Energy efficiency.
Electrical installation for energy-saving buildings.

LDG Electric Solutions

KAISER

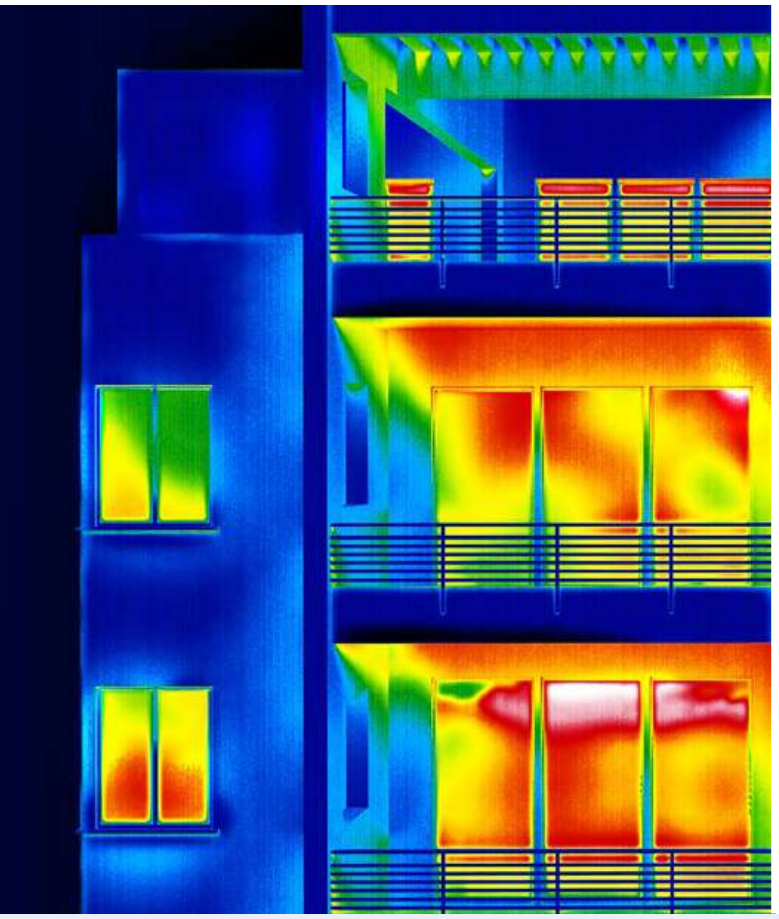
For energy-efficient buildings. **Intelligent installation systems.**

In addition to the user's requirements with regards to the architecture and function, the **future-oriented building technology** of today must also satisfy some very strict building standards. These define the energy standard, among other things. The objective here is to reduce energy consumption through higher efficiency.

Using proactive planning, intelligent technology and suitable materials, you can tap into previously unrealized energy-saving potential – completely in line with the EU directive regarding building efficiency as well as national regulations. The side benefits of this include increased living comfort and work quality as well as saving potentials.

Innovative KAISER products support you in this regard so that you can comply with the increased requirements of EU directives as well as national regulations, especially the German Energy Saving Regulation (EnEV). In this way you can easily and reliably create the required air-tight building shell – for example, by using **ECON®** technology, which is used in air-tight cavity wall boxes and flush-mounted installation boxes as well as installation housings.

You will also find the right products from us for installation and fixing even for **heat bridge-free electrical installations** in or on the facades of buildings. These products, of course, can also be installed at a later date. In addition, we also offer an internal insulation box for the retrofitting of internal insulation, which ensures air tightness and eliminates heat bridges, as well as prevents moisture damage.



Basics.
Laws and technology.

Energy efficiency is becoming more and more important when assessing the value of a building due to rising energy costs. This applies equally to new building projects as well as renovation projects (refurbishing). In addition, the requirements regarding overall energy efficiency in residential and non-residential buildings were increased by 25% on 1 January 2016. Accordingly, the heat insulation must now be improved by approx. 20%. Furthermore, the top floor ceiling in existing buildings must be insulated if the roof above is not insulated, or if it does not comply with the minimal thermal insulation requirement.

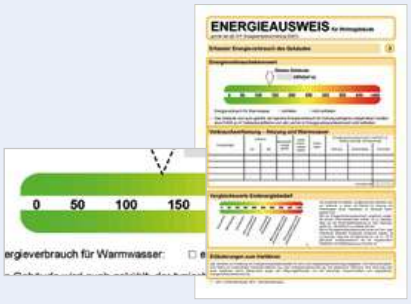
Building air-tightness is not only defined in the EnEV, but also in DIN 4108-7.

The "Directive on the Energy Performance of Buildings" formulates, on a European level, guidelines which were implemented into law in Germany with the amendment to the 2005 Energy Saving Act and the update to the 2006 EnEV. The new Energy Saving Regulation is based on the new Energy Saving Act (EnEG) that went into effect on 1 October 2007. With the 2009 and 2014 amendments to the EnEV, there was a further increase in the requirements relating to efficiency and sustainability.

In Austria, the EU directive has been part of national law since August 2007 and the 2007 "Efficiency Action Plan" in Switzerland prescribes appropriate measures based on the EU directive.

The energy certificate is a central component of the EnEV and is mandatory for all buildings for sale as well as those being rented or leased. It also evaluates the energy losses through the building shell and creates more transparency for both buyers and tenants regarding the energy efficiency of a property.

In Germany, the energy certificate has been compulsory for residential buildings since January 2009, and for non-residential buildings since July 2009. In Austria, this has applied to new buildings since January 2008 and to existing ones since 2009 Because Switzerland is basing its regulations on EU directives, it introduced the building energy certificate (GEAK) for its cantons in October 2009.

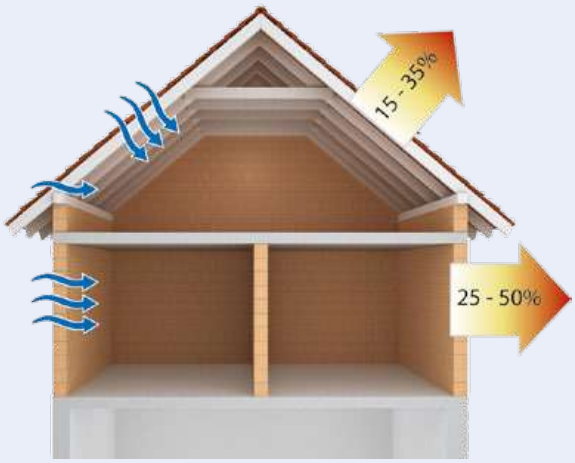


An air-tight building shell and heat bridge-free external insulation are important factors for meeting the requirements of the 2009 EnEV with regards to new building and renovation work DIN 18015-5 (Airtight electrical installations free from thermal bridges) defines the planning and implementation basics regarding air tightness penetration and for connections in this area as well as in and on the windproof layer.

The energy efficiency of a building is determined by the optimal usage of available energy sources and the minimisation of energy losses. In addition to the heating and ventilation technology already in use, a generally well-insulated building shell is the most important component for providing protection against heat losses.

The thermal building shell area is primarily formed by the exterior walls where 25% to 50% of the heat transmission losses occur. These are followed by 15% to 35% losses through roof areas and heat bridges such as contact areas and leaks through the building's shell. In order to prevent building damage, it is also necessary to maintain the air-tight building shell and to keep the external insulation free of heat bridges. This is especially true for electrical installations.

The low energy standard can decrease energy consumption by as much as 40% and as much as 8% in passive houses compared to existing stocks of houses with normal consumption. In order to achieve substantial saving effects by refurbishing/renovating buildings, the most important thing is to optimise the heat insulation.



Average heating energy consumption shown on houses with a floor space of 100 m²

House type	„Normal House “ (existing building)	Energy saving house	Passiv-house	Zero energy house	Energy self-sufficient house
					
Energy consumption	187 kw h / m² a	73 kw h / m² a	15 kw h / m² a	8,3 kw h / m² a	0 kw h / m² a

Air-tight and heat bridge-free **electric installation.**

A **heat-insulating, air-tight building shell** as specified by DIN 4108 is required in order to comply with the requirements of current regulations. In addition to the energy-related aspects, the air-tight building shell also provides an important protective function for the basic structure of a building. This is because if the warm air inside the construction comes into contact with colder surfaces, then condensation will form. This can result in moisture damage and even mould.

In lightweight or cavity wall constructions, moisture retardant foils or OSB panels often form the air-tight layer to walls or ceilings. This layer must not be damaged by the electrical installation – neither by installation boxes, cable penetrations nor excessively hot equipment in close proximity. In particular, you must also ensure that only cable or conduit entries with appropriate retention as specified by DIN 60670-1 are used, because if not, strain on the cable during the installation of switches or sockets, for example, could cause leaks. In solid constructions, the plaster on the inside wall forms the air-tight barrier. Cavities and butt joints which are cut for the electrical installation as well as improperly performed penetrations are weak spots which can create a leak to the heated interior.
For subsequent interior insulation work, the space required for switches and sockets may make it necessary to perform the installation up to the existing masonry. In such cases, moisture control must be taken into consideration along with air tightness and the elimination of heat bridges.

Air-tight electrical installation products for cavity wall or flush-mounting installations are the only correct way of maintaining air tightness here. The planning and implementation rules for an air-tight and heat bridge-free electrical installation are specified in DIN 18015-5.

For installation through, in or on the air tightness layer, KAISER offers suitable solutions for cavity wall and flush-mounting installations as well as for the retrofitting of the interior insulation.

ECON® technology.
Air-tight installation in cavity walls and masonry.

Guaranteed air-tight installation according to DIN 18015-5 in lightweight or solid construction is made possible thanks to KAISER products with **ECON®** technology.

The elasticity of the sealing membrane ensures that it wraps itself tightly around the cable or conduit during penetration. This safely prevents uncontrolled air flows and heat losses as well as building damage as a result of the formation of condensation

The toolless cable and conduit entry makes installation much easier and reduces the amount of work required - an economic advantage of the **ECON®** technology.

The integrated cable retention of the new clamp technology meets all the requirements for cavity wall boxes specified by DIN VDE 0100-520 and DIN EN 60670-1 and guarantees certified safety.

Products with ECON® technology are air-tight and ensure that unwanted ventilation heat losses are avoided. This is why **ECON®** plays such an important role in meeting the requirements of the EU directive regarding energy efficiency as well as its implementation in national law such as for the Energy Saving Regulation (EnEV).

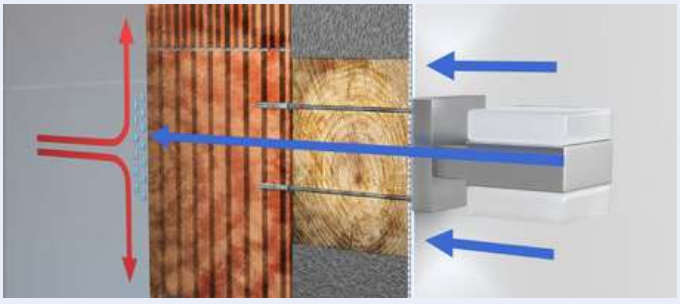
Guaranteed air-tight and easy-to-install ECON® technology is KAISER's standard for intelligent building installation work. You will find this technology in various KAISER cavity wall and flush-mounting boxes, installation boxes for composite thermal insulation systems as well as in installation housings for air-tight electrical installation in the insulation level.

KAISER TECHNOLOGY. For your future.

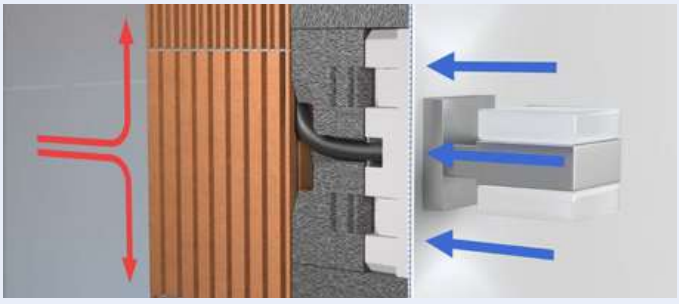
Installation without heat bridges. **Secure accessory fixing in or on the exterior wall insulation.**

The quality of the exterior wall insulation primarily depends on the uniformity of the insulation and the prevention of heat bridges. Building extensions such as balconies or external installations such as sockets, outdoor switches and luminaires, motion detectors, intercoms or letter boxes are a special risk.

The purpose of mechanically secure and heat bridge-free fixing to the insulated facade is to create a stable fit, while at the same time not destroying the insulation layer. This is why KAISER offers a comprehensive programme for the secure and optimal energy-saving fitting of electrical devices and components, as well as for retrofitting in or on the insulated facade.



In addition to **considerable heat losses**, heat bridges can also cause **building damage as a result of condensation** or even mould, which is harmful to health.

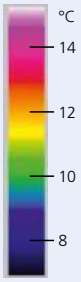


KAISER solutions for insulated exterior walls ensure an **installation free of heat bridges**.

