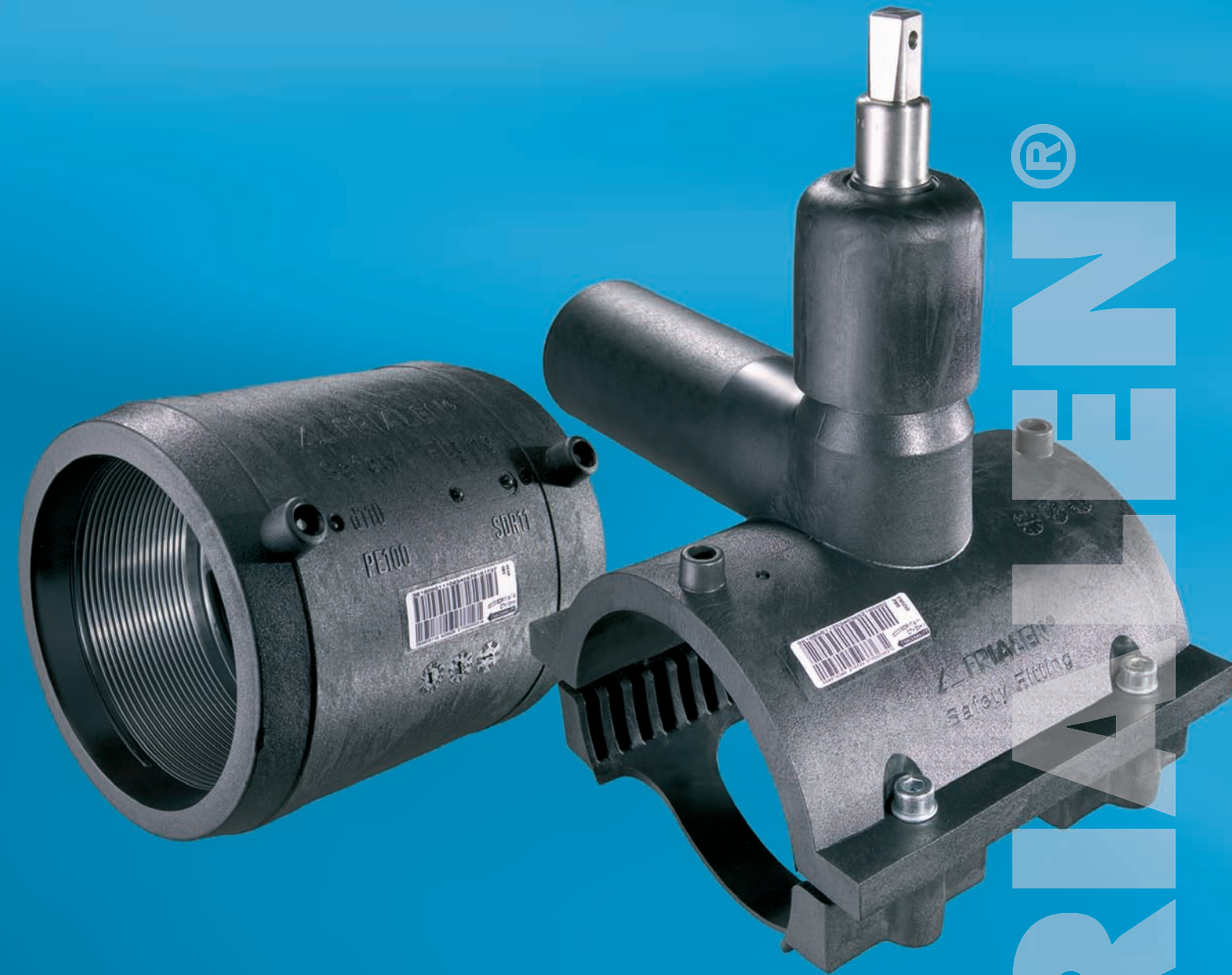


FRIALEN®

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Always the right decision:

FRIALEN® Safety Fittings

Intelligent jointing technology with bite

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THE SUPERIOR JOINTING TECHNOLOGY:

FRIALEN® Safety Fittings



The heart of a successful, profitable and reliable gas and water utility invariably remains concealed from most: the subterranean, sometimes very complex infrastructure of the pipeline system. We at FRIATEC, as world leader in electrofusion fittings, are aware of the significance of this subterranean capital for gas and water supplies and are able to provide you with innovative, modern connection concepts designed to ensure longterm the reliability and durability of your pipe systems. In order for you to make the right decision, FRIALEN safety fittings are not simply good. They are better.

