MUNICIPAL PRODUCT CATALOGUE

ipexna.com

ISSUE DATE: NOVEMBER 2021

- Pressure Piping Systems
- Water Service Systems
- Sewer Piping Systems
- Specialty Municipal Products

IPEX by aliaxis

We build tough products for tough environments®

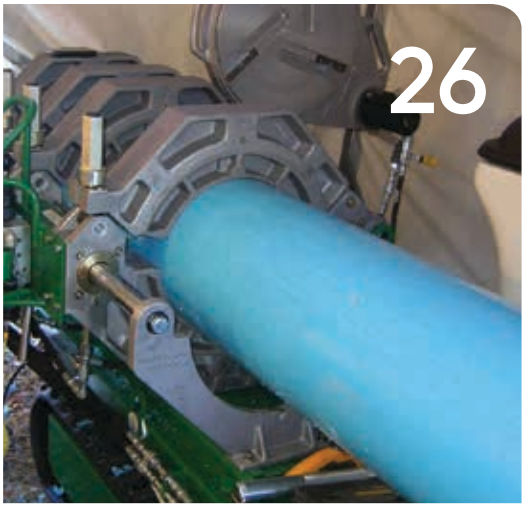
Committed to EXCELLENCE

As a leader in thermoplastic piping systems for over 50 years, IPEX Inc. provides proven products that have withstood the rigours of time – from large diameter transmission pipelines to 3/4" house connections.

Our PVC water and sewer systems do not corrode so they maintain the strength and flexibility required to handle soil movement, high traffic loads and deep burial applications. At IPEX, we ensure our systems outperform our competitors with:

- Quality assurance testing that exceeds standards
- Custom-designed PVC compounds
- Third-party certification of pipe and fittings from organizations such as Canadian Standards Association, Factory Mutual, Underwriter's Laboratories and NSF

IPEX INTEGRATED TOTAL SOLUTIONS



Contents

MUNICIPAL EASY SPEC

PRODUCT	PRESSURE RATING	SIZE RANGE	STANDARDS	APPLICATIONS
PRESSURE PIPING SYSTEMS				
Blue Brute® PVC Pipe (CIOD)	DR25 165 psi (1135 kPa) DR18 235 psi (1620 kPa) DR14 305 psi (2100 kPa)	4 - 12" (100 - 300 mm) 4 - 12" (100 - 300 mm) 4 - 12" (100 - 300 mm)	CSA B137.3 certified AWWA C900 FM 1612 approved UL 1285 Listed NSF Std. 61 certified BNQ NQ 3624-250*	Water transmission mains Water distribution mains Sewer forcemains Fire lines Industrial process lines Irrigation piping
Blue Brute® Moulded PVC Fittings (CIOD)	235 psi (1620 kPa)	4 - 12" (100 - 300 mm)	CSA B137.2 certified AWWA C900 FM 1612 approved UL 1285 Listed NSF Std. 61 certified BNQ NQ 3624-250*	Water transmission mains Water distribution mains Sewer forcemains Fire lines Industrial process lines Irrigation piping
Bionax® PVCO Pipe (CIOD)	CIOD 305 psi (2100 kPa) CIOD 235 psi (1620 kPa) CIOD 165 psi (1135 kPa)	14 - 24" (350 - 600 mm) 4 - 24" (100 - 600 mm) 14 - 24" (350 - 600 mm)	CSA B137.3.1, BNQ 3624-500, AWWA C909, FM approved NSF Std. 14 certified NSF Std. 61 certified BNQ 3660-950*	Water transmission mains Water distribution mains Sewer forcemains
Bionax® SR PVCO Pipe (CIOD)	CIOD 235 psi (1 620 kPa)	6 - 12" (150 - 300 mm)	CSA B137.3.1 certified CIOD AWWA C909, FM approved NSF Std. 14 certified NSF Std. 61 certified BNQ 3660-950*	Water transmission, distribution and sewer mains in seismic sensitive areas
IPEX Centurion® PVC Pipe	SDR51 80 psi (550 kPa) SDR41 100 psi (690 kPa) SDR32.5 125 psi (860 kPa) DR25 165 psi (1130 kPa) DR18 235 psi (1620 kPa) DR14 305 psi (2100 kPa)	24 - 60" (600 - 1500 mm) 14 - 60" (350 - 1500 mm) 14 - 42" (350 - 1050 mm) 14 - 36" (350 - 900 mm) 14 - 30" (350 - 750 mm) 14 - 16" (350 - 400 mm)	CSA B137.3 certified AWWA C900 NSF Std. 61 certified BNQ NQ 3624-250*	Water transmission mains Sewer forcemains Irrigation piping Gravity sewer mains
IPEX Centurion Fabricated PVC Fittings (CIOD)	165 psi (1130 kPa) 235 psi (1620 kPa)	14 - 60" (350 - 1500 mm)	CSA B137.3 certified AWWA C900 NSF Std. 61 certified BNQ NQ 3624-250*	Water transmission mains Sewer forcemains Irrigation piping Gravity sewer mains
Fusible™ Brute Fused-Joint PVC Pipe DR = CIOD SDR = IPSOD	SDR26 160 psi (1100 kPa) DR25 165 psi (1130 kPa) SDR21 200 psi (1380 kPa) DR18 235 psi (1620 kPa) DR14 305 psi (2100 kPa)	4 - 24" (100 - 600 mm) (12.2 m lengths)	CSA B137.3 certified AWWA C900 NSF Std. 61 certified UL 1285 BNQ NQ 3624-250*	Water transmission mains Water distribution mains Sewer forcemains Pipe bursting Storm drains Irrigation piping Trenchless applications
TerraBrute® CR Restrained-Joint PVC Pipe (CIOD)	DR18 235 psi (1620 kPa) DR14 305 psi (2100 kPa)	8 - 12" (200 - 300 mm) 4 & 6" (100 & 150 mm)	CSA B137.3 certified AWWA C900 NSF Std. 61 certified UL 1285 BNQ NQ 3624-250*	Horizontal directional drilling Pipe bursting Seismic zone piping Casing installations Steep slope pipelines Bridge crossings
CycleTough® PVC Series Pipe (IPSOD)	SDR41 100 psi (690 kPa) SDR32.5 125 psi (860 kPa) SDR26 160 psi (1100 kPa) SDR21 200 psi (1380 kPa)	4 - 24" (100 - 600 mm) 3 - 24" (75 - 600 mm) 1-1/2 - 24" (40 - 600 mm) 1-1/2 - 24" (40 - 600 mm)	CSA B137.3 certified ASTM D2241 NSF Std. 61 certified	Potable water piping Sewer forcemains Reclaimed water piping Agriculture/Golf/Turf irrigation Industrial piping
CycleTough® Moulded PVC Fittings (IPSOD)	200 psi (1380 kPa)	1-1/2 - 8" (40 - 200 mm)	NSF B137.2 Certified 4000 psi HDBw	Potable water systems Sewage force mains Golf course and other irrigation
CycleTough® Fabricated PVC Fittings (IPSOD)	160 psi (1100 kPa)	10 - 24" (250 - 600 mm)	NSF B137.3 Certified	Potable water piping Sewer forcemains Reclaimed water piping Golf course irrigation piping Other irrigation piping Industrial piping

* For BNQ Standards, not all sizes, pressure ratings, and manufacturing facilities are included in certifications.

PRODUCT	PRESSURE RATING	SIZE RANGE	STANDARDS	APPLICATIONS
WATER SERVICE SYSTEMS				
Blue904™ SDR9 PEX Service Tubing (CTS)	160 psi @ 73.4°F (1100 kPa @ 23°C) 100 psi @ 180°F (690 kPa @ 82°C)	3/4 - 2" (20 - 50 mm)	CSA B137.5 certified AWWA C904 ASTM F876, ASTM F877 NSF Std. 14 certified NSF Std. 61 certified	Water service
Q-Line™ PE-AL-PE Service Tubing	200 psi @ 73.4°F (1380 kPa @ 23°C) 100 psi @ 180°F (690 kPa @ 82°C)	3/4 & 1" (20 & 25 mm)	CSA B137.9 certified AWWA C903 ASTM F1282 NSF Std. 14 certified NSF Std. 61 certified	Water service Reclaimed water
Gold 901™ PE Service Tubing (CTS)	250 psi @ 73°F (1725 kPa @ 23°C)	3/4 - 2" (20 - 50 mm)	AWWA C901 CSA B137.1 certified NSF Std. 61 certified	Water service
SEWER PIPING SYSTEMS				
Ring-Tite® PVC Sewer Pipe (PSM)	DR35	4 - 60" (100 - 1500 mm)	CSA B182.2 certified ASTM D3034 ASTM F679 ASHTO M278 BNQ NQ 3624-130 & 3624-135*	Sanitary sewer Storm sewer Industrial effluent
Enviro-Tite® PVC Sewer Pipe (PSM)	DR35	4 - 15" (100 - 375 mm)	CSA B182.2 certified ASTM D1760 BNQ NQ 3624-130 & 3624-135*	Sanitary sewer Storm sewer Industrial effluent
Ring-Tite® Heavy Wall PVC Sewer Pipe (PSM)	DR28	4 - 6" (100 - 150 mm)	Certified to CSA B182.2 BNQ NQ 3624-130 & 3624-135*	Sanitary sewer laterals Storm sewer laterals
Enviro-Tite® PVC Sewer Pipe (PSM)	DR28	4 - 6" (100 - 150 mm)	Certified to CSA B182.2 BNQ NQ 3624-130 & 3624-135*	Sanitary sewer laterals Storm sewer laterals
Ring-Tite® Gasketed Sewer Fittings (PSM)		4 - 60" (100 - 1500 mm)	CSA B182.2 certified ASTM D3034 ASTM F679	Sanitary sewer Storm sewer Industrial effluent
IPEX Centurion® PVC Pipe (CIOD)	DR51 DR41	24 - 60" (600 - 1500 mm)	CSA B137.3 certified AWWA C900 BNQ NQ 3624-250*	Sanitary sewer Storm sewer Industrial effluent
Ultra-Rib® PVC Sewer Pipe (Open profile OD)		8 - 24" (200 - 600 mm)	CSA B182.4 certified ASTM F794 AASHTO M304	Sanitary sewer Storm sewer Highway / culvert
Ultra-Rib® PVC Sewer Fittings (Open profile OD)		8 - 24" (200 - 600 mm)	CSA B182.4 certified ASTM F794	Sanitary sewer Storm sewer Highway / culvert
Ultra-X2® PVC Sewer Pipe & Fittings (Open profile OD)		30 & 36" (750 & 900mm)	CSA B182.4 ASTM F794	Storm sewer Highway / culvert
NovaForm™ PVC Liner		6 - 30" (150 - 750 mm)	ASTM F1504	Sewer Rehabilitation Culvert Rehabilitation

* For BNQ Standards, not all sizes, pressure ratings, and manufacturing facilities are included in certifications.

IPEX Municipal Water Systems...innovation at its best!

IPEX FUSIBLE™

FPVC
Pressure Pipe

- ✓ Available in CIOD & IPS sizes 4" to 24"
- ✓ Achieves higher flow rates
- ✓ Connects directly to existing PVC systems for material consistency
- ✓ Use standard CIOD or IPS fittings

BIONAX®

PVCO
Pressure Pipe

- ✓ Molecularly Enhanced
- ✓ 2X Stronger
- ✓ 3X Tougher
- ✓ 2X More Flexible
- ✓ Code Compliant

BLUE904

PEX
Water Service Tubing

- ✓ Corrosion Resistant
- ✓ Lightweight & Flexible
- ✓ Jobsite Safe
- ✓ Fewer Connections

Proven in tough North American climates for more than 50 years, IPEX AWWA municipal pressure pipe & fittings are manufactured from custom engineered PVC compounds to deliver superior strength and corrosion resistance, along with the ability to flex without damage – even under high traffic loads and in deep burial applications. IPEX AWWA PVC pressure pipe offers long-term performance unmatched by any other pipe material.

PRESSURE PIPE & FITTINGS




BLUE BRUTE PIPE

4" - 12" (100mm - 300mm)

BLUE BRUTE®

Designed for municipal water applications, Blue Brute AWWA C900 pressure pipe delivers superior strength with corrosion-resistant performance and the ability to flex without damage. Made with a high-strength, high-impact PVC compound, Blue Brute pipes perform even under high traffic loads and deep burial conditions.

Manufactured with cast-iron outside diameters, Blue Brute is compatible with existing infrastructure of older iron pipes with no special transition fittings required. Blue Brute pressure pipe is hydrostatically proof tested to two times its pressure class/rating ensuring the integrity of every length of pipe that goes into the ground.

APPLICATIONS

- Municipal Water Systems
- Fire Lines
- Forcemains
- Industrial Lines
- Irrigation Lines

STANDARDS

AWWA MEMBER

B137.3 | 1285 | 3624-250

1612 | NSF 61

ADVANTAGES

1. **Corrosion-Proof Performance**
   IPEX Blue Brute systems are immune to corrosion from aggressive soils and galvanic action.
2. **Superior Hydraulics**
   The glass-like finish of PVC reduces friction losses and eliminates the tuberculation common in iron pipes. As a result, pumping costs are reduced and water quality is maintained.
3. **Cast-Iron Outside Diameter (CIOD)**
   Blue Brute systems are manufactured with a cast-iron outside diameter (CIOD). This is compatible with waterworks valves, appurtenances and restrainers.
4. **Bottle-tight Joints, Removable Gaskets**
   IPEX's patented gasket system not only withstands many times the rated system pressure, but also withstands full vacuum pressures. The removable gasket system allows special oil-resistant (nitrile) gaskets to be easily installed when working in contaminated soils.
5. **Third-party Certification**
   All IPEX municipal systems are third-party certified as applicable. In addition, IPEX Blue Brute systems have Factory Mutual approval and Underwriter's Laboratories (ULI and ULC) listings.

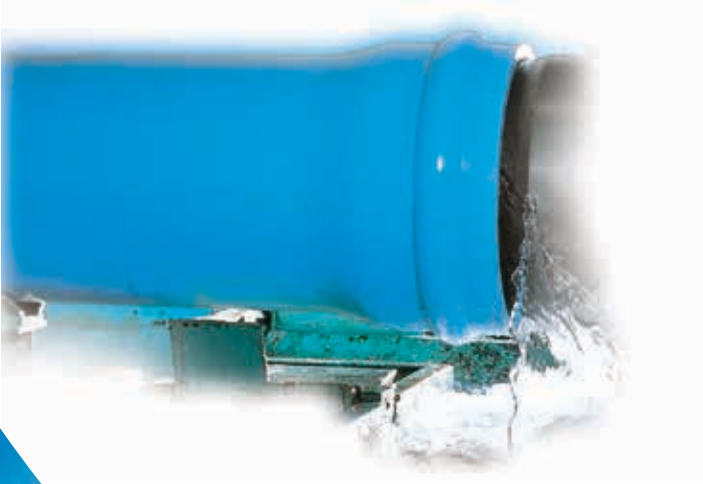
DID YOU KNOW?

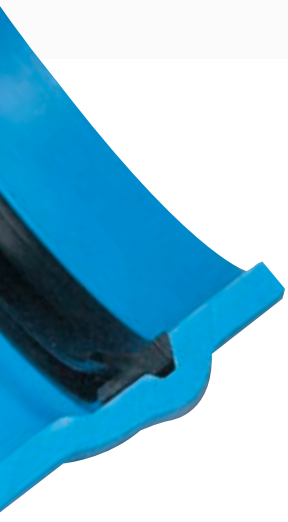
Each piece of Blue Brute is hydrostatically tested to 2 times its pressure class, ensuring excellent performance in the field.

CONSERVATIVE DESIGN

The pressure class/rating is extremely conservative. For example, for DR18 pipe the pressure capacity is 235 psi (1620 kPa), but the minimum burst pressure is 755 psi (5210 kPa).

Dimension Ratio	AWWA Pressure Class	CSA Pressure Rating
14	305	305
18	235	235
25	165	165





SHORT FORM SPECIFICATIONS

GENERAL

Blue Brute pipe shall be certified to CSA B137.3 "Rigid Polyvinyl Chloride PVC Pipe for Pressure Applications" and shall conform to AWWA C900 "Polyvinyl Chloride (PVC) Pressure Pipe, 4" – 12" for Water Transmission and Distribution." Blue Brute DR25 pipe shall have a pressure class/rating of 1120 kPa (165 psi). DR18 pipe shall have a pressure class/rating of 1620 kPa (235 psi). DR14 pipe shall have a pressure class/rating of 2100 kPa (305 psi).

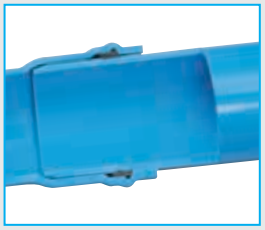
MATERIAL

Blue Brute pipe shall be made from PVC compound conforming to ASTM D1784 cell class 12454.

PRODUCT

Pipe shall be suitable for use at maximum hydrostatic working pressure equal to the pressure class/rating at 23°C (73°F). Laying lengths shall be 3 or 6.1 meters (10 feet or 20 feet). Pipe shall have cast-iron outside diameters. Each length of pipe must be proof-tested at two times the pressure class.

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 approved lubricant is applied. The pipe and/or fittings 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 beveled to a 15° chamfer. All insertion lines should be re-drawn, according to the IPEX Pressure Pipe Installation Guide.

Blue Brute fittings shall conform to AWWA C907 "Polyvinyl Chloride (PVC) Pressure Fittings for Water (4" through 12")" and be certified to CSA B137.2 "PVC Injection Moulded Gasketed Fittings for Pressure Applications." They shall also be UL Listed and FM approved.

FABRICATED FITTINGS

Fabricated fittings shall be made from segments of AWWA C900 PVC pipe. Segments are bonded together and may be over-wrapped with fibreglass-reinforced polyester. The pressure class must match the pipe. The fittings must meet the requirements of CSA B137.3.

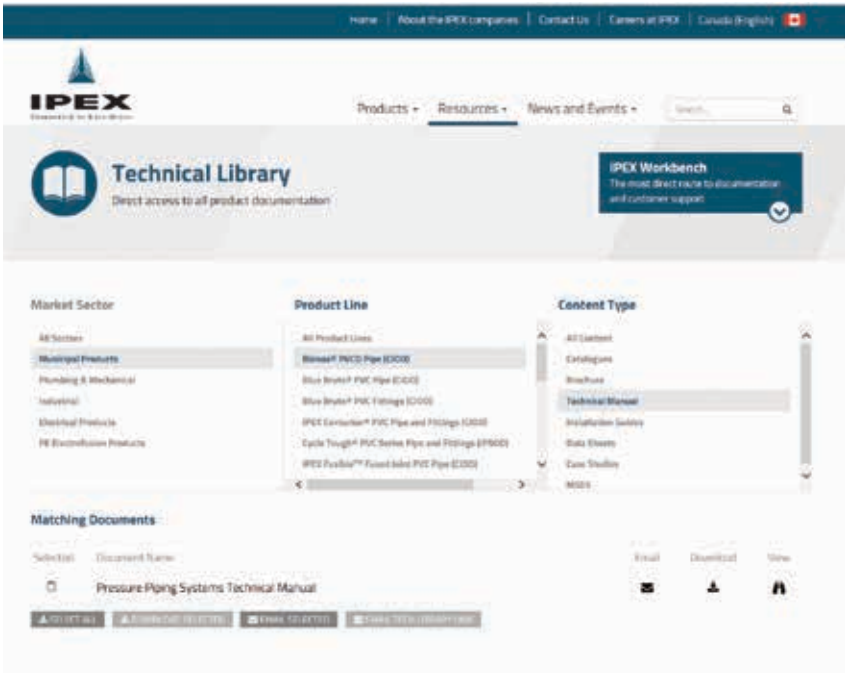
PRODUCT SELECTION CHART

Length: 6.1 metres | Colour: Blue

	Size		Product Code	Avg. ID		Min. Wall Thickness		Avg. OD	
	in	mm		in	mm	in	mm	in	mm
Capped PVC Pressure Pipe									
Class/Rating 165 CIOD DR 25	4	100	070104	4.42	112	0.192	5	4.80	122
	6	150	070106	6.35	161	0.276	7	6.90	175
	8	200	070108	8.33	212	0.362	9	9.05	230
	10	250	070110	10.21	260	0.444	11	11.10	282
	12	300	070112	12.15	309	0.527	13	13.20	335
Class/Rating 235 CIOD DR 18	4	100	070514	4.27	108	0.267	7	4.80	122
	6	150	070516	6.13	155	0.383	10	6.90	175
	8	200	070518	8.05	204	0.502	13	9.05	230
	10	250	070520	9.87	250	0.616	16	11.10	282
	12	300	070522	11.73	297	0.733	19	13.20	335
Class/Rating 305 CIOD DR 14	4	100	070414	4.11	104	0.343	9	4.80	122
	6	150	070416	5.91	149	0.493	13	6.90	175
	8	200	070418	7.76	198	0.646	16	9.05	230
	10	250	070420	9.51	242	0.793	20	11.10	282
	12	300	070422	11.31	287	0.943	24	13.2	335

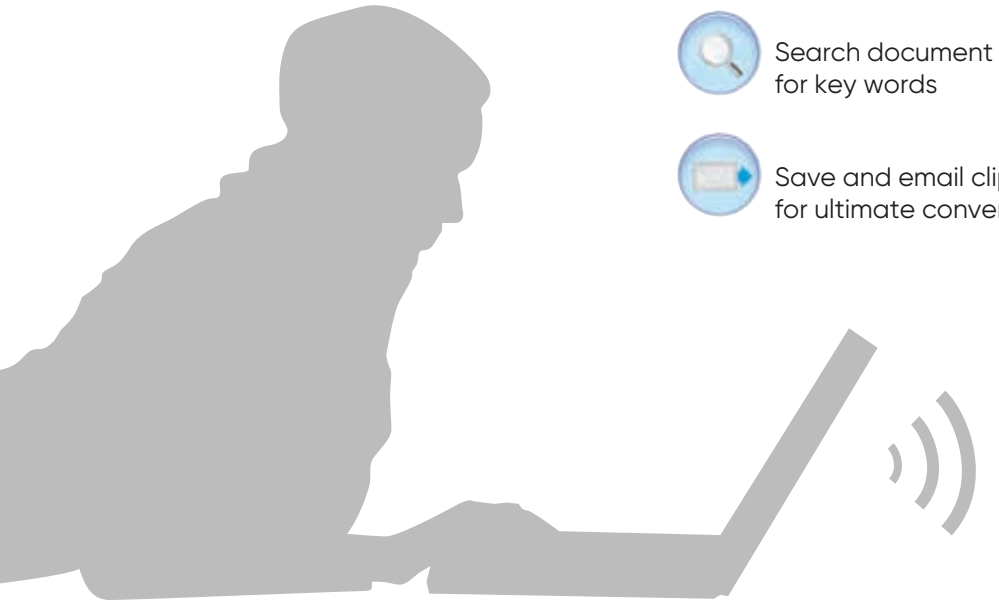
IPEX TECHNICAL MANUALS available at www.ipexna.com

Obtaining the most up-to-date technical information has never been easier with our innovative ON-LINE MANUALS



WHAT YOU CAN DO

- Zoom to specific paragraph or chart for easy reading
- Download as PDFs
- Search document for key words
- Environmentally Friendly!
- Save and email clippings for ultimate convenience



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BLUE BRUTE FITTINGS

Blue Brute Fittings 4" - 12" (100mm - 300mm)
IPEX Centurion Fittings 14" - 60" (350mm - 1500mm)

BLUE BRUTE®

Blue Brute fittings are injection molded and are even tougher than the pipe. Blue Brute fittings have a wall thickness 25% greater than DR18 pipe, and some custom-made fabricated fittings are wrapped with a tough layer of fiberglass for extra protection.

APPLICATIONS

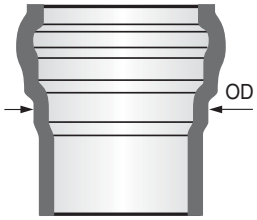
- Municipal Water Systems
- Fire Lines
- Industrial Lines
- Forcemains
- Irrigation Lines

STANDARDS

AWWA MEMBER
B137.2
1285
1612
NSF 61
3660-950

ADVANTAGES

1. **Corrosion-Proof Performance**
   Blue Brute systems are immune to corrosion from aggressive soils and galvanic action.
2. **Superior Hydraulics**
   The glass-like finish of PVC reduces friction losses and eliminates the tuberculation common in iron pipes. As a result, pumping costs are reduced and water quality is maintained.
3. **Strength**
   A thicker bell results in a more robust fitting.
4. **Gasket Options**
   All Blue Brute fittings are shipped with standard gaskets that accept cast-iron-sized PVC pipe. Non-pressure rated transition gaskets for IPS-sized pipe are an option. For applications where fittings must be buried in soil with hydrocarbon contamination, Nitrile gaskets are available.
5. **Saves Time & Money**
   A consistent O.D. for each size simplifies the restraint selection. Each fitting is labeled with the O.D. information for easy identification and restraint selection.



Bell OD for Joint Restraint Selection

Size		Min.	Max.
4"	100 mm	5.44"	5.61"
6"	150 mm	7.84"	8.03"
8"	200 mm	10.29"	10.55"
10"	250 mm	12.69"	12.96"
12"	300 mm	15.07"	15.46"
14"	350 mm	17.28"	17.73"
16"	400 mm	19.64"	20.17"

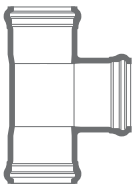
PRODUCT SELECTION CHART - PC/PR 235 psi (1620 kPa)

	Dimension inches	Dimension mm	Product Code
11-1/4° Elbow B x B			
*	4	100	273104
	6	150	073091
	8	200	073092
*	10	250	273093
*	12	300	273094
22-1/2° Elbow B x B			
	4	100	073105
	6	150	073106
	8	200	073107
	10	250	373108
	12	300	373109
45° Elbow B x B			
	4	100	073120
	6	150	073121
	8	200	073122
	10	250	373123
	12	300	373124
90° Elbow B x B			
	4	100	073150
	6	150	073151
	8	200	073152
	10	250	373012
	12	300	373013
DR18, 5° CIOD Bend			
	6	150	273076
	8	200	273077
*	10	250	273078
*	12	300	273079

* Denotes Fabricated Fitting

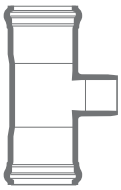
PRODUCT SELECTION CHART - PC/PR 235 PSI (1620 KPA)

Tee B x B x B



Dimension inches	Dimension mm	Product Code
4 x 4 x 4	100 x 100 x 100	073285
6 x 6 x 4	150 x 150 x 100	073241
6 x 6 x 6	150 x 150 x 150	073286
8 x 8 x 4	200 x 200 x 100	073242
8 x 8 x 6	200 x 200 x 150	073243
8 x 8 x 8	200 x 200 x 200	073287
10 x 10 x 4	250 x 250 x 100	373239
10 x 10 x 6	250 x 250 x 150	373244
10 x 10 x 8	250 x 250 x 200	373250
10 x 10 x 10	250 x 250 x 250	373288
12 x 12 x 4	300 x 300 x 100	373727
12 x 12 x 6	300 x 300 x 150	373245
12 x 12 x 8	300 x 300 x 200	373246
12 x 12 x 10	300 x 300 x 250	373247
12 x 12 x 12	300 x 300 x 300	373289

Hydrant Tee B x B x Sp



6 x 6 x 6	150 x 150 x 150	373011
8 x 8 x 6	200 x 200 x 150	373010
10 x 10 x 6	250 x 250 x 150	273989
12 x 12 x 6	300 x 300 x 150	273070

Reducer (Bell x Spigot)

6 x 4	150 x 100	073211
8 x 6	200 x 150	073212
10 x 8	250 x 200	273213
12 x 10	300 x 250	073214

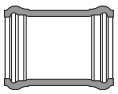
Coupling with Stop B x B

4	100	073030
6	150	073031
8	200	073032
10	250	373028
12	300	373032

Hammer Tee B x B x B

12 x 12 x 6	300 x 300 x 150	373249

Repair Coupling B x B



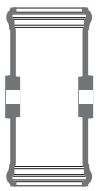
Dimension inches	Dimension mm	Product Code
4	100	073404
6	150	073406
8	200	073408
10	250	373027
12	300	3733031

Single Tapped Coupling (AWWA Thread)

4 x 4 x 3/4	100 x 100 x 20	073267
4 x 4 x 1	100 x 100 x 25	073268
6 x 6 x 3/4	150 x 150 x 20	073256
6 x 6 x 1	150 x 150 x 25	073257
6 x 6 x 1-1/4	150 x 150 x 32	073144
6 x 6 x 1-1/2	150 x 150 x 40	273300
8 x 8 x 3/4	200 x 200 x 20	073259
8 x 8 x 1	200 x 200 x 25	073260
8 x 8 x 1-1/4	200 x 200 x 32	073147
8 x 8 x 1-1/2	200 x 200 x 40	273265
8 x 8 x 2	200 x 200 x 50	073266
10 x 10 x 3/4	250 x 250 x 20	373535
10 x 10 x 1	250 x 250 x 25	373537
*10 x 10 x 1-1/2	250 x 250 x 40	273044
*10 x 10 x 2	250 x 250 x 50	273045
12 x 12 x 3/4	300 x 300 x 20	373536
12 x 12 x 1	300 x 300 x 25	373538
*12 x 12 x 1-1/2	300 x 300 x 40	273046
*12 x 12 x 2	300 x 300 x 50	273048

* One-piece machined coupling. Not UL Listed.
Note: 3/4" (20mm) Taps to 2" (50mm).
Taps: AWWA Thread

Double Tapped Coupling (AWWA Thread)

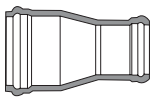


6 x 6 x 3/4 x 3/4	150 x 150 x 20 x 20	073305
6 x 6 x 1 x 1	150 x 150 x 25 x 25	073308
8 x 8 x 3/4 x 3/4	200 x 200 x 20 x 20	073290
8 x 8 x 1 x 1	200 x 200 x 25 x 25	073307

Note: 3/4" (20mm) Taps to 1" (25mm).
Taps: AWWA Thread

PRODUCT SELECTION CHART - PC/PR 235 PSI (1620 KPA)

Reducer Coupling B x B



	Dimension inches	Dimension mm	Product Code
*	6 x 4	150 x 100	273226
*	8 x 6	200 x 150	273227
*	10 x 6	250 x 150	273228
*	10 x 8	250 x 200	273229
*	12 x 8	300 x 200	273231
*	12 x 10	300 x 250	273232

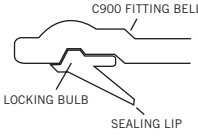
Plug Plain End

Dimension inches	Dimension mm	Product Code
4	100	073180
6	150	073181
8	200	073182
10	250	073183
12	300	073184

Tapped Plug (I.P.S. Threads)

Dimension inches	Dimension mm	Product Code
4 x 3/4	100 x 20	273192
4 x 1	100 x 25	073193
4 x 1-1/2	100 x 40	073194
4 x 2	100 x 50	273195
6 x 3/4	150 x 20	273199
6 x 1	150 x 25	273200
6 x 1-1/2	150 x 40	273201
6 x 2	150 x 50	273196
8 x 3/4	200 x 20	073203
8 x 1	200 x 25	073204
8 x 1-1/2	200 x 40	073197
8 x 2	200 x 50	273198

Cast Iron Size x I.P.S. Transition Gasket

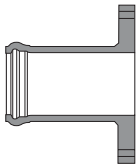


Gasket drawing is for information only. Actual gasket may be different.