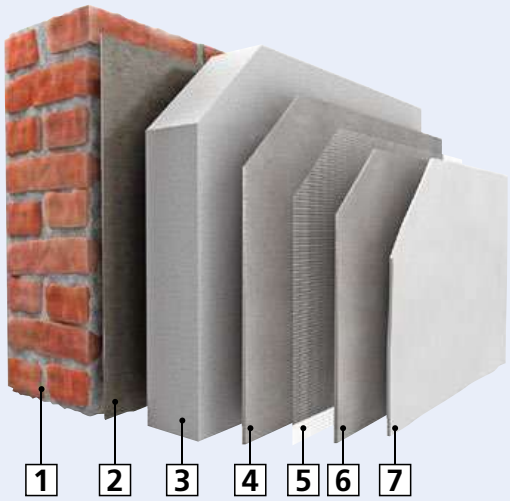
1 Wood fibre insulation | **2** Foam glass | **3** Mineral foam | **4** EPS

Composite thermal insulation systems (WDVS) are multi-layer facade constructions that are mostly used today for building insulation. KAISER products have been specially developed for composite thermal insulation systems as well as other standard commercial systems. They create an optimal and permanent fit in these facades, without having any effect on the insulation.

Thermographic images can very quickly make heat bridges visible on existing facades. A colour chart represents the surface temperature. The yellow and red areas show where a lot of heat is being lost. The external thermographic image above shows good insulation with an external installation without heat bridges. In the interior images, the cold spots – the blue and dark colours - show the weak spots of the building's insulation.



Construction of an organic composite thermal insulation system.



1 Masonry | **2** Bonding | **3** Insulating board | **4** Reinforcement plaster **5** Reinforcement fabric | **6** Reinforcement plaster | **7** Exterior plaster

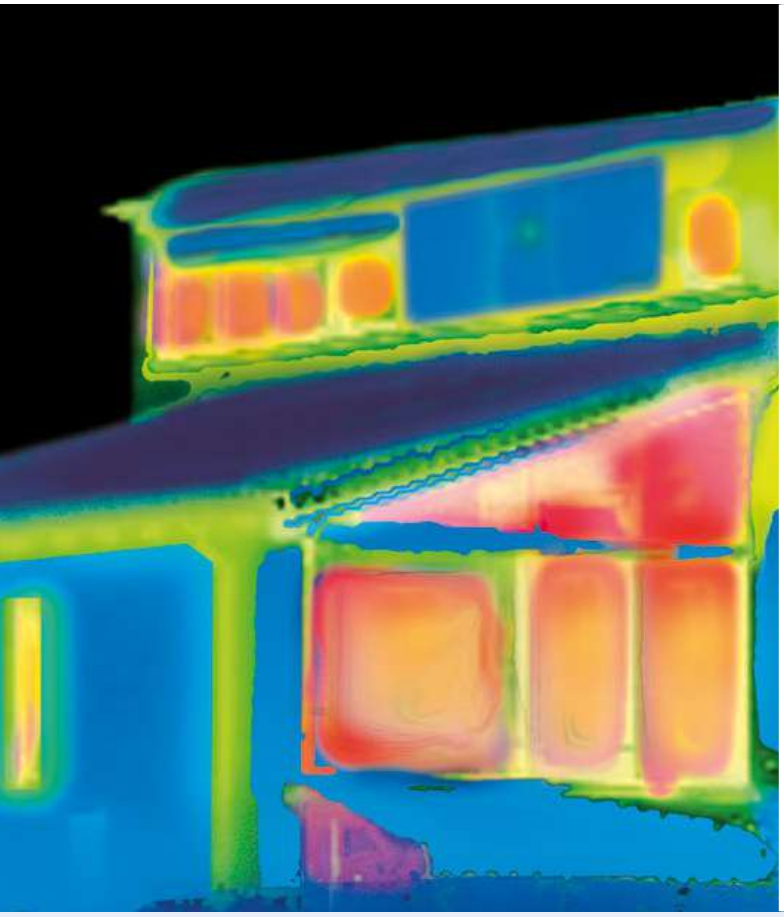
Heat bridges are the weak spots in the building shell. The heat loss here is much greater than in the surrounding component. The thicker the heat insulation of the component is, the more significant the heat bridges are.

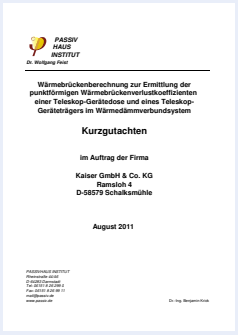
Verification of **air tightness and lack of heat bridges**

The Energy Saving Regulation (EnEV) went into effect in Germany in 2002, replacing the previously valid Heat Insulation Regulation (WSchV) and Heating System Regulation (HeizAnlV). The EnEV defines minimum standards for new and existing buildings regarding insulation standards and the quality of the systems technology.

Both the Energy Savings Regulation and the DIN 4108 series of standards require a permanently air-tight building shell in order to prevent energy losses as well as the flow-through and transfer of room air moisture Leaks due to the through-flow can result in condensation, the formation of mould, and even building damage. The planning and implementation rules for air tightness and heat bridge-free electrical installation are defined in DIN 18015-5.

Air tightness and a lack of heat bridges





When assessing the air tightness of a building, a differential pressure process is often used (e.g. the blower door method). When it is necessary to localise any leaks, thermographic images help as well as the use of anemometers. Heat bridges must be avoided when fixing external installations in or to the facade.

In order to ensure **air tightness**, air-tight electrical installation products are subjected to a differential pressure test as per DIN 4108-2 with the cable or conduit entry used for the intended purpose. They must not exceed the permitted air permeability

When internal insulation is retrofitted, convection is also tested in addition to air tightness.

For electrical installation products which are suitable for fixing in or to a facade, heat bridge calculations are carried out which will verify that there will be no heat bridges.

Air-tight and heat bridge-free electrical installation products from KAISER are comprehensively tested and are verified to comply with the requirements specified by DIN 18015-5 for air-tight and heat bridge-free electrical installations.

The energy efficient home.

In Masonry:

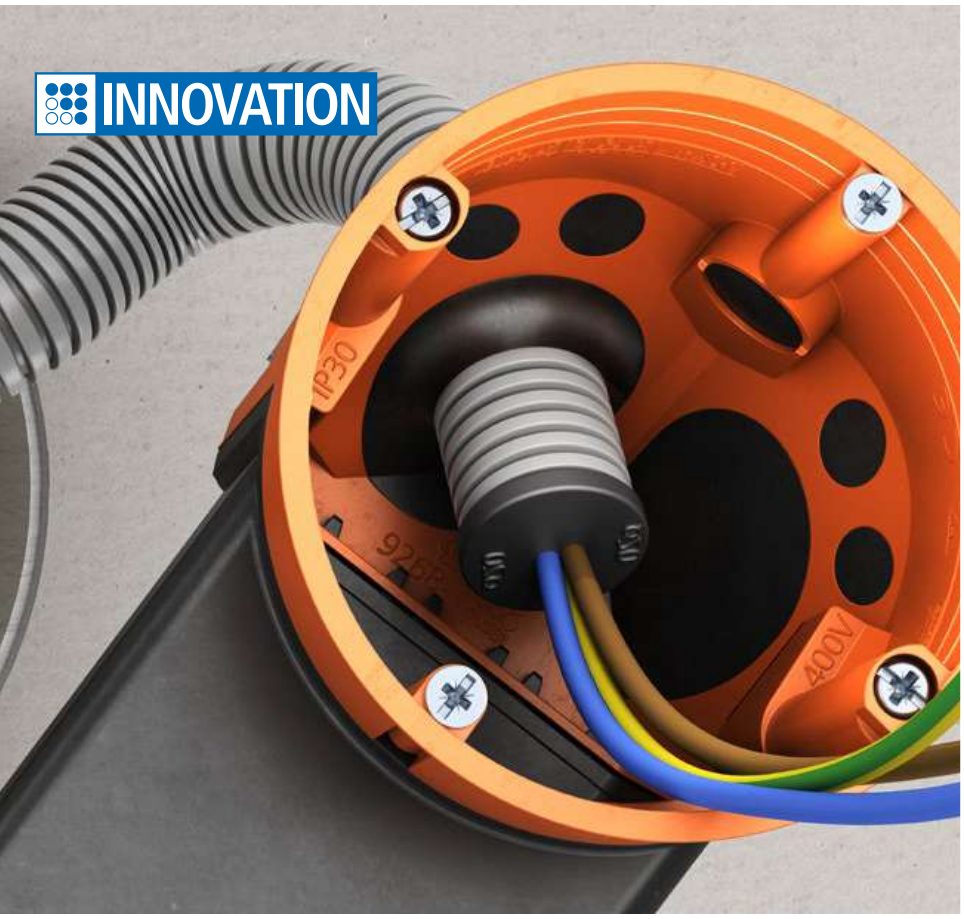
1. One-gang box ECON® 10
   One-gang junction box ECON® 15

In lightweight walls:

2. One-gang box O-range ECON® 63
3. 3-gang junction box
   O-range ECON® 3
4. One-gang connection box
   O-range ECON® Data
5. Junction box Ø 120 mm
   O-range ECON®
6. Installation housing ThermoX® LED
7. Multi air-tight
   sleeve ECON®

Heat bridge-free installation:

8. One-gang junction box
   ECON® Styro55
   One-gang junction box
   ECON® Iso +
9. Mini equipment carrier
10. Telescope equipment carrier
11. Universal equipment carrier
    with combination insert
12. Installation housing ThermoX® Iso +



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Air-tight cavity wall installation with **ECON® technology**.

air-tight

Products with **ECON® technology** are air-tight and ensure that there are no unwanted ventilation heat losses. That is why **ECON®** makes an important contribution to satisfying the requirements of the EU directive on energy efficiency as well as its respective national implementations such as the Energy Saving Regulation (EnEV).
In addition, **ECON®** products from KAISER can also be used for installation under clean room and hygiene conditions in which an uncontrolled exchange of air and bacteria must be prevented. Comprehensive blower door tests which were carried out by an independent institute confirmed the air tightness of the cavity wall boxes with **ECON® technology**.

- Elastic sealing membrane for guaranteed air tightness
- Toolless cable and conduit entry
- Integrated stress relief in accordance with DIN EN 60670
- For combinations: insert support connectors
- Device screws with plus-minus drive
- Innovative opening tab

90° conduit entry: conduit entry offset by up to 90°; ideal for the installation of opposing boxes!

1 The elastic sealing membrane of **ECON® technology** fits itself around the conduit or cable during piercing. This prevents uncontrolled air flows.

2 Easy opening of the conduit entry by means of a pre-defined opening tab

3 ... without tearing the membrane.

4 Permanently air-tight conduit entry up to conduit size M25.

5 Even under tensile load, cable and conduit entries remain guaranteed air-tight.

6 The marking of the entry openings simplifies the correct choice of opening size.

7 The support connector ensures the air-tight combination of the cavity wall boxes and is inserted via the removable metal plates without the use of tools.

O-range ECON®

New brand name: The product families of cavity wall boxes for standard electrical installation and air-tight electrical installation have been integrated into the new **O-range®** brand name. The circular "O" symbolises the installation opening for the box in the cavity wall, while "range" stands for the range which currently consists of a total of 12 cavity wall boxes. They stand out thanks to their new, powerful colour, indicating at first glance that here is a brand-name-quality box fitted into the wall that is built to the latest installation standard.

Innovative technical improvements: Ultimately, the next generation of cavity wall boxes is also a pioneer in technical terms, ensuring that electrical installation work now takes place even more quickly and easily. **O-range ECON®** cavity wall boxes for air-tight electrical installation have innovative opening tabs. They ensure the toolfree, defined opening of the conduit membrane and guarantee continuous air tightness after conduit entry, possible up to 90°. In addition, all **ECON®** boxes are now equipped with conduit entries up to M25, including the one-gang boxes. The one-gang junction box has two additional cable entries, so now it is even more flexible than before.

One-gang box
O-range ECON® 63
Art. No. 9263-22

One-gang box
O-range ECON® 63
halogen-free
Art. No. 9263-78

One-gang junction box
O-range ECON® 64
Art. No. 9264-22

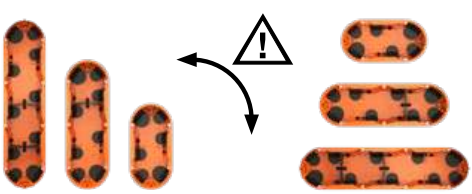
One-gang junction box
O-range ECON® 64
halogen-free
Art. No. 9264-78

Continuous installation space.
O-range ECON® Multi-boxes.

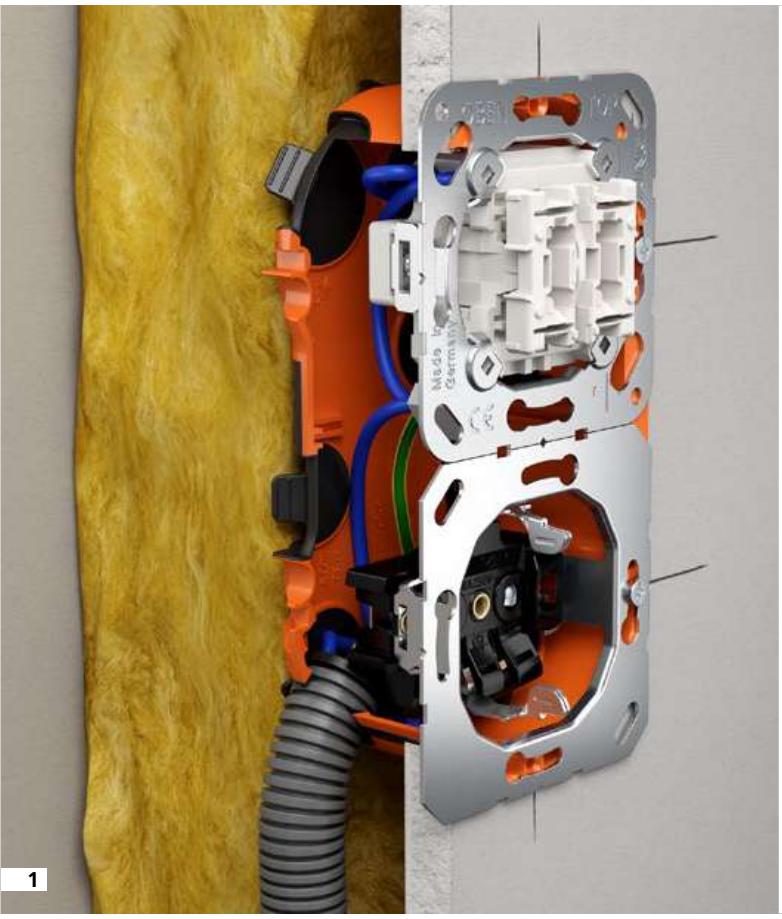
air-tight

KAISER offers the perfect foundation and ease-of-use for the installation of all common installation accessories in multi-combinations with the new **O-range ECON® 2 / 3 / 4 gang junction boxes**.
They enable the use of pre-wired installation accessories and ensure maximum flexibility when it comes to device fixing.
When using different electrical circuits and/or supply and communication connections within a combination, the individual installation accessory locations can be separated easily and standardised using a bridge.

