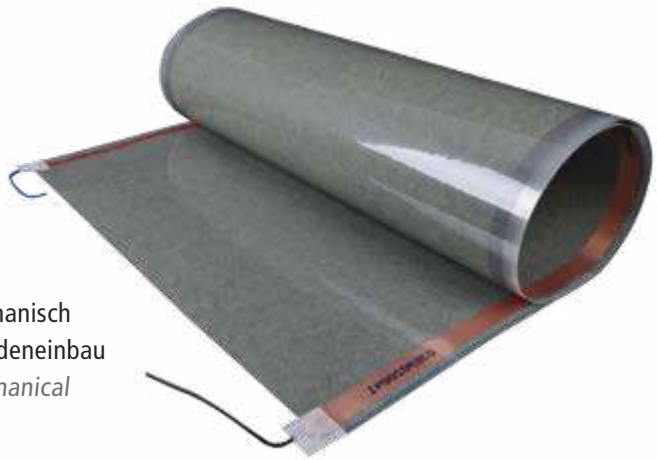


E-NERGY CARBON PET

E-NERGY CARBON PET wurde speziell für die schwimmende Verlegung unter Laminat und Parkett entwickelt. Eine Spezialfolienbeschichtung macht **E-NERGY CARBON PET** abriebfest und mechanisch belastbar.

*E-NERGY CARBON PET has been specially developed for floating installation under laminate and parquet flooring. A special film coating makes **E-NERGY CARBON PET** resistant to abrasion and mechanical stress.*

1 Geringe Einbauhöhe mit nur 0,4 mm dünnen Heizfolien
Low installation height with only 0.4 mm thin heating foils

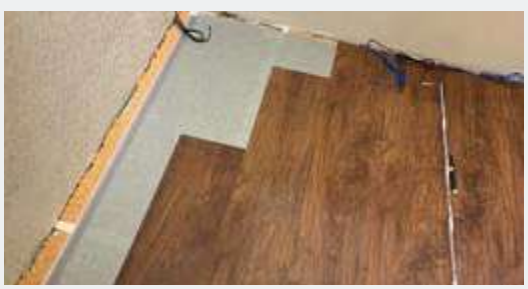


2 Spezialfolienbeschichtete, abriebfeste und mechanisch belastbare Heizfolie für den schwimmenden Bodeneinbau
Special film coated, abrasion resistant and mechanical resilient PET film for floating floor installation

3 Sicherer Anschluss mit 36 V Sicherheitskleinspannung (SELV)
Safe connection with 36 V safety extra-low voltage (SELV)



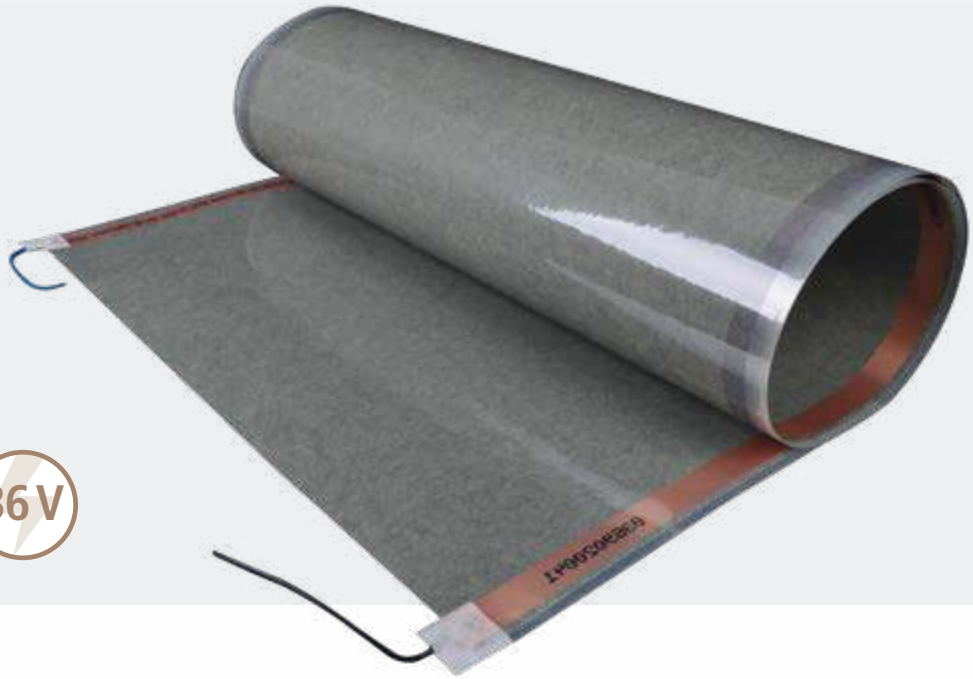





E-NERGY CARBON PET

- Spezialfolienbeschichtet *Special foil-coated*
- Abriebfest und mechanisch belastbar *Abrasion-resistant and mechanically resilient*
- Ideal für die schwimmende Verlegung *Ideal for floating installation*





36 V

E-NERGY CARBON PET

Heizfolien | Heating foils

Spezialfolienbeschichtete, abriebfeste und mechanisch belastbare Heizfolie. Optimal geeignet für die schwimmende Verlegung unter Laminat und Parkett.
Special film-coated, abrasion-resistant and mechanically resilient heating foil. Ideally suited for floating installation under laminate and parquet flooring.

36 W/lfm (60 W/m²)



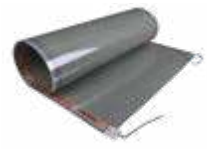
Artikel *Article*	Abmessung (LxBxH) *Dimension (LxWxH)*	Art-Nr. *Item-no.*	VPE *PU*	Preis/Stk. *Price/Item*
Heizfolie 36 V – 36 W/lfm (60 W/m²), 1,0 m *Heating foil 36 V – 36 W/m (60 W/m²), 1.0 m*	1.000 x 600 x 0,4 mm *1,000 x 600 x 0.4 mm*	2 12 641	1 Stk. *1 pc.*	67,50 £ *67.50 £*
Heizfolie 36 V – 36 W/lfm (60 W/m²), 1,5 m *Heating foil 36 V – 36 W/m (60 W/m²), 1.5 m*	1.500 x 600 x 0,4 mm *1,500 x 600 x 0.4 mm*	2 12 642	1 Stk. *1 pc.*	101,25 £ *101.25 £*
Heizfolie 36 V – 36 W/lfm (60 W/m²), 2,0 m *Heating foil 36 V – 36 W/m (60 W/m²), 2.0 m*	2.000 x 600 x 0,4 mm *2,000 x 600 x 0.4 mm*	2 12 643	1 Stk. *1 pc.*	135,00 £ *135.00 £*
Heizfolie 36 V – 36 W/lfm (60 W/m²), 2,5 m *Heating foil 36 V – 36 W/m (60 W/m²), 2.5 m*	2.500 x 600 x 0,4 mm *2,500 x 600 x 0.4 mm*	2 12 644	1 Stk. *1 pc.*	168,75 £ *168.75 £*
Heizfolie 36 V – 36 W/lfm (60 W/m²), 3,0 m *Heating foil 36 V – 36 W/m (60 W/m²), 3.0 m*	3.000 x 600 x 0,4 mm *3,000 x 600 x 0.4 mm*	2 12 645	1 Stk. *1 pc.*	202,50 £ *202.50 £*
Heizfolie 36 V – 36 W/lfm (60 W/m²), 3,5 m *Heating foil 36 V – 36 W/m (60 W/m²), 3.5 m*	3.500 x 600 x 0,4 mm *3,500 x 600 x 0.4 mm*	2 12 646	1 Stk. *1 pc.*	236,25 £ *236.25 £*
Heizfolie 36 V – 36 W/lfm (60 W/m²), 4,0 m *Heating foil 36 V – 36 W/m (60 W/m²), 4.0 m*	4.000 x 600 x 0,4 mm *4,000 x 600 x 0.4 mm*	2 12 647	1 Stk. *1 pc.*	270,00 £ *270.00 £*
Heizfolie 36 V – 36 W/lfm (60 W/m²), 5,0 m *Heating foil 36 V – 36 W/m (60 W/m²), 5.0 m*	5.000 x 600 x 0,4 mm *5,000 x 600 x 0.4 mm*	2 12 648	1 Stk. *1 pc.*	337,50 £ *337.50 £*
Heizfolie 36 V – 36 W/lfm (60 W/m²), 5,5 m beidseitiger Anschluss *Heating foil 36 V – 36 W/m (60 W/m²), 5.5 m double-sided connection*	5.500 x 600 x 0,4 mm *5,500 x 600 x 0.4 mm*	2 12 649	1 Stk. *1 pc.*	371,25 £ *371.25 £*

69 W/lfm (115 W/m²)



Artikel *Article*	Abmessung (LxBxH) *Dimension (LxWxH)*	Art-Nr. *Item-no.*	VPE *PU*	Preis/Stk. *Price/Item*
Heizfolie 36 V – 69 W/lfm (115 W/m²), 1,9 m *Heating foil 36 V – 69 W/m (115 W/m²), 1.9 m*	1.900 x 600 x 0,4 mm *1,900 x 600 x 0.4 mm*	2 02 680	1 Stk. *1 pc.*	142,50 £ *142.50 £*
Heizfolie 36 V – 69 W/lfm (115 W/m²), 2,9 m *Heating foil 36 V – 69 W/m (115 W/m²), 2.9 m*	2.900 x 600 x 0,4 mm *2,900 x 600 x 0.4 mm*	2 02 681	1 Stk. *1 pc.*	217,50 £ *217.50 £*
Heizfolie 36 V – 69 W/lfm (115 W/m²), 3,9 m *Heating foil 36 V – 69 W/m (115 W/m²), 3.9 m*	3.900 x 600 x 0,4 mm *3,900 x 600 x 0.4 mm*	2 02 682	1 Stk. *1 pc.*	292,50 £ *292.50 £*

69 W/lfm (115 W/m²)



Artikel *Article*	**Abmessung (LxBxH)** *Dimension (LxWxH)*	**Art-Nr.** *Item-no.*	**VPE** *PU*	**Preis/Stk.** *Price/Item*
Heizfolie 36 V – 69 W/lfm (115 W/m²), 4,4 m beidseitiger Anschluss *Heating foil 36 V – 69 W/m (115 W/m²), 4.4 m double-sided connection*	4.400 x 600 x 0,4 mm *4,400 x 600 x 0.4 mm*	2 02 684	1 Stk. *1 pc.*	330,00 £ *330.00 £*
Heizfolie 36 V – 69 W/lfm (115 W/m²), 5,8 m beidseitiger Anschluss *Heating foil 36 V – 69 W/m (115 W/m²), 5.8 m double-sided connection*	5.800 x 600 x 0,4 mm *5,800 x 600 x 0.4 mm*	2 02 683	1 Stk. *1 pc.*	435,00 £ *435.00 £*

Zubehör | Accessories



Artikel *Article*	**Abmessung (LxBxH)** *Dimensions (LxWxH)*	**Art-Nr.** *Item-no.*	**VPE** *PU*	**Preis/Stk.** *Price/Item*
Isolierklebeband schwarz für Heizfolie PET *Insulating tape black for heating foil PET*	20.000 x 50 x 0,19 mm *20.000 x 50 x 0.19 mm*	2 02 933	1 Stk. *1 pc.*	14,50 £ *14.50 £*

Kabel & Verbinder (36 V-Anschluss) | Cables & connectors (36 V connection)

Halogenfreie und für die Unterputzmontage geeignete Zwillingsleitung zur Verlängerung der werkseitig angecrimpten Anschlusskabel. Verfügbar in 2,5 und 6 mm² inklusive zugelassener Verbinder. *Halogen-free twin cable suitable for flush mounting for extending the factory-crimped connection cables. Available in 2.5 and 6 mm² including approved connectors.*

Für Entfernungen bis zu 10 m zum Trafo *For distances up to 10 m to the transformer*



