The Bohle Group



...connected by quality



The Bohle Group offers

Anyone who wants to overcome challenges needs a strong partner:

The Bohle Group is a partner that impresses with its performance, precision, service and quality.

As an owner-managed company we are proud that we have been able to maintain and develop our position in the market for many years with a base of reliable and motivated employees.

The long-standing collaboration with customers, partners and suppliers is proof of our commitment to:

- Customer satisfaction
- Adhering to deadlines
- Quality awareness
- Budget certainty

The customers of our individual business areas are serviced individually and locally by the qualified employees in our various locations. With innovative solutions, optimum quality and precise order processing we are able to effectively and comprehensively satisfy our customers – this is the basis for our success.

a widely diversified range of services – For the benefit of our customers





Efficiently minimising

Hot, cold and sound insulation are used where unintentional energy losses need to be avoided or if people need to have sufficient arrangements in place for personal protection.

Our experts ensure that in addition to energy-saving, heat-intensive systems also have the required insulation material and visual qualities. It goes without saying that we also always consider the economic benefits for our customers.

We offer our services in the following areas:

- Hot and cold insulation of technical systems
- Isoflex[®] insulation padding
- High temperature insulation
- Technical sound insulation
- Special insulation systems

energy losses – reducing costs and protecting the environment





You will find more information in our brochures: **Bohle Insulation technology**

Isoflex[®] insulation

Using Isoflex[®] insulation padding helps to save valuable energy. An investment that pays off even after a short period of time.

With most building technology systems fittings are not insulated due to lack of space, which leads to a higher loss of heat similar to a 2.00m long pipeline of the same dimensions. Isoflex[®] insulation padding were distinguished as an innovative product with the ISO AWARD 2006.

For sustainability in production:

Energy

High quality glass fibre products offer good heat insulation even with low insulation thickness levels $(\Delta T \text{ at } 50^{\circ}\text{C} = 0,037 \text{ W/m}^* \text{ K})$ and that is possible at temperatures up to 1,100°C.

Time

Simple, tool-free disassembly and re-assembly using Velcro and buckles. Maintenance works can be carried out quickly.

Safety

No downtime due to injuries as with Isoflex[®] insulation padding there are no dangerously cut edges or hot surfaces.

Due to the high gross density noise is absorbed to a high degree and therefore your employees' hearing is protected.

Safety for respiratory tracts is also ensured due to the incorporation of high quality glass wool and rock wool insulation between the layers that need to be protected.

No fire hazard! The excellent heat insulation protects employees from burns when working in close proximity.

Insulation technology

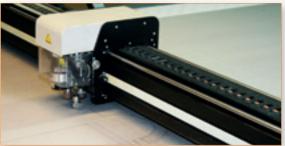
padding – multifunctional use and safe – sustainable use



















You will find more information in our brochures: Bohle Insulation technology – Isoflex[®] insulation padding





Your reliable partner for complete

The Bohle Group is your partner for high temperature insulation in the industry.

Advice and selection of the right products, customer-specific individual solutions through to delivery and assembly on site. You will receive all of this from us - one provider.

We provide a comprehensive spectrum of services in efficient and innovative measures for industrial application areas with operating temperatures from 600° C.

In addition to the supply of materials, we also offer implementation of complete projects – including engineering services.

We provide the following services:

- Stocktaking
- Determination of requirements
- Technical elaborations and calculations
- Construction management
- Assembly
- Final inspection

We will develop the most economical end result for you based on your specific requirements.

Cooperation with notable partners makes it possible for us to realise forward-looking solutions and system developments.

Our business partners rely on our many years of experience in the following areas:

- Industrial furnace engineering
- Petrochemistry
- Steelworks
- Foundries
- Automotive industry
- Ceramic industry
- Energy sector

material requirements and solutions in the area of high temperature insulation (HTI)



Technical sound

Noise creates stress and causes illness

Increasingly high production rates and shorter delivery times demand economic production processes. The results include high-speed and therefore noise-generating machines. For employees working in a business the noise level is disruptive in most cases or even unacceptable. Loss of concentration, demotivation and illnesses are the result. In addition to constructive machine changes secondary sound proofing measures are often the only option to escape noise pollution.

A variety of design options and our longstanding experience also ensure that sound insulation coverings, even those with more sustainable assembly, barely restrict usability or repair options. We would be happy to work together with you on future projects and support you with the implementation of technical sound insulation.

