

DURAPLUS ABS INDUSTRIAL

3/8" - 12" (10mm - 300mm)

Duraplus™

The Duraplus® Industrial Piping System by IPEX offers a complete range of ABS pressure pipe, valves and fittings that are ideal for demanding applications ranging from abrasive slurries and separation reagents to caustic processes and low temperature glycol systems. These rugged Duraplus components operate over a wide range of temperatures while delivering excellent material properties including:

- Exceptional Toughness
- Non-Toxicity
- Corrosion Resistance

This design and installation manual provides the most up-to-date comprehensive information about IPEX's Duraplus ABS Industrial Piping System. By combining IPEX's laboratory test results with over 50 years of field experience, we have produced a manual suited to engineers, contractors and distributors alike. All aspects of Duraplus are described here – from basic raw material properties through to installation procedures of the finished product.

IPEX offers matched Duraplus pipes, fittings and valves in IPS sizes ranging from 3/8" to 12" nominal diameter, suitable for pressures up to 230 psi at 73°F (23°C) (depending on the size).

DURAPLUS® FEATURES:

- High impact strength
- Outstanding ductility
- Wide chemical resistance
- Competitive installed cost
- Operating range from -40°F to +176°F
- Long term UV resistance
- Multiple proven and easy joining methods


ADVANTAGES

- 1 Lightweight**
Duraplus Industrial ABS material is 1/8 the weight of steel and 1/5 the weight of copper.
- 2 Simple, reliable joining method**
Solvent cemented joints can be made quickly and easily without expensive equipment or certifications. Flanging and threaded joints are also possible.
- 3 Grooved joints**
Allow quick assembly and disassembly, pipe rotation for even wear and cleaning of individual pipe sections.
- 4 Wide range of pressure and temperature capabilities**
Operating pressures from drainage up to 230 psi and temperature range from -40°F to 176° F (-40°C to 80°C) make this product suitable for the harshest environments.
- 5 Lower installation costs**
Duraplus Industrial ABS is less expensive to install because of its simple joining methods – its lightweight and ease of handling.
- 6 Lower maintenance costs**
Duraplus Industrial ABS has excellent chemical resistance, corrosion resistance and impact resistance resulting in a piping system that lasts longer.
- 7 No heat, no sparks, no open flames**
Pipe can be joined to fitting without the necessity of heat.
- 8 Abrasion resistance**
The rubber-like poly-butadiene phase gives Duraplus Industrial ABS exceptionally good abrasion resistance to slurries and other abrasive media.

APPLICATIONS

- **Chilled water / HVAC**
Chilled Water Lines Cooling Tower Pipes
Condensate Drain Lines Humidification Supply Lines
- **Off Shore Applications**
"Mud" Systems Deluge Systems
Topside (low pressure) Operations (Emergency Showers/Eye Baths)
Vacuum Systems (Drill Cuttings Transport) Chilled Water (Air Conditioning)
Deck Wash System – Supply & Drainage Potable Water
Black Water Drainage
Compressed Air
- **Mining**
Slurries Chemical Treatment
Water Lines Tailing Lines
Vent Piping
- **Secondary Loop Refrigeration**
Glycol Chilled Lines

STANDARDS

 The ABS compound used in the manufacturing of Duraplus ABS Industrial Pipe complies with the material requirements of ASTM D3965, "Standard Specification for Rigid Acrylonitrile-Butadiene-Styrene (ABS) Materials for Pipe and Fittings". The ABS material has an IZOD impact resistance of not less than 5ft.lb/in at -22°F per ASTM D256.

i DID YOU KNOW?

Duraplus Industrial ABS is an extremely versatile process piping system that combines ruggedness, chemical resistance, light weight and ease of installation.

The most common applications for Duraplus Industrial ABS utilizes its outstanding impact resistance, ductility and abrasion resistance at both low and high temperatures.

