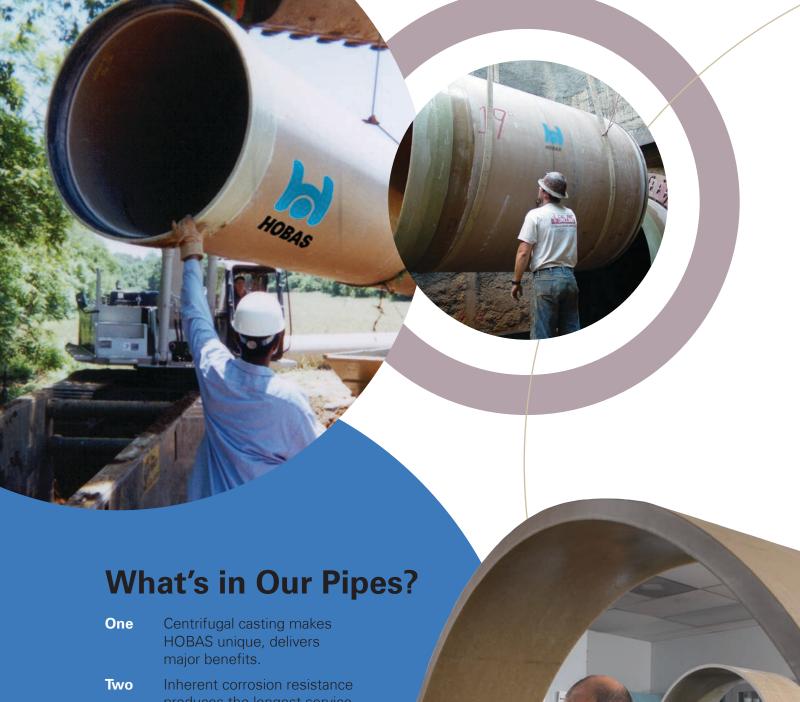


Energy and Power Piping Products





produces the longest service, a 100-year design life.

25 years of experience with **Three** installations in most major US municipalities.

Four Engineering support and field service staff to assure your success.

Five Quality, the finest materials and sophisticated manufacturing for consistent, reliable pipes every job, every time.

Why Pick HOBAS?

It's the Best Pipe Investment You Can Make Centrifugal Casting Is the Difference

Exactly What Are HOBAS Pipes?

HOBAS pipes are unique - centrifugally cast, fiberglass reinforced, polymer mortar (CCFRPM). They are strong, light and inherently corrosion resistant with consistent dimensions, smooth surfaces and high stiffness. Sophisticated HOBAS manufacturing means you get real value, the lowest life cycle cost in the industry for both new installations and rehabilitation.

Long-Life

HOBAS pipe is inherently corrosion resistant because of the materials that go into it. Design service life is up to 100 years and more. HOBAS meets or exceeds ASTM standards as measured in sewer pipe accelerated aging tests. Results project that HOBAS pipe will last many thousands of years, unequaled by any other pipe.

The HOBAS name on the pipe says you've chosen the leader in pipe technology: first choice for virtually every application and method of installation.



Consistent Quality for Performance You Can Count On

Most U.S. municipalities have HOBAS pipe in their systems and the use of HOBAS pipe in the USA is expanding faster than ever after more than 25 years of reliable performance. More than 8,000 miles of HOBAS pipe is in service around the world. The HOBAS computer controlled production process assures consistent, high quality pipes, tested to comply with applicable standards.

Smoother Surfaces, High Flow Capacity

Precision centrifugal casting produces pipes that no other method can deliver - a dense composite with moldsmooth exterior surfaces and a glass-smooth liner that is nonporous, resilient and abrasion resistant. Combined with HOBAS thin-wall construction and resulting oversized I.D., you get the highest flow capacity available.

Energy and Power Piping Products

HOBAS PIPE USA's Houston-based manufacturing facility has been supplying corrosion- resistant piping materials to the energy and power industry since 1987. Diameters from 18 to 126 inches are available for a wide range of applications.

Hydroelectric Penstocks

The reasons HOBAS pipes are used worldwide in penstock and other above ground applications include gravity and pressure classes up to 250 psi, corrosion resistance, leak-free systems and UV resistance.

