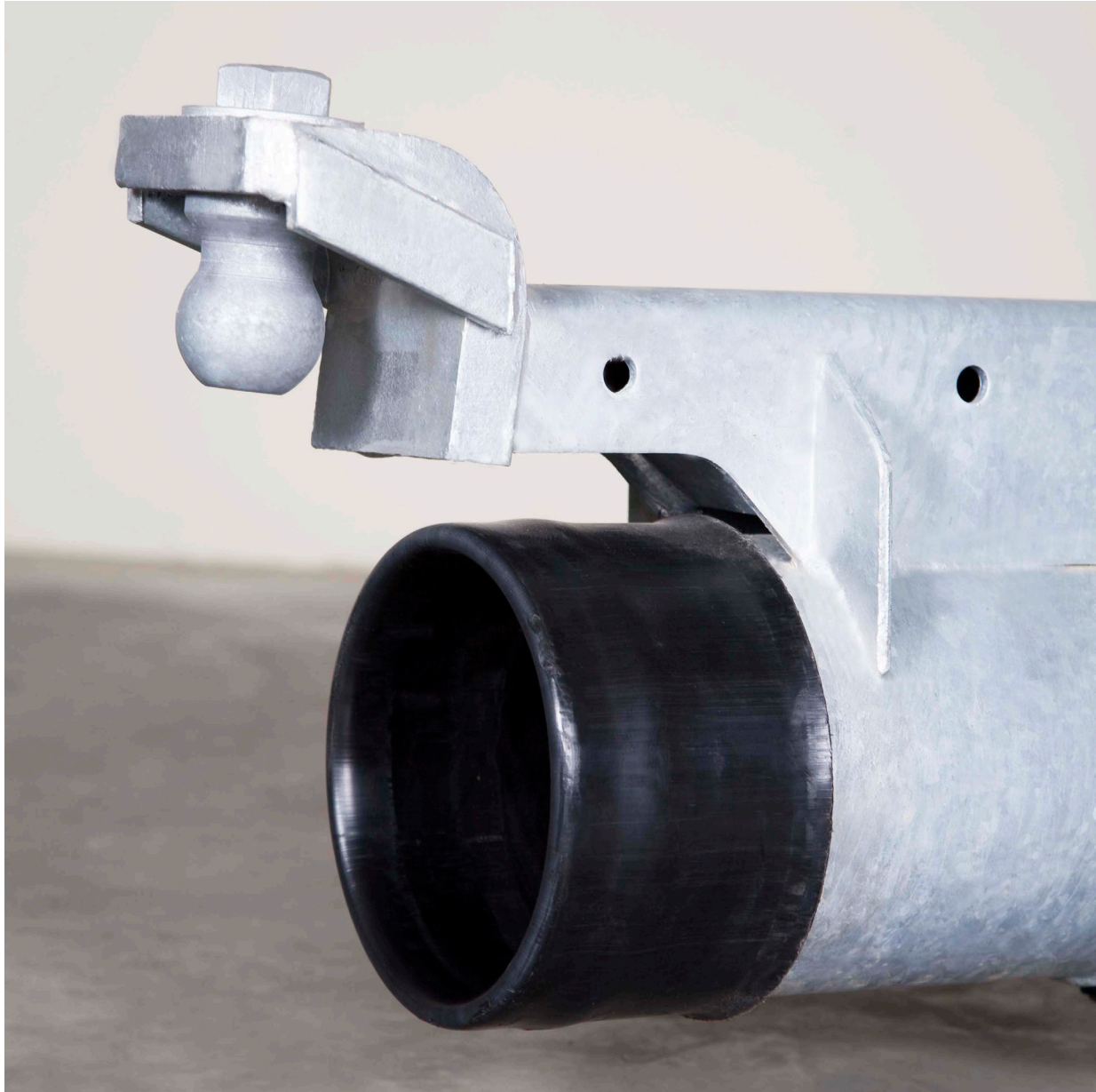


PERMAPIPE™



Revolutionizing irrigation with corrosion-resistant Technology

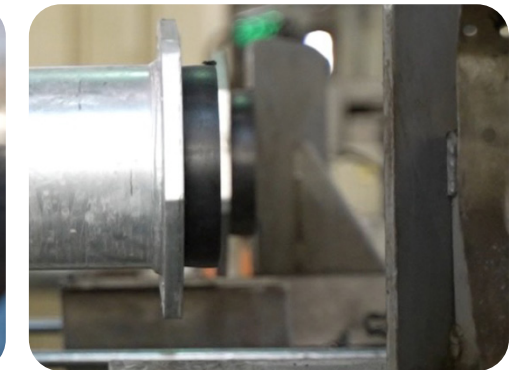
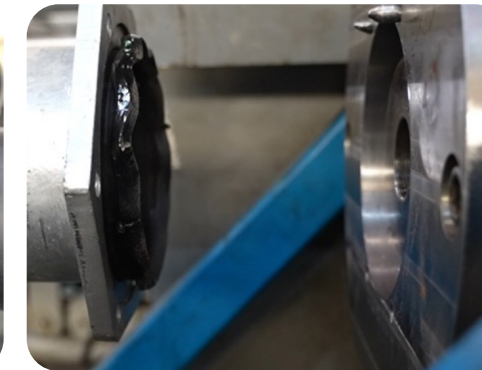
In the world of irrigation systems, ensuring long-lasting and efficient water distribution is vital for maximizing agricultural productivity. Permapipe™, a **polyethylene-lined galvanized pipe**, offers an innovative solution that addresses common issues with traditional irrigation pipes, such as corrosion and wear caused by changes in water chemistry. Manufactured with a focus on durability and resilience, Permapipe™ stands out in the market for its superior ability to withstand harsh environmental conditions.



