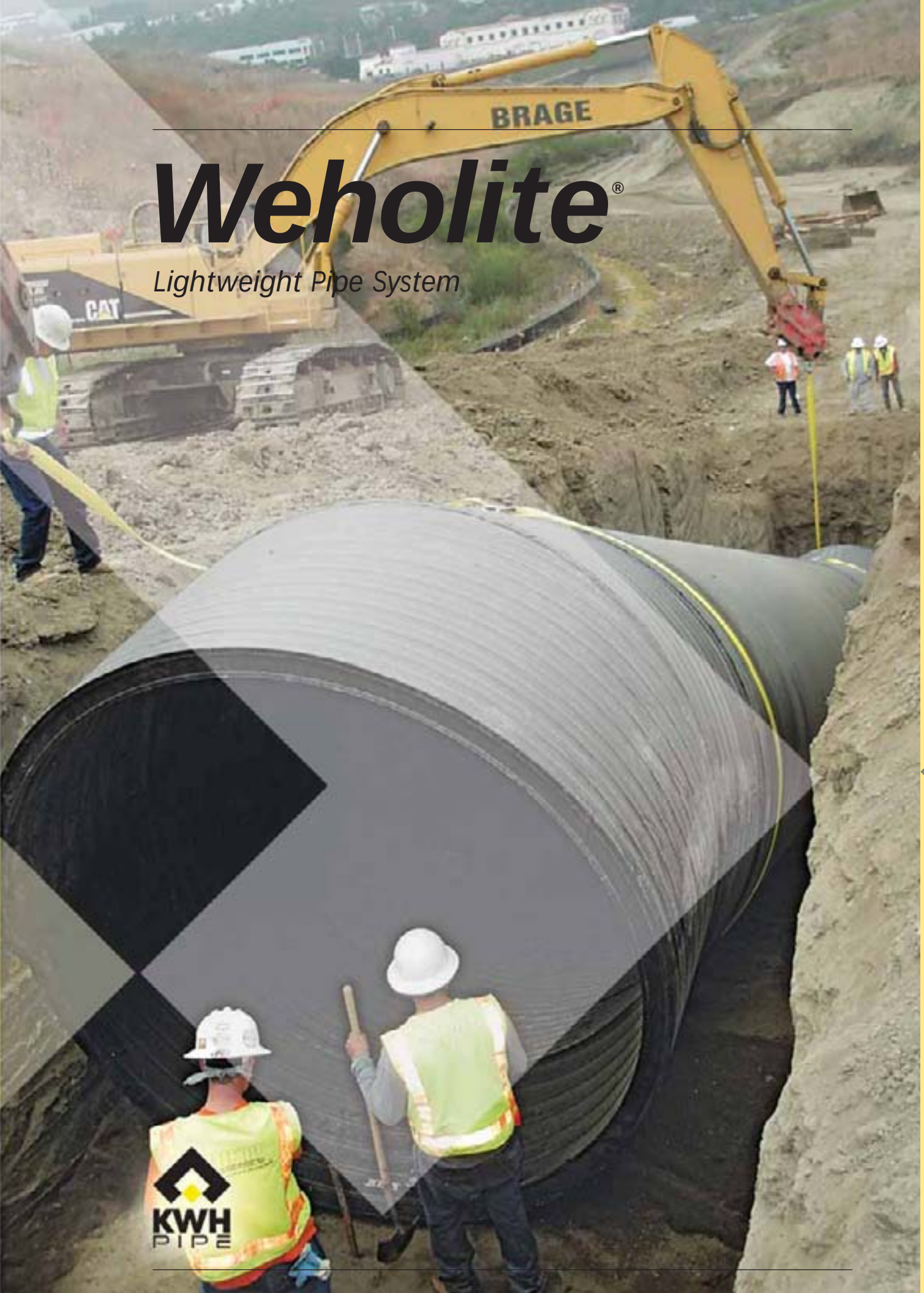
Weholite®

Lightweight Pipe System



KWH PIPE

The lightweight pipe that takes a heavier load

Weholite® pipe is large diameter, profile wall pipe made from high-density polyethylene (HDPE) resin. 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. It is used to convey liquids or air, under ground or above ground, in low-pressure applications.

