



I N T E R N A T I O N A L

**INNOVATIVE  
ON THE  
SHORELINE**

[www.JLDinternational.com](http://www.JLDinternational.com)



## PREFACE

**JLD International** is a producer and supplier for the civil and infrastructural industry. Using our specific knowledge and expertise, we operate internationally on the boundary between land and water from our headquarters in De Goorn, Noord-Holland, the Netherlands.

At JLD, safety and quality are paramount. We are SCC\*\* and ISO 9001 certified!

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# INNOVATIVE ON THE SHORELINE

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## JLD INTERNATIONAL BV

### EARTH ANCHORING | SOIL AND WATER RETAINING STRUCTURES | DYKE REINFORCEMENT

JLD International is a manufacturer and supplier for the civil and infrastructural industry.

In addition to the core activities, namely earth anchors and sheet pile walls, JLD is also involved in dyke reinforcement using the innovative JLD-Dyke Stabilizer.

JLD International is an innovative company specialized in anchoring techniques. The recent innovations are the result of experiences gained with the JLD-Earth Anchors.





## EARTH ANCHORS

### EARTH ANCHORS

The JLD-Earth Anchor is a mechanical earth anchor with comprehensive structural applications for earth anchoring in the civil, utility and maritime industries.

### HOW DOES THE EARTH ANCHOR WORK?

Compared with other systems, the JLD-Earth Anchor offers the advantage of achieving the anchor force “without soil disturbance” due to the mechanism of installing and tilting.

The earth anchor is vibrated into the ground using a drive steel. When the predetermined anchor depth is reached, the drive steel is removed and the anchor is tilted by pulling on the anchor rod. The anchor is ready for use immediately after this tilting.

Testing the earth anchors can be part of the installation procedure. Using an anchor press (hydraulic jack) or a digital spring balance (load cell), the measured data can provide certainty regarding the anchor capacity.

### TESTING JLD-EARTH ANCHORS

In order to obtain certainty about the holding force of the JLD-Earth Anchors, the anchors can be tested in accordance with the JLD-Tension Protocol.

### CALCULATION

The anchors are calculated in accordance with the national standards. The applicable standard in the Netherlands is the CUR 166.

### HOW IT WORKS

1. Place the anchor rod and drive steel in the anchor and vibrate the anchor to the correct depth.
2. Remove the drive steel.
3. Position the anchor by pulling back the anchor rod.
4. Bring the anchor to the desired pre-tension.