Artikel *Article*	Abmessung (LxBxH) *Dimension (LxWxH)*	Art-Nr. *Item-no.*	VPE *PU*	Preis/Stk. *Price/Item*
PUR-Zwillingsleitung *PUR twin cable*	2 x 2,5 mm² *2 x 2.5 mm²*	2 00 604	10 lfdm *10 m*	4,30 £ / lfdm *4.30 £ / m*
PUR-Zwillingsleitung *PUR twin cable*	2 x 2,5 mm² *2 x 2.5 mm²*	2 00 600	25 lfdm *25 m*	4,30 £ / lfdm *4.30 £ / m*
PUR-Zwillingsleitung *PUR twin cable*	2 x 2,5 mm² *2 x 2.5 mm²*	2 00 601	50 lfdm *50 m*	4,30 £ / lfdm *4.30 £ / m*
Quetschverbinder *Crimp connector*	2,5 mm² *2.5 mm²*	2 00 652	5 Stk. *5 pcs.*	*5,40 £ / Beutel* *5.40 £ / pouch*
Quetschverbinder *Crimp connector*	2,5 mm² *2.5 mm²*	2 00 650	20 Stk. *20 pcs.*	*20,50 £ / Beutel* *20.50 £ / pouch*

Für Entfernungen bis zu 25 m zum Trafo *For distances up to 25 m to the transformer*



PUR-Zwillingsleitung *PUR twin cable*	2 x 6,0 mm² *2 x 6.0 mm²*	2 00 602	25 lfdm *25 m*	8,20 £ / lfdm *8.20 £ / m*
PUR-Zwillingsleitung *PUR twin cable*	2 x 6,0 mm² *2 x 6.0 mm²*	2 00 603	50 lfdm *50 m*	8,20 £ / lfdm *8.20 £ / m*
Quetschverbinder *Crimp connector*	6,0 mm² *6.0 mm²*	2 00 651	20 Stk. *20 pcs.*	*27,50 £ / Beutel* *27.50 £ / pouch*

Universalverbinder zur Verbindung unterschiedlicher Kabelquerschnitte und zum Verbinden mehrerer PUR-Zwillingsleitungen.
Universal connector for connecting different cable cross-sections and for connecting several PUR twin leads



Universalverbinder *Universal connector 6 – 10 mm²*	6 – 10 mm² *6 – 10 mm²*	2 00 656	10 Stk. *10 pc.*	20,50 £ *20.50 £*
Universalverbinder *Universal connector 10 – 16 mm²*	10 – 16 mm² *10 – 16 mm²*	2 00 657	10 Stk. *10 pc.*	21,75 £ *21.75 £*
Presszange für Universalverbinder *Crimping pliers for universal connectors*	6 – 16 mm² *6 – 16 mm²*	2 09 071	1 Stk. *1 pc.*	345,50 £ *345.50 £*

Zum Verbinden von zwei PUR-Leitungen 2,5 mm² mittels Heißluftföhn *For connecting two PUR cables 2.5 mm² by means of hot air blow dryer*



Lötverbinder *Solder connectors*	5,0 mm² *5.0 mm²*	2 00 658	10 Stk. *10 pc.*	13,95 £ *13.95 £*

Quetschverbinder *Crimp connector*

Leitungskombination *Line combination*	Verbinder *Connector*
2 x 2,5 mm²	Quetschverbinder *Crimp connector* 2,5 mm²
2 x 6,0 mm²	Quetschverbinder *Crimp connector* 6,0 mm²

Universalverbinder *Universal connector*

Leitungskombination *Line combination*	Querschnittssumme *Cross-section sum*	Verbinder *Connector*
3 x 2,5 mm²	7,5 mm²	Universalverbinder *Universal connector* 6 – 10 mm²
1 x 2,5 mm² + 1 x 6,0 mm²	8,5 mm²	Universalverbinder *Universal connector* 6 – 10 mm²
4 x 2,5 mm²	10,0 mm²	Universalverbinder *Universal connector* 6 – 10 mm²
2 x 2,5 mm² + 1 x 6,0 mm²	11,0 mm²	Universalverbinder *Universal connector* 10 – 16 mm²
2 x 6,0 mm²	12,0 mm²	Universalverbinder *Universal connector* 10 – 16 mm²
3 x 2,5 mm² + 1 x 6,0 mm²	13,5 mm²	Universalverbinder *Universal connector* 10 – 16 mm²
4 x 2,5 mm² + 1 x 6,0 mm²	16,0 mm²	Universalverbinder *Universal connector* 10 – 16 mm²

Lötverbinder *Solder connectors*

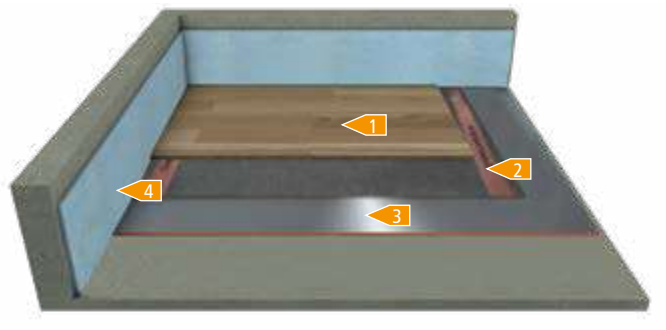
Leitungskombination *Line combination*	Querschnittssumme *Cross-section sum*	Verbinder *Connector*
2 x 2,5 mm²	5,0 mm²	Lötverbinder *Solder connectors* 5,0 mm²

» KONSTRUKTIONSAUFBAU BODEN (SCHWIMMEND) *FLOOR CONSTRUCTION (FLOATING)*

E-NERGY CARBON PET

1	Parkett | Laminat (schwimmend)* *Parquet | Laminate (floating)**	
2	E-NERGY CARBON PET	0,4 mm
3	CF FLOOR DIRECT 1.5	1,5 mm
4	Randdämmstreifen EPS | NEO *Edge insulation strips EPS | NEO*	
		2 mm

* Bei Designbelägen gesonderten Konstruktionsaufbau beachten
** For design coverings, please note separate design structure*



» MONTAGE | *INSTALLATION*








» FAKTEN | *FACTS*

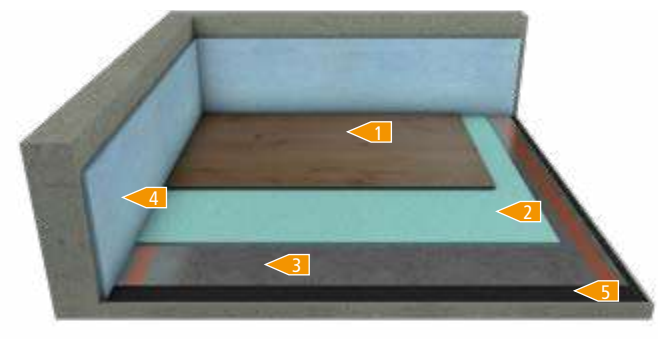
- Abriebfeste & mechanisch belastbare Heizfolie für schwimmende Verlegung
  Abrasion-resistant & mechanically resilient heating foil for floating installation
- Produktkonforme Oberflächentemperatur von 26-27°C über Bodenfühler einstellbar
  Product-compliant surface temperature adjustable from 26-27°C via floor sensor
- Nachträglicher Einbau im bewohnten Zustand leicht realisierbar
  Subsequent installation in inhabited condition easily realisable

» KONSTRUKTIONSAUFBAU BODEN (SCHWIMMEND) *FLOOR CONSTRUCTION (FLOATING)*

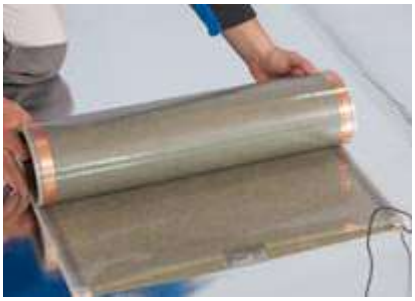
E-NERGY CARBON PET

1	Designbelag (schwimmend verlegt) *Parquet | Laminate (floating)**	
2	Trittschalldämmung / Unterlagsbahn *Impact sound insulation / underlay membrane*	2 mm
3	E-NERGY CARBON PET	0,4 mm
4	Randdämmstreifen EPS | NEO *Edge insulation strips EPS | NEO*	
5	ggf. Feuchtigkeitssperre *Moisture barrier if necessary*	
		3 mm

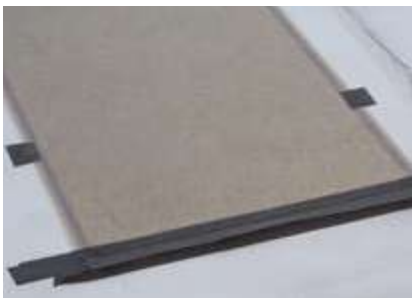
* Bei Designbelägen gesonderten Konstruktionsaufbau beachten
** For design coverings, please note separate design structure*



» MONTAGE | *INSTALLATION*



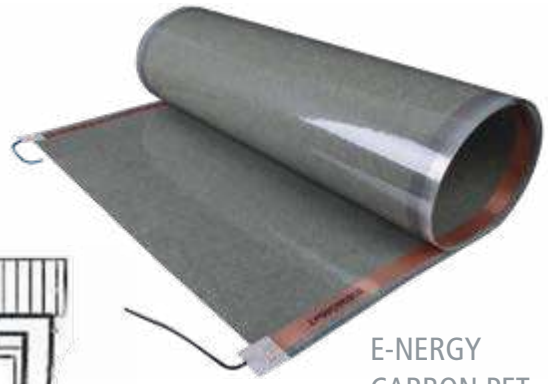


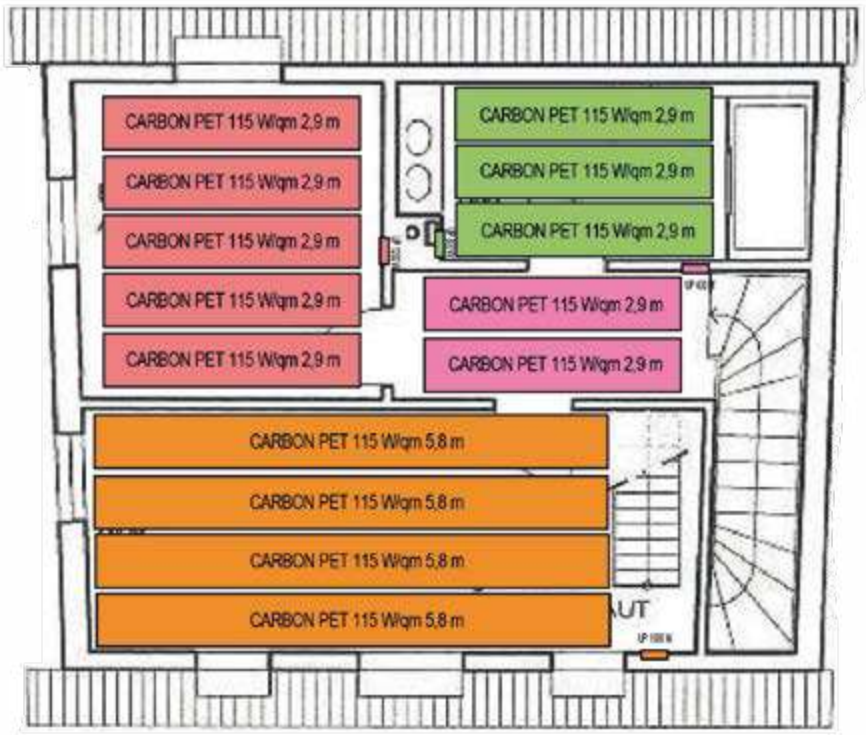
» FAKTEN | *FACTS*

- Abriebfeste & mechanisch belastbare Heizfolie für schwimmende Verlegung
  Abrasion-resistant & mechanically resilient heating foil for floating installation
- Produktkonforme Oberflächentemperatur von 26-27°C über Bodenfühler einstellbar
  Product-compliant surface temperature adjustable from 26-27°C via floor sensor
- Nachträglicher Einbau im bewohnten Zustand leicht realisierbar
  Easy to retrofit in inhabited condition

» AUSLEGUNGSBEISPIEL FUSSBODENHEIZUNG
DESIGN EXAMPLE UNDERFLOOR HEATING



E-NERGY
CARBON PET



Montagezeiten & Belegungsgrad | Installation Time & occupancy rate

Die genannten Montagezeiten sind Erfahrungswerte und dienen als Kalkulationshilfe. Die Angaben zum Heizsystem beziehen sich auf einen Monteur (1-Mann-Montage).

