
Weholite Technology

Structured-Wall Pipe Systems



Weholite Technology

Weholite is a patented structured-wall pipe with smooth internal and external surfaces manufactured by spiral welding of PE- or PP-profiles. The product is designed for non-pressure applications, such as gravity sewerage, drainage, storm water, road culverts and retention tank systems in diameters up to DN/ID 3500 mm.

The Weholite pipework system is currently available up to DN/ID 3500 mm in diameter with water-tight joints. What other material can accomplish the same, especially with the properties that come with the pipe material itself? And you get everything for the same price. No extra cost for surface coatings and other special preparations.



Everything can be tailor-made to suit the desired end result. It is all prefabricated ready for installation. Job-site installation is quick and simple, saving time and money. It is hard to imagine how a pipeline could be built any easier and more economically.



Licensing

KWH has granted several manufacturing licenses around the world with the product now manufactured on 5 continents (Europe, North America, South America, Asia and Africa). KWH Pipe Technology is in the position to supply, in connection with a Licensing Agreement, a complete production set-up including straight pipe production, fittings manufacturing, joint fabrication, equipment for field joints and quality control.

Equipment

Weholite production process

Extrusion line for profile
Weholite Winder & Accessories
WHW 2200 (DN/ID 400 - 2200 mm)
WHW 3000 (DN/ID 800 - 3000 mm)
WHW 3500 (DN/ID 1000 - 3500 mm)
Cutting unit
Adjustable roller conveyors

Threading machine

Welding machines for field joints

Internal extrusion welding machine (DN/ID 1200 - 3500 mm)
External extrusion welding machine (DN/ID 400 - 1200 mm)

Fitting production

Extrusion welding machines
Band saws
Welding tables
Drilling accessories

Quality control

Device for testing of ring stiffness (DN/ID 400 - 3500 mm)

Socket manufacturing

Hydraulic press
Moulds
Welding device for socket fastening

Weholite - benefits

- | | |
|--------------------|---|
| To the designer: | <ul style="list-style-type: none">• a safe, reliable solution• a comprehensive product range |
| To the contractor: | <ul style="list-style-type: none">• easy to handle• quick to install |
| To the end-user: | <ul style="list-style-type: none">• a long-lasting, maintenance free system |

An over-all economical choice!



Weholite Equipment

KWH Pipe Technology provides various types of equipment for manufacturing Weholite . Our product range is very broad and covers the entire production of the system Weholite . All equipment is designed by our own engineers which guarantees a high performance quality to all our customers.

The threading machine WTM 2000 has been designed to prepare both male and female threads for Weholite pipe. The machine is steplessly adjustable for different pipe sizes; between DN/ID 400 - 2200 mm. The maximum pipe length is 12 m and the minimum is 3 m.



The threading machine consists of two identical units; a fixed unit and a movable unit. There is a guide chain for cable routing between the fixed unit and the movable unit. The threading machine is equipped with a control panel and a milling unit in both units. The control panels are attached to a support arm system. The milling units can be operated simultaneously.

The press moulding unit WHP 1000 is designed for manufacturing sockets for Weholite pipes DN/ID 400 - 1000 mm.



After the socket has been pressed into the moulding unit WHP 1000 and grooved for the rubber seal, it is welded to the Weholite pipe end by a socket fastening device WSW 1000.



The chain saw is a cutting unit intended for large diameter Weholite pipes. Its steplessly variable cutting angle and control console makes it easy to use and guarantees accurate and high quality results.



Cutting range Ø: 1200 - 3000 mm
Cutting angle: 0° - 60° (stepless)
Pipe length: 2 - 12 m

The internal welding machine WLI-3000 is designed to join two Weholite pipes together from the inside by means of the extrusion welding method. It gives a solid full penetration welded joint with a strength equal to the pipe itself. The machine is operated by 2 technicians, however additional assistance may be required for lifting and moving the unit. Welding speed and capacity are steplessly adjustable for different pipe sizes and between the pipe ends to be joined.