THREEFOLD CONSIDERATIONS:

1. Exposed heating coil for improved hold:

FRIALEN safety fittings are designed with exposed heating coils. These provide consistent heat transfer during fusion and optimum homogenous connection of the materials. Other advantages include ...

- fusion result is not affected by oxidic layer in the fitting
- symmetrical fusion ellipse
- excellent and fast bridging of gap

2. Longer fusion zone for more bite:

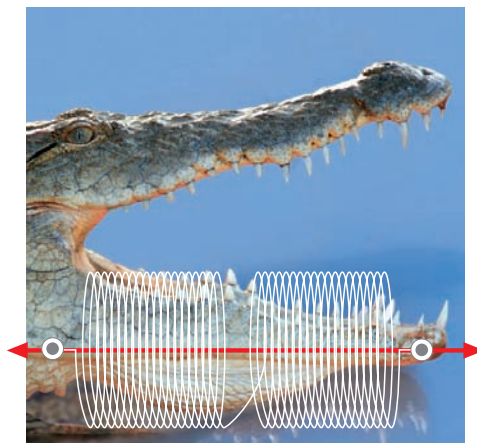
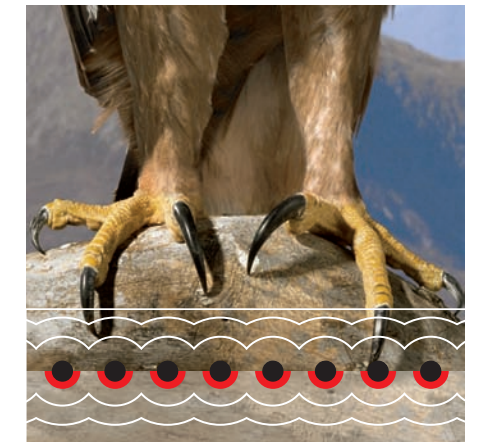
FRIALEN safety fittings have a longer fusion zone thus clearly exceeding the requirements by the European standard. This allows a considerably greater solidity and reliability of the fusion joint. Other advantages include ...

- enlarged force transferring area
- greater installation safety
- higher long term solidity of the jointing

3. Larger insertion depth for a perfect result:

The larger insertion depth of the pipe ends inside the coupler contributes considerably to the reliability and safety of your pipe connections. FRIALEN safety fittings ensure that

- angle deviations are safely absorbed
- bending stresses are better compensated
- melt pressures are evenly built up.



FRIATEC - ALWAYS THE RIGHT DECISION

FRIATEC, as specialist for jointing technology in pipe systems and leader in electrofusion technology, stands for the certainty to have made the right decision. A decision which contributes to optimising the safety, economy and efficiency of your processes.



SUPERIOR JOINTING TECHNOLOGY FOR:

Service pipes

Whether new construction or renovation: HDPE pipes are mainly used for house connection. FRIALEN's house connection systems create jointings which convince with their ease of installation, value for money, durability and safety. With FRIALEN you are well equipped for all construction measures in gas and water supply – even with complex pipe designs.

FRIALONG long couplers

... are almost twice as long as standard couplers. They are ideal for the installation and low stress fusion of coiled goods d 32 to d 63. Two more FRIALEN coupler types are available for pipe connections: the MB coupler with easily removable stop and the UB coupler without stop suitable as slide-on coupler.

FRIASTOPP long couplers with integrated excess flow valve

... are used directly behind the pressure tapping tee to secure the underground house connection. The gas flow is automatically stopped in the case of a pipe damage, e.g. caused by digging or drilling.

FRIALEN (DAV) tapping valves

... are tapping valves for gas and water pipes which can be shut off. Installation and handling of the DAV is uniquely simple and fast – this is because ...

- fusion and tapping of the main pipe is possible with both gas and water at maximum operating pressure.
- up to d 225, only ten rotations are required for tapping and activating “open/close” function
- operation is very simple due to low tapping forces.
- the compact construction part has no loose parts which could be lost.
- no corrosion protection is necessary.

FRIALEN (DAA) tapping valves

... are the perfect choice when the pipe does not need to be shut off. Due to its special design, tapping under operating pressure is guaranteed without leakage.

