

Focus: Data Center



Table of Contents

All About Data Centers	5	Product Overview Shell Construction	8	Product Overview Expansion	12
PohlCon – Partner from Start to Future.	5	Sealing	10	Cable Support Systems	14
Your Requirements, Our Solutions	6	Reinforcement	11	Fastening	17
		Fastening	11		



All About Data Centers

PohlCon – Partner from Start to Future.

The age we live in is marked by the power to create, share and manage immense quantities of data. Consequently, the infrastructure needed for this is complex. Data centers are where everything comes together.

Expertise and quality – our commitment

For years, PohlCon has been your trusted partner for providing high-quality construction materials used to build data centers. In addition to a wide range of products, we offer our customers a comprehensive portfolio of services: from consulting and planning to manufacturing and delivery, all the way to mounting and construction support, we provide guidance every step of the way.

PohlCon's product solutions and systems cover a variety of applications:

Joint tapes, joint sheets and waterproofing membranes from the KUNEX®, PENTAFLEX® and SECUFLEX® ranges keep structures watertight. Watertight construction joints can be created using sealing shuttering elements. FERBOX® reverse bending connectors create force-fit connections between concrete components, while anchor and fastening channels hold companion structures securely to walls and ceilings. Various cable support systems round off our wide product portfolio for data centers, enabling orderly and flexible routing – even in high-security areas.

Tailored solutions are our strength

At PohlCon, we draw on our long-standing experience and the trust placed by customers in our services to meet even very particular project-specific requirements.

Whether it's special designs, dimensions or solutions: unique challenges are our strength.



Data centers are divided into distinct zones for security and organizational reasons. A redundant network infrastructure enhances system reliability.



Server cabinets and racks hold hardware securely in place and ensure they are able to operate properly.



Orderly cabling improves system efficiency: diagnostics and maintenance become easier and heat dissipation is improved.



This publication provides an overview of our tunnel construction portfolio. For detailed information on the products, refer to the **technical information brochures** and **price lists** for the specific products.



The contents of this publication are for information purposes only. Certain products may not be available in individual countries. The country-specific laws, standards and guidelines apply in each case.

Your Requirements, Our Solutions

Data centers are physical facilities, rooms or buildings with integrated network infrastructure that are constantly providing data and services for third parties. Their capabilities depend on the specific requirements and can be individually adapted.

Their main advantage lies in the bundling of large quantities of data and the associated infrastructure in a single place. This simplifies management, maintenance and security and saves on personnel, energy and maintenance costs.

Data centers can be classified according to various criteria and standards, including function, size and availability. This entails corresponding construction requirements and measures.

With PohlCon's wide range of products, planners have access to a wide range of solutions and options: high-quality, flexible and all from a single source.

Protection against moisture

Moisture poses a risk to network infrastructure. Mechanical aids such as dehumidifiers and air conditioning systems ensure constant humidity and temperature inside the building.

With PohlCon's waterproofing solutions, moisture protection begins in the building shell: joint tapes and joint sheets reliably seal construction and expansion joints in concrete. Our pre-applied waterproofing system is used as an additional measure for watertight structures requiring protection. The waterproofing membrane forms a permanent, seepage-proof bond with the concrete.

Scalability

Future expansion and adaptation of network infrastructure should already be considered at the planning stage.

PohlCon's cable support systems, such as the U-System, are ideal for variable requirements. They can be individually adapted, installed in an assembly-friendly manner and easily extended thanks to a wide range of molded parts. The flexibility of our system is an advantage that data center operators can rely on.

Protection against overheating

Under load, cable lines generate waste heat that can reach temperatures in excess of 50°C. Heat buildup leads to overheating and damage to the cabling, which is why effective heat dissipation is essential.

PohlCon manufactures cable support elements whose open design ensures unhindered airflow. Whether for small or large loads, our mesh cable trays, cable ladders and vertical ladders are available in different versions and sizes – including custom versions upon request. Moreover, the free circulation of air also reduces the building's cooling requirements.

Fire protection

Separate fire protection zones and the redundant design of the network infrastructure allow the system to continue operating in the event of a fire. Components designed for functional integrity buy valuable time for evacuation and extinguishing measures.