1



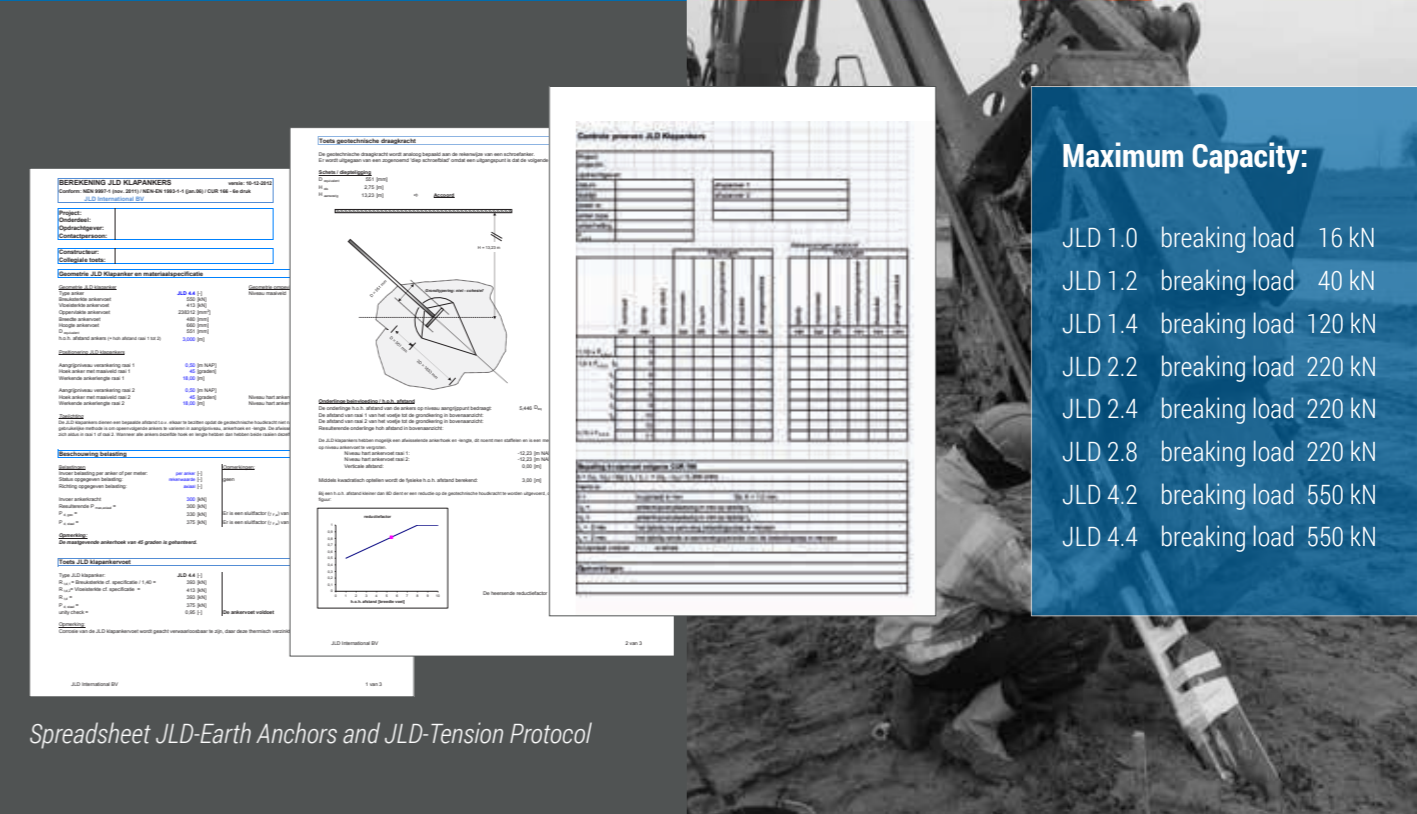
2



3



4



### Maximum Capacity:

- JLD 1.0 breaking load 16 kN
- JLD 1.2 breaking load 40 kN
- JLD 1.4 breaking load 120 kN
- JLD 2.2 breaking load 220 kN
- JLD 2.4 breaking load 220 kN
- JLD 2.8 breaking load 220 kN
- JLD 4.2 breaking load 550 kN
- JLD 4.4 breaking load 550 kN

The image shows two technical documents. On the left is a spreadsheet titled 'BEREKENING JLD KLAPANKERS' (Calculation of JLD Earth Anchors) with various input fields and calculation results. On the right is a document titled 'Tijds gerichte draagkracht' (Time-dependent load capacity) featuring a graph of load vs. time and a table of test results.

Spreadsheet JLD-Earth Anchors and JLD-Tension Protocol



**ADVICE AND HELP**

Our technical team is available to advise on the most suitable anchor systems.

Before drawing up a specification, it is essential to first determine the following:

- anchor forces
- soil characteristics
- soil report, cone penetration tests and/or borehole records

If available:

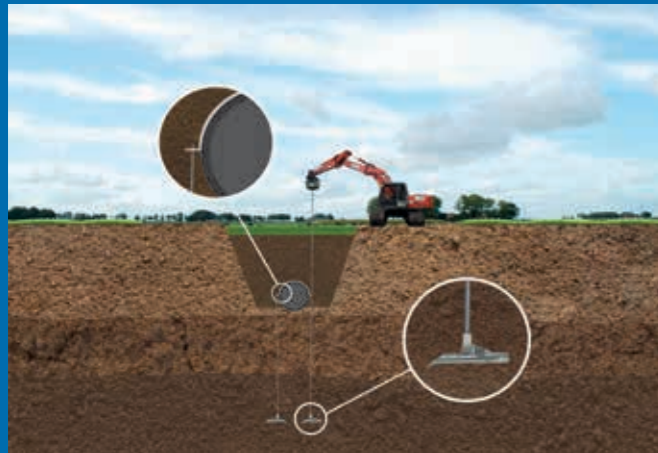
- installation depth and plotting anchor locations
- designed life of the system