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 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. Leak Proof.

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. It is structurally designed to withstand an impact, especially in cold weather installations when other pipes are prone to cracks and breaks.

Weholite pipe is usually joined by a thermal fusion process (extrusion welding) to form a joint that is as strong as the pipe itself. Extrusion welding eliminates potential leak points every 8-20 feet commonly found with concrete, PVC and ductile iron pipe. Since fused joints are self-restraining, costly thrust restraints or thrust blocks may not required.

Extrusion welded Weholite pipe is leak proof. The properties of HDPE pipe and the thermal fusion method of joining produces a continuous pipeline, eliminating the risk of leakage caused by shifting unstable soils. A continuous Weholite pipeline eliminates the joint infiltration and exfiltration problems experienced with other pipe materials.

Cost Effective. Permanent.

Weholite pipe offers distinct chemical and physical advantages over concrete or iron pipe. It can be bent to a radius 200 times the nominal pipe diameter to eliminate 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 is leak proof and fatigue resistant means years of maintenance free use. The Plastics Pipe Institute conservatively estimates the service life for HDPE pipe to be 50-100 years.

Weholite Advantages

- *Lightweight*
- *Impact Resistant*
- *Corrosion Resistant*
- *Chemical Resistant*
- *Fatigue Resistant*
- *Leak Proof*
- *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 pipe 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
- Manholes
- Municipal Low Pressure Projects
- Pipe Rehabilitation & Relining
- Sanitary Sewers
- Storage Tanks
- Storm Drains & Sewers
- Water Intakes
- Water Outfalls

Drainage & Roads

KWH Pipe 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 also unbeatable when it comes to its ability to flex in response to changes in ground loading.

Hydroelectric

Large diameter profile wall Weholite pipe is an ideal solution for hydroelectric applications such as: input lines to hydro powerhouses, 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%.

Irrigation

Weholite HDPE pipe has proven to be an ideal solution in irrigation and agricultural drainage 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, 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.

Sewage Systems

After more than 30 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. Inflow and infiltration are completely eliminated in wet weather conditions on gravity flow systems. 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

Item			Dimensions	
Size (inch)	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	23.6	21.0
24	*160*	*F894*	*27.0*	*24.0*
27	*160*	*F894*	*30.4*	*27.0*
30	*160*	*F894*	*33.7*	*30.0*
33	*160*	*F894*	*37.6*	*33.0*
33	250	F894	37.6	33.0
36	100	F894	39.7	36.0
36	*160*	*F894*	*40.6*	*36.0*
36	250	F894	40.6	36.0
40	100	F894	43.7	40.0
40	*160*	*F894*	*44.6*	*40.0*
40	250	F894	45.1	40.0
42	100	F894	46.6	42.0
42	160	F894	47.1	42.0
42	*250*	*F894*	*47.4*	*42.0*
48	100	F894	52.6	48.0
48	160	F894	53.1	48.0
48	*250*	*F894*	*53.7*	*48.0*
54	100	F894	59.1	54.0
54	160	F894	59.7	54.0
54	*250*	*F894*	*60.4*	*54.0*
60	100	F894	65.1	60.0
60	160	F894	66.4	60.0
60	*250*	*F894*	*67.1*	*60.0*

Standard Inventory Product

*Minimum ID is 1% less than Average ID

Online Specification Tool

New, online Calculator evaluates your selection or recommends the best pipe size and grade to suit the hydraulic capacity, internal pressures, pressure surges, thermal factors and burial conditions of your application.