The assembly times stated are empirical values and serve as a calculation aid. The information on the heating system refers to one fitter (1-man installation).

Montagezeiten *Installation time*		
	E-NERGY CARBON PET	5 min / m²
	Trafo *Transformer*	30 min / Trafo *30 min / transformer*
	Anschluss Heizfolie *Connection heating foil*	2 min / Heizfolie *2 min / heating foil*
	Raumthermostat *Room thermostat*	30 min / Raumthermostat *30 min / transformer*

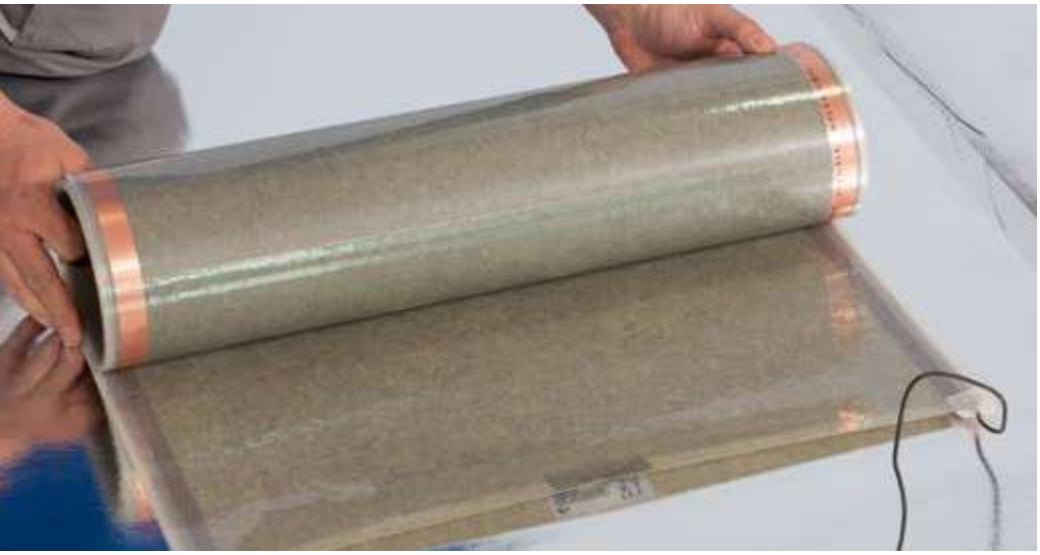
Belegungsgrad *Occupancy rate*		
	Boden *Floor*	70 - 90 %

E-NERGY CARBON PET

VIDEO













E-NERGY CARBON CONTROL

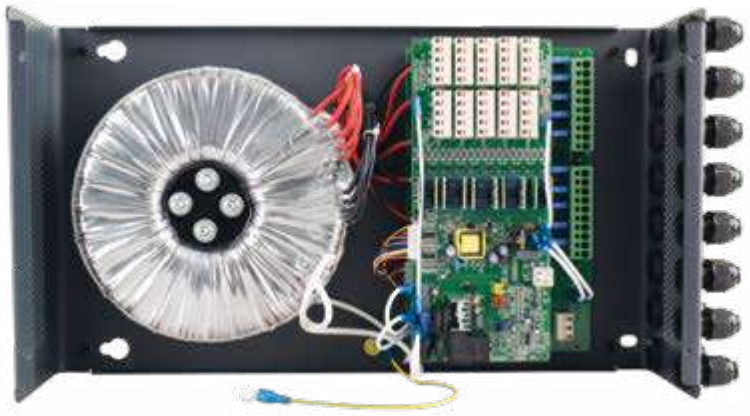
E-NERGY CARBON arbeitet mit 36 V Schutzkleinspannung (SELV). Herzstück der Spannungsversorgung sind die geprüften Transformatoren. Zur Auswahl stehen sowohl effiziente Ringtrafos mit einem Wirkungsgrad von bis zu 97 %, als auch kostenoptimierte EI-Transformatoren. Die Steuerung von **E-NERGY CARBON** erfolgt über Raumthermostate, welche auch mit moderner Smart-Home und App-Technologie verfügbar sind.

E-NERGY CARBON *operates with 36 V safety extra-low voltage (SELV). The tested transformers are the heart of the power supply. There is a choice of both efficient ring transformers with an efficiency of up to 97 % and cost-optimised EI transformers.* ***E-NERGY CARBON*** *is controlled by room thermostats, which are also available with modern Smart-Home and App technology.*

1 Ringkerntrafos mit hohem Wirkungsgrad von bis zu 97 %
Toroidal transformers with high efficiency of up to 97 %



2 36 V Sicherheitskleinspannung (SELV) für eine sichere Spannungsversorgung
36 V safety extra-low voltage (SELV) for a safe power supply



3 Raumthermostate mit Smart-Home Funktion
Room thermostats with Smart-Home function







Netzteile BASIC | Power supply units BASIC

- Ringkern- und EI-Bauform verfügbar *Toroidal and EI types available*
- Werkseitig im Gehäuse integriert *Factory-integrated in the housing*
- Optimales Preis-Leistungs-verhältnis *Optimal price-performance ratio*

36 V		300 – 1.200 W *300 – 1,200 W*	SELV	Ringkern & EI *Toroidal core & EI*

Netzteile PRO | Power supply units PRO

- Wirkungsgrad von bis zu 97 %
Efficiency of up to 97 %
- Steuerungsplatine inkl. Einschalt-strombegrenzer *Control board incl. inrush current limiter*
- Zentrale Installation für bis zu 10 Räume *Central installation for up to 10 rooms*

36 V		2.400 – 3.200 W *2,400 – 3,200 W*	SELV	Ringkern *Toroidal core*

Netzteile HT | Power supply units HT

- Wirkungsgrad von bis zu 97 %
Efficiency of up to 97 %
- Master-Slave Option möglich
Master-Slave option possible
- Unter- und Aufputzmontage möglich
Flush and surface mounting possible

36 V		400 – 2.000 W *400 – 2,000 W*	SELV	Ringkern *Toroidal core*

Feuchteschutz-Netzteile PROTECT
Moisture protection power supply units HT PROTECT

- Wirkungsgrad von bis zu 97 %
Efficiency of up to 97 %
- Master-Slave Option möglich
Master-Slave option possible
- Protect-Version zum Feuchteschutz
Protect version for moisture protection available

36 V		100 – 400 W *100 – 400 W*	SELV	Ringkern *Toroidal core*



Netzteile BASIC | Power supply unit BASIC

Netzteile BASIC TT | Power supply units BASIC TT

Ringkerntrafo mit integriertem Einschaltstrombegrenzer, sekundärseitiger Absicherung der Heizkreise und hohem Wirkungsgrad von bis zu 97 %. Im Aufputzgehäuse für die Aufputz- sowie Unterputzmontage geeignet. Optimale Ausnutzung der Trafoleistung durch intelligente Aufteilung der Heizkreise mit flexiblen Anschlussmöglichkeiten. Versorgungskontakt (230 V) zum Anschluss eines Raumthermostaten sowie einem Steuereingang (230 V – Schließerkontakt) zur Schaltung des Trafos.

Toroidal transformer with integrated inrush current limiter, secondary-side protection of the heating circuits and high efficiency of up to 97 %. In surface-mounted housing suitable for surface and flush mounting. Optimum utilisation of the transformer output through intelligent division of the heating circuits with flexible connection options. Supply contact (230 V) for connecting a room thermostat and a control input (230 V – normally open contact) for switching the transformer.



Artikel *Article*	Abmessung (LxBxH) *Dimension (LxWxH)*	Art-Nr. *Item-no.*	VPE *PU*	Preis/Stk. *Price/Item*
Netzteil BASIC TT 400 W AP/UP *Power supply unit BASIC TT 400 W AP/UP*	250 x 173 x 75 mm *250 x 173 x 75 mm*	2 03 571	1 Stk. *1 pc.*	375,00 £ *375.00 £*
Netzteil BASIC TT 800 W AP/UP *Power supply unit BASIC TT 800 W AP/UP*	300 x 220 x 85 mm *300 x 220 x 85 mm*	2 03 572	1 Stk. *1 pc.*	595,00 £ *595.00 £*
Netzteil BASIC TT 1.200 W AP/UP *Power supply unit BASIC TT 1,200 W AP/UP*	300 x 220 x 85 mm *300 x 220 x 85 mm*	2 03 573	1 Stk. *1 pc.*	670,00 £ *670.00 £*



Artikel *Article*	Abmessung (LxBxH) *Dimension (LxWxH)*	Art-Nr. *Item-no.*	VPE *PU*	Preis/Stk. *Price/Item*
Netzteil BASIC TT 300 W P&P *Power supply unit BASIC TT 300 W P&P*	192 x 67 x 340 mm *192 x 67 x 340 mm*	2 03 574	1 Stk. *1 pc.*	440,00 £ *440.00 £*

Netzteil EI | Power supply unit EI

Steckerfertiger EI-Transformator für Heizleistungen bis 300 W, der sich optimal für die Komforttemperierung kleinerer Flächen eignet (z.B. Badezimmer).
Plug-in EI transformer for heating outputs of up to 300 W, which is ideal for comfort temperature control of smaller areas (e.g. bathrooms).



Artikel *Article*	Abmessung (LxBxH) *Dimension (LxWxH)*	Art-Nr. *Item-no.*	VPE *PU*	Preis/Stk. *Price/Item*
Netzteil BASIC EI 100 W AP/UP *Power supply unitBASIC EI 100 W AP/UP*	120 x 80 x 77 mm *120 x 80 x 77 mm*	2 03 580	1 Stk. *1 pc.*	110,00 £ *110.00 £*
Netzteil BASIC EI 300 W AP/UP *Power supply unitBASIC EI 300 W AP/UP*	134/101 x 91 x 100 mm *134/101 x 91 x 100 mm*	2 03 576	1 Stk. *1 pc.*	185,00 £ *185.00 £*

Regelungssystem | Control system

	Artikel *Article*	Abmessung (LxBxH) *Dimension (LxWxH)*	Art-Nr. *Item-no.*	VPE *PU*	Preis/Stk. *Price/Item*
	Raumthermostat Touch* (inkl. externen Temperaturfühler, Versorgung 230 V) *Room thermostat touch** *(incl. external temperature sensor, supply 230 V)*	85 x 85 x 40 mm *85 x 85 x 40 mm*	2 03 250	1 Stk. *1 pc.*	205,00 £ *205.00 £*
	Raumthermostat WIFI* (inkl. externen Temperaturfühler, Versorgung 230 V) *Room thermostat WIFI** *(incl. external temperature sensor, supply 230 V)*	85 x 85 x 40 mm *85 x 85 x 40 mm*	2 03 251	1 Stk. *1 pc.*	255,00 £ *255.00 £*
	Raumthermostat EN 01* (inkl. externen Temperaturfühler, Versorgung 230 V) *Room thermostat EN 01** *(incl. external temperature sensor, supply 230 V)*	80 x 80 x 40 mm *80 x 80 x 40 mm*	2 03 252	1 Stk. *1 pc.*	190,00 £ *190.00 £*
	Raumthermostat EN 02 (inkl. externen Temperaturfühler, Versorgung 230 V) *Room thermostat EN 02* *(incl. external temperature sensor, supply 230 V)*	84 x 84 x 40 mm *84 x 84 x 40 mm*	2 03 253	1 Stk. *1 pc.*	130,00 £ *130.00 £*
	Raumthermostat FN 02 (*batteriebetrieben*) *Room thermostat FN 02 (battery-powered)*	118 x 95 x 26 mm *118 x 95 x 26 mm*	2 03 273	1 Stk. *1 pc.*	130,00 £ *130.00 £*
	Funksteckdose für Raumthermostat FN 02 *Radio-controlled socket for room thermostat FN 02*	42 x 42 x 40 mm *42 x 42 x 40 mm*	2 03 272	1 Stk. *1 pc.*	100,00 £ *100.00 £*
	Funkrelais-Set *Radio relay set*	84 x 84 x 28 mm *85 x 85 x 28 mm*	2 03 276	1 Stk. *1 pc.*	120,00 £ *120.00 £*