Dimension inches	Dimension mm	Product Code
4	100	073655
6	150	073611
8	200	073656
12	300	173390

Note: 10" (250mm) will be available shortly

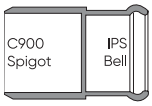
C900 Bell x Flange Adapter



	Dimension inches	Dimension mm	Product Code
*	4	100	273015
*	6	150	273016
*	8	200	273017
*	10	250	273018
*	12	300	273019

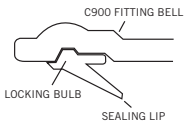
* Fabricated fitting – Fibreglass reinforced

C900 (Spigot) x I.P.S. (Bell) Adapter



	Dimension inches	Dimension mm	Product Code
*	4	100	273346
*	6	150	273347

SBR Gasket



Dimension inches	Dimension mm	Product Code
4	100	072344
6	150	072346
8	200	273348
10	250	072350
12	300	072352

Gasket drawing is for information only. Actual gasket may be different.

Nitrile Gasket (Oil Resistant)

Dimension inches	Dimension mm	Product Code
4	100	072924
6	150	072926
8	200	072928
10	250	072930
12	300	072932

EPDM Gasket

Dimension inches	Dimension mm	Product Code
4	100	272048
6	150	272011
8	200	272039
10	250	272040
12	300	272012

BIONAX PVCO PRESSURE PIPE

4" - 30" (100mm - 750mm)

BIONAX®

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

Bionax pipe is made form molecularly-oriented PVC compound (known as PVCO) and is designed primarily for water mains and sewage forcemains. Bionax has almost double the strength of conventional PVC and three times the impact absorption capability. 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.

Molecularly Oriented PVC Pipe for Municipal Applications

Bionax's molecular orientation orientation dramatically enhances the pipe properties that are important to pipeline designers:

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

APPLICATIONS

- Water Mains
- Sewage Forcemains
- Industrial Process Piping

STANDARDS

AWWA MEMBER

D3139
F477
F1483

3624-500
3660-950

B137.3.1

NSF 14
NSF 61

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 & PRESSURE CLASSES OF BIONAX

Pressure Class at
73°F / 23°C 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 at
73°F / 23°C 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 at
73°F / 23°C 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 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 4000 psi.
- Finished PVCO pipe shall have an HDB of 7100 psi.

PIPE

- Pipe shall be 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 colour-coded blue.

CIOD CERTIFICATIONS

- PVC compound shall be CSA-certified to ASTM D1784 cell-class 12454.
- PVCO pipe shall be CSA-certified to CSA Standard B137.3.1 and third-party certified via NSF Standard 14 to AWWA Standard C909 and ASTM F1483.
- 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
- ASTM F1483: Molecularly oriented polyvinyl chloride (PVCO) pipe for pressure applications
- AWWA C909: Molecularly Oriented Polyvinyl Chloride (PVCO) Pressure Pipe, 4 in. and Larger
- CSA B137.3.1: Molecularly oriented polyvinyl chloride (PVCO) pipe for pressure applications (also certified to BNQ 3624-500 and BNQ 3660-950)

BIONAX SR
SEISMIC WATER PIPE

6" - 12" (150mm - 300mm)

BIONAX® SR™

Bionax SR™ – Seismic Water Pipe - combines the same strength, toughness and flexibility as standard Bionax pipe with the enhanced seismic-resistance benefits of an extended bell. The result is a municipal water transmission and distribution system which performs better than any pipe product available today. Bionax SR can absorb lateral ground strain of seismic events and provides other performance benefits including product consistency, industry standard dimensions and corrosion-resistant attributes for a North American jobsite.

The molecular orientation and the extended bell of Bionax SR pipe provide excellent pipe and joint flexibility—precisely what is required from a water pipe if it is to remain intact after a seismic event.

APPLICATIONS

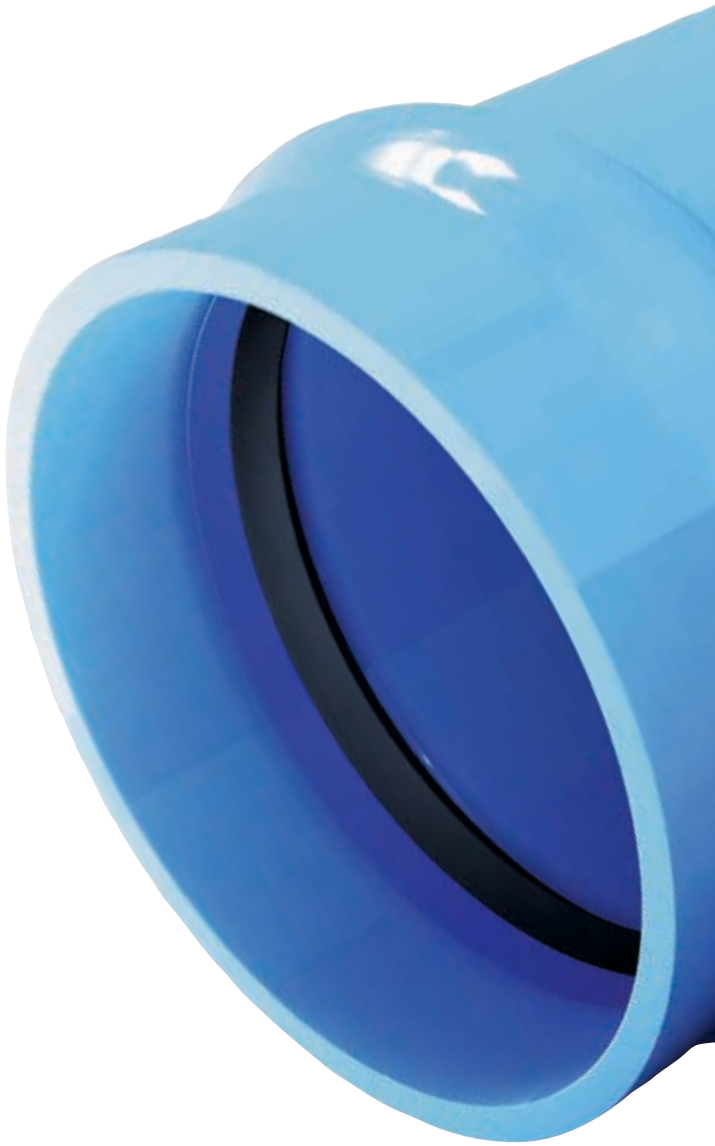
- Municipal Water Systems
- Fire Lines
- Forcemains
- Industrial Lines

STANDARDS

AWWA MEMBER
F1483
B137.3.1
FM 1612
NSF

FEATURES & BENEFITS

1. **Circumferential Tensile Strength**
   Bionax SR 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 SR 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 SR has higher tensile strength in the axial direction, which allows a tighter bend radius than other materials.
5. **Light-weight**
   e.g. 300mm PC 235 psi pipe = 236 lbs.
6. **Corrosion-proof & Consistent O.D.**
7. **Certification**
   Bionax SR is third party certified to CSA B137.3.1 and AWWA C909.



SIZES & RATINGS CIOD PIPE

Pressure/Class Rating at **73°F** / **23°C** for **235 psi** / **1620 kPa**

Product Code	Size		Average OD		Min. Wall Thickness		Average ID		Insertion Depth			
	inches	mm	inches	mm	inches	mm	inches	mm	Minimum		Maximum	
118101	6	150	6.90	175	0.221	5.62	6.44	163	6.6	167	7.6	192
118102	8	200	9.05	230	0.290	7.36	8.44	214	8.1	207	9.1	232
118103	10	250	11.10	282	0.356	9.03	10.35	263	8.5	217	9.5	242
118104	12	300	13.2	335	0.423	10.74	12.31	313	10.9	277	11.9	302

SHORT FORM SPECIFICATIONS

SCOPE

This specification provides the requirements for Bionax SR molecularly oriented polyvinyl chloride (PVCO) pipe for potable-water systems and other pressure-pipe applications. Bionax SR Gasketed cast-iron-pipe outside diameter (CIOD) Pressure pipe is available in the following pressure classes and nominal sizes:

- PC 235psi 6" through 12" (150mm – 300mm)

MATERIALS

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

HYDROSTATIC DESIGN BASIS

- Starting-stock for Bionax SR shall have a hydrostatic design basis (HDB) of 4000 psi and finished pipe shall have an HDB of 7100 psi as determined by testing in accordance with ASTM D1598, with data evaluated in accordance with ASTM D2837.

PIPE

- Bionax SR shall be manufactured with cast-iron-pipe outside diameters (CIOD) in all siz-es. Pipe walls shall meet minimum thickness requirements for AWWA C909 and CSA B137.3.1. Laying lengths shall be 6.1 meters (20 feet). Pipe shall be joined by means of integral-bell elastomeric-gasket joints conforming to ASTM D3139. Spigot ends shall be chamfered by the manufacturer. Pipe ends shall be capped at the production facility prior to storage and shipping.

STANDARDS

PVCO pipe shall conform to the following standards:

- ANSI/NSF 14 Plastics Piping System Components and Related Materials
- ANSI/NSF Standard 61: Drinking Water System Components – Health Effects
- ASTM F1483 Standard Specification for Oriented Poly(Vinylchloride), PVCO, Pressure Pipe (PR 200psi)
- AWWA C909: Molecularly Oriented Polyvinyl Chloride (PVCO) Pressure Pipe, 4 inch through 24 inch (100 mm through 600 mm) for Water Distribution
- BNQ NQ 3660-950 Safety of Products and Materials in Contact with Drinking Water
- CSA B137.3.1 Molecularly Oriented Polyvinyl Chloride (PVCO) Pipe for Pressure Applications (PR 1620kPa)
- FM 1612 Polyvinyl Chloride (PVC) Pipe and Fittings for Underground Fire Protection Services (PC 150psi, 4" through 12")

FITTINGS

Bionax SR 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.

DID YOU KNOW?

In cities across North America, aging and corroding water pipe networks suffer pipe bursts daily. In the event of an earthquake the occurrence is multiplied to the extreme. For example, in 1994 when the Northridge Earthquake occurred in the San Fernando Valley, California, 15 seconds of the earth shaking caused 1,100 pipe bursts—more than a typical year's worth and leaving many residents without water for over two weeks.

IPEX CENTURION PRESSURE PIPING SYSTEMS 14" - 60" (350mm - 1500mm)

IPEX CENTURION®

IPEX Centurion extends the corrosion-free benefits of Blue Brute to larger diameters of pipe and new applications. The versatility and ease of installation of IPEX Centurion is unmatched – costly and difficult to install corrosion protection can be eliminated. In addition, unlike HDPE or concrete pressure pipe, every length of IPEX Centurion is tested to double its pressure rating.

APPLICATIONS

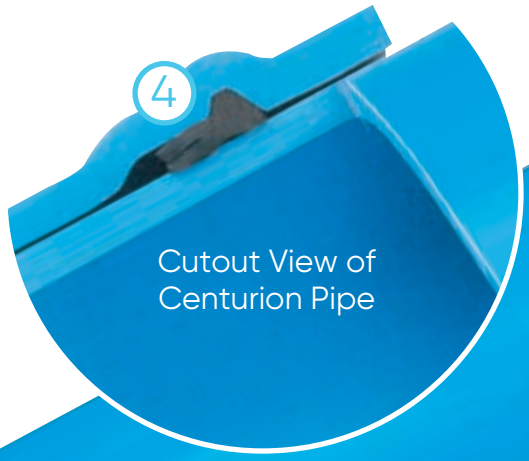
- Water Transmission Lines
- Forcemains
- Gravity Lines
- Irrigation
- Industrial Lines

STANDARDS

AWWA MEMBER | B137.3 | 3660-950 | NSF 61

ADVANTAGES

1. **Corrosion-Proof Performance**
   IPEX Centurion systems are immune to corrosion from aggressive soils and galvanic action.
2. **Superior Hydraulics**
   The glass-like finish of PVC reduces friction losses and eliminates the tuberculation common in iron pipes. As a result, pumping costs are reduced and water quality is maintained.
3. **Cast Iron Outside Diameter (CIOD)**
   IPEX Centurion systems are manufactured with a cast iron outside diameter (CIOD). This is compatible with waterworks valves, appurtenances and restrainers.
4. **Bottle-tight Joints, Removable Gaskets**
   IPEX's patented gasket system not only withstands many times the rated system pressure, but also withstands full vacuum pressures. The removable gasket system allows special oil-resistant (nitrile) gaskets to be easily installed when working in contaminated soils.
5. **Centurion for Gravity Applications**
   With its pressure rated joints and non-corroding construction, IPEX Centurion is a natural choice for gravity flow lines.
6. **Third-party Certification**
   All IPEX municipal systems are third-party certified as applicable including Factory Mutual approval and Underwriter's Laboratories (ULI and ULC) listings.



Cutout View of Centurion Pipe

PRESSURE CAPACITY

IPEX Centurion can withstand extremely high short-term pressures in addition to lower levels of long-term pressure. As a result CSA B137.3 and AWWA C900 include both long-term pressure capacity (pressure rating PR or pressure class PC) and short-term capacity (short-term rating STR).

SDR	Short Term Rating STR psi	Long Term Rating PC/PR psi
51	128	80
41	160	100
32.5	200	125
25	264	165
18	376	235
14	488	305

STANDARDS

AWWA C900, CSA B137.3, NQ 3624-250, NSF-61

Factory Mutual FM 1612:
DR18 is FM approved to 500mm diameter (20")

Underwriter's Laboratories UL 1285:
DR18 is listed to 600mm diameter (24")
DR25 is listed to 750mm diameter (30")

SHORT FORM SPECIFICATIONS

GENERAL

Pipe must conform to AWWA C900 and be certified to

CSA B137.3 "Rigid Poly (Vinyl Chloride) (PVC) Pipe for Pressure Applications." DR51, 41, 32.5, 25, 18, and 14 pipe must have the following pressure class/rating: 80 psi (550 kPa), 100 psi (690 kPa), 125 psi (860 kPa), 165 psi (1 140 kPa), 235 psi (1 620 kPa) and 305 psi (2 100 kPa). For pressure applications, each length of pipe must be hydro-tested at twice the class/rating and a short-term pressure test must be conducted once per production run. Pipe to be IPEX Centurion or approved equal.

FABRICATED FITTINGS

Fabricated fittings shall be made from segments of AWWA C900 pipe that are butt fused or bonded together. Some fittings are over-wrapped with fiberglass-reinforced polyester. The fittings must always meet the pressure rating of the pipe system.

COMPATIBILITY

IPEX Centurion is manufactured with a cast iron outside diameter (CIOD) so it is compatible with much of the existing older infrastructure of iron pipes. In addition, IPEX Centurion can be field cut, which means unexpected changes in the field can be accommodated quickly, without having to wait for new shop drawings.

IPEX Centurion Fittings are manufactured using sections of AWWA C900 pipe that are fused or bonded together. Some fittings are overwrapped with a layer of fibre reinforced plastic (FRP). While IPEX Centurion is compatible with iron fittings, IPEX recommends the use of IPEX Centurion fittings exclusively with IPEX Centurion pipe.

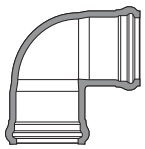
IPEX CENTURION™ LARGE DIAMETER CIOD PVC PRESSURE PIPE

	Size		Product Code	Avg. ID		Min. Wall Thickness		Avg. OD	
	in	mm	East	in	mm	in	mm	in	mm
PC/PR 80 (SDR51)	18	450	071004	18.7	475.9	0.38	9.7	19.5	495.3
	20	500	071520	20.8	527.0	0.42	10.8	21.6	548.6
	24	600	071524	24.8	629.6	0.50	12.9	25.8	655.3
	30	750	071526	30.7	780.9	0.63	15.9	32.0	812.8
	36	900	071528	36.8	934.7	0.75	19.1	38.3	972.8
	42	1050	071000	42.6	1082.8	0.87	22.2	44.5	1130.3
	48	1200	071135	48.7	1236.2	1.00	25.3	50.8	1290.3
	54	1350	071043	55.3	1404.6	1.13	28.7	57.6	1462.0
	60	1500	071044	59.2	1503.2	1.21	30.7	61.6	1564.9
PC/PR 100 (SDR41)	14	350	071414	14.6	369.7	0.37	9.5	15.3	388.6
	16	400	071416	16.6	420.4	0.43	10.8	17.4	442.0
	18	450	071418	18.5	471.1	0.48	12.1	19.5	495.3
	20	500	071420	20.5	521.8	0.53	13.4	21.6	548.6
	24	600	071424	24.5	623.3	0.63	16.0	25.8	655.3
	30	750	071426	30.4	773.2	0.78	19.8	32.0	812.8
	36	900	071428	36.4	925.3	0.93	23.7	38.3	972.8
	42	1050	071140	42.2	1071.4	1.09	27.5	44.5	1130.3
	48	1200	071223	48.2	1223.0	1.24	31.5	50.8	1290.3
	54	1350	071045	54.8	1391.9	1.40	35.7	57.6	1462.0
	60	1500	071046	58.6	1488.4	1.50	38.1	61.6	1564.9
PC/PR 125 (SDR32.5)	14	350	–	14.4	364.7	0.47	12.0	15.3	388.6
	16	400	071316	16.3	414.5	0.54	13.6	17.4	442.0
	18	450	071317	18.3	464.8	0.60	15.2	19.5	495.3
	20	500	071320	20.3	514.6	0.67	16.9	21.6	548.6
	24	600	071324	24.2	615.0	0.80	20.2	25.8	655.3
	30	750	071326	30.0	762.8	0.98	25.0	32.0	812.8
	36	900	071328	35.9	912.9	1.18	29.9	38.3	972.8
	42	1050	071219	41.6	1056.6	1.37	34.8	44.5	1130.3
	48	1200	–	47.7*	1211.1*	1.56*	39.6*	50.8*	1290.3*
	54	1350	–	54.1*	1374.1*	1.77*	45.0*	57.6*	1462.0*
PC/PR 165 (DR25)	14	350	071114	14.1	357.5	0.61	15.6	15.3	388.6
	16	400	071116	16.0	406.6	0.70	17.7	17.4	442.0
	18	450	071118	17.9	455.7	0.78	19.8	19.5	495.3
	20	500	071124	19.9	504.7	0.86	22.0	21.6	548.6
	24	600	071136	23.7	602.9	1.03	26.2	25.8	655.3
	30	750	071144	29.4	747.8	1.28	32.5	32.0	812.8
	36	900	071137	35.2	895.0	1.53	38.9	38.3	972.8
	42	1050	–	40.9*	1039.9*	1.78*	45.2*	44.5*	1130.3*
	48	1200	–	46.7*	1187.2*	2.03*	51.6*	50.8*	1290.3*
PC/PR 235 (DR18)	14	350	071214	13.6	345.4	0.85	21.6	15.3	388.6
	16	400	071216	15.5	392.9	0.97	24.6	17.4	442.0
	18	450	071218	17.3	440.3	1.08	27.5	19.5	495.3
	20	500	071220	19.2	487.6	1.20	30.5	21.6	548.6
	24	600	071224	22.9	582.5	1.43	36.4	25.8	655.3
	30	750	071130	28.4	722.4	1.78	45.2	32.0	812.8
	36	900	–	34.0*	863.6*	2.13*	54.1*	38.3*	972.8*
	42	1050	–	39.6*	1004.8*	2.47*	62.8*	44.5*	1130.3*
PC/PR 305 (DR14)	14	350	070424	13.1	333.0	1.09	27.8	15.3	388.6
	16	400	070426	14.9	378.8	1.24	31.6	17.4	442.0

* coming soon!

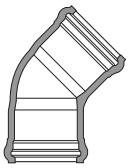
IPEX CENTURION™ FABRICATED FITTINGS (CIOD), CLASS/PRESSURE RATING 165 PSI

90° Bend



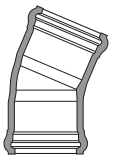
Dimension inches	Dimension mm	Product Code
14	350	273709
16	400	273040
18	450	273710
20	500	273711
24	600	273712
30	750	273713

45° Bend



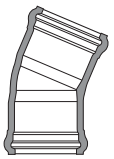
Dimension inches	Dimension mm	Product Code
14	350	273140
16	400	273714
18	450	273715
20	500	273716
24	600	273160
30	750	273038

22-1/2° Bend



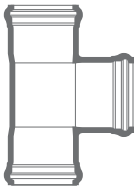
Dimension inches	Dimension mm	Product Code
14	350	073717*
16	400	273718
18	450	273719
20	500	273720
24	600	273161
30	750	273721

11-1/4° Bend



Dimension inches	Dimension mm	Product Code
14	350	073722*
16	400	273723
18	450	273724
20	500	273725
24	600	073162
30	750	273726

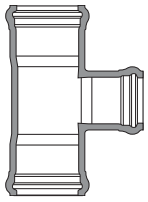
Tee



Dimension inches	Dimension mm	Product Code
14	350	273733
16	400	273427
18	450	273747
20	500	273756
24	600	073766
30	750	273774

* Obsolete

Reducer Tee G x G x G

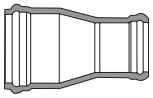


Dimension inches	Dimension mm	Product Code
14 x 4	350 x 100	073728*
14 x 6	350 x 150	073729*
14 x 8	350 x 200	273730
14 x 10	350 x 250	073731*
14 x 12	350 x 300	073732*
16 x 4	400 x 100	273734
16 x 6	400 x 150	273735
16 x 8	400 x 200	273736
16 x 10	400 x 250	273737
16 x 12	400 x 300	273738
16 x 14	400 x 350	073739*
18 x 4	450 x 100	073740
18 x 6	450 x 150	273741
18 x 8	450 x 200	273742
18 x 10	450 x 250	073743
18 x 12	450 x 300	073744
18 x 14	450 x 350	073745*
18 x 16	450 x 400	073746
20 x 4	500 x 100	073748
20 x 6	500 x 150	273749
20 x 8	500 x 200	273750
20 x 10	500 x 250	273751
20 x 12	500 x 300	273752
20 x 14	500 x 350	073753
20 x 16	500 x 400	273754
20 x 18	500 x 450	073755
24 x 4	600 x 100	273757
24 x 6	600 x 150	273758
24 x 8	600 x 200	273759
24 x 10	600 x 250	073760
24 x 12	600 x 300	273761
24 x 14	600 x 350	073762*
24 x 16	600 x 400	073763
24 x 18	600 x 450	073764
24 x 20	600 x 500	073765
30 x 4	750 x 100	073767*
30 x 6	750 x 150	073011*
30 x 8	750 x 200	273013
30 x 10	750 x 250	073768*
30 x 12	750 x 300	273769
30 x 14	750 x 350	073770*
30 x 16	750 x 400	073039*
30 x 18	750 x 450	073771*
30 x 20	750 x 500	073772*
30 x 24	750 x 600	073773*

* Obsolete

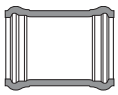
IPEX CENTURION™ FABRICATED FITTINGS (CIOD), CLASS/PRESSURE RATING 165 PSI

Reducer Coupling G x G



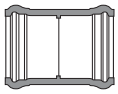
Dimension		Product Code
inches	mm	
14 x 4	350 x 100	073776*
14 x 6	350 x 150	273777
14 x 8	350 x 200	073778*
14 x 10	350 x 250	073779*
14 x 12	350 x 300	073780*
16 x 4	400 x 100	073781*
16 x 6	400 x 150	073782*
16 x 8	400 x 200	273783
16 x 10	400 x 250	273784
16 x 12	400 x 300	273785
16 x 14	400 x 350	073786*
18 x 4	450 x 100	073787*
18 x 6	450 x 150	073788*
18 x 8	450 x 200	073789*
18 x 10	450 x 250	073790
18 x 12	450 x 300	073791*
18 x 14	450 x 350	073792*
18 x 16	450 x 400	273793
20 x 4	500 x 100	073794*
20 x 6	500 x 150	273795
20 x 8	500 x 200	073796*
20 x 10	500 x 250	073797*
20 x 12	500 x 300	273798
20 x 14	500 x 350	073799
20 x 16	500 x 400	273800
20 x 18	500 x 450	073801
24 x 4	600 x 100	073802*
24 x 6	600 x 150	073803*
24 x 8	600 x 200	273804
24 x 10	600 x 250	073805*
24 x 12	600 x 300	073806*
24 x 14	600 x 350	073807*
24 x 16	600 x 400	273808
24 x 18	600 x 450	273809
24 x 20	600 x 500	073813
30 x 4	750 x 100	073814*
30 x 6	750 x 150	073815*
30 x 8	750 x 200	073816*
30 x 10	750 x 250	073817*
30 x 12	750 x 300	073818*
30 x 14	750 x 350	073819*
30 x 16	750 x 400	073820*
30 x 18	750 x 450	073821*
30 x 20	750 x 500	073822*
30 x 24	750 x 600	073234

Repair Coupling



Dimension		Product Code
inches	mm	
14	350	273883
16	400	273884
18	450	073885
20	500	273886
24	600	073887
30	750	073425*

Stop Coupling

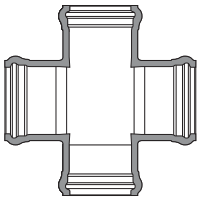


Dimension		Product Code
inches	mm	
14	350	073890*
16	400	073891*
18	450	073892*
20	500	073893*
24	600	073163
30	750	073894*

Cap

Dimension		Product Code
inches	mm	
14	350	273895
16	400	273896
18	450	073897*
20	500	073898
24	600	073899
30	750	073900*

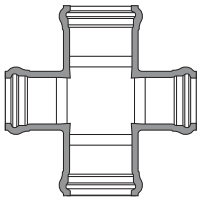
Cross



Dimension		Product Code
inches	mm	
14	350	073837*
16	400	073844*
18	450	073852*
20	500	073861*
24	600	073871*
30	750	073882*

IPEX CENTURION™ FABRICATED FITTINGS (CIOD), CLASS/PRESSURE RATING 165 PSI

Reducer Cross G x G x G x G



Dimension		Product Code
inches	mm	
14 x 4	350 x 100	073832
14 x 6	350 x 150	073833*
14 x 8	350 x 200	073834*
14 x 10	350 x 250	073835*
14 x 12	350 x 300	073836*
16 x 4	400 x 100	073838*
16 x 6	400 x 150	073839*
16 x 8	400 x 200	073840*
16 x 10	400 x 250	073841*
16 x 12	400 x 300	073842*
16 x 14	400 x 350	073843*
18 x 4	450 x 100	073845*
18 x 6	450 x 150	073846*
18 x 8	450 x 200	073847*
18 x 10	450 x 250	073848*
18 x 12	450 x 300	073849*
18 x 14	450 x 350	073850*
18 x 16	450 x 400	073851*
20 x 4	500 x 100	073853*
20 x 6	500 x 150	073854*
20 x 8	500 x 200	073855*
20 x 10	500 x 250	073856*
20 x 12	500 x 300	073857*
20 x 14	500 x 350	073858*
20 x 16	500 x 400	073859*
20 x 18	500 x 450	073860*

Dimension		Product Code
inches	mm	
24 x 4	600 x 100	073862*
24 x 6	600 x 150	073863*
24 x 8	600 x 200	073864*
24 x 10	600 x 250	073865*
24 x 12	600 x 300	073866*
24 x 14	600 x 350	073867*
24 x 16	600 x 400	073868*
24 x 18	600 x 450	073869*
24 x 20	600 x 500	073870*
30 x 4	750 x 100	073872*
30 x 6	750 x 150	073873*
30 x 8	750 x 200	073874*
30 x 10	750 x 250	073875*
30 x 12	750 x 300	073876*
30 x 14	750 x 350	073877*
30 x 16	750 x 400	073878*
30 x 18	750 x 450	073879*
30 x 20	750 x 500	073880*
30 x 24	750 x 600	073881*

* Obsolete

IPEX FUSIBLE PIPE

12.2m (40 ft) lengths
CIOD: 100mm - 750mm (4" - 30")
IPS: 100mm – 600mm (4" - 24")

FUSIBLE BRUTE™
FUSIBLE SERIES™

IPEX has introduced new Fusible Brute™ and Fusible Series™ PVC pipes. By combining the mechanical properties of PVC with an innovative, patented butt fusion process, IPEX provides the only available method of installing a continuous, monolithic, fully restrained PVC pipe system. Capable of being used in a variety of trenchless or conventional direct bury applications, Fusible PVC™ pipe systems have been installed at numerous sites throughout the United States, Canada and Mexico for both pressure and non-pressure installations in the water and sewer industries.

