

uponor

Weholite<sup>®</sup>

LIGHTWEIGHT PIPE SYSTEM



# The lightweight pipe that takes a heavier load

Weholite® pipe is large diameter, profile wall pipe made from high-density polyethylene (HDPE) resin, which is manufactured to

ASTM F-894. Designed for gravity and low-pressure applications, Weholite's raw material properties have been combined with

patented structural wall technology to create a lightweight engineered pipe with superior loading capacity.

## Lighter. Stronger. Chemical Resistant.

Weholite pipe is much lighter than similarly sized concrete pipe. Combine this with longer manufacturing lengths and Weholite allows you to achieve savings in labour and equipment

Weholite HDPE pipe will not corrode, tuberculate or support biological growth, making it the material of choice in wastewater and harsh chemical environments. It is inert to salt water and the chemicals likely to be present in sanitary sewage effluent.

Like all HDPE pipe, Weholite has a smooth ID that maintains its flow capability over time. The low Manning's roughness factor of 0.01 remains constant, even after years of use.

## Easier to Transport. Easier to Install. Reliable Joints.

Weholite pipe is much easier to handle and install than heavier, rigid concrete or metallic pipe. This means potential cost savings during the construction process.

Weholite offers a variety of joining methods that meet or exceed your project's tightness requirements. Field fusion welding, Weholite Coupling

Bands and Threaded Joints each meet the unique demands for the wide range of applications for which they are designed.





## Cost Effective. Permanent.

Weholite pipe offers distinct chemical and physical advantages over FRP, concrete and cast or ductile iron pipe. It can be field bent to a radius 200 times the nominal pipe diameter eliminating many fittings required for directional changes in piping systems made from other materials. In addition, the flexibility of Weholite pipe makes it well suited for dynamic soils and areas prone to earthquakes.

Weholite is cost effective in both the short and long term. The fact that it is lightweight makes it easier to transport and install. The fact that it utilizes reliable joining methods means years of maintenance free use. The Plastics Pipe Institute conservatively estimates the service life for HDPE pipe to be 50-100 years.

## The Weholite Advantage

- Lightweight
- Impact Resistant
- Corrosion Resistant
- Chemical Resistant
- Fatigue Resistant
- Reliable Joints
- Flexible
- Long Life
- Environmentally Friendly



## Proven performance in many applications

Since its development, large diameter HDPE pipe has been used successfully in thousands of installations world-wide. Weholite has proven itself in both municipal and industrial applications including new pipeline and pipeline rehabilitation projects.

Weholite provides all the advantages of solid wall polyethylene pipe with substantial savings in weight for increased ease of installation and cost effectiveness.

### Some of the successful applications of Weholite include:

- Biofilters
- Culverts
- Drainage Systems
- Gravity Sewers
- Hydroelectric
- Irrigation
- Municipal Low Pressure Projects
- Manholes
- Pipe Rehabilitation & Relining
- Sanitary Sewers
- Storage Tanks
- Storm Drains & Sewers
- Water Intakes
- Water Outfalls



### Drainage & Roads

Uponor Infra provides Weholite drainage systems for virtually any requirement in civil construction including: culverts, culvert relining and drainage pipe for storm water drains, roadways and railroads. Weholite pipe has enhanced hydraulic flow and unparalleled chemical and abrasion resistance when measured against other materials. It is unbeatable when it comes to flexibility in unstable ground conditions.



### Hydroelectric

Large diameter profile wall Weholite pipe is an ideal solution for hydroelectric applications such as turbine feed water supply and water diversion. It is lightweight, which makes transportation and installation easier. The flexibility of the pipe allows for large radius bends, which is important for water diversion where the terrain may control the area of installation.



### Industry

Long-term reliable piping solutions are always in demand for a wide range of industrial applications. Large diameter profile wall Weholite offers resistance to corrosion, abrasion and chemicals that industry requires. Odorous compounds are released from many industrial processes, waste disposal and recycling. A Weholite biofiltration system is a simple, low cost technology that can reduce odour emissions by as much as 95%.