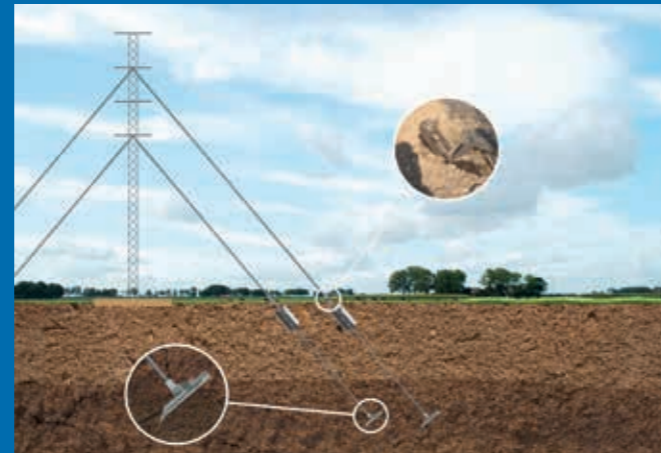
**VARIOUS APPLICATIONS**

The JLD-Earth Anchor has a comprehensive structural application for earth anchoring. It is known to be reliable under practically all circumstances and suitable for use in:

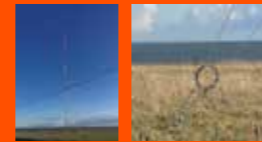
- sheet pile structures
- soldier walls
- revetments and water-retaining structures
- erosion protection
- basement structures
- geotextile anchoring
- pipeline anchoring
- railway work
- scaffolding
- antitheft anchoring
- underwater anchoring (ports, jetties, pontoons, buoys)
- anchoring of bracing lines and “transmitter” masts
- the sports industry
- tree anchoring
- and many other applications in practically all types of subsoil.



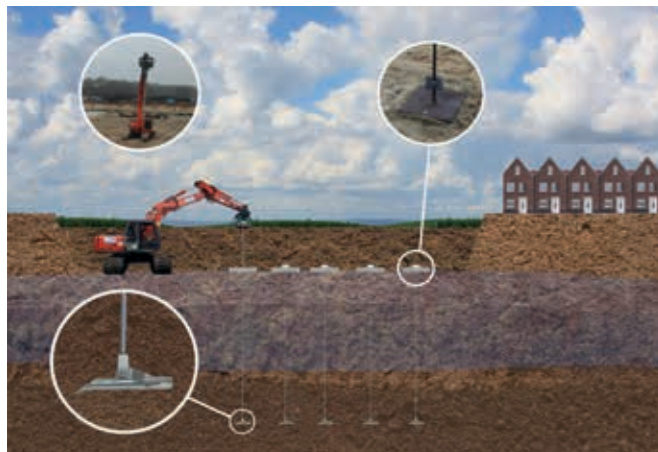
PIPELINE ANCHORING



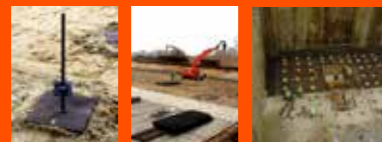
UTILITY ANCHORING



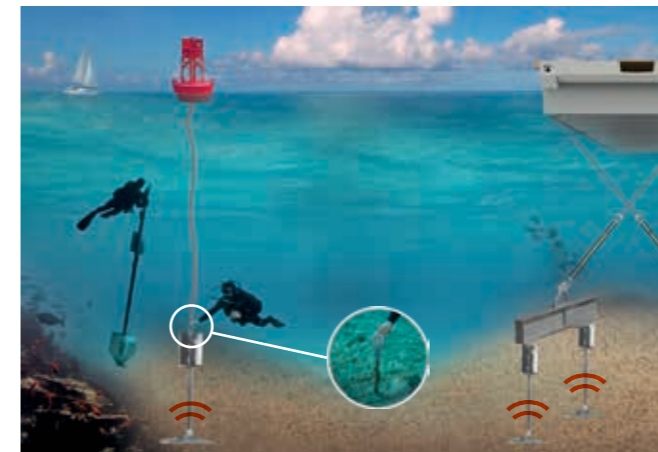
AIRDOME ANCHORING



BASEMENT STRUCTURES



EROSION PROTECTION



UNDERWATER ANCHORING



SHEET PILE ANCHORING



VARIOUS APPLICATIONS OF THE JLD-EARTH ANCHOR



## JLD CONTRACTING BV

JLD Contracting BV, a sister company of JLD International BV, has been involved in Civil and Hydraulic Engineering, pipeline construction and infrastructure technology since 2014.