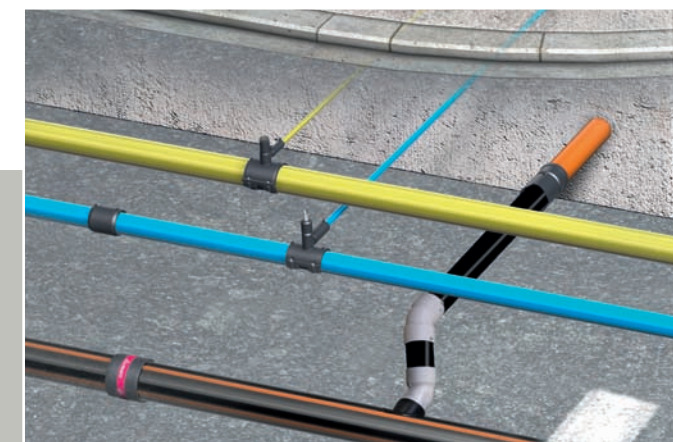


FRIALEN moulded parts

... simplify the installation of house connections. The wide range includes FRIALEN elbows, FRIALEN T-pieces and FRIALEN reducers.

FRIALEN adapters

... serve as material transitions from metallic components with thread connection or spigot end with a HDPE connection, e.g. valves.



FRIALEN with its complete range of easy to install fittings for pipes from d 20 to

225 provides for each and every application a suitable solution.

SUPERIOR JOINTING TECHNOLOGY FOR:

Main pipes



For many years now pipe systems made from plastic have gained ground in the gas and water supply. The HDPE material allows you, the user, to benefit every day from low weight, resistance to corrosion, excellent chemical durability and exceptional fusibility. FRIALEN provides you with a complete range of electrofusion fittings for HDPE pipes from d 75 to d 225.



FRIALEN elbows

... are used for direction changes in pipe alignment. The FRIALEN range provides standard elbows of 30°, 45° and 90°, and in addition 11° for more flexibility in pipe alignment.



FRIALEN (FLT) flange T-pieces

... are compact combination components made from FRIALEN T-piece, reducer and flange. They are used for the connection of valves made from different types of metal, mainly for the connection of hydrants.

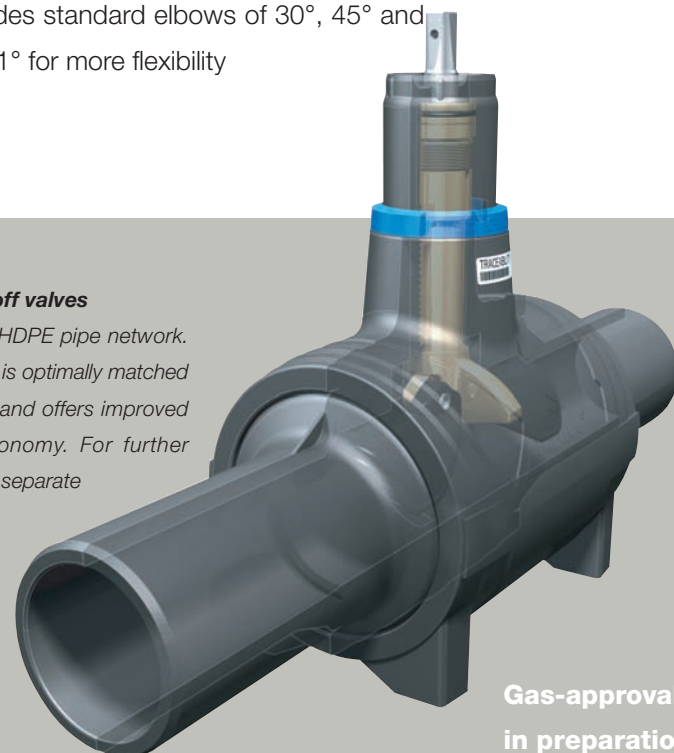
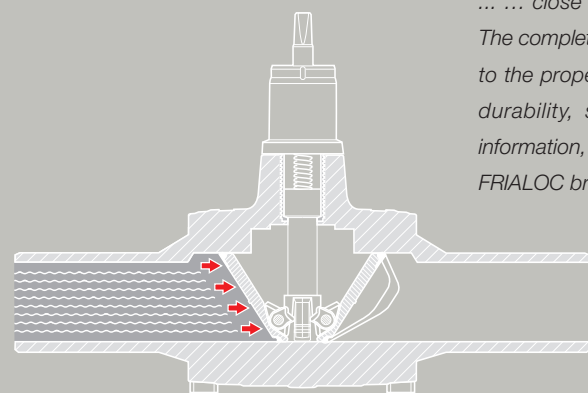
FRIALEN (SA) branch saddle

... allow for the creation of large branches in gas and water pipes – without disruption even under operating pressure.



New: FRIALEN PE shut-off valves

... close the gap in the HDPE pipe network. The completely new design is optimally matched to the properties of HDPE and offers improved durability, safety and economy. For further information, please see the separate FRIALOC brochure.



