

# CIPP quality: Lessons learned from 25 years of research and testing



Taking a closer look: neutral and independent CIPP tests by IKT

CIPP liner quality: What is the essence of two decades of IKT's research?

Prof. Dr. Bert Bosseler, our Scientific Director, and colleagues identify the key factors that are crucial for the quality of the world's most popular rehabilitation process for sewer pipes, Cured-in-Place-Pipes (CIPP).

In a peer-reviewed journal paper we have summarized all our findings. It is a comprehensive compilation of many research projects and many thousands of CIPP tests over the years.

We also highlight the challenges that remain and the key research issues that still need to be resolved.



Prof. Dr.-Ing. Bert Bosseler,  
Scientific Director of IKT

## Download paper

Read now our findings in this peer-reviewed paper, free for download:

Quality assessment of CIPP lining in sewers:

Crucial knowledge acquired by IKT and research gaps identified in Germany

### **Authors:**

Bert Bosseler, Dieter Homann, Thomas Brüggemann, Iain Naismith, Matteo Rubinato

published in "Tunnelling and Underground Space Technology"  
by Elsevier

January 2024

## CIPP Test Center

Find out more on how we test CIPP liner in our test center:  
IKT's Test Center for CIPP Liner

## Contacts

**Prof. Dr.-Ing. Bert Bosseler**

Scientific Director, IKT

T: +49 209 178060

E-mail: bosseler@ikt.institute

**Iain Naismith, Ph.D.**

Senior Research Fellow, IKT

T: +44 1491 712707

M: +44 7983 605219

E-mail: [naismith@ikt.institute](mailto:naismith@ikt.institute)

---

# 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:

**Dieter Homann**

Director of IKT's Test Centre for CIPP

phone: +49 209 17806-0

email: [homann@ikt.institute](mailto:homann@ikt.institute)

**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