*in Verbindung mit HT-Netzteilen ist ein Relais mit potentialfreiem Kontakt zur Schaltung des Trafos notwendig z. B. Eltako R12-100-230V, Eltako ER61-UC.
**In conjunction with HT power supply units, a relay with potential-free contact is required to switch the transformer e.g. Eltako R12-100-230V, Eltako ER61-UC.*

Zubehör | Accessories

	Artikel *Article*	Abmessung (LxBxH) *Dimension (LxWxH)*	Art-Nr. *Item-no.*	VPE *PU*	Preis/Stk. *Price/Item*
	Fühler-Anschluss-Set *Sensor connection set*		2 00 554	1 Stk. *1 pc.*	29,50 £ *29.50 £*
	DC-Netzfilter *DC mains filter*	50 x 40 x 30 mm *50 x 40 x 30 mm*	2 03 562	1 Stk. *1 pc.*	50,00 £ *50.00 £*
	UP Einbaukasten mit Lüftungsschlitzen für Netzteil BASIC TT *Flush-mounted box with ventilation slots for power supply unit BASIC TT*	561 x 330 x 120 mm *561 x 330 x 120 mm*	2 03 546	1 Stk. *1 pc.*	185,00 £ *185.00 £*

	Netzteil BASIC TT 400 W AP/UP *Power supply unit BASIC TT 400 W AP/UP*	Netzteil BASIC TT 800 W AP/UP *Power supply unit BASIC TT 800 W AP/UP*	Netzteil BASIC TT 1.200 W AP/UP *Power supply unit BASIC TT 1,200 W AP/UP*	Netzteil BASIC TT 300 W P&P *Power supply unit BASIC TT 300 W P&P*	Netzteil BASIC EI 100 W AP/UP *Power supply unit BASIC EI 100 W AP/UP*	Netzteil BASIC EI 300 W AP/UP *Power supply unit BASIC EI 300 W AP/UP*
Nennleistung *Nominal power*	400 W	800 W	1.200 W	300 W	100 W	300 W
Steuereingang für Raumthermostat 230 V *Control input for room thermostat 230 V*	1x	1x	1x	steckerfertig *Plug-in ready*	steckerfertig *Plug-in ready*	steckerfertig; schaltbar über Raumthermostat EN 01 oder Funksteckdose FN 02 | *Plug-in ready; switchable via room thermostat EN 01 or radio-controlled socket FN 02*
Lastausgänge* *Load outputs**	1x	3x	5x	2x	1x	2x
Einschaltstrombegrenzer *Inrush current limiter*	●	●	●	●	–	–
Integrierter Sicherheitstemperaturbegrenzer *Integrated safety temperature limiter protection*	●	●	●	●	●	●

* Pro Lastausgang dürfen max. 400 W (BASIC TT) bzw. 100/300 W (BASIC EI, BASIC TT P&P) angeschlossen werden. Die angeschlossene Gesamtleistung darf die Netzteil-Nennleistung nicht übersteigen.
** Per load output max. 400 W (BASIC TT) or 100/300 W (BASIC EI, BASIC TT P&P) may be connected. The total power connected must not exceed the rated power of the power supply unit.*



Netzteile PRO | Power supply unit PRO

Netzteile PRO TT | Power supply units PRO TT

Zentrale Stromversorgungsstation mit Sicherheitstransformator nach EN 61558-2-6 mit 36 V AC Sicherheitskleinspannung (SELV) zum Anschluss von Heizfolien des Systems **E-NERGY CARBON**. Für den Betrieb ganzer Wohneinheiten / Etagen ausgestattet mit 10 Eingängen zum Anschluss von bis zu 10 Raumthermostaten und 10 Ausgängen zum Anschluss von bis zu 10 Heizkreisen. Steuerelektronik mit integrierten Einschaltstrombegrenzer, DC-Netzfilter sowie Federzugklemmen für eine dauerhaft sichere elektrische Verbindung aller Anschlüsse. In einem Aufputz-Metallgehäuse montiert, besitzen die Stromversorgungsstationen einen Wirkungsgrad von bis zu 97 %.

*Central power supply station with safety transformer according to EN 61558-2-6 with 36 V AC safety extra-low voltage (SELV) for connecting heating foils of the **E-NERGY CARBON** system. For operating entire residential units / floors equipped with 10 inputs for connecting up to 10 room thermostats and 10 outputs for connecting up to 10 heating circuits. Control electronics with integrated inrush current limiter, DC mains filter as well as spring-loaded terminals for a permanently secure electrical connection of all connections. Mounted in a surface-mounted metal housing, the power supply units have an efficiency of up to 97 %.*



Artikel *Article*	**Abmessung (LxBxH)** *Dimension (LxWxH)*	**Art-Nr.** *Item-no.*	**VPE** *PU*	**Preis/Stk.** *Price/Item*
Netzteil PRO TT 2.400 W AP/UP *Power supply unit PRO TT 2,400 W AP/UP*	555 x 300 x 140 mm *555 x 300 x 140 mm*	2 03 591	1 Stk. *1 pc.*	1.690,00 £ *1,690.00 £*
Netzteil PRO TT 3.200 W AP/UP *Power supply unit PRO TT 3,200 W AP/UP*	555 x 300 x 140 mm *555 x 300 x 140 mm*	2 03 592	1 Stk. *1 pc.*	1.975,00 £ *1,975.00 £*

Regelungssystem | Control system







Artikel *Article*	Abmessung (LxBxH) *Dimension (LxWxH)*	Art-Nr. *Item-no.*	VPE *PU*	Preis/Stk. *Price/Item*
Raumthermostat Touch* (inkl. externem Temperaturfühler, Versorgung 230 V) *Room thermostat touch** *(incl. external temperature sensor, supply 230 V)*	85 x 85 x 40 mm *85 x 85 x 40 mm*	2 03 250	1 Stk. *1 pc.*	205,00 £ *205.00 £*
Raumthermostat WIFI* (inkl. externem Temperaturfühler, Versorgung 230 V) *Room thermostat WIFI** *(incl. external temperature sensor, supply 230 V)*	85 x 85 x 40 mm *85 x 85 x 40 mm*	2 03 251	1 Stk. *1 pc.*	255,00 £ *255.00 £*
Raumthermostat EN 01* (inkl. externem Temperaturfühler, Versorgung 230 V) *Room thermostat EN 01** *(incl. external temperature sensor, supply 230 V)*	80 x 80 x 40 mm *80 x 80 x 40 mm*	2 03 252	1 Stk. *1 pc.*	190,00 £ *190.00 £*
Raumthermostat EN 02 (inkl. externem Temperaturfühler, Versorgung 230 V) *Room thermostat EN 02* *(incl. external temperature sensor, supply 230 V)*	84 x 84 x 40 mm *84 x 84 x 40 mm*	2 03 253	1 Stk. *1 pc.*	130,00 £ *130.00 £*

*in Verbindung mit den Netzteilen HT ist ein Relais mit potentialfreiem Kontakt zur Schaltung des Trafos notwendig z. B. Eltako R12-100-230V oder Eltako ER61-UC.

**in connection with the power supply units HT a relay with potential-free contact is necessary to switch the transformer e.g. Eltako R12-100-230V or Eltako ER61-UC.*

Zubehör | Accessories



Artikel *Article*	Abmessung (LxBxH) *Dimension (LxWxH)*	Art-Nr. *Item-no.*	VPE *PU*	Preis/Stk. *Price/Item*
Fühler-Anschluss-Set *Sensor connection set*		2 00 554	1 Stk. *1 pc.*	29,50 £ *29.50 £*

	Netzteil PRO TT 2.400 W AP/UP *Power supply unit PRO TT* *2.400 W AP/UP*	Netzteil PRO TT 3.200 W AP/UP *Power supply unit PRO TT* *3.200 W AP/UP*
Nennleistung *Nominal power*	2.400 W	3.200 W
Steuereingang für Raumthermostat 230 V *Control input for room thermostat 230 V*	10 x	10 x
Lastausgänge* *Load outputs**	10 x	10 x
Einschaltstrombegrenzer *Inrush current limiter*	●	●
Integrierter Sicherheitstemperaturbegrenzer *Integrated safety temperature limiter protection*	●	●
Integrierter DC-Netzfilter *Integrated DC mains filter*	●	●

* Pro Lastausgang dürfen max. 400 W angeschlossen werden. Die angeschlossene Gesamtleistung darf die Nennleistung des Netzteils nicht übersteigen.

** Per load output max. 400 W may be connected. The total power connected must not exceed the rated power of the power supply unit.*



Netzteile HT | Power supply units HT

Netzteile HT | Power supply unit HT

Ringkerntrafo mit integriertem Einschaltstrombegrenzer, sekundärseitiger Absicherung der Heizkreise und hohem Wirkungsgrad von bis zu 97 %. Versorgungskontakt (12 V) zum Anschluss des **Raumthermostaten HT UP** sowie einem Steuereingang (potentialfreier Schließerkontakt notwendig). Integriertes Funkmodul zum alternativen Anschluss des **Raumthermostat Funk HT AP**. Ein Kontakt zum Anschluss des externen Temperaturfühlers **HT**, ein Master-/Slavekontakt zur Kaskadierung mehrerer Trafos und die integrierte Einschaltverzögerung erhöhen den Funktionsumfang der **HT** Serie. Zum Feuchteschutz können die Geräte in der Ausführung **protect** durch den Anschluss des externen **Temperaturfühlers HT** ohne zusätzlichen Raumthermosta betrieben werden.

*Toroidal transformer with integrated inrush current limiter, secondary-side protection of the heating circuits and high efficiency of up to 97 %. Supply contact (12 V) for connecting the room **thermostat HT UP** as well as a control input (potential-free normally open contact required). Integrated radio module for alternative connection of the room **thermostat HT Surface-mounted** Radio. A contact for connecting the external temperature sensor **HT**, a master/slave contact for cascading several transformers and the integrated switch-on delay increase the range of functions of the **HT** series. For moisture protection, the devices in the **protect** version can be operated without an additional room thermostat by connecting the external **HT temperature sensor**.*

36 V Netzteil zur Montage im Unterputzschrank oder Aufputzgehäuse | *36 V power supply unit for installation in flush-mounted cabinet or surface-mounted housing*



Artikel *Article*	Abmessung (LxBxH) *Dimension (LxWxH)*	Art-Nr. *Item-no.*	VPE *PU*	Preis/Stk. *Price/Item*
Netzteil HT 400 W UP *Power supply unit HT 400 W UP*	195 x 265 x 75 mm *195 x 265 x 75 mm*	2 03 510	1 Stk. *1 pc.*	445,00 £ *445.00 £*

36 V Netzteil im Aufputzgehäuse, steckerfertig inklusive DC-Netzfilter | *36 V power supply unit in surface-mounted housing, plug-in ready*



Netzteil HT 1.200 W AP *Power supply unit HT 1,200 W AP*	290 x 220 x 110 mm *290 x 220 x 110 mm*	2 03 521	1 Stk. *1 pc.*	965,00 £ *965.00 £*
Netzteil HT 2.000 W AP *Power supply unit HT 2,000 W AP*	320 x 250 x 120 mm *320 x 250 x 120 mm*	2 03 522	1 Stk. *1 pc.*	1.125,00 £ *1,125.00 £*

Einbauschränke HT | Built-in cabinets HT

	Artikel *Article*	Abmessung (LxBxH) *Dimension (LxWxH)*	Art-Nr. *Item-no.*	VPE *PU*	Preis/Stk. *Price/Item*
	Einbaukasten HT UP *Installation box HT UP*	305 x 315 x 90 mm *305 x 315 x 90 mm*	2 03 541	1 Stk. *1 pc.*	185,00 £ *185.00 £*
	Hohlwand Montagesatz für Einbaukasten HT UP *Cavity wall mounting kit for flush-mount box HT UP*		2 03 542	1 Stk. *1 pc.*	46,50 £ *46.50 £*
	Gehäuse HT AP 1-fach mit Kunststoff-Deckel *Housing HT AP 1-fould with plastic cover*	265 x 220 x 85 mm *265 x 220 x 85 mm*	2 03 550	1 Stk. *1 pc.*	129,00 £ *129.00 £*
	Gehäuse HT AP 3-fach mit Kunststoff-Deckel *Housing HT AP 3-fould with plastic cover*	900 x 446 x 133 mm *900 x 446 x 133 mm*	2 03 551	1 Stk. *1 pc.*	515,00 £ *515.00 £*

