

60 DAYS: AN EDUCATION IN OFFSITE BUILD

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LET'S START WITH WHY WEHOLITE.

The technical manuals would say that Weholite is spirally wound pipe or flat panel that belongs to the structured wall family, that it is made from HDPE and that raw material properties have been combined with advanced production technology to create a lightweight engineered solution with superior loading capacity that is chemically inert and provides a 120-year design life.

The more pertinent question however, is why Weholite?

Weholite is a state of mind, a passion and a journey; that draws people in and allows them to think freely in order to create.

Our company functions on two basic ingredients; people and trust.

Our vision is to make people happy.

This storybook of information is intended to provide the reader with an educative guide to the extraordinary product that is Weholite, the value it undoubtedly offers and its leading position in the new world of *Offsite Build*. Utilising Weholite creates endless opportunities for originality and innovation, for creativity and satisfaction, but ultimately, it brings contentment.

Simon Thomas
Managing Director
Asset International Limited





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CHAPTER 1 – ASSET INTERNATIONAL LIMITED, THE COMPANY

Asset International Limited is part of the HS Utilities Group of Hill & Smith Holdings PLC, an international group with leading positions in the design, the manufacture and the supply of infrastructure products and galvanizing services to global markets. It serves its customers from facilities principally in the UK, France, USA, Thailand, Sweden, India and Australia.

Asset International Limited secured the license to sell and manufacture Weholite in the UK and Ireland; completely unaware that one-day we would become the World's leading manufacturer of the product.

As the UK and Irish licensee of Uponor Infra for the global leading Weholite HDPE Structured Wall Pipe and Weholite Modular brands, Asset International Limited provides creative and innovative products and solutions for use in the construction industry. Asset has exclusive rights to manufacture Weholite in the UK and Ireland.

Asset has been manufacturing Weholite pipe at its factory in Newport, South Wales for more than two decades. However, the business was established much earlier than that, in 1953 to be exact, as the main European manufacturing base for Armco Construction Products. Armco was famous for the W-section safety fence that can still be seen on motorways today.

Since initially launching the Weholite product in the UK, Asset International Limited has continually invested in the very latest contemporary equipment. This has allowed us to be the pioneers and the pace setters within the industry from design, through manufacture, delivery and installation; ensuring that our customers are provided with a solution for their own unique requirements that in turn leads to satisfaction.





CHAPTER 2 – WEHOLITE, WHAT IS IT?

With the need to assimilate factory made quality and versatility in the construction sector, there has been a major shift towards modular construction and offsite build. This is where Weholite, both in pipe and modular form is a class apart from all other products.

Weholite is a structured wall pipe or structural panel made from high-density polyethylene (HDPE). With Weholite, raw material properties have been combined with advanced production technology to create a lightweight engineered solution with superior loading capacity that is chemically inert and provides a 120-year design life.

Weholite products are used extensively throughout the construction industry, both in the UK and internationally. Applications include flood defences, housing, sewerage, biogas, drainage, marine solutions, venting, ecological heating and cooling and engineered SUDS.

Products made from either Global leading brands Weholite or Weholite Modular provide a bespoke, fully designed modular solution. Factory built to high precision and pressure tested for integrity, they clearly demonstrate whole cost benefits of DfMA and the ‘Offsite Build’ philosophy that is growing throughout the industry.

“We will not achieve these ambitions by making small, incremental changes....We are talking about an approach to design, manufacturing, assembly and performance in-use that does not recognise poor quality or poor productivity. An approach that assumes zero accidents, and an approach where the use of BIM, Lean construction and the intelligent use of quality offsite solutions becomes the norm”

Peter Hansford, Government Chief Construction Advisor.

With the largest range of diameters and the most sophisticated fabrication facility in the UK, the benefits of using Weholite are evident and are in line with Government’s 2025 Strategy.

Contemporary modular construction, factory built and expertly designed, we continue to deliver the luxury of improved carbon footprint, improved construction efficiency and improved performance.





WEHOLITE PIPES FACT SHEET

Manufactured and certificated to meet the material and performance requirements of BS EN 13476: 2007 (Part 1-3), Plastic Piping Systems for Non-Pressure Underground Drainage and Sewerage.