PohlCon offers cable support systems that can be used as specified support systems or normed supporting constructions in accordance with DIN 4102-12. Thanks to the higher fire resistance, the cable systems remain functional even under high fire loads.

The product range extends from cable trays and cable ladders to vertical ladders and wall and ceiling fastenings. It is suitable for both single- and multi-cable installations.

Material and surface coating

Our products are available in different material and surface variants to suit the prevailing conditions and specific surface requirements. Corrosion protection is the top priority in this regard.

PohlCon manufactures hot-dip galvanized, Sendzimir galvanized and electrogalvanized components. Thanks to cathodic protection, they are permanently corrosion-resistant, even if they are subsequently processed. Stainless steel products are used for the highest corrosion protection requirements. The material is easy to clean, low-maintenance and 100% recyclable. In order to offer the best possible protection, PohlCon manufactures many of its components out of stainless steel. Depending on your requirements, you can choose from steel grades A2, A4 and A5.



Want to find out more?

Our application technology team would be happy to answer all of your questions. Just reach out to us.

T +49 30 68283-04
contact@pohlcon.com



Product Overview Shell Construction

PohlCon's shell construction range offers solutions for a wide range of applications.

Our sealing systems effectively protect foundations, floor and wall elements as well as construction and expansion joints against moisture and pressurised water.

FERBOX® reverse bending connectors provide greater security for force-fit connections between reinforced concrete components: the connections correspond to the highest joint category "interlocked" in transverse and longitudinal directions.

Anchor channels in conjunction with special screws hold companion structures securely to concrete walls and ceilings.

Our profiled metal sheet channels provide a firm hold for façade cladding.

Sealing

- **Expansion Joint Tapes**
for sealing expansion joints between concreting sections
- **Joint Sheets – coated**
for sealing construction joints between concreting sections
- **Shuttering Elements**
expanded metal formwork for the simultaneous accommodation of a joint sealant
- **Pre-applied Waterproofing Systems**
additional measure for watertight concrete structures

Reinforcement

- **Reverse Bending Connectors**
for reinforcement and force-fit connection of reinforced concrete components

Fastening

- **Anchor Channels – straight, standard version**
for the flexible fastening of companion structures exposed to static and dynamic loads
- **Anchor Channels – straight, with toothed channel lip**
for the flexible fastening of companion structures exposed to static, dynamic and seismic loads
- **Profiled Metal Sheet Channels**
for the flexible fastening of sandwich panels and profiled metal sheets to reinforced concrete components





Sealing

Expansion Joint Tapes

KUNEX®; for sealing expansion joints between concreting sections



- suitable for pressurised and unpressurised water
- fastened using eyelets or joint tape clamps
- made from thermoplastic polymer

Joint Sheets – coated

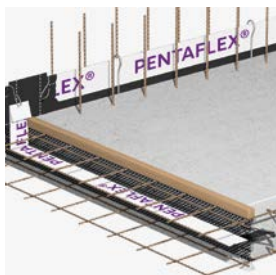
PENTAFLEX KB® 167; for sealing construction joints between concreting sections



- galvanized sheet steel with special coating
- low anchoring depth of 30 mm
- guide marking for continuous monitoring of correct installation
- suitable for pressurised and unpressurised water
- no molded parts required

Shuttering Elements

PENTAFLEX® ABS; expanded metal formwork for the simultaneous accommodation of a joint sealant



- shuttering element with lattice girders and coated joint sheet
- available as a rough or interlocked joint

Pre-applied Waterproofing Systems

SECUFLEX®; additional measure for watertight concrete structures



- permanently protected against water seepage thanks to a mechanical-adhesive bond with fresh concrete
- highest performance class (LK 3), watertightness tested up to 5.0 bar
- self-adhesive strips for directly connecting additional membrane sheets
- robust HDPE waterproofing membrane
- combinable with other products (e.g. KUNEX® and PENTAFLEX®) as a secondary seal

Reinforcement

Reverse Bending Connectors

FERBOX®; for reinforcement and force-fit connection of reinforced concrete components