- Easy installation of pre-wired accessories without spatial separation
- Maximum flexibility for accessory fixing
- Standardised separation of individual installation openings using a bridge
- Complete assembly and installation with only a screwdriver
- Can be combined with all O-range® programme applications



Knock-out edge on the bridge for front through-wiring when using a bridge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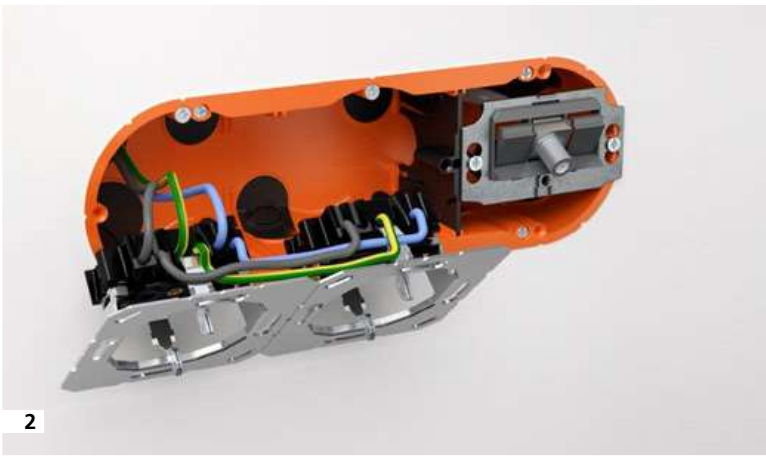
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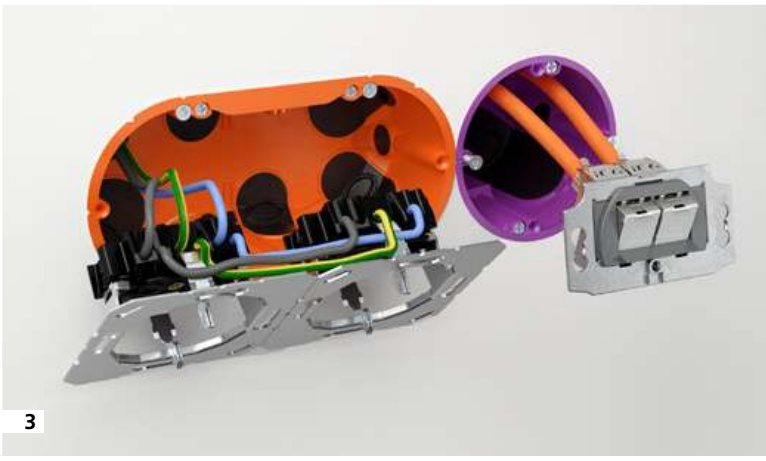
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1 O-range ECON® 2 / 3 / 4 gang junction boxes make it easy to use switch/socket combinations without pre-wiring through the support connector due to their large installation opening without a central bridge.

2 The individual accessory installation locations can be easily separated in a standardised manner due to the use of a bridge. Two additional screw domes ensure maximum flexibility for accessory fixing.

3 Standardised, combined 71 mm dual spacing is possible for all O-range® programme applications, also without support connectors.

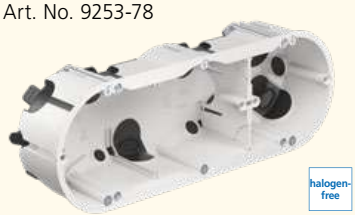
2-gang junction box
O-range ECON® 2
Art. No. 9252-22

3-gang junction box
O-range ECON® 3
Art. No. 9253-22

4-gang junction box
O-range ECON® 4
Art. No. 9254-22

2-gang junction box
O-range ECON® 2, halogen-free
Art. No. 9252-78

3-gang junction box
O-range ECON® 3, halogen-free
Art. No. 9253-78



4-gang junction box
O-range ECON® 4, halogen-free
Art. No. 9254-78

O-range ECON®
Conduit one-gang junction box.

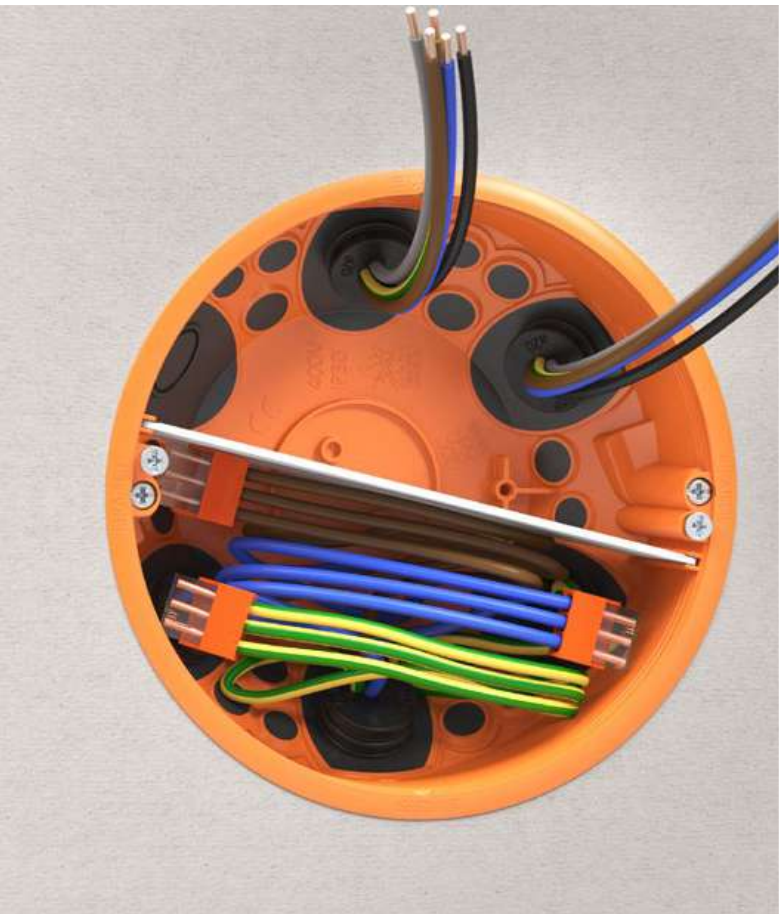
air-tight

Air-tight **conduit one-gang junction box** with **ECON® technology** ´especially for installation with electrical installation conduits. The box is VDE-certified and suitable for energy-efficient electrical installation as per the EnEV. 4 entries are optimal for continuous conduit installation, e.g. in prefabricated house construction or with data networks. Extremely easy fitting thanks to toolless conduit entry per opening tab.

- Installation in Ø 68 mm cut hole
- Elastic sealing membrane for guaranteed air-tightness
- Toolless conduit entry
- Can be combined with support connectors, air-tight and fully-insulated

Conduit one-gang junction box O-range ECON®
Art. No. 9266-22

Conduit one-gang junction box O-range ECON® halogen-free
Art. No. 9266-77



O-range ECON®
Junction box Ø 120 mm.

air-tight

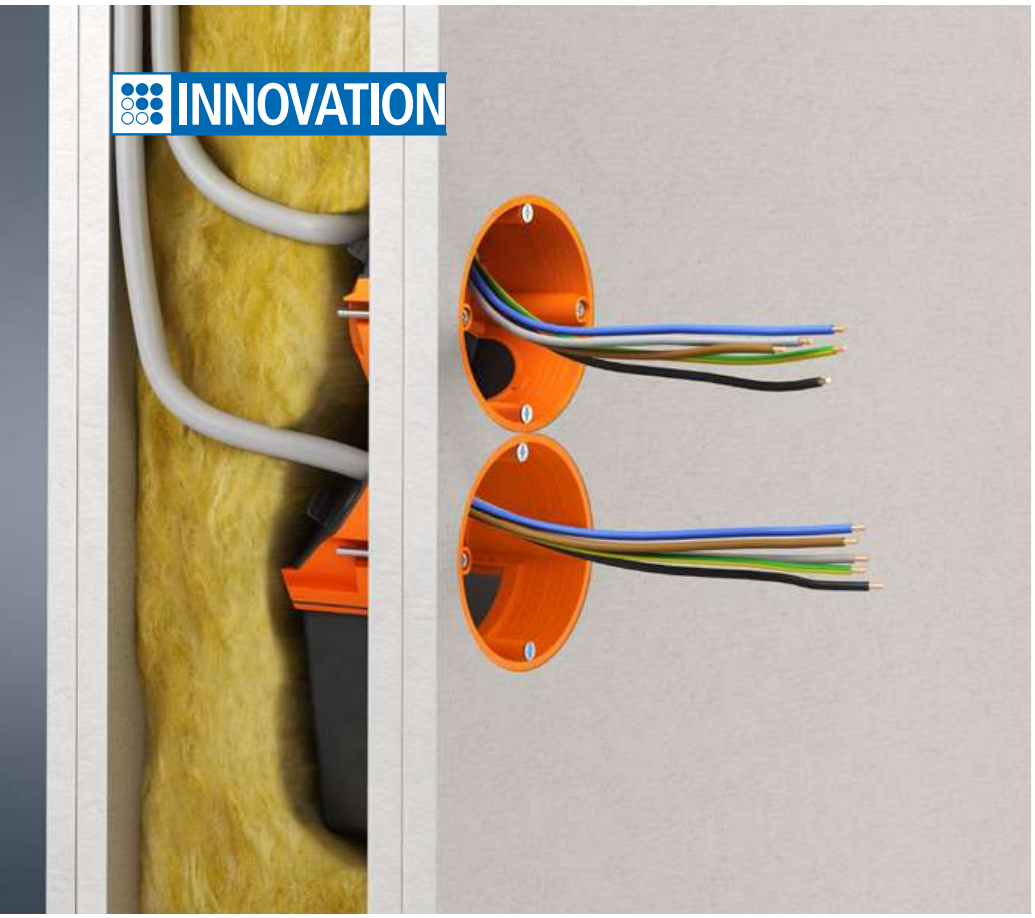
Air-tight **junction box Ø 120 mm** with **ECON® technology** for an energy efficient electrical installation as per the EnEV. Extremely easy fitting thanks to toolless cable and conduit entry. The sealing membranes guarantee permanent air-tightness and at the same time retention of the cable or conduit. The large box volume provides plenty of installation space for various cable connections.

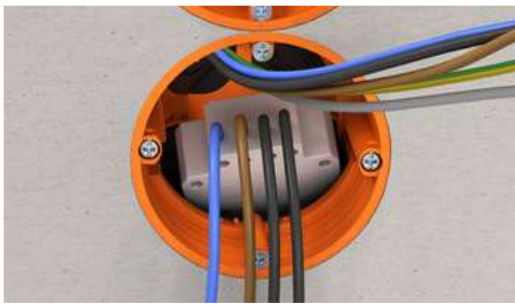
- Installation in a Ø 120 mm cut hole
- Elastic sealing membrane for guaranteed air-tightness
- Toolless cable and conduit entry

Junction box Ø 120 mm
O-range ECON®
Art. No. 9273-91

Junction box Ø 120 mm
O-range ECON®, halogen-free
Art. No. 9273-77

halogen-free





Air-tight installation with additional installation space.
Electronics box O-range ECON® Flex.

air-tight

The air-tight **electronics box** with **ECON®** technology is ideal for modernising or extending existing systems due to its fast assembly. The flexible tunnel makes it easy to install, and creates space for electronic components, cable reserves and terminals.

- Additional sideway terminal compartment for communications and network technology
- Elastic sealing membranes for guaranteed air tightness
- Toolless cable and conduit entry
- Integrated cable retention
- Can be combined with support connectors, air-tight and fully-insulated

In addition to this system's guaranteed air tightness, toolless cable and conduit entry and the integrated cable retention are just some of the clear advantages that make everyday installation work using **ECON® technology** efficient and safe. And details such as the opening tab for conduits or the support connectors for an insulated and air-tight combination with **ECON®** cavity wall boxes make these user-friendly solutions for the installer.

Electronics box
O-range ECON® Flex
Art. No. 9268-94

Electronics box
O-range ECON® Flex, halogen-free
Art. No. 9268-74

halogen-free

INNOVATION

Gentle and easy handling of data cables. **O-range ECON® Data**.

air-tight

The **one-gang junction box O-range ECON® Data** offers unprecedented ease of installation for connecting and installing communication and network connection boxes. The innovative cable entries for data and network cables are positioned so that the bend radii specified by the cable manufacturer can be maintained and cable kinks prevented, thus ensuring optimal data transmission.
Regardless of whether connecting a network connection box or installing a keystone module, the new O-range ECON® Data always provides optimal cable routing.