Cooling Water

When it comes to cooling water projects, HOBAS pipes are chosen for several other outstanding features. Some of these are its high strength design, lightweight and easy handling. In addition, their non-porous wall and leak free gaskets lead to zero infiltration/exfiltration of the surrounding environment.

The 84-inch diameter

Jackman Penstock replaced a
deteriorated wood stave line.



A 90-inch diameter cooling water line installed by direct jacking.

Power Generation

Pipeline Rehabilitation

Flush joint configuration and high strength composite construction make HOBAS ideal for slipline and tunnel applications. Oversized inside diameters provide optimum flow recovery.

Electrical Substation Containment Piping

Utilities use HOBAS pipes for interceptor and underground containment systems in electrical substations. On such projects, HOBAS pipes provide the benefits of chemical and heat resistance, a leak-free joining system and ease of installation.



HOBAS Pipe Delivers Major Advantages in Every Demanding Application, Every Type of Installation.



Applications and Installation Methods

This unique, high performance pipe is used for both new installations and rehabilitation. HOBAS pipe is manufactured in diameters from 18 to 126 inches and various section lengths. Other choices include multiple stiffness and pressure classes and a variety of joints and couplings. This flexibility makes HOBAS suitable for virtually every application and type of installation.

Diameters from 18 to 120 inches

18"	20"	24"	27"	28"	30"
33"	36"	41"	42"	44"	45"
48"	51"	54"	57"	60"	63"
66"	69"	72"	78"	84"	85"
90"	96"	104"	110"	120"	126"

The Product

Multiple Applications

- Sewer Interceptors
- Potable Water
- Force Mains
- Outfalls
- Industrial Effluents
- Salt Water Lines
- Odor Control Piping
- Cooling Water

Section Lengths

Standard 5, 10 and 20 feet

Pressure Classes

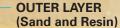
Standard 25, 50, 100, 150, 200 and 250 psi

Stiffness Classes

Standard 18, 36, 46 and 72 psi plus jacking pipes

Wall Construction:

I-Beam Principle



- HEAVILY REINFORCED
 (Chopped Glass and Resin)
- TRANSITION (Glass, Resin, Mortar)
- CORE (Polymer Mortar)
- TRANSITION (Glass, Resin, Mortar)
- HEAVILY REINFORCED (Chopped Glass and Resin)
 - LINER (High Elongation Resin)

Joints

FWC Coupling



Low Profile Bell-Spigot



Flush Bell-Spigot



Joint Type	Applications
Juliit Type	Applications

FWC Coupling	Direct Bury and Aboveground (up to 250 psi)
Low Profile Bell-Spigot	Gravity flow sliplining
Pressure Relining	Pressure sliplining
Flush Bell-Spigot	Gravity flow direct jacking and sliplining
Flush FWC Coupling	Pressure Jacking

Fittings

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•	\vdash	IDOWS -

- Tees
- Reducers
- Laterals

Flanges

- Nozzles
- Wyes
- Manholes

Standard Specifications

ASTM D3262 Non-pressure Sanitary Sewers ASTM D3754 Sewer Force Mains and Industrial Effluents AWWA C950 Pressure Water Systems AWWA M45 Fiberglass Pipe Design Manual

Universal Features

Inh Res

Universal Benefits

herent Corrosion	Long service life
esistance	 No add-on linings or coatings

 Hydraulics don't change • Lowest Life Cycle cost

Oversized Smooth I.D.

Superior hydraulic characteristics

High flow capacity

• Significant energy savings in pumped systems

Lightweight

• Less expensive equipment for handling

Long Length Sections

• Fewer joints to assemble

Resilient Inner Liner

 Excellent abrasion and crack resistance

Computer Controlled Production

Consistent high quality

Reduced risk with fewer problems

High Stiffness, Solid Pipe Wall with High

• Easy to bury using routine methods

• Predictable performance

Compressive Load Capacity • Easily handles deep covers

 Long drives routine in sliplining and jacking

Gasket-Sealed, Push-Together Joints

• Fast, fool-proof assembly

 No bonding agents, bolts or welding needed

Leak-free Joints

 Zero infiltration, lower treatment costs

No ground water pollution

Smooth, Dimensionally Consistent O.D.

• Field length adjustments easy pipe may be cut anywhere along length and assembled with gasketed joint

Lowest jacking loads

Easy to Cut, Mold, Miter, Cast or Laminate

Accommodates any fitting angle

 May be field fabricated, modified or repaired