Kombinationen Trafo – Schrank *Combinations transformer – cabinet*	Einbaukasten UP kompakt *Installation box UP compact*	Einbaukasten UP *Installation box UP*	Gehäuse AP 1-fach mit Kunststoff-Deckel *Housing AP 1-fould with plastic cover*	Gehäuse AP 3-fach mit Kunststoff-Deckel *Housing AP 3-fould with plastic cover*
Netzteil UP 400 W / protect *Power supply unit UP 400 W / protect*	—	●	●	●
Netzteil UP 400 W protect kompakt *Power supply unit UP 400 W protect compact*	●	—	—	—

Regelungssystem | Control system

	Artikel *Article*	Abmessung (LxBxH) *Dimension (LxWxH)*	Art-Nr. *Item-no.*	VPE *PU*	Preis/Stk. *Price/Item*
	**Raumthermostat Touch*** (inkl. externem Temperaturfühler, Versorgung 230 V) ***Room thermostat touch**** *(incl. external temperature sensor, supply 230 V)*	85 x 85 x 40 mm *85 x 85 x 40 mm*	2 03 250	1 Stk. *1 pc.*	205,00 £ *205.00 £*
	Raumthermostat WIFI* (inkl. externem Temperaturfühler, Versorgung 230 V) ***Room thermostat WIFI**** *(incl. external temperature sensor, supply 230 V)*	85 x 85 x 40 mm *85 x 85 x 40 mm*	2 03 251	1 Stk. *1 pc.*	255,00 £ *255.00 £*
	**Raumthermostat EN 01*** (inkl. externem Temperaturfühler, Versorgung 230 V) ***Room thermostat EN 01**** *(incl. external temperature sensor, supply 230 V)*	80 x 80 x 40 mm *80 x 80 x 40 mm*	2 03 252	1 Stk. *1 pc.*	190,00 £ *190.00 £*

* in Verbindung mit den Netzteilen HT ist ein Relais mit potentialfreiem Kontakt zur Schaltung des Trafos notwendig. Mögliche Produkte sind z. B. Eltako R12-100-230V oder Eltako ER61-UC.
** in connection with the power supply units HT a relay with potential-free contact is necessary to switch the transformer, possible products are e.g. Eltako R12-100-230V or Eltako ER61-UC.*

	**Raumthermostat HT UP**** (exkl. externem Temperaturfühler | Anschluss externen Temperaturfühler möglich, Zubehörartikel, Versorgung 12 V) ***Room thermostat wired HT UP***** *(excl. external temperature sensor | Connection of external temperature sensor possible, accessories, supply 12 V)*	85 x 85 x 40 mm *85 x 85 x 40 mm*	2 03 260	1 Stk. *1 pc.*	105,00 £ *105.00 £*
	**Raumthermostat Funk HT AP**** (Anschluss externen Temperaturfühler nur an Trafo möglich, Zubehörartikel, batteriebetrieben) ***Room thermostat radio HT AP****** *(external temperature sensor can only be connected to transformer, accessories, battery operated)*	85 x 85 x 40 mm *85 x 85 x 40 mm*	2 03 441	1 Stk. *1 pc.*	105,00 £ *105.00 £*

** Raumthermostate mit werkseitig ausgeführtem potentialfreien Kontakt, nur einsetzbar mit Netzteilen der HT-Serie.
*** Room thermostats with factory--fitted potential-free contact, can only be used with power supply units of the HT series.*

Zubehör | Accessories

	Artikel *Article*	Abmessung (LxBxH) *Dimension (LxWxH)*	Art-Nr. *Item-no.*	VPE *PU*	Preis/Stk. *Price/Item*
	Antenne für Raumthermostat HT Funk AP + UP-/SC-Netzteil *Antenna for room thermostat HT radio AP + UP-/SC power supply unit*		2 03 560	1 Stk. *1 pc.*	17,50 £ *17.50 £*
	Antenne für Raumthermostat HT Funk AP + AP-Netzteil *Antenna for room thermostat HT radio AP + AP power supply unit*		2 03 561	1 Stk. *1 pc.*	22,50 £ *22.50 £*

DC Netzfilter zur Reduzierung von netzbedingten Trafogeräuschen | *DC line filter to reduce line-related transformer noise*

	DC-Netzfilter HT *DC line filter HT*		2 03 562	1 Stk. *1 pc.*	50,00 £ *50.00 £*
	Externer Temperaturfühler HT *External temperature sensor*	3.000 mm *3,000 mm*	2 03 563	1 Stk. *1 pc.*	30,00 £ *30.00 £*
	Fühler-Anschluss-Set *Sensor connection set*		2 00 554	1 Stk. *1 pc.*	29,50 £ *29.50 £*

» AUSLEGUNGSBEISPIEL
DESIGN EXAMPLE

1 Heizfolie
Heating foil

2 Externer Temperaturfühler
External temperature sensor

3 Raumthermostat
Room thermostat

4 Netzteil
Power supply unit

5 230 V AC
230 V AC



PUR-Zwillingsleitungen sind geeignet für die Verlegung unter Putz sowie im Mauerwerk.

- PUR-Zwillingsleitung 2,5 mm ² bis 10 m
- PUR-Zwillingsleitung 6,0 mm ² bis 25 m

PUR twin cables are suitable for installation under plaster as well as in masonry.

- *PUR twin cable 2.5 mm ² to 10 m*
- *PUR twin cable 6.0 mm ² up to 25 m*

Die Absicherung der Lastausgänge der **E-NERGY CARBON BASIC TT und HT Netzteile** sind auf max. 400 W begrenzt. Sie entspricht den folgenden Heizfolienlängen:

- Heizfolie E-NERGY CARBON FLEECE 36 V – 36 W/lfm (60 W/m²), max. 11 m
- Heizfolie E-NERGY CARBON FLEECE 36 V – 66 W/lfm (110 W/m²), max. 6 m
- Heizfolie E-NERGY CARBON FLEECE 36 V – 132 W/lfm (220 W/m²), max. 3 m
- Heizfolie E-NERGY CARBON FLEECE S 36 V – 25 W/lfm (145 W/m²), max. 16 m
- Heizfolie E-NERGY CARBON FLEECE S 36 V – 49 W/lfm (290 W/m²), max. 8 m
- Heizfolie E-NERGY CARBON PET 36 V – 36 W/lfm (60 W/m²), max. 11 m
- Heizfolie E-NERGY CARBON PET 36 V – 69 W/lfm (115 W/m²), max. 5,8 m
- Heizfolie E-NERGY CARBON DRYTEC 36 V – 45 W/lfm (112 W/m²), max. 8,8 m

*The fusing of the load outputs of the **E-NERGY CARBON BASIC TT and HT power supplies** is limited to max. 400 W. It corresponds to the following heating foil lengths:*

- *E-NERGY CARBON FLEECE heating foil 36 V – 36 W/lfm (60 W/m²), max. 11 m*
- *E-NERGY CARBON FLEECE heating foil 36 V – 66 W/lfm (110 W/m²), max. 6 m*
- *E-NERGY CARBON FLEECE heating foil 36 V – 132 W/lfm (220 W/m²), max. 3 m*
- *E-NERGY CARBON FLEECE S heating foil 36 V – 25 W/lfm (145 W/m²), max. 16 m*
- *E-NERGY CARBON FLEECE S heating foil 36 V – 25 W/lfm (290 W/m²), max. 8 m*
- *E-NERGY CARBON PET heating foil 36 V – 36 W/lfm (60 W/m²), max. 11 m*
- *E-NERGY CARBON PET heating foil 36 V – 69 W/lfm (115 W/m²), max. 5.8 m*
- *E-NERGY CARBON DRYTEC heating foil 36 V – 45 W/lfm (112 W/m²), max. 8.8 m*

» APP-FÄHIG – STEUERUNG VIA SMARTPHONE
APP-ENABLED – CONTROL VIA SMARTPHONE







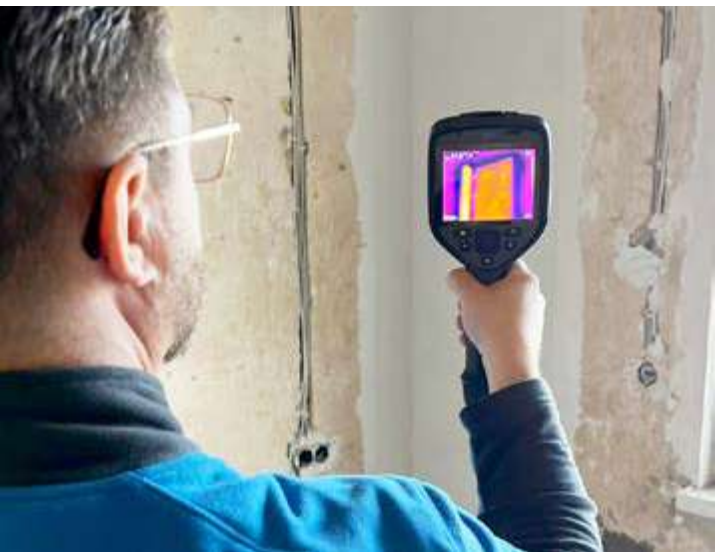




	Raumthermostat EN 01 *Room thermostate EN 01*	Raumthermostat Touch *Room thermostat Touch*	Raumthermostat WIFI *Room thermostat WIFI*	*Raumthermostat EN 02* *Room thermostat EN 02*	Raumthermostat FN 02 *Room thermostat FN 02*
Netzteil Basic TT *Power supply unit Basic TT*	●	●	●	●	—
Netzteil Basic EI *Power supply unit Basic EI*	●	EI 300 (nur mit Relais) *EI 300 (only with relay)*	EI 300 (nur mit Relais) *EI 300 (only with relay)*	EI 300 (nur mit Relais) *EI 300 (only with relay)*	mit Funksteckdose FN 02 *with radio-controlled socket FN 02*
Netzteil HT *Power supply unit HT*	(nur mit Relais) *(only with relay)*	(nur mit Relais) *(only with relay)*	(nur mit Relais) *(only with relay)*	(nur mit Relais) *(only with relay)*	—
Versorgungsspannung *Supply voltage*	230 V	230 V	230 V	230 V	2 x AA Alkali Batterien *2 x AA alkaline batteries*
Ext.Temperaturfühler *Ext. temperature sensor*	●	●	●	●	—
Installation *Installation*	Unterputz *Flush-mounted*	Unterputz *Flush-mounted*	Unterputz *Flush-mounted*	Unterputz *Flush-mounted*	Aufputz *Surface-mounted*
Schalterrahmen *Switch ranges*	50 x 50 mm	55 x 55 mm	55 x 55 mm	55 x 55 mm	—
Zeitprogramm *Time schedule*	●	●	●	●	●
Fensterauf-Erkennung *Window-On-Detection*	—	●	●	●	—
Adaptives Aufheizverhalten *Adaptive heat-up behaviour*	●	●	●	●	●
APP-fähig *APP compatible*	—	—	●	—	—
Kommunikation *Communication*	Kabelgebunden *Wired*	Kabelgebunden *Wired*	Kabelgebunden *Wired*	Kabelgebunden *Wired*	Funk *Radio*
ErP-Konform *ErP compliant*	●	●	●	●	●

E-NERGY CARBON CONTROL

CLEVER HEATING SYSTEMS













FEUCHTESCHUTZ-NETZTEILE PROTECT

SCHIMMELSCHUTZ DURCH TEMPERATURANHEBUNG DER WANDOBERFLÄCHEN

MOISTURE PROTECTION POWER SUPPLY UNITS PROTECT

MOULD PROTECTION BY RAISING THE TEMPERATURE OF THE WALL SURFACES



Die **Feuchteschutz-Netzteile PROTECT** sind spezielle 36 V AC Ringkerntrafos (SELV) mit integriertem Einschaltstrombegrenzer und Plug & Play-Anschluss für E-NERGY CARBON Heizfolien. Die Feuchteschutzsteuerung erfolgt automatisch über einen externen Temperaturfühler bei Bedarf auf ca. 16 °C, ohne zusätzlichen Raumthermostat.