One of JLD Contracting's core activities is using the JLD-Earth Anchors to anchor sheet pile walls and revetments, transmission pipelines, masts, buoys, earth-retaining structures and floating constructions.

With the development of the JLD-Dyke Stabilizer, JLD Contracting developed an innovative dyke improvement technique aimed at improving the inward stability of dykes (Macro Stability). This technique was developed within the Project Transcending Exploration (PTE) of macro stability, a programme within the Dutch High Water

Protection Programme (HWPP).

For pipeline construction, JLD and NV Nederlandse Gasunie jointly developed and implemented the VPPS® (Vertical Pipeline Pushing System). VPPS® is a unique technique to push pipelines into the ground during new construction.

For existing pipelines, the problem of cover shortages (insufficient soil above the pipeline) can be eliminated in a similar fashion.



## DYKE STABILIZATION

### WHAT IS THE JLD-DYKE STABILIZER?

The "JLD Dyke Stabilizer" is a durable, flexible and innovative solution, developed within the PTE of Macro Stability and the HWPP to reinforce dykes at their core. The objective of the HWPP is to make dyke reinforcement better, quicker and cheaper.

**"More dyke for less money"**



*Reinforcing a test dyke.*

### HOW DOES JLD-DYKE STABILIZATION WORK?

The JLD-Dyke Stabilizer is applied to the inner slope of the dyke.

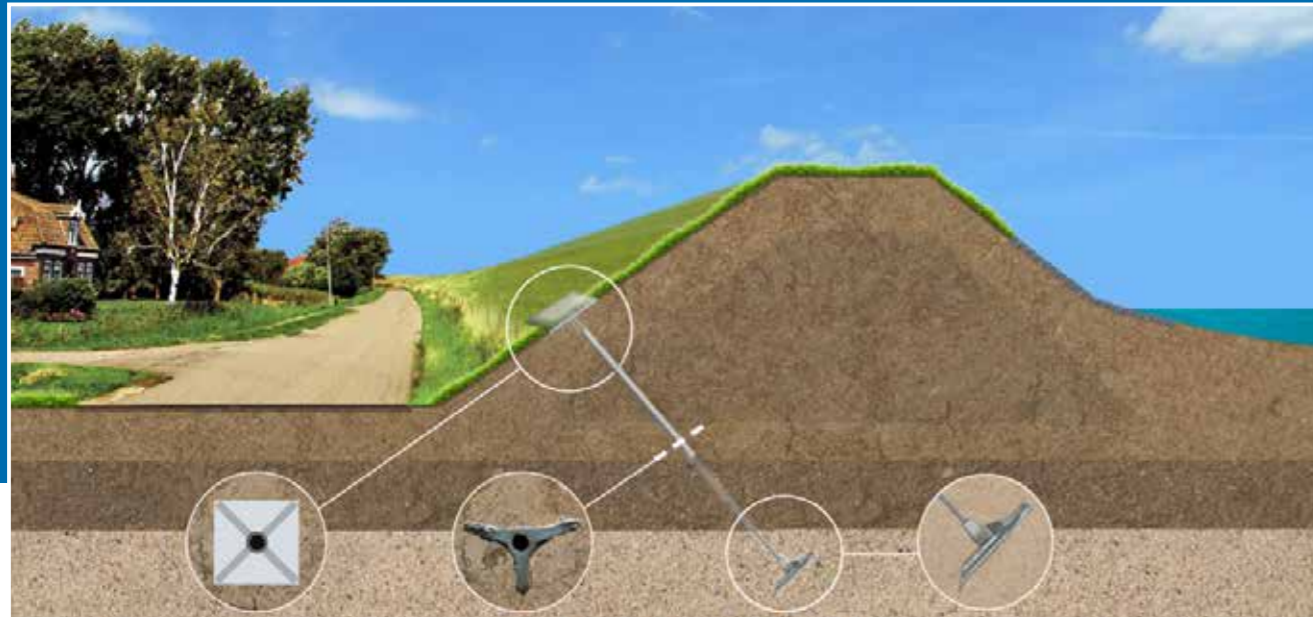
The JLD-Dyke Stabilizer is installed using relatively light equipment. The JLD-Dyke Stabilizer, a synthetic element, is placed in the dyke wherever the extra strength is needed. This allows for a flexible and efficient design. The system is verifiable and extensible.