With PVC's proven long service life, Fusible Brute (CIOD) and Fusible Series (IPS) pipes are available in sizes ranging from 100mm (4") to 750mm (30") with larger sizes in development. The proprietary PVC formulation, fusion process as well as our licensing and training program allow for the consistent, reliable fusion of Fusible Brute and Fusible Series pipes to create piping systems of unparalleled strength.

APPLICATIONS

- Water Mains
- Sanitary Sewers
- Process and Raw Water
- Reclaimed Water
- Storm Drains

STANDARDS

B137.3 | AWWA MEMBER | 12454 | NSF 61 | 3624-250

DID YOU KNOW?

Reduced wall thickness relative to HDPE yields more flow and less material for a given pressure class

ADVANTAGES

- ✓ Greater pull force rating than HDPE.
- ✓ Greater pull force rating than other PVC systems.
- ✓ Lower installation costs versus HDPE due to lighter weight and reduced OD dimensions.
- ✓ Has excellent abrasion and scratch-resistant properties.
- ✓ Higher flow rates.
- ✓ Connects directly to existing PVC systems for material consistency.
- ✓ Uses standard CIOD or IPS fittings.
- ✓ Creates monolithic, fully-restrained pipe systems.

PRESSURE RATINGS

FUSIBLE BRUTE™ (CIOD)

Dimension Ratio	Pressure (psi)
DR 14	305
DR 18	235
DR 25	165

FUSIBLE SERIES™ (IPS)

Dimension Ratio	Pressure (psi)
DR 21	200
DR 26	160

For job quotation, contact your IPEX representative.

FUSION IN ACTION

ONTARIO

Central Experimental Farm, Ottawa, Ontario

573m (1,880 LF) of 300mm (12") DR18,
353m (1,158 LF) of 250mm (10") DR25,
170m (558 LF) of 450mm (18") DR25


Fusible PVC was chosen because of less disruption to federally protected land and forest. Also because of traffic control constraints.

MANITOBA

Grosse Isle Watermain, Manitoba

1,000m (3,281 LF) of 150mm (6") DR18,
3,000m (9,843 LF) of 150mm (6") DR25


Fusible PVC was chosen to minimize restoration costs.

QUEBEC

Direct Bury, St-Henri-de-Taillon, Quebec

5,563.2m (18,252 LF) of 150mm (6") DR25,
10,614m (34,823 LF) of 200mm (8") DR25,
610m (2,001 LF) of 250mm (10") DR25


Fusible PVC was chosen for ease of installation and lower cost.

ALBERTA

Slipline, Epcor 92nd St & 106a Ave, Edmonton, Alberta

85.4m (280 LF) of 400mm (16") DR25


DR25 Fusible Brute was chosen as it offered the optimal flow characteristics for that slipline.

TERRABRUTE CR

4" - 12" (100mm - 300mm)

TerraBrute® CR

Engineered for Horizontal Directional Drilling (HDD) and other trenchless applications, TerraBrute® CR is a 100% non-metallic, CSA B137.3 / AWWA C900 PVC pressure pipe system. Non-corroding and installation friendly, TerraBrute CR allows you to standardize on PVC throughout your potable water and sewer infrastructure. Whether you're using open-cut or trenchless methods, there are no more problems matching materials and couplings. No more surprises.

TerraBrute CR's patented non-metallic "ring-and-pin" gasketed joint design outperforms all other restrained PVC pipe joints on the market, providing more than twice the pull strength of other HDD systems – up to 120,000 lbs. for 300mm / 12" pipe. Unlike competing square-shoulder designs, TerraBrute CR's rounded bell shoulders slide by roots, rocks and other debris that can protrude into the borehole. And unlike HDPE, TerraBrute CR requires no relaxation time before installation of fittings or services.

APPLICATIONS

- Municipal Water Systems
- Fire Lines
- Forcemains
- Industrial Lines

STANDARDS

AWWA MEMBER | B137.3 | 3624-250 | NSF 61

ADVANTAGES

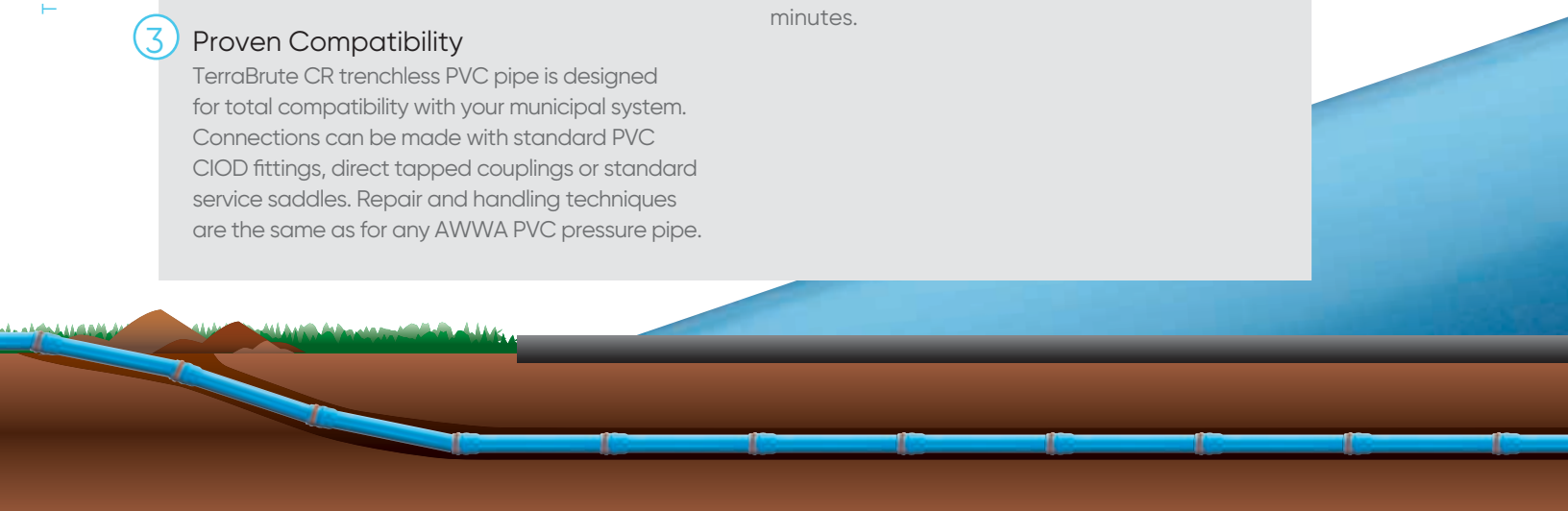
1. **Corrosion Resistant**
The new, non-metallic, "ring-and-pin" configuration of TerraBrute CR PVC pressure pipe offers complete corrosion resistance. The external "ring" is designed as two half rings for ease of installation and comes complete with the "pins" ready for insertion, creating a strong, locking joint.

2. **Proven Performance**
With a 235 psi pressure class, TerraBrute CR delivers the superior strength and corrosion resistance you've come to expect from our Blue Brute pressure pipe, along with the ability to absorb the underground shear and flexural stresses that occur in buried applications.

3. **Proven Compatibility**
TerraBrute CR trenchless PVC pipe is designed for total compatibility with your municipal system. Connections can be made with standard PVC CIOD fittings, direct tapped couplings or standard service saddles. Repair and handling techniques are the same as for any AWWA PVC pressure pipe.

4. **Proven Joining System**
Based on our gasketed bell and spigot design, proven through years of service in the field, the TerraBrute CR joint is rated higher than the pressure rating of the pipe. And unlike competing coupling joints, the TerraBrute CR joint has been specially engineered to deliver the highest pull strength safety factors in the industry for HDD applications.

5. **Fast and Easy Joint Assembly**
Because pipe segments can be assembled during pullback operations, pipe stringing can be eliminated. Assembly time for a 300mm / 12" TerraBrute CR joint is typically less than five minutes.



Standards

CSA B137.3

AWWA C900
TerraBrute is made from stock conforming to AWWA C900.

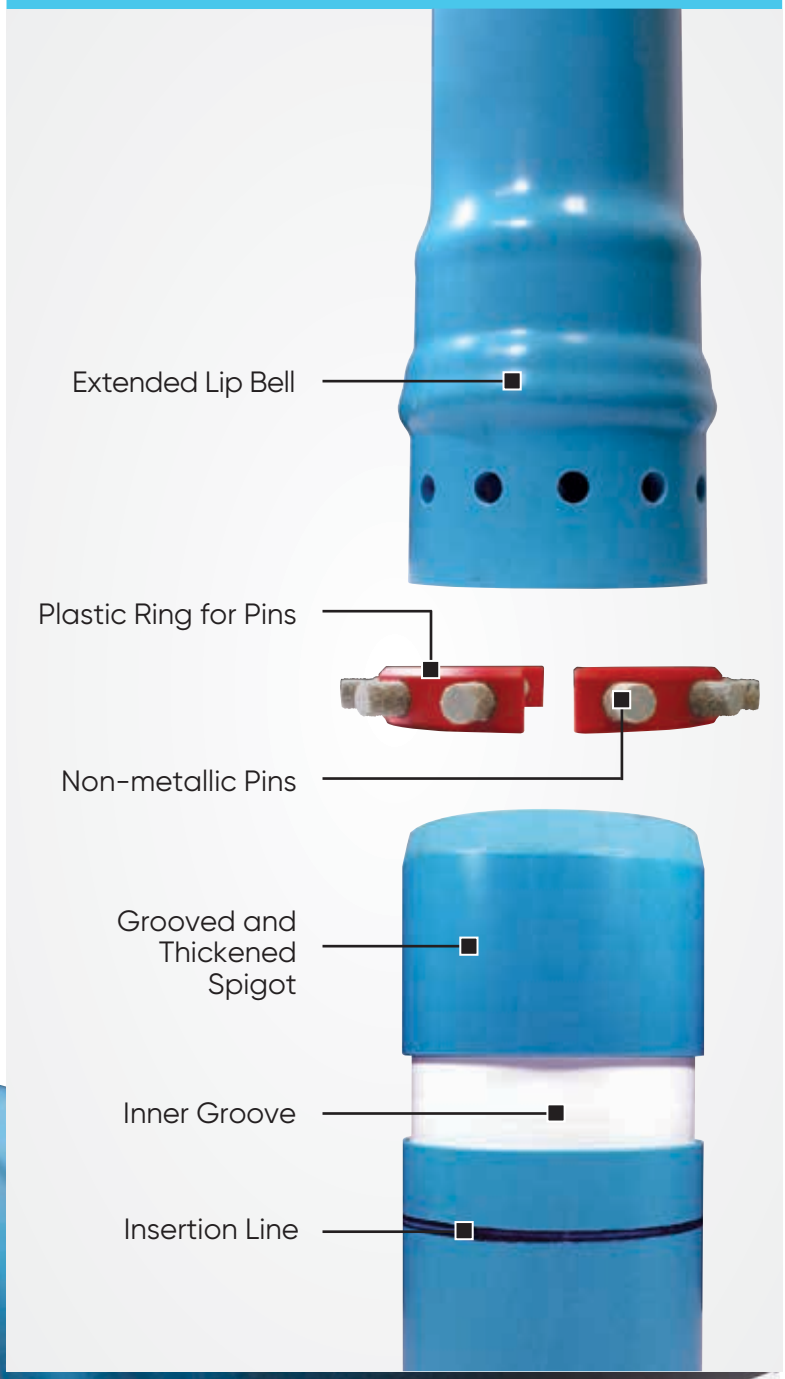
NQ 3624-250

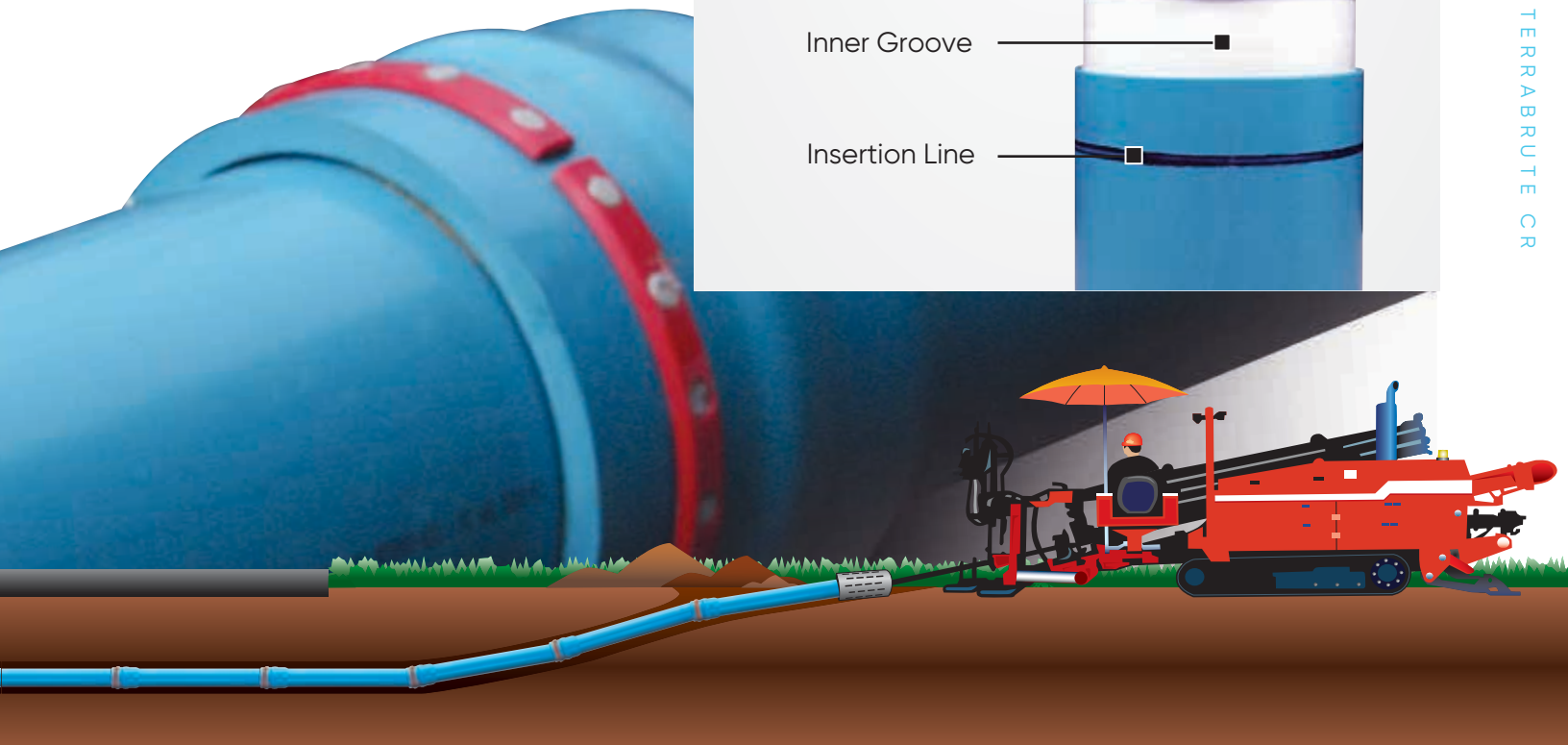
Factory Mutual and Underwriter's Laboratories
TerraBrute is made from starting stock that is Factory Mutual approved and ULC/ULI Listed.

> "TerraBrute CR is the result of many years of research into the use of PVC pipes in HDD applications. The new non-corroding, locking joint design enables TerraBrute CR to enter new applications while maintaining the high tensile strength and bending radius of the original TerraBrute."

Dr. Erez Allouche,
Louisiana Tech University

NEW NON-METALLIC GASKETED JOINT DESIGN





APPLICATIONS

BRIDGE CROSSINGS

TerraBrute CR's unique "new non-metallic ring-and-pin" joint design provides for easy installation in non-HDD applications where traditional butt fusion techniques would be difficult – such as this span of suspended pressure pipe installed beneath a busy roadway bridge.

ROAD CROSSINGS

TerraBrute CR is ideally suited for short drilling projects where existing structures cannot be disturbed – such as under busy highways, roads and intersections where you connect to PVC pipes.

URBAN CENTERS

Because TerraBrute CR can be assembled segmentally just before entering the borehole, projects take up less space in restricted urban areas, compared to the long strings of pipe typical with HDPE installations.

SHORT FORM SPECIFICATIONS

GENERAL

PVC pipe used for horizontal directional drilling (HDD) or other trenchless installation methods shall be manufactured with a cast iron outside diameter (CIOD) and shall be made with starting stock certified to CSA B137.3 for 100mm - 300mm (4" - 12") diameters. Pipe will meet the requirements of AWWA C900, must be Factory Mutual approved, and listed by ULC and ULI.

MAXIMUM ALLOWABLE PULLING FORCE

The maximum allowable pulling force shall be the ultimate tensile capacity of the piping system divided by a safety factor of 2, as shown in the table below.

JOINT DESIGN

PVC pipe must be manufactured with an integral bell, and must have removable gaskets to allow the use of oil-resistant (nitrile) gaskets in contaminated soils.

Nominal Size		Maximum Allowable Pulling Force	
mm	Inches	kN	Lbs.
100	4	50	11200
150	6	110	24700
200	8	115	25800
250	10	187	42100
300	12	275	61800

PRODUCT SELECTION CHART

TerraBrute CR Pipe & Dimensions

Nominal Diameter		Product Code	Pressure Class/Rating (2:1 safety factor)	Max Outside Diameter (Bell OD)		Avg Internal Diameter	
in	mm		psi	in	mm	in	mm
4	100	070258	305	6.49	165	4.09	104
6	150	070259	305	9.06	230	5.87	149
8	200	070260	235	11.33	288	8.03	204
10	250	070261	235	14.00	355	9.84	250
12	300	070262	235	16.36	416	11.69	297

TerraBrute CR's larger internal diameters, compared to HDPE pipe, provide the same hydraulic performance usually with one size smaller pipe, saving on material costs.

Lay Lengths

Nominal Size		Laying Lengths	
Inches	mm	Feet/Inches	m
4	100	19' 10"	6.04
6	150	19' 9"	6.01
8	200	19' 9"	6.01
10	250	19' 9"	6.01
12	300	19' 9"	6.01

Due to the extended bell configuration, TerraBrute has slightly shorter laying length than standard Blue Brute pipe.

THE PIPE THAT FITS IN SO MANY WAYS.

NovaForm™ PVC Liner

Styrene Free Structural Liner for Sewers and Culverts.

NovaForm, a new PVC-based structural liner from IPEX, allows municipalities to repair their failing infrastructure while respecting the environment. With Novaform, capturing and treating contaminated curing liquid is a thing of the past. As an engineered thermoplastic, Novaform is installed using steam, and the only jobsite discharge is water.




NOVAFORM™

CYCLETOUGH PIPING SYSTEMS

Pipe: 1-1/2" - 24" (40mm - 600mm)
Injection Moulded Fittings: 1-1/2" - 8" (40mm - 200mm)

CycleTough®

CycleTough® IPS piping systems are specifically designed for irrigation systems and sewer forcemains. The constant cyclic surging that is associated with these applications demands a tough pipe, and more importantly, a specially engineered fitting.

CycleTough fittings have been engineered using the latest techniques in Finite Element Analysis (FEA), ensuring problem-free performance for the long haul.

IPEX CycleTough systems are made with the same high-impact, engineered compound as our Blue Brute® systems, and are tested to the same high standards.

APPLICATIONS

- Forcemains
- Irrigation
- Rural Water Supply
- Water Distribution & Transmission

STANDARDS

D2241 NSF 61

ADVANTAGES

1. **High Pressure Capacity**
   CycleTough systems have a 2:1 safety factor for long-term pressures, and over 3.2:1 for temporary surges.
2. **Toughness Engineered**
   CycleTough fittings are engineered for versatility and reliability. Their unique design features extra material added for reinforcement to withstand the stresses imposed by tough irrigation and forcemain applications.
3. **Iron Pipe Size Outside Diameter (IPSOD)**
   CycleTough systems are made with an IPSOD, which is the same outside diameter configuration as schedule piping and most steel process piping.
4. **Bottle-tight Joints, Removable Gaskets**
   IPEX's patented gasket system not only withstands the rated system pressure, but also withstands full vacuum pressures. The removable gasket system allows special oil-resistant (nitrile) gaskets to be easily installed when working in contaminated soils.
5. **Third-party Certification**
   All CycleTough systems are certified to CSA B137.2. Third-party certification verifies a system will perform as expected, meeting all applicable standards.

CYCLETOUGH® REPAIR COUPLING HIGHLIGHT

New Hammer-On Design

Fittings feature square bell ends, which provide additional contact surface area for mallets or hammers to ease installation and adjustments.

New Longer Pattern

Repair Couplings now offered in industry-leading lengths to better accommodate installations with large gaps or uneven cuts.

High Impact Strength

The resin in CycleTough fittings resists cracking caused by environmental factors, long-term stress, and cyclic stress.

Corrosion Proof

Fittings will not rust or corrode in aggressive soils.

DID YOU KNOW?

All CycleTough fittings use high-molecular-weight pipe materials with a minimum HDB of 4,000 psi. Materials with higher molecular weights tend to exhibit better resistance to crack initiation.

SHORT FORM SPECIFICATIONS

PIPES

IPS-OD PVC pipe shall be manufactured from PVC compound with ASTM D1784 cell class 12454. PVC pipe will have a minimum Hydrostatic Design Basis (HDB) of 4000 psi and a short-term strength of 6400 psi. Pipe shall be certified to CSA B137.3 and conform to ASTM D2241.

FITTINGS

Injection-moulded PVC fittings shall be rated at 200 psi and be made from PVC compound with a minimum HDB of 4000 psi. Fabricated fittings shall be made from sections of pipe certified to CSA B137.3 and fittings shall also be certified to CSA B137.3. All pipes and fittings shall be listed to NSF Standard 61 and shall be colour-coded white.

