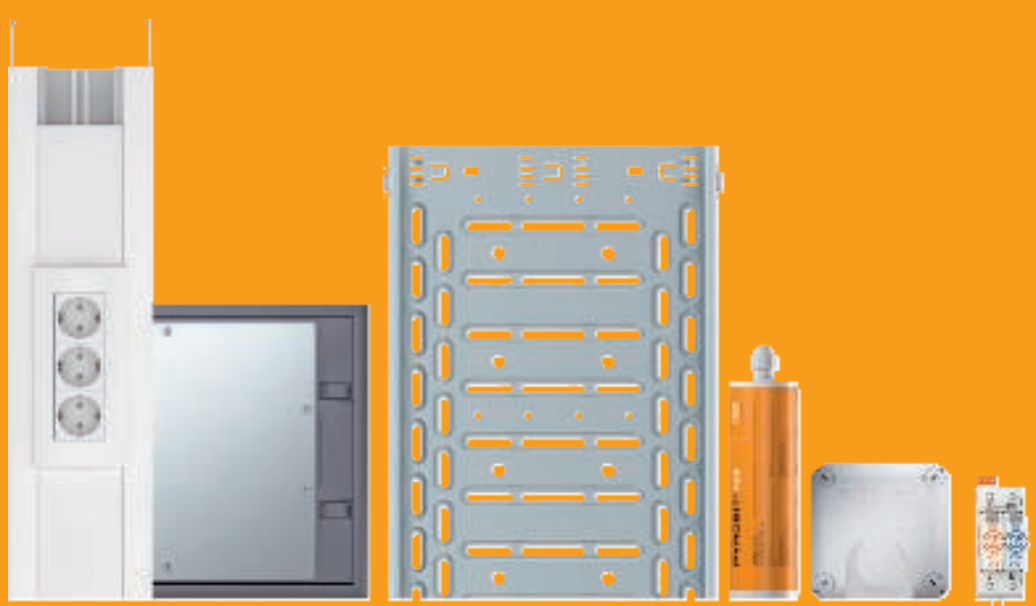
OBO Health care
Solutions for the health-care sector



OBO BETTERMANN

Think connected.
OBO stands for networked thinking and systematic actions. We connect our products into solutions for your complete project. In industrial, commercial, service and infrastructure facilities and in the field of health care. All over the world.

OBO Health care
Solutions for the health-care sector

In surgeries and hospitals, care and geriatric homes, solutions from OBO Bettermann ensure a fault-free supply of power and data. They fulfil functional criteria and also hygienic criteria, depending on the area of use. It is our aim to provide patients with the best possible protection and to offer the best technical support to medical personnel. With a powerful electrical infrastructure, health-care facilities can improve the efficiency of their processes. They create comfort and secure the quality of the medical care. OBO will gladly compile a portfolio of suitable products and systems for you. Countless customers in the health-care sector are a testament to our planning competence.

OBO BETTERMANN

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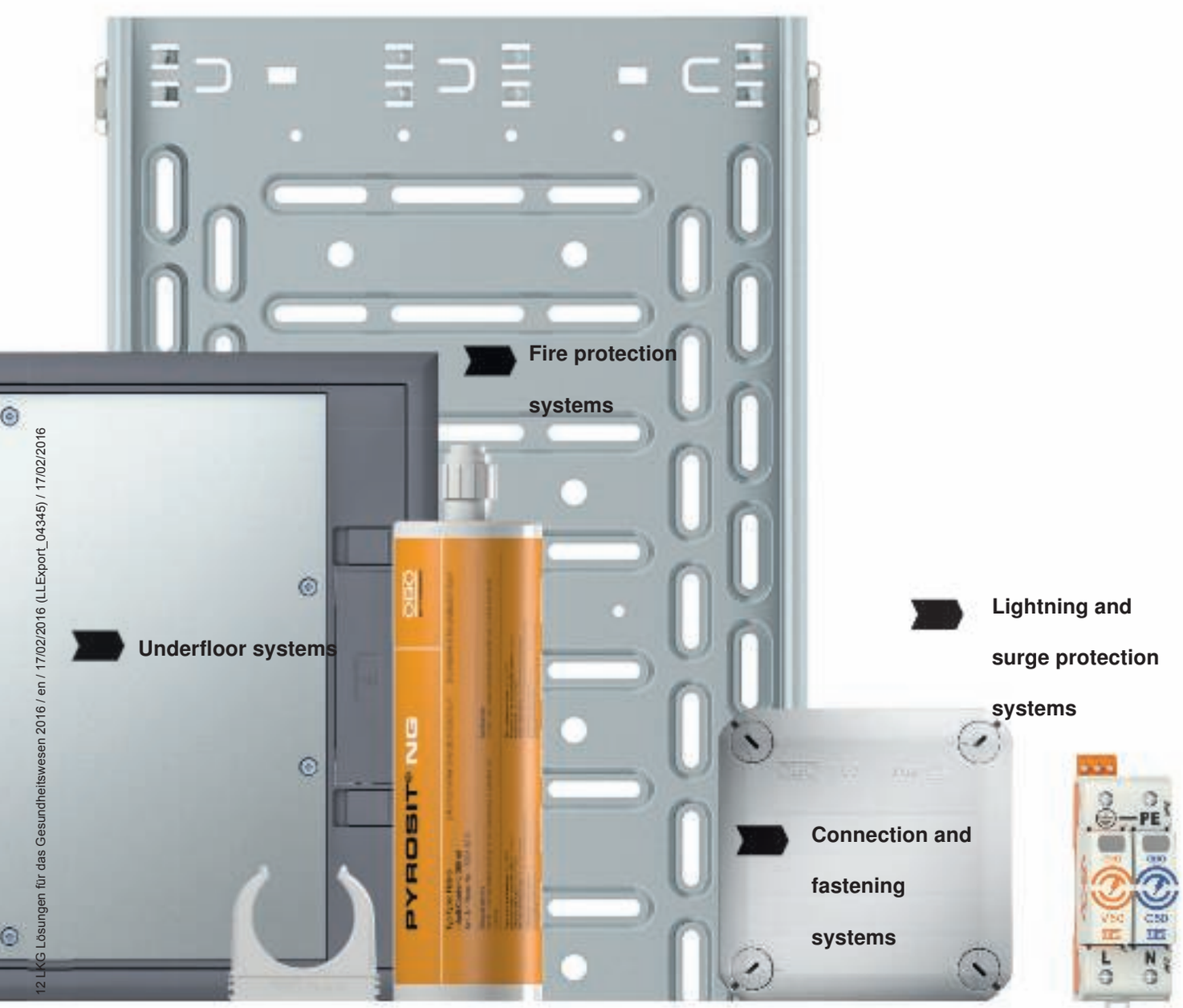
Fit for the future