Gas-approval
in preparation

IN THE APPLICATION:

FRIALEN – perfect, safe jointings even in

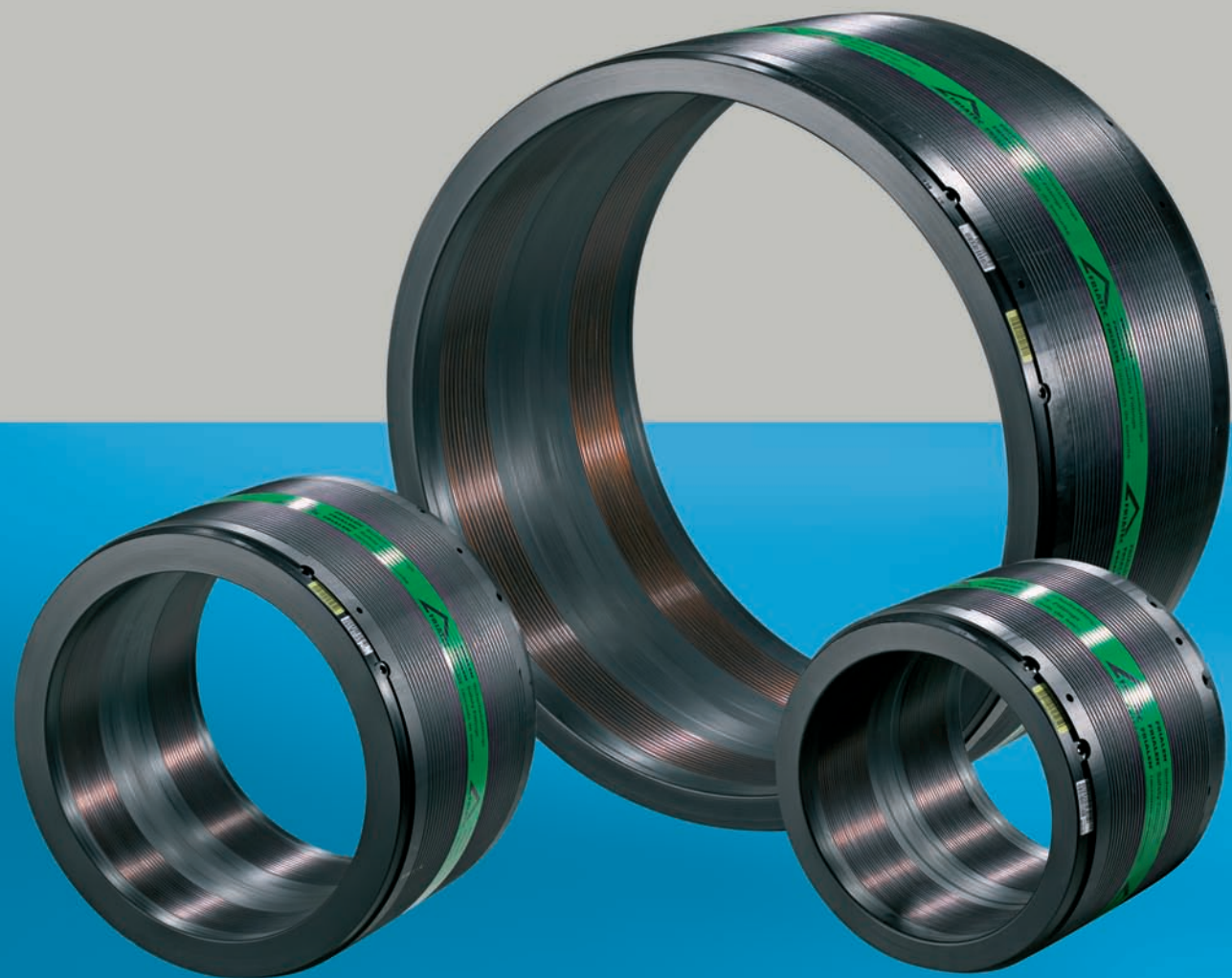
difficult conditions, for examples in narrow trenches in the inner city.



SUPERIORITY IN GRAND STYLE:

Large pipe technique

Especially with large dimensions technically mature solutions, which are designed for the construction site, are required. The FRIALEN large pipe technique allows you to master even complicated installation tasks with ease. In the area of large pipe technique FRIATEC provides you with a comprehensive range of electrofusion fittings for HDPE pipes d 250 to d 800. Designed for consistently perfect jointings in grand style.