- Innovative cable entries prevent cable kinks
- 4 screw domes for maximum flexibility for accessory fitting
- Toolless cable and conduit entries
- Can be combined with all O-range® programme applications

The excess length of cables required for the proper connection of the network box can be easily guided back into the cavity of the light-weight wall during accessory installation.

O-range ECON® Data
Art. No. 9280-22

O-range ECON® Data, halogen-free
Art. No. 9280-78

halogen-free

Air-tight cavity wall installation.
The KAISER installation system.

air-tight

The **comprehensive KAISER installation system** with accessories and tools enables you to perform professional, air-tight installations in buildings as per the EnEV, offering the perfect solution for a number of tasks. Here you will find many tried-and-test products from one-gang boxes, electronics boxes to wall light connection boxes.

In addition to the air-tight products with KAISER **ECON® technology**, which can be opened without the use of tools, we also offer an additional, air-tight installation system.

Using the practical **KAISER universal opening cutter**, you can easily make an opening for conduits or cables for air-tight installation products without a sealing membrane**.** This opening is so exact that air flows are prevented. In addition, the exact fit also ensures professional retention of the cables or conduits.

One-gang-junction box
Art. No. 9066-01/77

One-gang junction box for solid wood
Art. No. 9066-12

One-gang box for thin boardings
Art. No. 9068-01/79

One-gang box CEE
Art. No. 9075-12/78

Electronics box
Art. No. 9062-94/74

Wall light connection box
Art. No. 9248-01/77

Support connector
Art. No. 9060-98/78

Universal opening cutter
Art. No. 1085-80

Air-tight retrofitting.
Sealing inserts and sealing foils.

air-tight

The sealing insert makes it extremely easy to convert conventional one-gang boxes into air-tight boxes. The inserts for flush-mounting or cavity wall boxes can be retrofitted at any time – without the need to remove the existing boxes.

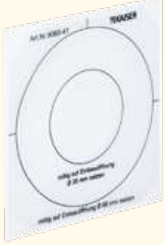
The **sealing insert** is simply inserted into the available one-gang boxes or one-gang junction boxes. The individual leads are fed through the base from the rear and the insert is pushed into the box with the connected installation accessory.

- For all one-gang boxes and one-gang junction boxes
- Easy retrofitting
- No disassembly of the old boxes
- Permanently elastic plastic

KAISER sealing foil creates a retrofitted, air-tight closure between the edge of the box and the boarding. Untidy or oversized installation openings and broken edges can quickly be sealed air-tight.

Sealing insert
Art. No. 1040-01

Sealing foil
Art. No. 9060-41



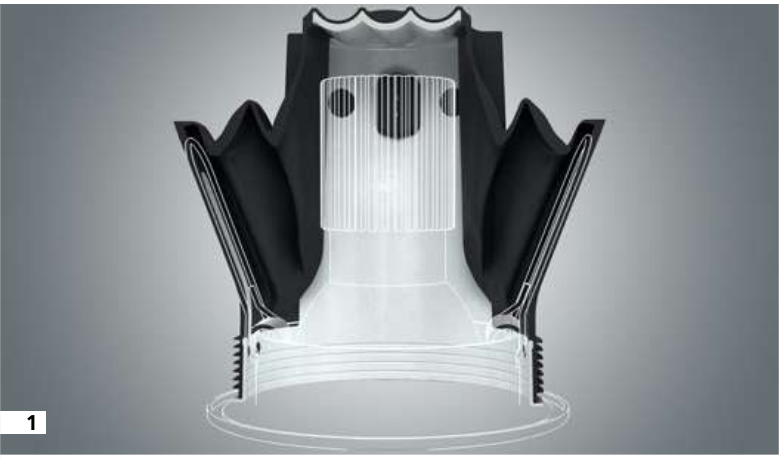
Air-tight installation compartment for built-in LED luminaires. **ThermoX® LED installation housing.**

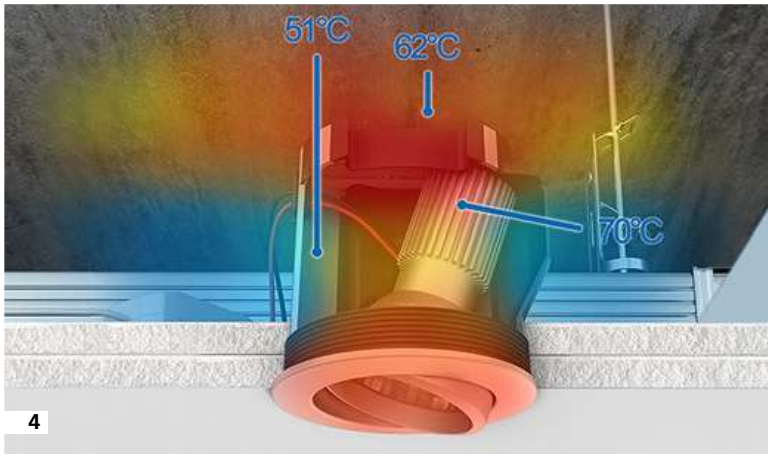
air-tight LED

ThermoX® LED is the installation housing for the air-tight installation of rigid and swivelling built-in LED luminaires in different ceiling constructions. The housing protects the surrounding material (moisture barrier foil, insulation, etc.) against high operating temperatures and creates an air-tight closure. This not only prevents an uncontrolled air exchange, but also any long-term damage that could result from mould growth in the ceiling insulation, for example.

- For air-tight installation in insulated hollow ceilings.
- Retrofit installation from below
- Toolless housing installation
- Guaranteed airtight installation
- Rear surface structure ensures optimal heat management
- Permanent and secure fit of the luminaire in the housing

Air tightness quality certificate
Guaranteed airtight housing for the energy efficient electrical installation of build-in luminaires. The corresponding certificate can be obtained from us or downloaded directly from our website.





1 Guaranteed air tightness even with expanded fixing springs, thanks to flexible expanding pockets
2 Swivelling pocket enables targeted alignment of the installation spotlight.
3 Flat housings enable use in low ceiling constructions, e.g. wooden slat constructions
4 Temperature profile for LED installation spotlights: The rear surface structure minimises pressure on the vapour barrier and ensures optimal heat dissipation.

The **ThermoX® LED** installation housing also offers other advantages. Its completely air-tight design ensures that neither dust nor dirt from the suspended ceiling can penetrate and affect the function of the heat sink. Maximum operating life is achieved due to the thermal separation between the luminaire and the operating device.

ThermoX® LED
Art. No. 9320-10

Ø 74 mm
D: 70 mm

ThermoX® LED
Art. No. 9320-11

DESIGN PLUS powered by: light+building
GERMAN DESIGN AWARD SPECIAL 2017

Ø 74 mm
D: 95 mm

ThermoX® LED
Art. No. 9320-20

Ø 86 mm
D: 70 mm

ThermoX® LED
Art. No. 9320-21

Ø 86 mm
D: 95 mm

(D: depth)

Suitable cutters for Ø 74 mm and Ø 86 mm countersinking can be found on page 43.

Air-tight installation compartment for built-in halogen and LED luminaires. **ThermoX® installation housings.**

air-tight

The intelligent housing system provides protection against the latent risk of fire caused by the extreme heat from halogen lamps as well as from the heat sinks of LED lamps in suspended ceilings and roof areas. In particular, the housing protects the moisture retardant foil, which is an essential element of the air-tight building shell. In addition, the installation housing also prevents common dust edges around the built-in luminaires.

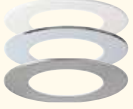
The **ThermoX® housing** is ideal for the installation of built-in luminaires in wood panel and tiled ceilings and in seamless suspended ceilings made of plasterboard, mineral fibreboard, MDF and plywood with cross-battering and overlying insulation. Whether for installation in new buildings or for retrofitting in existing ones, the housing can be used with both low voltage and high voltage luminaires. Optional decorative rings conceal the housing in case of retrofitting, setting an aesthetic accent.

- Maintains the air-tight layer and provides protection against fire
- Ceiling exits (CE) up to Ø 86 mm
- Installation is possible from above or below
- Retrofitting is also possible

ThermoX® housing for LV and HV luminaires
Art. No. 9300-01/02/03

ThermoX® universal housing with mineral fibreboard
Art. No. 9300-22

ThermoX® decorative coverings
Art. No. 9301-...



ThermoX® front rings
Art. No. 9300-41/42/43

ThermoX® universal front part
Art. No. 9300-93

Air-tight installation within the insulation level **EnoX® installation housing.**

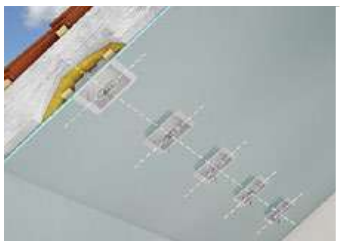
air-tight

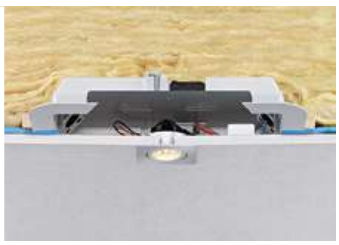
The **EnoX® installation housing** is used in lightweight walls and ceilings, which form part of an air-tight building shell as per EnEV. The housing provides a flexible installation compartment that is integrated into the insulation level. This prevents an uncontrolled air exchange and allows luminaires, loudspeakers, displays or electronic components (e.g. actuators, power packs) to be installed air-tight and protected against dust.

ECON® technology's toolless entry and integrated cable retention guarantee fast, safe and secure installation.

- No additional installation level is necessary
- For walls and ceilings in new and renovated buildings
- Thermally protected installation space 300 x 200 x 55 mm
- **ECON® technology** for air-tight and toolless entry

Installation takes place in or on the rafters, directly on the OSB boards in both ceilings and walls. Simply screw the housing in the same way as with cavity wall boxes. The connection to the moisture retardant foil is made air-tight again by using the **EnoX® sealing frame**. After fitting the boarding, you have an insulated and thermally protected installation space for luminaires, loudspeakers, displays and much more.





EnoX® installation housing
Art. No. 9350-21

EnoX® sealing frame
Art. No. 9350-99

For air-tight conduit and cable entry. air-tight

Air-tight sleeves.

KAISER air-tight sleeves are ageing-resistant and can be used in a wide temperature range. Their extremely powerful adhesion ensures a good fit on many surfaces, and also permanent air tightness The cable or conduit is fed through the elastic sealing plug, which adapts itself precisely to the relevant diameter.

- Large contact area to cables and conduits
- Sealing even when cables are severely kinked
- Guaranteed air-tight feed-throughs (especially in the attic)
- Extremely powerful adhesion
- 10 variants for different cable and conduit diameters
- Suitable for moisture retardant foils, sarking membranes, OSB panels*

*If fibreboard is used, we recommend an initial coat of primer.

Thanks to their anti-kink sleeve, **ECON® multi air-tight sleeves** for cables and conduits ensure reliable sealing for one to six cables up to Ø 11 mm or conduits up to Ø 25 mm. Permanent and reliable sealing is ensured even in the presence of sharp angles in the installation level.

- Flexible sealing for 1 to 6 cables or conduits
- Elastic sealing membrane for guaranteed air tightness
- Anti-kink sleeve also permanently seals heavily kinked cables
- Completely toolless installation
- Unused feed-throughs can be used as reserves for future installations

Cable sleeves
Art. No. 9059-...

Conduit sleeves
Art. No. 9059-...

Multi cable sleeves ECON®
Art. No. 9059-61

Multi conduit sleeves ECON®
Art. No. 9059-62

Outdoor air-tight feed-throughs.

air-tight

Aluminium / Fleece butyl sealing sleeves.

These highly-elastic sleeves with maximum adhesion are optimally suited for the permanent, secure sealing of installation penetrations in masonry, concrete or wood materials.

Sleeves with fleece butyl adhesive collars can be plastered over, which makes an ideal "join" to the masonry. The tear-resistant **aluminium butyl adhesive collar** provides ageing-, weathering- and UV-resistant sealing with a smooth foil surface.

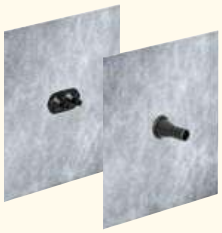
A pre-coating with the **KAISER primer** optimises the adhesion for all sealing sleeves on absorbent surfaces.

- Large contact area to cables and conduits
- Permanently moisture-proof - for use indoors and outdoors
- Water-sealing effect with non-pressing water

Aluminium butyl sealing sleeves for cables
Art. No. 9079-...

