

## BIONAX® PIPING SYSTEMS

Bionax PVCO pipe and Blue Brute PVC fittings eliminate corrosion and provide a reliable long-term piping system. Although Bionax is compatible with iron fittings, IPEX recommends the use of Blue Brute fittings since they result in an all-plastic system that prevents corroding iron fittings.

It is advisable to specify pipe and fittings from the same manufacturer to ensure a completely matched system. If Bionax pipe is specified with Blue Brute fittings, the pipe and fittings will provide matched pressure capacities.



### Applications:

Municipal water distribution systems

Sewage forcemains, industrial process piping

### Pressure Class/Rating

Bionax CIOD pipe has a Pressure Rating (CSA) or a Pressure Class (AWWA) of 165 psi or 235 psi. It also has a Pressure Class of 150 psi for FM and a Pressure Rating of 200psi by ASTM.

### Surge Pressure

Surge pressures generated in Bionax pipe are lower than for any other municipal pipe.

The short-term rating of Bionax CIOD pipe is 376 psi (for occasional surge-pressure applications).

### Standards

Bionax pipe:

ANSI/NSF Standard 14, ANSI/NSF Standard 61

ASTM D1784, D3139, F477 and F1483

NSF-certified to AWWA C909-09 and ASTM F1483-05, CSA-certified to B137.3.1 and FM-certified to FM1612.



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### Short Form Specifications

#### General

Bionax CIOD pipe shall be certified to AWWA C909 “Molecularly Oriented Polyvinyl Chloride (PVCO) Pressure Pipe (4" – 24") for Water, Wastewater, and Reclaimed Water Service” and certified to CSA B137.3.1 “MOLECULARLY ORIENTED POLYVINYLCHLORIDE (PVCO) PIPE FOR PRESSURE APPLICATIONS.” Bionax shall have a pressure class (AWWA) or pressure rating (CSA) of 165 psi or 235 psi.

#### Material

PVCO pipe shall be manufactured from rigid polyvinyl chloride (PVC) compound meeting the requirements of ASTM D1784 cell class 12454.

Gaskets shall meet ASTM F477 for high-head applications.

#### Product

Finished PVCO pipe shall have an HDB of 7100 psi. Laying lengths shall be 6.1 meters (20 feet). Pipe shall have cast-iron outside diameters. Every length must be proof-tested at two times the pressure class.

#### Fittings

Bionax piping systems shall include IPEX Blue Brute molded and fabricated fittings.

#### Lubricant

Pipe must be assembled with IPEX water-soluble lubricant listed to NSF Standard 61.

#### Color Coding

CIOD pipe shall be color coded blue.

#### Joining

The gasket shall be carefully fitted to the bell groove if not already factory-installed. Both bell and spigot shall be clean and free of debris before lubricant is applied. The pipe shall be joined by push-fitting bell and spigot joint to the depth line marked on the spigot. When pipe has been cut in the field, the end shall be made square and bevelled to a 10-degree chamfer and the insertion line shall be redrawn per IPEX's Pressure Pipe Installation Guide.

### Dimensions

Size		Pressure Class/Rating 235 psi @ 73°F (1 620 kPa @ 23°C)					
		Average OD		Min Wall Thickness		Average ID	
in	mm	in	mm	in	mm	in	mm
4	100	4.80	122	0.154	3.91	4.48	114
6	150	6.90	175	0.221	5.62	6.44	163
8	200	9.05	230	0.290	7.36	8.44	214
10	250	11.10	282	0.356	9.03	10.35	263
12	300	13.20	335	0.423	10.74	12.31	313
14	350	15.30	389	0.494	12.54	14.33	364
16	400	17.50	442	0.557	14.16	16.30	414
18	450	19.50	495	0.625	15.88	18.23	463

Size		Pressure Class/Rating 165 psi @ 73°F (1 150 kPa @ 23°C)					
		Average OD		Min Wall Thickness		Average ID	
in	mm	in	mm	in	mm	in	mm
14	350	15.30	389	0.347	8.83	14.57	370
16	400	17.50	442	0.395	10.04	16.57	421
18	450	19.50	495	0.443	11.25	18.54	471