- quick installation in walls, ceilings and stairwells
- highest joint category "interlocked" in transverse and longitudinal directions
- galvanized steel reinforcement box and cover, recyclable
- custom build on request

Fastening

Anchor Channels – straight, standard version

JTA K, JTA W; for the flexible fastening of companion structures exposed to static and dynamic loads



- approved for installation in components with fire protection requirements
- suitable for cracked and non-cracked concrete
- easy compensation of construction tolerances
- optimized channel utilization thanks to small edge distances
- cold-formed or hot-rolled
- range of versions, profile sizes and lengths
- made of galvanized steel or stainless steel for various requirements

Anchor Channels – straight, with toothed channel lip

JXA W; for the flexible fastening of companion structures exposed to static, dynamic and seismic loads



- highly suitable for sensitive buildings and areas with extreme environmental influences
- for high tightening torques, fatigue resistant up to the working load limit
- suitable for cracked and non-cracked concrete
- easy compensation of construction tolerances
- optimized channel utilization thanks to small edge distances
- hot-rolled, low residual stress
- range of versions, profile sizes and lengths
- made of galvanized steel or stainless steel for various requirements

Profiled Metal Sheet Channels

JTB-LA, -AR, -uni; for the flexible fastening of sandwich panels and profiled metal sheets to reinforced concrete components



- for intricate reinforced concrete components from a height of 150 mm
- versions with and without anchor
- easy to position
- particularly easy to install for precast concrete plants
- made of galvanized steel or stainless steel (depending on product) for various requirements

Product Overview Expansion

Generously dimensioned cable trays and orderly cable routing increase the operating efficiency of a data center and improve its expandability. PohlCon's cable support systems provide planners with a functional, tried-and-tested solution. Whether for new installations, conversions or extensions: our systems are easy to install, scalable and designed to last. With different materials and surface coatings, they can meet almost any requirement and depending on the product, also comply with fire safety specifications in accordance with DIN 4102-12.

Cable Support Systems

- **Cable Trays**
variable cable routing
- **Installation Trays**
variable cable routing and fastening of companion structures
- **Mesh Cable Trays**
variable cable routing, excellent cable ventilation
- **Cable Ladders**
variable cable routing, excellent cable ventilation
- **Wide-span Cable Ladders**
variable cable routing, support intervals of up to 10 m, excellent cable ventilation
- **Wide-span Cable Trays**
variable cable routing, support intervals of up to 10 m
- **Brackets**
variable fastening of cable trays to walls, beams and ceiling rods, primarily intended for cable trays and mesh cable trays
- **Support Systems – U-shaped, I-shaped, STRUT system**
integrated systems for suspending cable trays
- **Support Systems – Swing Suspensions**
ceiling suspensions for light-duty and heavy-duty cable trays
- **C-Profile Rails**
flexible attachment of cable clamps, can be used as an independent construction profile

Fastening

- **Special Screws**
for form-fit connection with channels
- **Special Constructions**
developed for particular projects according to customer specifications





Cable Support Systems

Cable Trays

variable cable routing



- integrated system in conjunction with the matching support structures
- perforated and unperforated
- wide variety of molded parts for horizontal and vertical changes of direction
- range of variants, sizes and material thicknesses
- made of galvanized steel or stainless steel for various requirements

Installation Trays

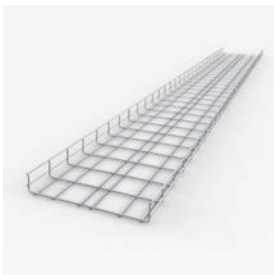
variable cable routing and fastening of companion structures



- integrated system in conjunction with the matching support structures
- large holes on the sides and bottom allow cables to be routed in and out at almost any point
- wide variety of molded parts for horizontal and vertical changes of direction
- range of variants, sizes and material thicknesses
- made of galvanized steel or stainless steel for various requirements

Mesh Cable Trays

variable cable routing, excellent cable ventilation



- highly flexible system with the option of routing cables out in all directions at any time
- wide variety of molded parts for horizontal and vertical changes of direction
- various types, including U-, C- and G-shaped
- range of variants, sizes and material thicknesses
- made of galvanized steel or stainless steel for various requirements
- special designs can be realized on request

