



**THE GLOBAL
LEADERS IN
ELECTROFUSION
TECHNOLOGY**

Famous for its engineering pedigree, FRIATEC shapes the future of industrial plastics development at its manufacturing and R&D facility in Mannheim Germany.

Driven by an 1,100 strong team, FRIATEC invests heavily in research to further improve its products and continually surprise the market with new advances. This commitment is reflected in the large number of patents FRIATEC has been awarded for its significant technical discoveries.



QUALITY

SINCE

1863

A global market leader in fittings since 1863, FRIATEC is intensely focused on quality, producing a wide range of products for the world's most demanding applications.

Bringing together precision engineering and cutting edge materials technology, the company produces in excess of 12 million fittings per year at its state-of-the-art Mannheim manufacturing facility in Germany.

A pioneer of electrofusion technology since the 70's, FRIATEC continues to set the standard that others follow. And now, FRIATEC's advanced range of electrofusion fittings, welders and tools are available through Reece in Australia.



EXPOSED HEATING COIL

Using a highly efficient, exposed heating coil design, FRIATEC's electrofusion system provides ideal heat transfer from fitting to pipe, delivering a faster and more precise weld. What's more, this unique design eliminates the risk of contamination through oxidation. The coils are embedded two thirds of the way the fitting so they simply cannot be dislodged. This ensures excellent bridging of gaps and ideal heat penetration for the perfect seal every time.



LONGEST COUPLER LENGTH

To guarantee outstanding performance, FRIATEC's couplings feature extra-long fusion zones. These zones are up to 2.7 times longer than the minimum required standard.

The larger fusion area helps to absorb energy while offering improved safety and stability. Extra-long cold zones reduce bending stress and ensure no loss of melting pressure.

Long coupler length also translates to better pipe support, better pipe alignment inside the fitting, a reduction of bending stress and a larger insertion depth at each end.



FULL

RANGE



FRIATEC offers a range of couplers from 20mm - 1200mm in diameter. Each coupler is available in a choice of three different pressure ratings. These are SDR 17 (1000kPa), SDR 11 (1600 kPa) or SDR 7.4 (2500 kPa). If you need to fuse coiled pipe, FRIATEC offers its innovative 'Long coupler' which is 80% longer than its standard coupler. FRIATEC also offers elbows in 11°, 30°, 45° & 90°; pressure tapping tees and saddles.



SMARTER WELDERS

12_{kg}

10<sub>amp
plug</sub>

BARCODE
READER

AUTOMATIC
TEMPERATURE
COMPENSATION

Lightweight and easy to transport, FRIATEC's advanced FRIAMAT Electrofusion welder takes all the work out creating the perfect weld.

With the built in barcode reader, you simply scan the code on the fitting and the welder adjusts every variable to create the perfect weld - even automatically adjusting the welding time based on the ambient temperature.

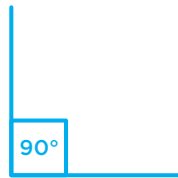
Fan-cooled for continuous operation, the welder runs off a 10amp plug - making it suitable for use with a standard power point or generator. And best of all, it can be used with any size coupling in the FRIATEC range.

WELDING TUTORIAL

A step-by-step guide to creating a weld using the FRIATEC system.

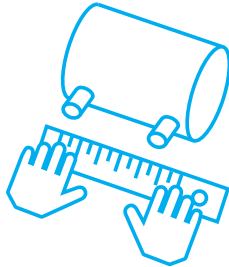
1.

Ensure the pipe is cut at the correct 90° angle.



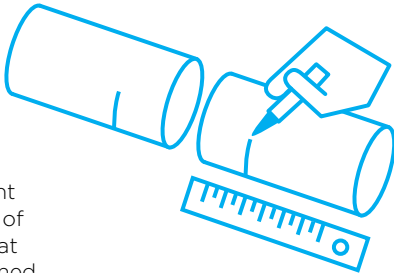
2.

Measure the half-length / mid-point of the coupler.



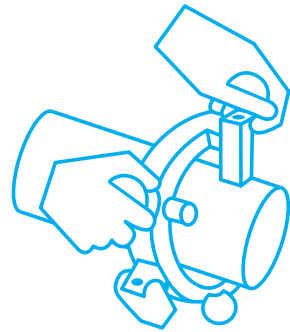
3.

Mark this measurement on the ends of the pipes that are to be joined.