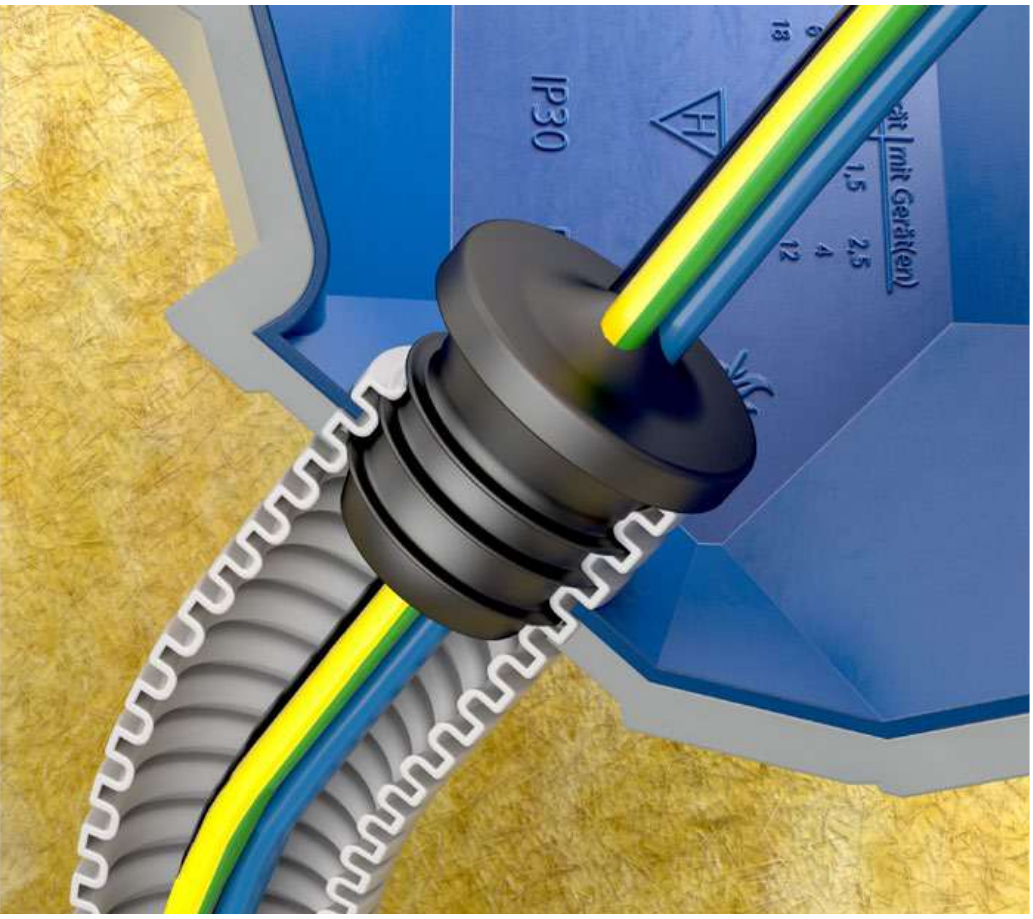
Aluminium butyl sealing sleeves for conduits
Art. No. 9079-...

Fleece butyl sealing sleeves for cables
Art. No. 9089-...



Fleece butyl sealing sleeves for conduits
Art. No. 9089-...

KAISER primer
Art. No. 9000-02



Permanent air-tight closing of electrical installation conduits. **Sealing plugs.**

air-tight

KAISER sealing plugs are ideal for sealing all standard electrical installation conduits in installation boxes or cable exits. The long sealing plug with three sealing lips adapts itself to the installation conduit and guarantees an air-tight closure.
Along with energy efficiency, this sealing plug also offers advantages in other areas. It also prevents the proliferation of smoke (fire protection), noise (noise protection), dust and pathogens (hygiene).

- For empty conduit installations (air-tight version)
- Elastic sealing membrane for guaranteed air tightness
- Bridges in the membrane prevent gaps between cables
- For all installation conduits M16 - M40, Pg 9 – Pg 36, 3/4" and 5/8"

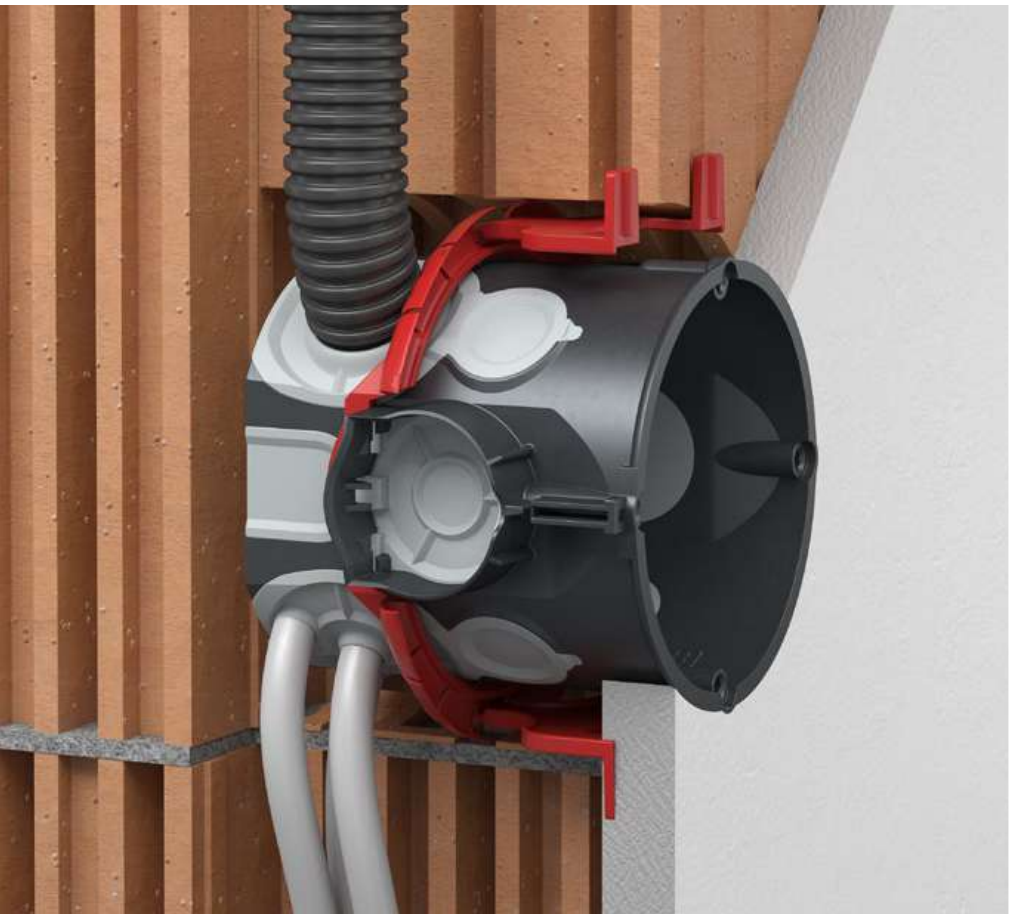
Sealing plug M16
Art. No. 1040-16

Sealing plug M20
Art. No. 1040-20

Sealing plug M25
Art. No. 1040-25

Sealing plug M32
Art. No. 1040-32

Sealing plug M40
Art. No. 1040-40



Air-tight flush-mounting installation with **ECON® technology.**

air-tight

Flush-mounting boxes with **ECON® technology** are ideal for use in masonry walls in which the interior plaster forms the air-tight closure on the room side. They ensure that no air flows take place between the cavities in the masonry and the interior of the residence for sockets and switches, which guarantees an air-tight installation. **ECON® flush-mounting boxes** offer a variety of options for air-tight conduit and cable entries and can be either plastered or processed using **KLEMMFIX®**.

- Air-tight design with sealing membranes
- Prevents leaks in external walls made of hollow chamber blocks
- Variable und toolless cable and conduit entries
- Torsion-proof, guaranteed standardised combination distance of 71 mm

Toolless cable and conduit entries using **ECON® technology** make installation work much easier and faster. When boxes are already plastered in, retrofitting cables and conduits is very easy.

The elasticity of the sealing membrane guarantees that the membrane wraps itself around the conduit or cable during penetration so that air flows are eliminated.

The partitioning of the **ECON® multi membrane** prevents gaps and leaks when inserting several cables.

For the insertion of several cables or conduits M20/M25.

1 Thanks to the large installation opening without a central bridge, the two-gang junction box allows the use of wired devices and pre-wired block inserts, for example.

2 The **ECON® technology's** permanently elastic sealing membrane guarantees the air-tight connection of cables. Even duplex cables can be installed securely and air-tight without an installation conduit.

3 Installation conduits up to M25 can be inserted toolless and air-tight through the membrane.

The **ECON® electronics box** provides a generously-sized accessory installation compartment and additional installation space for fitting small switch actuators, for example. In the case of network connection boxes, maintaining the cable bending radii permits optimal data transfer. The matching separator wall allows the standardised installation of bus and operating voltage in one box.

The **ECON® two-gang junction box** makes it easier than ever to install special installation accessories. The large installation opening and the very large installation compartment make it possible to install block and pre-wired accessories. They also provide space for the configuring of cables for multi-media connections. There is also plenty of space for cable reserves and connection plugs.

One-gang box ECON® 10
Art. No. 1055-21/1056-21

One-gang junction box ECON® 15
Art. No. 1555-21/1556-21

Electronics box ECON®
Art. No. 1068-21

Two-gang junction box ECON®
Art. No. 1656-21

Installation in internal insulation systems. **Internal insulation box.**

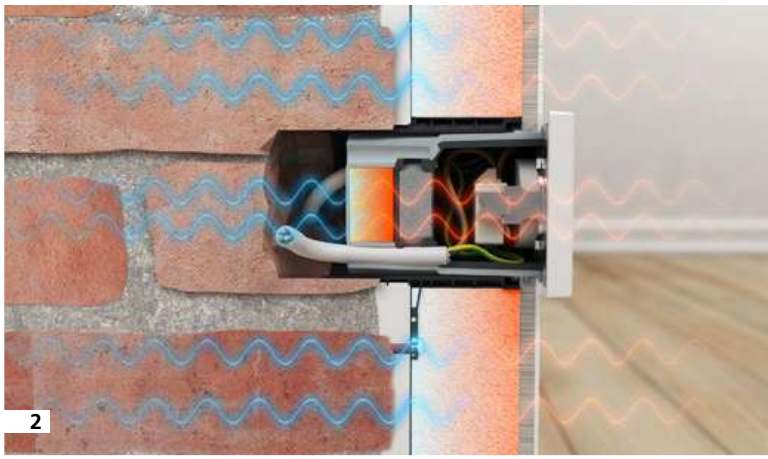
One-gang junction box for electrical installations in internal insulation systems. For the permanently secure and heat-bridge-free fixing of switches, sockets and other accessories in internally insulated exterior walls. For an optimal indoor climate with proven protection against moisture damage.

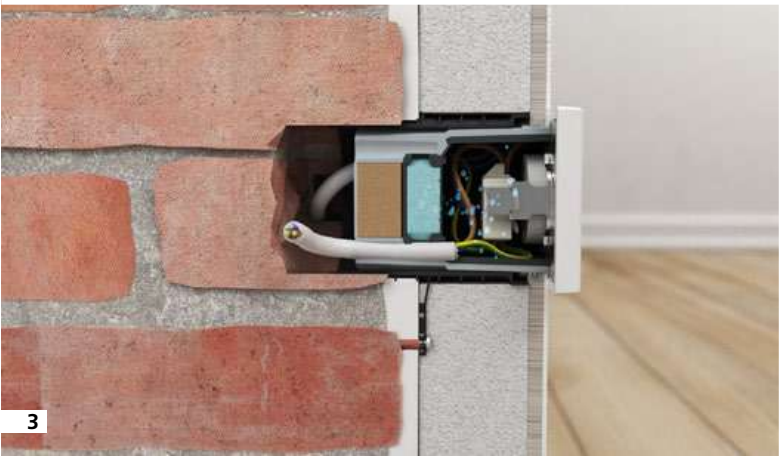
The internal insulation box is suitable for use in permeable insulation systems consisting of mineral or organic insulation material with different insulation thicknesses.

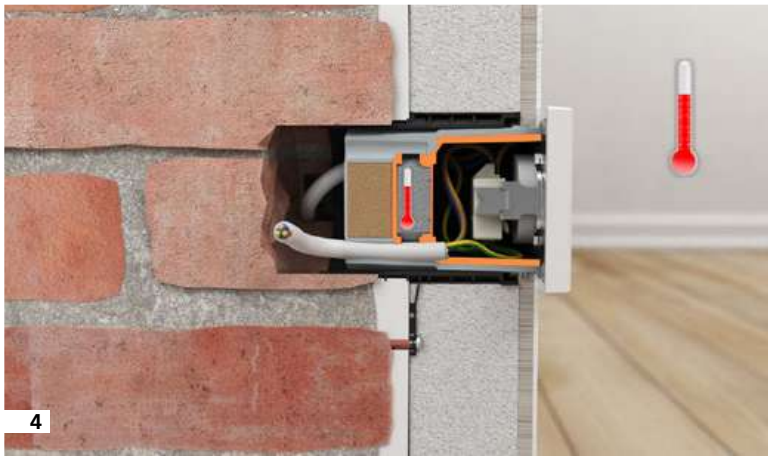
- Guaranteed thermal bridge-free installation
- Moisture regulating and insulating
- Prevents moisture induced building damage
- Can be used in many insulation systems
- For insulation thicknesses from 30 to 100 mm
- Installation on masonry without the use of plaster

The internal insulation box provides the fitter with an easy-to-use solution for the professional fitting of electrical installation systems in internal insulation systems. The easy installation and flexible application options are impressive. After installation they are proven to play their part in the insulation system's function.

1 Fixing lug | **2** Snap-in connection for combinations | **3** Insulation thickness scale | **4** High-performance insulating components | **5** Sealing lips | **6** Moisture-controlling components | **7** Heat-conductive internal components







1 Air tightness
The air-tight level is maintained, preventing any air flow behind the insulation system and convection.

2 Heat insulation
The insulating components maintain the function of the insulation system, and no heat bridges can occur.
Although heat enters the box, it does not enter the cold wall.