Int. Diameter mm	Standard Pipe Lengths* M	Pipe Stiffness BS EN 13476** kN/m ²
400	3, 6, 12, 14	4, 6, 8
450	3, 6, 12, 14	4, 6, 8
500	3, 6, 12, 14	4, 6, 8
600	3, 6, 12, 14	2, 4, 6, 8
700	3, 6, 12, 14	2, 4, 6, 8
750	3, 6, 12, 14	2, 4, 6, 8
900	3, 6, 12, 14	2, 4, 6, 8
1000	3, 6, 12, 14	2, 4, 6, 8
1050	3, 6, 12, 14	2, 4, 6, 8
1200	3, 6, 12, 14	2, 4, 6, 8
1350	3, 6, 12, 14	2, 4, 6, 8
1400	3, 6, 12, 14	2, 4, 6, 8
1500	3, 6, 12, 14	2, 4, 6, 8
1600	3, 6, 12, 14	2, 4, 6, 8
1650	3, 6, 12, 14	2, 4, 6, 8
1800	3, 6, 12, 14	2, 4, 6, 8
2000	3, 6, 12, 14	2, 4, 6, 8
2100	3, 6, 12, 14	2, 4, 6, 8
2200	3, 6, 12, 14	2, 4, 6, 8
2400	3, 6, 12, 14	2, 4, 6, 8
2500	3, 6, 12, 14	2, 4, 6, 8
2600	3, 6, 12, 14	2, 4, 6, 8
2800	3, 6, 12, 14	2, 4, 6, 8
3000	3, 6, 12, 14	2, 4, 6, 8
3500	3, 6, 12, 14	2, 4

* The uniqueness of the Weholite production process means that pipes can be run in ANY length from 300mm to 30m in one piece. All projects are designed to optimise pipe length to ensure efficient installation and value engineering.

** Pipe stiffnesses above 8 and special designations in between the sizes above are available by special request.

All dimensions are subject to change.

Please contact Asset International Limited for technical assistance



CHAPTER 3 - WEHOLITE AND THE PHILOSOPHY OF DESIGN

Since the beginnings of the Weholite business, we have always set out to lead the field in product design. Our philosophy of designing in confidence is equalled by our ability to partner with end users and support them with an unrivalled design capability. This extends to modelling of product behaviour during installation and when in service, identifying and reducing residual risks and fully collaborating with project stake holders in all aspects of structural design.

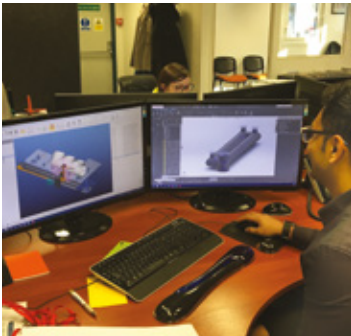
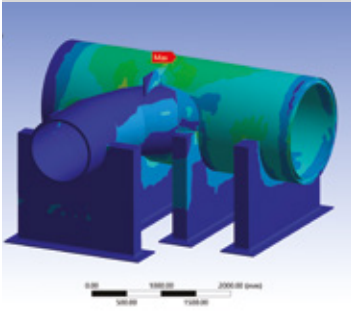
The early days of our philosophy, simply involved offering two dimensional drawings alongside structural calculations to BS EN 1295 and industry standard flotation computations, now however, our engineering design team has evolved swanlike into a sophisticated support service that just like any noteworthy consultant carries professional indemnity.

With our progression, we have gone on to pioneer and continually develop the use of finite element analysis in this industry for both the product and the buried structure, we illustrate our unique designs using the latest 3D rendering software and have added environmental reports and automated manufacturing programming to our design arsenal.

It isn't just the latest software and pretty pictures that this function can offer. It is people. Experience in the form of chartered engineers, the ability to offer industry standard certificates for different sectors, understanding of Water Company and local authority needs but by far the most important quality of this whole company is the aptitude to listen.

The values of our engineering design people simply reflect the philosophy, which mirrors the business; to make people happy by showing passion, creativity and humility. Innovative design is about trust.

Trust we can offer in abundance.







CHAPTER 4 – WEHOLITE AND THE NOBLE ART OF MANUFACTURING

It is difficult to comprehend that in a little over two decades, we have evolved into a contemporary business that is fully embracing both the new Industry 4.0 and offsite build mentalities, whilst still holding onto the magnificent values of British manufacturing; that made this country the workshop of the World.

