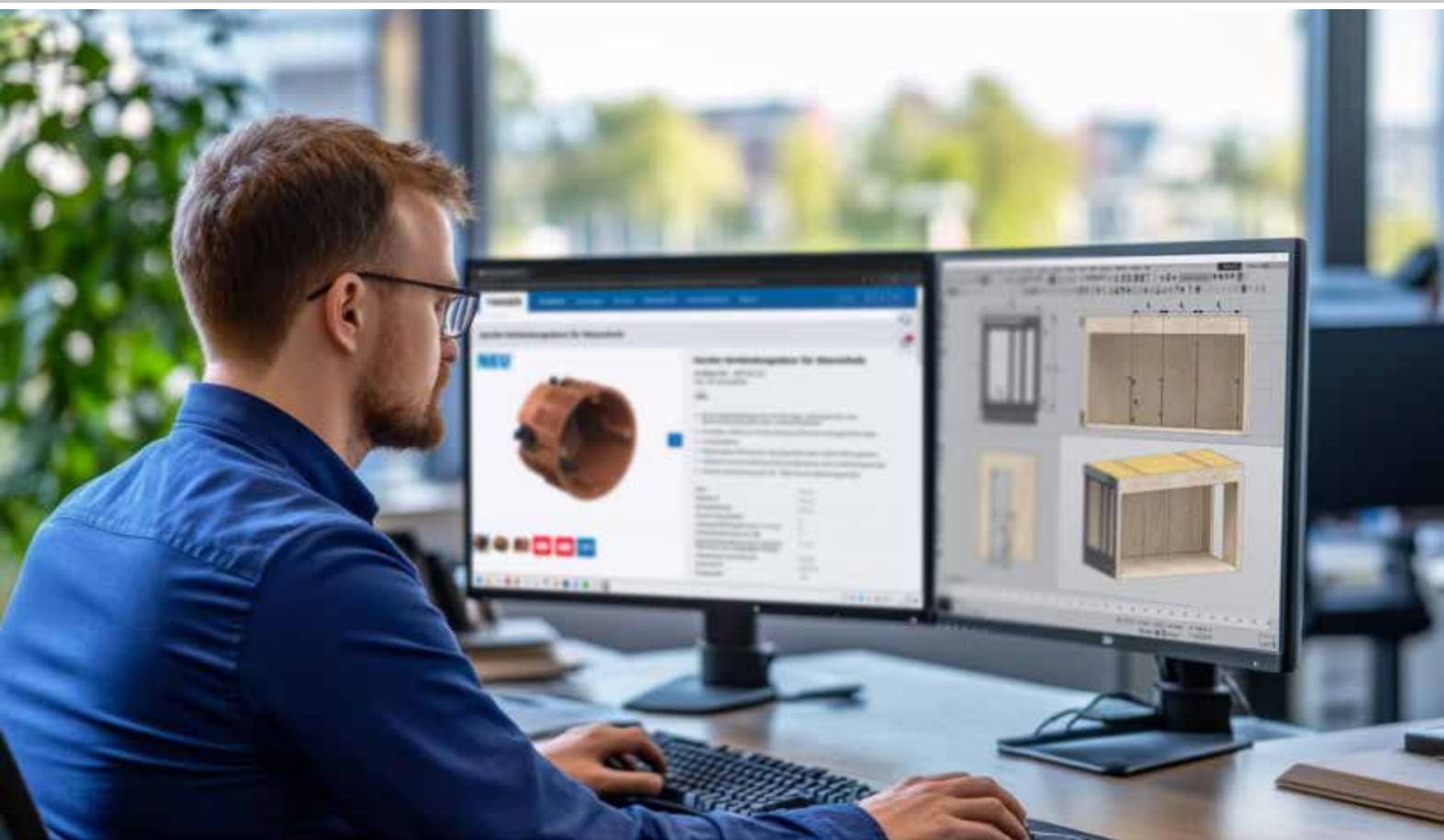


Electrical installation in timber construction.

Innovative, safe and certified.

