



# Fusion-Tech Pipe Multi-Layer Pipe Safety-Pol Fittings



# aquatechnik®

Professional **PP-R Fusion Pipe** Solutions for Fluid Handling Systems since 1985

aquatechnik®



# Three Decades of PP-R Fusion Pipe Quality and Reliability

Since 1985, **aquatechnik®** has been at the forefront of manufacturing the highest of quality of polypropylene fusion welding pipe and fittings for multiple fluid handling systems. Today, the firm's manufacturing plant in Magnano, Italy produces a full range of PP-RCT fusion pipe and fitting solutions for export to a growing number of countries world-wide – now including the United States and Canada.

A firm commitment to quality, reliability and safety has remained a hallmark of **aquatechnik®** success since its inception. The **aquatechnik®** Fusion-Tech Pipe carries a 30-year warranty. All **aquatechnik®** products are made to meet and exceed stringent certification standards and, above all, the needs and demands of professional installers.

In launching **aquatechnik®** in North America, it is clear that this proven flame-free PP-RCT fusion pipe installation will quickly emerge as a preferred alternative to conventional soldering and welding methods.

The new **aquatechnik North America** team believes that building owners, engineers, architects and mechanical contractors in HVAC and other sectors will welcome a versatile green building product that is safer, more affordable, easier and faster to install in a wide range of applications -- always promising decades of reliable performance.

Welcome to the future of **aquatechnik®** PP-RCT fusion pipe quality and reliability.

[aquatechnikNA.com](http://aquatechnikNA.com)

# Fusion-Tech Pipe

## PP-R pipe and fittings for polyfusion welding

### Range

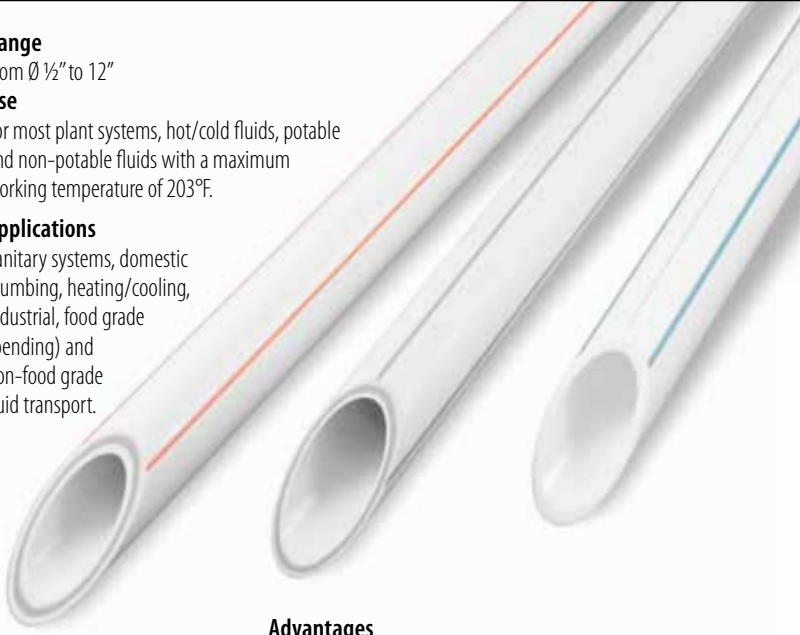
From Ø ½" to 12"

### Use

For most plant systems, hot/cold fluids, potable and non-potable fluids with a maximum working temperature of 203°F.

### Applications

Sanitary systems, domestic plumbing, heating/cooling, industrial, food grade (pending) and non-food grade fluid transport.



### Advantages

- Leader in high flow rate and low pressure drop.
- Resistant to lime, cement, plaster and electro-chemical reaction.
- Completely compatible with warm and cold fluids.
- Economical quick-and-easy installation.

The **Fusion-Tech Pipe** family includes the new **faser FIBER-T** and **faser FIBER-COND** pipes with special re-reinforced fibers in the middle layer.

The **faser FIBER-T** is ideal for heating, air conditioning, domestic hot water, warm water transport, irrigation and compressed air systems.

The **faser FIBER-COND** is designed for heating, chilled water and other mechanical systems.



### FUSION-TECH PIPE FIELDS OF APPLICATION

	PLUMBING SYSTEMS faser FIBER-T Red-Striped Pipe	MECHANICAL SYSTEMS faser FIBER-COND Grey-Striped Pipe	RAIN WATER COLLECTION Violet Pipe (not shown)
HEATING SYSTEMS	Yes	Yes	No
CHILLED WATER SYSTEMS	Yes	Yes	No
MARINE APPLICATIONS	Yes	Yes	Yes
RAINWATER COLLECTION	No	No	Yes
COMPRESSED AIR SYSTEMS	Yes	Yes	No
IN-FLOOR HEATING	Yes	Yes	No
CHEMICAL APPLICATION	Consult Factory	Consult Factory	No
POTABLE WATER*	Yes	No	No
FOOD GRADE	Pending	No	No
FIRE PROTECTION	Pending	Pending	No
UNDERGROUND APPLICATIONS	Yes	Yes	No
IRRIGATION	No	No	Yes

Notes: \* Blue-Striped Pipe is used for potable cold water only.

For all other applications, please consult your **aquatechnik**® PP-RCT fusion pipe distributor.  
**aquatechnik**® Fusion-Tech pipe and fittings are NSF/ANSI 14, 61 and 372 certified.