PRESSURE RATINGS

Pressure Ratings and Burst Pressures

Size Range	Dimension Ratio	Burst Pressure (psi)	Long Term Rating (psi)
40 mm – 600 mm (1-1/2" - 24")	21	320	200
40 mm – 600 mm (1-1/2" - 24")	26	256	160
75 mm – 600 mm (3" - 24")	32.5	200	125
100 mm – 600 mm (4" - 24")	41	160	100

For more information on how these ratings are calculated, please refer to Volume I: Pressure Piping Systems Design Technical Manual

PRODUCT SELECTION CHART CycleTough PIPE

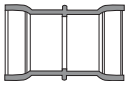
Size		Product Code	Avg. ID		Min. Wall Thickness		Avg.OD	
in	mm		in	mm	in	mm	in	mm
Series 100 (SDR41)								
4	100	061204	4.278	108.41	.109	2.78	4.50	114.3
6	150	061206	6.282	159.57	.162	4.12	6.63	168.3
8	200	061208	8.180	207.77	.209	5.32	8.62	219.1
10	250	061210	10.194	258.93	.262	6.66	10.75	273.1
12	300	061212	12.093	307.15	.311	7.90	12.75	323.9
14	350	060214	13.277	337.24	.341	8.66	14.00	355.6
16	400	060216	15.174	385.41	.390	9.90	16.00	406.4
18	450	060218	17.074	433.67	.437	11.10	18.00	457.2
20	500	060220	18.985	481.71	.488	12.40	20.00	508.0
24	600	060224	22.756	578.01	.587	14.90	24.00	609.6
Series 125 (SDR32.5)								
4	100	061104	4.208	106.88	.138	3.50	4.50	114.3
6	150	061106	6.194	157.32	.204	5.18	6.63	168.3
8	200	061108	8.063	204.80	.265	6.72	8.62	219.1
10	250	061110	10.049	255.24	.331	8.40	10.75	273.1
12	300	061112	11.921	302.78	.392	9.96	12.75	323.9
14	350	060114	13.090	332.49	.429	10.90	14.00	355.6
16	400	060116	14.957	379.90	.492	12.50	16.00	406.4
18	450	060118	16.823	427.31	.555	14.10	18.00	457.2
20	500	060120	18.698	474.93	.614	15.60	20.00	508.0
24	600	060124	22.431	569.74	.740	18.80	24.00	609.6

PRODUCT SELECTION CHART CycleTough PIPE

Size		Product Code	Avg. ID		Min. Wall Thickness		Avg.OD	
in	mm		in	mm	in	mm	in	mm
Series 160 (SDR26)								
1-1/2	40	061900	1.731	43.97	.080	2.02	1.90	48.3
2	50	061902	2.184	55.47	.091	2.30	2.38	60.4
2-1/2	65	061901	2.642	67.11	.109	2.78	2.87	73.0
3	75	061903	3.215	81.65	.135	3.42	3.50	88.9
4	100	061904	4.134	105.01	.172	4.38	4.50	114.3
6	150	061906	6.085	154.56	.255	6.48	6.63	168.3
8	200	061908	7.921	201.20	.331	8.42	8.62	219.1
10	250	061910	9.874	250.79	.413	10.50	10.75	273.1
12	300	061912	11.717	297.61	.488	12.40	12.75	323.9
14	350	060914	12.857	326.56	.539	13.70	14.00	355.6
16	400	060916	14.698	373.33	.614	15.60	16.00	406.4
18	450	060918	16.531	419.89	.693	17.60	18.00	457.2
20	500	060920	18.364	466.45	.772	19.60	20.00	508.0
24	600	060924	22.039	559.78	.925	23.50	24.00	609.6
Series 200 (SDR21)								
1-1/2	40	061300	1.709	43.42	.090	2.28	1.90	48.3
2	50	061301	2.137	54.29	.113	2.86	2.38	60.4
2-1/2	65	061302	2.584	65.62	.137	3.48	2.87	73.0
3	75	061303	3.146	79.91	.167	4.24	3.50	88.9
4	100	061304	4.046	102.77	.214	5.44	4.50	114.3
6	150	061306	5.957	151.30	.316	8.02	6.63	168.3
8	200	061308	7.756	197.00	.409	10.40	8.62	219.1
10	250	061310	9.665	245.49	.512	13.00	10.75	273.1
12	300	061312	11.467	291.25	.606	15.40	12.75	323.9
14	350	061314	12.589	319.77	.665	16.90	14.00	355.6
16	400	061316	14.381	365.27	.764	19.40	16.00	406.4
18	450	061318	16.180	410.98	.858	21.80	18.00	457.2
20	500	061320	17.980	456.70	.953	24.20	20.00	508.0
24	600	061324	21.580	548.12	1.142	29.00	24.00	609.6

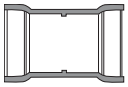
CycleTough FITTINGS

Stop Coupling G x G



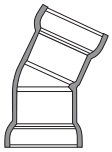
Dimension		Product Code
inches	mm	
2	50	355036
2-1/2	65	355037
3	75	355038
4	100	355039
6	150	355040
8	200	355041

Repair Coupling G x G



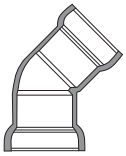
	Dimension		Product Code
	inches	mm	
	2	50	355217
	2-1/2	65	355218
	3	75	355219
	4	100	355220
	6	150	355221
	8	200	355222
*	10*	250	055223

22-1/2° Elbow G x G



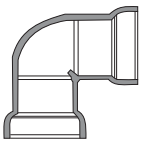
	Dimension		Product Code
	inches	mm	
*	2	50	055053
*	3	75	055054
*	4	100	055055
*	6	150	055056

45° Elbow G x G



	Dimension		Product Code
	inches	mm	
*	1-1/2	35	055059
	2	50	355060
	2-1/2	65	355061
	3	75	355062
	4	100	355063
	6	150	355064
	8	200	355065
*	10	250	055066
*	12	300	055067

90° Elbow G x G

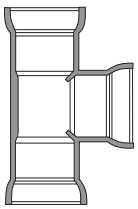


	Dimension		Product Code
	inches	mm	
*	1-1/2	35	055069
	2	50	355070
	2-1/2	65	355071
	3	75	355072
	4	100	355073
	6	150	355074
	8	200	355075
*	10	250	055076
*	12	300	055280

* Fabricated Non CSA, G = Gasket, Sp = Spigot

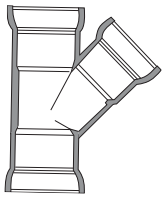
PRODUCT SELECTION CHART CycleTough FITTINGS

Tee G x G x G



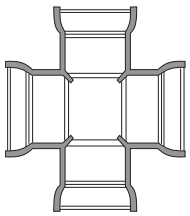
	Dimension inches	Dimension mm	Product Code
*	1-12	35	055227
	2	50	355228
	2-1/2	65	355229
	3	75	355230
	4	100	355231
	6	150	355232
	8	200	355233
*	10	250	055234
*	12	300	055281

Wye G x G x G



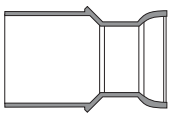
	Dimension inches	Dimension mm	Product Code
*	3	75	055291
*	4	100	055293
*	6	150	055290
*	8 x 6	200 x 150	055294
*	8	200	055298
*	12 x 6	300 x 150	055297
*	12 x 8	300 x 200	055299
*	12	300	055296

Cross G x G x G



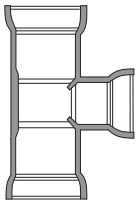
	Dimension inches	Dimension mm	Product Code
*	2	50	055045
*	2-1/2	65	055046
*	3	75	055047
	4	100	355048
	6	150	355049

Increaser Bushing G x Sp



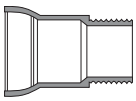
	Dimension inches	Dimension mm	Product Code
	1-1/2 x 2	35 x 50	355117
	2 x 2-1/2	50 x 65	355118
	2 x 3	50 x 75	355119
	2 x 4	50 x 100	355121
*	2 x 6	50 x 150	049280
	2-1/2 x 3	65 x 75	355320
	2-1/2 x 4	65 x 100	355122
	2-1/2 x 6	65 x 150	355124
	3 x 4	75 x 100	355123
	3 x 6	75 x 150	355125
	4 x 6	100 x 150	355126
	4 x 8	100 x 200	355127
	6 x 8	150 x 200	355128

Reducing Tee G x G x G



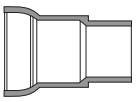
Dimension inches	Dimension mm	Product Code
2 x 1-1/2	50 x 35	355151
2-1/2 x 2	65 x 50	355153
3 x 1-1/2	75 x 35	355154
3 x 2	75 x 50	355155
3 x 2-1/2	75 x 65	355156
4 x 2	100 x 50	355157
4 x 2-1/2	100 x 65	355158
4 x 3	100 x 75	355159
6 x 2	150 x 50	355161
6 x 2-1/2	150 x 65	355162
6 x 3	150 x 75	355163
6 x 4	150 x 100	355164
8 x 2	200 x 50	355165
8 x 3	200 x 75	355166
8 x 4	200 x 100	355167
8 x 6	200 x 150	355168

Male Adapter G x Male Pipe Thread



	Dimension inches	Dimension mm	Product Code
	1-1/2	35	355099
	2	50	355100
	2-1/2	65	355101
	3	75	355102
*	4	100	055103
*	6	150	055104

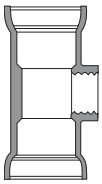
Spigot Adapter G x Sp



	Dimension inches	Dimension mm	Product Code
	1-1/2	35	355028
	2	50	355029
	2-1/2	65	355030
	3	75	355031
*	4	100	055032
*	6	150	055033

* Fabricated Non CSA, G = Gasket, Sp = Spigot
† Reduced using Solvent Welded Threading Reducer Bushings

Tap Service Tee G x G x NPT

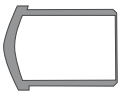


	Dimension inches	Dimension mm	Product Code
†	2 x 1/2	50 x 15	055187
†	2 x 3/4	50 x 20	055188
†	2 x 1	50 x 25	055189
†	2 x 1-1/4	50 x 30	055190
†	2 x 1-1/2	50 x 35	055191
†	2-1/2 x 1/2	65 x 15	055192
†	2-1/2 x 3/4	65 x 20	055193
†	2-1/2 x 1	65 x 25	055194
†	2-1/2 x 1-1/4	65 x 30	055195
†	2-1/2 x 1-1/2	65 x 35	055196
	2-1/2 x 2	65 x 50	355197
†	3 x 1/2	75 x 15	055198
†	3 x 3/4	75 x 20	055199
	3 x 1	75 x 25	355200
	3 x 1-1/4	75 x 30	355201
	3 x 1-1/2	75 x 35	355202
	3 x 2	75 x 50	355203
†	4 x 1/2	100 x 15	055204
†	4 x 3/4	100 x 20	055205
	4 x 1	100 x 25	355206
	4 x 1-1/4	100 x 30	355207
	4 x 1-1/2	100 x 35	355208
	4 x 2	100 x 50	355209
†	6 x 1/2	150 x 15	055210
†	6 x 3/4	150 x 20	055211
	6 x 1	150 x 25	355212
	6 x 1-1/2	150 x 35	355214
	6 x 2	150 x 50	355215

Cap

	Dimension inches	Dimension mm	Product Code
*	2	50	055400
*	3	75	055402
*	4	100	055404
*	6	150	055406
*	8	200	055408

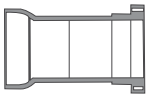
Permanent Plug



*	1-1/2	35	055107
*	2	50	055108
*	2-1/2	65	055109
*	3	75	055110
*	4	100	055111
*	6	150	055112
*	8	200	055113

The spigot plug may be solvent welded.

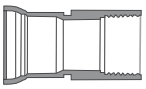
Adapter Flange x Gasket Bell



*	1-1/2	35	055091
*	2	50	055092
*	2-1/2	65	055093
*	3	75	055094
*	4	100	055095
*	6	150	055096
*	8	200	055268

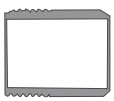
Flanged fittings have a maximum operating pressure of 150 psi.

Adapter Bell x Female IPT



*	1-1/2	35	055251
*	2	50	055252
*	2-1/2	65	055253
*	3	75	055433
*	4	100	055254
*	6	150	055256

Adapter PE (Plain End) x MIPT



*	3	75	055260
*	4	100	055105
*	6	150	055106

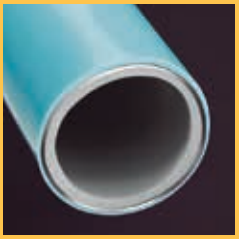
* Fabricated Non CSA, G = Gasket, Sp = Spigot
† Reduced using Solvent Welded Threading Reducer Bushings

notes

As copper prices continue to rise, cities across North America are turning to cost effective alternatives for their water service lines that connect municipal watermains to buildings. IPEX provides a range of options from polyethylene, PEX and composite tubing for water service lines which are immune to corrosion and mineral buildup.

All IPEX water service systems are CSA and NSF certified and conform to AWWA standards. They are backed by the quality and service you've come to expect from IPEX.

WATER SERVICE SYSTEMS




BLUE904 PEX WATER SERVICE TUBING

3/4" - 2" (20mm - 50mm)

BLUE904®

As copper prices continue to rise, cities across North America are turning to cost effective alternatives for their water service lines that connect municipal watermains to buildings.

Blue904® is fully certified, lightweight and flexible PEX water service tubing. Installation friendly, Blue904 will resist corrosion, maximizing water flow over the lifetime of the system. Made with a copper tube size (CTS) OD (SDR 9), Blue904 works with standard compression fittings and is available in 3/4", 1", 1-1/4", 1-1/2" & 2" (20mm, 25mm, 32mm, 40mm & 50mm) sizes.

APPLICATIONS

- Water Service Tubing
- Municipal Watermains

STANDARDS

AWWA MEMBER	ASTM	CSA	NSF
	F876, F877 F2023	B137.5	NSF 14 NSF61

ADVANTAGES

1. **Easy Installation**
   No special tools required.
2. **Corrosion Resistant for Long Life**
   Blue904 will resist the effects of chlorine and scaling and will not corrode in soil. It is also freeze resistant due to its low thermal conductivity when compared to copper tubing.
3. **Lightweight and Flexible for Easy Handling**
4. **Jobsite Safe**
   Unlike copper tubing, PEX tubing has no scrap value, eliminating the threat of jobsite theft common with copper. As a result, no special storage precautions are necessary.
5. **Packaging and Markings**
   Blue904 is available in 100 ft (30m) and 300 ft (90m) coils and is packaged in boxes for UV protection and portability. Each coil has footage markings to assist during installation and is identified with product name, size, certifications and manufacturing date.

PRESSURE RATING

Sizes	Pressure Rating	
3/4" - 2"	160 psi @ 73°F	(1100 kPa @ 23°C)
(20mm - 50mm)	100 psi @ 180°F	(690 kPa @ 82°C)

PRODUCT SELECTION CHART

Nominal Size		I.D.		Min. Bend Radius		Product Code	Coil Length	
in	mm	in	mm	in	mm		feet	m
3/4	20	0.681	17.3	4.5	114	117001	300	90
3/4	20	0.681	17.3	4.5	114	117002	100	30
1	25	0.875	22.2	6.0	152	117003	300	90
1	25	0.875	22.2	6.0	152	117004	100	30
1-1/2	40	1.241	31.5	9.0	229	117006	100	30
2	50	1.625	41.3	12.0	305	117007	100	30

Q-LINE
WATER SERVICE TUBING

3/4" & 1" (20mm & 25mm)

Q-Line®

Introducing Q-Line – a unique composite, water service tubing that combines the advantages of both metal and plastic, while eliminating their drawbacks. Now available from IPEX, the world's leading technical innovator in thermoplastic piping systems.

Manufactured by IPEX to AWWA C903-02, Q-Line is the only water service tubing in North America that delivers the strength of metal, the flexibility of soft copper and the durability of thermoplastic. What's more, because it eliminates the shortcomings of traditional piping materials, Q-Line is superior to them all.

APPLICATIONS

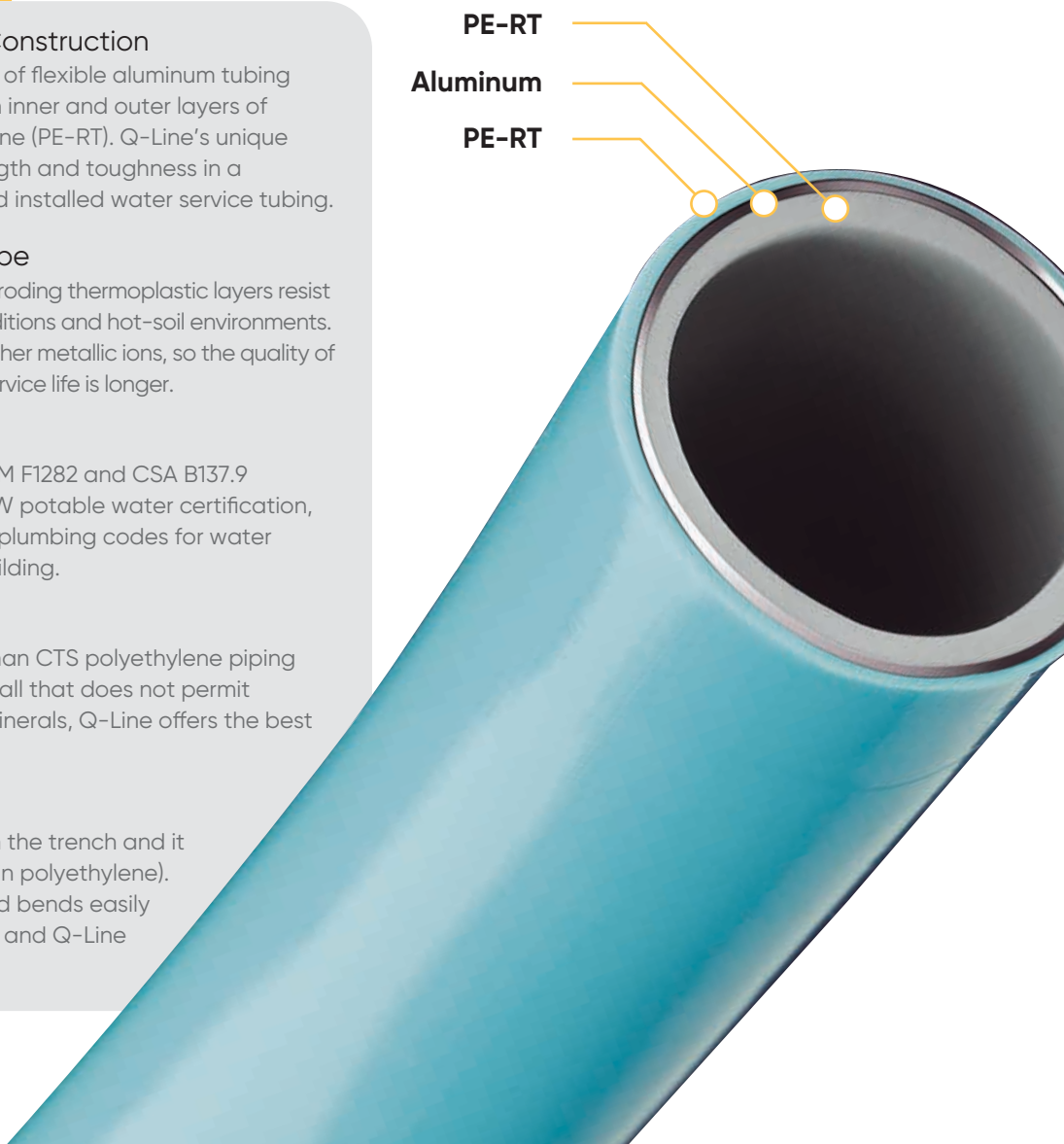
- Water Service Tubing
- Municipal Watermains
- Reclaimed Water Applications

STANDARDS

AWWA MEMBER · F1282 · B137.9

ADVANTAGES

1. **Engineered Composite Construction**
   A composite pipe constructed of flexible aluminum tubing permanently bonded between inner and outer layers of raised temperature polyethylene (PE-RT). Q-Line's unique structure offers optimum strength and toughness in a lightweight, easily handled and installed water service tubing.
2. **Superior to Traditional Pipe**
   Unlike copper, Q-Line's non-corroding thermoplastic layers resist the most aggressive water conditions and hot-soil environments. Q-Line won't leach copper or other metallic ions, so the quality of drinking water is assured and service life is longer.
3. **Potable Water Certified**
   Q-Line carries third-party ASTM F1282 and CSA B137.9 certification, as well as NSF-PW potable water certification, and meets all North American plumbing codes for water supply up to and inside the building.
4. **High Flow Rates**
   With larger inside diameters than CTS polyethylene piping and a super-smooth interior wall that does not permit build-up of calcium or other minerals, Q-Line offers the best flow rates in the industry.
5. **Handles Like Copper**
   Simply roll Q-Line tubing down the trench and it stays where it's laid (unlike plain polyethylene). You can make goosenecks and bends easily just as you would with copper, and Q-Line keeps its shape.



CODES AND STANDARDS

Q-Line water service tubing is manufactured to AWWA C903, ASTM F1282 and CSA B137.9, and meets NSF-PW potable water requirements as well as requirements of the following national codes.

- National Plumbing code of Canada
- Uniform Plumbing Code
- International Plumbing Code
- International Residential Code
- National Standard Plumbing Code
- SBCCI Standard Plumbing Code

MORE ADVANTAGES ...

Built-in Permeation Barrier

Q-Line composite water service tubing has been successfully tested against the most aggressive contaminants, like termiticides.

Zero Scrap Value

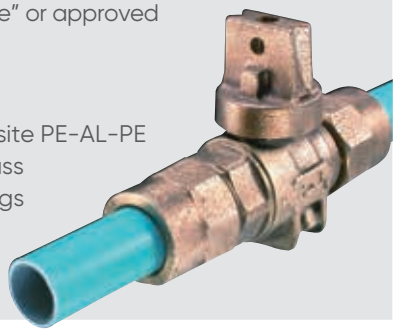
Because Q-Line's metallic core is permanently locked between layers of polyethylene, it has zero scrap metal value. So unlike copper and other valuable metals which are continually disappearing due to theft, Q-Line is more likely to stay on the job site where it's needed.

SHORT FORM SPECIFICATIONS

TUBING

Water service tubing shall be composite PE-AL-PE tubing manufactured in accordance with the requirements of AWWA C903 and certified to CSA B137.9 and ASTM F1282. It shall have a long term pressure rating of 1380kPa at 23°C (200 psi at 73°F) and 690kPa at 82°C (100 psi at 180°F). The pipe shall be third-party tested and certified to comply with NSF-PW potable water and NSF CL-TD chlorine resistance requirements. The service tubing shall be colour coded light blue as manufactured by IPEX under the trade name "Q-Line" or approved equal.

FITTINGS



Fittings for composite PE-AL-PE tubing shall be brass water service fittings conforming to AWWA C800.

PRODUCT SELECTION CHART

Q-Line Pipes

Nominal Size		Product Code	Avg. ID		Min. Wall Thickness		Avg. OD		Min. Bending Radius		Coil Length	
in	mm		in	mm	in	mm	in	mm	in	mm	ft	m
3/4	20	115001	0.79	20	0.10	2.5	0.98	25	5.0	125	150	45.7
3/4	20	115003	0.79	20	0.10	2.5	0.98	25	5.0	125	1000	305.0
1	25	115004	0.98	25	0.14	3.5	1.26	32	6.3	160	150	45.7

Q-Line Pipe to Compression End Municipal Brass are available from the brass fitting manufacturers.

ONE OF A KIND

Q-Line has unique inside and outside diameters that are different both from copper and conventional PE service tubing. Easily installed adapters that allow Q-line to be used with standard brass fittings are widely available.

GOLD901
WATER SERVICE TUBING

3/4" - 2" (20mm - 50mm)

GOLD901™

Gold901™ is a lightweight, easy to install, 250 psi rated water service tubing that can be used on both the municipal and private-side of a project.

Gold901 is manufactured to Copper Tube Size (CTS) from High-Density Polyethylene (HDPE) and is third-party certified and listed to AWWA C901, CSA B137.1, and NSF 61.

Gold901 is conveniently available in both coils and reels and is available in 3/4" to 2".

APPLICATIONS

- Water Service Tubing

STANDARDS

B137.1 NSF61

ADVANTAGES

1. **Chemical Resistance**
   Virtually immune to chemical attacks. Please refer to the IPEX Chemical Resistance Guide for specific chemical suitability.
2. **Noncorroding**
   Resistant to corrosive soils, aggressive water, stray electrical currents and moist environments
3. **Lightweight**
   A 200 foot coil of 3/4" Gold901weighs 20 lbs
4. **Connections**
   Brass or plastic compression fittings are readily available. A stainless steel insert or a specially designed (copper tube size) plastic insert must be used to reinforce Gold Stripe at the joint.
5. **Sequential Markings**
   Every 2 or 5 feet
6. **Superior Flow**
   Hazen Williams C-Factor = 150
7. **Expansion Contraction Rate**
   1.4" per 100' of pipe for every 10°F change in temperature, 22mm per 10m of pipe for every 10°C change in temperature.
8. **High Pressure**
   Rated at 250 psi @ 73°F.
   Rated at 1,725 kPa @ 23°C.

PRODUCT SELECTION CHART

DIMENSIONS - GOLD901 TUBING

Nominal Pipe Size inches	mm	Coil Length feet	O.D. Average	I.D. Average	Min. Radius of Bend	Product Code
3/4	20					
		100	0.875	0.671	19	121402
		200	0.875	0.671	19	121403
		400	0.875	0.671	19	121404
		500	0.875	0.671	19	121405
		3000	0.875	0.671	19	121406
1	25					
		100	1.125	0.863	23	121407
		150	1.125	0.863	23	121408
		200	1.125	0.863	23	121409
		300	1.125	0.863	23	121410
		500	1.125	0.863	23	121411
		1000	1.125	0.863	23	121412
		1500	1.125	0.863	23	121413
1-1/4	32					
		100	1.375	1.055	30	121414
		300	1.375	1.055	30	121415
1-1/2	40					
		100	1.625	1.245	34	121416
		250	1.625	1.245	34	121417
		400	1.625	1.245	34	121418
		1000	1.625	1.245	34	121419
2	50					
		100	2.125	1.629	44	121420
		200	2.125	1.629	44	121421
		500	2.125	1.629	44	121422

Note: Custom coil and reel sizes may be available upon request.

PHILMAC 3G COMPRESSION FITTINGS

1/2" - 2" (12mm - 50mm)

Philmac

Gone are the days of juggling and assembling loose fitting components on the job site or even having to turn off the water line when connecting a new line. Thanks to Philmac's unique Slide & Tighten™ technology, you can get a perfect seal with Philmac 3G fittings in any condition by hand or with a wrench.

Philmac fittings come pre-assembled and ready to use so there's no need to disassemble the fitting or prepare the pipe. No solvent cementing or special tools are needed. Simply insert the pipe into the fitting until you feel the first point of resistance and then tighten the nut. Visual stops and gradually increasing mechanical resistance as the nut is turned prevents over-tightening.

Philmac's compact size makes installation easy in confined spaces, and Philmac 3G fittings are engineered to avoid pipe twist during installation, reducing the risk of untightening previously-installed joints – a constant risk with brass fittings.

APPLICATIONS

- Water Service Coupling
- Residential Water Service
- Residential Irrigation Systems
- Cottage Country Water Service
- Rural Irrigation

STANDARDS

DID YOU KNOW?

Philmac's unique Slide & Tighten™ technology can give you a perfect seal just by hand or with a wrench. Just slide and tighten, and the job's done!

ADVANTAGES

1 Turn-to-Tighten Design

Philmac's unique design allows you to achieve a perfect seal with the turn of a hand or wrench. Visual stops and gradually increasing mechanical resistance as the nut is tightened reduces the risk of over-tightening.

2 Compact Ergonomic Grip

Small and lightweight, Philmac 3G fittings are specially shaped to your hand for easy turning. Their compact size is perfect for working in confined areas.

3 Advanced Material

Philmac 3G fittings are made from an advanced high-performance polypropylene so they're UV, impact and corrosion-resistant—tough enough for 50+ years of reliable service.

4 Dynamic Compression Sealing

Philmac 3G fittings are highly engineered to provide a robust leak-proof seal with superior pull-out resistance. In addition, the strength of the nut ensures minimal distortion when tightened with a wrench.

5 Component Interchangeability

Because both the CTSOD and ID Series fittings are based on the same core fitting design, components can be easily interchanged in order to transition from one type to another on the same fitting. And with adaptor kits available for other material types, you'll always have the right fitting for the job.

PHILMAC 3G: CTSOD AND ID SIZES

Philmac 3G Compression Fittings offer the flexibility to connect to five different types of pipe; three polyethylene pipe types (CTS, ID Series and IPS), Composite and Copper.

There are two dedicated fittings, CTS and ID Series, which come preassembled and ready to use. That leaves three others: IPS, XPA, and copper that require a conversion kit. Converting a Philmac fitting is very simple and can be done in just a few steps.

CTSOD

ID Series

OD Fittings
3/4" – 2"

ID Series
1/2" – 2"

UNIVERSAL TRANSITION COUPLING (UTC) & FITTINGS

With the Universal Transition Coupling, virtually any type of pipe can be connected to any other type of pipe. Rather than servicing specific materials, the UTCs service a range of outside pipe diameters, regardless of the piping material. The wide tolerance range allows seven couplings to cover pipe sizes from 1/2" to 2". Versatility coupled with simple slide-and-tighten installation make the Philmac UTC the practical choice.

ADVANTAGES

- ✓ Universal transition couplings are the ideal solution for connecting a wide variety of pipes.
- ✓ One coupling connects copper, galvanized iron, PVC, lead and even PE and PEX.
- ✓ Wide tolerance range allows seven couplings to cover pipe sizes from 1/2" to 2".
- ✓ Easy to fit "Slide & Tighten" technology.
- ✓ Couplings are end-load resistant with no restraint needed to prevent pipe pull-out.

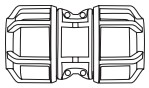
Sizing Chart

Pipe Material Standard	A 0.59" - 0.83" 15 - 21 mm	B 0.83" - 1.06" 21 - 27 mm	C 1.06" - 1.34" 27 - 34 mm	D 1.34" - 1.54" 34 - 39 mm	E 1.54" - 1.69" 39 - 43 mm	F 1.85" - 1.93" 47 - 49 mm	G 2.32" - 2.40" 59 - 61 mm
	Nominal Pipe Size (inches)						
PE CTS OD / PEX	1/2	3/4	1	1-1/4	1-1/2	–	–
PE IPS OD	–	1/2	3/4	1	1-1/4	1-1/2	2
PE SIDR 7 Series 100	–	1/2	3/4	1	–	–	–
PE SIDR 9	1/2	3/4	1	–	–	–	–
PE SIDR 11	–	3/4	1	–	1-1/4	1-1/2	–
PE Series 75	1/2	3/4	1	–	1-1/4	–	–
Copper	1/2	3/4	1	1 -1/4	1-1/2	–	–
PVC	–	1/2 or 3/4	1	–	1-1/4	–	2
Galvanized Iron	–	1/2 or 3/4	1	–	1-1/4	–	2
Lead - Strong	–	5/8	3/4	1	–	–	–
Lead - Extra Strong	–	1/2	5/8 or 3/4	1	–	–	–
Lead - Double Extra Strong	–	1/2	3/4	–	1	–	–

* If 3/4" XXS Lead Pipe OD is larger than 1.34", the pipe needs to be shaved if using a Size C UTC fitting. Otherwise, a size D UTC Coupling can be used when OD is larger than 1.34".