After securing the license to manufacture Weholite pipes in 1995, we started with two extrusion lines making diameters from 400mm to 2.2m and set about pioneering the use of large diameter HDPE structured wall pipes in the United Kingdom.

Fast forward to the present day, with four extrusion lines capable of producing more than ten thousand tonnes of Weholite per annum and the World's most sophisticated pre-fabrication shop for large diameter structured wall pipes and products, which includes a robotic milling cutter, a computerised band saw and cloud based reporting and communication systems.

You might be forgiven for thinking that we have achieved all that is possible. You would be wrong. As the World becomes increasingly digitized, and technological advancement continues to move at unprecedented pace, Industry 4.0 is coming and we plan to be leading the way.

Our ethos, and indeed that of the Weholite brand is about making things and in turn, we have a simple vision, to make people happy. However, this will only be possible with creative and innovative people who are encouraged to think freely and exchange ideas both internally and externally. Our people welcome the opportunity for development and the advantages that a learning culture brings.

Above all else, we are proud of our people, proud of our product and proud to be British manufacturers. The Weholite factory in Newport, South Wales clearly demonstrates that the noble art of manufacturing is not only thriving, but also leading the World in plastic construction products technology.



CHAPTER 5 – WEHOLITE ATTENUATION

The design and manufacture of storm water attenuation and CSO flood alleviation forms the bedrock of the Asset business. Having spent more than two decades engineering value and influencing the thinking in this sector, we have earned the right to consider ourselves to be pioneers and indeed leaders in this field.

Our solutions are supplied across all sectors. These systems, designed for both online and offline situations, have been utilised by most of the major developers and adopted by all of the UK water authorities*.

Weholite is at the forefront of technological innovation and development. The core competencies within our business, such as production and fabrication, transport, design and installation, give us a strong competitive advantage over other materials.

Much of the work Asset International does is in the housing sector and provides safe water management to housing developments in the form of storm water attenuation tanks, pumping stations, soakaways and flood relief culverts all of which come into effect in the event of heavy rainfall entering every day drainage infrastructure.

Using the current edition of both Sewers for Adoption and the Civil Engineering Specification for the Water Industry (CESWI) as the guideline documents for this sector, we are more than comfortable collaborating with developers, consultant engineers and installers to ensure that projects can be approved under sections 104, 106 and 38 with both water companies and local authorities.

Individual requirements of water companies are always taken into account during the design and approvals process to ensure conformity. Furthermore, Asset offers extensive site and after sales support.



As well as designing innovative water management solutions within the housing sector, Weholite products are used across the whole construction industry, including the Water Industry Capital Investment Programme (AMP), for water management infrastructure. Weholite has been utilised on major surface water drainage projects including the M25 widening, Airbus Factory extensions, Network Rail improvements, Schools building programme, energy from waste projects and CSO flood alleviation for properties on the DG5 register.

In more recent years SuDS (sustainable urban drainage solutions) have come to the fore. Sustainable drainage is a departure from more traditional approaches to managing water. SuDS aims to mimic natural drainage by use of attenuation, infiltration, conveying whilst at the same time filtering out pollutants.

Sustainable solutions are important and should be encouraged wherever possible, but the fact of the matter is that SUDS alone will simply not be enough to protect the UK from future flood damage. Without engineered solutions, a natural SUDS project would be entirely powerless to stop extensive damage.

**All UK Water Companies have differing specifications and requirements. Please contact Asset International Limited for specific advice.*





CHAPTER 6 – WEHOLITE MANHOLES

As we all know by now, offsite build and modular technology is very much en vogue. With the recognition that the complexity of traditional construction processes carry with them inherent and residual risks in terms of cost, efficiency, health & safety and environmental aspects the move towards the factory built environment is gaining momentum.

It has long been the dream of the construction industry to be able to replicate the lean, efficient and precision built principles of factory manufacturing into the sector and the plethora of benefits they would bring.

Whilst it is difficult to challenge the benefits of this new industry philosophy, there is also an industry mindset to overcome. The decision to take the leap of faith and go down the offsite build route involves a value judgment on behalf of the buyer that must take into account the whole project cost and the benefits that these products can bring such as superior quality, programme reductions, consistency, sustainability etc.



