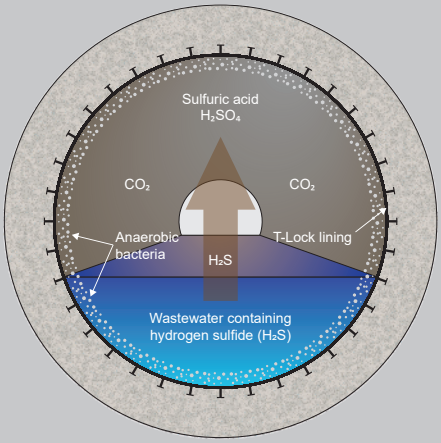
Lined Pipes

Hawkeye Pedershaab
Concrete Technologies Worldwide

Lined Pipes

The concrete solution to aggressive environment in waste water

Increased industrialization is causing a steady increase in the number of aggressive agents in waste water - especially hydrogen sulfide H_2S. This can cause severe damage in concrete sewage pipelines - particularly in areas with warm climates and where the landscapes are relatively flat and do not allow easy gravitational flow. Such conditions can lead to the formation of sulfuric acid in the pipeline attacking the concrete surface and eventually deteriorate the pipe.



Pipe producers - and authorities responsible for installation of sewage pipelines around the world - are constantly seeking solutions to make use of the excellent strength properties of a concrete pipe and at the same time protect the pipelines against the aggressive environments.
Internal liners of polyethylene (PE/HDPE) - and thin liners of soft or semi-soft PVC - have within the last fifty years proved their abilities to meet the market demands for such kind of concrete surface protection.

HawkeyePedershaab Solution

HawkeyePedershaab has for more than forty years continuously developed and refined a complete production system for concrete pipe and manholes with such internal linings of PE, HDPE and PVC. This system can be utilized in connection with production of concrete pipe, box culverts and complete manhole systems also including base sections, cones and covers.

The fixation of the liner in the concrete surface is secured by an effective anchorage through its T-locking or similar locking systems and through the efficient vibration compaction of the concrete enclosing the anchors.

Manufacturing Process

In the pipe and manhole manufacturing process the liner is easily prepared in the pipe plant on a cutting and welding table by welding segments of liner sheets into a cylinder. The sheets are sourced cut-to-length and are typically supplied in container loads.

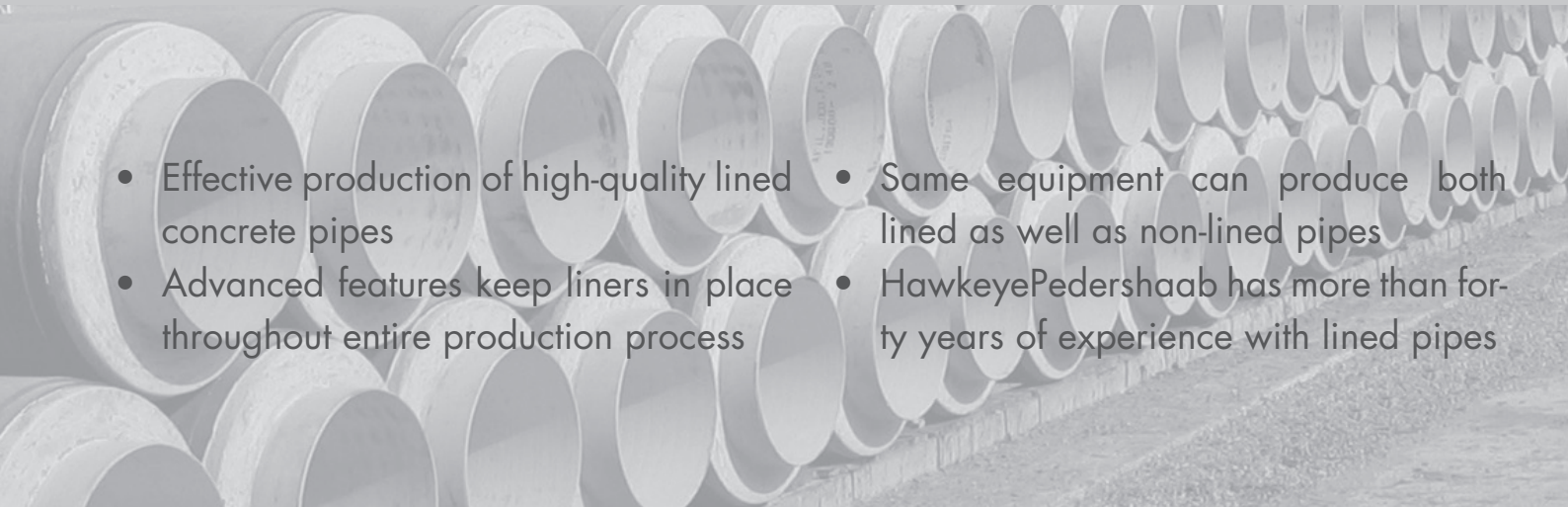
The liner cylinders fitting the outer circumference of the inner mold (core) are placed around the core utilizing a unique pneumatic system to ease the placing of the lining and to reduce frictional forces during demolding of the finished product.
The concrete is then filled into the mold and the vibration system of the machine secures the anchoring of the lining into the interior wall of the product. After the compaction and spigot forming process, the pipe is transported to the curing area, where the outer mold is released from the pallet and lifted off to demold the pipe. Keeping the liner in place along the full length of the pipe is actively secured throughout the entire production process to achieve a high-quality product which meets all customer requirements and specifications.

In the field the pipes are joined and the soft liner of one pipe is welded onto the protruding liner part of the adjoining pipe.

Liner Protection of Small Diameter Pipes

For small diameter concrete pipes (typically 300-600 mm diameter) it is not possible to do field welding due to the narrow space available in these sizes. However, in such cases there is the possibility of using VIHY core vibration for casting in a traditional type of hard wall PVC/PE pipe already containing a built-in joint, leaving it unnecessary for a person to do any field weldings.

Such a solution can even create the possibility of arranging for a double rubber joint system as built-in PVC/PE pipe rubber joint can be supplemented by an extra rubber joint between the concrete pipe spigot and socket.



- Effective production of high-quality lined concrete pipes
- Advanced features keep liners in place throughout entire production process
- Same equipment can produce both lined as well as non-lined pipes
- HawkeyePedershaab has more than forty years of experience with lined pipes

Lined jacking pipe with steel socket

HDPE liner arranged over core before casting

Hard liner in finished concrete pipes

Hawkeye Pedershaab
Concrete Technologies Worldwide™

US Headquarters
506 S. Wapello Street
Mediapolis, Iowa 52637 USA
Phone: +1 (319) 394-3197
Telefax +1 (319) 394-3977

European Headquarters
Saltumvej 25
9700 Bronderslev, Denmark
Phone: +45 9645 4000
Telefax: +45 9645 4040

info@hpct.com
www.hpct.com

BRO/LINEDPIPES/ENA4
AUGUST2017