Manufacturing process

The creation of Permapipe™ involves several critical steps to ensure the highest product quality and longevity:

- 1. Cleaning and pre-preparation:** the process begins with cleaning the galvanized pipes and re-drilling the holes that lock the lining in place.
- 2. Plastic pipe cutting:** raw plastic pipes are cut to the required lengths to fit inside the galvanized pipes.
- 3. Lining the pipes:** polyethylene (PE) plastic is inserted into the galvanized pipes, where it is then compressed using air pressure.
- 4. Plastic adjustment:** the length of the polyethylene lining is adjusted to fit perfectly within the galvanized pipe.
- 5. Heat treatment:** the plastic lining is heated, and any excess material is cut off.
- 6. Final fittings:** the pipe is fitted with appropriate connectors, ensuring they are securely tightened to avoid any cracks.

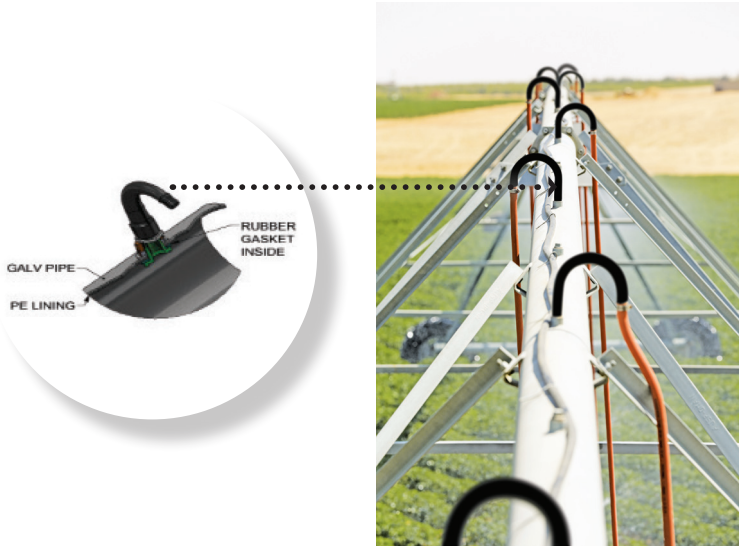


Materials and durability

The primary material used in the production of Permapipe™ is **Polyethylene (PE)**, specifically HDPE SDR41, a high-density polyethylene.

This material provides superior resistance to corrosion compared to traditional galvanized pipes. Unlike galvanized pipes that can degrade when exposed to certain chemicals, Permapipe™ polyethylene liner offers enhanced durability, especially in environments with high chloride and sulfate concentrations.

The 3/4" bulkhead outlets of lined system are made of special high-strength polymer where the U-pipe for the sprinkler drop is attached.



Advantages

Permapipe™ offers a range of advantages over traditional galvanized irrigation pipes:

- Resistance to water chemistry changes.
- Durability.
- Cost savings.
- Sustainability.
- Minimized friction loss for lower pumping energy consumption.
- Sealed system design that ensures zero leaks.



Permapipe™ ensures long-lasting, optimal system performance even under harsh conditions, with a typical service life of 25 to 30 years.

Comparison with galvanized pipes

Exceptional corrosion resistance



- Performs reliably in environments with high chloride and sulfate concentrations.
- Resists corrosion even when water pH levels fluctuate.

Superior to traditional materials



- Unlike aluminum, galvanized steel, or stainless steel, Permapipe™ does not corrode when exposed to harsh elements.
- Maintains system performance where traditional pipes would degrade.

Enhanced system Protection



- Prevents rust flakes that can clog sprinklers.
- Improves water distribution uniformity, supporting better crop yields.

Long-Term durability



- Polyethylene liner offers strong resistance to changes in water chemistry.
- Significantly extends the lifespan of irrigation systems.

	Water Quality		
		GALVANIZED	PERMAPIPE™
pH	6,5 < pH < 7-8	✓	
	pH < 6.5 ; pH > 7-8		✓
Salts	Cl ⁻ x 0,003 + SO ² ₄ x 0,004		
	< 300	✓	
	> 300		✓

Index of corrosion probability (UNE-EN 12.502-3 standard) in fresh water due to different salts and sulfates.



VS



Usage and applications

Permapipe™ is specifically engineered for agricultural settings where water quality poses a challenge. Its polyethylene liner offers excellent protection against corrosion caused by salty, acidic, or chemically aggressive water.

Ideal for:

 **Poor water quality:**
Where water sources often contain high salt concentrations that quickly corrode traditional galvanized pipes.

 **Crops using reclaimed or treated water:**
Permapipe™ withstands the chemical residues often present in reused water, maintaining pipe integrity and system efficiency.

 **Irrigation with well water:**
In many regions, deep wells supply water high in sulfates or with low pH; Permapipe™ resists the long-term corrosive effects of this water.

 **High-frequency fertigation systems:**
Where fertilizers are delivered through irrigation lines, traditional pipes often degrade, Permapipe™ ensures durability even under continuous chemical exposure.

Introduced in 1995, Permapipe™ has proven itself to be an invaluable solution for irrigation systems in harsh environments. Its unique design, featuring a galvanized exterior with a polyethylene lining, makes it an ideal choice for agricultural operations dealing with corrosive or saline water. With its robust construction, resistance to water chemistry changes, and extended lifespan, Permapipe™ is setting a new standard in irrigation pipe technology.



Do you want to know more?
Watch these videos about product

Permapipe video



Permapipe Production
Team Leader Interview



Contact at us at info@aiscosolutions.com



Alkhorayef
Irrigation Solutions

download it @
www.aiscosolutions.com