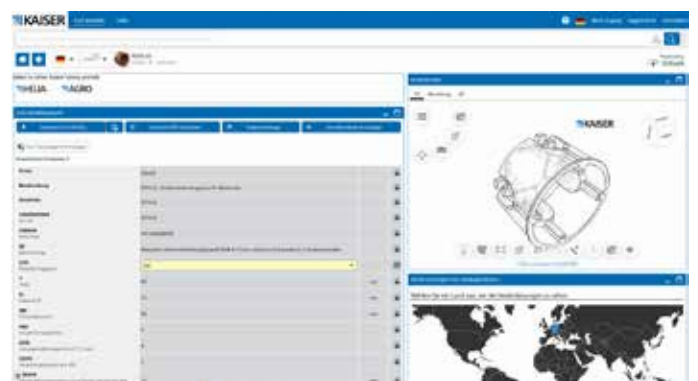




Electrical installation in timber construction. **With KAISER BIM data.**

**Optimal interface for planning / workshop planning /
tendering / execution / billing**

At kaiser.partcommunity.com, planners, architects and engineers can access 3D multi-BIM CAD data – including BIM data for Revit from Autodesk, Allplan from Nemetschek and Archicad from Graphisoft – for timber construction products. The engineering data can be configured online and, after registration, downloaded in over 100 common CAD formats in 3D and 2D into the respective CAD system and incorporated into your own 3D planning.





Requirements	Product solutions	
Planning data for electrical installation in timber construction.	With KAISER BIM data.	2
Electrical installations in industrially prefabricated timber construction.		4–5
Fire protection.		
In timber frame construction.	HWD 90 fire protection boxes.	6
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In solid timber construction.	PROTECT® fire protection box.	8
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Heat bridge-free installation.	Telescope switch box, universal equipment carrier, extension element, installation housing ThermoX® Iso +.	14
Air-tight feed-throughs.	Sleeve and sealing plugs.	15
Trust.	More than 100 years experience.	16
Quality.	Certified safety.	17
Electrical installation in timber construction.	KAISER products at a glance.	18–19



Electrical installation in industrial prefabricated timber construction.

The planning and execution of electrical installations in industrially prefabricated timber construction requires adjustments to modern construction processes and building physics.

Timber construction is divided into timber frame construction, such as panel or modular construction, and solid timber construction with cross-laminated timber or stacked timber, with each method having its own specific requirements.

Digital and automated planning processes, such as BIM planning, optimise production and allow for precise prefabrication of the components, including the technical building equipment.

The selection of suitable electrical installation boxes and housings depends on the function of the operating resources (such as switches, information and communication technology or fibre optic connections, sockets, sensors, actuators, room thermostats, loudspeakers, luminaires, etc.) and the space required for the device inserts, electronic components and cables, terminals, while maintaining permissible bending radii.

In conjunction with digital planning techniques and the right electrical installation products, modern timber construction enables efficient and sustainable construction methods that meet both traditional and innovative requirements.

- **Timber construction**

A distinction is made between timber frame construction (e.g. prefabricated house/module construction) and solid timber construction, where the components perform both design and load-bearing functions and play a role in the building's structural physics.

- **Product requirements**

Electrical installation products must support the manufacturing processes and meet the construction standards.

- **Building physics aspects**

Air-tightness, fire protection, sound insulation and moisture protection must be ensured despite the prefabricated electrical installation.

- **Electrical installation boxes and housings**

These are selected based on their intended use (switches, sockets, network connections) and the space requirements for cables and components.

- **Wall and ceiling transitions**

These facilitate the safe and air-tight installation of electrical installation conduits and prevent damage during transport or assembly.

- **Sustainability**

Timber construction supports sustainable building by reducing CO₂ emissions and providing a good energy balance.



Timber frame construction. Panel construction.

Timber frame construction is an efficient and flexible construction method for houses based on prefabricated wall and ceiling elements.

It consists of a skeleton made of wooden studs and beams, which is boarded with insulation material and panels. The load-bearing elements are mostly made of solid construction timber, and the spaces in between are filled with insulation materials, such as mineral wool or wood fibre insulation.

A major advantage of this method is the high degree of prefabrication, as wall elements are already equipped with windows, doors, electrical installations and insulation at the factory.

This results in a fast construction time, high energy efficiency and flexibility in design. In addition, the combination of timber frame, insulation and boarding offers good thermal, sound and fire protection as well as optimal moisture protection.