From computer-aided diagnosis and operation through administration logistics up to the patients' rooms, hospitals, geriatric and care homes: all require a reliable supply of power and data.

OBO solutions are matched to the requirements of modern health-care facilities. Cable support systems run power and data cables through all the areas of the building. Underfloor systems form perfect interfaces for this. Device installation ducts with an antibacterial surface increase hygiene in treatment and patient areas. And, if an emergency occurs, fire protection systems, escape route installations as well as lightning and surge protection systems protect people and property. The OBO product range is certified around the world and fulfils all the relevant standards. This simplifies planning and implementation in new buildings, renovations and refurbishments.

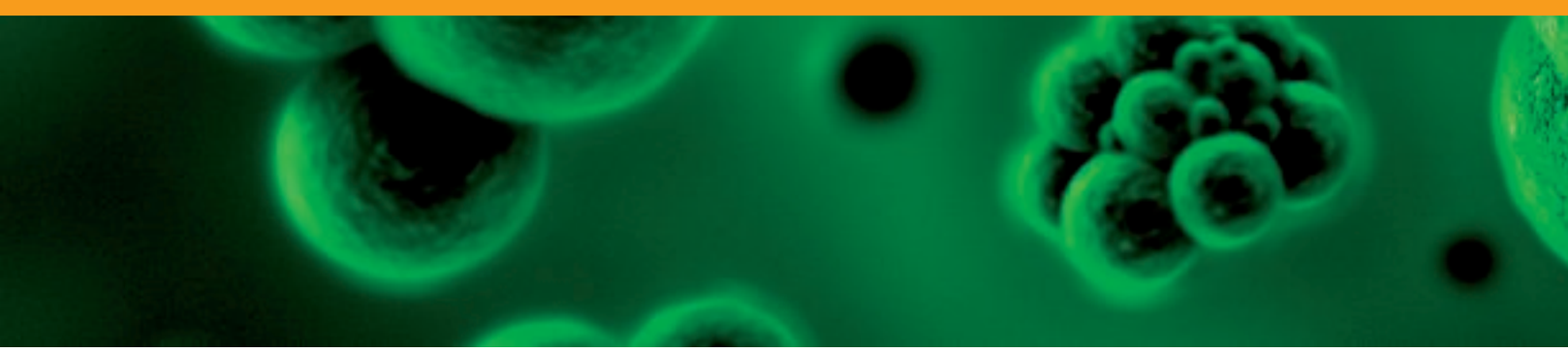
Cable routing systems with antibacterial surface

Cable support systems



A powerful weapon in the fight against germs

An investigation by the German Society for Hospital Hygiene (DGKH) discovered that, each year, around 900,000 patients in Germany catch so-called nosocomial infections (hospital infections), and at least 30,000 people even die from them.



Infections caught in hospitals have become an increasing problem, all around the world. Viruses, bacteria and, in particular, the feared germs resistant to antibiotics infect many people every year. They cause high costs and create a loss of confidence in the affected facilities. Set against this background, the prevention of hospital infections has an ever-higher priority. Besides comprehensive hygiene measures for patients and medical personnel, the selection of suitable construction and installation material can help to prevent infections. An effective measure is the use of antibacterial materials on surfaces. For this, the biocidal agent silver phosphate glass is added during production. It interrupts the functions of cell membranes, thus preventing the reproduction of bacteria on the surface. Silver possesses natural antibacterial properties. It puts a stop to more than 99.9 per cent of bacteria.

