



# Concrete Weight Coating Plant

Excellence in pipe handling,  
blasting and coating equipment.

# Who is Bauhuis?

**Bauhuis is specialised in the design, fabrication and installation of turnkey plants for blasting and coating of steel pipes. With decades of experience, Bauhuis has built an impressive track record in supplying high quality equipment all over the world.**

Turnkey solutions by Bauhuis are modular designed and configured from standardized equipment, with proven functionality. This unique process enables highest flexibility to configure an optimal solution that meets the specific coating requirements of the client. Over the years, Bauhuis has supplied turnkey solutions for any of the following coating requirements:

- Internal coating plant
- External coating plant
- Concrete weight coating plant
- Double joints and spool base plant
- PU foam insulation plant
- Asphalt & Enamel plant
- Field joint and offshore coating equipment

Besides above-mentioned turnkey solutions, Bauhuis supplies specific pipehandling and transportation equipment, as well as process equipment.

All engineering expertise (mechanical, electrical, and hydraulic) required to design and fabricate a solution for any pipe coating challenge is available in house. Fabrication and installation of the equipment is done by experienced Bauhuis technicians.

Bauhuis is your reliable partner for high quality blasting and coating equipment. Many of the world's largest pipelines in operation today have been successfully coated in coating plants equipped by Bauhuis.

SINCE  
**1974**



## Quality

All technical know-how available within the Bauhuis organization. This combination enables Bauhuis to supply a wide variety of projects in blasting and coating of steel pipes. Projects with superior quality equipment, resulting in proven durability and reliable plants.

Durability and reliability leads to less outage and less downtime. Downtime resulting from outage or maintenance is extremely expensive. Production loss as a result of downtime costs much more than the investment in durable and reliable equipment. That is why all equipment supplied by Bauhuis meets the 'Bauhuis quality standard'. If required, Bauhuis can include specific customer quality procedures. In case maintenance is required, Bauhuis engineering includes that service of the equipment can be done as easy and quickly as possible.

We are able to maintain these 'Bauhuis quality standards', because we can perform the essential activities in house. Besides high level engineering, Bauhuis also has a dedicated hydraulic department and a machining workshop in house. The machining workshop meets the ISO quality assurance requirements. Installation of the equipment and training of your staff is performed by the same Bauhuis technicians that assemble and test the equipment in the Bauhuis factory.

## Service

We consider producing equipment only half of the obligation to our customers. Providing you with adequate technical support and know-how is considered just as important to ensure an optimal solution.

- Bauhuis can offer engineering service to transform your coating problem into a workable coating solution.
- Highly skilled and experienced production services enable the actual production of the equipment and testing of the functionality. If necessary, the equipment can be adjusted according to your needs and specifications.
- Depending upon individual client requirements, installation service is available for installation support and training support.
- To ensure day-to-day equipment performance, Bauhuis offers dedicated after sales support. Besides a central information point for your operation manuals, spare parts, questions and problems, Bauhuis after sales can assist you with mechanical, electrical and PLC programming personnel for technical assistance, repair, upgrades and warranty issues.