Overall, timber frame construction combines the advantages of the natural building material wood with modern, sustainable construction technology.

Solid timber construction. Glued laminated timber/cross-laminated timber.

Solid timber construction with prefabricated modules in glued laminated timber or cross-laminated timber construction is an innovative and sustainable method of timber construction. This construction method combines the advantages of traditional solid timber construction with the efficiency of industrial prefabrication.

- Glued laminated timber consists of wooden boards arranged next to each other, while cross-laminated timber (CLT) consists of crosswise glued wooden layers, which achieves greater stability.
- Each module is planned in detail and manufactured in controlled environments with precise cutting and drilling, often including electrical installation and interior fittings.
- This can reduce construction time by up to two-thirds.
- Series production reduces tolerances and costs.
- The modules can be flexibly expanded and redesigned.
- Wood stores CO₂ and reduces the ecological footprint.

Typical areas of application are multi-storey residential buildings, student halls of residence, schools, day-care centres, hotels and care homes. High fire protection requirements can be met despite the use of wood as a building material.

Overall, solid timber construction with prefabricated modules offers a sustainable, efficient and flexible solution for modern construction tasks.



Professional and standardised. HWD 90 fire protection boxes.

Since the introduction of the first fire protection box for fire protection walls in 2006, the range of applications has been continually expanded.

Thanks to the further development of AFS technology, the new fire protection boxes have a fire resistance duration of up to 120 minutes. In addition, the German Institute for Building Technology (DIBt) has now extended the approval of the fire protection boxes to wooden walls in timber frame and timber panel construction to F60-B.

The fire protection boxes can be installed in the usual simple way. When complying with the fire resistance class EI120, up to five-fold combinations can be installed directly opposite each other. For class F60-B, a maximum of three-fold combinations are permitted opposite each other.

All HWD 90 type boxes fully maintain the sound insulation function up to a sound insulation level of 77 dB.

For EI30 – EI120, F30-B/F60-B fire protection walls

- Maintains the wall's sound insulation protection.
- Retrofitting is possible.
- With a fire protection cover, can be used as a junction box.
- For directly opposing installations.



Timber frame construction.
Panel construction.



Animation



Website



HWD 90 one-gang box
Other variants: Page 18



Safety in timber construction.

HWD 68+ fire protection boxes.

The HWD 68+ fire protection cavity wall boxes feature the proven KAISER AFS technology, with an enveloping insulation layer that intumesces within a very short time in the event of a fire and automatically seals the installation openings in the fire protection wall.

The spread of fire, smoke gas and high temperatures to other rooms is effectively prevented and emergency routes are secured. Even when installed opposite each other, the functionality of the fire protection wall is maintained without the need for costly sheathing of the installation, for example with plaster or fibre silicate.

For fire protection walls F30-B and F60-B

- For timber frame or timber panel construction walls.
- Also for wall systems with wood fibre insulation.
- Retrofitting is possible.
- For directly opposing installations.



Timber frame construction.
Panel construction.



Animation



Website



HWD 68+ one-gang box
Other variants: Page 18



For installation in solid timber. **PROTECT® fire protection box.**

The new PROTECT® solid wood one-gang junction box has been specially developed to meet the requirements of installation in solid wood elements.

The fixing by means of ribs and the innovative wire entries ensure optimum and standardised installation in a solid wood element in exposed wood quality without additional cutting or effort.

Thanks to their arrangement and design, the wire entries ensure flexible wire entry and thus compensate for the installation tolerances that occur during cable routing in the solid wood element.

In addition, the PROTECT® solid wood fire protection one-gang junction box maintains the fire resistance of the solid wood element from F30-B to F120-B without the need for additional encapsulation.

Maintains the F30-B to F120-B fire resistance duration

- Toolless installation thanks to rib fastening.
- Innovative wire entry enables tolerance compensation of the cable route.
- Simple and toolless wire entries up to Ø 11.5 mm.
- For Ø 74 mm installation openings.
- Preserves the sound insulation properties of the solid wood elements.



Solid timber construction. Glued laminated timber/cross-laminated timber.



Animation



Website



PROTECT® one-gang junction box
Page 18



Retrofitting is possible. Fire protection sealings.