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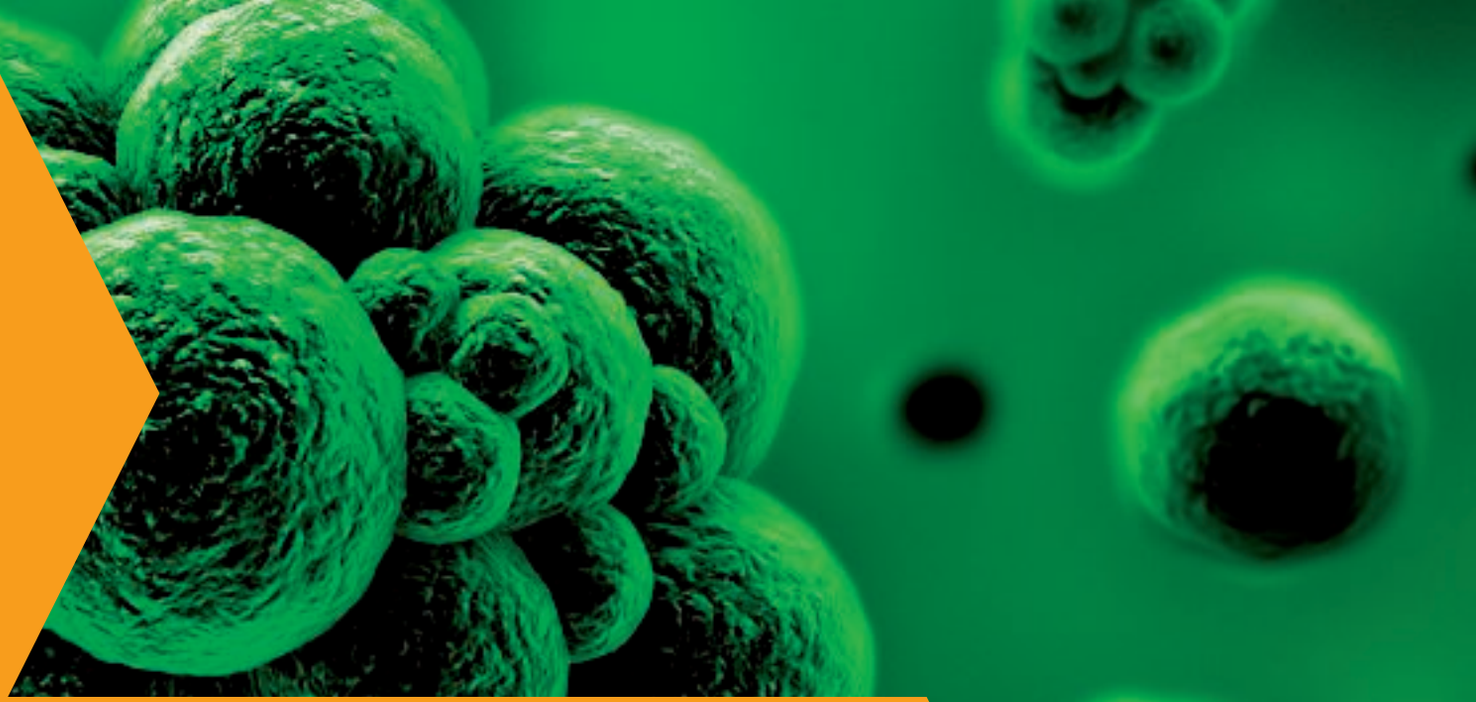
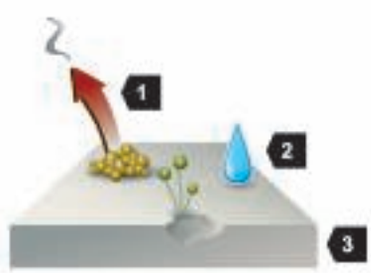


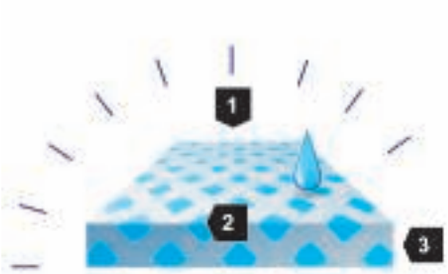
Antibacterial surfaces work against germs. Around the clock.

Germs frequently remain active for long periods on skin, medical equipment and surfaces. Antibacterial products can effectively restrict the spread of germs in hospitals, care homes and geriatric facilities.



1	Odour
2	Bacteria, moisture, mould
3	Surface with material destruction

Untreated surfaces
On untreated surfaces, moisture causes the rapid formation of bacteria and mould. This is first detectable through an odour, then by stains and the destruction of material.



1	Protected article
2	Sanitized® Silver phosphate glass
3	Surface

Surfaces with silver ion treatment
Surfaces with silver ion treatment have an integrated hygiene function. Through the controlled release of ions, they offer long-lasting protective effects.

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No chance for bacteria - PVC device installation duct with antibacterial surface

Experience in the health-care sector and current knowledge about germicidal equipment - OBO combines both of these in the new Rapid 45 and Rapid 80 device installation ducts with antibacterial surface.

ANTIBACTERIAL

- Effective even against troublesome germs
- Hygiene around the clock
- Matching fittings, various duct sizes and colours
- Suitable for use in doctors' surgeries, hospitals and geriatric homes