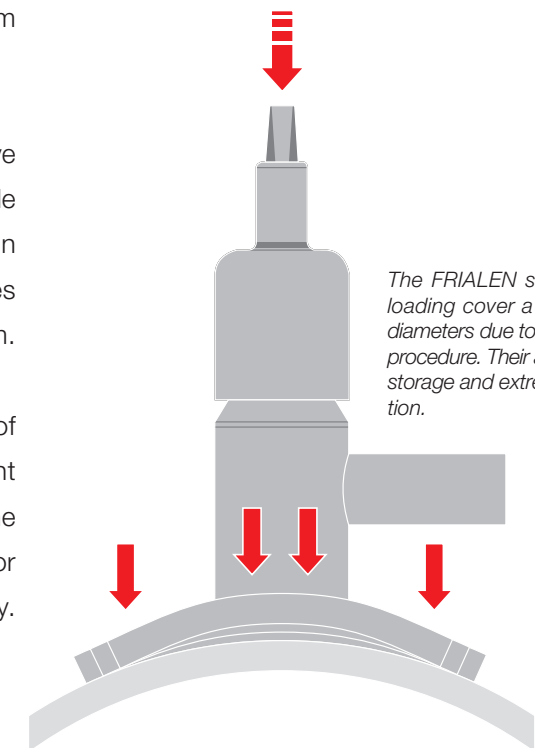
UB large couplers

FRIALEN large couplers have their big moment especially in retrospective pipe direction changes and repairs. In restricted conditions, when HDPE pipes are no longer able to move lengthways and other fusion techniques have been excluded, the large coupler, as a slide-over fitting, provides universal problem solutions. Also with regards to installation, durability and safety of FRIALEN large couplers you will benefit from their use by ...

- **Pre-heating technique:** FRIALEN large couplers have a pre-heating barcode from d 280 as well as a barcode for the fusion process. Pre-heating prevents deviations in the shape of the pipes to be fused and compensates annular gaps between coupler and pipe up to 3 mm.
- **External reinforcement:** this prevents expansion of the coupler during fusion. The external reinforcement designed by FRIATEC will assist you in maintaining the important parameter "pressure" in the fusion zone – for maximum connection quality and high stability.

FRIALEN saddle fittings for top loading

... are applied for connections and branches from d 250 to d 560. With the top loading procedure saddles are clamped onto the pipe without under clamp using the FRIATOP clamping tool.



The FRIALEN saddle parts for top loading cover a large range of pipe diameters due to the unique clamping procedure. Their advantage is reduced storage and extremely simple installation.

IN THE APPLICATION:

FRIALEN large couplers convince as ideal problem solvers particularly in restricted conditions.



ALWAYS THE RIGHT DECISION:

Jointings for all eventualities



Demonstration of an electrofusion process. No questions remain unanswered when there is training on the construction site.



Advice on site: a FRIATEC specialist explains how to handle a FRIATOOLS scraper tool.



Seminars: The FRIATEC seminar leaders instruct the safe use of FRIALEN – even on site.

Perfect advice leads to right decisions

Your competent FRIATEC advisers are very experienced in application technology. No task is new to them. Together with your colleagues they will analyse your requirements and design solutions in line with your needs. You can be certain of always making the right decisions when it comes to technology and economy.

Perfect service leads to safe operation

It is part of a perfect service to have time for the customers. We place great emphasis on our advisory and service team not only being qualified with regards to content but also being available to their customers. You may benefit from our provision of services which range from training sessions to training on the construction site, and from sample installations to a comprehensive equipment hire service.

■ FRIALEN relining couplers

FRIALEN provides you with special couplers for relining, which are used for the renovation of e.g. steel or cast iron pipes and provide a fusion which is tight and with axial force. Relining saddle parts, e.g. special top loading tapping valves, complete the FRIALEN relining system.

We concentrate on connection technology for pipe systems. This allows us to meet each requirement in this area with a highly specialised solution.

■ FRIAFIT

Couplers, moulded parts and valves for electrofusion connections for HD=PE pipes in wastewater disposal.

■ FRIATOOLS

FRIATOOLS Technical Equipment offers a sophisticated and complete product range with its FRIAMAT fusion units and mechanical tools such as scraper tools and rounding clamps. Comprehensive service and practice-orientated workshops round off the offer.

■ FRIAGRIP

Coupling and repair technology for the repair of different pipe materials.

■ STRAUB

Axial restraint and axially flexible pipe joints for all pipe materials.

■ FRIALEN Geo

The safe geothermal energy system
Ground probes, probe feet, Y pieces, plastic manifolds, plastic manholes for construction of complete systems for geothermal heat recovery.



FRIALEN: The perfect solution for relining.

Would you like to find out more about our range of products and services?

You will find more information in separate product brochures or online

under: www.friatec.com