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

Item			Dimensions	
Size (inch)	Class	Spec	Avg. OD (inch)	Avg. ID* (inch)
66	160	F894	72.4	66.0
66	*250*	*F894*	*73.8*	*66.0*
72	100	F894	78.4	72.0
72	160	F894	79.1	72.0
72	*250*	*F894*	*80.5*	*72.0*
78	100	F894	84.4	78.0
78	160	F894	85.8	78.0
78	*250*	*F894*	*86.5*	*78.0*
84	100	F894	90.3	84.0
84	160	F894	91.8	84.0
84	250	F894	93.2	84.0
90	160	F894	97.8	90.0
90	250	F894	99.2	90.0
90	400	F894	100.6	90.0
96	160	F894	104.5	96.0
96	250	F894	105.9	96.0
96	400	F894	107.4	96.0
108	160	F894	117.2	108.0
108	250	F894	118.6	108.0
108	400	F894	120.8	108.0
120	160	F894	129.9	120.0
120	250	F894	131.3	120.0
120	400	F894	134.2	120.0
132	160	F894**	141.6	132.0

Standard Inventory Product

*Minimum ID is 1% less than Average ID

**Pipe complies entirely with ASTM F894 with the exception of the nominal OD value.

Note: This dimensional table for Weholite pipe contains a range of product sizes and stiffness classes. The specification associated with each of these items is ASTM F894. Pipe sizes 48" and smaller are available in lower stiffness classes that do not comply with the minimum waterway wall thickness requirement of 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

KWH Pipe 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 watertight 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 KWH Pipe 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" diameter polyethylene pipe at a time when many considered this size a technical impossibility. Today KWH Pipe produces 132" profile wall Weholite pipe for a wide range of applications. We have patented an unique welding machine designed for joining pipes using thermally fused extrusion welding to assure leak-tight joints.

All KWH Pipe products are manufactured from special, high strength resins with complete quality control maintained from raw material to finished pipe product. KWH Pipe was the first North American manufacturer of polyethylene pipe and fittings to have its Quality Management System registered to the ISO 9001:2000 level.

Our strict manufacturing specifications are verified daily, using precise dimensional controls and accelerated long term hydrostatic testing. Our continuous quality control process assures you of long-term pipe performance.

Easy to transport, join and install

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. Thermal fusion allows for a fast joint that is as strong as the pipe itself and leak-proof. Please visit our web site and use our online specification tool for detailed information on pipe selection and installation.

Thermal Fusion/Extrusion Welding

Thermally fused extrusion welded joints are the recommended joining method. The connection can be made using simple hand-held extrusion equipment. Specialized equipment is also available to join large diameter pipe on both the inner and outer surfaces from inside the pipe. This process enables the pipe to be connected at both the inner and outer pipe walls in a single operation from within the pipe. Equipment can be leased from KWH Pipe and operated by factory trained technicians to provide a leak-proof seal.

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.

Wehoseal Joint Wrap

Wehoseal Joint Wrap is commonly used to connect Weholite pipe to other piping materials or when Weholite is used to reline other pipe materials. It is made from a shrinkable cross-linked polyethylene material which conforms to the diameter of the pipe when heated. Sleeves can be supplied with additional fiberglass reinforcement for challenging conditions. Installation is performed in the field using a propane torch and a hand roller.

Thread-Loc Joint

The unique Thread-Loc joint on KWH Pipe's Weholite pipe allows municipal maintenance crews or contractors to rehabilitate deteriorated culverts and sewers without excavation, at a fraction of the cost of replacement. A threaded connection gives a joint that resists infiltration of normal silt and rainwater debris. The Thread-Loc connection is available on sizes from 18" to 132".
Thread-Loc Joint not available in 48" and below in U.S.A.

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 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 completely 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.

Weholite

Versatile lightweight pipe system for gravity and low-pressure applications

The accuracy or applicability of all information contained herein is intended as a guide and is not guaranteed. Hence, KWH Pipe assumes no obligation or liability for this information. All tables and statements may be considered as recommendations but not as warranty. Users of our products should perform their own tests to determine the suitability of each such product for their particular purposes. KWH Pipe's liability for defective products is limited to the replacement, without charge, of any product found to be defective. Under no circumstances shall it be responsible for any damages beyond the price of the products, and in no event shall it be liable for consequential damages.

PLASTICS·PIPE·INSTITUTE™

Registered to ISO 9001

KWH Pipe (Canada) Ltd.
6507 Mississauga Road, Mississauga
Ontario, Canada L5N 1A6
Tel.: 905-858-0206 • Fax: 905-858-0208
Toll Free: 1-866-594-7473
www.kwhpipe.ca • sales@kwhpipe.ca

KWH PIPE

Printed in Canada.
09/07