Cable Ladders

variable cable routing, excellent cable ventilation



- integrated system in conjunction with the matching support structures
- suitable for medium to large cable diameters with medium to wide support spacing
- wide variety of molded parts for horizontal and vertical changes of direction
- range of variants, sizes and material thicknesses
- made of galvanized steel or stainless steel for various requirements

Wide-span Cable Ladders

variable cable routing, support intervals of up to 10 m, excellent cable ventilation



- integrated system in conjunction with the matching support structures
- high cable loads and large support intervals thanks to structurally adapted side rails
- improved performance with reduced material thickness thanks to rail supports
- suitable for large cable diameters
- wide variety of molded parts for horizontal and vertical changes of direction
- various heights and widths
- made of galvanized steel or stainless steel for various requirements
- special widths can be realized on request

Wide-span Cable Trays

variable cable routing, support intervals of up to 10 m



- integrated system in conjunction with the matching support structures
- high cable loads and large support intervals thanks to structurally adapted side rails
- improved performance with reduced material thickness thanks to rail supports
- wide variety of molded parts for horizontal and vertical changes of direction
- various heights and widths
- made of galvanized steel or stainless steel for various requirements

Brackets

variable fastening of cable trays to walls, beams and ceiling rods



- easy-to-mount substructure for cable trays, mesh cable trays and cable ladders
- range of types, variants and sizes
- made of galvanized steel or stainless steel for various requirements

Support Systems – U-shaped, I-shaped, STRUT system

for suspending cable trays



- integrated systems consisting of brackets, bracket holders, head plates and profile rails
- range of types, variants and sizes
- variably adaptable for different loads and use cases
- bracket holders can be used as independent construction profiles
- available as a variant with screw-on or weld-on head plate
- made of galvanized steel or stainless steel for various requirements

Light-duty Swing Suspensions

for suspending light-duty cable trays



- easy-to-mount substructures consisting of threaded rods and C-profile rails
- ideally suited for cable trays, cable ladders and mesh cable trays
- flexibly adaptable for different loads and use cases
- variable installation options with height adjustment
- made of galvanized steel or stainless steel for various requirements

Heavy-duty Swing Suspensions

for suspending heavy-duty cable trays



- easy-to-mount substructures consisting of U-profiles
- ideally suited for wide-span cable trays
- flexibly adaptable for different loads and use cases
- variable installation options
- made of galvanized steel or stainless steel for various requirements

C-Profile Rails

flexible attachment of cable clamps, can be used as an independent construction profile



- various profile types
- perforated and unperforated
- variable mounting options on different surfaces
- universal installation solutions thanks to anchor nuts, tee-head bolts and cable clamps
- made of galvanized steel or stainless steel for various requirements

Molded Parts and Accessories for Cable Support Systems

optional accessories for cable trays



- molded parts for changes of direction, branches, cable entries and exits etc.
- quick assembly thanks to components designed to work together
- covers available in a range of variants
- additional accessories such as edge protection, mounting plates and cover elevators available
- made of galvanized steel, stainless steel or polymer for various requirements

Fastening

Special Screws

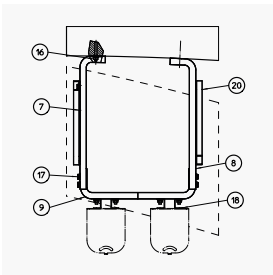
tee-head bolts for form-fit connection with channels