*The **PROTECT moisture protection power supply units** are special 36 V AC toroidal transformers (SELV) with integrated inrush current limiter and plug & play connection for E-NERGY CARBON heating foils. Humidity protection is controlled automatically via an external temperature sensor to approx. 16 °C if required, without additional room thermostats.*

» VORTEILE *ADVANTAGES*

- ✓ Dauerhafter Feuchteschutz bei Feuchtigkeit durch Kondensation
  Permanent moisture protection in case of moisture due to condensation
- ✓ Keine Taupunktunterschreitung
  No more falling below the dew point
- ✓ Bedarfsorientierte Steuerung reduziert Stromverbrauch
  Demand-orientated control reduces power consumption



» EINSATZBEREICHE *FIELDS OF APPLICATION*

Mehrfamilienhäuser
Apartment blocks



Neubau / Altbau
New building / old building



Denkmalgeschützte Bauten
Listed buildings



Souterrain
Basement



Netzteil BASIC TT P&P | Power supply units BASIC TT P&P

Ringkerntrafo in 36 V AC Sicherheitskleinspannung (SELV) mit integriertem Einschaltstrombegrenzer und Plug & Play-Anschluss für E-NERGY CARBON Heizfolien
Toroidal transformer in 36 V AC safety extra-low voltage (SELV) with integrated inrush current limiter and plug & play connection for E-NERGY CARBON heating foils



Artikel *Article*	Abmessung (LxBxH) *Dimension (LxWxH)*	Art-Nr. *Item-no.*	VPE *PU*	Preis/Stk. *Price/Item*
Netzteil BASIC TT 300 W P&P *Power supply unit BASIC TT 300 W P&P*	192 x 67 x 340 mm *192 x 67 x 340 mm*	2 03 574	1 Stk. *1 pc.*	440,00 £ *440.00 £*

Netzteile zum Feuchteschutz | Power supply units for moisture protection

Ringkerntrafo mit hohem Wirkungsgrad von bis zu 97 % und ab 400 W mit integriertem Einschaltstrombegrenzer. Alle Feuchteschutz-Netzteile verfügen über eine primärseitige Absicherung und ab 400 W ebenso über eine sekundärseitige Absicherung der Heizkreise. Steuerung des Feuchteschutzes erfolgt über externen Temperaturfühler ohne zusätzlichen Raumthermosta.

Toroidal transformer with high efficiency of up to 97 % and from 400 W with integrated inrush current limiter. All moisture protection power supply units have primary fuse protection and, from 400 W, also secondary fuse protection for the heating circuits. The humidity protection is controlled via an external temperature sensor without an additional room thermostat.

Netzteile zum Feuchteschutz | Power supply units for moisture protection

Netzteile zum Feuchteschutz zur Vorbeugung gegen Schimmel | *Power supply unit for moisture protection to prevent mould*



Artikel *Article*	Abmessung (LxBxH) *Dimension (LxWxH)*	Art-Nr. *Item-no.*	VPE *PU*	Preis/Stk. *Price/Item*
Netzteil HT 400 W UP protect (externer Temperaturfühler HT notwendig, Zubehörartikel) ***Power supply unit HT 400 W UP protect*** *(external temperature sensor HT necessary, accessory article)*	195 x 265 x 75 mm *195 x 265 x 75 mm*	2 03 532	1 Stk. *1 pc.*	470,00 £ *470.00 £*
Netzteil HT 400 W UP protect kompakt (externer Temperaturfühler HT notwendig, Zubehörartikel) ***Power supply unit HT 400 W UP protect compact*** *(external temperature sensor HT necessary, accessory article)*	182 x 212 x 52 mm *182 x 212 x 52 mm*	2 03 533	1 Stk. *1 pc.*	415,00 £ *415.00 £*

Einbauschränke HT | Built-in cabinets HT



Artikel *Article*	Abmessung (LxBxH) *Dimension (LxWxH)*	Art-Nr. *Item-no.*	VPE *PU*	Preis/Stk. *Price/Item*
Einbaukasten HT UP kompakt *Installation box HT UP compact*	238 x 208 x 68 mm *238 x 208 x 68 mm*	2 03 540	1 Stk. *1 pc.*	45,00 £ *45.00 £*
Einbaukasten HT UP *Installation box HT UP*	305 x 315 x 90 mm *305 x 315 x 90 mm*	2 03 541	1 Stk. *1 pc.*	185,00 £ *185.00 £*

Zubehör | Accessories

DC Netzfilter zur Reduzierung von netzbedingten Trafogeräuschen | *DC line filter to reduce line-related transformer noise*





Artikel *Article*	Abmessung (LxBxH) *Dimension (LxWxH)*	Art-Nr. *Item-no.*	VPE *PU*	Preis/Stk. *Price/Item*
DC-Netzfilter HT *DC line filter HT*		2 03 562	1 Stk. *1 pc.*	50,00 £ *50.00 £*
Externer Temperaturfühler HT *External temperature sensor*	3.000 mm *3,000 mm*	2 03 563	1 Stk. *1 pc.*	30,00 £ *30.00 £*
Fühler-Anschluss-Set *Sensor connection set*		2 00 554	1 Stk. *1 pc.*	29,50 £ *29.50 £*

E-NERGY CARBON SMARTFLEX 24 V

ELEKTRISCHE FLÄCHENHEIZUNG FÜR RASTERDECKEN

E-NERGY CARBON SMARTFLEX 24 V

ELECTRIC HEATING FOR GRID CEILINGS



Die **E-NERGY CARBON SMARTFLEX** ist eine spezialfolienbeschichtete und mechanisch belastbare Heizfolie. Die selbstklebende Unterseite eignet sich, um auf elektrisch nicht leitenden Oberflächen zu haften. Durch ihre Perforation kann Schall in gelochten Decken- und Wandelementen weiterhin absorbiert werden.

*The **E-NERGY CARBON SMARTFLEX** is a special film-coated and mechanically resilient heating foil. The self-adhesive underside is suitable for adhering to electrically non-conductive surfaces. Thanks to its perforation, sound can still be absorbed in perforated ceiling and wall elements.*

» VORTEILE *ADVANTAGES*

- ✓ Mühelose Nachrüstung, auch von einzelnen Arbeitsplätzen
  Effortless retrofitting, even of individual workstations
- ✓ Selbstklebende spezialfolienbeschichtete und mechanisch belastbare Heizfolie
  Self-adhesive, special film-coated and mechanically resilient heating foil
- ✓ Sicherer Anschluss mit 24 V Sicherheitskleinspannung (SELV)
  Safe connection with 24 V safety extra-low voltage (SELV)



» EINSATZBEREICHE *FIELDS OF APPLICATION*

Büroräume
Offices



Wohn- und Bürocontainer
Living and office containers



Konferenzräume
Conference rooms



Korridore
Corridors



Heizfolien | Heating foils

173 W/lfm (294 W/m²)



Artikel *Article*	Abmessung (LxBxH) *Dimension (LxWxH)*	Art-Nr. *Item-no.*	VPE *PU*	Preis/Stk. *Price/Item*
Heizfolie 24 V – 173 W/lfm (294 W/m²), 0,55 m *Heating foil 24 V – 173 W/m (294 W/m²), 0.55 m*	550 x 590 x 0,4 mm *550 x 590 x 0.4 mm*	2 12 731	1 Stk. *1 pc.*	129,00 £ *129.00 £*
Heizfolie 24 V – 173 W/lfm (294 W/m²), 1,1 m *Heating foil 24 V – 173 W/m (294 W/m²), 1.1 m*	1.100 x 590 x 0,4 mm *1,100 x 590 x 0.4 mm*	2 12 732	1 Stk. *1 pc.*	258,00 £ *258.00 £*
Heizfolie 24 V – 173 W/lfm (294 W/m²), 1,65 m *Heating foil 24 V – 173 W/m (294 W/m²), 1.65 m*	1.650 x 590 x 0,4 mm *1,650 x 590 x 0.4 mm*	2 12 733	1 Stk. *1 pc.*	390,00 £ *390.00 £*

Netzteile BASIC EI | Power supply units BASIC EI

Das Netzteil BASIC EI ist ein Sicherheitstransformator mit 24 V AC Sicherheitskleinspannung (SELV). Der Netzanschluss 230 V AC erfolgt über ein ca. 2 m langes Anschlusskabel. Die Sekundärseite 24 V AC verfügt über ein ca. 0,5 m langes Anschlusskabel.

The BASIC EI power supply unit is a safety transformer with 24 V AC safety extra-low voltage (SELV) The 230 V AC mains connection is made via an approx. 2 m long connection cable. The 24 V AC secondary side has a connection cable approx. 0.5 m long.



Artikel *Article*	Abmessung (LxBxH) *Dimension (LxWxH)*	Art-Nr. *Item-no.*	VPE *PU*	Preis/Stk. *Price/Item*
Netzteil BASIC EI-C 24 V | 100 W AP/UP *Power supply unit BASIC EI-C 24 V | 100 W AP/UP*	120 x 80 x 77 mm *120 x 80 x 77 mm*	2 03 584	1 Stk. *1 pc.*	110,00 £ *110.00 £*
Netzteil BASIC EI-C 24 V | 300 W AP/UP *Power supply unit BASIC EI-C 24 V | 300 W AP/UP*	129 x 91 x 100 mm *129 x 91 x 100 mm*	2 03 585	1 Stk. *1 pc.*	185,00 £ *185.00 £*

Netzteile BASIC | Power supply units BASIC

Ringkerntrafo mit integriertem Einschaltstrombegrenzer, sekundärseitiger Absicherung der Heizkreise und hohem Wirkungsgrad von bis zu 95 %. Geeignet für Aufputz- sowie Unterputzmontage . Optimale Ausnutzung der Trafoleistung durch intelligente Aufteilung der Heizkreise mit flexiblen Anschlussmöglichkeiten. Versorgungskontakt (230 V) zum Anschluss eines Raumthermostaten sowie einem Steuereingang (230 V – Schließerkontakt) zur Schaltung des Trafos.

Toroidal transformer with integrated inrush current limiter, secondary-side protection of the heating circuits and high efficiency of up to 95 %. Suitable for surface and flush mounting. Optimum utilisation of the transformer output thanks to intelligent division of the heating circuits with flexible connection options. Supply contact (230 V) for connecting a room thermostat and a control input (230 V - NO contact) for switching the transformer.

Netzteile BASIC TT | Power supply units BASIC TT



Artikel *Article*	Abmessung (LxBxH) *Dimension (LxWxH)*	Art-Nr. *Item-no.*	VPE *PU*	Preis/Stk. *Price/Item*
Netzteil BASIC TT 24 V | 900 W AP/UP *Power supply BASIC TT 24 V | 900 W AP/UP*	300 x 218 x 85 mm *300 x 218 x 85 mm*	2 03 586	1 Stk. *1 pc.*	595,00 £ *595.00 £*
Netzteil BASIC TT 24 V | 1.800 W AP/UP *Power supply BASIC TT 24 V | 1,800 W AP/UP*	430 x 280 x 90 mm *430 x 280 x 90 mm*	2 03 587	1 Stk. *1 pc.*	1.130,00 £ *1,130.00 £*

Netzteile PRO TT | Power supply units PRO TT

Zentrale Stromversorgungsstation mit Sicherheitstransformator für 24V AC Sicherheitskleinspannung (SELV) und einem Wirkungsgrad bis 95%. Ausgestattet mit 10 Eingängen für Raumthermostate und 10 Ausgängen für Heizkreise zur Versorgung ganzer Wohneinheiten/Etagen. Steuerelektronik mit Einschaltstrombegrenzern, DC-Netzfiltern. Metallgehäuse zur Aufputzmontage.

Central power supply station with safety transformer for 24V AC safety extra-low voltage (SELV) and an efficiency of up to 95%. Equipped with 10 inputs for room thermostats and 10 outputs for heating circuits to supply entire residential units/floors. Control electronics with inrush current limiters, DC mains filters. Metal housing for surface mounting.