Based on our customers' requests we produce sound proof hoods, sound-attenuating capsules and sound booths and other sound insulation constructions taking into consideration the sonic and geometric requirements.

We offer our services in the following areas:

- Noise measurement and design
- Planning and construction
- Manufacturing, delivery and assembly

insulation for people and the environment









You will find more information in our brochures: Bohle Insulation technology – technical sound insulation

Special insulation

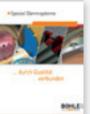
Special insulation systems offer an economic alternative to classic insulation systems in the areas of systems engineering, mechanical engineering and civil engineering due to their specific characteristics.

We offer our services in the following areas:

- Spray insulation on turbines
- PUR on-site foam (an efficient cold insulation system)
- Heat insulation and fire protection upgrading of cavities by means of injection insulation systems with granulated mineral wool
- Spray insulation systems (protection for buildings and structures)

systems offer the most effective solution for various areas of application in industry





You will find more information in our brochures: **Bohle Insulation technology – special insulation systems**

Functionality and

The area of dry construction is currently one of the most important areas in building construction that has to fulfil the requirements within increasingly shorter construction periods.

Modern architecture calls for high levels of functionality of extension systems and materials. In a team with planners, architects and construction managers we take care of aesthetic solutions that impress with their functionality.

We offer our services in the following areas:

- Standard ceiling systems made from:
 - Plasterboard
 - Wood
 - Acoustic boards (mineral fibre)
 - Steel/aluminium cassettes
- Acoustic plaster
- Wood panelling
- Ceiling grids, panel ceilings, and much more
- Stretched ceilings
- Cooling ceilings
- Sound proofing and room acoustics
- Partitions in different designs
- WC partition wall systems
- Interior door systems
- False floor systems

aesthetics are not contradictions – they form a harmonious whole





BOHLE

You will find more information in our brochures: **Bohle interior work**

Sophisticated solutions

A healthy and comfortable interior climate is the basic requirement for our wellbeing.

In modern office buildings cooling and heating ceilings are more sought after than ever. Modern facades with extensive glazing and numerous types of electrical equipment place high demands on the air conditioning due to their heat output.

The perfect interior climate comprise:

- Pleasant temperatures
- Optimal air humidity
- Healthy indoor air
- Pleasant acoustics
- Optimal fire protection

We offer our services in the following areas:

- Consultation and design
- Planning
- Installation and initial operation (including thermography) of all wellknown cooling and heated radiation systems with copper or plastic dividers
- Ceiling installation

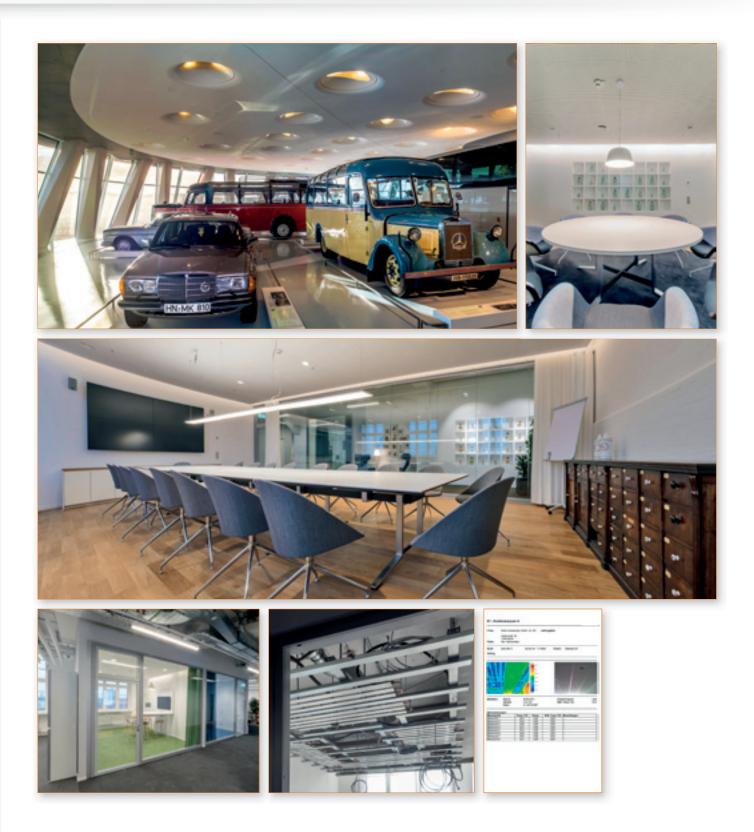
Metal ceiling systems:

Hanging systems, strip grid system, clamping system, jointless aluminium system, insertion system, folding sliding system, support system, expanded metal system Plasterboard ceiling systems: Jointless, smooth and perforated surface

Plaster ceiling systems:

Smooth or perforated suspended ceiling systems that are equipped with a coating made of special acoustic plaster. Ceiling panel: Metal and plasterboard ceiling panel

and well-engineered technology for a perfect interior climate



Cooling and heating ceiling systems

Light is more than

Light is an essential feel-good factor for us! Modern light management and efficient lighting systems ensure a pleasant light climate in the buildings that we live and work in.

We provide light ceilings with:

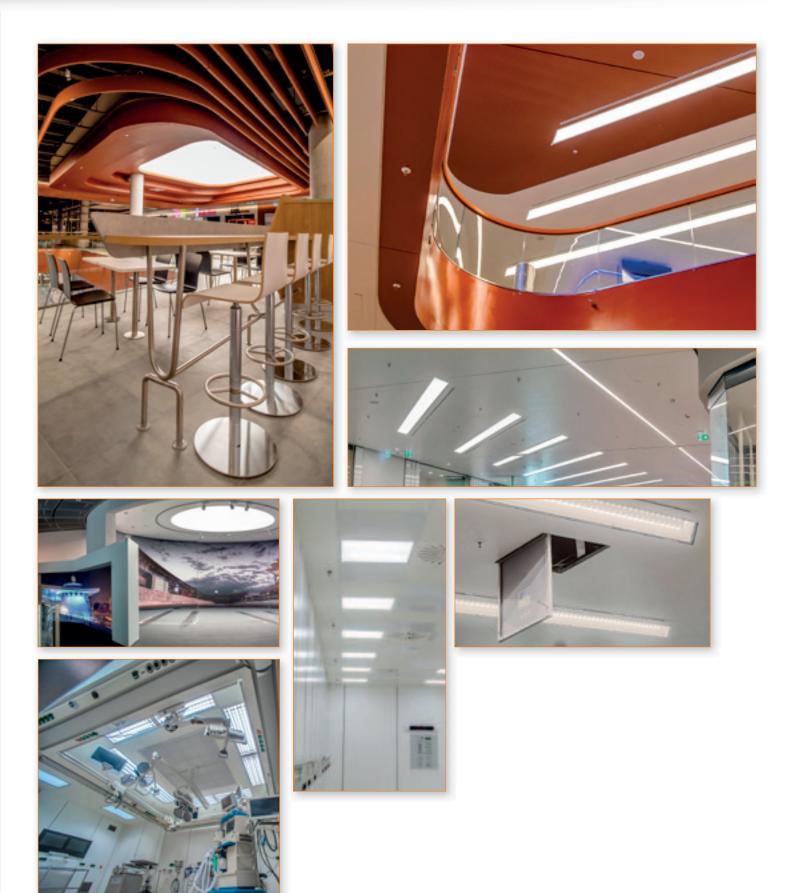
- Supports made of glass or acrylic glass
- Four point fastening, foldable on request
- Luminous foil ceilings in all formats
- Illuminating devices
- Colour light controls

Areas of application:

- Light ceilings with
 - Daylight or colour light controls
 - extensive formats and various shapes
 - colourful or theme printed light foils
- Luminous walls and wall panelling with
 - Daylight or colour light controls
 - colourful or theme printed light foils



just brightness – light creates atmosphere, design, change, accentuates features: Light is diversity!



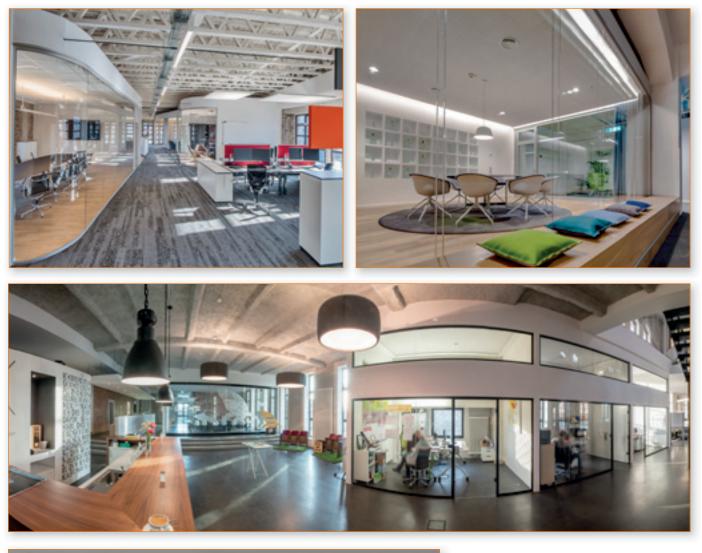
Special "room in

Concentrate on the key issues, work undisturbed: "Spaces" lock in quiet and lock out the hustle and bustle. Thanks to its open and transparent design "Spaces" adapt perfectly to the existing architecture.