3 Moisture control
Excess moisture inside the room (poor ventilation, many people in the room) is stored and released in a targeted manner.
This function helps to prevent corrosion on device terminals.

4 Heat conductivity
Thanks to the use of highly heat conductive plastic in the internal box, the room heat is conducted into the box.
The increased surface temperature prevents condensation from forming.

Proof of functionality

The TU Dresden – Institute of Building Climatology performed extensive component testing verifying the functionality of the **KAISER internal insulation box**.


TECHNISCHE UNIVERSITÄT DRESDEN

Bauteilprüfung „Innendämmungsdose"

Internal insulation box
Art. No. 1159-90

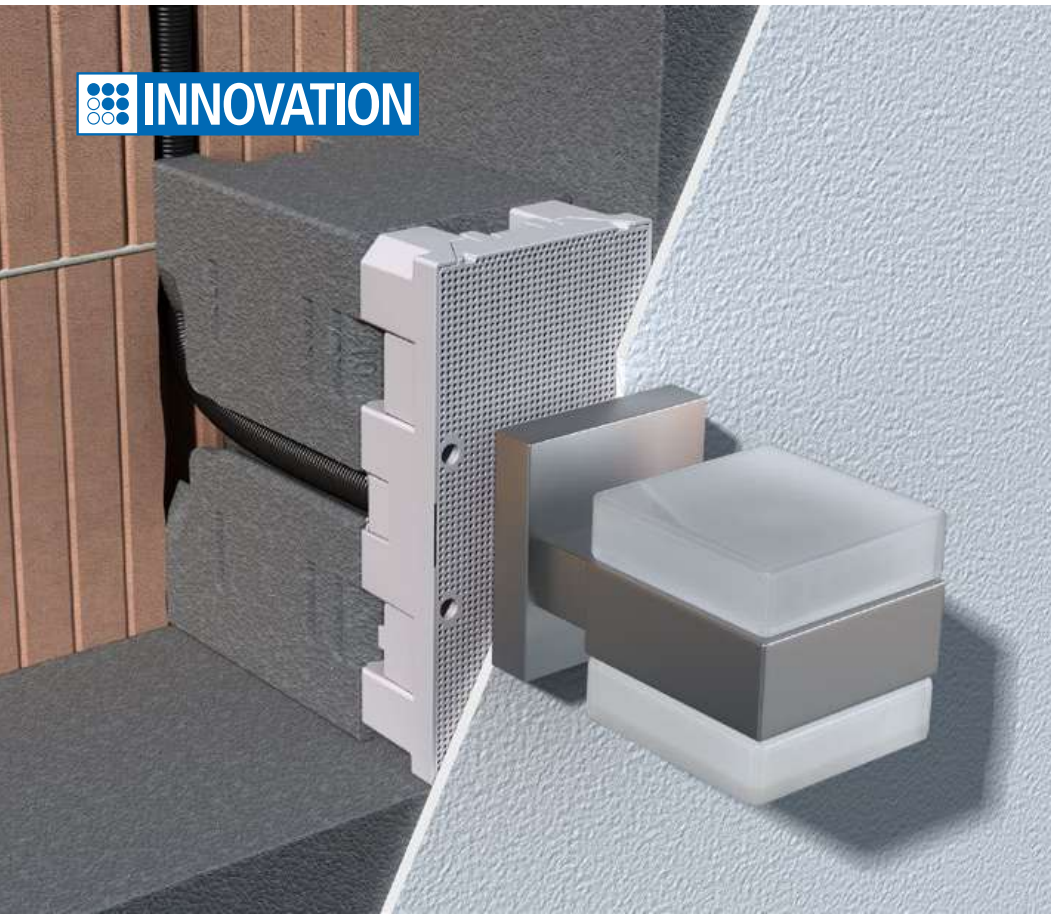
Secure fit without heat bridges. **Equipment carrier.**

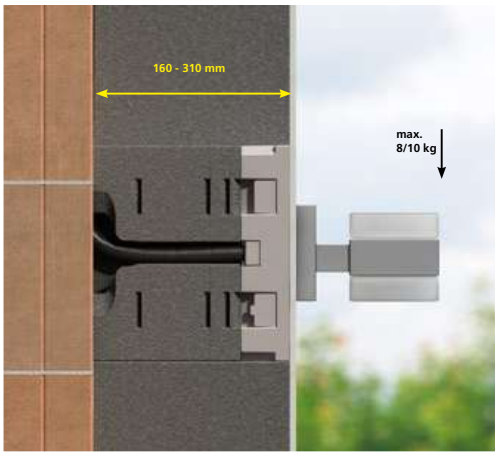
The **telescope equipment carrier** and the **universal equipment carrier** make it possible to install various accessories such as external luminaires and motion detectors on the insulated facade. Both equipment carriers are fixed mechanically to the masonry so that the weight of the accessories can be supported on a permanent basis.

The **universal equipment carrier** adapts easily to insulation elements up to 360 mm with the use of extension elements. The **telescope equipment carrier** is infinitely adjustable to insulation thicknesses of 80-200 mm. The large-area, universal mounting surfaces can be plastered over and are used for flexible accessory fixing.

- Secure mechanical fixing to the masonry
- Prevention of heat bridges
- Flexible adaptation to the insulation thickness
- Universal mounting surface for accessory fixing

The **telescope equipment carrier** is also suitable for ceiling installation, e.g. for the safe and secure fixing of luminaires to the insulated cellar ceiling.



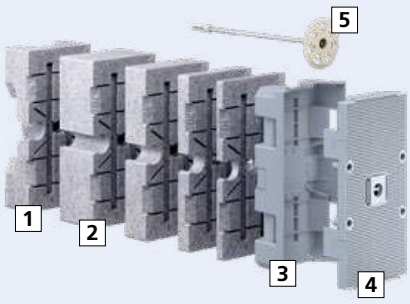


The choice of two front panels and the modular design for insulation thicknesses from 160 to 310 mm make the **system equipment carrier** a product which is extremely versatile. Because its individual elements can be combined as needed, it can be adapted to the insulation in increments of 10 mm, eliminating the need for time-consuming cutting to size. Easy, fast fixing with the screw dowels included in the scope of delivery permanently anchors the equipment carrier securely to many surfaces. Accessories can then be fitted as required to the large-area, universal mounting surface.

Universal equipment carrier
Art. No. 1159-24

Telescope equipment carrier
Art. No. 1159-60

System equipment carrier with universal mounting plate
Art. No. 9966-21 / 22



1 Base element | **2** Intermediate elements | **3** Housing base | **4** Front panel | **5** Screw dowel

Secure fit and stable base.
One-gang boxes.

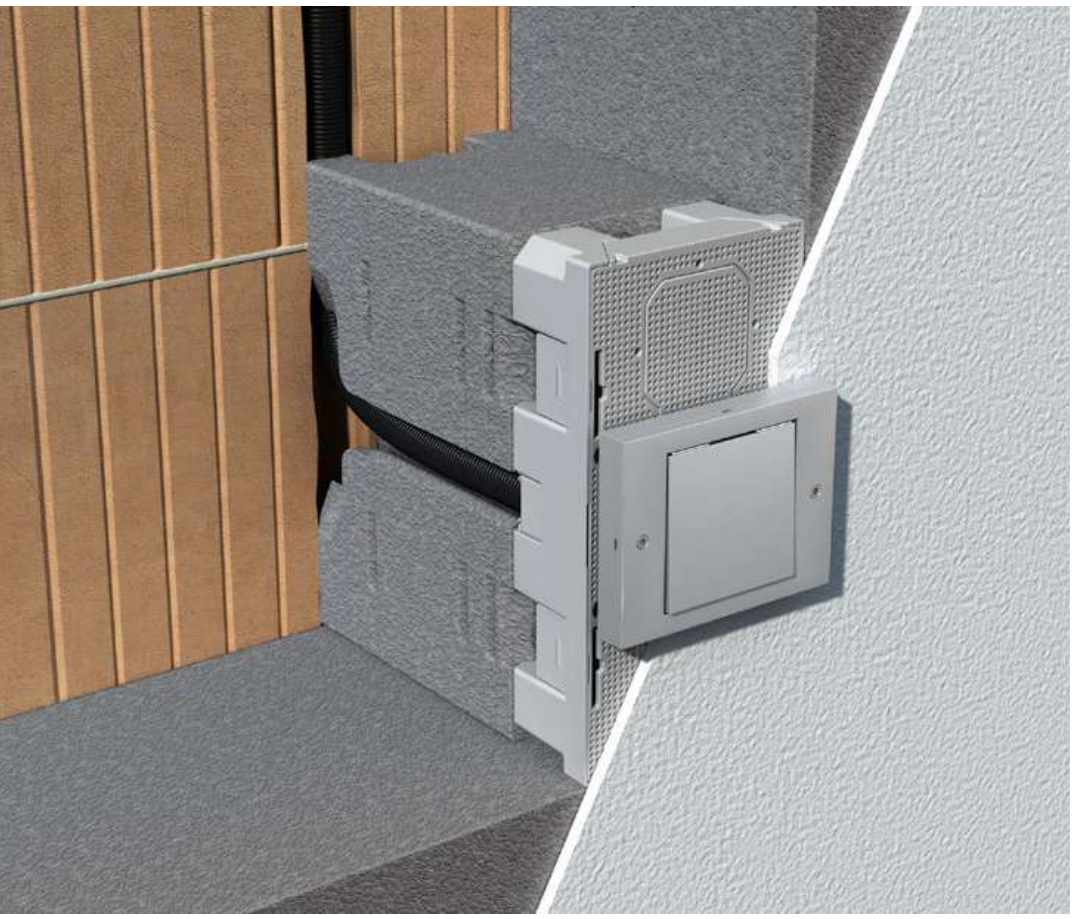
The **telescope equipment carrier** and the **universal equipment carrier with combination insert** enable you to install various installation accessories such as door communication, switches and sockets to the insulated facade. Both equipment carriers are securely fixed mechanically to the masonry so that the weight of the accessories can be supported on a permanent basis along with the pull-out forces.

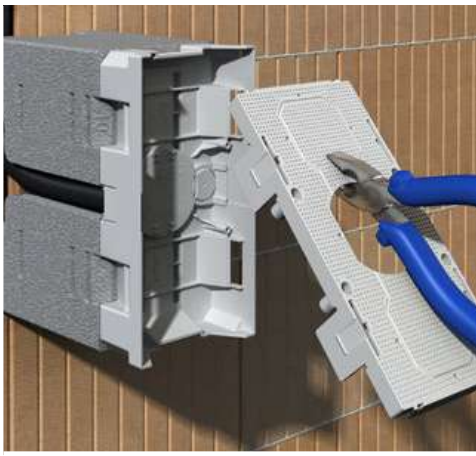
The **universal equipment carrier with combination insert** adapts easily to insulation thicknesses up to 360 mm with the use of extension elements. The **telescope one-gang box** is infinitely adjustable to insulation thicknesses of 80-200 mm. This can be done using the dimensions indicated on the carrier arm.

Both products are suitable for accessory combinations up to 3-gang. The **universal equipment carrier with combination insert** has a front panel with covers which can be be removed for the relevant combination and then expanded at a later date. Optional **combination one-gang boxes** are also available for **telescope one-gang boxes** for expansion purposes.

- Secure mechanical fixing to the masonry
- Prevention of heat bridges
- Flexible adaptation to the insulation thickness
- Combinations up to 3-gang are possible

Telescope one-gang boxes enable more installation options and can be easily connected for multiple combinations.





The **system equipment carrier with multi accessory insert** is suitable for insulation thicknesses from 160-310 mm. The modular construction and the assembly of the individual elements in 10 mm increments make possible the flexible adaptation to the insulation system.

Easy, fast fixing with the screw dowels included in the scope of delivery permanently anchors the equipment carrier securely to many surfaces.

The **multi accessory insert** makes it possible to install individual accessories as well as accessory combinations from 2-gang to 3-gang inserts.

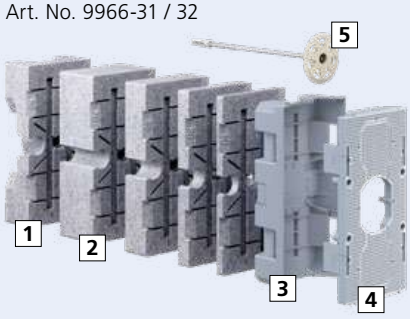
- Fast, mechanically-secure fixing to the masonry
- Modular adjustment to the insulation thickness
- Combinations up to 3-gang are possible
- 2 product versions make many applications possible

Universal equipment carrier with combination insert
Art. No. 1159-26

Telescope one-gang box
Art. No. 1159-61

Combination one-gang box
Art. No. 1159-62

System equipment carrier with multi accessory insert
Art. No. 9966-31 / 32



1 Base element | **2** Intermediate elements | **3** Housing base | **4** Front panel | **5** Screw dowel

INNOVATION

For built-in LED luminaires and installation accessories in insulated ceilings.

halogen-free

LED

Installation housing ThermoX® Iso +.

The **installation housing ThermoX® Iso +** is the optimal solution for the installation of LED luminaires and installation accessories in external ceilings using the composite thermal insulation system (WDVS). It provides secure space for LED luminaires up to 8 Watt as well as the ballast device. The installation housing is suitable for all standard insulating materials, for example, wood fibre insulation, foam glass, mineral foam or expanded polystyrene (EPS).

