

## Strengthening Structures | Protecting Lives Worldwide.











**Transportation** 

**Buildings** 

**Pipelines** 

Waterfront

**Industry** 



**Project:** Rehabilitation of sewer

manholes

**Location:** Lutten

Client: Municipality of Hardenberg

Contract Duration: 9 days

## Rehabilitation of sewer manholes Municipality of Hardenberg.

A series of manholes (13 pcs) of the sewage network at the Municipality of Hardenberg suffered internal loss of cross-section due to high levels of H2S Gas present, mainly from an incoming pressure pipeline. In order to avoid further deterioration of the manholes the pressure pipeline was permanently rerouted to another manhole.

Fibrwrap Nederland BV proposed to rehabilitate, restore and extend the service life of these manholes with the application of Tyfo Fibrwrap Systems. This proposal was selected from the Municipality because it provided a durable and cost effective solution with strong and long term protection to (bio)-chemical gasses, substantial decrease of need for future maintenance and significant extension of service life for these structures.

Specifically in all manholes the cross-section was repaired and the newly restored and thoroughly cleaned surface was covered with the specially developed Tyfo HCR (High Chemical Resistance) epoxy coating.

Also for the manhole where the pressure pipeline was permanently rerouted a combination of Tyfo Fibrwrap Systems was applied in order to reinforce, rehabilitate and protect it. The systems used were Tyfo WP epoxy resin as bonding agent for a wet substrate, two (2) layers of Tyfo SEH-25A glass fiber saturated with Tyfo-S epoxy resin for reinforcement of the manhole and finally Tyfo HCR epoxy coating for long protection of the structure.

The whole project was completed in only 9 days with minimal social and economical disturbance for the Municipality and the public.

## **Scope of Works:**

Rehabilitation of 13 sewage network manholes and long term protection from H2S gasses