Additional benefits include:

- Simple integration of lighting
- Separate ventilation and air conditioning options (e.g. server and communication systems)
- Optimal noise insulation
- Pleasant acoustic interior climate
- Easy-care surfaces
- High degree of design options for wall and ceiling panelling
- Reduction of fire loads (creation of special fire protection areas)

room" constructions, spaces for undisturbed working





Protect life -

The aim of all fire protection measures is to protect and rescue people in the event of a fire. Only after doing that do we consider the protection of material assets.

In order to achieve the primary object the building designs and technical facilities must be able to withstand fire until all of the people have left the building. In addition it is necessary to ensure that all fire-fighting and rescue personnel are able to carry out their work without any health risks.

Bohle offers expert advice and a manufacturer-independent consultation in the areas of preventative structural, system-related and organisational fire protection.

Construction fire protection

We deliver and assemble:

- Fire door and smoke protection door elements
- Cable and pipe bulkheads
- Fire protection for ventilation systems, including fire dampers
- Self-supporting fire safety ceilings
- Fire protection covering made of steel and wooden support constructions and ceiling constructions
- Fire protection walls and ceilings
- Fire protection glazing
- Emergency staircases and emergency exits
- Encapsulation of electrical installations
 / fire load encapsulations
- Building joint bulkheading
- Insufflation and spray cladding systems

safeguard assets







Concepts and services

System related fire protection

This includes all technical systems and facilities, which aim to improve fire protection.

We deliver and assemble:

- Smoke and heat extraction systems
- Hold open systems for fire and smoke protection doors
- Fire alarm systems
- Escape and rescue route lighting
- Hand-held fire extinguishers
- Smoke alarm

Organisational fire protection

In addition to structural and system related fire protection the organisational fire protection has to regulate the tasks, processes and codes of conduct in the event of a fire.

Our services are:

- Collaborating to determine a Fire Protection Code
- Developing escape and rescue plans
- Determining escape signs in accordance with workplace regulations and Accident Prevention Regulation
- Developing fire-fighting plans in coordination with the fire brigade
- Organisation of alarm exercises
- Collaboration with the development of fire protection concepts

Fire protection

to protect health and resources





You will find more information in our brochures: **Bohle Fire protection**

System related and organisational fire protection

We realise modern

Modern structural engineering architecture demands a higher degree of creativity and individuality. This calls for special material and processing knowledge. A striking visual appearance with current technology is accomplished with the facade systems. Detail solutions require particular diligence. Find out more about innovative systems for windows, doors, facades and conservatories.

Individual solutions often require special permits, we will support you with this.

Our protection systems are suitable for new buildings as well as for conversion of existing properties. High processing and assembly quality with good, on schedule delivery distinguish the Bohle Group.

We offer our services in the following areas:

- Metal construction
- Aluminium windows and doors
- Aluminium post and mullion constructions
- Facade cassettes and
- sandwich panel facades
- Fire doors
- Smoke-tight doors

and sophisticated architecture – using metal, aluminium and glass – without any compromises









You will find more information in our brochures: **Bohle Metal construction**



Metal construction



Bohle services - y

The maintenance services for railway vehicles relate to regional and long-haul transport vehicles.