## Weholite Tanks

Uponor Infra manufactures Weholite Tanks in a large array of sizes. All tanks can be outfitted with custom fabricated components suitable to the design requirements of each individual specific job. Weholite tanks are suitable for gravity plastic pipe systems, water storage, storm water systems, sewage systems and chemical storage.



## Irrigation

Weholite HDPE pipe has proven to be an ideal solution in irrigation and low pressure water conveyance applications including: river and canal diversion, agricultural irrigation systems, underground irrigation systems, irrigation pipelines, water conservation and safety. The properties of Weholite including strength and durability ensure that your irrigation system will withstand the test of time.



## Heating & Cooling

Weholite pipe has proven to be a strong, virtually leak-proof and chemically inert solution for use as a high volume water intake line for district cooling applications. It has distinct installation advantages due its light weight. In certain shallow depth marine applications the pipe can be assembled on shore in a continuous length, floated into position and then submerged as a continuous structure. Its resistance to both corrosion and zebra mussel fouling make it an ideal solution in lake and river applications.



## Waste Water Systems

After more than 50 years use in sewer applications, polyethylene pipe has proven to be a reliable, long-term solution for sewer and wastewater systems. Weholite pipe has distinct advantages over other piping materials. Its resistance to abrasion and chemicals make it a lasting solution. Weholite pipe is also flexible and does not corrode or tuberculate over time.



## Choose from a wide range of sizes

Weholite pipe is tough, flexible, lightweight, surge and chemical resistant. It offers installation

economy and long service life. Available in a wide range of sizes from 18" to 132" in diameter, and

standard pipe lengths of up to 50'. Special pipe lengths can be produced to meet almost any need.



Product Size Range				
Size (inch)	Item		Dimensions	
	Class	Spec	Avg. OD (inch)	Avg. ID* (inch)
18	160	F894	20.4	18.0
19.5	160	F894	22.2	19.5
21	160	F894	23.7	21.0
24	160	F894	27.1	24.0
27	160	F894	30.4	27.0
30	160	F894	33.7	30.0
33	160	F894	36.7	33.0
33	250	F894	37.5	33.0
36	160	F894	40.5	36.0
36	250	F894	40.5	36.0
40	160	F894	44.5	40.0
40	250	F894	45.0	40.0
42	160	F894	47.0	42.0
42	250	F894	47.3	42.0
48	160	F894	53.0	48.0
48	250	F894	53.5	48.0
54	160	F894	59.5	54.0
54	250	F894	60.2	54.0
60	160	F894	66.2	60.0
60	250	F894	66.9	60.0
66	160	F894	72.2	66.0
66	250	F894	73.6	66.0
72	160	F894	78.9	72.0
72	250	F894	80.3	72.0
78	160	F894	85.6	78.0
78	250	F894	86.3	78.0
84	160	F894	91.6	84.0
84	250	F894	92.9	84.0
90	160	F894	97.6	90.0
90	250	F894	98.9	90.0
90	400	F894	100.3	90.0
96	160	F894	104.3	96.0
96	250	F894	105.6	96.0
96	400	F894	107.0	96.0
108	160	F894	116.9	108.0
108	250	F894	118.3	108.0
108	400	F894	120.4	108.0
120	160	F894	129.6	120.0
120	250	F894	131.0	120.0
120	400	F894	133.8	120.0
132	160	F894	143.0	132.0
132	250	F894	144.4	132.0

## Online Analysis Tool

The Uponor Infra online analysis calculator evaluates your selection of pipe size and grade to suit the hydraulic capacity, internal pressures, thermal factors and burial conditions of your

application. Please visit our web site and use our online analysis tool to determine the best Weholite pipe size and class to suit your specific application.

**Note:** This dimensional table (page 6) for Weholite pipe contains a range of product sizes and stiffness classes. The specification associated with each of these items is ASTM F894. If the analysis using our online tools indicates that one

of these lower stiffness items is suitable, the standard that will be indicated on all documentation is NONF894. The items comply in all respects with ASTM F894 except the waterway wall.