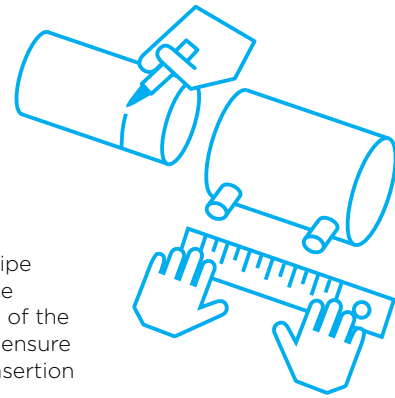
4.

Remove the oxide layer from the pipe surface using a scraper tool up to the markings on the pipe ends.



5.

Mark the pipe again to the half-length of the coupler to ensure the right insertion is reached.

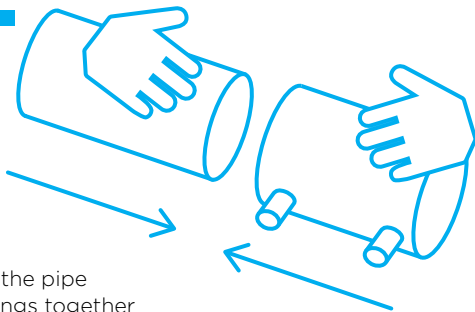


6.



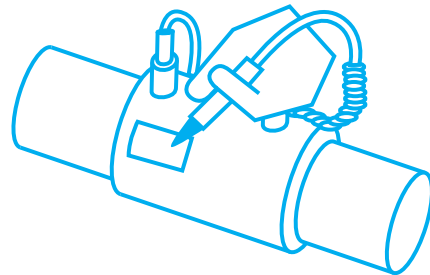
Use wipes to clean the scraped ends of the pipe, waiting until the moisture has evaporated.

7.



Slide the pipe & fittings together until they reach the insertion marks.

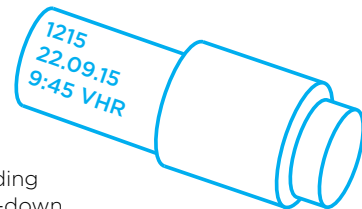
8.



Use pipe clamps or other suitable means to secure the pipe so it doesn't move during welding.

Attach the pins from the welder to the fitting. Scan the barcode, confirm the welding details.

9.



Write the welding time and cool-down time on the pipe.

CASE

STUDY

FRIALEN XL Electrofusion technology utilised on major Mornington Peninsula pressure sewer project.

THE BACKGROUND

More than 16,000 properties will be connected to the new sewer network

The pollution of ground water & waterways in the Mornington Peninsula region due to the ageing and failing of poorly maintained septic tanks was the catalyst for South East Water to roll out one of the largest pressure sewer constructions in Australian history. Construction works are taking place between the suburbs of Rye & Portsea and commenced mid-November 2013 and are anticipated to be completed within 30 months.

THE CHALLENGE

Installation of Electrofusion couplers on Large Bore PE pipe

Deformations in larger size PE pipes including ovality and local flattening (due to storage) can potentially create an issue during the installation process of PE Electrofusion couplers.

THE SOLUTION

FRIALEN XL Electrofusion Fittings - Special technology

The solution was to use FRIALEN XL Couplers which are equipped with many features to safely join PE pipes:

- Pre - heating technology - Capable of closing gaps between 1mm - 3mm
- External reinforcement - Prevents the fitting expanding off the pipe during fusion
- Exposed heating coil for improved hold
- Longer fusion zone for an enlarged force transferring area
- Longer cold zone - Compensates shrunken pipe ends and pipe not cut at a right angle
- Larger insertion depth to better compensate bending stresses
- Extra wall thickness - No loss of melting pressure

THE BENEFITS

FRIATEC is a world leader in Electrofusion technology. The safety features available on all FRIALEN XL fittings (400mm - 1200mm) are designed for the construction site and offer technical solutions to the contractor in the area of large pipe technique. FRIALEN Electrofusion fittings provide innovative, modern connection concepts designed to ensure long term reliability and durability of pipe systems.



FRIALEN XL 560mm coupler installed near Weeroona Street, Rye - Victoria

SUMMARY TABLE

| CUSTOMER NAME | FHDB |
|-------------------------|---|
| Application/Product | Large diameter FRIALEN XL Electrofusion couplers |
| Size(s) used | 560mm, 450mm, 400mm |
| Functional Requirements | Pre heat technology for out of round large bore PE pipe No clamping required due to external reinforcement |
| Benefits | <ul style="list-style-type: none"> • Exposed heating coil for improved hold • Greater installation safety • Longer fusion zone for more bite • Larger insertion depth for a perfect result • Designed to ensure long term reliability & durability • Excellent & fast bridging of gap • Fusion result is not affected by oxide layer in fitting • Optimum homogenous connection • Symmetrical fusion ellipse ensures a strong bond |



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