



framatome



Liner Solutions

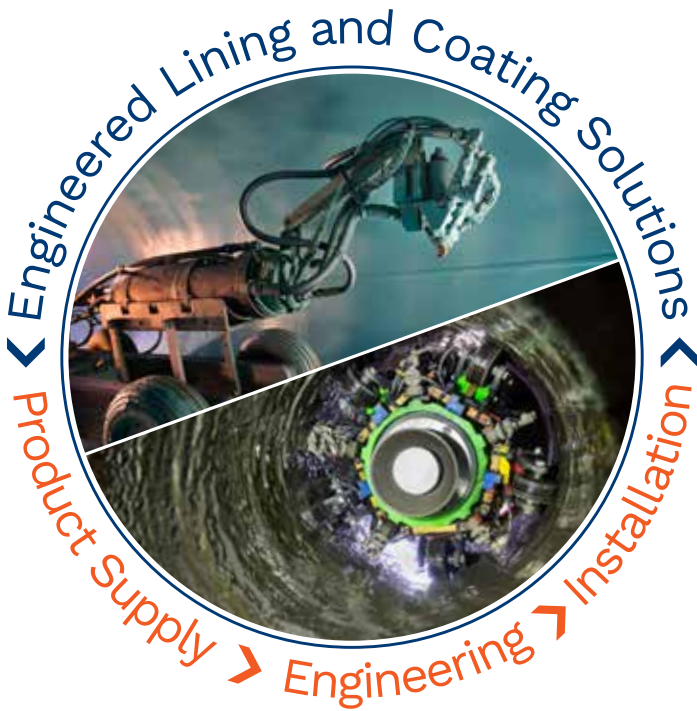


Innovative turnkey solutions for buried piping and component rehabilitation

Framatome-Nukote's engineered lining and coating solutions utilize ultra-fast-curing elastomeric and structural polyurea products to bring a proven solution for buried piping rehabilitation to the energy industry. It provides a competitive alternative to CIPP, PVC, CFRP and other slip lining technologies. Our liner solutions are sprayed in place (SIP) with no loss of functionality, delivering a completely seamless system. Framatome's experience in modification and structural engineering, system design and hydraulic analysis comes together to support all aspects of your buried piping rehabilitation projects. Our liner solutions are suitable for all substrates common to raw water systems.

Framatome-Nukote liner solutions provide fast-track installations, without excavation and with minimal system outage durations. Remote use of our robotics delivers consistent liner thicknesses, expedited project delivery and significantly reduced confined-space manpower costs.

Framatome-Nukote is your trusted full-service provider of engineered lining and coating solutions that mitigate the aging and degrading of piping and components.



A cutting-edge liner technology which:

- ↑ Increases plant reliability
- ↑ Increases performance longevity
- ↓ Reduces maintenance costs
- ↓ Reduces operational risks

Framatome-Nukote engineered lining and coating solutions are:

- Installed using high-pressure, heated, plural-component proportioning equipment. The applications are performed either manually or utilizing Framatome innovative in-pipe robotics.
- Widely used in North America and globally. Major project references are available on request.
- Installed to specifications which meet both the client's requirements and relevant codes and standards including AWWA, ANSI NSF and ASTM. Qualification to ASME code and regulatory requirements supported by Framatome's vast engineering capabilities.
- Suitable for new construction and rehabilitation on all substrate types.
- Ideal for raw water systems and structures, such as service water systems, fire protection systems and intake bay/cooling tower structures.
- Can be designed to provide structural integrity with minimal hydraulic impact on the system.