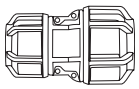
PRODUCT SELECTION CHART – CTSOD FITTINGS

Couplings Compression x Compression



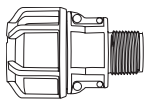
Dimension inches	Dimension mm	Product Code
3/4	20	258000
1	20	258001
1-1/4 x 1-1/4	30 x 30	258002
1-1/2	35	258003
2	50	258004

Reducing Couplings Compression x Compression



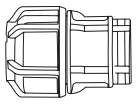
Dimension inches	Dimension mm	Product Code
1 x 3/4	25 x 20	258005
1-1/4 x 1	30 x 25	258131

Male Adapters Compression x MIPT



Dimension inches	Dimension mm	Product Code
3/4 x 1/2	20 x 15	258006
3/4	20	258007
1 x 1/2	25 x 15	258008
1 x 3/4	25 x 20	258009
1	25	258010
1-1/4 x 3/4	30 x 20	258011
1-1/4 x 1	30 x 25	258012
1-1/4	30	258013
1-1/2 x 1	35 x 25	258014
1-1/2 x 1-1/4	35 x 30	258015
1-1/2	35	258016
2 x 1-1/2	50 x 35	258017
2	50	258018

Female Adapters Compression x FIPT

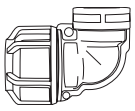


Dimension inches	Dimension mm	Product Code
3/4 x 1/2	20 x 15	258019
3/4	20	258020
1 x 3/4	25 x 20	258021
1	25	258022
1-1/4 x 1	30 x 25	258023
1-1/4	30	258024
1-1/2 x 1-1/4	35 x 30	258025
1-1/2	35	258026
2 x 1-1/2	50 x 35	258027
2	50	258028

Elbow Compression x Compression

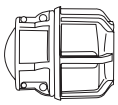
Dimension inches	Dimension mm	Product Code
3/4	20	258029
1	25	258030
1-1/4	30	258031
1-1/2	35	258032
2	50	258033

Elbow Compression x FIPT



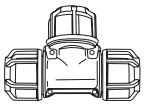
Dimension inches	Dimension mm	Product Code
3/4	20	258034
1 x 3/4	25 x 20	258035
1	25	258036
1-1/4 x 1	30 x 25	258037
1-1/4	30	258038
1-1/2 x 1-1/4	35 x 30	258039
1-1/2	35	258040

End Caps Compression



Dimension inches	Dimension mm	Product Code
3/4	20	258151
1	25	258152
1-1/4	30	258153
1-1/2	35	258154

Tee Compression



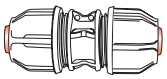
Dimension inches	Dimension mm	Product Code
3/4	20	258042
1	25	258043
1-1/4	30	258044
1-1/2	35	258045

Tee Compression x Compression x FIPT

Dimension inches	Dimension mm	Product Code
3/4	20	258047
1 x 3/4	25 x 20	258048
1	25	258049
1-1/4 x 3/4	30 x 20	258050
1-1/4 x 1	30 x 25	258051
1-1/4	30	258052
1-1/2 x 3/4	35 x 20	258053
1-1/2 x 1-1/4	35 x 30	258054
1-1/2	35	258055

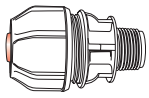
PRODUCT SELECTION CHART – ID SERIES FITTINGS

Couplings Compression x Compression



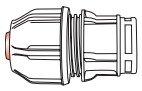
Dimension inches	Dimension mm	Product Code
1/2	15	258059
3/4 x 1/2	20 x 15	258065
3/4	20	258060
1	25	258061
1-1/4	30	258062
1-1/2	35	258063
2	50	258064

Male Adapters Compression x MIPT



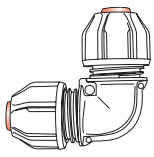
Dimension inches	Dimension mm	Product Code
1/2	15	258066
1/2 x 3/4	15 x 20	258067
3/4 x 1/2	20 x 15	258068
3/4	20	258069
3/4 x 1	20 x 25	258070
1 x 3/4	25 x 20	258071
1	25	258072
1 x 1-1/4	25 x 30	258073
1-1/4 x 1	30 x 25	258074
1-1/4	30	258075
1-1/4 x 1-1/2	30 x 35	258076
1-1/2	35	258077
1-1/2 x 2	35 x 50	258078
2	50	258079

Female Adapters Compression x FIPT



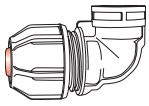
Dimension inches	Dimension mm	Product Code
1/2	15	258080
1/2 x 3/4	15 x 20	258081
3/4	20	258082
3/4 x 1	20 x 25	258083
1	25	258084
1 x 1-1/4	25 x 30	258085
1-1/4	30	258086
1-1/4 x 1-1/2	30 x 35	258087
1-1/2	35	258088
1-1/2 x 2	35 x 50	258089
2	50	258090

Elbow Compression x Compression



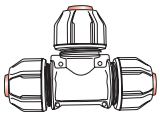
Dimension inches	Dimension mm	Product Code
1/2	15	258091
3/4	20	258092
1	25	258093
1-1/4	30	258094
1-1/2	35	258095
2	50	258096

Elbow Compression x FIPT



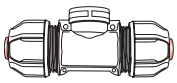
Dimension inches	Dimension mm	Product Code
1/2 x 3/4	15 x 20	258097
3/4	20	258098
3/4 x 1	20 x 25	258099
1	25	258100
1 x 1-1/4	25 x 30	258101
1-1/4	30	258130

Tee Compression



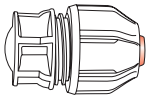
Dimension inches	Dimension mm	Product Code
1/2	15	258102
3/4	20	258103
1	25	258104
1-1/4	30	258105
1-1/2	35	258106

Tee Compression x Compression x FIPT



Dimension inches	Dimension mm	Product Code
3/4	20	258107
1 x 1/2	25 x 15	258108
1	25	258109
1-1/4 x 1/2	30 x 15	258110
1-1/4 x 3/4	30 x 20	258111
1-1/4 x 1-1/2	30 x 35	258112
1-1/2 x 2	35 x 50	258113

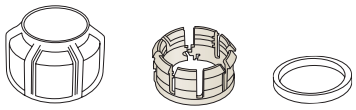
End Caps Compression



Dimension inches	Dimension mm	Product Code
1/2	15	258114
3/4	20	258115
1	25	258116
1-1/4	30	258117
1-1/2	35	258118
2	50	258183

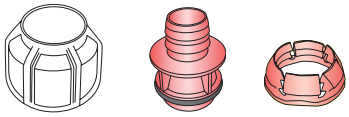
PRODUCT SELECTION CHART – ADAPTER KITS

CTS Adapter Kit (Includes Gold Collet, CTS Nut, CTS Seal)



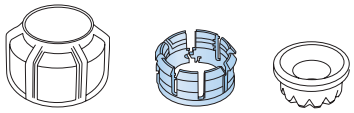
Dimension (inches)	Dimension (mm)	Product Code
3/4	20	258132
1	25	258133
1-1/4	30	258134
1-1/2	35	258135

ID Series Adapter Kit (Includes Red Collet, Red Insert, ID Series Nut, ID Series Seal)



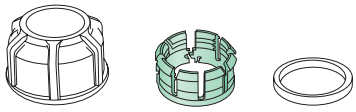
Dimension (inches)	Dimension (mm)	Product Code
1/2	15	258137
3/4	20	258138
1	25	258139
1-1/4	30	258140
1-1/2	35	258141
2	50	258142

Q-Line Adapter Kit (Includes Blue Collet, Q-Line Nut, Q-Line Seal)



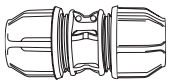
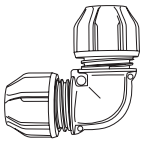
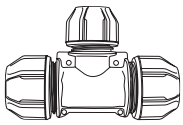
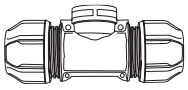
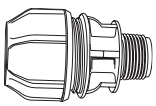
Dimension (inches)	Dimension (mm)	Product Code
1/2	15	258122
3/4	20	258123
1	25	258124

IPS OD Adapter Kit (Includes Green Collet, IPS Nut, IPS Seal)



Dimension (inches)	Dimension (mm)	Product Code
3/4	20	258125
1	25	258126
1-1/4	30	258127
1-1/2	35	258128
2	50	258129

PRODUCT SELECTION CHART – UNIVERSAL TRANSITION COUPLINGS (UTC) & FITTINGS

	Dimension mm	Product Code
Coupling UTC x UTC		
	15 - 21 x 15 - 21	255208
	21 - 27 x 21 - 27	255209
	27 - 34 x 27 - 34	255210
	34 - 39 x 34 - 39	255946
	39 - 43 x 39 - 43	255211
	47 - 49 x 47 - 49	255947
	59 - 61 x 59 - 61	255948
Reducing Coupling UTC x UTC		
	21 - 27 x 15 - 21	255212
	27 - 34 x 15 - 21	255214
	27 - 34 x 21 - 27	255213
	34 - 39 x 27 - 34	255197
	39 - 43 x 27 - 34	255215
Elbow UTC x UTC		
	15 - 21 x 15 - 21	255156
	21 - 27 x 21 - 27	255157
Tee UTC x UTC x UTC		
	15 - 21 x 15 - 21 x 15 - 21	255158
Tee UTC x UTC x FIPT		
	15 - 21 x 3/4 FIPT	255159
	21 - 27 x 3/4 FIPT	255167
Adapter UTC x MIPT		
	15 - 21 x 3/4 MIPT	255169
	21 - 27 x 3/4 MIPT	255344
	27 - 34 x 3/4 MIPT	255345
	27 - 34 x 1 MIPT	255196

With a long-proven track record for reliable, watertight performance underground, IPEX offers the widest range of industrial and domestic, sanitary and storm water sewage conveyance systems available on the market today. Third-party certified to applicable industry standards, all of our state-of-the-art PVC gravity sewer systems are engineered and manufactured to virtually eliminate the leakage and infiltration common with traditional materials like concrete.

SEWER PIPING SYSTEMS




GASKETED SEWER PIPING SYSTEMS

Ring-Tite
4" - 60" (100mm - 1500mm)

Enviro-Tite
4" - 15" (100mm - 375mm)

Ring-Tite® Enviro-Tite®

Ring-Tite and Enviro-Tite piping systems are DR35 and DR28 sewer pipes manufactured to demanding ASTM and CSA standards. The two products are identical except for Enviro-Tite having a minimum recycled material content of 50%. Both products have tight joints that can withstand well in excess of both the ASTM and CSA requirements.

APPLICATIONS

- Gravity Flow Sanitary Sewers
- Storm Sewers
- Sewer Laterals
- Industrial Effluent Lines

STANDARDS

RING-TITE

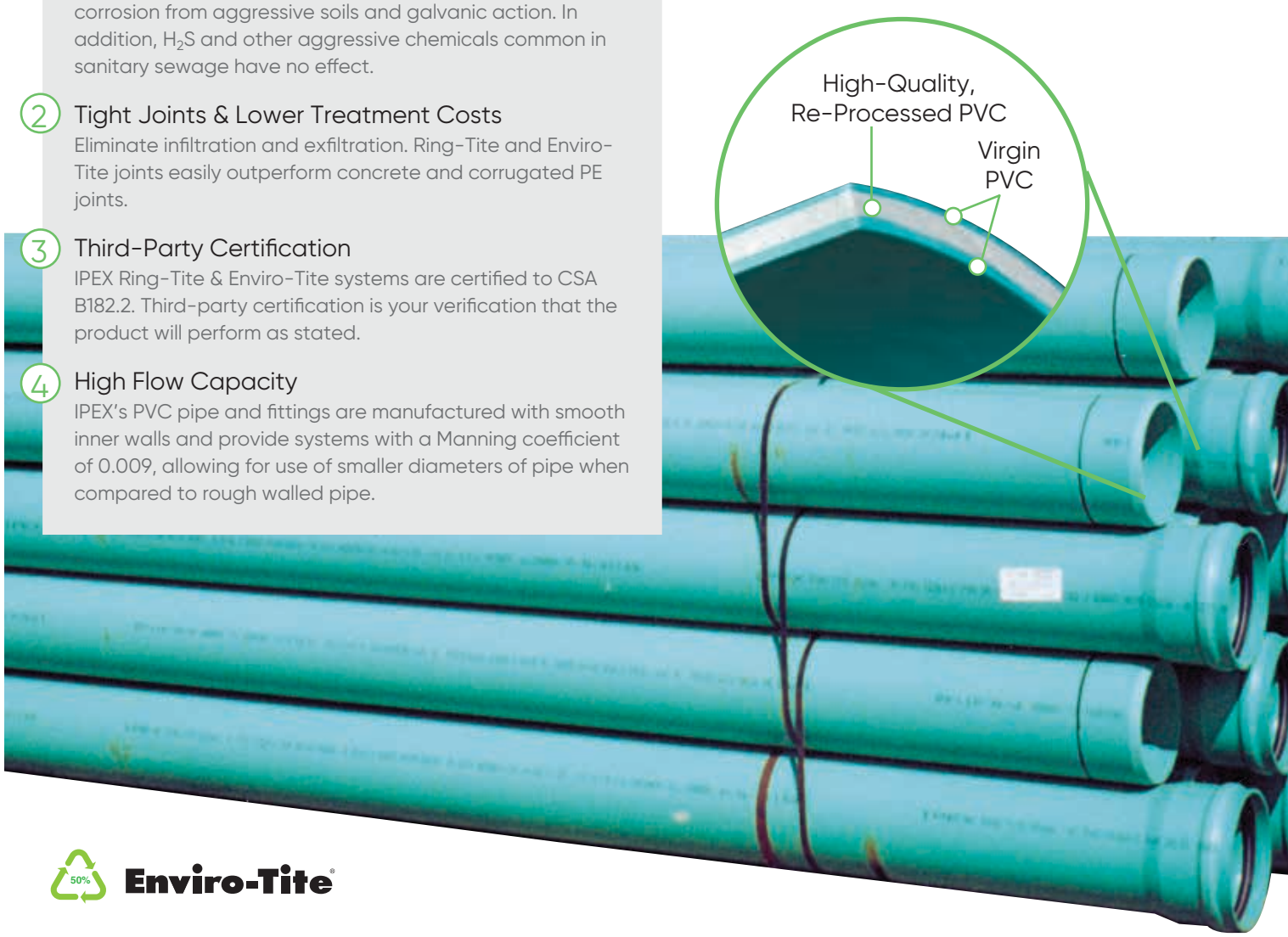
B182.2 | 3624-130/135 | D3034 & F679

ENVIRO-TITE

B182.2 | 3624-130/135 | F1760

ADVANTAGES

1. **Corrosion-proof Performance**
   IPEX Ring-Tite and Enviro-Tite systems are immune to corrosion from aggressive soils and galvanic action. In addition, H_2S and other aggressive chemicals common in sanitary sewage have no effect.
2. **Tight Joints & Lower Treatment Costs**
   Eliminate infiltration and exfiltration. Ring-Tite and Enviro-Tite joints easily outperform concrete and corrugated PE joints.
3. **Third-Party Certification**
   IPEX Ring-Tite & Enviro-Tite systems are certified to CSA B182.2. Third-party certification is your verification that the product will perform as stated.
4. **High Flow Capacity**
   IPEX's PVC pipe and fittings are manufactured with smooth inner walls and provide systems with a Manning coefficient of 0.009, allowing for use of smaller diameters of pipe when compared to rough walled pipe.



50% Enviro-Tite®

SHORT FORM SPECIFICATIONS

GENERAL

Main line sewers will be PVC DR35 sewer pipe and shall be in compliance with ASTM D3034 or ASTM F1760 and third-party certified to CSA B182.2. Sewer laterals will be PVC DR28 sewer pipe and shall be third-party certified by CSA as above.

JOINTS

Sealing gaskets must meet the requirements of ASTM D3034 or ASTM F1760 or CSA B182.2. In addition, the pipe joints must be able to withstand a minimum hydrostatic pressure of 50 psi (345 kPa) without leakage.

PIPE STIFFNESS

The minimum ring stiffness shall be 46 psi (320 kPa) for DR35 pipe and 90 psi (625 kPa) for DR 28. This stiffness will be determined using the test methods prescribed by ASTM D3034 and ASTM F1760.

FITTINGS

Injection-moulded gasketed PVC fittings shall meet the requirements of ASTM D3034 and ASTM F1336 and shall be certified to CSA B182.1 or CSA B182.2. Fabricated fittings must conform to ASTM F1336 and CSA B182.2.

DIMENSIONS

	Nominal Size		Average I.D.		Min Wall Thickness		Average O.D.	
	in	mm	in	mm	in	mm	in	mm
DR35								
	4	100	3.97	100.94	0.12	3.06	4.21	107.06
	5	135	5.32	135.08	0.16	4.09	5.64	143.26
	6	150	5.92	150.29	0.18	4.55	6.28	159.39
	8	200	7.92	201.16	0.24	6.10	8.40	213.36
	10	250	9.90	251.46	0.30	7.62	10.50	266.70
	12	300	11.79	299.36	0.36	9.07	12.50	317.50
	15	375	14.43	366.42	0.44	11.10	15.30	388.62
	18	450	17.63	447.87	0.53	13.57	18.70	475.01
	21	525	20.79	527.99	0.63	16.00	22.05	559.99
	24	600	23.39	594.00	0.71	18.00	24.80	630.00
	27	675	26.36	669.42	0.80	20.29	27.95	710.00
	30	750	30.17	766.36	0.91	23.22	32.00	812.80
	36	900	36.11	917.22	1.09	27.79	38.30	972.80
	42	1050	41.95	1065.72	1.27	32.29	44.50	1130.30
	48	1200	47.89	1216.56	1.45	36.87	50.79	1290.30
	54	1350	54.27	1378.49	1.64	41.77	57.55	1462.00
	60	1500	58.08	1475.48	1.76	44.71	61.61	1564.90
DR28								
	4	100	3.91	99.42	0.15	3.82	4.21	107.06
	5	135	5.24	133.02	0.20	5.12	5.64	143.26
	6	150	5.83	148.01	0.22	5.69	6.28	159.39

PRODUCTION SELECTION CHART

Ring-Tite PVC Gravity Sewer Pipe DR28

	Dimension inches	Dimension mm	Product Code
Green	4	100	042074
	5	135	042075
	6	150	042076
White	4	100	042164
	5	135	042078
	6	150	042166

Ring-Tite PVC Gravity Sewer Pipe DR35

	Dimension inches	Dimension mm	Product Code
Green	4	100	039204
	5	135	039150
	6	150	039206
	8	200	041148
	10	250	041149
	12	300	041412
	15	375	041152
	18	450	041448
	21	525	041449
	24	600	041450
	27	675	041451
	30	750	041459
	36	900	041453
	42	1050	041481
	48	1200	041038
	54	1350	041040
	60	1500	041039

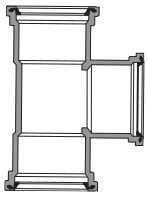
Enviro-Tite PVC Sewer Pipe DR28

	Dimension inches	Dimension mm	Product Code
Green	4	100	042036
	5	135	042037
	6	150	042038
White	4	100	042114
	5	135	042115
	6	150	042116

Enviro-Tite PVC Sewer Pipe DR35

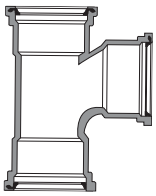
	Dimension inches	Dimension mm	Product Code
Green	4	100	039207
	5	135	039208
	6	150	039209
	8	200	041850
	10	250	041851
	12	300	041852
	15	375	041855

Tee G x G x G



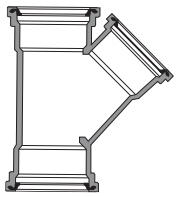
Dimension inches	Dimension mm	Product Code
4	100	043104
5	135	043443
6 x 4	150 x 100	043105
6	150	043106
8 x 4	200 x 100	043094
8 x 5	200 x 135	043095
8 x 6	200 x 150	043096
8	200	043098
10 x 4	250 x 100	043102
10 x 5	250 x 135	043085
10 x 6	250 x 150	043099
10 x 8	250 x 200	043108
10	250	043089
12 x 4	300 x 100	043091
12 x 5	300 x 135	043109
12 x 6	300 x 150	043103
12 x 8	300 x 200	043100
12 x 10	300 x 250	043078
12	300	043101
15 x 4	375 x 100	043092
15 x 5	375 x 135	043246
15 x 6	375 x 150	043110
15 x 8	375 x 200	043111
15 x 10	375 x 250	043112
15 x 12	375 x 300	043113
15	375	043107
18 x 4	450 x 100	043912
18 x 6	450 x 150	043114
18 x 8	450 x 200	043891
18 x 10	450 x 250	043911
18 x 12	450 x 300	043910
18 x 15	450 x 375	043347
18	450	043444
21 x 4	525 x 100	043004
21 x 6	525 x 150	043115
21 x 8	525 x 200	043908
21 x 10	525 x 250	043907
21 x 12	525 x 300	043889
21 x 15	525 x 375	*
21 x 18	525 x 450	043349
21	525	043906
24 x 4	600 x 100	043809
24 x 6	600 x 150	043351
24 x 8	600 x 200	043905
24 x 10	600 x 250	043353
24 x 12	600 x 300	043359
24 x 15	600 x 375	043037
24 x 18	600 x 450	043045
24 x 21	600 x 525	043354
24	600	043044
27 x 4	675 x 100	*
27 x 6	675 x 150	043888
27 x 8	675 x 200	*
27 x 10	675 x 250	043360
27 x 12	675 x 300	*
27 x 15	675 x 375	*
27 x 18	675 x 450	*
27 x 21	675 x 525	*
27 x 24	675 x 600	*
27	675	*

Tee Wye G x G x G



Dimension		Product Code
inches	mm	
4	100	043156
6 x 4	150 x 100	043158
6	150	043449
8 x 4	200 x 100	043159
8 x 6	200 x 150	043160
8	200	043450
10 x 4	250 x 100	043693
10 x 6	250 x 150	043451
10 x 8	250 x 200	043452
12 x 4	300 x 100	043453
12 x 6	300 x 150	043454
12 x 8	300 x 200	043455
15 x 4	375 x 100	043456
15 x 6	375 x 150	043457
15 x 8	375 x 200	043458
18 x 4	450 x 100	043999
18 x 6	450 x 150	043459
18 x 8	450 x 200	043460
21 x 4	525 x 100	*
21 x 6	525 x 150	043116
21 x 8	525 x 200	*
24 x 4	600 x 100	043046
24 x 6	600 x 150	*
24 x 8	600 x 200	*
27 x 4	675 x 100	*
27 x 6	675 x 150	*

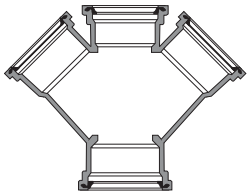
45° Wye G x G x G



Dimension		Product Code
inches	mm	
4	100	043304
5 x 4	135 x 100	043303
5	135	043305
6 x 4	150 x 100	043307
6	150	043306
8 x 4	200 x 100	043294
8 x 6	200 x 150	043296
8	200	043298
10 x 4	250 x 100	043311
10 x 6	250 x 150	043312
10 x 8	250 x 200	043313
10	250	043308
12 x 4	300 x 100	043319
12 x 6	300 x 150	043276
12 x 8	300 x 200	043314
12 x 10	300 x 250	043315
12	300	043309
15 x 4	375 x 100	043320
15 x 6	375 x 150	043153
15 x 8	375 x 200	043316
15 x 10	375 x 250	143317
15 x 12	375 x 300	143318
15	375	143310
18 x 4	450 x 100	143904
18 x 6	450 x 150	143903
18 x 8	450 x 200	043902
18 x 10	450 x 250	043362
18 x 12	450 x 300	043363
18 x 15	450 x 375	043901
18	450	043900
21 x 4	525 x 100	043899
21 x 6	525 x 150	043898
21 x 8	525 x 200	043897
21 x 10	525 x 250	043896
21 x 12	525 x 300	043895
21 x 15	525 x 375	043894
21 x 18	525 x 450	043893
21	525	043467
24 x 4	600 x 100	043488
24 x 6	600 x 150	043364
24 x 8	600 x 200	043799
24 x 10	600 x 250	043892
24 x 12	600 x 300	043042
24 x 15	600 x 375	043554
24 x 18	600 x 450	043041
24 x 21	600 x 525	*
24	600	043040
27 x 4	675 x 100	043551
27 x 6	675 x 150	043787
27 x 8	675 x 200	043549
27 x 10	675 x 250	043890
27 x 12	675 x 300	*
27 x 15	675 x 375	*
27 x 18	675 x 450	*
27 x 21	675 x 525	*
27 x 24	675 x 600	*
27	675	*

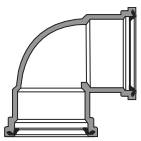
PRODUCTION SELECTION CHART

Double 45° Wye G x G x G x G



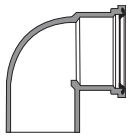
Dimension inches	Dimension mm	Product Code
6 x 4	150 x 100	043254
6	150	043255
8 x 4	200 x 100	043258
8 x 6	200 x 150	043469
8	200	043260
10 x 4	250 x 100	*
10 x 6	250 x 150	043251
12 x 4	300 x 100	*
12 x 6	300 x 150	043259
12 x 8	300 x 200	043248
15 x 4	375 x 100	*
15 x 6	375 x 150	*
15 x 8	375 x 200	*
15 x 10	375 x 250	*
15 x 12	375 x 300	*
18 x 4	450 x 100	*
18 x 6	450 x 150	*
18 x 8	450 x 200	*
18 x 10	450 x 250	*
18 x 12	450 x 300	*
18 x 15	450 x 375	*

90° Elbow G x G



Dimension inches	Dimension mm	Product Code
4	100	043214
6	150	043216
8	200	043217
10	250	043218
12	300	043219
15	375	043220
18	450	043239
21	525	043955
24	600	043989
27	675	043204

90° Elbow Sp x G

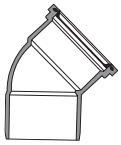


Dimension inches	Dimension mm	Product Code
4	100	043234
6	150	043236
8	200	043238
10	250	043205
12	300	043206
15	375	043221
18	450	043948
21	525	043945
24	600	043942
27	675	*

45° Elbow G x G

Dimension inches	Dimension mm	Product Code
4	100	043504
5	135	043505
6	150	043506
8	200	043507
10	250	043508
12	300	043509
15	375	143515
18	450	043971
21	525	043957
24	600	043953
27	675	043516

45° Elbow Sp x G

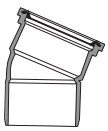


Dimension inches	Dimension mm	Product Code
4	100	043404
5	135	043405
6	150	043406
8	200	043407
10	250	043411
12	300	043412
15	375	143951
18	450	043203
21	525	043946
24	600	043943
27	675	*

22-1/2° Elbow G x G

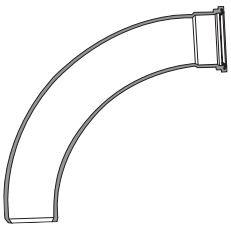
Dimension inches	Dimension mm	Product Code
4	100	043964
5	135	043968
6	150	043969
8	200	043963
10	250	043966
12	300	043965
15	375	043967
18	450	043174
21	525	043958
24	600	043954
27	675	043808

22-1/2° Elbow Sp x G



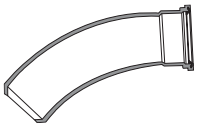
Dimension inches	Dimension mm	Product Code
4	100	043977
5	135	043976
6	150	043975
8	200	043972
10	250	043973
12	300	043974
15	375	043952
18	450	043949
21	525	043947
24	600	043944
27	675	043199

45° Long Radius Bend Sp x G



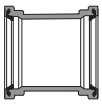
Dimension inches	Dimension mm	Product Code
4	100	043143
5	135	043365
6	150	043166
8	200	043144
10	250	043151
12	300	043152

22-1/2° Long Radius Bend Sp x G



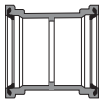
Dimension inches	Dimension mm	Product Code
4	100	043172
5	135	043366
6	150	043922
8	200	043139
10	250	043140
12	300	043141

Repair Coupling G x G (w/o pipe stop)



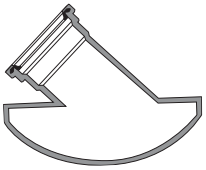
Dimension inches	Dimension mm	Product Code
4	100	043624
5	135	043625
6	150	043626
8	200	043627
10	250	043630
12	300	143631
15	375	043637
18	450	043941
21	525	043938
24	600	043937
27	675	043670