Sealings in fire protection walls or ceilings are required as soon as electric cables are routed through walls or ceilings with a certain fire resistance class. In order to maintain the fire resistance class, the opening must be professionally sealed off to prevent the spread of fire and smoke and to ensure room separation.

The cable and conduit seals guarantee the necessary room separation by simply pressing them into the component opening. Additional fire protection measures are not required.

The PROTECT® cable and multiple seal and the LS 90 cable seal and RS 90 pipe seal can be retrofitted around existing cables and electrical installation conduits.

Maintains the F30-B to F120-B fire resistance duration

- Safe, certified fire protection solution.
- Without the use of fire protection putty.
- For cables from Ø 4–12.5 mm for multiple cable insulation and Ø 4–15 mm for single cable insulation.
- Toolless installation.



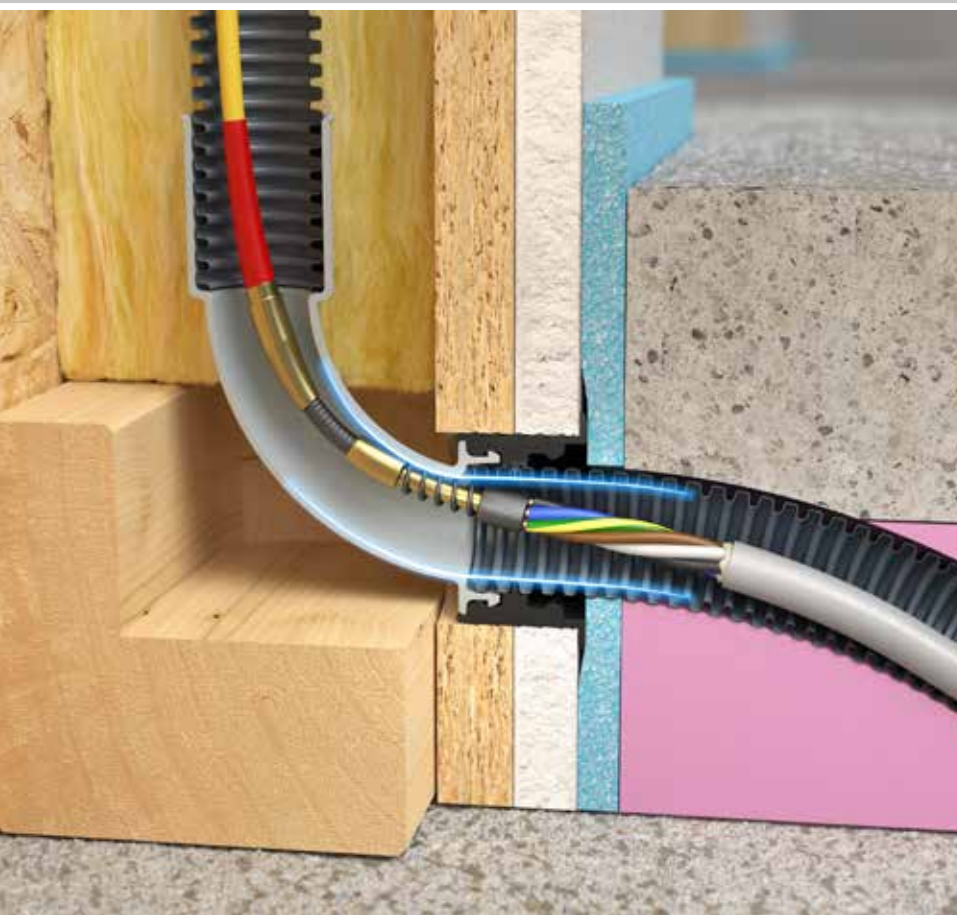
Solid timber construction. Glued laminated timber/cross-laminated timber.



Website



PROTECT® multiple sealing
Other variants: Page 18



For continuous empty conduits. 90° wall and ceiling transitions.

The new KAISER 90° wall and ceiling transitions for prefabricated house and modular construction guarantee an air-tight component seal at transition points and solve the problem of protruding electrical installation conduits. This ensures smooth transport of the wall elements or modules to the construction site and eliminates the additional work step of sealing the transition point on site.