Placing the JLD-Dyke Stabilizer has a smaller impact on the environment than piling or vibrating sheet pile walls or shoulders and will therefore cause less nuisance to the surroundings.



*The LDE (fin) element transfers the shear force to the soil.*





The JLD-Dyke Stabilizer is made up of four components: LDP (cap plate), LDE (star-shaped element), JLD-Anchor and an anchor rod.

## JLD-DYKE STABILIZER

### JLD-DYKE STABILIZER STRUCTURE

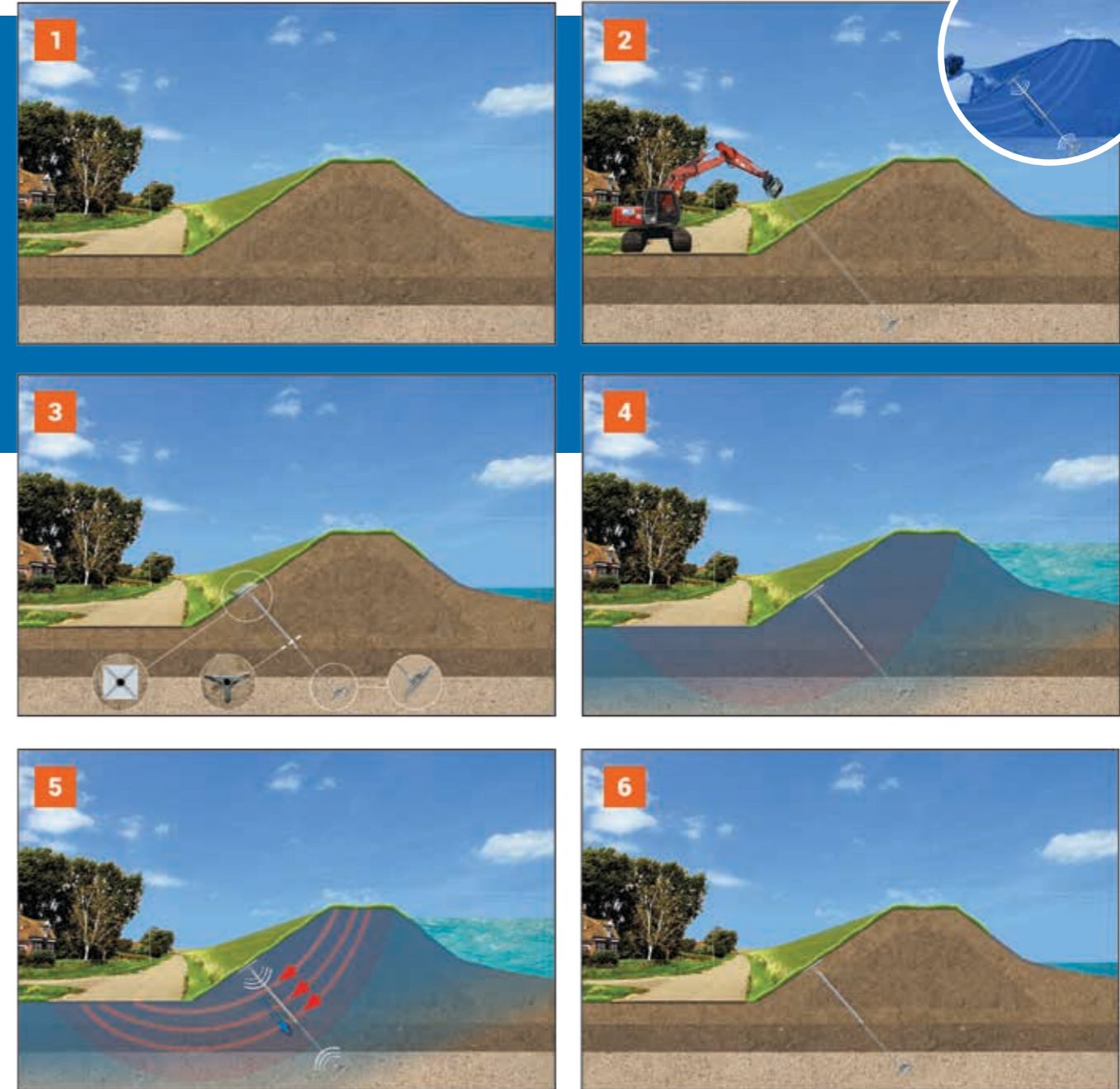
The JLD-Dyke Stabilizer is made up of four components. The force created when the dyke swells is absorbed from the core of the dyke body by the JLD-Anchor.