So, how best to communicate the cost savings of sound value engineering? How best to make the industry realise that there are truly revolutionary bespoke products, delivered in quick time, which can be installed and connected in minutes? How best to highlight the features of factory built quality, that has been designed and tested and is manufactured offsite using the latest available technology anywhere in the World?

If ever there was a flagship product that truly represents the offsite build philosophy it is Weholite manholes.

WEHOLITE MANHOLES

- 1 Savings on programme
- 2 No concrete surround
- 3 Fully air tested and 100% watertight
- 4 No rocker pipes needed
- 5 Manholes and chambers ready to use immediately
- 6 Fully tested lifting points
- 7 Totally resistant to Hydrogen Sulphide
- 8 Lighter plant and less labour needed
- 9 HDPE has the best abrasion resistance
- 10 Special anti-slip benching factory fitted
- 11 Better flow properties
- 12 Very low maintenance



CHAPTER 7 – WEHOLITE PACKAGED PUMPING STATIONS

New Government legislation, which came into force on October 1st 2016, means that water companies will now be responsible for all private pumping stations. Therefore, all new build pumping stations must comply with criteria and specifications in order to be adopted by the relevant sewerage company.

Using the latest off-site manufacturing methods within Asset's automated factory to produce Weholite packaged pumping stations, means that this product is truly designed for manufacture and assembly offsite. In turn it allows clients to save on time by improving site productivity whilst also reducing risks on site. In addition to enabling significant savings from a more streamlined installation process and reductions in the construction materials used, the off-site manufacturing process also eliminates the need for confined space entry to complete the works.

These systems are manufactured to varying depths and fully assembled in the factory with all the internal pipework and valves. The modular system simplifies the installation process, reducing overall cost whilst ensuring each assembly is functioning correctly.

A factory-fitted HDPE benching arrangement provides the pumps with an ideal operating environment, reducing the potential for blockages and improving long-term reliability and design life of the pumping station. In most cases there is no need for a concrete surround due to the utilization of Weholite Modular structural bases, which help counter groundwater and flotation.

This gives property developers and water companies true benefits when it comes to reducing the overall capital cost of construction and installation of the pumping station itself as well as contributing to significant improvements in the reliability of the system with the corresponding reductions in operational running costs.

Pumping Stations in the Housing Sector

In response to the Government's plan to transfer ownership of private drains and sewers to water companies, Asset International Ltd, has formed a strategic alliance with the market leader in sewage and surface water pumping systems, PDAS (Pump Design and Services), to develop modular solutions designed specifically for the housing sector.

The partnership between PDAS and Asset provides the housing market with a new, innovative product in particular for sewers for adoption pumping stations. The collaboration will help house builders and developers provide more reliable solutions that will be ready for adoption by the water companies.





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CHAPTER 8 - WEHOLITE FLOW CONTROL CHAMBERS

I hope you will have grasped by now, that this treasure of ours, this pearl of a product, this Weholite has the potential to be transformed into a myriad of different solutions that contribute to what can only be described as progress. Here are two different types, although there are many more.

A number of years ago, we were awarded a patent for developing a pipe based combined sewer overflow (CSO) control chamber that has the potential to drastically cut on-site construction costs of traditional CSO chambers. To achieve this, we worked in conjunction with Morrison Construction Services Ltd and Hyder Consulting to develop the chamber, which is designed to answer CSO engineering requirements.

More recently, we have been able to offer a similar system in rectangular form using Weholite Modular, which means the potential of an even better value offering.

The lightweight nature of our design dramatically reduces installation time not only resulting in a lower health and safety risk for onsite personnel, but also minimal disruption to local communities and the environment.

We can manufacture and deliver the chambers rapidly and to exact specifications. The use of Weholite lends itself to bespoke engineering designs therefore reducing the need for site built solutions that have long programme times. The fast installation time of the factory-built chamber means projects will see direct results in time and cost savings and an improvement in quality.

Across the UK, only Weholite can offer such innovative chamber systems in HDPE, that do not need concrete inside or outside to provide structural integrity.

Weholite flow control chambers are available in diameters up to 3.5m internal and come with a structural base for groundwater pressure resistance and a Weholite Modular weir wall that does not need the added cost of concrete to reinforce it.

The chambers are totally prefabricated at our plant in Newport, South Wales and are delivered ready to install with factory fitted flow control devices. Any type of flow control device can be utilised and fitted into Weholite Control Chambers. All chambers are air tested to prove integrity.