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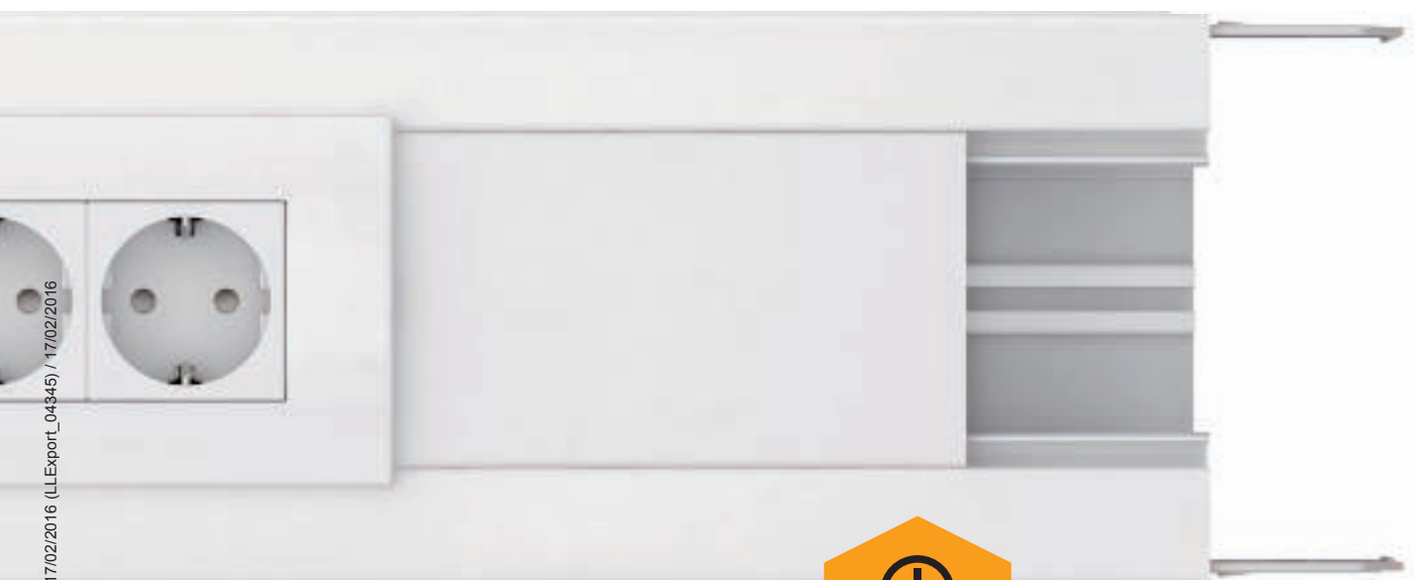
Hygiene around the clock
OBO plastic device installation ducts are already a part of the electrical equipment of many health-care facilities. When installed on the wall, they allow rapid access to power and data. With their antibacterial coating, the tried-and-trusted products offer an additional hygienic benefit in treatment areas and patients' rooms. We ensure the germicidal action during the manufacture of the device installation ducts. Silver phosphate glass is added to the plastic granules before extrusion and mixes itself into the material. This method means that more than 99.9 percent of bacteria have no chance of survival on the finished product. There are additional functional benefits: Sockets, data technology elements and small switch ranges can be inserted into the ducts without visible gaps.



Antibacterial action of silver
Silver ions of our partner SANITIZED AG are not harmful to people or the environment. They have been approved for contact with foods. Comprehensive testing and certificates document the quality of this antibacterial equipment. Even germs which are resistant to antibiotics, such as MRSA, are rendered harmless.

Robust protection against germs - device installation ducts in steel and aluminium with antibacterial surface

OBO sheet steel and aluminium device installation ducts are used in very busy areas of health-care facilities. Thanks to the antibacterial coating, 99 per cent of the germs are unable to survive on them.

- Germ development is impeded
- Protection around the clock
- Permanently resistant to knocks and highly resilient
- Suitable for use in doctors' surgeries, hospitals, care homes and geriatric homes

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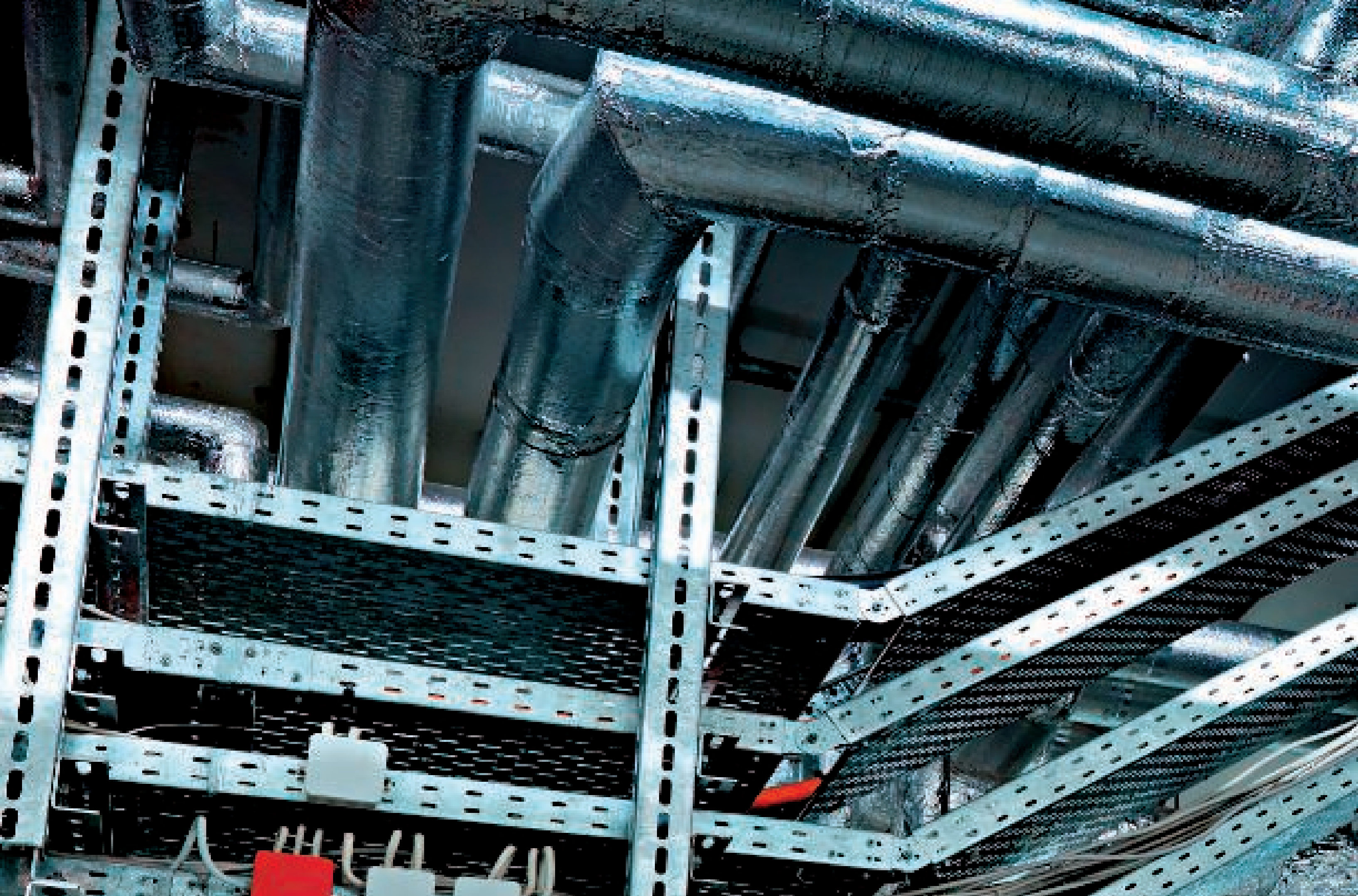
Suitable for high hygiene requirements
OBO sheet steel and aluminium device installation ducts stand out both functionally and aesthetically in hospitals, care homes and geriatric homes. Thanks to the antibacterial coating, they also fulfil high hygiene requirements. Even during the manufacture of the device installation ducts, OBO Bettermann adds a silver-based additive to the powder coating. This method offers long-term protection against bacteria formation: Compared to untreated surfaces, the amount of germs on the surface is reduced by about 99 per cent. The impact of the additives remains intact in the powder coating for many years. In addition, this manufacturing technique offers long-term protection against corrosion. The device installation ducts can be cleaned easily with many approved disinfection agents, without rendering the agent inactive.