Tank Foundations



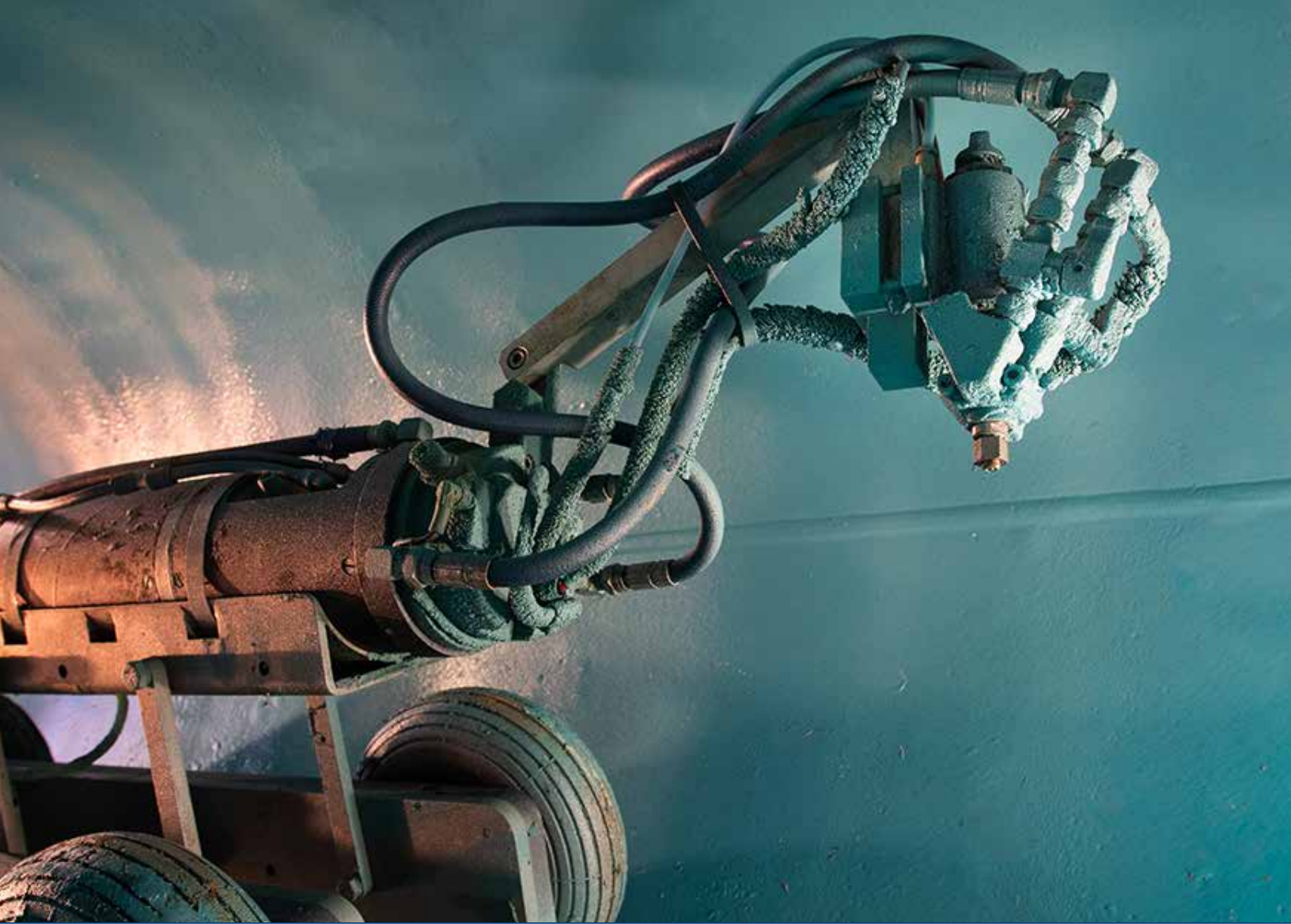
Buried Piping



Features and Benefits

- Suitable for all substrate types and conditions
- Designed as an engineering solution for buried pipe and component mitigation
- Solution can act as rehabilitation to full structural
- Applicable in pipe, vaults, tanks, basins and manholes
- Suitable for use with all effluent types/multiple liner variations
- Meets all AWWA requirements/ M28 class I, II, III, IV
- Applied directly to the substrate without grouting, minimizing flow reduction
- Capable for pipe diameters from 8"/0.203m to 168"/4.3m
- Specialized application (3" to 8") engineering solutions are possible
- Installs robotically, reducing excavation and safety risks
- Capable of reaching hundreds of feet from access point, depending on pipe size and configuration
- Adaptable to a wide range of existing pipe conditions
- Extremely durable, flexible and resilient
- Fast application process, minimizing downtime
- Lower costs compared to conventional liner technologies
- Design life of 50+ years
- Warranties available for up to 25 years
- Comprehensive design engineering support





Liner product technology

The liner system utilizes super-fast gel elastomeric and structural polyurea products, spray-applied in a composite of two products, delivering the physical properties required in underground pipe and component rehabilitation.

These composites provide:

- The required high ring stress, derived from the structural portion of the composite
- High erosion/impact resistance, derived from the elastomeric portion of the composite
- 4-5 second gel/30 second tack-free allowing both forward and reverse application at high builds
- Fast cure, allowing for return to service within 24 hours
- No Volatile Organic Compounds (VOC)/100% solids
- Completely inert, waste can be disposed of in a common landfill
- Environmentally approved for use in potable water systems

Framatome-Nukote coating/lining solutions

- ✓ **Flexible** — Liner allows movement of structures without cracking
 - ✓ **Durable** — Liner and coating is suitable for nuclear industry applications
 - ✓ **Engineered** — Liner and coating specifically designed for each application
 - ✓ **Proven** — Lining system in use for 15+ years
 - ✓ **Efficient** — Application process can be completed quickly
 - ✓ **Economical** — Cost-effective solution requiring minimal product, time and manpower
 - ✓ **Longevity** — Design life 50+ years and direct warranties up to 25 years
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- ✓ **A solution that checks all the boxes**



Framatome is an international leader in nuclear energy recognized for its innovative, digital and value added solutions for the global nuclear fleet. With worldwide expertise and a proven track record for reliability and performance, the company designs, services and installs components, fuel, and instrumentation and control systems for nuclear power plants. Its more than 18,000 employees work every day to help Framatome's customers supply ever cleaner, safer and more economical low-carbon energy.

Visit us at www.framatome.com, and follow us on Twitter: @Framatome_ and LinkedIn: Framatome.

Framatome is owned by the EDF Group (75.5%), Mitsubishi Heavy Industries (MHI – 19.5%) and Assystem (5%).



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is **our** everyday **commitment**

Framatome

155 Mill Ridge Road
Lynchburg, VA 24502

outage@framatome.com

www.framatome.com

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