An **anchor rod** at relatively high tension distributes these forces to the “LDP”, a cap plate situated under the dyke’s surface. This cap plate mobilizes these forces and transfers them to the **JLD-Anchor** through the anchor rod and the “LDE” (a star-shaped synthetic element). In the most extreme case, this structure will transfer the shear forces perpendicular to this element to the core of the dyke.

As a result of this effect and the pre-tension imparted on the whole, the JLD-Dyke Stabilizer is a continuously operating system that will postpone the time of collapse.

Through the principle of action–reaction, this system will generate the required reaction force using the dyke’s own, natural working.

This innovative technique is an implementation of the patented ideas of Mr Jos F. Karsten, director of JLD Contracting BV.





*The pipeline is pushed into the soft soil in a controlled manner using light equipment.*



## VPPS

### WHAT IS VPPS?

The VPPS (Verticle Pipeline Pushing System) is an innovative and eco-friendly method of pushing pipelines into soft soil quickly and cheaply.

The VPPS is suitable for pushing down gas pipes and pipelines in new construction, poorly accessible areas and in case of cover shortages.



### HOW DOES VPPS WORK?

The pipeline is pushed into the soft soil in a controlled manner using light equipment.

JLD-Earth Anchors are placed on both sides of the pipeline.

A yoke is subsequently attached to the pipeline. This will generate the reaction force required to push the pipe downwards.

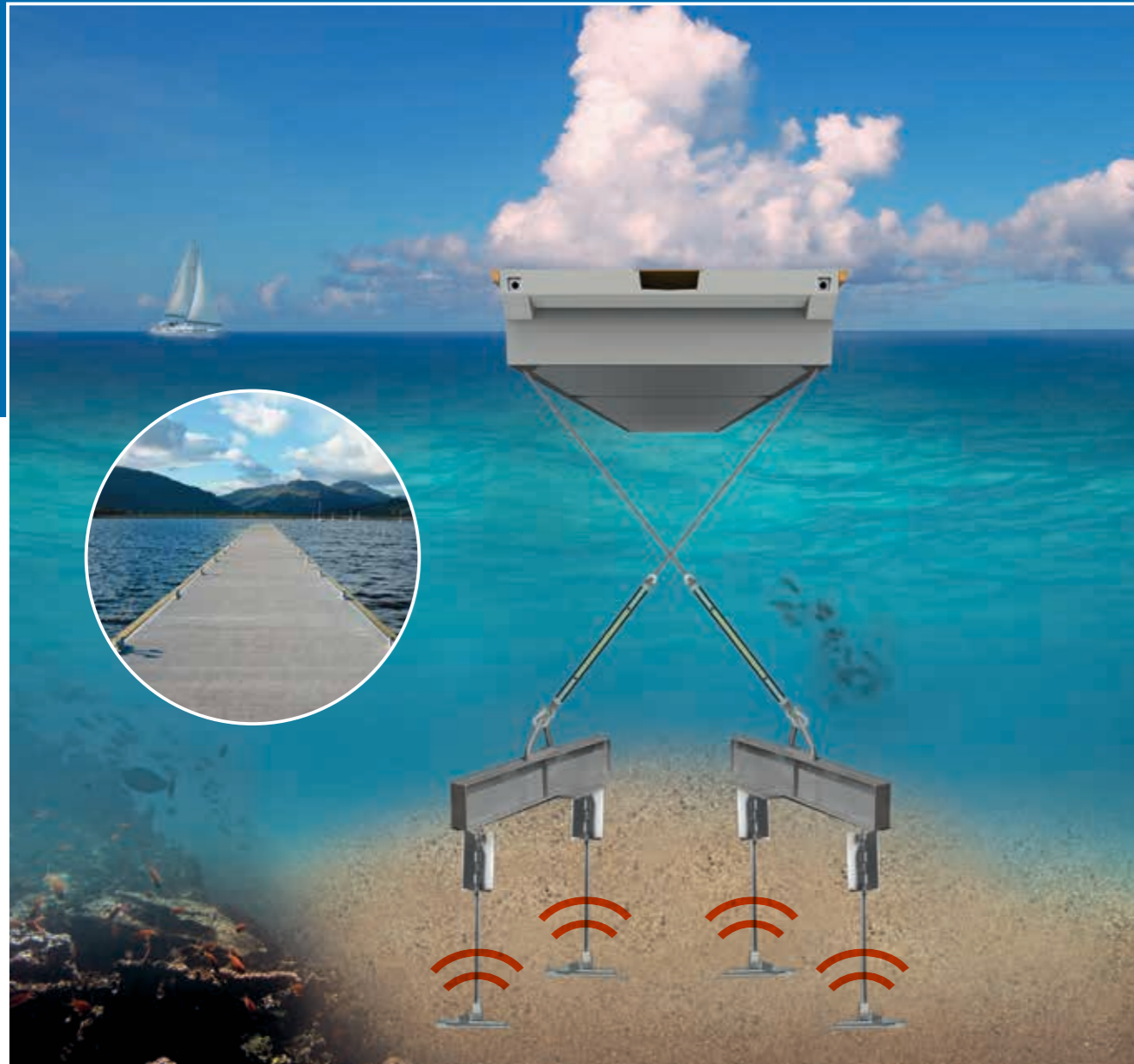
The idea is that a number of yokes work together to push the pipeline into an S-curve, so that the pipeline can be