## Fittings and custom configurations for any application

Uponor Infra provides a wide range of complimentary products to meet the requirements of just about any piping system.

Our comprehensive selection of factory fittings includes elbows (30, 45, 60 and 90 degree), headers, laterals, reducers and tees. You can choose from standard fittings or design custom fittings for your

unique application.

We can custom manufacture piping assemblies to include branch connections commonly found in foul air and other industrial piping applications. Weholite can be easily fabricated into water storage tanks, inspection chambers and manholes for sewage applications. A wide range of sizes and designs are

possible, with pipe connections suitable for any standard sewer pipe. Inspection chambers and manholes are available complete with an adjustment pipe for final height installation on site if desired. Covers are selected according to application and traffic load, and ladders can be fitted inside as required.





## Product innovation and quality assurance

For over 50 years Uponor Infra has been a leader in the design, development, manufacturing and engineering support of polyethylene piping systems.

Extensive R&D in the early 1960's led us to produce 16" NPS polyethylene pipe at a time when many considered this size a technical impossibility. Today Uponor Infra produces 132" profile wall Weholite pipe for a wide range of applications.

All Uponor Infra products are manufactured from special, high strength resins with complete quality control maintained from raw material to finished pipe product. Uponor Infra produces Weholite to the exacting standards of its quality management system which is registered to ISO 9001:2000.

Our strict manufacturing specifications are verified daily, using precise dimensional controls and accelerated long term

hydrostatic testing. Our continuous quality control process assures long-term pipe performance.

Since Weholite pipe is lightweight and flexible, it is easy to transport and install. Small misalignments of pipeline can be accommodated by bending the pipe itself. Long lengths of pipe can be ordered to reduce the number of joints and the associated time and expense of installation.





## Simplified Material Handling

Light weight and long lengths reduce the material handling requirements at construction and storage sites. In addition, Weholite has high axial (or beam) stiffness that reduces the number of support points required to lift these long lengths of pipe. The durable PE material helps ensure that product damage due to handling is minimized.

## Joining Options



### Gravity Piping Systems

The Weholite Coupling Band has been designed to meet the requirements of your gravity piping system. Suitable for gravity wastewater, storm drainage and tank systems this mechanical coupling combines a high-strength, corrosion resistant stainless steel casing with a high-grade elastomeric seal to provide durable joining systems that exceeds the requirements of ASTM D3212



### Low Internal Pressure Piping Systems

Field applied thermally fused extrusion welded connections are utilized for applications with low internal operating pressures. Fused joints offer reliable performance against leakage and result in a fully restrained system eliminating the requirement for thrust restraints.



### Rehabilitation and Reline Systems

The unique Threaded Joint is a simple and reliable joining method providing an economic solution for slip lining applications. Weholite Threaded Joint facilitates the work of maintenance crews and contractors to rehabilitate pipe systems at the fraction of the cost of replacement.



## Grouting Reline Pipe

Weholite's high axial stiffness and high resistance to the hydrostatic collapse pressure caused by grouting, simplifies the installation and grouting procedures when using this pipe to reline deteriorated highway culvert pipe. Relining offers substantial savings over replacement of distressed pipe and avoids traffic disruption.



## Pipe Installation

The bedding and backfill requirements for Weholite pipe are the same as those used for all plastic pipe. ASTM standard D2321 that applies to PE and PVC plastic pipe installation, is appropriate for describing the process for placement of bedding, and backfill materials on a Weholite pipe installation. Where native materials are suitable, imported embedment materials may not be required.



## Manhole Installation

Weholite manholes are designed in accordance with ASTM F1759. HDPE manholes when used with HDPE piping produce a sewage system that is virtually leak-free and is not subject to the corrosion experienced in many sanitary sewage systems. Weholite manholes may be provided with corrosion resistant OSHA ladders, and field cut to the required height.



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