Antibacterial powder coating
The silver-based antibacterial coating destabilises the cell membrane of bacteria, preventing their reproduction. A broad range of impacts against gram-positive and gram-negative bacteria has been proven. Compared to normal wiping disinfection, the preventive protection exists 24 hours a day rather than for only a few hours.



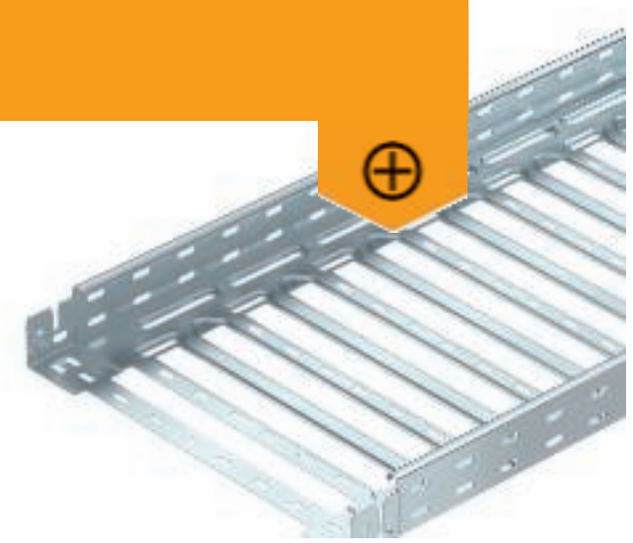
OBO cable support systems for health-care facilities

Strong supply lines for the flow of power and energy

Cables run for kilometres through the building complexes of hospitals, care homes and geriatric homes. OBO cable support systems route and protect them. As one of the world leaders in the manufacture of cable support systems, we can offer solutions for any tasks connected with cable routing. With products combined in a targeted manner, a high level of planning competence and efficient logistics.

Comprehensive product range
The electrical building infrastructure in health-care facilities is a network of widespread systems. It works mainly invisibly, although each building requires it to function reliably. OBO cable support systems reliably run energy, power and data where they are required: To the operation and treatment area, to the administration area and the patients' rooms. We also secure the routing of large volumes of cables with a comprehensive product range. This ranges from light-duty mesh cable tray systems through strong cable sections to luminaire support rails. A wide range of accessories, surfaces and materials ensure a perfectly fitting installation, even at large installation densities.

- Also suitable for long distances and high loads
- Resilient materials with high-quality finishes for visible areas
- Quick, cost-saving installation



Ready for practice
2.8 kilometres of cable trays in Klinikum Heidenheim hospital
In Klinikum Heidenheim hospital, OBO equipped a new dormitory for 270 patients with 2,800 metres of RKSM Magic cable trays of different sizes. The ambitious schedule meant that the quick and easy-to-mount Magic products were the right choice, as the patented plug connection makes tedious screwing superfluous. The OBO cable trays were used to mount routing systems with E90 function maintenance as well as escape route installations, amongst other things. Rising sections, brackets and E90 strain reliefs act as further elements for function and safety. The OBO project planners also created appropriate mounting solutions for the interfaces to the other function units frequently installed in the corridors. OBO guarantees the timely delivery of the products with a sophisticated logistics concept.

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OBO systems for preventive fire protection

Fire protection
Major deployment for patient safety

Safety around the clock - for health-care facilities, a self-explanatory as well as challenging task. OBO can make an important contribution through tested systems for preventive fire protection.

In Germany, a fire occurs at a hospital once every 14 days. There is a fire in a geriatric home almost every week. Many patients and residents have great difficulty escaping on account of their physical disabilities. All too often, it is the rapid smoke development that endangers them. In addition, a fire in a facility will also cause serious material damage and a loss of confidence. If there is a fire, safety-relevant electrical systems must function for as long as possible to protect the lives and health of patients, residents, personnel and visitors. With OBO systems, planners and operators have key components for the complete fire protection and function maintenance of their building.

Care homes faced with new fire protection requirements

In Germany, eleven people died from fires in care homes and geriatric homes in 2014 and more than 100 people were injured. Frequently, it is the residents themselves who leave candles burning, do not switch off electrical appliances or who smoke in secret. In addition, a fire finds plenty of fuel, such as cellulose and mattresses. In recent decades, the requirements for the structural equipment of care facilities have changed fundamentally. Today, they are home to increasing numbers of people suffering from dementia. New concepts, with living groups or house communities, also present new challenges to structural fire protection.

