Down Under: What are the performance limits of CIPP liners?

Dr. Iain Naismith presenting interim results of our international LinKa – Liner for Sewers research project in Melbourne

Last week, the interim results of our international **LinKa – Liner for Sewers** research project were presented at the headquarters of the Water Services Association of Australia (WSAA) in Melbourne. The event brought together project partners from Australia and New Zealand in a hybrid workshop setting to discuss first findings and exchange expertise. Many Questions were asked, many answers were given.

LinKa – an international research project

With LinKa, we are investigating the performance limits of **Cured-in-Place Pipe (CIPP)** liner applications. CIPP is one of the most widely used trenchless rehabilitation methods for sewer systems worldwide. But how far can this method go when it comes to damaged or highly stressed pipes?

Ashwini Ausekar and Dr. Iain Naismith presenting on our hybrid workshop at WSAA headquarters.

To answer this question, we have set up several **1:1 scale test rigs**. These rigs replicate real-life sewer conditions and include a variety of predefined damage scenarios – such as cracks, fractures, or deformations. The scenarios were developed in close collaboration with a **steering committee of public sewer network owners**, ensuring that the research reflects practical challenges faced by operators.

Testing and evaluation

CIPP manufacturers have installed their liners in these full-scale test rigs. Our task is to **evaluate the performance** of the different CIPP liners employed under realistic conditions and to provide detailed reports to the participating sewer network owners. In this way, the project creates a transparent basis for evaluating liners and understanding their application limits.

James Gardner, Water Services Association of Australia (WSAA)

A broad international network

LinKa is truly international in scope: **40 sewer network operators** from Australia, Belgium, Germany, Ireland, the Isle of Man, the Netherlands, New Zealand, the States of Jersey and the United Kingdom are actively involved. This broad participation ensures that findings are relevant not only for one country, but for sewer operators worldwide.

Interim results in Melbourne

The interim results were recently presented by our colleagues **Dr Iain Naismith and Ashwini Ausekar** at WSAA in Melbourne. The hybrid workshop format allowed our partners from various Australia and New Zealand utilities to attend in person or online. The event sparked valuable discussions about the first findings and the next steps in the project.

James Goode, Water Services Association of Australia (WSAA)

Coordination in the Southern Hemisphere

In the Southern Hemisphere, the project is coordinated by WSAA, the national association of water suppliers and wastewater utilities in Australia. **James Gardner, James Goode and Greg Ryan** represented WSAA at the event. From our side, our Managing Director Roland W. Waniek joined the workshop in person.

Contact persons

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How testing CIPP liners helps sewer network owners protect their scarce money

IKT’s Test Lab: Three-point-bending test of CIPP sample

How can you as a sewer network operator be sure that your newly installed CIPP liner is of good quality? How sure can you be that it will actually last the promised **50+ years**? How can you know whether you have received the promised quality for your good money? There is a reliable yet inexpensive way to find out.

CIPP liners are made on site under conditions that are

difficult to control. Every job site is different and liner quality depends on many factors. For example, the human factor and the environmental conditions play a major role.

CIPP liners are always created in situ on the day of installation. The **risk is high** that work may be done too quickly and too carelessly on the job site. Therefore, you cannot always be sure you have really received a good quality CIPP installation.

Initial assessment of a CIPP sample: searching for weak spots

CIPP Quality Risks

You have to ask yourself: Were the curing **specifications** complied with? Is the wall thickness strong enough to withstand ground water pressure? Was a cheap or an expensive resin used? Is the liner really water tight?

Liners with poor material characteristics may not be stable and sufficiently **load-bearing**, and leak. Above all, they do not achieve the promised service life. Then you might have spent a lot of money for nothing and have to replace the liner with a new one at an early stage.

In the worst case, the sewer pipe has to be completely replaced with a new one. A very **expensive affair**.

Water tightness test

Certainty through laboratory testing

You can avoid all this by having tested your CIPP by IKT’s lab directly **after installation**. For you, this is quite simple: You just have to extract a sample from the installed liner and send it to us.

We will determine the most important **material parameters** and compare them with the expected target specifications. We will also test your sample for water tightness.

Then you will receive an expert **test report** that can give you peace of mind.

Water tightness test with red dyed water

Neutral and independent testing

Our CIPP test center carries out **around 4,000** such quality tests every year. And we do so completely neutrally and independently, free from the economic interests of liner manufacturers and rehabilitation companies.

This is because we are a **neutral and non-profit** research and testing institute supported by more than 150 German municipalities, including Berlin, Munich and Hamburg.

We have been conducting quality tests on CIPP liners for **more than 25 years** and for which we have a strong reputation.

Rig for long-term tests

Contact us for testing

So if you also want to have certainty about the quality of the CIPP installed at your site, contact us and we will make you a quote **immediately**. We will explain to you how to take the samples and how to send them to us. It is much easier than you think!

Your contact person

Dieter Homann is the longstanding **director** of the IKT laboratory. He is a widely recognized expert who participates in numerous expert panels in Germany and abroad. He will help you understand the complexities of CIPP quality and interpret

test results. Contact him, he will be happy to answer all your questions!

Dieter Homann, Director of IKT’s Test Centre for CIPP liners

Simply address your questions to:
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More information on our CIPP testing procedures and how to send us your samples:
IKT Test Center for CIPP

See also an **overview** of our CIPP test results in our annual IKT LinerReport from 2003 until today:
IKT-LinerReport