The innovative transitions for front or rear installation of the empty conduit system in serial production ensure flexible cable entry from both directions. The 90° bend and clean catch mechanism to the wall connection element prevent abutting edges. The multi-piece design ensures optimum integration into modern production processes.

Universally applicable in different wall structures

- For air-tight connecting of electrical installation conduits at transition points.
- Air-tight component closure for front and rear installation in the boarding of wall elements or modules.
- Flexible cable pull-in from both directions is possible thanks to 90° bend without an abutting edge.



Timber frame construction.
Panel construction.



Website



90° wall and ceiling transition
Other variants: Page 18



Innovative cable entry. Solid wood one-gang junction box.

With the one-gang junction box for solid timber, installation in solid timber walls is significantly faster, easier and more efficient thanks to the rib fastening without lugs. Thanks to the innovative cable entries, which enable toolless installation, even holes drilled in the wrong direction for cable laying in the solid timber element can be easily compensated for. This ensures a clean installation in the installation opening, even in exposed timber quality.

The raised centring ribs and the centre markings on the holding edge and on the first row of ribs help to ensure that the one-gang junction box is aligned precisely and comfortably in the installation opening without tilting.

- Rib attachment for installation in solid timber walls.
- Innovative cable entries enable maximum tolerance compensation for holes drilled out of alignment for the cable route.
- Eight air-tight, toolless cable entries.
- Four screw domes for maximum flexibility for accessory fitting.
- Device screws with plus-minus drive.



The KAISER solid wood appliance junction box, also available as fire protection box PROTECT®, has been honoured with the **BAKA Award 2025** and stands for innovation and passion in craftsmanship.



Solid timber construction. Glued laminated timber/cross-laminated timber.



Animation



Website



One-gang junction box for solid timber
Page 18



1



2

Air-tight cavity wall installation with ECON® technology.

With the **O-range ECON® 2 / 3 / 4 one-gang junction boxes** (Figs. 1, 3, left), KAISER offers the perfect basis for a particularly easy-to-mount installation of all common installation accessories in multiple combinations. O-range ECON® is suitable for use with pre-wired installation accessories and provides maximum flexibility when mounting devices. The separator enables the installation accessory spaces to be separated easily and in accordance with the standards for different power circuits or communication connections.

O-range ECON® Universal 120 installation housing (Fig. 2)

With the new O-range ECON® Universal 120 installation housing, KAISER ensures maximum flexibility on the construction site. In addition to the wiring for an entire room unit, the installation of various accessories or installation accessories is also possible.

O-range ECON® Data (Fig. 3, right) offers outstanding ease of installation for the connection and installation of communication and network connection boxes or Keystone modules with optimal cable routing.

The air-tight **O-range ECON® Flex electronic box** (Fig. 4) is perfect for energy-efficient electrical installation in accordance with the German Energy Act for Buildings (GEG). The flexible tunnel makes it easy to install, and creates space for electronic components, cable reserves and terminals.

O-range ECON® products

- Air-tight design with sealing membranes.
- Toolless cable or conduit entries.
- Variable conduit entry angle of up to 90° for installation opposite each other, even in slim wall elements.



3



4

Timber frame construction.
Panel construction.