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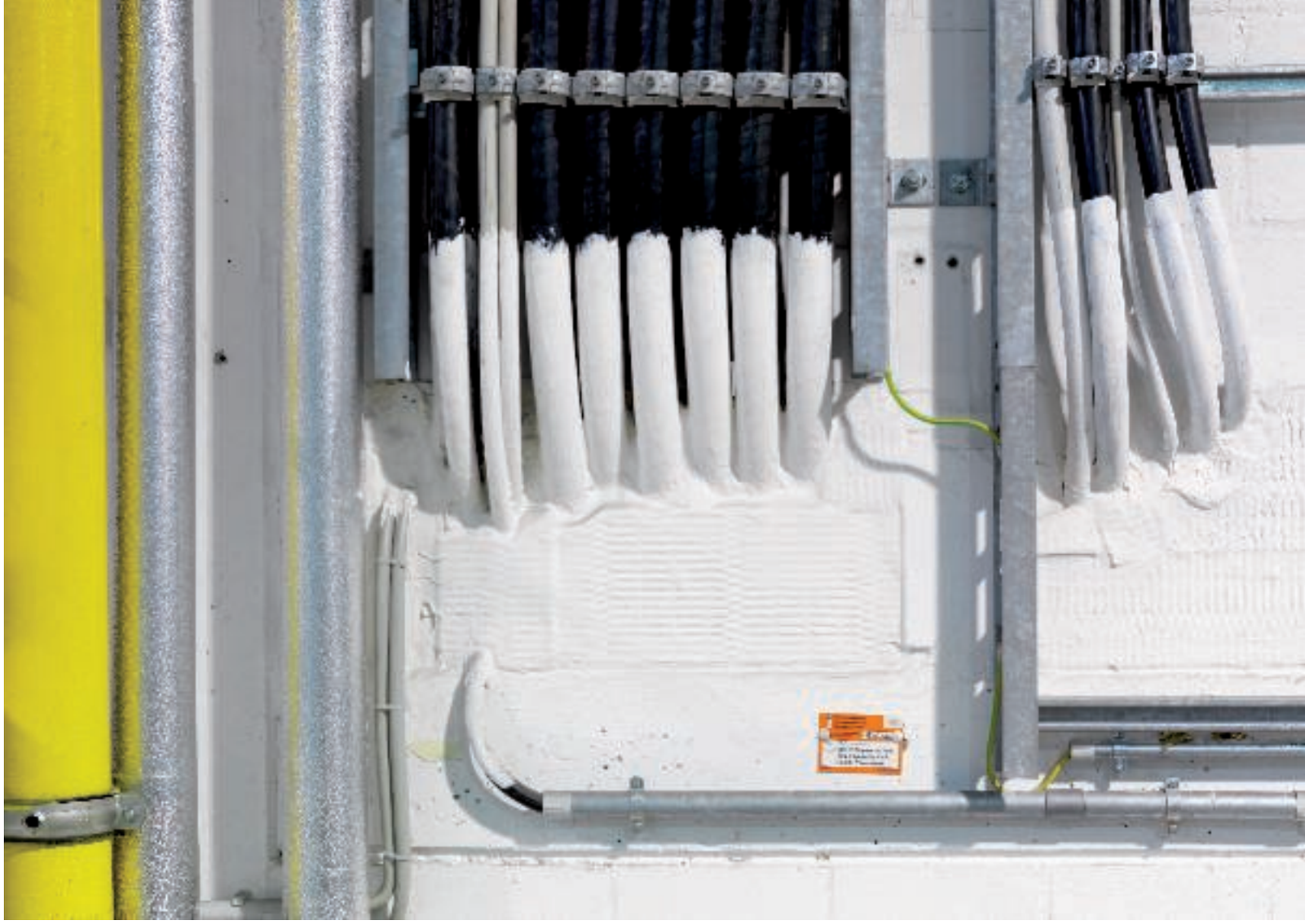

Three fire protection aims which every health-care facility must fulfil

The practical, tried-and-trusted OBO systems fulfil all the requirements for fireproof electrical installations for the complex electrical infrastructure of health-care facilities. Our portfolio makes us one of the few providers with a product range which covers all three protection aims of constructual fire protection:

1. Limit the spread of the fire
2. Protect escape and rescue routes
3. Guarantee electrical function maintenance

First protection aim:
Preventing the spread of fires

The longer a fire can be limited to certain structural sections of a hospital or care facility, the better. The remaining parts of the building are then protected for a defined period of time. This offers valuable extra time for the evacuation of people and the initiation of extinguishing measures.

OBO insulation stays tight

OBO insulation maintains the function of the fire sections, thus preventing a rapid spread of fire and smoke. The insulation is designed for different wall types and the cables or pipes routed therein.

Systems for escape route installation keep the path free

Second protection aim:
Protect emergency and escape routes
Emergency and escape routes are of decisive importance to the safety of people in hospitals, care homes and geriatric homes. For this reason, it must be possible to use them safely at any time. Safe means free of smoke, fire and obstacles. The longer people can use escape routes, the greater the chances that they will escape the fire and dangerous smoke.

OBO systems
for escape route installation
OBO can offer a comprehensive programme of tested fire protection systems for the protection of emergency and escape routes in health-care facilities. The product range comprises fire protection ducts, fire protection bandages and grouped supports, metal pressure clips, cable trays for mounting above suspended fire protection ceilings and much more. Escape route installation takes place above false ceilings.