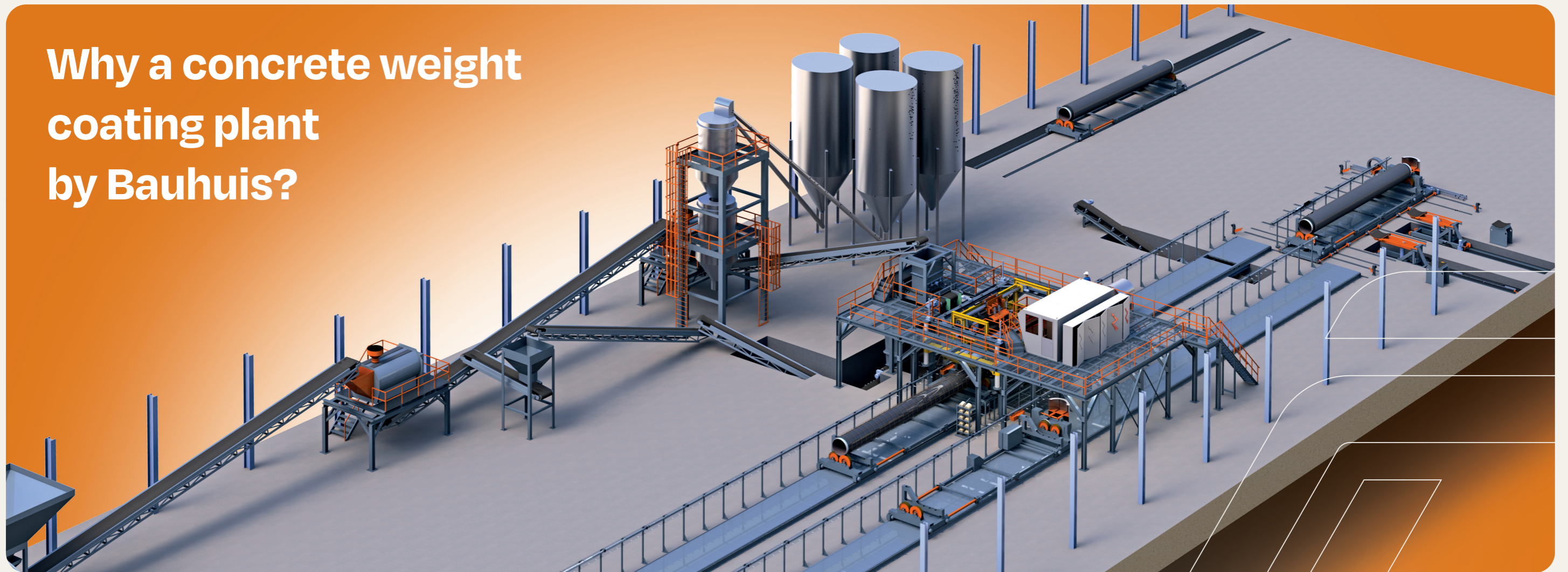


## Safety

Special attention in the equipment design is given to safe operation of the plant and machinery. Your operators will not only be educated on how they can operate the equipment the most effective, but also on how they can maintain the highest level of safety. Bauhuis can offer a safety plan, advising our business partners on how to work as safely as possible.

Bauhuis equipment is CE-approved, indicating that the products comply with the essential requirements of the applicable European laws or directives with respect to safety, health, environment and workers' protection. If, however, local regulations in the country of installation demands for other requirements, Bauhuis will apply these requirements if they are not lower than the 'Bauhuis standards'.

# Why a concrete weight coating plant by Bauhuis?



## Experience

With decades of experience, Bauhuis has developed exceptional specialised knowledge and skills in the field of pipe handling, blasting, and coating. Our technological know-how and experience has grown in close co-operation with the major pipe coating companies all over the world, always supplying them with state-of-the-art equipment and support.

## Innovation

Working together with the major pipe coating companies in all parts of the world, Bauhuis has developed many new techniques for the blasting and coating industry. Some of the most important examples are concrete coating using rubber rolls and shot blasting using a hydraulically driven blast head. Bauhuis is permanently working on further improvements. To mention a few: improved and standardized equipment design for higher reliability, shorter delivery times and less wear, development of more sophisticated pipe handling equipment for safer and easy-to-use operation, minimizing spare parts and minimizing downtime.



Concrete Weight Coating Plant

## Made in Holland

Bauhuis makes its experience available to the pipe coating companies through a complete package of in-house capabilities. We design, machine, construct and install equipment exactly as required within our own company. Unique for Bauhuis is the in-house machining company, enabling us to produce critical parts by ourselves. Furthermore, Bauhuis also has an in-house hydraulics department. Hydraulics is a crucial part of your plant, as this part gives the power to the equipment. We calculate and produce hydraulics ourselves, thus minimizing downtime and outage.

The big advantage of this collection of specialized departments within Bauhuis is that we are very flexible in meeting customer demands, and realizing short delivery times while keeping costs as low as possible. This is what makes Bauhuis unique in the world of blasting and coating machinery.

## Future

Besides onshore pipe blasting and coating projects, Bauhuis is emphasizing on the development of field jointing and offshore equipment. This has already resulted in a number of pipe handling installations on pipe lay-barges, pipe handling installations for spool base facilities, as well as double pipe / quad pipe welding purposes.

Summarizing we can say that Bauhuis can deliver complete turnkey installations, starting from foundation engineering up to a running plant.

# Concrete Weight Coating Plant

Concrete Weight Coating is intended to extend the service life of the pipe line. In the first place, concrete weight coating provides negative buoyancy and stability of the line on the seabed or in a swamp area. In the second place, concrete weight coating is in place to ensure mechanical protection.

