FIGURE COURSE

Trenchless CIPP, Design, Planning and Installation

28 – 29 September 2016 in Berlin, Germany

Your prominent trainer:



Graham Evans Director, E R Technical Services

Key takeaways:

诊 Identify which solutions and technologies suit your projects

5 workshops included

- ☆ Learn from case studies delivered by our trainer
- Prevent bad habits and short cuts by learning about best practices
- ☆ Hands-on course content gained knowledge may be implemented in your daily professionals affairs right away

About your prominent trainer:



Graham Evans Director, E R Technical Services

Graham Evans has over 30 years experience in civil engineering and utilities practices. In 1995 he took over the management of the Sewer Lining Division in Biggs Wall Ltd. and transformed it into a major contributor to company profits. Later on in his career he carried out the role of independent consultant in the field of pipeline contracting with clients including AWE and British Gas. In 1999 he developed E.R.Systems Ltd. The Company was formed as a supplier to the small bore drainage industry and grew to have a major market share in this field. Among other actives ER Technical Services specialises in training of Cured-in- place lining (CIPP).

Course objectives and outcomes:

This course is designed to deliver a comprehensive understanding of CIPP technology and knowledge required for correct choice of the products not to be detoured by sales oriented topics.

After completion of the course delegates with have a clear perception of systems safety, planning, design and installation through delivery of detailed engineering content. Delegates will also have the ability to identify why and when to use specific group of solutions.

In-house training

Cost effective in-house courses tailored specifically for and customised to your organisation's needs, can be arranged at your preferred location and time. If you would like to discuss this opportunity further, please contact our in-house training division at igor.kottman@fleming.events

CIPP Technology

Cured-in-place Pipe Lining techniques can be used to renovate majority of gravity pipelines, culverts and pressure pipelines used for utility services as well as other process effluents pipelines e.g. food and drink industries. In general, circular pipes can be lined depending on the curing methods available. In addition, non-circular pipelines such as egg-shape, other ovoid and box culvert sections may also be lined. The installation length may vary from short sections over a joint or defect for a localized repair to full length linings typically 30m to 200m although lengths of up to 900m have been installed in a single operation.

Participants will gain knowledge on the most important and modern aspects of CIPP:

- ✓ Resins and Carrier Materials
- Local vs. Full Length
- Procedures and Processes
- Design and Technical Decisions
- Testing
- Planning
- Pre-works and Post-works
- Limitations of the Technology
- Failure and Defect Analysis

Our course includes 5 workshops:

- Investigate a possible CIPP scheme
- Design a CIPP scheme
- Program a CIPP scheme
- Program initial investigation to post-lining survey
- Learning from example projects

Who should attend:

Consultants, Design Engineers, Site Managers, Specifiers, Water Company Planners, Developers, Main Contractor Engineers

Day 1

8:30 Registration

9:00 Trenchless Technology - Why? When? How?

- CIPP Lining history
- Latest developments in CIPP SYSTEMS
- Technique awareness
- Critical Failure of drainage pipes
- UV, steam cure, air and water
- · Local vs. full strength
- Alternative solutions

10:30 Break

11:00 Technical Aspects of a CIPP Solution

- Resins
- Carrier materials
- System limitations
- Typical project examples
- Introducing designing and technical decisions
- Critical failure, safe hand, ring stiffness and design
- Project examples and case studies
- Workshop: "Investigate a possible CIPP scheme"

12:30 Lunch

13:30 Solution Management

- Procedures and processes
- Techniques within size ranges
- Introducing design and technical decisions
- Investigation, design and pre-works
- Process limitations
- Partial repairs, lateral lining and connection sealing

15:00 Break

15:30 Technical Design

- Single end lining techniques
- Workshop: "Design a CIPP scheme"
- Specifications
- Testing requirements
- System selection
- Non-standard liner construction
- Method of work analysis

17:00 End of Day 1

Day 2

9:00 **Project Planning**

- Managing a CIPP project
- Risks assessment
- Programming CIPP works
- The testing process
- Planning, design, pre-works, post-works
- Ancillary works and techniques
- Workshop: "Program a CIPP scheme"

10:30 Break

11:00 Technical Quality

- Failure or defect analysis
- Liner impregnation
- principles and calculations
- Liner installation site requirements
- · Liner cure, theory and practice
- Safety and environmental consideration

12:30 Lunch

13:30 Managing Installation

- Workshop: "Program initial investigation to postlining survey"
- Installation problem solving
- How to guarantee quality
- · Identify equipment requirements
- Workshop: "Learning from example projects"

15:00 Break

15:30 Making an informed solution choice

- Designing a project specification
- Programming the works
- Quality control
- Operative training
- CIPP lining in pressure pipes
- The future of CIPP lining technology

17:00 End of the Course

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