The chambers can be utilised as part of a Weholite Attenuation System, attached to a small diameter surface water/sewerage or integrated as a flow control chamber for modular attenuation cells or any other type of system.

We can offer many different types of chambers; the only limitation is that we haven't thought of them yet.



CHAPTER 9 - WEHOLITE AND WASTE WATER

One of the most common questions asked about Weholite is how long will it last? The simple answer is that the design life of Weholite in standard gravity applications is well in excess of 100 years.

This can be backed up from a variety of sources, but for the purpose of simplicity and ease, please refer to The European Plastic Pipes and Fittings Association (TEPPFA), which does fantastic work for the industry. TEPPFA carried out a two-year academic study, which was independently scrutinized, by Professor Heinz Dragaun from the Technical School for higher education (TGM) in Vienna.

What does this mean?

It means that designers, owners and operators can be confident that HDPE sewer systems will have an in-service life of at least 100 years when materials, products and installation practices meet the appropriate requirements. In the case of Weholite, those set out in *BS EN 13476-2: 2007 Plastics piping systems for non-pressure underground drainage and sewerage. Structured-wall piping systems of unplasticized poly (vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE)*. A standard to which Weholite is fully approved, and one that only applies to totally plastic pipes.

Weholite is used in a variety of pipeline applications from simple road or rail culverts, to the more demanding inter process pipework on sewerage treatment plants. When used in conjunction with the endless array of bespoke chambers, manholes and fittings the Weholite system offers users opportunities to excel.

Supported by intelligent, common sense design, friendly welcoming site services that offer a wealth of frontline experience, Asset International Limited has fully immersed itself in the offsite build, modular construction philosophy and offers a wide range of products for wastewater applications. These include CSO Chambers, Wastewater Packaged Pumping Stations, Flow Regulator Chambers, V Notch Weir Chambers, Oversize Manholes, flood alleviation tanks and sewerage and stormwater networks.





CHAPTER 10 - WEHOLITE AND DRINKING WATER

In the UK all drinking water, whether from public supplies or other sources, has to meet standards laid down in the EU Drinking Water Directive (98/83/EC).

UK regulations follow the EU directive, but some aspects are stricter than, or in addition to, those defined by the directive, reflecting the high standards of water supplies in the UK.

We have always been bold in our attitude to product certification and some fifteen years ago, took the step of attaining *DWI Regulation 31 Reference number DWI 56.4.513 "Approved for use in public water supplies"* for Weholite Pipes. The approval also covers Weholite Modular. Weholite also has WRAS approval.

Whilst all the benefits of using Weholite pipes can be utilised on treatment works for inter-process pipework, it is for offsite build components that Weholite really soars. They can be used above and below ground, in drinking water treatment plants.

All Weholite products, combine advanced HDPE material properties with advanced production technology to create a lightweight engineered solution with superior loading capacity that is chemically inert and provides a 120-year below ground and a 60 year above ground design life.

Weholite has been used to provide offsite build solutions from packaged pumping chambers; to chlorine contact tanks and many other similar products including balance tanks and RGF filter tanks.

As we carry our own professional indemnity, we are able to undertake design, produce drawings, manufacture and deliver these types of vessel to site.

Items are prefabricated at our automated production facility in South Wales using robotic technology and are generally delivered to site as completed units.

All products are pre-slung and lifted straight from the lorry and into place, saving time in design, construction and in the plant required; eliminating the need for confined space entry on site and shortening programme time.

The Weholite solution also provides tangible environmental benefits such as a lower carbon footprint.





CHAPTER 11 - WEHOLITE AND RENEWABLE ENERGY

Involvement in the water management industry stands us in good stead for using Weholite within the renewables sector. Whether it be hydroelectric pipelines and intake structures, anaerobic digestion or air vent systems, the same offsite build philosophy supported by the unique properties of Weholite apply.

With growing global energy requirements and an acceptance that fossil fuels and nuclear power are unsustainable and will potentially damage the planet irreversibly, the focus on developing renewable and sustainable energy sources is vitally important.

Hydropower is the most popular renewable energy resource in the world, with a 16% share of global energy output and counting. In recent years, the UK has seen an increase in the number of hydroelectric projects, mainly small power plants that utilise local waterways for the production of clean, cheap energy.