There are two main methods of applying concrete weight coating to a pipe: With the **Concrete Weight**

**Coating Impingement** method, the concrete mix is being applied in a spray manner utilizing high speed rotating rollers directing concrete to the rotating outer pipe wall as it passes the application station. With the **Concrete Weight Coating Compression** method, a pipe is conveyed along the coating applicator head forcing material to the pipe wall. With compression coating a high strength adhesive is applied also.

Typically, a concrete weight coated pipe consists of:

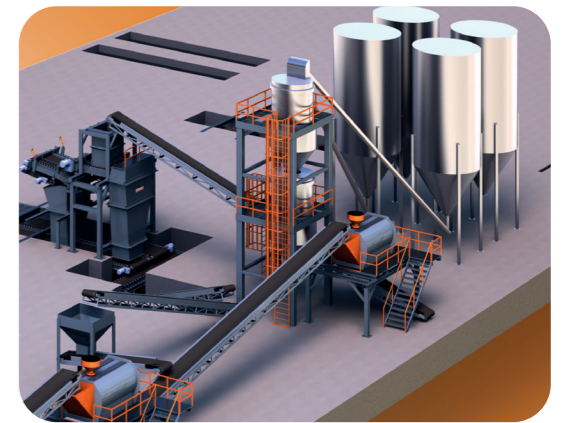
- Steel pipe with a 3-layer coating
- Reinforcement cage or wire mesh securing the placement of material to the coated pipe surface;
- Freshly mixed concrete applied to the coated pipe surface (by compression or impingement method);
- Sacrificial anode installation for a cathodic protection system.

The concrete weight coating line is designed for washing, coating and curing of pipes. The pipes are fed through the various process stations by pipe handling equipment.



## Batch mixing plant

The batch mixing plant is intended for mixing iron ore, sand, cement & water. The concrete mixture depends on the specific gravity of materials being used and is proportioned accordingly. The batch plant receives iron ore, sand and aggregate via the loading hopper. In the batch mixing plant, water and cement are added with the other materials. Once all materials are mixed, they are discharged into the main concrete application hopper.



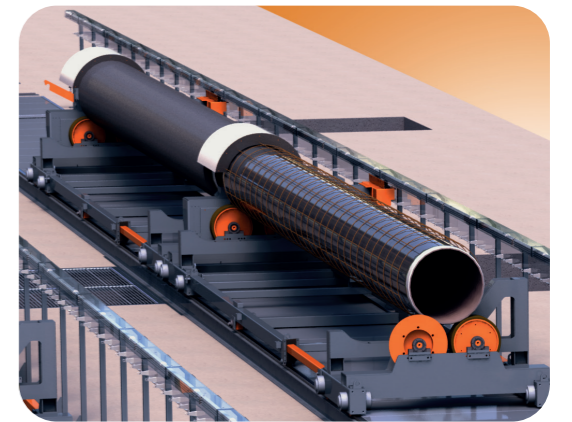
## Lower-in buggy

The lower-in buggy is intended for collecting pipes at the infeed area, and placing the pipes onto the coating buggy.



## Concrete weight coating application unit

The concrete weight coating application unit applies the concrete mixture from the batch mixing plant to the external pipe surface. With a 'throwing unit' the application is done by impingement spray method. With concrete weight compression coating, a side-wrap application process is used to apply the concrete to the pipe. Compression coating is preferred when coating different pipe diameters. With this method, the coating and reinforcement wire mesh is applied in one pass. With the impingement method, the coating is built up of layers of concrete on the pipe surface.



## Coating buggy

A special piece of equipment of the concrete weight coating plant is the coating buggy. This pipe handling equipment transports and rotates the pipe as it passes through the concrete coating application area described above. There are different types of coating buggies. In the depicted multiple buggy carousel application, the individual buggies travel along the whole length of the application area upon travel rails. The buggies return on a side track, allowing for continual concrete coating. As the buggy with the pipe travels through the application area, the concrete mixture is applied to the rotating pipe surface. Upon coating completion, the buggy advances the pipe to the pipe unload buggy or overhead crane.





**Bauhuis Solutions B.V.**

Wheedwarsweg 4  
7471 GG Goor  
The Netherlands

+31 (0)547 28 10 00  
sales@bauhuis.com