Systems for electrical function maintenance secure the function of safety-relevant systems

Third protection aim:
Maintaining the electrical function
When a fire breaks out, every minute is crucial, particularly with people with physical disabilities. Function maintenance of the electrical systems exists when the current flow is not interrupted during a fire. This means emergency and escape routes remain usable. Important technical equipment in health-care facilities, such as emergency lighting, fire alarm systems and extraction systems and extinguishing systems, continue to function. The longer these systems work, the greater the chances of rescue are.

Ready for practice
Schwarzwald-Baar-Klinikum hospital Freiburg
The new building of Schwarzwald-Baar-Klinikum hospital, completed in 2012, stands out through its characteristic data: A usable floor space of 46,000 square metres, 750 hospital beds and 15 modern operating theatres. In a building of this size, structural fire protection is a central safety requirement. OBO makes a contribution to this with its E30/E90 function maintenance systems. The systems withstand the heat of the fire over a specified period of at least 30 or 90 minutes, without any impairment of the function of the cables. This is valuable time, which is required for the evacuation of the hospital. OBO provided a large number of certified, high-quality products, including clips and profile rails for individual cable routing. The systems used meet the directive DIN 4102 Part 12 and the cable systems directive (LAR).

OBO systems for
electrical function maintenance
OBO systems can withstand the heat of the fire over a certain period of time without any impairment of the function of the safety cables. From cable trays to junction boxes, all the systems have been tested according to national and international standards. This offers safety to the operators of health-care facilities in times of need.

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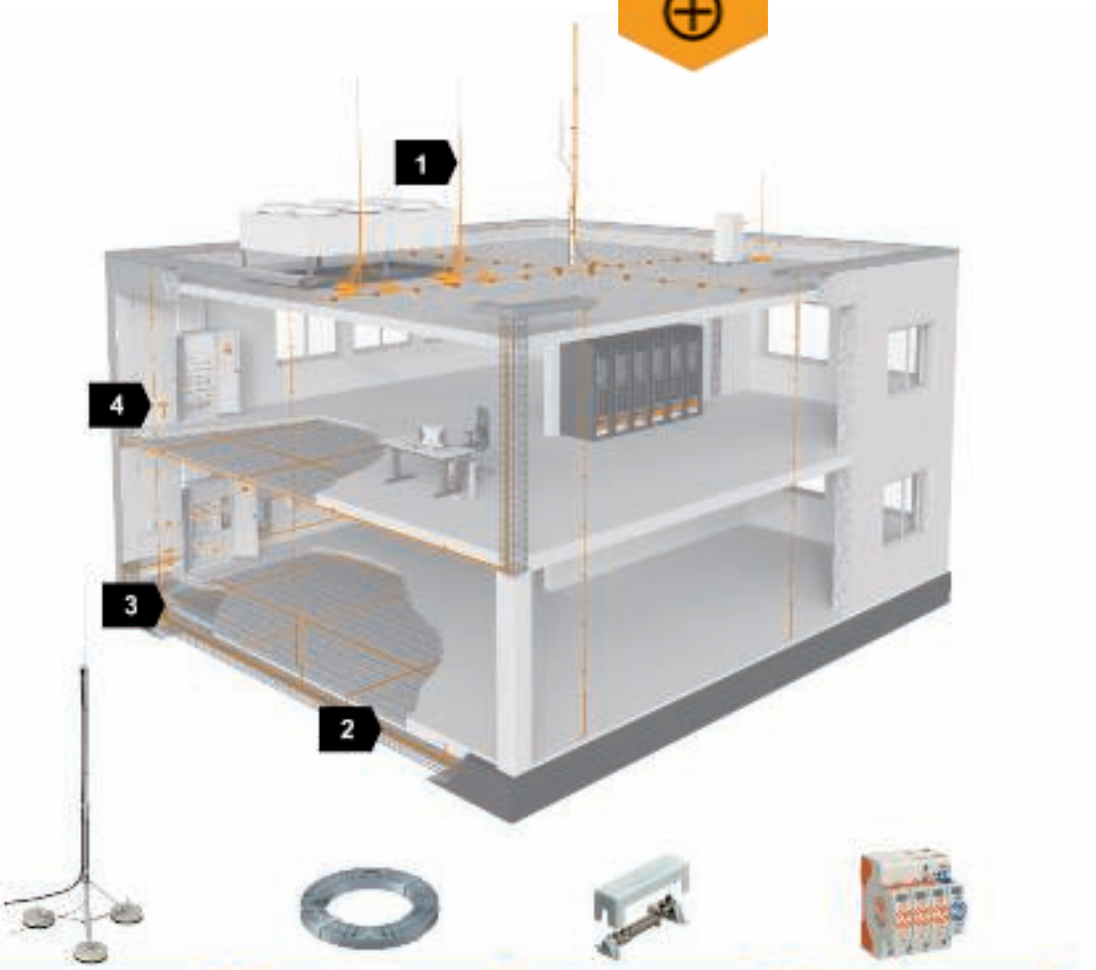
Integrated lightning and surge protection

Lightning strikes around 1.5 million times a year in Germany. Time and again, its destructive force endangers people, building sections and technical devices in health-care facilities. An integrated lightning and surge protection concept offers reliable protection.

Health-care facilities are obliged to take preventive measures against direct lightning strikes. OBO transient and lightning protection systems reliably protect people, systems and medical equipment. Only when all the components are installed in and on a building is there effective protection.

- Safe, trusted systems
- Large range of around 1,500 products
- Tested according to German, European and international standards



1. Interception and arrester systems

2. Earthing systems

3. Equipotential bonding systems

4. Surge protection systems

Interception and arresting systems
reliably arrest direct lightning strikes with energy of up to 200,000 A and conduct them through the arresters into the earthing system.

Equipotential bonding systems
form the interface between external and internal lightning protection.
They ensure that dangerous potential differences are not created in the building.