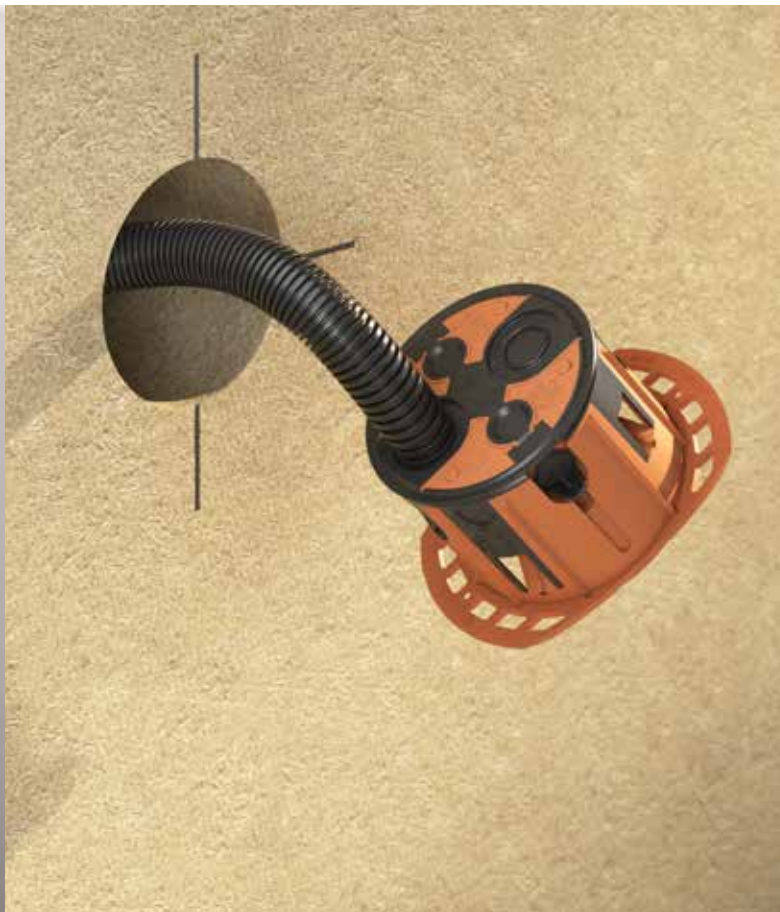
Animation



Website



O-range ECON®
Other variants: Page 18



Quick installation. With a secure fit. **Air-tight ECON[®] Iso +.**

The ECON[®] Iso + one-gang junction box is the solution for electrical installation work in wood fibre insulation boards. The box, which can also be retrofitted, has four swivel cutters for secure anchoring in solid heat-insulating and plaster base boards.

The ECON[®] technology elastic sealing membrane guarantees air tightness and allows the toolless insertion of conduits or cables. This means that switches, sockets, intercoms and much more can be installed permanently and securely as well as heat bridge-free.

- Air-tight and heat bridge-free electrical installation in accordance with DIN 18015-5.
- Suitable for pressure-resistant insulation boards in thicknesses from 60 mm and a gross density of 110 kg/m³.
- Four swivels for secure mechanical anchoring.
- Combinations are also possible.
- Special milling cutter 1088-07 prevents damage to cables during subsequent installation.



Solid timber construction. Glued laminated timber/cross-laminated timber.
Timber frame construction. Panel construction.



Animation



Website



ECON Iso + one-gang junction box
Page 18



In or on the façade. Heat bridge-free installation.

Electrical installations for all common types and thicknesses of insulation materials

Today's future-oriented building technology must also satisfy some very strict building standards, in addition to the user's requirements with regards to the architecture and function, amongst others, those for achieving the required energy standards. The objective here is to reduce energy consumption through greater efficiency.

Using proactive planning, intelligent technology and suitable materials, we can tap into previously unrealized energy-saving potential – completely in line with the EU directive regarding building efficiency as well as national regulations. As a positive side effect, this results in more living comfort, better working conditions and higher savings potential.

Innovative KAISER products support you with this, so that you can comply with the increased requirements of EU directives as well as national regulations, especially the German Buildings Energy Act (GEG, formerly EnEV). We offer you the right products for installation and fixing for thermal bridge-free electrical installation in or on the façade, which can also be carried out as retrofitting.

Installation on the masonry

- Telescopic switch box and equipment carrier.
- Universal equipment carrier and extension element.
- Thermox® Iso + installation housing.

Retrofitting in a finished composite thermal insulation system

- ECON Iso + one-gang junction box (see page 13).



Timber frame construction. Panel construction.



Animation



Website



Universal equipment carrier
with combination insert
Other variants: Page 19



Air-tight feed-throughs. Sleeve and sealing plugs.

Air-tight conduit and wire feed-throughs in indoor areas can be achieved cleanly and conveniently using the self-adhesive KAISER air-tight sleeves. Compared to improvised methods, the sleeves provide faster, more stable and, above all, air-tight transitions. Cables or conduits are fed through a tightly enclosing anti-kink sleeve, so that even pipes and ducts with sharp bends can be permanently sealed. The sleeve is firmly attached to an adhesive collar. The installation opening is completely sealed thanks to the particularly strong adhesive.