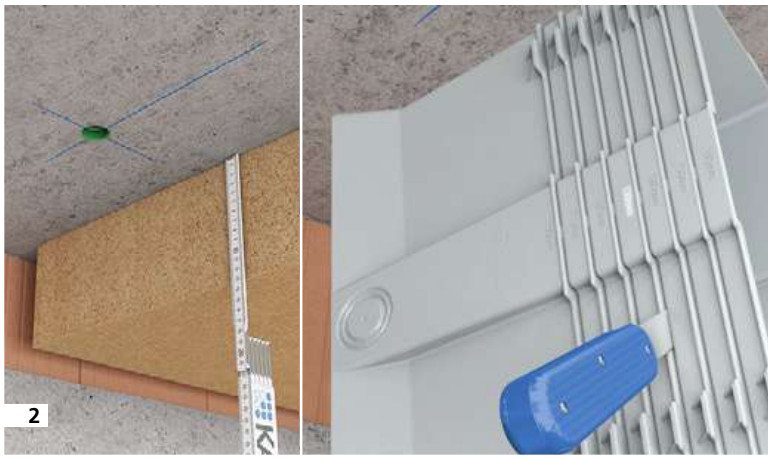
Secure and heat bridge-free installation of rigid and swivelling built-in LED luminaires in insulated ceilings. The housing protects the surrounding insulation material against the high operating temperatures of the LED luminaire and protects the LED luminaire itself against dirt.

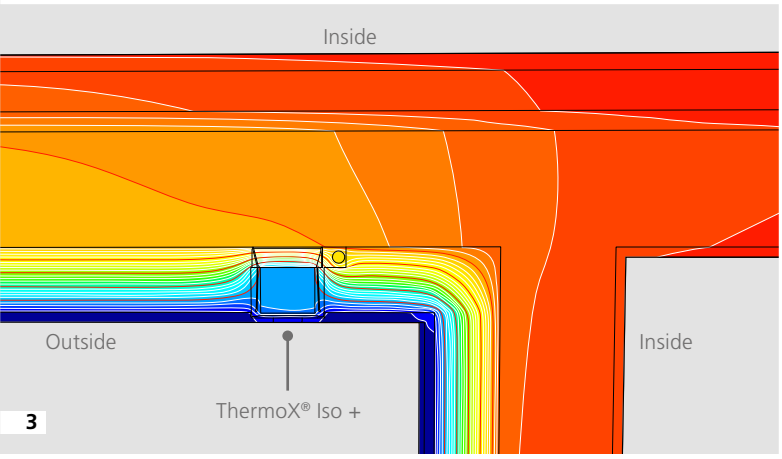
The integrated insulation element reliably prevents heat bridges. The insulation thickness is adjustable from 100 mm to 160 mm in 10 mm increments simply by cutting off the housing. Depending on the insulation thickness, the installation depth for the LED luminaire or any other installation accessory varies between 70 mm and 130 mm. For insulation thicknesses from 170 mm to 350 mm, the extension element is simply installed behind the housing. The extension element can also be adjusted in 10 mm increments.

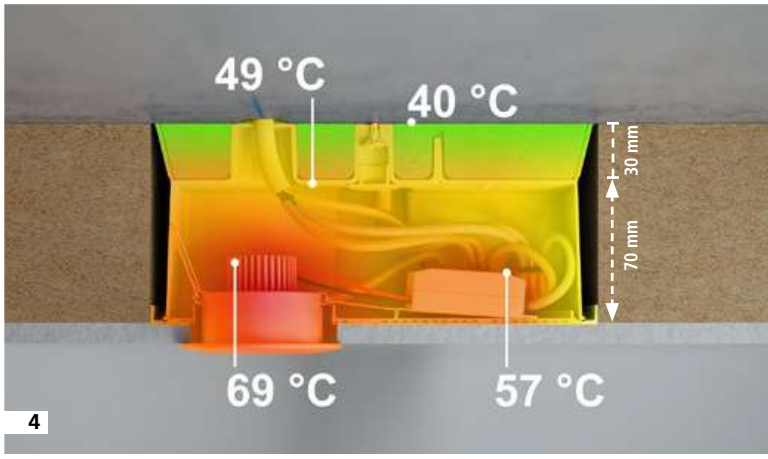
The front panel has a fixed installation diameter of 68 mm for knocking out or a universal useable area up to Ø 86 mm for cutting out.

BAKA Award

The BAKA Bundesverband Altbauerneuerung e. V. and the Munich Trade Fair under the auspices of the Federal Ministry of the Interior, Building and Community recognised pioneering product ideas and system solutions specially for applications in existing buildings with the **"2019 BAKA Prize for Product Innovation"**.







1 The **installation housing ThermoX® Iso +** can be used individually or in a group. Many entry possibilities for conduits and cables.

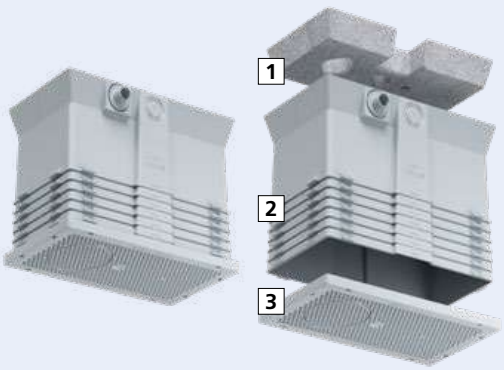
2 The housing is suitable for insulation thicknesses of 100 - 160 mm - even up to 350 mm with an extension element.

3 A **heat bridge calculation** by the Passivhaus Institute in Darmstadt shows that additional heat losses caused by heat bridges in new energy-efficient buildings can be compensated. The installation housing is also suitable for use in passive houses.

4 Temperature profile: installation housing ThermoX® Iso + for external insulation (ambient temperature 25 °C) with 8 Watt LED illumination.

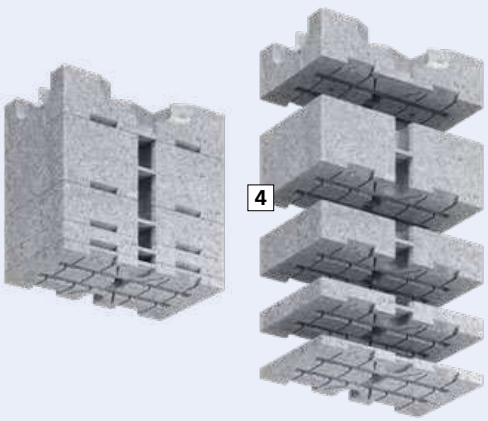
Fixed 68 mm installation diameter for knocking out or individual shape for cutting out up to a size of Ø 86 mm.

Installation housing ThermoX® Iso +
Art. No. 1159-70



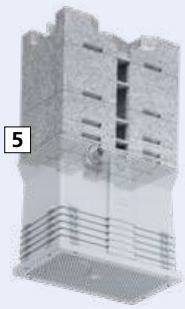
1 Insulation element, **2** ThermoX® Iso +,
3 Front panel (Art. No. 1159-70)

Extension element
Art. No. 1159-71



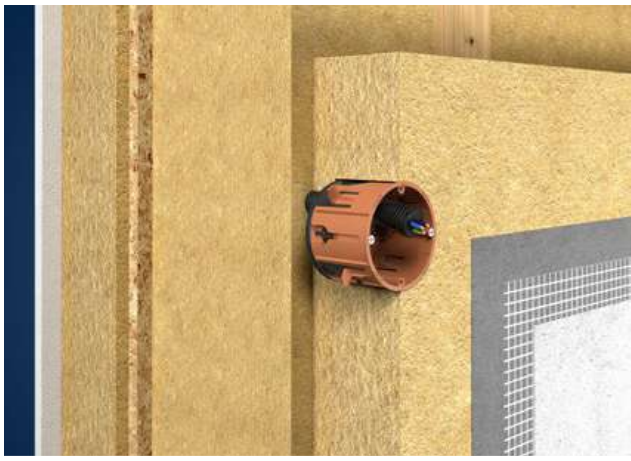
4 Extension element
(Art No. 1159-71)

Combination
Art. No. 1159-70 +
Art. No. 1159-71



5 ThermoX® Iso +
with extension element

You can find our cutter in various diameters starting on P. 43.



One-gang junction box for wood fibre insulation materials. **ECON® Iso +**

The **ECON® Iso + one-gang junction box** is the solution for electrical installation work in wood fibre insulation boards. Four swivels, specially designed for use in solid heat insulation and plaster base boards, ensure secure anchoring – also for retrofitting!

The **ECON® technology** elastic sealing membrane guarantees air tightness and allow toolless insertion of conduits and cables. This means that switches, sockets, intercoms and many more can be installed permanently and securely and heat bridge-free.

- Air-tight and heat bridge-free electrical installation in accordance with DIN 18015-5
- Suitable for pressure-resistant insulation panels of 60 mm thickness and higher
- 4 swivels for secure mechanical anchoring
- Combinations are also possible

3 time award winner in 2019:

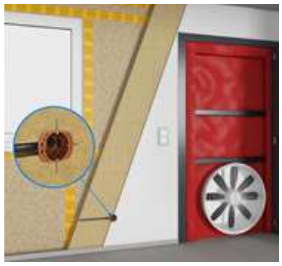
B+B Bauen im Bestand
Produkt des Jahres 2019
Sieger in der Kategorie Energetische Sanierung

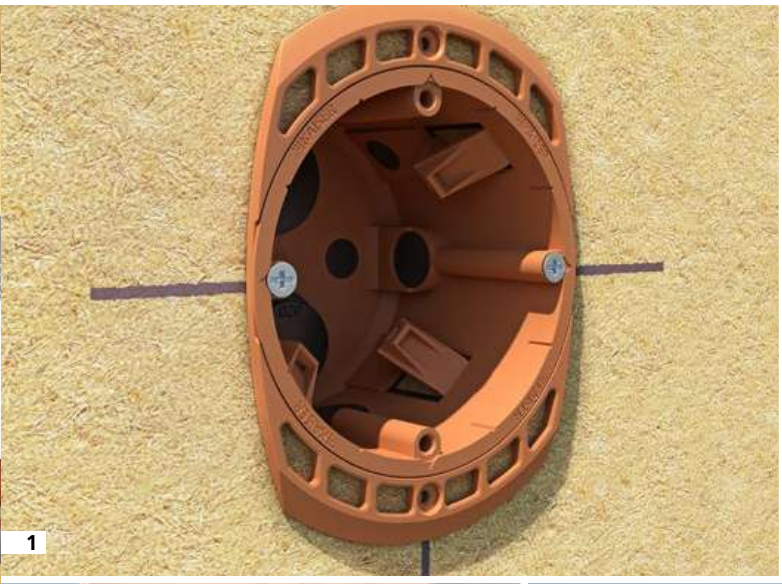
PRODUKT 2019 DES JAHRES elektrobetrieb smarthouse

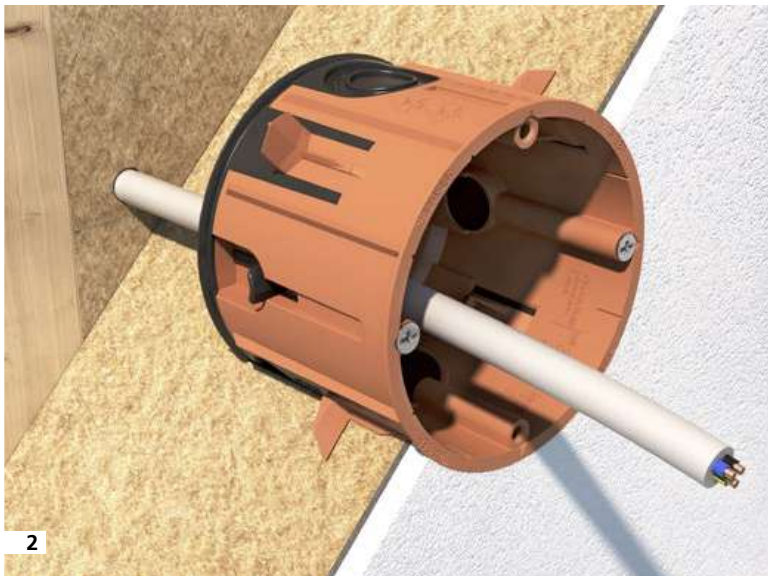
BAKA Award

Ecological wall insulation in old and new buildings in both wood and solid constructions. ECON® Iso + is suitable for mounting in pressure-resistant wood fibre insulation boards with a medium gross density of 110 - 180 kg/m³.

Certified. The heat bridge calculation and the proof of air tightness verify the suitability of **ECON® Iso +**.

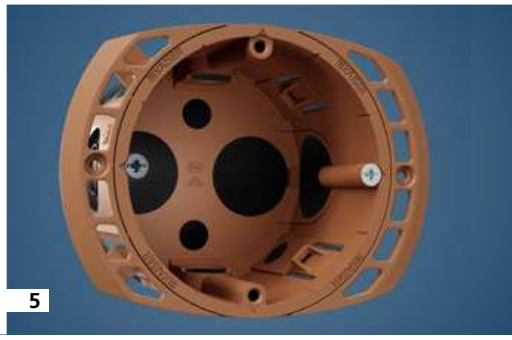



1


2


3


4


5

1 Mounting in unplastered insulation panels – use a mounting frame.

2 Mounting in plastered insulation panels is possible even with an existing cable.

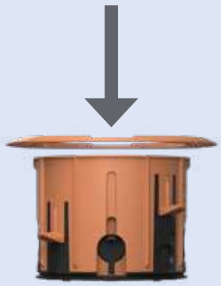
3 The membrane that seals the swivel guarantees air tightness.