We offer our services in the following areas:

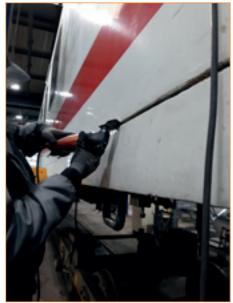
- general hot, cold and noise insulation works
- general fire and weather protection measures
- various arrangements for welding works
- various corrosion protection measures
- any kind of disassembly and reassembly works through to cleaning of various components
- certified gluing work, depending on customer requirements

Among others our range of services include:

- Pollutant analysis
- Contaminant capture (documentation)
- Development of work plans, hazard and load analysis in accordance with TRGS 519 [Technical Rule for Hazardous Substances] (asbestos) / 521 (artificial mineral fibres)
- Building of mobile/stationary sanitation areas
- Clearance measurement in accordance with TRGS 519/ 521

our partner for industrial service of railway vehicles



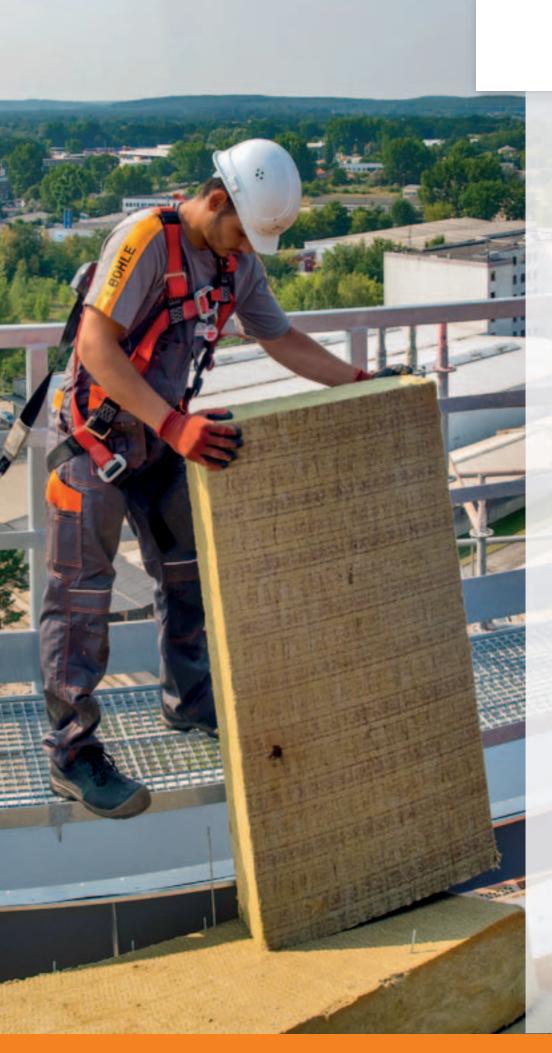












Health, Safety, a seamless

For each of our projects the health of all persons involved is the basis for our success. The primary objective of the Bohle Group is to work safely and respect the environment.

We achieve the high HSE standard by means of:

- Hazard analysis
- Construction site and project safety plans
- Clear responsibilities
- Illustrating the HSE relevant tasks
- Records of instruction
- Operating instructions
- HSE training
- Campaigns such as "work safety"

Since August 2018 we have been certified in accordance with the highest SCC^P Standard and therefore meet the highest requirements of petrochemistry.

Quality management:

Certified in accordance with DIN EN ISO 9001:2015

Our quality management is focused on the consistent measurement of possibilities and risks within the process workflows. The combination of long-standing experience and modern management methods ensures the sustainability of our business.

Training and further education in the Bohle Group offers:

- Long-term perspectives
- Interesting jobs in different areas of the industry
- Optimal knowledge transfer in theory and practice by means of intercompany training
- Diverse qualification options

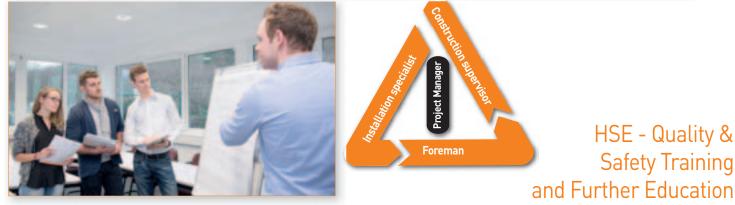
The Bohle Group trainees are frequently among the best of their age group – not least because of the good, professional support provided by experienced trainees from the different areas of the Bohle Group.

Environment at Bohle – Quality and Safety form whole Our customers benefit from our qualified employees



Perspectives from training and further education





The Bohle Group connected by quality



Insulation technology Interior work Fire protection Services

Ernst Bohle GmbH Administration Gummersbach

Bohle Group locations: Berlin Bremen Cottbus Düsseldorf Frankfurt/Main Gummersbach Hamburg Hannover Kiel Koblenz Köln Leipzig Ludwigshafen Magdeburg Mannheim München Pulheim Rostock Stuttgart Polen (Rzezawa)

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