Air-tight sleeve

- For guaranteed air-tight feed-throughs especially in the attic.
- Twelve types for different conduit and cable diameters.
- Suitable for moisture barrier foils, sarking membranes, OSB panels.

Sealing plugs with ECON® technology are suitable for sealing common electrical installation pipes M16 – M40 / Pg 9 – Pg 36 / 3/4" and 5/8" in one-gang boxes or at cable exits. The long sealing plug with three sealing lips adapts to the installation conduit and ensures an airtight, smokeproof closure even for conduits cut at an angle.

Sealing plug

- For empty conduit installations in an air-tight design or in fire protection areas.
- Guaranteed air tightness.
- Toolless cable feed-through.
- Avoidance of tangled cables.



Timber frame construction.
Panel construction.

Air-tight sleeve
Other variants: Page 19



Website



Timber frame construction.
Panel construction.

Sealing plug
Other variants: Page 19



Website



Trust. Through experience.

KAISER installation systems leaves ample room for your planning creativity and technical installations of all kinds. KAISER product and system solutions are at home in all types of buildings. Architects and planners rely on our product know-how, which is just as innovative, forward-looking and durable as the items in which our products perform their function.

With decades of experience and our in-depth practical knowledge, which we have gained through constant dialogue with users and fabricators, we offer you the flexibility you need every day for your planning and installation. You can be sure that you are working with future-proof quality products that we are continuously developing to meet increasing market requirements and installation standards.

KAISER is behind it!

Since 1904, KAISER has been developing and manufacturing high-quality electrical installation products in Germany. Since then, many innovative ideas and reliable solutions from KAISER can also be found in important national and international buildings.

Four strong brands are united under the umbrella of the KAISER GROUP. At four European locations, products and systems for electrical installation are produced and distributed internationally. Together with the subsidiaries AGRO in Switzerland, ATTEMA in the Netherlands and HELIA in Belgium, KAISER is active throughout Europe.



- 1 Comprehensive school
Rinteln | ©Marcus Ebener
- 2 Residential and commercial district
kupa
Munich | ©Building
- 3 Trialogue
Hilden | ©Lioba Schneider /
MAY Architectural Design
- 4 The Cradle
Düsseldorf | ©INTERBODEN Group



4

High value electrical installation. Certified for your safety.

In modern timber construction, whether in timber frame construction or solid timber construction, certified safety plays a central role. In particular, when it comes to electrical installations, it is essential to meet the highest standards in order to ensure both building safety and energy efficiency.

Various certificates and seals of approval confirm compliance with current standards and regulations. They cover a wide range of aspects, from electrical and fire protection to sustainability.

These certifications give builders, planners and residents the assurance that their timber buildings are not only environmentally friendly but also state of the art in technical terms and completely safe.



Certificates

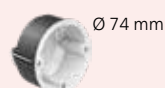
Electrical installation in timber construction.



Animation



Timber frame construction.



Ø 74 mm

**HWD 90
one-gang box**
9463-01



Ø 74 mm

**HWD 90
one-gang junction box**
9464-01



2 x Ø 74 mm

**HWD 90
electronics box**
9462-94



Ø 68 mm

**HWD 68+
one-gang box**
9463-03



Ø 68 mm

**HWD 68+
one-gang junction box**
9464-03



Fire protection cover
1184-94



Straight coupling
9060-68



Ø 38 mm

**90° wall and ceiling transition
Ø 20 mm**
9261-20



Ø 38 mm

**90° wall and ceiling transition
Ø 25 mm**
9261-25

Solid timber construction.



Ø 74 mm

**One-gang junction box
for solid timber**
9274-22



Ø 74 mm

**PROTECT®
one-gang junction box**
9464-05



Ø 30 mm

**PROTECT®
cable sealing**
9459-14



Ø 50 mm

**PROTECT®
multiple sealing**
9459-15



Ø 20 mm

**LS 90
cable sealing**
9459-01



Ø 35 mm

**RS 90
conduit sealing**
9459-02

Solid timber construction. Timber frame construction.