Artikel *Article*	Abmessung (LxBxH) *Dimension (LxWxH)*	Art-Nr. *Item-no.*	VPE *PU*	Preis/Stk. *Price/Item*
Netzteil PRO TT 24 V | 3.000 W AP/UP *Power supply unit PRO TT 24 V | 3.000 W AP/UP*	300 x 140 x 560 mm *300 x 140 x 560 mm*	2 03 588	1 Stk. *1 pc.*	1.975,00 £ *1,975.00 £*

E-NERGY CARBON BADEZIMMER-SETS

ELEKTRISCH HEIZEN IM BAD: KOMFORTABEL UND PREISWERT.

E-NERGY CARBON BATHROOM SETS

ELECTRIC HEATING IN THE BATHROOM: CONVENIENT AND AFFORDABLE.



*Die Installation eines unsichtbaren, platzsparenden Badheizkörpers sowie die wohlige Beheizung der Duschwand oder des Bodens werten jedes Badezimmer auf. Die praktischen **E-NERGY CARBON BADEZIMMER-SETS** beinhalten alle erforderlichen Komponenten und ermöglichen höchsten Wohnkomfort.*

*The installation of an invisible, space-saving bathroom radiator and the cosy heating of the shower wall or floor enhance any bathroom. The practical **E-NERGY CARBON BATHROOM SETS** contain all the necessary components and enable maximum living comfort.*

» VORTEILE *ADVANTAGES*

- ✓ Geringe Einbauhöhe – Nachrüstung auch im bewohnten Zustand
  Low installation height – Retrofitting even when occupied
- ✓ Heizfolie mit hoher Leistung für spürbare Wärme
  High-performance heating foil for noticeable warmth
- ✓ Sicherheitskleinspannung für direkte Installation im Nassbereich
  Safety extra-low voltage for direct installation in wet areas



» EINSATZBEREICHE *FIELDS OF APPLICATION*

Boden, Wand, Decke
Floor, wall, ceiling



Handtuchtrockner
Towel dryer



Duschwanderwärmung
Shower warming



» BADEZIMMER-SETS
BATHROOM SETS

Badezimmer-Set 300 W | 2,7 m² **750,00 £**
Bathroom set 300 W | 2.7 m² ***750.00 £***



Art-Nr. *Item-no.* **2 97 015**

Inhalt: 1x Heizfolie 36 V – 66 W/lfm (110 W/m²), 4,5 m, 1x Netzteil BASIC EI 300 W AP/UP, 1x Raumthermostat EN 01, 1x PUR-Zwillingsleitung 10 m, 1x Quetschverbinder 2,5 mm² (5 Stk.), 1x Fühler-Anschluss-Set
Contents: *1x heating foil 36 V – 66 W/lfm (110 W/m²), 4.5 m, 1x power supply unit BASIC EI 300 W AP/UP, 1x room thermostat EN 01, 1x PUR twin cable 10 m, 1x crimp connector 2.5 mm² (5 pcs.), 1x sensor connection set*

Badezimmer-Set 400 W | 3,6 m² **1.095,00 £**
Bathroom set 400 W | 3.6 m² ***1,095.00 £***



Art-Nr. *Item-no.* **2 97 016**

Inhalt: 3x Heizfolie 36 V – 66 W/lfm (110 W/m²), 2 m, 1x Netzteil BASIC 400 W AP/UP, 1x Raumthermostat Touch, 2x PUR-Zwillingsleitung 10 m, 2x Quetschverbinder 2,5 mm² (5 Stk.), 1x Fühler-Anschluss-Set
Contents: *3x Heating foil 36 V – 66 W/lfm (110 W/m²), 2 m, 1x power supply unit BASIC 400 W AP/UP, 1x room thermostat Touch, 2x PUR twin cable 10 m, 2x crimp connector 2.5 mm² (5 pcs.), 1x sensor connection set*

Badezimmer-Set 800 W | 7,2 m² **1.735,00 £**
Bathroom set 800 W | 7.2 m² ***1,735.00 £***



Art-Nr. *Item-no.* **2 97 017**

Inhalt: 2x Heizfolie 36 V – 66 W/lfm (110 W/m²), 6 m, 1x Netzteil BASIC 800 W AP/UP, 1x Raumthermostat Touch, 2x PUR-Zwillingsleitung 10 m, 2x Quetschverbinder 2,5 mm² (5 Stk.), 1x Fühler-Anschluss-Set
Contents: *2x Heating foil 36 V – 66 W/lfm (110 W/m²), 6 m, 1x power supply unit BASIC 800 W AP/UP, 1x room thermostat Touch, 2x PUR twin cable 10 m, 2x crimp connector 2.5 mm² (5 pcs.), 1x sensor connection set*

Handtuchtrockner-Set | 1,3 m² **605,00 £**
Towel dryer set | 1.3 m² ***605.00 £***



Art-Nr. *Item-no.* **2 97 018**

Inhalt: 1x Heizfolie 36 V – 132 W/lfm (220 W/m²), 2,2 m, 1x Netzteil BASIC EI 300 W AP/UP, 1x Raumthermostat EN 01, 1x PUR-Zwillingsleitung 10 m, 1x Quetschverbinder 2,5 mm² (5 Stk.), 1x Fühler-Anschluss-Set
Contents: *1x heating foil 36 V – 132 W/lfm (220 W/m²), 2.2 m, 1x power supply unit BASIC EI 300 W AP/UP, 1x room thermostat EN 01, 1x PUR twin cable 10 m, 1x crimp connector 2.5 mm² (5 pcs.), 1x sensor connection set*

Duschwanderwärmungs-Set | 3,6 m² **1.350,00 £**
Shower warming set | 3.6 m² ***1,350.00 £***



Art-Nr. *Item-no.* **2 97 019**

Inhalt: 2x Heizfolie 36 V – 132 W/lfm (220 W/m²), 3 m, 1x Netzteil BASIC 800 W AP/UP, 1x Raumthermostat Touch, 2x PUR-Zwillingsleitung 10 m, 2x Quetschverbinder 2,5 mm² (5 Stk.), 1x Fühler-Anschluss-Set
Contents: *2x heating foil 36 V – 132 W/lfm (220 W/m²), 3 m, 1x power supply unit BASIC 800 W AP/UP, 1x room thermostat Touch, 2x PUR twin cable 10 m, 2x crimp connector 2.5 mm² (5 pcs.), 1x sensor connection set*

0203 507 1659

hello@energycarbon.co.uk

Quotation form E-NERGY CARBON – Electrical surface heating

please mail to: **plans@energycarbon.co.uk**

Project name:

Start date:

Project details

Type of project ☐ New building ☐ Renovation

Construction year ☐ from 2012 20-60 W/m² ☐ from 1980 60-150 W/m² ☐ older than 1960 150-300 W/m²

Number of heated rooms _____

Home connection ☐ 3 x 35 A ☐ 3 x 63 A ☐ ____ x ____ A

Type of heating

☐ Full room heating Covering the full heat load
☐ Comfort heating For additional heating
☐ Mould prevention For building protection

Field of application

☐ Ceiling
☐ Wall
☐ Floor ☐ floating ☐ puttyled

Heat requirement

☐ Expected heat load is about _____ W/m²

☐ There is no calculation as of yet, according to personal estimation, the building is ☐ Badly insulated ☐ Well insulated

Control

☐ Standard ☐ Radio ☐ WiFi enabled

Flooring

☐ Parquet _____ m² ☐ Laminate _____ m²
☐ Tiles _____ m²

Rooms

Description	l x w x h

Floor plan / a sketch with measurements is required!

Please mark rooms/ walls surfaces to be heated!

Please also add the measurements of windows and doors for wall heating!

