# framatome

# **Innovative Lining Solutions**

## For Buried Piping and Component Applications

Robotic applications of liner and coating solutions from Framatome enable you to reduce safety risks and maintenance costs through remote delivery to a wide range of pipe sizes and configurations, while rehabilitating degraded assets for the remaining life of the plant.

## Challenge

Buried piping and plant infrastructure are aging and degrading. As plants extend operation, solutions are required to effectively and efficiently rehabilitate these components.

## Solution

Our cutting-edge polyurea spray-in-place liners provide full rehabilitation, both for degradation protection and structural solutions. Application approaches employ fast curing, spray-inplace liners and coatings utilized for raw service water piping, fire protection piping, intake structures and tanks. Use of robotic piping application technology allows for remote delivery to a wide range of pipe sizes and configurations, helping to significantly reduce manpower and confined space requirements. These robotic technologies can be customized and engineered to suit a wide array of applications. Our liner solutions are sprayed in place seamlessly, delivering consistent thicknesses with no loss of functionality. This innovative solution, supported by extensive engineering analysis and qualification testing, provides an alternative to full excavation. Resulting fast track installations mean minimal system outage durations, putting you back in service as soon as 24 hours after liner application, expediting project completion and delivering cost savings.



## **Customer benefits**

- Robotic installation reduces excavation and safety risks
- Fast application process, minimizes downtime
- Fast-cure, allowing for return to service within 24 hours
- Specialized application engineering solutions possible
- Full-scale rehabilitation, from degradation protection to fully structural solutions

# Manual Component Applications



#### **Tank Foundations**





# Technical Specifications

#### Spray-in-place polyurea liner

- Structural capacity provides standalone replacement system
  - no reliance on host pipe.
- Supports high ring stress and pipe loading
- Near immediate gel times (< 5 seconds)</li>
- 24 hour full cure
- Environmentally approved for use in potable/raw water systems

## Spin cast application (8 to 36 inches)

- Reaches up to 400 feet within piping, depending on configuration
- Navigates around 45/90 degree elbow/tee joints including vertical runs

## Orbital spray application (> 36 inch)

- Reaches up to 1,000 feet within piping, depending on configuration
- Adjustable equipment adapts to piping configuration

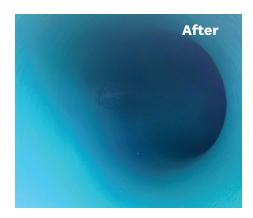
#### **Concrete Structures**





### **Buried Piping**





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