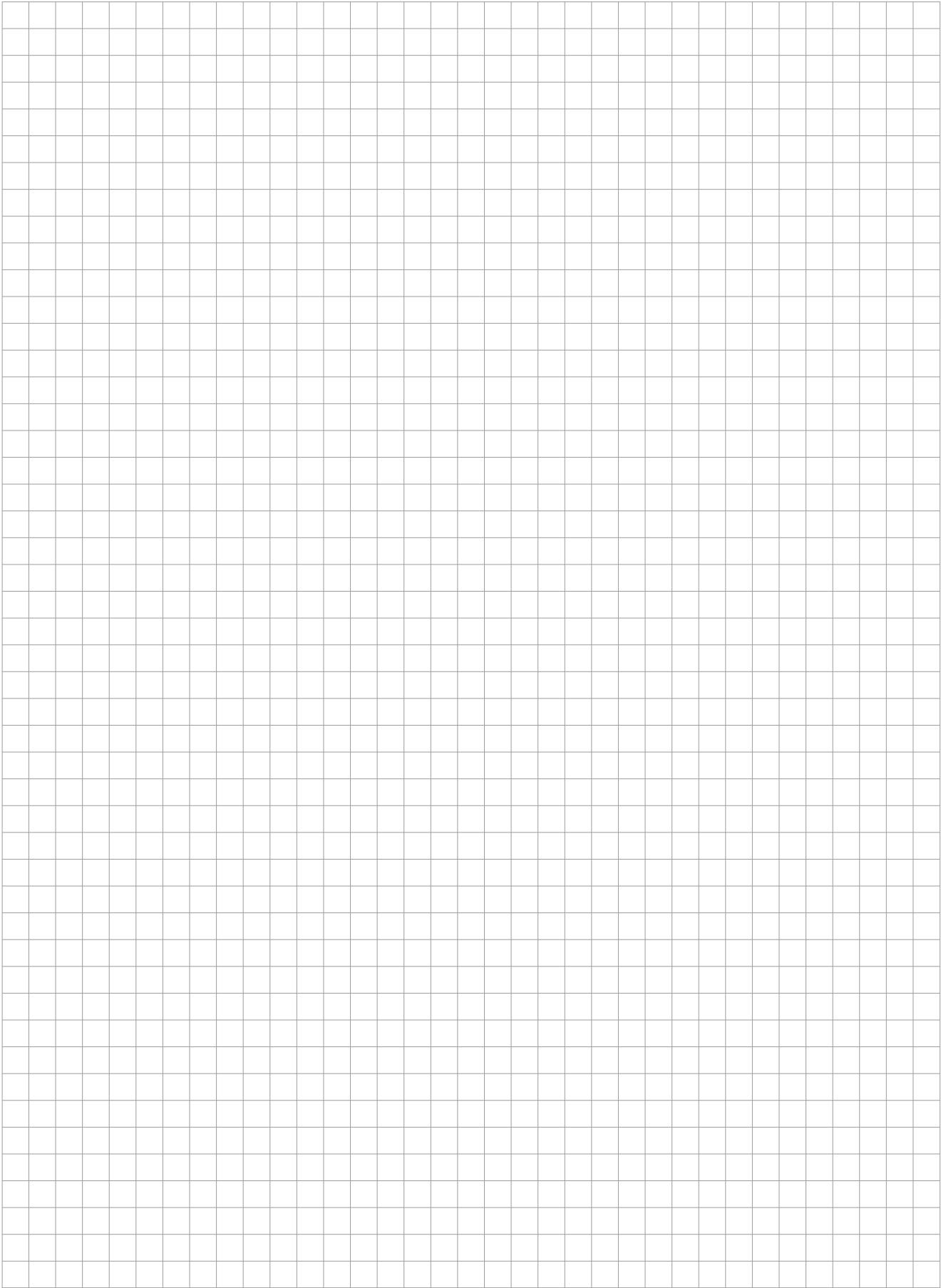
- safe, flexible system solution for anchor, profile and mounting channels
- ideally suited for smooth, cold-formed channels
- coordinated interaction of special screws and channels
- flexible, time-saving and cost-effective assembly of companion structures
- made of galvanized steel or stainless steel (for different corrosion categories or corrosion resistance classes) in different strength classes

Special Constructions

developed for particular projects according to customer specifications



- custom designs and solutions manufactured according to customer specifications for various use cases
- various materials and coatings





All rights reserved. Reprinting and any electronic reproduction only authorised with our written permission.
Errors and technical changes reserved. No liability can be accepted by the publisher on any legal basis whatsoever.
This publication supersedes all previous versions of the document, thereby rendering them invalid.

PohlCon GmbH

Nobelstr. 51
12057 Berlin, Germany

T +49 30 68283-04

www.pohlcon.com