Coupling G x G (with stop)



Dimension inches	Dimension mm	Product Code
4	100	043640
5	135	043641
6	150	043643
8	200	043644
10	250	043645
12	300	043632
15	375	043638
18	450	043935
21	525	043934
24	600	043933
27	675	043940

Saddle Wye (c/w 2 straps)

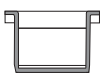


Dimension inches	Dimension mm	Product Code
6 x 4	150 x 100	043594
8 x 4	200 x 100	043595
8 x 6	200 x 150	043598
10 x 4	250 x 100	043599
10 x 6	250 x 150	043596
12 x 4	300 x 100	043600
12 x 6	300 x 150	043597
15 x 4	375 x 100	043603
15 x 6	375 x 150	043602
18 x 4	450 x 100	043440
18 x 6	450 x 150	043441
21 x 4	525 x 100	043442
21 x 6	525 x 150	*
24 x 4	600 x 100	*
24 x 6	600 x 150	043584
27 x 4	675 x 100	*
27 x 6	675 x 150	*

Saddle Tee (c/w 2 straps)

Dimension inches	Dimension mm	Product Code
6 x 4	150 x 100	043125
8 x 4	200 x 100	043124
8 x 6	200 x 150	043126
10 x 4	250 x 100	043127
10 x 6	250 x 150	043129
12 x 4	300 x 100	043130
12 x 6	300 x 150	043132
15 x 4	375 x 100	043133
15 x 6	375 x 150	043135
18 x 4	450 x 100	043429
18 x 6	450 x 150	043431
21 x 4	525 x 100	043432
21 x 6	525 x 150	043433
24 x 4	600 x 100	043434
24 x 6	600 x 150	043585
27 x 4	675 x 100	043703
27 x 6	675 x 150	043477

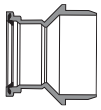
Spigot Plug



Dimension inches	Dimension mm	Product Code
4	100	043734
5	135	043735
6	150	043736
8	200	043738
10	250	043740
12	300	043741
15	375	043742
18	450	043743
21	525	043744
24	600	043745
27	675	043751

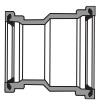
PRODUCTION SELECTION CHART

Increaser SP x G



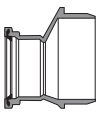
Dimension inches	Dimension mm	Product Code
5 x 4	135 x 100	043729
6 x 4	150 x 100	043939
8 x 4	200 x 100	043621
8 x 6	200 x 150	043620
10 x 4	250 x 100	043368
10 x 6	250 x 150	043618
10 x 8	250 x 200	043622
12 x 6	300 x 150	043617
12 x 8	300 x 200	043616
12 x 10	300 x 250	043623
15 x 4	375 x 100	043369
15 x 6	375 x 150	043300
15 x 8	375 x 200	043370
15 x 10	375 x 250	043371
15 x 12	375 x 300	043615
18 x 8	450 x 200	043538
18 x 10	450 x 250	043678
18 x 12	450 x 300	043629
18 x 15	450 x 375	043539
21 x 12	525 x 300	*
21 x 15	525 x 375	043288
21 x 18	525 x 450	043673
24 x 12	600 x 300	043047
24 x 15	600 x 375	043048
24 x 18	600 x 450	043674
24 x 21	600 x 525	043675
27 x 12	675 x 300	043679
27 x 15	675 x 375	*
27 x 18	675 x 450	043289
27 x 21	675 x 525	043676
27 x 24	675 x 600	043677

Increaser Coupling G x G



Dimension inches	Dimension mm	Product Code
6 x 4	150 x 100	043882
8 x 4	200 x 100	043536
8 x 6	200 x 150	043535
10 x 6	250 x 150	043528
10 x 8	250 x 200	043531
12 x 6	300 x 150	143530
12 x 8	300 x 200	143532
12 x 10	300 x 250	143520
15 x 6	375 x 150	043931
15 x 8	375 x 200	043930
15 x 10	375 x 250	043533
15 x 12	375 x 300	043534
18 x 8	450 x 200	043690
18 x 10	450 x 250	043929
18 x 12	450 x 300	043293
18 x 15	450 x 375	043928
21 x 4	525 x 100	043927
21 x 8	525 x 200	043926
21 x 10	525 x 250	043925
21 x 12	525 x 300	043924
21 x 15	525 x 375	043923
21 x 18	525 x 450	043921
24 x 4	600 x 100	043920
24 x 6	600 x 150	043919
24 x 8	600 x 200	043918
24 x 10	600 x 250	043917
24 x 12	600 x 300	043916
24 x 15	600 x 375	043915
24 x 18	600 x 450	043914
24 x 21	600 x 525	043913
27 x 12	675 x 300	*
27 x 15	675 x 375	*
27 x 18	675 x 450	*
27 x 21	675 x 525	*
27 x 24	675 x 600	*

Eccentric Increaser Sp x G



6 x 4	150 x 100	043237
10 x 4	250 x 100	043268
10 x 5	250 x 135	043655
10 x 6	250 x 150	043269
10 x 8	250 x 200	043270
12 x 4	300 x 100	043271
12 x 5	300 x 135	043656
12 x 6	300 x 150	043272
12 x 8	300 x 200	043273
12 x 10	300 x 250	043274
15 x 4	375 x 100	043275
15 x 6	375 x 150	043277
15 x 8	375 x 200	043278
15 x 10	375 x 250	043279
15 x 12	375 x 300	043280
18 x 4	450 x 100	043281
18 x 6	450 x 150	043282
18 x 8	450 x 200	043230
18 x 10	450 x 250	043512
18 x 12	450 x 300	043283
18 x 15	450 x 375	043284
21 x 15	525 x 375	043285
21 x 18	525 x 450	*
24 x 18	600 x 450	*
24 x 21	600 x 525	*
27 x 21	675 x 525	*
27 x 24	675 x 600	*

Cap

Dimension inches	Dimension mm	Product Code
4	100	043959
5	135	043960
6	150	043988
8	200	043961
10	250	043886
12	300	043987
15	375	043962
18	450	043746
21	525	043747
24	600	043168
27	675	043749

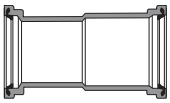
Bell Cleanout Adapter

6	150	043760

Spigot Cleanout Adapter

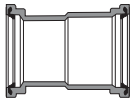
6	150	043750

Adapter Coupling G x G (PVC Sp to ABS)



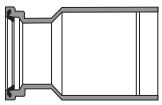
4	100	043712
5 x 4	135 x 100	043711
6 x 4	150 x 100	043713

Adapter Coupling G x G (PVC Sp to AC Sp)



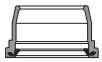
4	100	043720
5 x 4	135 x 100	043642

Clay Tile Adapter Sp x Sp (Clay G to PVC G)



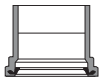
4	100	043169
6	150	043170
8	200	043171

M Adapter Sp x G



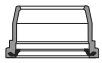
Dimension inches	Dimension mm	Product Code
6	150	081319

Adapter PVC Gasket x PVC Hub (G x Solvent Weld Hub)



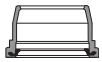
4	100	043858

Bushing Adapter AC Bell x PVC Sp (Sp x G)



4 x 4	100 x 100	043724
8 x 8	200 x 200	043727

Bushing Adapter PVC Bell x AC Sp (Sp x G)

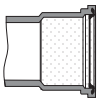


6 x 5	150 x 135	043619

Adapter PVC Bell (off concrete main)

4	100	043770
6	150	043771
8	200	043772

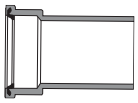
Sanded Manhole Bell (w/o stop)



4	100	043060
5	135	043334
6	150	043061
8	200	043063
10	250	043064
12	300	043065
15	375	043062
18	450	043066
21	525	043067
24	600	043068
27	675	043591

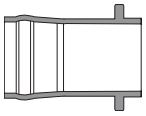
PRODUCTION SELECTION CHART

Manhole Adapter G x SP (24"/600mm long)



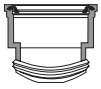
Dimension inches	Dimension mm	Product Code
4	100	043297
5	135	043299
6	150	043301
8	200	043302
10	250	043328
12	300	043329
15	375	043330
18	450	043331
21	525	043548
24	600	043332
27	675	*

Wing Adapter (mortar-on)



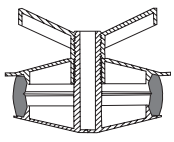
Dimension inches	Dimension mm	Product Code
4	100	043190
5	135	043192
6	150	043191
8	200	043193
10	250	043194
12	300	043195
15	375	043196
18	450	*
21	525	*
24	600	*
27	675	*

Universal Storm Sewer Saddle (c/w Bell & Seating Gasket)



Dimension inches	Dimension mm	Product Code
4	100	082244
5	135	082245
6	150	082246
8	200	082248

Hand Tight Expansion End Plug

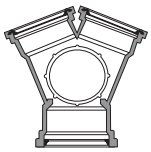


Dimension inches	Dimension mm	Product Code
4	100	043200
5	135	043201
6	150	043202
8	200	043212

Stainless Steel Strap

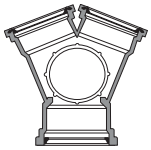
Dimension inches	Dimension mm	Product Code
6	150	043346
8	200	043348
10	250	043350
12	300	043352

Boot Jack - Sanitary



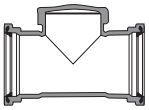
Dimension inches	Dimension mm	Product Code
5x4x4x4 (P)	135x100x100x100 (P)	043705
6x5x5x4 (P)	150x135x135x100 (P)	043706
6x4x4x4 (P)	150x100x100x100 (P)	043707

Boot Jack - Storm



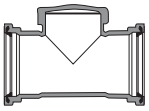
Dimension inches	Dimension mm	Product Code
5x4x4x4 (P)	135x100x100x100 (P)	043715
6x5x5x4 (P)	150x135x135x100 (P)	043716
6x4x4x4 (P)	150x100x100x100 (P)	043717

Test Tee - Sanitary



Dimension inches	Dimension mm	Product Code
4x4x4 (C)	100x100x100 (C)	043646
5x4x4 (C)	135x100x100 (C)	043647
5x5x4 (C)	135x135x100 (C)	043648
6x6x4 (C)	150x150x100 (C)	043649

Test Tee - Storm



Dimension inches	Dimension mm	Product Code
4x4x4 (C)	100x100x100 (C)	043666
5x4x4 (C)	135x100x100 (C)	043667
5x5x4 (C)	135x135x100 (C)	043668
6x6x4 (C)	150x150x100 (C)	043669

(P): Plug (C): Cap

Lubricant

Description Metric	Product Code
1 kg container	074811
4 kg container	074812

InsertaTees (for DR35 PVC Sewer Pipe)

	Dimension inches	Dimension mm	Product Code
	8 x 4	200 x 100	072434
	10 x 4	250 x 100	072440
	10 x 6	250 x 150	072441
	12 x 4	300 x 100	072436
	12 x 6	300 x 150	072437
	12 x 8	300 x 200	072442
	15 x 4	375 x 100	072438
	15 x 6	375 x 150	072443
	15 x 8	375 x 200	072444
	18 x 4	450 x 100	072439
	18 x 6	450 x 150	072445
	18 x 8	450 x 200	072446
	18 x 10	450 x 250	072447
	18 x 12	450 x 300	072448
	21 x 4	525 x 100	072449
	21 x 6	525 x 150	072450
	21 x 8	525 x 200	072451
	21 x 10	525 x 250	072452
	21 x 12	525 x 300	072453
	21 x 15	525 x 375	-
	24 x 4	600 x 100	072583
	24 x 6	600 x 150	072584
	24 x 8	600 x 200	072585
	24 x 10	600 x 250	072586
	24 x 12	600 x 300	072587
	27 x 4	675 x 100	072588
	27 x 6	675 x 150	072589
	27 x 8	675 x 200	072590
	27 x 10	675 x 250	072591
	27 x 12	675 x 300	072592
*	30 x 4	750 x 100	072593
*	30 x 6	750 x 150	072594
*	30 x 8	750 x 200	072595
*	30 x 10	750 x 250	072596
*	30 x 12	750 x 300	072597
**	36 x 4	900 x 100	072598
**	36 x 6	900 x 150	072599
**	36 x 8	900 x 200	072600
**	36 x 10	900 x 250	072601
**	36 x 12	900 x 300	072602

* 30" DR35 32.000" O.D. Pipe w .915 WT Pipe
** 36" DR35 38.300" O.D. Pipe w 1.100 WT Pipe

IPEX OFFERS A 4" x 3" SDR 35 ADAPTER BUSHING

IPEX offers a new adapter bushing to create a transition between a SDR35 Drain Line solvent weld system and a Ring-Tite® gasket system.

Deflection stress on buried piping systems is a common occurrence in construction and can inadvertently place unwanted stress on joints. The new adapter bushing is designed with a 4" long spigot to reduce any chance of the joint pulling apart as a result of deflection stress.

Dimension inches	Product Code
4 x 3 Extended Sp x H	243040

SDR35 Adapter Bushing
(for transition between Solvent Weld & Ring-Tite

ULTRA-RIB PIPING SYSTEMS

8" - 24" (200mm - 600mm)

Ultra-Rib®

IPEX Ultra-Rib® is a gravity flow PVC sewer pipe with concentric reinforcing ribs that encircle the pipe to provide superior ring stiffness and performance. It is an extruded, seamless pipe made from high grade PVC compound.

Ultra-Rib is available in standard sewer sizes from 200mm to 600mm (8" – 24"). Its optimized profile design offers strength and reliability, as well as economy and superior flow rates.

APPLICATIONS

- Sanitary and Storm Sewers
- Industrial Lines
- Highway & Culvert

STANDARDS

ASTM F794

CSA B182.4

DID YOU KNOW?

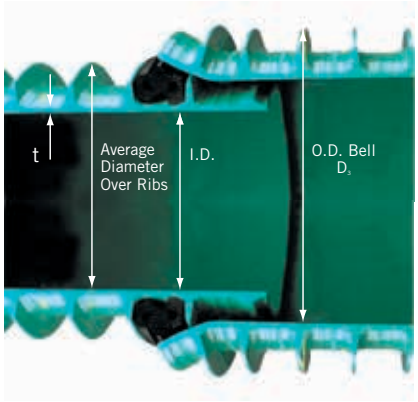
Ultra-Rib's seamless 'Open Profile' wall has the same stiffness as DR35, but with a more efficient use of structural material.

ADVANTAGES

1. **Tight Joints and Lower Treatment Costs**
   Eliminate infiltration and exfiltration. Ultra-Rib's 50 psi capable joints easily outperform concrete and corrugated PE joints.
2. **Superior Flow Characteristics**
   Because of the smooth inside wall of Ultra-Rib, a Manning's number of 0.009 can be used when designing systems using Ultra-Rib pipe. This compares with Manning's numbers of up to 0.023 for other materials like clay or concrete.
3. **Abrasion Resistance**
   Ultra-Rib has been proven to be more abrasion-resistant than other profile pipes, and has out-performed concrete pipe in testing at California State University.
4. **Chemical Resistance**
   PVC is virtually immune to chemical attack from any type of sewage. Hydrogen sulphide attack, which causes millions of dollars of damage to concrete and metal infrastructure, will not affect Ultra-Rib.
5. **Stress Crack Resistance**
   While some HDPE pipes have been found to crack prematurely under load, Ultra-Rib's tough PVC construction and superior formulation has been proven to be immune to these problems.

DIMENSIONS

Pipe Size		Average I.D.		Average Diameter Over Ribs		O.D. at Bell		Waterway Wall t	
in	mm	in	mm	in	mm	in	mm	in	mm
8	200	7.89	200	8.80	224	9.78	248	0.087	2.20
10	250	9.86	251	11.00	280	12.22	311	0.091	2.30
12	300	11.74	298	13.10	333	14.59	371	0.102	2.60
15	375	14.37	365	16.04	408	17.82	453	0.110	2.80
18	450	17.65	448	19.57	497	21.77	553	0.130	3.30
21	525	20.75	527	22.80	579	25.14	638	0.160	4.06
24	600	23.50	597	25.61	650	28.24	717	0.180	4.58



SHORT FORM SPECIFICATIONS

GENERAL
IPEX Ultra-Rib PVC Pipe is available in sizes 200mm, 250mm, 300mm, 375mm, 450mm, 525mm and 600mm (8" - 24").

MATERIAL
Ultra-Rib PVC Pipe shall be made of PVC compound having a cell classification of 12454 as defined in ASTM D1784B.

PRODUCT
The pipe shall be extruded with a smooth interior and with solid reinforcing ribs on the exterior at right angles to the pipe. The space between any two ribs serves as a gasket race.

Ultra-Rib PVC pipe and fittings shall be certified to CSA B182.4 "Profile (Ribbed) PVC Sewer Pipe and Fittings", and shall meet the requirements of ASTM F794 "Standard Specification for Poly (Vinyl Chloride) (PVC) Ribbed Gravity Sanitary Pipe and Fittings Based on Controlled Inside Diameter".

PIPE STIFFNESS
Pipe stiffness must be 320 kPa (46 lbs/in of sample length per inch of deflection) at 5% vertical deflection when tested according to ASTM D2412.

JOINTS
Gaskets for use with Ultra-Rib pipe are manufactured from EPDM and are designed specifically for use with Ultra-Rib pipe.

This unique design is also available in Nitrile.

Sealing gaskets shall meet the requirements of CSA B182.4 and ASTM F477, with the additional requirement that joints shall be able to withstand 345 kPa (50 psi) hydrostatic pressure.

The joint will not leak at 10.8 psi or 25' (74 kPa) or 7.5m) of head with –74 kPa (22") Hg vacuum with spigot under 5% ring deflection and joint at full axial deflection.

MOULDED FITTINGS
Injection-moulded gasketed PVC fittings of ribbed construction shall be certified to CSA B182.1 or CSA B182.2 and used for direct connection to Ultra-Rib pipes in available sizes.

FABRICATED FITTINGS
Fittings fabricated for use with Ultra-Rib pipe shall be certified to CSA B182.4 or ASTM F794 and may include legs of PVC pipe meeting CSA B182.1, B182.2 or ASTM D3034 or F679.

LUBRICANT
Assembly of Ultra-Rib pipe and fittings shall be done in accordance with the manufacturer's directions using only IPEX PVC pipe lubricant. Substitute lubricants shall not be used. IPEX lubricant shall be applied to the inside of the bell to be joined, to a uniform thickness for a distance inside the bell equivalent to three ribs from outside edge.

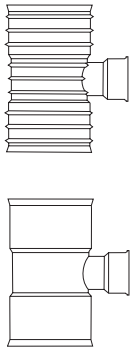
COLOUR CODING
Pipe shall be colour-coded green.

PRODUCTION SELECTION CHART

Ultra-Rib Pipe

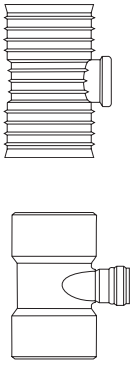
Dimension inches	Dimension mm	Product Code
8	200	086008
10	250	086010
12	300	086012
15	375	086015
18	450	086018
21	525	086021
24	600	086024

Tee B x B x B (Ultra-Rib x Ultra-Rib x Ultra-Rib)



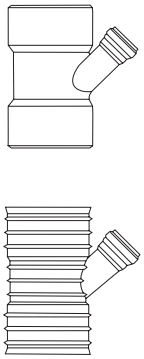
Dimension inches	Dimension mm	Product Code
8	200	087100
10 x 8	250 x 200	087101
10	250	087102
12 x 8	300 x 200	087103
12 x 10	300 x 250	087104
12	300	087105
15 x 8	375 x 200	087106
15 x 10	375 x 250	087107
15 x 12	375 x 300	087108
15	375	087109
18 x 8	450 x 200	087110
18 x 10	450 x 250	087111
18 x 12	450 x 300	087112
18 x 15	450 x 375	087113
18	450	087114
21 x 8	525 x 200	087115
21 x 10	525 x 250	087116
21 x 12	525 x 300	087117
21 x 15	525 x 375	087118
21 x 18	525 x 450	087119
21	525	087120
24 x 8	600 x 200	087121
24 x 10	600 x 250	087720
24 x 12	600 x 300	087123
24 x 15	600 x 375	087124
24 x 18	600 x 450	087125
24 x 21	600 x 525	087126
24	600	087127

Tee B x B x G (Ultra-Rib x Ultra-Rib x DR35 or 28)



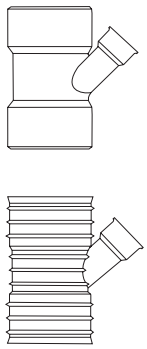
Dimension inches	Dimension mm	Product Code
8 x 4	200 x 100	087150
8 x 5	200 x 135	087151
8 x 6	200 x 150	087152
8	200	087153
10 x 4	250 x 100	087154
10 x 5	250 x 135	087155
10 x 6	250 x 150	087156
10 x 8	250 x 200	087157
12 x 4	300 x 100	087159
12 x 5	300 x 135	087160
12 x 6	300 x 150	087161
12 x 8	300 x 200	087162
12 x 10	300 x 250	087163
12	300	087164
15 x 4	375 x 100	087165
15 x 5	375 x 135	087166
15 x 6	375 x 150	087167
15 x 8	375 x 200	087168
15 x 10	375 x 250	087169
15 x 12	375 x 300	087170
18 x 4	450 x 100	087172
18 x 5	450 x 135	087173
18 x 6	450 x 150	087174
18 x 8	450 x 200	087175
18 x 10	450 x 250	087176
18 x 12	450 x 300	087177
18 x 15	450 x 375	087178
18	450	087179
21 x 4	525 x 100	087180
21 x 5	525 x 135	087181
21 x 6	525 x 150	087182
21 x 8	525 x 200	087183
21 x 10	525 x 250	087184
21 x 12	525 x 300	087185
21 x 15	525 x 375	087186
21 x 18	525 x 450	087187
21	525	087188
24 x 4	600 x 100	087190
24 x 5	600 x 135	087199
24 x 6	600 x 150	087191
24 x 8	600 x 200	087192
24 x 10	600 x 250	087193
24 x 12	600 x 300	087194
24 x 18	600 x 450	087196
24 x 21	600 x 525	087197
24	600	087198

Wye B x B x G (Ultra-Rib x Ultra-Rib x DR35 or 28)



Dimension inches	Dimension mm	Product Code
8 x 4	200 x 100	087250
8 x 5	200 x 135	087251
8 x 6	200 x 150	087252
8	200	087253
10 x 4	250 x 100	087254
10 x 5	250 x 135	087255
10 x 6	250 x 150	087256
10 x 8	250 x 200	087257
10	250	087258
12 x 4	300 x 100	087259
12 x 5	300 x 135	087260
12 x 6	300 x 150	087261
12 x 8	300 x 200	087262
12 x 10	300 x 250	087263
12	300	087264
15 x 4	375 x 100	087265
15 x 5	375 x 135	087266
15 x 6	375 x 150	087267
15 x 8	375 x 200	087268
15 x 10	375 x 250	087269
15 x 12	375 x 300	087270
15	375	087271
18 x 4	450 x 100	087272
18 x 5	450 x 135	087273
18 x 6	450 x 150	087274
18 x 8	450 x 200	087275
18 x 10	450 x 250	087276
18 x 12	450 x 300	087277
18 x 15	450 x 375	087278
18	450	087279
21 x 4	525 x 100	087235
21 x 5	525 x 135	087236
21 x 6	525 x 150	087237
21 x 8	525 x 200	087238
21 x 10	525 x 250	087239
21 x 12	525 x 300	087240
21 x 15	525 x 375	087241
21 x 18	525 x 450	087242
21	525	087243
24 x 4	600 x 100	087360
24 x 5	600 x 135	087359
24 x 6	600 x 150	087361
24 x 8	600 x 200	087362
24 x 10	600 x 250	087363
24 x 12	600 x 300	087364
24 x 15	600 x 375	087365
24 x 18	600 x 450	087366
24 x 21	600 x 525	087367
24	600	087368

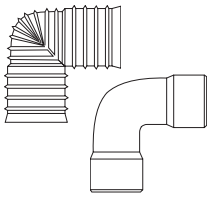
Wye B x B x B (Ultra-Rib x Ultra-Rib x Ultra-Rib)



Dimension inches	Dimension mm	Product Code
8	200	087280
10 x 8	250 x 200	087281
10	250	087282
12 x 8	300 x 200	087283
12 x 10	300 x 250	087284
12	300	087285
15 x 8	375 x 200	087286
15 x 10	375 x 250	087287
15 x 12	375 x 300	087288
15	375	087289
18 x 8	450 x 200	087290
18 x 10	450 x 250	087291
18 x 12	450 x 300	087292
18 x 15	450 x 375	087293
18	450	087294
21 x 8	525 x 200	087295
21 x 10	525 x 250	087296
21 x 12	525 x 300	087297
21 x 15	525 x 375	087298
21 x 18	525 x 450	087299
21	525	087316
24 x 8	600 x 200	087317
24 x 10	600 x 250	087318
24 x 12	600 x 300	087319
24 x 15	600 x 375	087320
24 x 18	600 x 450	087321
24 x 21	600 x 525	087322
24	600	087323

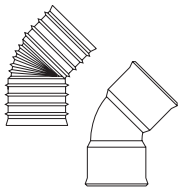
PRODUCTION SELECTION CHART

90° Elbow B x B (Ultra-Rib x Ultra-Rib)



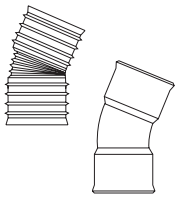
Dimension inches	Dimension mm	Product Code
8	200	087300
10	250	087301
12	300	087302
15	375	087303
18	450	087304
21	525	087305
24	600	087306

45° Elbow B x B (Ultra-Rib x Ultra-Rib)



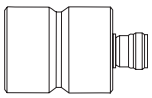
Dimension inches	Dimension mm	Product Code
8	200	087325
10	250	087326
12	300	187327
15	375	087328
18	450	087329
21	525	087330
24	600	087331

22-1/2° Elbow B x B (Ultra-Rib x Ultra-Rib)



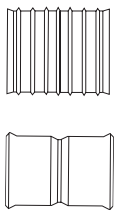
Dimension inches	Dimension mm	Product Code
8	200	087375
10	250	087376
12	300	087377
15	375	087378
18	450	087379
21	525	087380
24	600	087381

Increaser B x G (Ultra-Rib x DR35 or 28)



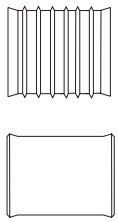
Dimension inches	Dimension mm	Product Code
8 x 4	200 x 100	087400
8 x 5	200 x 135	087401
8 x 6	200 x 150	087402
10 x 4	250 x 100	087403
10 x 5	250 x 135	087404
10 x 6	250 x 150	087405
10 x 8	250 x 200	087406
12 x 4	300 x 100	087407
12 x 5	300 x 135	087408
12 x 6	300 x 150	087409
12 x 8	300 x 200	087410
12 x 10	300 x 250	087411
15 x 4	375 x 100	087412
15 x 5	375 x 135	087413
15 x 6	375 x 150	087414
15 x 8	375 x 200	087415
15 x 10	375 x 250	087416
15 x 12	375 x 300	087417
18 x 4	450 x 100	087418
18 x 5	450 x 135	087419
18 x 6	450 x 150	087420
18 x 8	450 x 200	087421
18 x 10	450 x 250	087422
18 x 12	450 x 300	087423
18 x 15	450 x 375	087424
21 x 4	525 x 100	087482
21 x 6	525 x 150	087483
21 x 8	525 x 200	087484
21 x 10	525 x 250	087485
	525 x 300	087486
21 x 18	525 x 450	087488
24 x 4	600 x 100	087489
24 x 6	600 x 150	087490
24 x 8	600 x 200	087491
24 x 10	600 x 250	087492
24 x 12	600 x 300	087493
24 x 15	600 x 375	087494
24 x 18	600 x 450	087495
24 x 21	600 x 525	087496

Stop Coupling B x B



Dimension inches	Dimension mm	Product Code
8	200	087450
10	250	087451
12	300	087452
15	375	087453
21	525	087455

Repair Coupling B x B

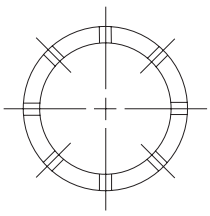


Dimension inches	Dimension mm	Product Code
8	200	087475
10	250	087476
12	300	087477
15	375	087478
18	450	087479
21	525	087480
24	600	087481

Gaskets

Dimension inches	Dimension mm	Product Code
8	200	087808
10	250	087810
12	300	087812
15	375	087915
18	450	087818
21	525	087821
24	600	087824

Standard Perforation Pattern



Hole Size = 9/16" , 14 mm
Minimum Open Area = 10,000 mm² / m
Other perforation types available.