Further details

General Terms and Conditions

1. General information/scope of application
1.1 These General Terms and Conditions (GTC) apply exclusively and for all Contractors (Section 14 BGB (German Civil Code)), legal entities under public law or special funds under public law. We only accept opposing conditions or conditions of the Customer deviating from our general terms and conditions unless we have expressly agreed to their application in writing.
1.2 Our offers, services and deliveries are based exclusively upon these GTC.
1.3 With the receipt of an offer, an order confirmation or the granting of order or acceptance of a service with the incorporation of these general terms and conditions at the latest, the Contractor acknowledges that these GTC are to apply exclusively for the entire business relationship – also in the future.
1.4 Contractual stipulations agreed upon between the contractual parties in individual cases [also subsidiary agreements, amendments and changes] apply only in relation to an order and have to be documented in writing to be applicable, thereby taking priority over these GTC in any case.
1.5 Orders or assignments are binding for the Customer (I, 1); the agreement is formed by confirmation of the assignment or execution of the order or the assignment at our discretion. We explicitly reject deviating general terms and conditions or counter confirmations. An opposing assignation prohibition is hereby explicitly refuted. Our silence regarding such deviating conditions is particularly not regarded as recognition or approval, also in case of future transactions. Our offers are subject to change and non-binding unless we have explicitly declared them or indicated to be binding in writing.
1.6 The terms listed below are defined as follows:
"We / Contractor / Supplier": mfh systems GmbH, Hager Feld 8, 49191 Belm. "Force majeure": constitutes any reason which renders the fulfilment of the respective contractual obligations impossible and which is generated due to circumstances outside of the reasonable control of the respective Party, including but not limited to natural disasters, acts by governments or supra-national institutions, outbreaks of violence, national states of emergency, terror attacks, riots, internal unrests, fires, explosions or floods. "Order": constitutes any offer to the supplier for the sale of goods with reference to the conditions of this Agreement. "Principal / Customer": constitutes the Purchaser of the goods specified on the order form. "Goods": are the commodities dispatched by us. "Product description": is a detailed illustration of the goods with correct usage instructions.
2 Offer and conclusion of the contract
2.1 We are bound to an offer of the Customer for 14 days. Subsequent acceptances by the Principal represent a new offer and require the Contractor's acceptance. If the Principal's order deviates from the Contractor's quote, a contract is only formed in this case with the confirmation of the Contractor.
2.2 We reserve proprietary rights and copyrights to all documents e.g. calculations, drawings etc. provided to the Customer in the context of the assignment. The Purchaser may only transfer these to third parties with our written consent, regardless whether or not we have labelled them as confidential. If the Customer acts contrary to this regulation, we reserve the right to take further steps. These documents may not be made accessible to third parties unless we explicitly agree or if it is necessary for the implementation of the Agreement. Unless we accept the offer of the contractual partner within the period specified in item 2.1, these documents have to be returned to us without undue delay.
2.3 The Principal has to hand over the data or plans necessary for the execution of the service and which have to be provided by him in accordance with the Agreement free of charge and in due time, i.e. at least four (4) weeks prior to the commencement of production.
2.4 If this deadline is not met and if this omission causes delays, the Principal is responsible for any resulting additional costs and/or damages.
3 Quality of goods
3.1 Construction and form changes of the delivery item remain reserved if the delivery item is not significantly altered and if the changes are reasonable for the Purchaser or in the nature of things.
3.2 Templates, samples, analysis data and other specifications regarding the quality on our part are only indications within the actually available range of the respective values pertaining to dimensions, colour, quality, chemical composition and action mechanism of the products supplied by us. The Agreement is deemed fulfilled also in case of a respective excess or short delivery.
3.3 We only assume the guarantee for quality, durability or the earnings of the delivery item or the procurement risk upon explicit, written, order-related statement, however, not based on the content of product descriptions, technical data and other printed material and information.
4 Prices and payment conditions
4.1 Subject to a deviating agreement, prices apply ex our warehouse or ex works in case of direct dispatch from the manufacturers location, exclusive of packaging; (ex-works" (Incoterms 2010).
4.2 Specified and agreed prices are net plus VAT in the statutory amount applicable at the time of execution of the service. Payment is due immediately upon receipt or provision and receipt of the invoice without any deduction free paying agent, unless the invoice specifies a different payment term. A discount is only admissible following a special written agreement between us and the Purchaser. Payment is only received once we are ultimately able to dispose over the full amount. We do not accept bills of exchange or cheques as payment.
4.3 If the Purchaser is in default of payment, the entire claims against the Purchaser become due and payable immediately if he is in default with more than one account. Payments may only be made to employees of our company if these produce a written authorisation to collect.
4.4 If, based on facts which become known to us only after conclusion of the Agreement, there are justified doubts about the creditworthiness of the Purchaser or if the creditworthiness has deteriorated significantly between the conclusion of the Agreement and delivery, we may demand advance payment or corresponding securities. If the Purchaser does not pay in advance or provide securities despite a grace period and if the threat to refuse to pay after the deadline has expired, or if he finally refuses them, we can withdraw from the contract by written declaration.
4.5 The Purchaser is not permitted to offset our claims unless the claim for offsetting is uncontested, conclusively determined and accepted by us. The Purchaser is only entitled to a right of retention if his counter claim is based on the same contractual relationship.
5. Delivery and performance time, default / self-supply and force majeure
5.1 Delivery times and deadlines are determined by us in writing and are binding only at that point. The delivery deadline is met if the delivery item has been dispatched up to its expiration.
5.2 The delivery term commences on the day of undersigning a written purchase agreement or the dispatch of the order confirmation, however not before the delivery of the documents, permits or approvals to be provided by the Purchaser as well as the receipt of a possible/agreed deposit.
5.3 Partial deliveries are admissible if the contractual partner does not incur any significant additional expenses or additional costs, if the residual delivery is ensured and if the partial delivery is usable by the Customer in the context of the contractually determined purpose.
5.4 We shall inform the Customer in writing or text form immediately if we do not receive deliveries/performances from our pre-suppliers, not correctly or not in time for reasons outside of our sphere of responsibility for the provision of contractually owed deliveries/performances despite proper and sufficient respective provision [congruent provision] or in the event of force majeure for a significant period of time [i.e. with a duration of more than 14 calendar days]. In this case we are entitled to delay the delivery by the duration of the impediment or partially or entirely withdraw from the agreement with respect to the unfulfilled part if we have complied with our above mentioned duty to provide information and if we have not accepted the risk of procurement.
5.5 If a delivery/performance date or delivery/performance deadline has been bindingly agreed and if it is exceeded based on the above mentioned events, the Customer is entitled to withdraw from the agreement with respect to the unfulfilled part of the agreement following futile expiration of an appropriate period of grace if a further compliance with the agreement is objectively unacceptable for the Customer. Further claims of the Customer, particularly those pertaining to compensation, are excluded in this case. The regulation above applies accordingly if a conventional delivery/performance deadline has been exceeded by more than 7 calendar days due to the above mentioned reasons, also without the contractual agreement of a fixed delivery/performance deadline. If the agreement for delivery/performances to be provided by us is dissolved entirely or partially by us or the Customer due to the above mentioned regulations, we shall immediately refund to the Customer – deducting the cost incurred to us at that time – the part of consideration with respect to the dissolved part of the agreement in the event that he has paid a deposit.
6. Transfer of risk, dispatch, packaging
6.1 The route and means of dispatch are left to our discretion in the absence of an individual agreement. The goods shall be additionally insured at the request and expense of the Customer.
6.2 The Purchaser is responsible for any additional costs generated due to alterations to the routes and means based on Customer requests after the conclusion of the Agreement or special requests and interests of the Purchaser.
6.3 The risk for the goods is transferred to the Customer upon handover of the goods to the forwarding agent or freight carrier, however at the latest upon leaving the warehouse or, in case of direct dispatch ex-works upon the goods leaving the factory. This also applies in case of partial deliveries. If dispatch is delayed due to circumstances owed to the Purchaser, the risk is transferred to the Purchaser from the day the goods are ready for dispatch; however, we are obligated to store the goods at the request and expense of the Customer.
6.4 Detected transport damages have to be reported to us and the forwarder immediately and the goods have to be returned to us with an acknowledgement statement from the forwarding agent, post, rail or other parcel service as well as an assignation declaration of the Customer. Subsequently, we are able to dispatch a replacement delivery if the prerequisites of a claim of the transport company exists and if the Customer has submitted all necessary documents and information.
6.5 Delivered objects have to be accepted by the Purchaser also if they exhibit insignificant defects, regardless of his rights based on the law and the agreement.
6.6 Transport and all other packaging according to the specifications of the respectively valid Packaging Ordinance are non-returnable. The Purchaser is obligated to ensure the disposal of the packaging at his expense.
7. Warranty and notice of defect
7.1 We are entitled to subsequent fulfilment in form of a remedy or – in case of purchase agreements, to supply a new defect-free item at our discretion. We have the right to carry out supplementary fulfilment twice. Subsequently, the Customer can demand withdrawal or reduction according to the statutory regulations.
7.2 The Principal is obligated to inspect the delivery immediately. The supplier has to be informed in writing of the determination of defects within a preclusion period of one week, specifying the detailed reclamation. The preclusion period commences with the handover in case of obvious defects and upon discovery in case of hidden defects. Any warranty claims of the Customer are excluded upon the expiration of this period without a complaint of defects.
7.3 In case of purchase agreements, the statute of limitations for warranty claims based on purchasing or service supply agreements is one year from delivery of the goods, in case of service agreements one year from acceptance.
7.4 Warranty is excluded for the sale of used items.
7.5 This does not apply for claims based on warranty, the takeover of a procurement risk in terms of Section 276 BGB (German Civil Code), claims based on the violation of life, limb or health, malicious, intentional or gross negligent acts on our part. It also applies in cases of Sections 478, 479 BGB (recourse within the supply chain), Section 438 (1) no. 2 or in as far as a longer mandatory limitation period is determined. Section 305b BGB (priority of the individual verbal or textual or written understanding) remains unaffected. A reversal of the onus of proof is not associated with the above regulation.
7.6 Our warranty and the resulting liability is excluded if defects and related damages are not verifiably and culpably based on faulty material, faulty construction or execution or faulty manufacturing materials or, if owed, on insufficient usage instructions.
7.7 The warranty and resulting liability based on breach of duty due to poor performance is particularly excluded for the consequences of incorrect usage, unsuitable storage conditions and the consequences of chemical, electromagnetic, mechanical or electrolytic impacts, which do not comply with our product descriptions or an alternately agreed product specification or the respective product-specific data sheet on our part or the manufacturer's average standard impacts. This does not apply in case of malicious, gross negligent or intentional acts on our part or the violation of life, body or health, the assumption of a warranty, the quality risk according to Section 276 BGB (German Civil Code) or liability according to statutorily mandatory liability.
7.8 We are not liable according to Sections 478, 479 BGB (recourse in the supply chain – supplier regress), if the Customer has processed or incorporated or otherwise altered the products supplied by us according to the agreement, unless this complies with the contractually agreed purpose of the products.
7.9 The acknowledgement of breaches of duty in form of material defects owed to us always requires the written form. Section 305b BGB (priority of individual agreement) remains unaffected.
7.10 If the liability for damages is not based on the violation of life, limb or health of the Purchaser and negligence is not excluded, such claims become statute barred within one year, commencing with the generation of the claim.
7.11 The above mentioned exclusion of liability also applies for slightly negligent breaches of duty of our vicarious agents. If our liability for compensation is excluded or limited, this also applies in terms of the personal liability for compensation with respect to our employees, representatives and vicarious agents.
8. Reservation of title
8.1 We reserve ownership to the goods and objects delivered or – not permanently – installed by us up to the full payment of outstanding claims. The reservation of title also applies until all, including future and conditional claims from the business relationship between the Principal and us are fulfilled.
8.2 The Principal is entitled to process the supplied goods in the context of his regular business operation. The goods are processed for the Contractor without obligations for him. the new items become the property of the Contractor.
8.3 If the goods are processed with other goods not belonging to the Contractor, the Contractor obtains co-ownership of the newly produced time at the ratio of the invoice value of the reserved goods to the other processed items. If the property of the Contractor should nonetheless perish and the Principal should become (co-)owner, the Principal hereby transfers his ownership to the Contractor as security according to the ratio of the invoice value of the reserved goods to the other processed objects. In all cases mentioned above, the Principal has to store the items owned or co-owned by the Contractor free of charge for the Contractor.
8.4 The Principal's authority to on-sell expires automatically with a futile attempt of an enforcement of judgement of debt as well as the lodgement of an application to initiate insolvency proceedings pertaining to the Principal's assets. For the remainder, other injunctions pertaining to the reserved goods, particularly pledging and chattel mortgages without consent are inadmissible and lead to a prohibition to on-sell.
8.5 The Principal hereby assigns all claims with all ancillary rights generated from the on-selling of the reserved processed and unprocessed goods to the Contractor, who accepts this assignation.
8.6 In the event of a sale of processed, connected, mixed or intermingled reserved goods, the supplier procures the top-ranking partial amount equating to the percentage share of the invoice value of his supplied goods plus a security surcharge of 5%.
8.7 The Principal is entitled, subject to revocation at any time, to collect the claims assigned to the Contractor in the regular business operation. The Contractor shall not utilise his own authority to collect as long as the Purchaser complies with his payment obligations according to the Agreement – also toward third parties. If the Principal assigns his subsequent claim to a factoring institute in the context of so-called non-recourse factoring subject to assuming the delcredere risk, the Principal assigns his claims against the factoring institute for the payment of the factoring proceeds to the Contractor and is obligated to notify the factoring institute of this assignation immediately upon invoicing by the Contractor.
8.8 Upon demand, the Purchaser is obligated to provide the Contractor with a detailed list of the claims owed to the Contractor incl. name and address of the buyers, amount of individual claims, invoices etc. and all information necessary for the assertion of the assigned claims and allow the Contractor to verify this information. The Purchaser is obligated to handle the goods carefully.
8.9 The Purchaser is obligated to immediately inform us immediately in case of pledges or other third-party interventions. The Principal is only permitted any subsequent processing, installation, connection or redesigning (Sections 946, 947, 950 BGB) of the goods still owned by the Contractor with the prior written consent of the supplier.
9. Change to General Terms and Conditions
9.1 The Contractor is entitled to unilaterally change these General Terms and Conditions – in as far as they are incorporated in the contractual relationship with the contactor [Principal?] – as far as necessary for the elimination of subsequently arising equivalence disturbances or to adapt to changed legal or technical framework conditions. The contactor is informed of these amended regulations together with their relevant content.
9.2 The change becomes a component of the Agreement if the Principal does not object to the inclusion in the contractual relationship in writing within six (6) weeks following the receipt of the change notice.
10. Place of jurisdiction, applicable law
10.1 If the Purchaser is a merchant, a legal person under public law or a public special fund, the place of jurisdiction for all legal disputes is our registered address. This also applies for claims asserted during summary proceedings for recovery of debt.
10.2 The inclusion and interpretation of these General Terms and Conditions as well as conclusion and interpretation of legal transactions with the Principal are exclusively regulated according to the laws of the Federal Republic of Germany. The application of the uniform laws regarding the conclusion of international contacts pertaining to movable objects, the uniform law regarding the international purchase of movable objects of the of the United Nations Convention on Contracts for the International Sale of Goods are excluded.
11. Severability clause
11.1 If a condition of this Agreement is or becomes entirely or partially ineffective/null and void or unfeasible for reasons of the right of General Terms and Conditions according to Sections 305 to 310 BGB, the statutory regulations apply.
11.2 If a current or future regulation of the Agreement is or becomes entirely or partially ineffective/null and void or unfeasible due to reasons other than the regulations concerning the right to General Terms and Conditions according to Sections 305 to 310 BGB, the validity of the remaining conditions of this agreement is not affected in as far as the execution of the agreement – also under consideration of the subsequent regulations – would constitute an unreasonable hardship for one party. This also applies in the event of a gap after the conclusion of the Agreement, which requires completion.
11.3 Contrary to the principle of the adjudication of the German Federal Court of Justice, according to which a safeguarding conservation clause is Principally designed to merely reverse the burden of proof, the effectiveness of the remaining contractual regulations is to remain intact under any circumstances, thus excluding Section 139 BGB (German Civil Code) entirely.
11.4 The parties shall replace an invalid/void/unenforceable condition or gaps which require filling, which are invalid/void/unenforceable for reasons other than the regulations in terms of the right of general business conditions according to Sections 305 to 310 BGB, with an effective condition, the legal and commercial context of which complies with the invalid/void/unenforceable condition and the entire purpose of this Agreement. Section 139 BGB (partial invalidity) is explicitly excluded.
11.5 If the invalidity of a condition is based on a measure of performance or time (period of notice or deadline) specified therein, the condition is deemed agreed upon with a legally admissible measure closest to the original specification.

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