

Bionax® PVCO Pipe

Product Data Sheet



< STANDARDS >



AWWA
C909



NQ 3624-500
NQ 3660-950



B137.3.1



D1784
D3139
F477
F1483



NSF 14
NSF 61

IPEX Bionax PVCO pipe is used for potable water systems and other pressure pipe applications. Bionax systems are resistant to corrosion from aggressive soils and galvanic action. The large inner diameter and smooth finish of Bionax PVCO pipe creates increased flow capabilities by reducing friction losses. Bionax PVCO pipe systems are manufactured with cast iron outside diameter (CIOD). This is compatible with readily available waterworks components.

PRODUCT AVAILABILITY

Size Range 4" – 30" (100mm – 750mm)

Pressure Ratings 165 or 235 psi
(73°F / 23°C) (1,135 or 1,620 kPa)

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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 12454.
- Gaskets shall meet ASTM F477 for high-head applications.

HYDROSTATIC DESIGN BASIS

- Starting-stock PVC pipe shall have a Hydrostatic Design Basis (HDB) of 4,000 psi.
- Finished PVCO pipe shall have an HDB of 7,100 psi.

PIPE

- Pipe shall be molecularly oriented.
- 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-coded blue.

CERTIFICATIONS

- PVCO pipe shall be third-party certified to CSA B137.3.1 and AWWA C909

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 F1483: Molecularly Oriented Polyvinyl Chloride (PVCO) Pressure Pipe
- ASTM F477: Elastomeric Seals (Gaskets) for Joining Plastic Pipe
- AWWA C909: Molecularly Oriented Polyvinyl Chloride (PVCO) Pressure Pipe, 4 inch and Larger
- CSA B137.3.1: Molecularly Oriented Polyvinyl Chloride (PVCO) Pipe for Pressure Applications (also certified to BNQ 3624-500 certification protocol)

Bionax® PVC-O Pipe

Product Data Sheet

Sizes & Ratings CIOD Pipe

Pressure Class Rating
at 73°F / 23°C for 165 psi / 1,135 kPa

Pipe Size		OD		Product Code
inches	mm	inches	mm	
14	350	15.30	389	120022*
16	400	17.40	442	120023*
18	450	19.50	495	120024*
20	500	21.60	549	120010
24	600	25.80	655	120011
30	750	32.00	813	120012

Pressure Class Rating
at 73°F / 23°C for 235 psi / 1,620 kPa

Pipe Size		OD		Product Code
inches	mm	inches	mm	
4	100	4.80	122	118000
6	150	6.90	175	118001
8	200	9.05	230	118002
10	250	11.10	282	118003
12	300	13.20	355	118004
14	350	15.30	389	120019*
16	400	17.40	442	120020*
18	450	19.50	495	120021*
20	500	21.60	549	120007
24	600	25.80	655	120008

* Please validate product code before placing an order

Dimensions

Pressure Class Rating
165 psi at 73°F (1,135 kPa at 23°C)

Size		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	17.40	442	0.395	10.04	16.57	421
18	450	19.50	495	0.443	11.25	18.54	471
20	500	21.60	549	0.491	12.46	20.59	523
24	600	25.80	655	0.586	14.88	24.53	623
30	750	32.00	813	0.735	18.42	30.43	773

Pressure Class Rating
235 psi at 73°F (1,620 kPa at 23°C)

Size		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	17.40	442	0.557	14.16	16.30	414
18	450	19.50	495	0.625	15.88	18.23	463
20	500	21.60	549	0.692	17.58	20.16	512
24	600	25.80	655	0.827	21.00	24.02	610

Design & Installation

For design and installation recommendations, please consult the IPEX Pressure Piping Systems Design Manual as well as the IPEX Municipal Systems Installation Guide. Both documents are available at ipexna.com

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Markets served by IPEX group products are:

- Electrical systems
- Telecommunications and utility piping systems
- Industrial process piping systems
- Municipal pressure and gravity piping systems
- Plumbing and mechanical piping systems
- Electrofusion systems for gas and water
- Irrigation systems
- PVC, CPVC, PP, PVDF, PE, ABS, and PEX pipe and fittings

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