Earthing systems
send around half the energy into the earth. The other half is distributed via the equipotential bonding.

Ready for practice
Knappschaftskrankenhaus Bottrop hospital
When Knappschaftskrankenhaus Bottrop hospital was renovated, the new intercom system, the control of the electrically operated roller shutters and the arrester unit of the lightning protection system were all routed on the exterior facade. This created numerous crossovers with the lightning protection systems, in which the separation distance was not maintained. Should lightning strike the lightning protection system, conventional non-insulated routing of the arresters along the building facade would couple lightning currents into the building. Thus, the hospital operator decided to use the OBO isCon® arrester. This insulated arrester maintains the necessary separation spacing also in the area of the crossovers, simply and to the standard requirements, and runs the lightning current safely into the earth. A total of 400 metres of the isCon® arrester was installed.

Effective surge protection

Health-care facilities are reliant on support from IT, communication and safety technology. Failures from surge voltages have fatal consequences. Something can be done against this.

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Comprehensive safety
Current statistics and estimates of insurance companies show that damage levels caused by surge voltages have also increased massively in health-care facilities, due to the growing dependency on the electrical infrastructure. Besides damage to devices, expensive diagnostic and treatment equipment, a failure of networks - and the corresponding loss of data - must be expected.

Electrical devices, communication systems and data networks are damaged considerably more frequently by surge voltages than by direct lightning strikes to the appropriate building. Even at a distance of several hundred metres, the voltage surge of a lightning strike can have a significant effect on the electrical infrastructure of a hospital. Switching operations within power networks can also create surge voltages. Therefore, effective surge protection also forms a barrier against other power line interference. OBO surge protection devices ensure controlled equipotential bonding of energy and data cables under voltage. They react before the insulation in electrical and electronic devices can be destroyed by surge voltages. They are tested according to the relevant standards at the in-house BET test centre.

- Effective protection for energy technology, telecommunications and data technology
- Comprehensively tested safety according to international standards
- Five-year warranty

Huge surge voltage spreads out in the hospital
"When lightning struck Ludwigsfelde hospital in July 2013, it was entirely unclear how much damage this electrical strike of millions of volts had done. Three lifts, all the telephones and most of the patient TVs stopped working. The fire brigade was able to free a man from a lift after a quarter of an hour and the fire alarms and an intercom had failed in the surgical dormitory. The lightning had struck the television aerial of Building A, the dormitory of the surgical division, one of the highest points of the hospital. The huge surge voltage spread out into multiple buildings. Seven electrical systems failed. The operating theatres and intensive care station were far enough away and were unaffected. As communication was only possible via mobile and emergency telephones, the hospital was unable to take new patients for several hours. The PCs in the X-ray department were also affected by the lightning strike."

(From the Märkische Allgemeine newspaper, 3.7.2013)

OBO underfloor systems

Safety for power and data

Daily wet care, major loads: OBO underfloor systems fulfil high use and hygiene requirements in health-care facilities.

Designed for high loads
Hospitals, geriatric homes, care homes - these are all buildings frequented by lots of people every day. They place huge demands on the load capacity of the installed electrical technology. OBO underfloor systems, with their high-quality materials and solid thicknesses, can also withstand high loads. A range of practical special parts and well-thought-out accessories offer ongoing quality.

Hygiene starts on the floor
In hospitals and care facilities, clean floors are a necessary prerequisite for compliance with hygiene regulations. OBO offers underfloor systems which can be wet-cleaned and disinfected. We can match the device installation unit for your facility to the floor covering and the appropriate floor care type. This allows us to ensure that the electrical installation is protected against the ingress of moisture and dirt.

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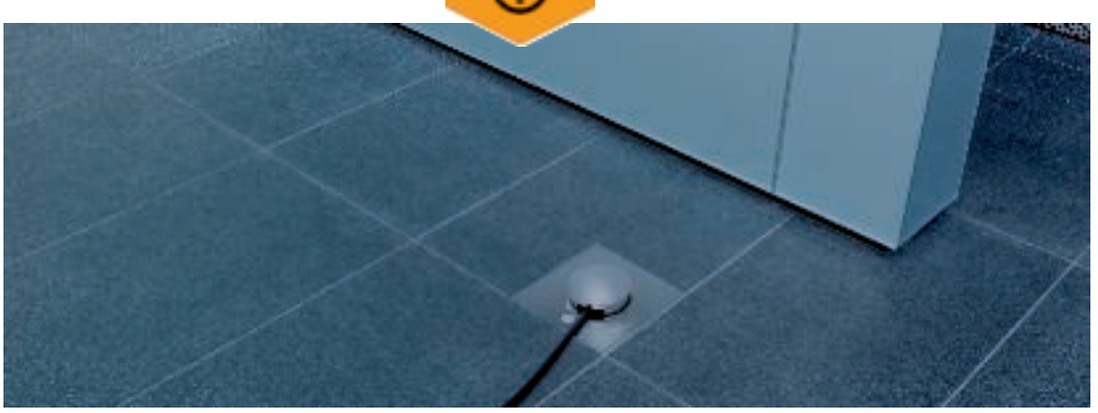
- Resistant and resilient
- High-quality materials, discreet design
- Simple to clean

Tested quality
OBO device installation units are tested according to EN 50085 and labelled appropriately. All the UFS products released by OBO for use in wet-care floors fulfil the requirements of the standard without any restrictions. Cassettes with a tube body protect the electrical installation against the ingress of dirt and moisture.



OBO Bettermann GmbH & Co. KG
P.O. Box 1120
58694 Menden, Germany

Customer Service Germany
Tel. +49 (0)2373 89-1700
Fax +49 (0)2373 89-1238
E-mail: export@obo.de

www.obo-bettermann.com

Building Connections

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