Hydropower projects, where water is diverted from a river or collected from surface runoff and conveyed down a penstock piping system to a generating station, are seen as an environmentally friendly way of generating electricity without adversely affecting flow or water levels. Over time Weholite has proven to be the ideal choice for project owners, engineers, and contractors because the advantages of using Weholite provide an economical alternative to other piping materials.

Ground air heat exchangers offer a sustainable way of heating and cooling buildings. Ventilation air is drawn through underground pipes, which pre-cools the air in the summer and pre-heats it in winter, using the near constant temperature of the ground (7-13°C).

Similarly, Weholite has been utilised extensively for ventilation systems or odour control.

Biogas is typically produced from the breakdown of organic matter in the absence of oxygen, through a procedure called anaerobic digestion, whereby biodegradable materials, such as manure, sewage and plant material are broken down. This is done in tanks, so that the gas produced can be harvested.

Weholite pipes and tanks are used in biogas projects across the UK. Weholite chambers are used to house the unique technology to transform the energy requirements at the plants by converting food waste and animal by-products into power and heat.



CHAPTER 12 – WEHOLITE AND THE MARINE ENVIRONMENT

Asset International Ltd offers marine applications such as outfalls, intakes and water crossings. The pipes can be delivered in long lengths, welded on site and then submerged.

Weholite is a structured-wall polyethylene pipe with smooth internal and external surfaces for low-pressure applications up to 1.5 bar internal pressure. It is one of the few polyethylene pipes in the world that can be produced in dimensions larger than two metres.

In fact, it is manufactured in sizes ranging from 400mm to 3,500mm internal diameter, and can be supplied in ring stiffness classes up to from 2 to 8kN/m².

Pipe lengths are normally 12m – 18m, but pipes can be supplied in even longer lengths depending on transportation capabilities. Weholite is extremely suitable for intakes and outfalls for power plants, sewage treatment plants, refineries and desalination plants.

The main benefits of Weholite compared to alternative materials are that it is durable and lightweight, and has outstanding resistance to chemicals and corrosion, making it ideal for use in marine projects. Weholite provides all the technical advantages of equivalent PE solid wall pipes, but with substantial savings in weight, combining greater ease of installation with increased cost effectiveness.

Part of the installation preparation involves a patented grouting process.

This innovative methodology eliminates the need for heavy concrete collars to ballast the strings. This traditional way of installing marine pipelines can often be extremely risky during submersion. Filling the hollow Weholite profile with an inexpensive and pumpable grout is much safer and affords for a much quicker preparation time. With no concrete collars a smaller trench is needed, the dredging operation is minimised and the volume of excavation is therefore drastically reduced.

Since submarine excavations are much more expensive than on dry land, the advantages of Weholite are transparent. By using the grouting system, Weholite submersion is much easier to control and ultimately safer.

Installation is quick and reliable, with the pipes easily transported to the job-site, even in poor ground conditions. Weholite pipes have a natural ability to 'flex', which enables them to adjust to different loading conditions, vibrations, stress and soil movements, without causing damage to the pipe.





CHAPTER 13 - WEHOLITE JOINTING SYSTEMS

It is important that the most efficient method of joint is used to ensure the pipeline remains watertight, durable and effective for potentially excessive movement in poor ground conditions; and depending on application, there are different methods of jointing Weholite including heat extrusion, band seal, bolted flange and non-watertight band.*

① Heat Extrusion Jointing

This process, carried out by direct Weholite personnel, provides an economical and fast method of delivering a complete, long, continuous length of pipeline, which allows the joint to be as strong as the pipe itself. Extrusion welding is a semi-mechanical process initially developed for joining thermoplastic sheeting and then adapted to thick-walled pipes where a higher level of joint integrity is required.

Extrusion welded joints are proven in tests to be the industry's strongest and most reliable method for joining structured wall pipes. The

German DVS standard tests them to a 50% greater force than other welding processes such as electrofusion.

Extrusion welding has a proven track record globally for large diameter pipes up to 3500mm diameter, providing the safest and most versatile solution on the market whilst still improving the efficiency and adding value to the overall project.