4 Plenty of entry options using **ECON® technology** for conduits and cables.

5 Plenty of installation space and four attachment points for user-friendly mounting of the installation accessories.

Wood fibre insulation materials

For mounting in wood fibre insulation material before and after plastering.



One-gang junction box ECON® Iso +

Synthetic insulation materials

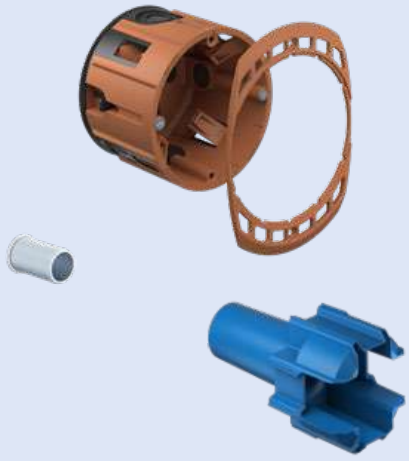
For retrofitting in a composite thermal insulation system (WDVS) with synthetic insulation materials (e.g. EPS).

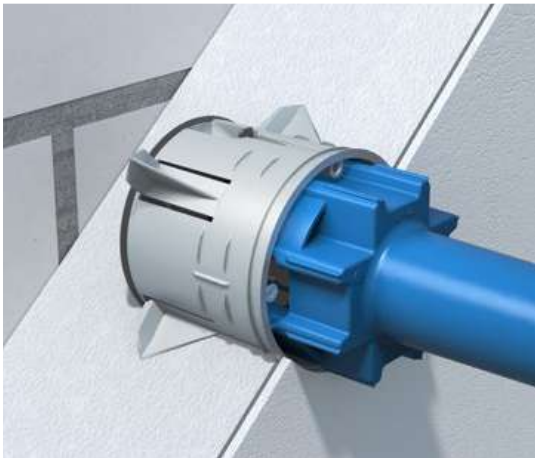
see p. 44

One-gang junction box ECON® Styro55

One-gang junction box ECON® Iso +
Art. No. 1159-55

Retrofitting





Secure anchoring without heat bridges. **ECON® Styro55.**

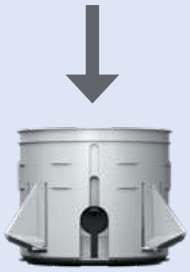
The ECON® Styro55 one-gang junction box makes possible the retrofitting of accessories such as sockets and switches in organic composite thermal insulation systems (WDVS). The process is fast, secure and without heat bridges. The box is easily and quickly inserted and fixed into position.

- For retrofitting in insulated facades
- Cutter system prevents damage to cables
- Guaranteed heat bridge-free installation
- 4 swivels for secure anchoring
- No moisture penetration

Using the **KAISER hardened metal cutter 180** (Ø 68 mm) and the centering aid, the composite thermal insulation system is opened exactly and only as deep enough as is required. There is no damage to existing cables.

ECON® technology with its toolless and air-tight entry prevents cold draughts from getting into the masonry when cables are feed directly.

The box is fixed into position by the **KAISER setting tool** after being pressed into the WDVS. The swivels cut themselves firmly into the insulation material, which ensures a permanently secure fit for the box.

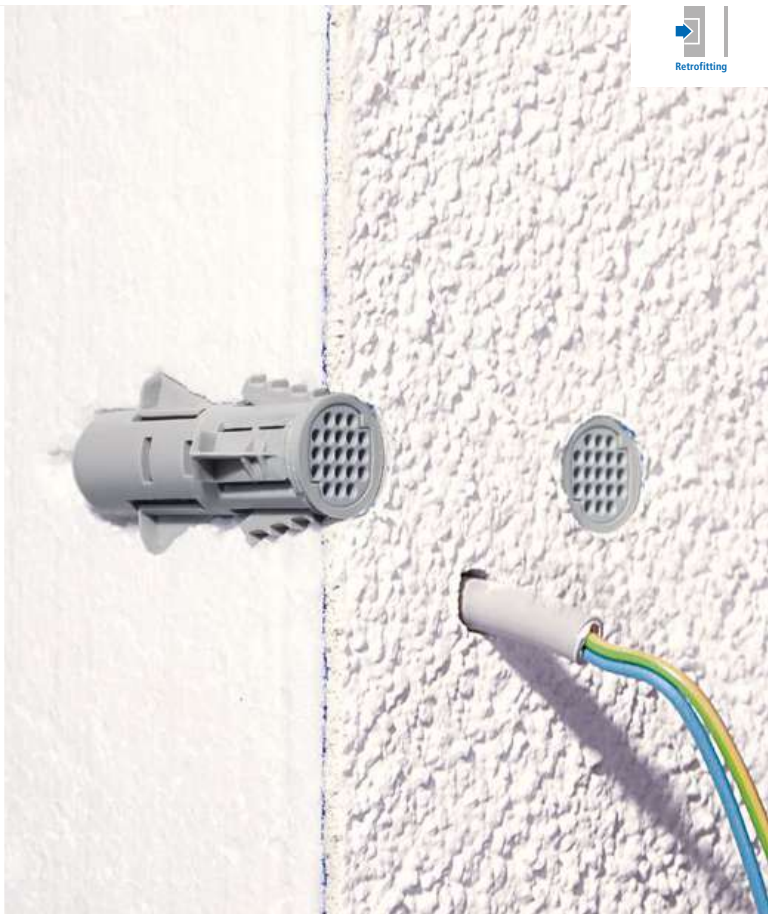
Synthetic insulation materials	Wood fibre insulation materials
For retrofitting in a composite thermal insulation system (WDVS) with synthetic insulation materials (e.g. EPS).	For mounting in wood fibre insulation material before and after plastering.
	
One-gang junction box ECON® Styro55	**One-gang junction box ECON® Iso +**

see P. 42

One-gang junction box ECON® Styro55
Art. No. 1555-51

Retrofitting

The setting tool and centering aid can be found on p. 43



Flush fit without heat bridges.
Mini equipment carrier.

The mini equipment carrier is ideal for the secure, wall-flush fixing of accessories such as luminaires, cameras, motion detectors, letter boxes and many other systems which need to be fitted to installed composite thermal insulation systems.

- For retrofitting in insulated facades
- 4 swivels for secure anchoring
- Exact, flush alignment of accessories
- Guaranteed heat bridge-free installation
- No moisture penetration

The mini equipment carrier consists of two parts and can be firmly anchored quickly and easily into the composite thermal insulation system (WDVS).
The special mounting surface ensures precise alignment – a big advantage compared to conventional fixing elements, especially in the case of multiple fixings.

The KAISER hardened metal cutter (Ø 20 mm) makes an exact opening in the WDVS. The anchor sleeve is knocked in and then the attachment core is pressed in. The swivels anchor themselves in the insulation material and provide a secure fit for the mini equipment carrier.

Mini equipment carrier
Art. No. 1159-50

Energy efficient electrical installation.
At a glance.

Air-tight insulation.

halogen-free

All KAISER boxes and casings for cavity wall mounting as well as several accessory parts are available as halogen-free products. These products are available in white to identify them as such.

Cavity wall | ECON® tech-

One-gang box O-range ECON® 63
9263-22 | p.14

One-gang junction box O-range ECON® 64
9264-22 | p.14

2-gang junction box O-range ECON® 2
Art. No. 9252-22 | p.16

3-gang junction box O-range ECON® 3
Art. No. 9253-22 | p.16

4-gang junction box O-range ECON® 4
Art. No. 9254-22 | p.16

Conduit one-gang junction box O-range ECON®
9266-22 | p.18

Cavity wall | Air-tight products

Junction box Ø 120 mm O-range ECON®
9273-91 | p.18

Electronics box O-range ECON® Flex
9268-94 | p.20

O-range ECON® Data
Art. No. 9280-22 | p.21

One-gang junction box
9066-01| p.22

One-gang junction box for solid wood
9066-12 | p.22

One-gang box for thin boarding
9068-01 | p.22

One-gang box CEE
9075-12 | p.22

Electronics box
9062-94 | p.22

Wall light connection box
9248-01 | p.22

Support connector
9060-98 | p.22

Sealing insert
1040-01 | p.23

Sealing foil
9060-41 | p.23

Cavity wall | Installation coverings

ThermoX® LED
9320-10 | p.24

ThermoX® LED
9320-11 | p.24

ThermoX® LED
9320-20 | p.24

ThermoX® LED
9320-21 | p.24

EnoX® luminaire and loudspeaker housing
9350-21 | p.27

EnoX® sealing foam frame
9350-99 | p.27

ThermoX® housing for LV and HV luminaires
9300-01/02/03 | p.26

ThermoX® universal housing with mineral fibreboard
9300-22 | p.26

ThermoX® decorative coverings
9301-... | p.26

ThermoX® individual front rings
9300-41/42/43 | p.26

ThermoX® universal front part
9300-93 | p.26

Sealing sleeves

Air-tight sleeves for cables
9059- | p.28

Air-tight sleeves for conduits
9059- | p.28

Multi cable sleeves ECON®
9059-61| p.28

Multi conduit sleeves ECON®
9059-62 | p.28

Aluminium butyl sealing sleeves for cables
9079- | p.30

Aluminium butyl sealing sleeves for conduits
9079- | p.30

Fleece butyl sealing sleeves for cables
9089- | p.30

Fleece butyl sealing sleeves for conduits
9089- | p.30

Primer
9000-02 | p.30

Air-tight installation.

Sealing plugs

M16
1040-16 | p.31

M20
1040-20 | p.31

M25
1040-25 | p.31

M32
1040-32 | p.31

M40
1040-40 | p.31

Flush-mounting | Air-tight boxes

One-gang box ECON® 10
1055-21 / 1056-21 | p.32

One-gang junction box ECON® 15
1555-21 / 1555-21 | p.32

Electronics box ECON®
1068-21 | p.32

2-gang junction junction box ECON®
1656-21 | p.32

Tools

Ø 68 mm
Ø 74 mm

Turbo cutter MULTI 4000
1083-10 / 1084-10

Ø 68 mm
Ø 74 mm

Hardened metal cutter MULTI 2000 HM
1083-70 / 1084-70

Ø 86 mm

Bi-metal cutter Ø 86 mm
1087-86

Centering insert 68/74
1083-99

Ø 24 - 68 mm
Ø 65 - 120 mm

VARIOCUT
1089-00/10

Universal opening cutter
1085-80

Dust extraction
1088-16/21/41

Ø 68 mm
Ø 82 mm

Diamond grinding head for dust extraction
1088-02/03

Drilling template
1190-65

Profix distance cutter
1083-25

Profix distance cutter with dust extraction
1083-27

Distance support
1159-34

Tunnel connector
1159-36

KLEMMFIX®
1159-02

Signal cover
1181-60

Universal VDE cover
1184-90

Installation in insulation systems.

Internal insulation

Internal insulation box
1159-90 | p.34

External insulation | Equipment carriers

Universal equipment carrier
1159-24 | p.36

Extension element
1159-27 | p.36

Telescope equipment carrier
1159-60 | p.36

System equipment carrier 160 - 240 mm
9966-21| p.36

External insulation | Installation housings

Installation housing ThermoX® Iso + | Extension element
1159-70 | 1159-71 | p.40

External insulation | One-gang boxes

Universal equipment carrier with combination insert
1159-26 | p.38

Telescope one-gang box
1159-61 | p.38

Combination one-gang box
1159-62 | p.38

System equipment carrier 160 - 240 mm
9966-31 | p.38

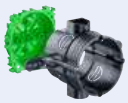
For solid heat insulation and plaster base boards.
Ø 68 mm

One-gang junction box ECON® Iso +
1159-55 | p.42

Ø 68 mm

One-gang junction box ECON® Styro55
1555-51 | p.44

Fixing



ISO box set
1155-03

ISO extension ring
1155-02

Ø 20 mm

Mini equipment carrier
1159-50 | P.45

Tools

Ø 68 mm
Ø 20 mm

Hardened metal cutter 180 / Hardened metal cutter Ø 20 mm
1088-06/07

Setting tool Styro55
1090-22

Centering aid Ø 68 mm
1090-68

Systems and solutions for professional electrical installation work.

KAISER has been developing and producing systems and products as the basis for professional installation work since 1904. Planners and fitters all over the world use our practical solutions for their daily work in all installation areas.

Energy efficiency.

Innovative KAISER products help you to ensure compliance with the requirements of EU directives and national regulations such as the Energy Savings Regulation (EnEV).

Radiation protection.

The use of the new radiation protection boxes allows the radiation protection of the wall to be maintained without additional shielding measures.

Fire protection.

KAISER fire protection systems provide reliable solutions for electrical installations in fire-protection walls and ceilings.

Building.

KAISER has matching product system solutions for safe, durable and practical use in refurbishment, renovation and modernisation projects.

Sound insulation.

KAISER's innovative sound insulation boxes ensure compliance with the construction requirements for sound insulation walls, also for built-in installations.

Concrete construction.

Complete systems for on-site mixed concrete and precast concrete. Fully optimised for professional electrical installation work.

Technical information and advice

All further information on products, system solutions and communication media can be found on our website:
www.kaiser-elektro.de

For any additional questions or information, please do not hesitate to contact our technical support team who will be happy to assist you: **+49 (0) 23 55 / 809-61** · **technik@kaiser-elektro.de**

KAISER GmbH & Co. KG
Ramsloh 4 · 58579 Schalksmühle
GERMANY
Tel. +49 (0) 23 55 / 809-0 · Fax +49 (0) 23 55 / 809-21
www.kaiser-elektro.de · info@kaiser-elektro.de

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