Like all the pipes in the system, the **FIBER-T** and the **FIBER-COND** can be polyfused with the Fusion-Tech fittings. All PP-R fittings with brass are lead-free.



1+1=1



# Heat Fusion Methods and Tools

## Socket Fusion Welding



Socket welding is generally used with pipe/fitting diameters of 1/2" through 4". This is a widely used technique for joining plastic piping systems using injection moulded fittings. The operating principles are straightforward, with the welding cycle basically consisting of a heating phase and a cooling/welding phase. To obtain a proper fusion, be sure to cut and mark the pipe to the proper depth. The pipe and fitting are heated for a specified period of time, after which the pipe is inserted into the fitting to cool.

## Butt Fusion Welding



This technique is generally used for pipe and fittings ranging from 6" and larger. The process involves the joining of plain-end pipe with plain-end fittings. The pipe and fittings are heated while being pressed against a "heated plate" for a specified period of time. The heat is absorbed into the pipe and fitting, allowing them to weld together, and then cooled. Welding and cooling time is determined by the pipe diameter and wall thickness.

## Electrofusion



The electrofusion process involves the use of moulded socket fittings containing an electric heating coil. The pipe ends are inserted into the sockets and clamped. An electrical current is then passed through the coil for a pre-set time. Heating of the surrounding plastic and heat transfer to the pipe wall then takes place. This process is commonly used where space is limited and/or lateral pipe movement is not possible.

## Outlet Fusion



This method may be used as an alternative to using reducing tees. The fusion outlets can be fused to the outside of the pipe with ease. Fusion outlets are socket fused using welding heads and heating irons.

# Safety<sup>®</sup>-Pol Tools



The main features of the **safety-pol** system are:

- patented **aquatechnik**<sup>®</sup> tools flare the pipe around the fitting to maintain precise inside diameters of the fittings, reducing pressure drops throughout the fittings
- the pipe is locked on the fitting by a tight collar/cap connection, but can be unlocked and used again.

# Multi-Layer Pipe

## Multi-Calor

### Multi-Layer PEX-AL-PEX

**Range**

From  $\emptyset$  1/2" to 2 1/2"

**Use**

Transport of hot/cold, potable and non-potable fluids with maximum working temperature/pressure 203°F/145psi

**Applications**

Domestic plumbing, heating/cooling, industrial, food grade and non-food grade fluid transport

**Advantages**

- Extremely flexible
- High working temperature and pressure
- Chemically safe and stable for food-grade fluids
- Non-corrosive
- Leader in high flow rates and low pressure drops
- Economical quick-and-easy installation
- Impermeable to oxygenated fluids

## Multi-Eco

### Multi-Layer PEX-AL-PE-HD

**Range**

From  $\emptyset$  1/2" to 1"

**Use**

Transport of hot/cold and non-potable fluids with maximum working temperature/pressure 203°F/145psi

**Applications**

Heating/cooling, industrial and non-food grade fluids transport

**Advantages**

- Extremely flexible
- High working temperature and pressure
- Chemically safe and stable for food-grade fluids
- Non-corrosive
- Leader in high flow rates and low pressure drops
- Economical quick-and-easy installation
- Impermeable to oxygenated fluids
- Excellent price/product value

## Polipert

### PE-RT pipe with an EVOH oxygen barrier

**Range**

From  $\emptyset$  1/2" to 5/8"

**Use**

Heating systems

**Applications**

Heating systems with radiators, conditioning systems and floor heating/cooling systems for industrial and community structures

**Advantages**

- Simple and safe connections for in-wall and free-hanging installations
- Extremely flexible
- Easy laying operations
- Long life and reliability of systems
- Non-corrosive
- Extremely flexible using the aquatechnik® coupling tool
- Economical quick-and-easy installation
- Impermeable to oxygenated fluids
- Excellent price/product value
- Less processing waste when used with safety fittings

# Safety<sup>®</sup>-Pol Fittings

Patented fittings of PPSU with PAM caps



**Range**

From Ø ½" to 2½"

**Use**

Transport of hot/cold fluid and non-potable fluids with maximum working temperature/pressure 203°F/145psi

**Applications**

Heating/cooling and industrial fluid transport

**Advantages**

- Simple and safe connections for in-wall installations
- High impact-resistant
- High flow rates and low pressure drops
- Quick-and-easy installation
- Possibility to unlock fittings for re-use
- Resistant to lime, cement, plaster and electro-chemical reaction
- Low cost and economical dedicated tools
- Less waste by re-using fittings

The **safety-pol** fittings are the product of continuous technical innovation and research, which are an integral to **aquatechnik**<sup>®</sup> success. This new range was designed and patented by the **aquatechnik**<sup>®</sup> group spa to reach the highest safety standards regarding the connection of in-wall multi-layer pipe installations.

The main features of the **safety-pol** system are:

- patented **aquatechnik**<sup>®</sup> tools flare the pipe around the fitting to maintain precise inside diameters of the fittings, reducing pressure drops throughout the fittings
- the pipe is locked on the fitting by a tight collar/cap connection, but can be unlocked and used again.

The idea to develop the **safety-pol** fittings came from the decision to increase the flow – consequently decreasing pressure drops and friction – making a greater diameter socket on the pipe head for the connection.

The project has been carried out step by step, going through all necessary tests and paying great attention to reliability factors for its in-wall piping use.

The industrial production began only after receiving certifications from international authorities for the whole range and its dedicated accessories.

The socket on the pipe head is made by special tool that ensure a quick, reliable and safe connection.





# aquatechnik®

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