② Flexseal Couplings

Flexseal Extra Wide Couplings are used principally for connecting Weholite internal diameters of 400mm to 1800mm. Weholite Flexseal Couplings are 300mm wide, which allows for greater tolerance in the cutting of the ends of the pipe as well as providing for the movement of pipes due to settlement or thermal effects.

③ Lateral Connections

The WRc Approved, Universal Adaptor (UA) Saddle; manufactured by Flexseal, can be used with Weholite. When used in conjunction with a Flexseal coupling it is an easy to fit product for connecting 160mm laterals into Weholite post installation.

④ TeeKay Axiflex Couplings

The Teekay Axiflex is a high performance coupling that allows generous pipe angulation and expansion/contraction. The Axiflex is a popular choice of coupling with water authorities, civil engineers and building contractors and has been used on Weholite in sizes up to 3.3m external diameter.

⑤ Weholite Flat Bands and Other Joints

These flexible bands are used for sand tight joints or for location purposes. They are manufactured from HDPE and whilst offering no structural value, have a design life as long as Weholite.

We are able to manufacture and supply PN, bespoke and puddle flanges by design. HDPE Wall couplers for casting into concrete structures can also be produced.

**Please contact Asset International Limited for advice on the most suitable system to fulfill your requirements.*





BALDWIN'S
CRANE HIRE

CHAPTER 14 - CERTIFICATES AND STANDARDS

In order to protect us all from the old “cheap and nasty” adage there are numerous international, Europe and UK national standards and in many cases national regulations / requirements. The water and construction industries, and the products and services used therein are no different and compliance with applicable standards ensures that customers can be safe in the knowledge that money has been spent on products that comply and are approved to applicable standards

“Put at its simplest, a standard is an agreed, repeatable way of doing something. It is a published document that contains a technical specification or other precise criteria designed to be used consistently as a rule, guideline, or definition. Standards help to make life simpler and to increase the reliability and the effectiveness of many goods and services we use. Standards are created by bringing together the experience and expertise of all interested parties such as the producers, sellers, buyers, users and regulators of a particular material, product, process or service.”
Source BSI.

Structured Wall Plastic Pipes

One such standard that has recently come to the fore, taking over from the incumbent WIS 4-35-01 is the European Standard BS EN 13476 - Plastics piping systems for non-pressure underground drainage and sewerage – structured wall piping systems of unplasticised poly vinyl chloride (PVC-U), polypropylene (PP) and polyethylene (PE). This standard took many years to develop and involved most of Europe’s plastic pipe manufacturers to ensure commonality across the whole industry when it comes to ensuring the quality, reliability and longevity of the product. It has raised the bar for structured-wall plastic pipe system standards right across Europe. The standard was specifically written for structured wall pipe systems made only from one of three materials: HDPE, PP or PVC. As stated by the CEN committee (the European Committee for standardisation), it is not applicable to, and therefore cannot be used, as a standard for pipes made from other materials, combinations of materials (composite pipes) or pipe systems that do not belong to the clearly defined structured wall family.

Reassurance for installers, system operators and owners

BS EN 13476 covers all aspects of the system for foul and surface water sewers, some of the main points that provide comfort and reassurance to the end users are raw materials, wall thicknesses, impact resistance, ring flexibility and structural design requirements.

Weholite Certification

You can see and download the full array of our achievements on our website at <http://www.weholite.co.uk/our-products/> which proves beyond any doubt that we care deeply about our standards. *They are high.*







CHAPTER 15 – WEHOLITE AND A WORLD OF POSSIBILITIES

Industry is a capricious audience and influences emerge in the most unlikely of places. Of course, the power of influence is transient.

During our embryonic years, despite the fact that there was remarkable excitement, establishment statements such as “I’m all for innovation, just as long as it’s not on my patch,” were commonplace. Safe to say, we never lost our belief in the infinite possibilities of our business. Innovation is our legacy.

With careful analysis and comprehension we continue to operate with adult sophistication and amplify change. This is an age of tremendous wonder, openness and discovery; whereby we treat challenges as opportunities without limits in order to fulfil and exceed expectations.

I am a possibilist rather than an optimist. The World of Weholite will always remain a landscape of uncharted territories.

Mindful of this, I would urge you to contact us, arrange a visit and indulge your inventive spirit; all in the knowledge that you will awake the next day with a sensory hangover.



CHAPTER 16 -

TYPICAL DETAILS & CASE STUDIES

