

THE UNDERGROUND UTILITIES EVENT | JANUARY 25-27, 2022 | FORT WORTH, TEXAS

CIPP Curing Monitoring System: Improving Installation Quality & Verifying Completeness

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Curing Monitoring System

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EVOLUTION OF CURING MONITORING SYSTEMS



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Innovation & Technology Making The Curing Monitor Process Better

System Type	THERMO COUPLING	DISCREET Temperature Sensor	DISTRIBUTED Temperature sensing (DTS)
Reliability Rating	D	С	A

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Definition of a True Curing Monitoring System (CMS)

"Full-length monitoring and recording of the temperatures occurring on the interior host pipe surface, during the installation and the entire curing process of a CIPP liner."



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WHY IS CIPP CURING MONITORING So important?

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Significantly Reduce The Risk Of An Incomplete Cure Or Failed CIPP Liner



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CMS Systems Provide A Simple Solution To A Complex Problem



- Removes guesswork from curing
 process
- Provides real-time data and ability to resolve potential issues before they happen
- Considered a CIPP best practice

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Advantages Of Using A CMS Using DTS Technology

- Full-length monitoring
- Reduces labor, equipment and fuel cost
- Real-time and historical data
- Confirms a properly cured liner



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Who Benefits?

CONTRACTORS:

- Leverage the system as a function of their QC SOP
- Increases profitability

MUNICIPALITIES:

- Can verify the asset is being rehabilitated properly
- Avoid potential disputes with a contractor/manufacturer

ENGINEERING FIRMS:

- Becoming more data centric
- A CMS spec standardizes liner cure verification

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ABOUT DTS TECHNOLOGY CURING MONITORING SYSTEMS

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System Components: Portable Control Unit



- Rugged Pelican case
 housing
- Computer with built-in track pad
- VeriCure software package
- USB Ports
- Optical fiber port

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System Components: Proprietary Software Package



- Real-time recording and analysis of temperature and curing process
- Allows for remote and on- location monitoring
- Creates full reports

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System Components: CMS Optical Fiber Cable





RoundTemp Cable



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Easy To Use*

- 1. Feed fiber cable into the pipe
- 2. Turn on control unit
- 3. Enter project parameters
- 4. Insert CIPP liner into pipe
- 5. Start recording and begin curing
- 6. Monitor installation (remotely and onsite)
- 7. Run report



^{*} Requires software training

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System Components: Reports & Analytics



- Tracks entire curing process
- Multiple graphic views
- Applies to steam and hot water curing
- Monitors exothermic reaction











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Benefits of CMS Featuring DTS Technology

- Ensures proper curing
- Constantly monitors temperature conditions; results in a thoroughly cured, data validated installation
- Lowers project cost
- Improved quality control



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Proven Technology

- Proven performance
- Widely adopted by leading companies



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Training & Certification



- Training is required
- Widely adopted by leading CIPP companies
- Liner manufacturers are offering an extended warranty when VeriCure is used on projects.
- Require it in the specifications.

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Summary

- Inexpensive CIPP QC system
- Asset owner assured gets a quality installation
- Backed by comprehensive, real-time and historical data
- Respond to heat sinks and other failure-inducing complications
- Be sure the users are trained and certified
- System must be maintained and kept clean



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Questions?

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