brought from ground level to the desired depth. The yokes are connected to the JLD-Earth Anchors before the pipe is pushed into the S-curve.

As soon as the pipeline under the yoke at the start of the process has reached the desired depth, the yoke is removed from the process to be brought back in at the end of the process.

This way, the pipeline can be pushed down in a wave-like motion until the entire pipeline has reached the desired depth.



**MARINETEK**

JLD is the exclusive dealer for MARINETEK in the Netherlands. Marinetek is an internationally operating manufacturer for marinas and advanced floating solutions.

Using the Marinetek products, JLD provides the widest selection of pontoon products and knowledge of roughly 300 Marina experts across the entire world. Price and quality are always paramount.

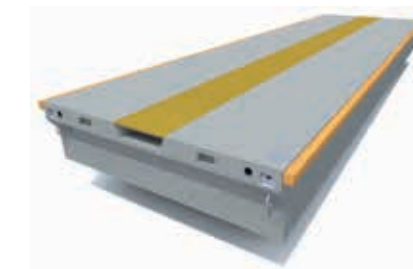
Through this combination, we can integrate the different needs of the customers into a fitting, custom-made, floating structure and/or "world-class" marina.

Including Marinetek's solutions, JLD Contracting offers concrete, steel, aluminium or wooden pontoons, breakwaters, floating homes and other floating solutions.

Through joint ventures, JLD is able to offer its customers expertise and turnkey services from design, production and installation to maintenance and modernization of the marinas and floating structures.



*System Pontoon*



*Super Yacht Pontoon*



*Consistent, neat and well cared-for appearance.*

## ESP SHEET PILE WALLS

Synthetic sheet pile walls are a surprisingly strong and durable solution for bank or shore protection.

### ESP SYNTHETIC PILE WALLS

Using ESP synthetic sheet pile walls ensures dozens of years of maintenance-free soil and water retaining.

### ESP COMPOSITE SHEET PILE WALLS

Composite sheet pile walls are synthetic sheet pile walls reinforced with fiberglass as a complement for the construction of soil and water retaining structures.



### APPLICATIONS

Sheet pile walls are used in many hydraulic engineering applications and the synthetic sheet pile wall is increasingly applied in a rapidly growing number of projects.

Applications:

- bank or shore protection / revetments
- quay walls
- construction sites or pits
- retaining walls
- seepage walls
- isolation screens for landfills and contamination

### FEATURES AND BENEFITS

The many benefits of ESP Synthetic Sheet Pile Walls make steel, concrete, wooden and aluminium sheet pile walls obsolete.

