BIONAX PVCO PRESSURE PIPE

4" - 18" (100mm - 450mm)

BIONAX®

Imagine a pipe with all the benefits associated with conventional PVC, yet dramatically stronger and more impact resistant.

Bionax is a molecularly-enhanced PVC pipe designed for water mains, sewage forcemains and industrial process piping. Made from biaxially-oriented PVC material, Bionax has almost double the strength of conventional PVC and three times the impact absorption capability. Using a revolutionary new orientation process, this high-tech process orients the PVC molecules both in the axial and circumferential directions (biaxial orientation). The result is a pipe with enhanced toughness and flexibility.

Bionax is specially engineered to withstand the rigors of today's installations. With less construction inspection and less regular maintenance, the market is calling for a pipe that is more robust, stronger and easier to install. Bionax delivers on all three counts.

APPLICATIONS

- Water Mains
- Sewage Forcemains
- Industrial Process Piping

STANDARDS

AWWA MEMBER

D1784
D3139
F477
F1483

B137.3.1

NSF 14
NSF 61

Biaxially Oriented PVC Pipe for Municipal Applications

Bionax's biaxial orientation dramatically enhances the pipe properties that are important to municipal designers:

- Larger internal diameters increase flow rates and reduce pumping costs
- Higher cyclic fatigue resistance for forcemain and irrigation applications
- Reduced bend radius when compared to standard PVC pipe

FEATURES & BENEFITS

1. **Circumferential Tensile Strength**
   Bionax has almost double the tensile strength of conventional PVC (12,100 psi vs. 7,000 psi). This higher strength results in larger inside diameters, improving the hydraulics of the pipe.
2. **Impact Strength**
   Bionax provides more than triple the impact strength of standard PVC pipe. PVCO pipe can withstand extreme jobsite conditions with no damage.
3. **Crack Resistance**
   PVCO's laminar structure prevents crack propagation, preventing damage to the pipe.
4. **Longitudinal Tensile Strength**
   Bionax has higher tensile strength in the axial direction, which allows a tighter bend radius than other materials.
5. **Certification**
   Bionax is third party certified to CSA B137.3.1 and AWWA C909.

SIZES & RATINGS CIOD PIPE

Pressure Class Rating at **73ºF** / **23ºC** for **165 psi** / **1135 kPa**

Pipe Size in	Pipe Size mm	OD in	OD mm	Product Code
14	350	15.3	389	120006/120022 #
16	400	17.4	442	120003/120023 #
18	450	19.5	495	120005/120024 #
20	500	21.6	549	120010
24	600	25.8	655	120011
30	750	32.0	813	120012

Please validate Product Code before placing an order.

Pressure Class Rating at **73ºF** / **23ºC** for **235 psi** / **1620 kPa**

Pipe Size in	Pipe Size mm	OD in	OD mm	Product Code
4	100	4.8	122	118000
6	150	6.9	175	118001
8	200	9.05	230	118002
10	250	11.1	282	118003
12	300	13.2	335	118004
14	350	15.3	389	120001/120019 #
16	400	17.4	442	120002/120020 #
18	450	19.5	495	120004/120021 #
20	500	21.6	549	120007
24	600	25.8	655	120008
30	750	32.0	813	*

Please validate Product Code before placing an order.

Pressure Class Rating at **73ºF** / **23ºC** for **305 psi** / **2100 kPa**

Pipe Size inches	Pipe Size mm	OD inches	OD mm	Product Code
14	350	15.3	389	*
16	400	17.4	442	*
18	450	19.5	495	*
20	500	21.6	549	*
24	600	25.8	655	*
30	750	32.0	813	*

* coming soon!

DID YOU KNOW?

Every length of CIOD Bionax is hydrotested to AWWA standards before being shipped. In fact, IPEX is the only manufacturer to have third-party certification (by NSF) to meet the stringent AWWA standards and by CSA to meet the CSA Standards.

SHORT FORM SPECIFICATIONS

SCOPE

This specification provides the requirements for molecularly oriented polyvinyl chloride (PVCO) pipe for potable-water systems and other pressure-pipe applications.

MATERIALS

- PVCO pipe shall be manufactured from rigid polyvinyl chloride (PVC) compound meeting the requirements of ASTM D1784 cell class 12454B.
- Gaskets shall meet ASTM F477 for high-head applications.

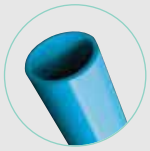
HYDROSTATIC DESIGN BASIS

- Starting-stock PVC pipe shall have a hydrostatic design basis (HDB) of 4000 psi.
- Finished PVCO pipe shall have an HDB of 7100 psi.

PIPE

- Pipe shall be biaxially oriented (molecularly oriented in hoop and axial directions).
- Pipe shall be produced with cast-iron-pipe outside diameters (CIOD) in all sizes.
- Pipe shall be joined by integral-bell gasketed joints conforming to ASTM D3139.
- Pipe spigot ends shall be chamfered by the manufacturer.
- Pipe ends shall be capped at the production facility prior to storage and shipping.
- Pipe shall be color-coloured blue.

CIOD CERTIFICATIONS



- PVC compound shall be CSA-certified to ASTM D1784 cell-class 12454B.
- PVCO pipe shall be CSA-certified to CSA Standard B137.3.1 and third-party certified to NSF Standard 14 and AWWA Standard C909.
- PVCO pipe joints shall be third-party certified to ASTM D3139.

STANDARDS

PVCO pipe shall conform to the following standards:

- ANSI/NSF Standard 14: Plastic Piping System Components and Related Materials
- ANSI/NSF Standard 61: Drinking Water System Components – Health Effects
- ASTM D1784: Rigid Polyvinyl Chloride (PVC) Compounds
- ASTM D3139: Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals
- ASTM F477: Elastomeric Seals (Gaskets) for Joining Plastic Pipe
- AWWA C909-09: Molecularly Oriented Polyvinyl Chloride (PVCO) Pressure Pipe, 4 Inch Through 24 Inch (100 mm Through 600 mm)
- CSA B137.3.1: Molecularly oriented polyvinyl chloride (PVCO) pipe for pressure applications