Technical Specifications

Pipe range DN/ID 1200 - 3500 mm

Extruder

- min.output 3...5 kg/h, PE-HD
- max. output 22...28 kg/h

Welding head drive

Welding head and melt feed system

Hot air feed system

Air compressor

Power supply

- 415 / 230 V, 50 Hz 3-phase +N +PE

Total connected power

- 19 kW (without separate air compressor)

Dimensions

- Length 2410 mm
- Height 1075 mm
- Width 1080 mm
- Weight 870 kg

The external extrusion welding machine, WLE-1200, is designed for field welding of Weholite pipes, ranging from DN/ID 350 mm up to 1200 mm. The welding machine is fed with 3 - 4,2 mm PE-welding rod.

Pipe range DN/ID 350 - 1200 mm (1800) mm

Welding extruder

Output max. 3,5 kg/h, PE-HD

Power supply

- 415/230 V, 3-phase+N+PE, 50 Hz
- Connected power 5 kW

Air compressor for pipe expanders Option

Pipe expanders (root support)
one/each pipe dimension

Dimensions

- Length 1150 mm
- Weight 80 kg
- Width 820 mm



Weholite Butt Welding Technology

Butt welding of Weholite pipes follows basically the same principles as for butt welding of solid wall PE-HD pipes. The same type of butt welding machines can be used, but a split heating mirror including a separate control unit is required.

Butt welding of Weholite pipes can be carried out for the dimension range DN/ID 500 - 1200 mm.

One heater plate per dimension of Weholite pipe is needed and the heater plates are adjustable to fit different ring stiffness classes and widths of the profile.

By having the control unit separate from the heater plate one unit is able to cover the whole dimension range.



Technical Specifications

Weholite Butt Welding Equipment:

Control Unit

Power supply: 400 V, 3 phase+N+PE, 50/60 Hz

Heater Plates

Dimension range: Ø 500 - 1200 mm

Ring Stiffness Testing Equipment WRS 3500

Ring stiffness testing machine WRS 3500 has been designed to measure ring stiffness values for Weholite pipes in accordance with the standards ISO 9969 and ASTM 2412-96a. The machine is computer controlled with printer for test results and works in pipe ranges 400 - 3500 mm in diameter.



Technical Specifications

Power supply

- 4kW / 400V / 32A / 50 Hz

Equipment

- **Load cell** (weight sensor) with nominal load 10 t
- **Weight indicator**
- **Cable extension position transducer PT9101** (length sensor):

Range: 170 inches (4250 mm)

Accuracy: +/- 0.10% full stroke

Repeatability: +/- 0.02% full stroke

- **Data logger**
- **Worm gear screw jack**
- **PC (automatic control system)** for entering test values, gathering data and printer for printing test results.

Mobile Weholite Production Line

The Mobile Weholite Production Line is a modular manufacturing plant for Weholite structured wall PE-HD pipes in the dimension range DN/ID 400 - 3000 mm (ring stiffness class 8 kN/m²). The production machinery including pre-designed modular units for control, raw material handling and air and cooling water supply fit into standard 20 and 40 feet containers to enable easy transportation and fast mobilisation. In addition the Mobile Weholite Production Line is designed to be capable of manufacturing solid wall PE-HD pipes up to Ø 630 mm. Two operators per working shift are required.

The upstream machinery is placed in containers that can be placed on a sufficient horizontal even area.



The downstream machinery is to be taken out from its containers and placed on a smooth concrete area or similar. A warehouse or a weather shelter is required for the downstream machinery (winder platform).

Total Power Supply



Electrical network power supply:
Nominal maximum input power: $P = 750 \text{ kW}$, feeder fuse 2x(3x630A)
Load factor 0.7 -> $P = 525 \text{ kW}$
400/230 VAC, 3 phase +N+PE, 50 Hz

Alternatively generator power supply:
Generator output power must be: $P = 620 \text{ kW}$, $S = 775 \text{ kVA}$.
Note. This subject is to be discussed with the generator supplier

At a new site three men, including an electrician, can put together the mobile production line. The Mobile Weholite Production Line should be installed by expert staff and in full compliance with the existing norms.

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