Call your IPEX Inc. representative for details

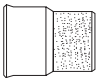
Cap B

Dimension inches	Dimension mm	Product Code
8	200	087500
10	250	087501
12	300	087502
15	375	087503
18	450	087504
21	525	087505
24	600	087506

Plug SP

Dimension inches	Dimension mm	Product Code
8	200	087525
10	250	087526
12	300	087527
15	375	087528
18	450	087529
21	525	087530
24	600	087531

Manhole Adapter (for grout)



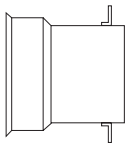
Dimension inches	Dimension mm	Product Code
8	200	087550
10	250	087551
12	300	087552
15	375	087553
18	450	087554
21	525	087555
24	600	087556

Ultra-Rib to DR 35 Adapter

Dimension inches	Dimension mm	Product Code
8	200	087575
10	250	087576
12	300	087577
15	375	087578
18	450	087579
21	525	087580
24	600	087581

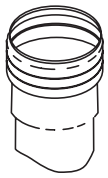
PRODUCTION SELECTION CHART

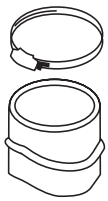
Wing Adapter
(Adapts Ultra-Rib to AC, VCT or concrete Mains)



Dimension inches	Dimension mm	Product Code
8	200	087625
10	250	087626
12	300	087627
15	375	087628
18	450	087629
21	525	087630
24	600	087631

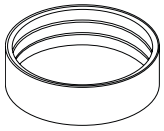
Inserta-Tees





8 x 4	200 x 100	087650
10 x 4	250 x 100	087651
10 x 6	250 x 150	087652
10 x 8	250 x 200	087649
12 x 4	300 x 100	087653
12 x 6	300 x 150	087654
12 x 8	300 x 200	087655
12 x 10	300 x 250	**
15 x 4	375 x 100	087656
15 x 6	375 x 150	087657
15 x 8	375 x 200	087658
15 x 12	375 x 300	087648
18 x 4	450 x 100	087660
18 x 6	450 x 150	087661
18 x 8	450 x 200	087662
18 x 10	450 x 250	087663
18 x 12	450 x 300	087664
18 x 15	450 x 375	Available on Request
21 x 4	525 x 100	087665
21 x 6	525 x 150	087666
21 x 8	525 x 200	087667
21 x 10	525 x 250	087668
21 x 12	525 x 300	087674
21 x 15	525 x 375	Available on Request
24 x 4	600 x 100	087669
24 x 6	600 x 150	087670
24 x 8	600 x 200	087671
24 x 10	600 x 250	087672
24 x 12	600 x 300	087685

Flat Top Manhole Adapter
(For C923 rated rubber boot connectors)



Dimension inches	Dimension mm	Product Code
12	300	087025
15	375	087026
18	450	087027
21	525	087028
24	600	087030

Vortex Flow™
ODOR & CORROSION CONTROL

Looking for a cost-effective **solution** to sewer odor & corrosion?

Product Information & Benefits

CORROSION CONTROL
By oxidizing dissolved H_2S, a Vortex Flow Insert in a municipal sewer drop can significantly reduce concrete and metal corrosion, extending sewer life and saving the municipality money.

CHEMICAL FREE ODOR CONTROL
By increasing dissolved oxygen levels in wastewater and oxidizing sulfides and other odorous compounds, the Vortex Flow Insert eliminates the need for costly chemical injection, high-maintenance biofilters and air scrubbers.

LOW MAINTENANCE
With no moving parts, the Vortex Flow Insert operates virtually maintenance free dramatically reducing maintenance costs of manholes and sewers.

BUILT-TO-SPEC FOR ANY SIZE
Manholes, chambers and pumping stations are built in a variety of sizes. Each Vortex Flow Insert is custom designed based on the peak flow that the unit is required to handle.

Vortex Flow Inserts from IPEX are a proven method for dealing with odor and corrosion in sewer drops. Simple, cost-effective and reliable, Vortex Flow Inserts have been proven to deliver significant cost savings across North America.

Using the wastewater's own flow energy to suppress turbulence, aerate the sewage and oxidize dissolved hydrogen sulfides (H_2S), the Vortex Flow's patented spiral design sucks odorous gases downward towards the bottom of the structure where they are entrained back into the sewage flow.

ULTRA-X2 PIPING SYSTEMS

30" - 36" (750mm - 900mm)

Ultra-X2®

The need for tight joints and reliable structural performance in storm water systems was one of the driving forces in the development of PVC profile pipe. As a result, IPEX's Ultra Rib has become the standard for storm water systems up to 600mm due to its ease of installation, reliable performance and resistance to corrosion and abrasion.

Now IPEX is introducing Ultra-X2: a new dual wall PVC profile pipe that takes the benefits of PVC profile pipe up to 900mm.

APPLICATIONS

- Storm Drainage
- Highway & Culvert
- Sanitary Drainage
- Gravity Industrial Lines

STANDARDS

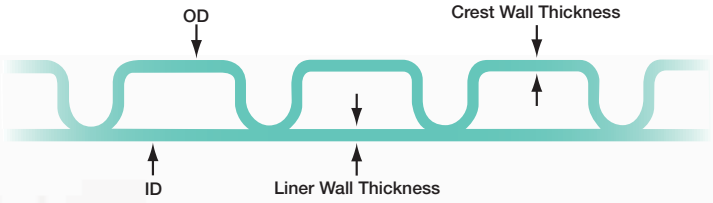
B182.4 F794

ADVANTAGES

1. **Joint Tightness and Infiltration**
   Ultra-X2 has extremely tight joints. Even though it is designed as a non-pressure drainage pipe, its joints can withstand a hydrostatic pressure of 15 psi. This allows it to perform even in the toughest conditions – surcharged sewers or high groundwater conditions.
2. **Ease of Installation**
   Ultra-X2 is tough yet lightweight. The corrugated construction reduces pipe weight while maintaining a 46 psi ring stiffness.
3. **Superior Flow Characteristics**
   Because of the smooth inside wall of Ultra-X2, a Manning's number of 0.009 can be used when designing systems using Ultra-X2 pipe. This compares with a Manning's number of up to 0.023 for other materials like clay or concrete.
4. **Chemical Resistance**
   PVC is virtually immune to chemical attack from any type of sewage. Hydrogen sulfide (H_2S), which causes millions of dollars in damage to concrete and metal infrastructure, will not affect Ultra-X2.
5. **Stress Crack Resistance**
   While some HDPE pipes will have been found to crack prematurely under load, Ultra-X2's tough PVC construction has been proven immune to these problems.

DIMENSIONS

Nominal Pipe Size		OD		ID		Crest Wall Thickness		Liner Wall Thickness		Insertion Force
in	mm	in	mm	in	mm	in	mm	in	mm	lbf
30	750	32.15	816.6	29.50	749.2	0.15	3.7	0.22	5.6	985
36	900	38.76	984.6	35.49	901.4	0.13	3.3	0.18	4.6	1000



SHORT FORM SPECIFICATIONS

GENERAL
IPEX Ultra-X2 PVC Pipe is available in sizes 750mm and 900mm (30" & 36").

MATERIAL
Ultra-X2 PVC Pipe shall be made of PVC compound having a cell classification of 12454 as defined in ASTM D1784.

PRODUCT
Ultra-X2 PVC pipe and fittings shall be certified to CSA B182.4 "Profile PVC Sewer Pipe and Fittings", and shall meet the requirements of ASTM F794 "Standard Specification for Poly (Vinyl chloride) (PVC) Profile Gravity Sanitary Pipe and Fittings Based on Controlled Inside Diameter".

PIPE STIFFNESS
Pipe stiffness must be 320 kPa (46 lbs/in of sample length per inch of deflection) at 5% vertical deflection when tested according to ASTM D2412.

LUBRICANT
Assembly of Ultra-X2 pipe shall be done in accordance with the manufacturer's directions using only IPEX PVC pipe lubricant. Substitute lubricants shall not be used. IPEX lubricant shall be applied to the inside of the bell to be joined, to a uniform thickness for a distance inside the bell equivalent to three corrugated profiles from the outside edge.

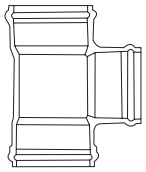
COLOUR CODING
Pipe shall be colour-coded green.

PRODUCTION SELECTION CHART

Ultra-X2 Profile Pipe (320 kPa (46 psi)

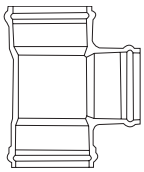
Dimension inches	Dimension mm	Product Code
30	750	186030
36	900	186036

Sewer Tee (Ultra-X2 x Ultra-X2 x Gasketed Sewer HxHxG)



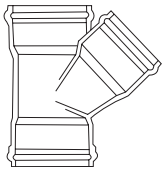
30 x 30 x 4	750 x 750 x 100	187000
30 x 30 x 6	750 x 750 x 150	187001
30 x 30 x 8	750 x 750 x 200	187002
30 x 30 x 10	750 x 750 x 250	187003
30 x 30 x 12	750 x 750 x 300	187004
30 x 30 x 15	750 x 750 x 375	187005
30 x 30 x 18	750 x 750 x 450	187006
30 x 30 x 21	750 x 750 x 525	187007
30 x 30 x 24	750 x 750 x 600	187008
30 x 30 x 30	750 x 750 x 750	187009
36 x 36 x 4	900 x 900 x 100	187032
36 x 36 x 6	900 x 900 x 150	187033
36 x 36 x 8	900 x 900 x 200	187034
36 x 36 x 10	900 x 900 x 250	187035
36 x 36 x 12	900 x 900 x 300	187036
36 x 36 x 15	900 x 900 x 375	187037
36 x 36 x 18	900 x 900 x 450	187038
36 x 36 x 21	900 x 900 x 525	187039
36 x 36 x 24	900 x 900 x 600	187040
36 x 36 x 30	900 x 900 x 750	187041
36 x 36 x 36	900 x 900 x 900	187042

Sewer Tee (Ultra-X2 x Ultra-X2 x Ultra-X2 HxHxH)



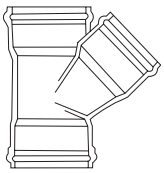
30 x 30 x 8	750 x 750 x 200	187061
30 x 30 x 10	750 x 750 x 250	187062
30 x 30 x 12	750 x 750 x 300	187063
30 x 30 x 15	750 x 750 x 375	187064
30 x 30 x 18	750 x 750 x 450	187065
30 x 30 x 21	750 x 750 x 525	187066
30 x 30 x 24	750 x 750 x 600	187067
30 x 30 x 30	750 x 750 x 750	187068
36 x 36 x 8	900 x 900 x 200	187078
36 x 36 x 10	900 x 900 x 250	187079
36 x 36 x 12	900 x 900 x 300	187080
36 x 36 x 15	900 x 900 x 375	187081
36 x 36 x 18	900 x 900 x 450	187082
36 x 36 x 21	900 x 900 x 525	187083
36 x 36 x 24	900 x 900 x 600	187084
36 x 36 x 30	900 x 900 x 750	187085
36 x 36 x 36	900 x 900 x 900	187086

Sewer Wye (Ultra-X2 x Ultra-X2 x Gasketed Sewer HxHxG)



30 x 30 x 4	750 x 750 x 100	187010
30 x 30 x 6	750 x 750 x 150	187011
30 x 30 x 8	750 x 750 x 200	187012
30 x 30 x 10	750 x 750 x 250	187013
30 x 30 x 12	750 x 750 x 300	187014
30 x 30 x 15	750 x 750 x 375	187015
30 x 30 x 18	750 x 750 x 450	187016
30 x 30 x 21	750 x 750 x 525	187017
30 x 30 x 24	750 x 750 x 600	187018
30 x 30 x 30	750 x 750 x 750	187019
36 x 36 x 4	900 x 900 x 100	187043
36 x 36 x 6	900 x 900 x 150	187044
36 x 36 x 8	900 x 900 x 200	187045
36 x 36 x 12	900 x 900 x 300	187046
36 x 36 x 15	900 x 900 x 375	187047
36 x 36 x 18	900 x 900 x 450	187048

Sewer Wye (Ultra-X2 x Ultra-X2 x Ultra-X2 HxHxH)

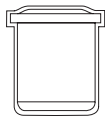


30 x 30 x 8	750 x 750 x 200	187087
30 x 30 x 10	750 x 750 x 250	187088
30 x 30 x 12	750 x 750 x 300	187089
30 x 30 x 15	750 x 750 x 375	187090
30 x 30 x 18	750 x 750 x 450	187091
30 x 30 x 21	750 x 750 x 525	187092
30 x 30 x 24	750 x 750 x 600	187093
30 x 30 x 30	750 x 750 x 750	187094
36 x 36 x 8	900 x 900 x 200	187069
36 x 36 x 10	900 x 900 x 250	187070
36 x 36 x 12	900 x 900 x 300	187071
36 x 36 x 15	900 x 900 x 375	187072
36 x 36 x 18	900 x 900 x 450	187073
36 x 36 x 21	900 x 900 x 525	187074
36 x 36 x 24	900 x 900 x 600	187075
36 x 36 x 30	900 x 900 x 750	187076
36 x 36 x 36	900 x 900 x 900	187077

Ultra-X2 Cap H

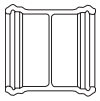
30	750	187020
36	900	187053

Ultra-X2 Plug



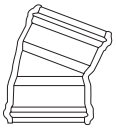
Dimension inches	Dimension mm	Product Code
30	750	187021
36	900	187054

Ultra-X2 Coupling H x H



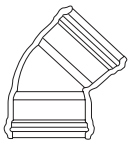
Dimension inches	Dimension mm	Product Code
30 w/o stop	750	187022
36 w/o stop	900	187024
30 w stop	750	187023
36 w stop	900	187025

Ultra-X2 22-1/2° Bends H x H



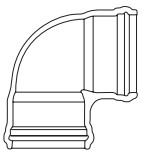
Dimension inches	Dimension mm	Product Code
30	750	187026
36	900	187029

Ultra-X2 45° Bends H x H



Dimension inches	Dimension mm	Product Code
30	750	187027
36	900	187030

Ultra-X2 90° Bends H x H



Dimension inches	Dimension mm	Product Code
30	750	187028
36	900	187031

Ultra-X2 Inserta Tees

Dimension inches	Dimension mm	Product Code
30 x 4	750 x 750 x 100	187055
30 x 6	750 x 750 x 150	187056
30 x 8	750 x 750 x 200	187057
36 x 4	900 x 900 x 100	187058
36 x 6	900 x 900 x 150	187059
36 x 8	900 x 900 x 200	187060

NOVAFORM PVC LINER

For 6" - 30" (150mm - 750mm) diameters

NOVAFORM™

NovaForm™, a PVC-based 'Expand-in-Place' structural liner from IPEX, allows municipalities to repair their failing infrastructure while respecting the environment. With NovaForm, capturing and treating contaminated curing liquid is a thing of the past. As an engineered thermoplastic, NovaForm is installed using steam, and the only jobsite discharge is water.

NovaForm combines long-term strength with flexibility – which allows it to handle some of the most challenging conditions. NovaForm may be suitable for installation depths of up to 30 feet according to the ASTM F1216 calculation for a fully deteriorated host pipe condition.

APPLICATIONS

- Sewer Rehabilitation
- Culvert Rehabilitation

CERTIFICATIONS

NovaForm™ PVC Liner is third party certified to ASTM F1504 standard by CSA and BNQ. The above logos are printed on the NovaForm product.

STANDARDS

D638, D648, D790, D1784, D2122, D2152 D2412, D2444, F1057, F1504, F1947

Presently, the ASTM F1504 standard covers sizes only up to 15". However, our larger sizes comply with the tests and parameters mentioned therein.

ADVANTAGES

1. **Flexible, Durable, Reliable & Cost-Efficient**
   The finished NovaForm PVC Liner product provides the same proven benefits of standard PVC pipe.
2. **Availability**
   From corroded sanitary sewers to deteriorated corrugated steel pipes in need of structural repair, NovaForm PVC Liner is available in sizes 6" – 30".
3. **Trenchless Benefits**
   NovaForm Liner offers many benefits including time savings, less disruption to local businesses and traffic, and potential cost savings.
4. **Factory Made & Quality Controlled**
5. **Smooth Interior Surface**
6. **Excellent Chemical Resistance**
7. **Styrene-Free**

DID YOU KNOW?

Non-corroding and installation-friendly PVC piping systems have become the material of choice for potable water and sewer infrastructure across North America.

Nominal Pipe Size		Maximum Lengths on Different Reel Sizes Tall x Wide (ft)		
in	mm	8′ x 4′	8' x 6'	8' x 8'
6	150	1,350	–	–
8	200	950	–	–
10	250	550	–	–
12	300	420	–	–
15	350	400	660	940
18	450	220	490	780
24	600	150	260	450
30	750	125	190	325

SHORT FORM SPECIFICATIONS

GENERAL
NovaForm PVC Liner is available in sizes 150mm to 750mm (6" – 30").

MATERIAL
The Pipe shall be made from PVC compound meeting all the requirements for cell classification of 12334 as defined in specification ASTM D1784 and with minimum flexural modulus properties, tested as per ASTM Method D790, of 320,000psi (2,200MPa).

PRODUCT
Dimensions: The pipe diameter and wall thickness shall be tested in accordance with ASTM D2122.

Flattening: There shall be no evidence of splitting, cracking or breaking when the rounded pipe is tested according to Section 11.3 of ASTM F1504.

Impact Strength: The impact strength of rounded pipe when tested according to ASTM D2444 shall not be less than the minimum impact strength values found in the standard ASTM F1504.

Stiffness: The pipe stiffness for rounded pipe shall comply with the values found in ASTM F1504 when tested in accordance with ASTM D2412.

EXTRUSION QUALITY
The extrusion quality of the pipe shall be evaluated by the following test methods:

Acetone Immersion: The pipe shall not flake or disintegrate when tested in accordance with ASTM D2152 as referenced in ASTM F1504.

Heat Reversion: The extrusion quality of the pipe shall be estimated by heat reversion method in accordance with ASTM F1057 as referenced in ASTM F1504.

Flexural Properties: The flexural strength and modulus of the pipe shall be tested in accordance with ASTM D790 as referenced in ASTM F1504.

INSTALLATION
The trenchless installation procedure of the liner shall be in accordance with the standard ASTM F1947 and Manufacturer's guidelines.

COLOUR CODING
PVC Liner shall be colour-coded white.

CONTROL BACK-UPS & CSO'S DURING PEAK FLOW EVENTS WITH TEMPEST™ INLET CONTROL DEVICES

TEMPEST LMF

The Tempest LMF system features a vortex inlet design that allows a low flow rate to be set and eliminates the passage of odors and floatables and allows for debris and sediment to collect in the structure.

TEMPEST HF

The standard Tempest HF system allows a near constant discharge rate to be set and eliminates the passage of odors and floatables and allows for debris and sediment to collect in the structure.

TEMPEST MHF

The Tempest MHF is a standard orifice plate device designed to allow a specified flow volume through the outlet pipe at a specified head.

TEMPEST HF SUMP

The Tempest HF SUMP system is designed for catch basins & manholes in which there is no sump or the outlet pipe is too low to install a standard Tempest device.

For unique municipal applications IPEX has developed equally unique solutions. From advanced odour control and improved wastewater quality products such as our Vortex Flow™, Vortex Force™ to Tempest Inlet Control Devices, IPEX has your engineered solution.

SPECIALTY PRODUCTS




PVC MANHOLES & ACCESS CHAMBERS

PVC Manholes:
42" - 48" (1050mm & 1200mm)

Access Chambers:
24" (600mm)

IPEX manholes and access chambers are non-corroding, non-infiltrating manholes and chambers designed to maximize system access while minimizing maintenance requirements. The factory made benching is made of chemical resistant FRP or Polypropylene material, while the barrel and chimney are manufactured from IPEX Centurion™ pipe. The 1050mm and 1200mm (42" and 48") manholes can be equipped with special stainless steel steps, while the 600mm (24") access chamber is designed to allow inspection equipment or flushing equipment easy access to the sewer system. In all cases, the pre-cast concrete base acts as an anchor to prevent flotation and to stabilize the structure. Since the concrete is never in contact with the effluent or the sewer atmosphere, corrosion is eliminated

APPLICATIONS

- Industrial Sewer Systems
- High Water Table Areas
- Aggressive Effluents
- Vacuum Sewer Systems

ACCESS CHAMBERS VS. MANHOLES

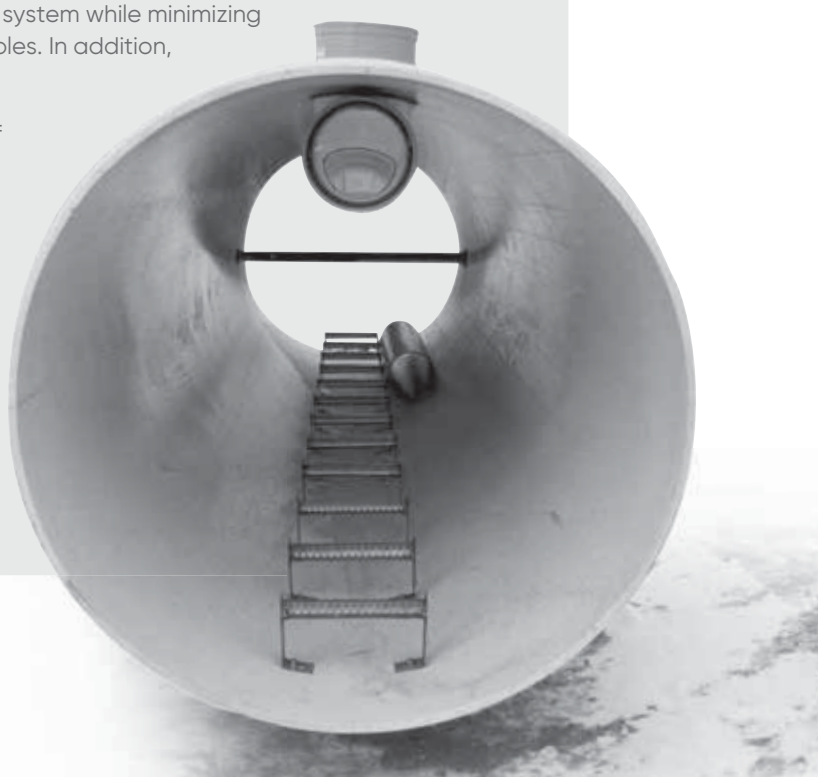
With today's emphasis on occupational health and safety, most municipalities are focused on minimizing the degree of confined space work occurring in their underground systems. This is where access chambers come in.

An access chamber differs from a manhole in that it is too small to allow man entry into a sewer. It is typically from 450mm (18") to 600mm (24") in diameter and is large enough to allow the insertion of cameras or flushing equipment into the system. The major advantage is that they allow improved access to the system while minimizing the maintenance concerns associated with concrete manholes. In addition, they are cost efficient to install.

The best choice for a given system depends on a number of factors, including:

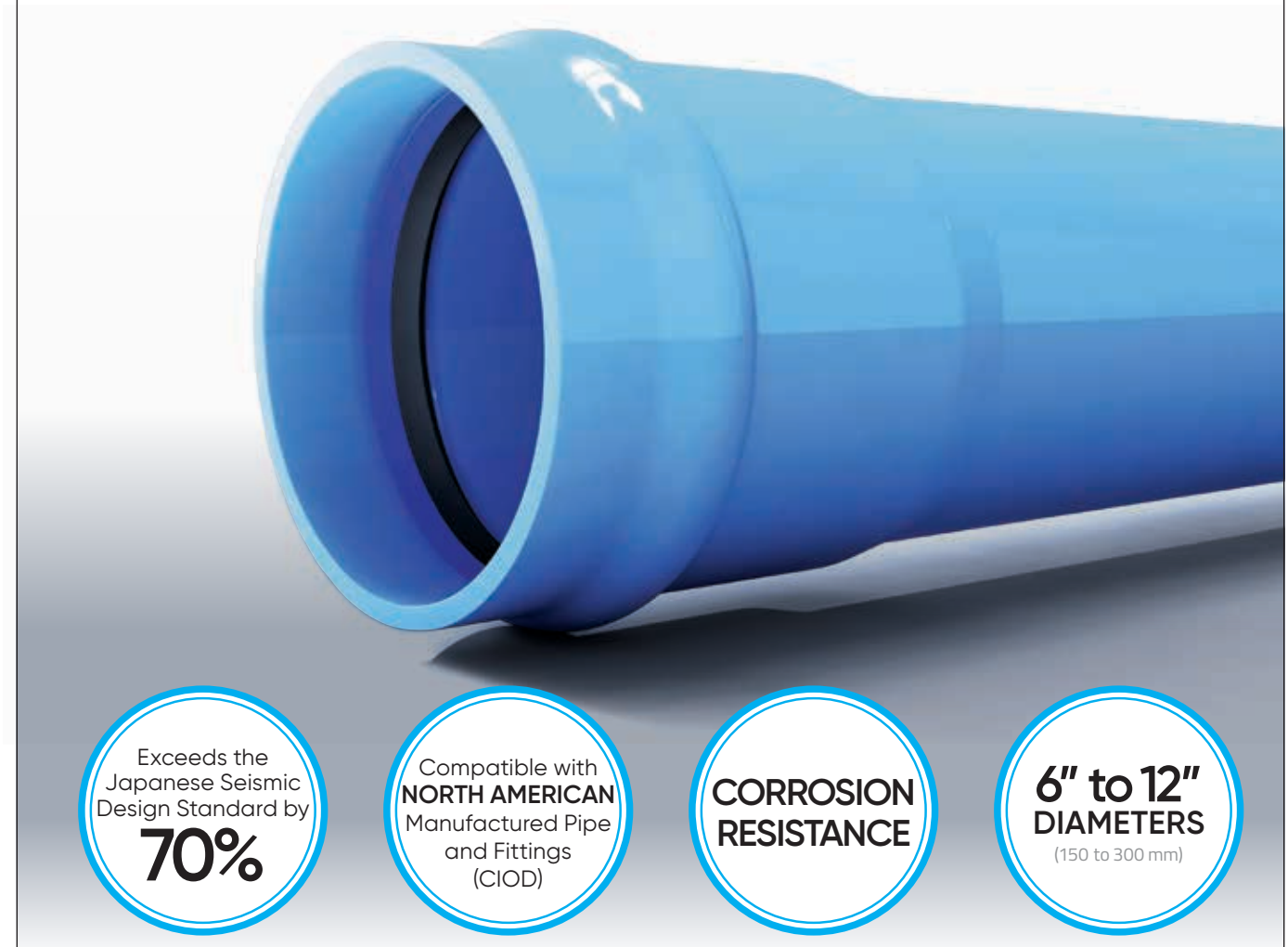
- Degree of man access required
- Size of piping system
- Number of direction changes

Ultimately, a combination of manholes and access chambers can be used for a system, with access chambers used for straight connections and full size manholes for any changes of direction



Introducing BIONAX® SR™

Water Pipe Designed for Seismic Regions



Exceeds the Japanese Seismic Design Standard by **70%**

Compatible with **NORTH AMERICAN** Manufactured Pipe and Fittings (CIOD)

CORROSION RESISTANCE

6" to 12" DIAMETERS (150 to 300 mm)

Bionax SR – Seismic Water Pipe – combines the same strength, toughness and flexibility as standard Bionax PVCO pipe with the enhanced seismic-resistance benefits of an extended bell. The result is a municipal water transmission and distribution system which performs better than any pipe product available today. Bionax SR can improve absorption of lateral ground strain of seismic events and provides other performance benefits including product consistency, industry standard dimensions and corrosion-resistant attributes for North American jobsites.

IPEX by aliaxis | BIONAX® SR™ SEISMIC WATER PIPE

VORTEX FLOW INSERT FOR ODOUR & CORROSION CONTROL

Vortex Flow™

Hydrogen sulfide (H_2S) gas and other odorous gases are a fact of life with sanitary sewer drop structures. When these gases become airborne, they not only generate complaints from the neighbourhood, but also impact air quality and cause corrosion within the sewer system.