#### Cost-saving

- light-weight
- long life

#### Quick and easy to install (pushing, vibrating)

- strong, impact-resistant
- frost-proof
- watertight when using quellband or quellpaste

#### Able to withstand all weather conditions

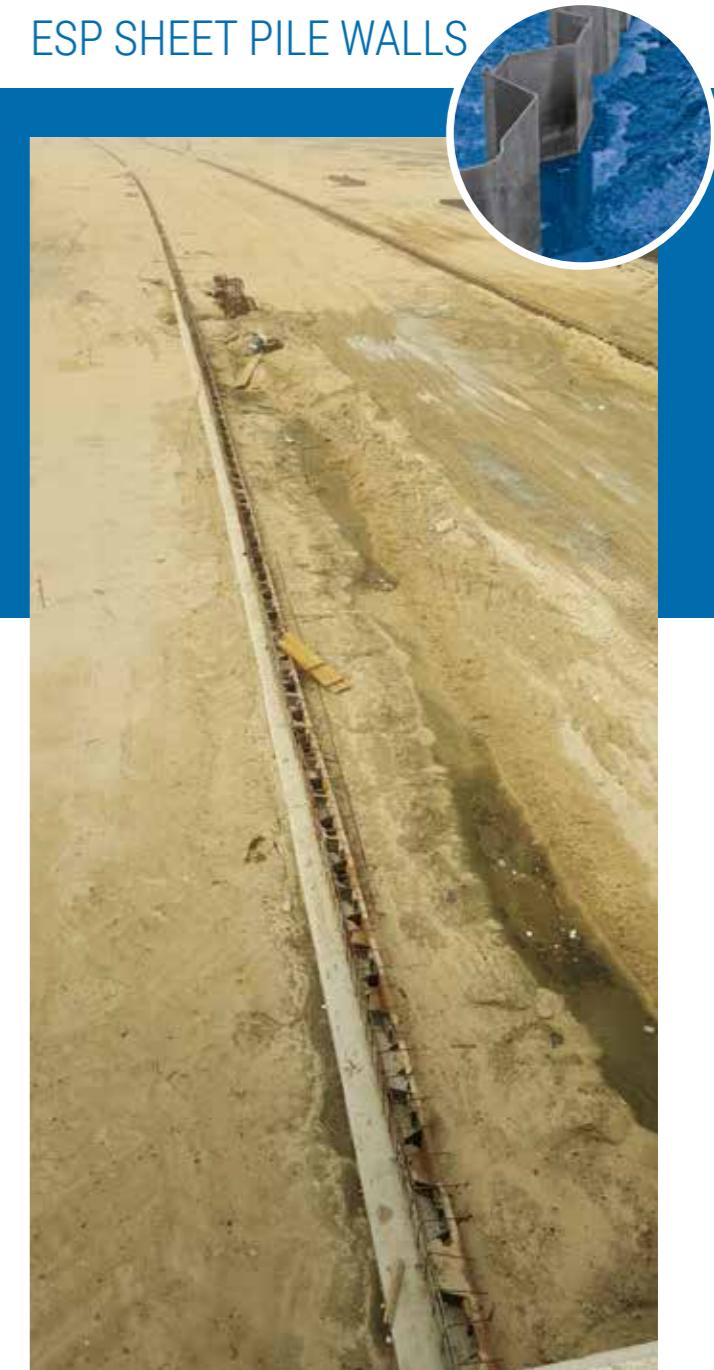
- UV-resistant

#### Eco-friendly

- recycled and recyclable
- no water or soil contamination
- able to withstand extreme environmental conditions

#### Able to withstand many chemicals, organisms and vermin

#### Consistent, neat and well cared-for appearance





## STANLEY HYDRAULIC TOOLS

Stanley Hydraulic Tools offers over 150 models of hydraulic tools, including sledgehammers, cutters, grinders, drills and impact tools.



Stanley's hydraulic tools are used all over the world in the maintenance of infrastructure as well as construction, demolition, waste processing and recycling.

### UNDERWATER TOOLS

Underwater tools are an important part of Stanley's range of hydraulic hand tools.

As a result of the degree of specialization and variety, Stanley's underwater tools are the equipment of choice both for contractors in underwater construction and maintenance and for diving and offshore companies.

# STANLEY HYDRAULIC TOOLS DEALER IN THE NETHERLANDS



# INNOVATIVE ON THE SHORELINE



INTERNATIONAL



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