Ø 68 mm

**O-range ECON® 64
one-gang junction box**
9264-22



2 x Ø 68 mm

**O-range ECON® 2
one-gang junction box**
9252-22



3 x Ø 68 mm

**O-range ECON® 3
one-gang junction box**
9253-22



4 x Ø 68 mm

**O-range ECON® 4
one-gang junction box**
9254-22



Ø 68 mm

**ECON® Iso +
one-gang junction box**
1159-55



Ø 68 mm

O-range ECON® Fix
9264-12



Ø 68 mm

**O-range ECON® Flex
electronics box**
9268-94



Ø 120 mm

**O-range ECON Ø 120 mm
junction box**
9273-92



Ø 68 mm

**O-range ECON® Data
accessory connection box**
9280-22



O-range ECON® products
also available in a halogen-
free version

Sound insulation



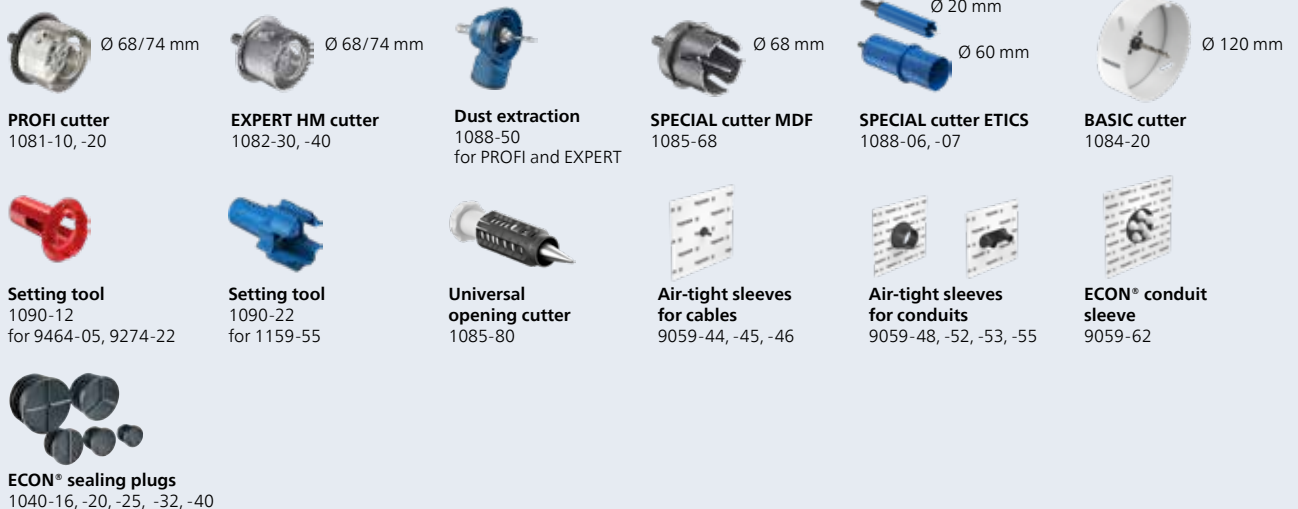
Installation housing



Thermal insulation system



Tools/ Accessories



Pluggable solutions
for electrical installation
in timber construction
save time and are efficient.

International products
from the KAISER GROUP for electrical
installation in timber construction

www.agro.ch
www.attema.nl
www.helia-elektro.be

KAISER, PARTNER OF THE TRADE.

You can only get this variety
from a strong brand.

Air-tight installation | Sealing sleeves,
Airtight installations, fire protection,
sound insulation, radiation protection,
data and network technology, clean
rooms, damp rooms, accessories and tools.

The basis for professional installation

- Brand-name products for perfect electrical installation
- Unique depth of range for all applications on the construction site
- Innovative boxes for fast, safe and reliable installation
- Media centre with tips and tricks for everyday installation work
- Professional system tools for daily use
- Comprehensive system accessories and helpers to make it perfect
- Always there for you – online, in print and, of course, in person



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 practice-oriented 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 German Energy Act for Buildings (GEG, formerly EnEV).



Radiation protection.

The use of the new radiation-protection one-gang 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.



Construction.

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



Sound insulation.

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



Concrete construction.

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

Technical information and advice

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

For additional questions or information, our team of technical consultants will be happy to assist you and look forward to talking to you: **+49 (0) 23 55 809 61** · technik@kaiser-elektro.de

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