The IPEX Vortex Flow Insert (VFI) offers a revolutionary new technology to eliminate odorous emissions and minimize corrosion in vertical sewer drops. With no moving parts and requiring virtually no maintenance, VFIs have delivered significant cost savings in installations across North America.

The patented spiral flow design eliminates odorous and corrosive gases in a unique way by using the wastewater's own flow energy to suppress the turbulence which releases noxious gases. The spiral flow creates a downdraft to trap airborne gases and force air into the sewage flow, oxidizing the odorous gases. By installing a Vortex drop structure, municipalities can save thousands of dollars in monthly chemical feed, air-phase treatment and maintenance costs.

APPLICATIONS

- Manholes, Chambers and Forcemains
- Pumping Station Wet Wells
- Steep Grade Sewers
- Turbine discharges

DID YOU KNOW?

Dr. Eugene Natarius, creator of the Vortex Drop Structure, received a Technical Innovation Award from the American Public Works Association for this revolutionary design.

ADVANTAGES

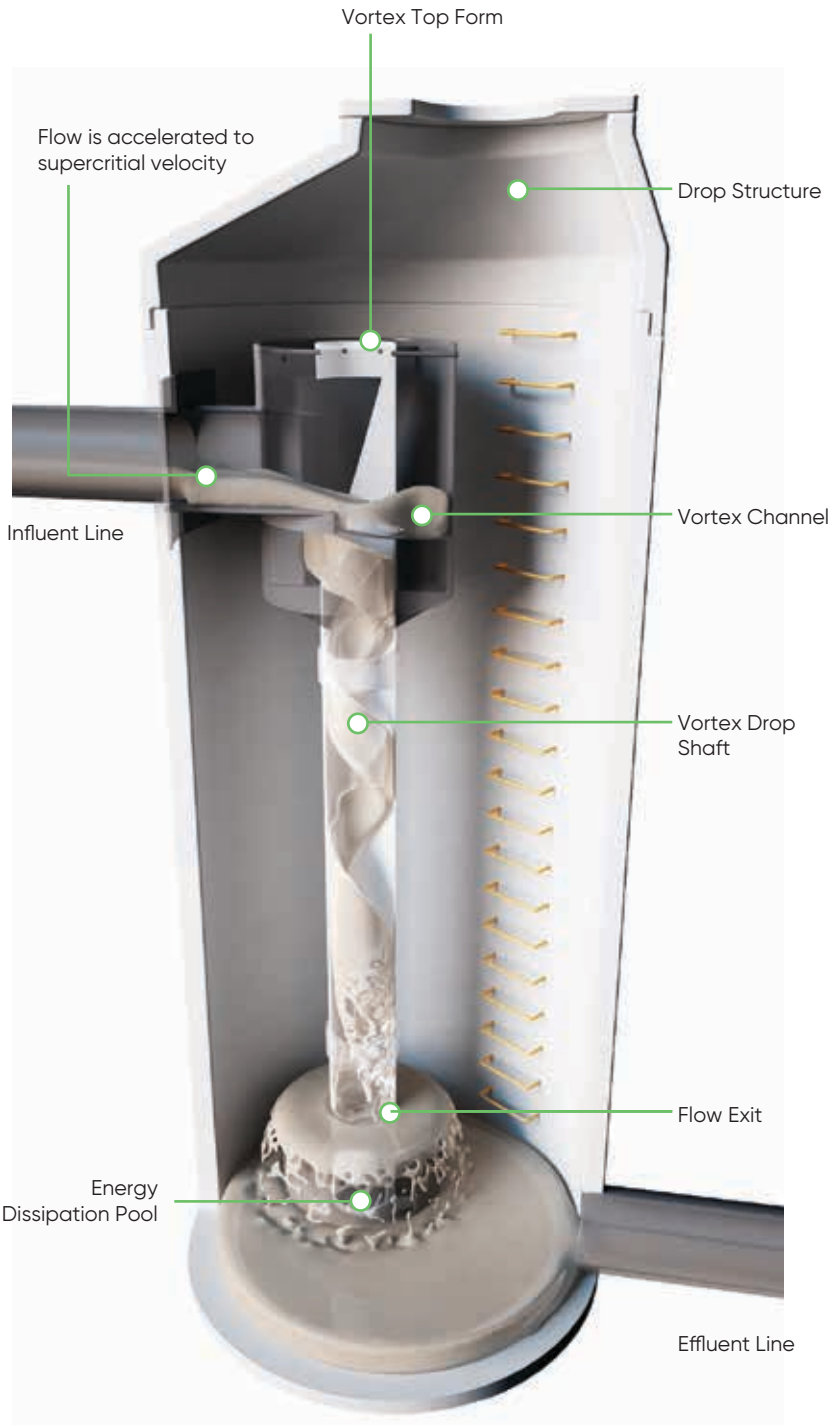
1. **Reduced Corrosion Extends Sewer Life**
   Hydrogen sulfide (H_2S) emissions from forcemain discharges can literally eat through a concrete drop manhole. By oxidizing dissolved H_2S, a Vortex Flow Insert can significantly reduce concrete and metal corrosion, extending sewer life and saving the municipality money.

2. **Eliminates Odour Treatment Costs**
   By increasing dissolved oxygen levels in wastewater and oxidizing sulfides and other odorous compounds, the use of a Vortex Flow Insert in a drop structure eliminates the need for costly chemical injection, high-maintenance biofilters and air scrubbers.

3. **Improves Waste Water Quality**
   Because a Vortex drop structure reduces the odorous and corrosive elements in the flow, a Vortex Flow Insert, installed upstream of a treatment plant, can actually improve wastewater quality prior to treatment, reducing treatment costs at sewage plants.

4. **Reduced Maintenance Costs**
   The use of a Vortex drop structure eliminates the corrosion of concrete and metal sewer components, dramatically reducing municipal maintenance costs of manholes and sewers.

5. **Built-to-Spec for Any Size**
   Manholes, chambers and pumping stations are built in a variety of sizes. For that reason, IPEX custom designs and builds every Vortex Flow Insert based on the peak flow that the unit is required to handle.



To receive a conceptual design for a Vortex Flow Insert, go to **ipexna.com** & complete the design information form

SHORT FORM SPECIFICATIONS

All sanitary sewer drops of five feet or more in manholes or pumping stations shall be equipped with Vortex Flow Drop structures as manufactured by IPEX Inc.

Vortex units must be fabricated using AWWA C900 pipe, as well as PVC sheet conforming to ASTM D1248.

Vortex drop structures must be supplied with shop drawings approved by the Project Engineer, as well as installation instructions. The hydraulic capacity of the unit (both minimum and maximum flows) must be clearly indicated in the submission.

HOW IT WORKS

Wastewater flows into the Vortex Top Form directing the flow around a channel of decreasing radius. At the same time, the Vortex channel slopes downward to accelerate the wastewater to a supercritical velocity.

Once in the smaller Drop Shaft, the velocity and centrifugal forces generated cause the flow to hug the inside walls of the Drop Shaft. This spiraling flow creates a negative air core, drawing airborne gases down to the Energy Dissipation Pool.

The flow exit is submerged in the Energy Dissipation Pool at the bottom of the Vortex. Air and gases drawn down the air core are forced back through the wastewater and re-entrained into the flow. This significantly increases the dissolved oxygen concentration, and the odorous compounds are quickly oxidized.

VORTEX FORCE
ODOUR & CORROSION CONTROL

Vortex FORCE™

Sewage forcemains, wet wells and storage tanks are a constant source of odor complaints. One of the main causes is airborne hydrogen sulfide (H_2S) , which is produced when sewage becomes anaerobic, and turbulent flow releases the noxious gas. This can be an intractable problem requiring the use of expensive chemical feed systems, biofilters and other high maintenance solutions to avoid the inevitable corrosion issues associated with H_2S attack.

The Vortex Force is a specially designed aeration device that draws in and powerfully mixes air into sewage flow, transforming the anaerobic conditions that produce odors and oxidizing the H_2S and other odor producing compounds in the sewage flow. By dramatically increasing the dissolved oxygen (DO) content in the sewage flow, the benefits of the Vortex Force extend for a long distance downstream.

APPLICATIONS

- Sewer Forcemain Discharge
- Sewer Wet Wells & Storage Tanks
- Irrigation Ponds
- Wastewater Treatment Tanks

DID YOU KNOW?

A Vortex Force prototype was installed in a challenging septic tank application in Barriere, British Columbia. Nearby neighbors were constantly complaining about the extreme odor issues and demanded a solution. The Vortex Force was installed to help oxygenate the 37,000 gallons of septic sewage. After only 1 hour of operation, the dissolved oxygen concentration was increased from 0 mg/L to 5 mg/L and eliminated the odors..

ADVANTAGES

1. **Reduced Corrosion Extends Sewer and Wet Well Life**
   Hydrogen sulfide (H_2S) emissions from forcemain discharges can literally eat through a concrete drop manhole. By oxidizing dissolved H_2S, a Vortex Force Insert in a municipal sewer drop can significantly reduce concrete and metal corrosion, extending sewer life and saving the municipality money.
2. **Reduces Odour Treatment Costs**
   By increasing dissolved oxygen levels in wastewater and oxidizing sulfides and other odorous compounds, the use of a Vortex Force in a drop structure or wet well reduces the need for costly chemical injection, high-maintenance biofilters and air scrubbers.
3. **Improves Waste Water Quality**
   Because a Vortex drop structure reduces the odorous and corrosive elements in the flow, a Vortex Force Insert, installed upstream of a treatment plant, can actually improve wastewater quality prior to treatment, reducing treatment costs at sewage plants.
4. **Reduced Maintenance Costs**
   The Vortex Force virtually eliminates the corrosion of concrete and metal sewer components, dramatically reducing municipal maintenance costs of manholes, sewers and pumping stations.

EASILY CONNECTS IN 4 SIZES

The Vortex Force easily connects to your system using simple flanges and supports. It is available in small, medium, large and extra large sizes covering a wide range of flows from 125 GPM to 6,000 GPM. The compact design can effectively aerate flows with at least a three foot drop.

Sizes	Inlet Diameter	Flow Rate (GPM)	Product Code
Extra Small	2"	10 – 65	113089
Small	4"	125 – 350	113085
Medium	8"	350 – 800	113088
Large	12"	800 – 2,100	113086
Extra Large	20"	2,100 – 5,500	113087

HOW IT WORKS

VORTEX TOP FORM

The incoming flow is split into two streams, each being directed into a vortex channel. The upper vortex directs the flow in a clockwise direction while the lower vortex is counter-clockwise.

VORTEX DROP SHAFT

The two flows intersect at the drop pipe, creating an area of intense turbulence and mixing where air is drawn in to the device. The turbulence breaks up the air into extremely small bubbles, thus maximizing the surface area of the air in contact with the water, allowing oxygen to quickly diffuse into the flow.

ENERGY DISSIPATION POOL

The flow is then discharged to the energy dissipation pool where any air not dissolved into the flow is allowed to bubble out of the flow, and the energy of the discharge is dissipated.

LifeSaver® MANHOLE & CATCHBASIN ADJUSTMENT UNITS

LifeSaver®

Lifesavers are high impact HDPE adjustment units designed to bring manhole and catchbasin castings up to the exact height of the asphalt or concrete surface of a roadway. These units cushion the impact loads between the cast iron casting and the concrete manhole or catchbasin structure, while eliminating infiltration and undermining. This extends the life of the surrounding roadway.

APPLICATIONS

- Grade adjustments for manholes, catchbasins as well as electrical, telephone and other utility vaults
- High Traffic Areas

STANDARDS

ASTM D1248

ADVANTAGES

1 No Mortar Required

No more field mixing mortar. Now you can reduce overhead by eliminating your concrete mixer, trailers of sand, mortar mix and water supply – and eliminate inconsistent mixes from batch to batch. And because there's no need to wait for mortar to harden, installations can be backfilled and compacted as soon as the casting is in place.

2 Withstands Excessive Loads

Costly restoration from the settlement and break up of road surfaces around castings and manhole rings is a thing of the past. No more migration of fine soils through deteriorated mortar and concrete rings. Lifesaver rings are designed and tested to withstand loading well in excess of standard H 20 loads.

3 Impervious to Corrosion

The Lifesaver system includes both flat and slope rings to allow precise adjustment to grade. And, unlike concrete, Lifesaver rings are impervious to corrosion from Hydrogen Sulphide gas (H_2S), common in sanitary sewers.

4 Lightweight and Easy to Handle

Unlike heavy concrete sewer components, labour saving Lifesaver manhole rings and catchbasin frames weigh a mere six pounds, so they are extremely easy to carry and handle. What's more, their consistent shape and durable, warp-free construction make installation precisely to grade a snap!

DID YOU KNOW?

HDPE is able to absorb the shock from traffic loads without cracking, and has the structural strength to handle high static loads in excess of 50,000 lbs.

PRODUCT SELECTION CHART

Manhole Adjustment Units

Size	Description	Product Code
24 x 4"	Flat Manhole Adjustment Unit	074140
24 x 2"	Flat Manhole Adjustment Unit	074141
24 x 1-1/2"	Flat Manhole Adjustment Unit	074142
24 x 1-1/4"	Flat Manhole Adjustment Unit	074143
24 x 1-1/2"	Sloped Adjustment Unit	074144
27 x 2"	Flat Manhole Adjustment Unit	074145
27 x 1-1/2"	Flat Manhole Adjustment Unit	074146
27 x 1-1/4"	Flat Manhole Adjustment Unit	074147
27 x 1-1/2"	Sloped Adjustment Units	074148
27 x 4"	Flat Manhole Adjustment Unit	074245
30 x 2-1/4"	Flat Manhole Adjustment Unit	074001
30 x 4"	Flat Manhole Adjustment Unit	074002
30 x 1-1/2"	Sloped Adjustment Unit	074003
30 x 1-1/2"	Flat Manhole Adjustment Unit	074007

Catchbasin Adjustment Units (24" x 24")

	Description	Product Code
3%	Sloped Catchbasin Adjustment Unit	074330
6%	Sloped Catchbasin Adjustment Unit	074157
1-1/2"	Flat Catchbasin Adjustment Unit	074075
2"	Flat Catchbasin Adjustment Unit	074076
2-3/4"	Flat Catchbasin Adjustment Unit	074077

Catchbasin Adjustment Units (24" x 36")

	Description	Product Code
1%	Sloped Catchbasin Adjustment Unit	074997
1-1/2"	Flat Catchbasin Adjustment Unit	074994
2"	Flat Catchbasin Adjustment Unit	074995
2-3/4"	Flat Catchbasin Adjustment Unit	074996

STORM SEWER INLET CONTROLS

TEMPEST™ INLET CONTROL DEVICES

PROBLEM: SURCHARGED SEWER SYSTEMS

During heavy rain events, storm sewers can become overloaded causing sewer backups into residential basements and onto urban environments and streets. These events cause significant environmental and property damage and are all too common in older sections of municipalities where combined, undersized sewer systems often end up discharging a mixture of storm water runoff and sanitary wastewater into homes, streets and lakes when sewer capacities exceed historical norms. Traditional approaches to overcoming these challenges have been expensive, disruptive and time consuming for municipalities and the private sector.

SOLUTION: TEMPEST INLET CONTROL SYSTEMS

- Provides control by restricting flow into the sewer system
- Provides temporary ponding in catch basins, parking lots & roadways
- Helps preserve sewer capacity, slows down the inlet flow
- Reduces residential flooding and flash flooding
- Water surcharge is controlled & directed as per engineer design
- Can accommodate outlet pipes 6" and larger

APPLICATIONS

- Parking Lots
- Roads
- Areas where main line storm sewer capacity must be managed

DID YOU KNOW?

Tempest ICDs have a quick release mechanism that's accessed with a reach bar. The units can then be simply lifted out for easy maintenance. (Excluding Tempest HF Sump)

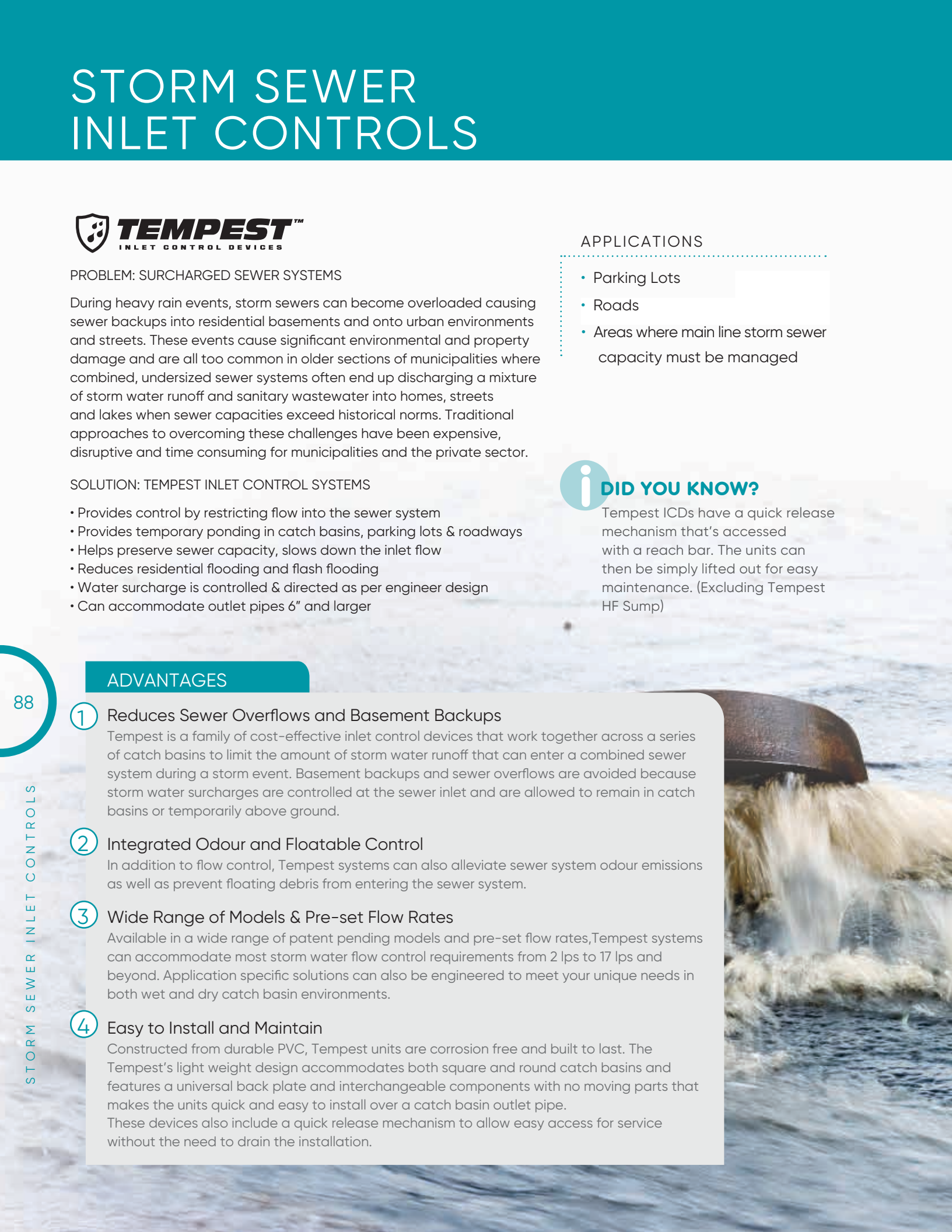
ADVANTAGES

1. **Reduces Sewer Overflows and Basement Backups**
   Tempest is a family of cost-effective inlet control devices that work together across a series of catch basins to limit the amount of storm water runoff that can enter a combined sewer system during a storm event. Basement backups and sewer overflows are avoided because storm water surcharges are controlled at the sewer inlet and are allowed to remain in catch basins or temporarily above ground.

2. **Integrated Odour and Floatable Control**
   In addition to flow control, Tempest systems can also alleviate sewer system odour emissions as well as prevent floating debris from entering the sewer system.

3. **Wide Range of Models & Pre-set Flow Rates**
   Available in a wide range of patent pending models and pre-set flow rates,Tempest systems can accommodate most storm water flow control requirements from 2 lps to 17 lps and beyond. Application specific solutions can also be engineered to meet your unique needs in both wet and dry catch basin environments.

4. **Easy to Install and Maintain**
   Constructed from durable PVC, Tempest units are corrosion free and built to last. The Tempest's light weight design accommodates both square and round catch basins and features a universal back plate and interchangeable components with no moving parts that makes the units quick and easy to install over a catch basin outlet pipe.
   These devices also include a quick release mechanism to allow easy access for service without the need to drain the installation.



THE TEMPEST FAMILY OF SYSTEMS

TEMPEST LMF

Restricts:
✓ Flow
✓ Odours
✓ Floatables

LOW to MODERATE FLOW RATES
2 L/s (32 GPM) – 17 L/s (270 GPM) 14 pre-set flow rates

The Tempest LMF system features a vortex inlet design that allows a low flow rate to be set and eliminates the passage of odours and floatables and allows for debris and sediment to collect in the structure.

TEMPEST HF & HF SUMP

Restricts:
✓ Flow
✓ Odours
✓ Floatables

HIGH FLOW RATES
15 L/s (240 GPM) or greater 5 pre-set flow rates

The standard Tempest HF system allows a near constant discharge rate to be set and eliminates the passage of odours and floatables and allows for debris and sediment to collect in the structure.

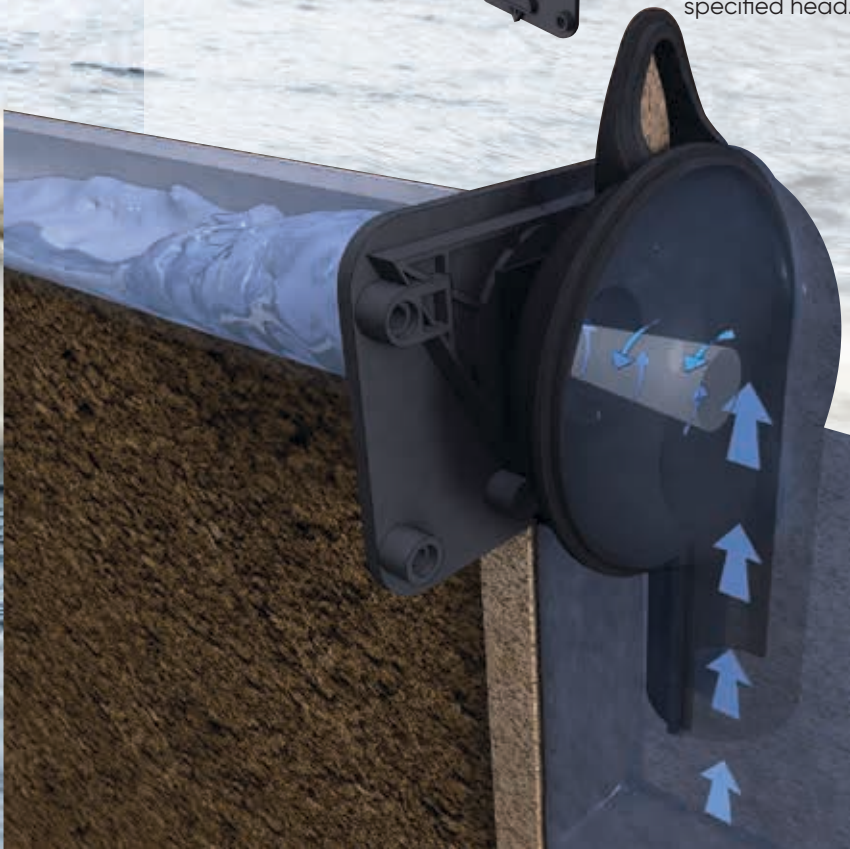
The Tempest HF SUMP system is designed for catch basins & manholes in which there is no sump or the outlet pipe is too low to install a standard Tempest devices.

TEMPEST MHF

Restricts:
✓ Flow

MEDIUM TO HIGH FLOW RATES
9 L/s (143 GPM) or greater Specified pre-set flow rates

The Tempest MHF is a standard orifice plate device designed to allow a specified flow volume through the outlet pipe at a specified head.



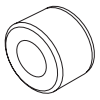
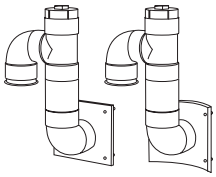
UNIVERSAL BACK PLATES

AVAILABLE FOR BOTH SQUARE AND ROUND CATCH BASINS
(excluding Tempest HF Sump)

For square catch basins

For round catch basins

PRODUCTION SELECTION CHART

	Description
LMF ICD	
 Square Catch Basin Adapter	Low to medium flow Restricts flow to 2 Lps - 17 Lps 14 preset flow rates Floatable and odour control Supplied with neoprene gasket
Round Catch Basin Adapter	
HF ICD and Odour Traps ICD	
 HF Square Catch Basin Adapter	Hi flow Restricts flow to 15 Lps & > 5 preset flow rates Floatable and odour control Supplied with neoprene gasket Option for odour trap only, no flow restriction
HF Round Catch Basin Adapter	
 Odour Trap Square Catch Basin Adapter	
Odour Trap Round Catch Basin Adapter	
MHF Plate ICD	
 Square Catch Basin Adapter	Medium to high flow Restricts flow to 9 Lps and > 5 preset flow rates Supplied with neoprene gasket
Round Catch Basin Adapter	
MHF Plug ICD	
 8″ 10″ 12″	Medium to high flow Restricts flow to 9 Lps and > 5 preset flow rates
HF Sump ICD	
 Square Catch Basin Adapter	High flow Creates a sump Restricts flow to 15 Lps and > 5 preset flow rates Floatable and odour control
Round Catch Basin Adapter	

	Description
TEMPEST Devices	
 Universal Mounting Plate Hub Adapter	If a universal mounting plate already exists in the structure: Choose an ICD device only for a square structure Choose the universal mounting plate hub adapter and ICD device for a round structure
LMF Device	
 HF Device	
 8″ Odour Trap	
 MHF Plate Device	

Please contact your local IPEX representative for sizing of a TEMPEST ICD and a quotation

NOTES: In order to assist in choosing the proper TEMPEST ICD and for proper sizing and a quotation, the following information will be required when contacting IPEX for a TEMPEST ICD:

1. Feature(s) requirement: flow, floatable control, odour control
2. Flow requirement
3. Water height (Head / m)
4. Depth of sump / height of outlet pipe
5. Host pipe material
6. Inside diameter of host pipe
7. Catch basin configuration
8. Catch basin structure dimensions

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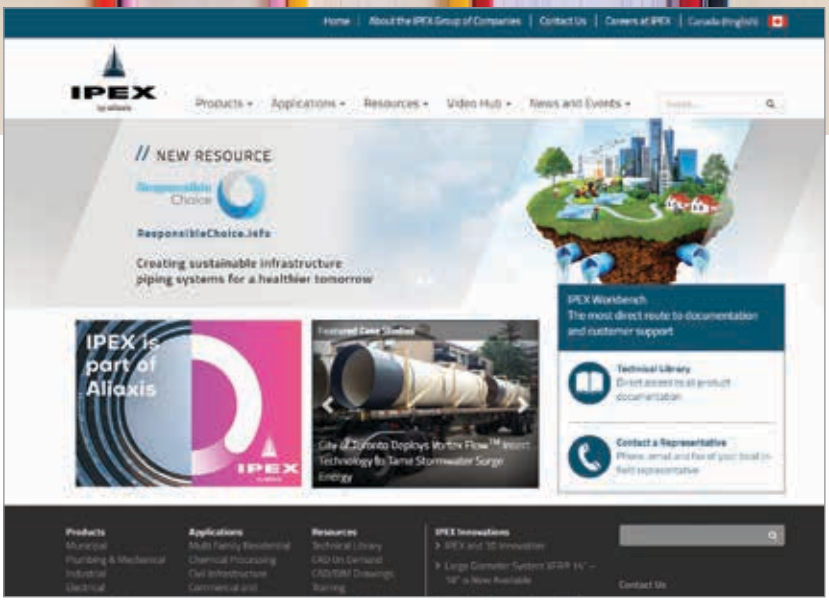

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- Municipal pressure and gravity piping systems
- Plumbing and mechanical piping systems
- Electrofusion systems for gas and water
- Industrial, plumbing and electrical cements
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