SHORT FORM SPECIFICATIONS

GENERAL

Duraplus ABS is designed for industrial pressure pipe applications where the extremely high-impact resistance and ductility of the material offers some insurance against internal and external shock loadings and site abuse conditions. It's unique combination of ABS properties – non-toxicity, purity, corrosion- and chemical-resistance, toughness, low-hydraulic resistance, and the ability to perform over a wide temperature range (-40°F to +176°F) ensures excellent in-service performance and system life.

MATERIAL SPECIFICATION

Pipe and fittings shall be manufactured from a copolymeric material – Acrylonitrile Butadiene Styrene (ABS) – conforming to a 43232 cell classification in accordance with ASTM D3965.

Material for both pipe and fittings shall have a design stress of not less than 2,000 psi, and shall be designed with a 2 to 1 safety factor for a 50 year lifespan when operated under continuous pressure.

The material shall have an izod impact resistance value of not less than 6 ft./lb. at 73°F and 3 ft./lb. at -22°F, when tested in accordance with ASTM D256, method 'A'.

PIPE

Pipes shall be manufactured by IPEX and designed on a Standard Dimension Ratio (SDR) basis to give various pressure ratings as described below:

Pipe Class	SDR	Continuous Pressure Rating at 73°F (23°C)	Size Range
Class 90 psi	SDR 24.0	90 psi (6 bar)	10" & 12"
Class 115 psi	SDR 19.0	115 psi (8 bar)	6" & 8"
Class 145 psi	SDR 15.5	145 psi (10 bar)	1" to 8"
Class 180 psi	SDR 12.5	180 psi (12 bar)	1" to 6"
Class 230 psi	SDR 10.0	230 psi (16 bar)	3/8" to 4"

FITTINGS

Fittings shall be of the socket type, designed for solvent welding as supplied by IPEX.

Fittings shall be designed and manufactured so that they withstand the continuous pressures applicable to the maximum pressure native of the pipe.

SOLVENT CEMENT

All joints shall be made with Gray Duraplus ABS solvent cement as supplied by IPEX.

The solvent cement shall be designed to withstand continuous applied pressures up to 230 psi at 73°F.

DESIGN AND INSTALLATION

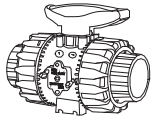
The design and installation of ABS pressure systems shall be performed in accordance with the recommendations detailed in the Handling and Installation section of this manual, local and national regulations where applicable.

To ensure the full integrity of the completed system, all components shall be supplied by IPEX.



Dimension inches	Product Code
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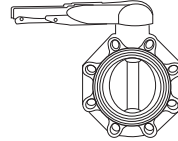
VKD True Union Ball Valve - EPDM Seals Soc



3/8	337801
1/2	337802
3/4	337803
1	337804
1-1/4	337805
1-1/2	337806
2	337807
3	337808
4	337809

Dimension inches	Product Code
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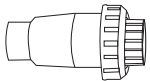
FK, Viton® Seals - Glass filled PP body



2	337656
3	337657
4	337658
6	337659
8	337660

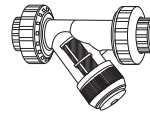
Chemical duty (CD) - incorporating more chemically resistant components, this valve can be used with a wide range of organic or inorganic chemicals even at elevated temperatures.

Single Union Ball Check Valve - EPDM Soc



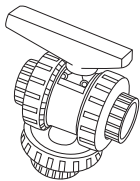
3/8	337727
1/2	337728
3/4	337729
1	337730
1-1/4	337731
1-1/2	337732
2	337733
3	337734

RV Y-Strainer EPDM Seals Soc



1/2	337739
3/4	337740
1	337741
1 1/4	337742
1 1/2	337743
2	337744

L Port Ball Valve - EPDM Soc



**1/2	337720
**3/4	337721
**1	337722
**1 1/4	337723
**1 1/2	337724
**2	337725

** Discontinued when stock is depleted
Note: T Port valves are available upon Request
All Threads are BSP tapered unless otherwise noted

Liquid Quantity	Product Code
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Solvent Cement



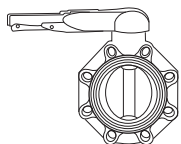
1 pint	337466
1 quart	337467

Solvent Cement



1 pint	337468
1 quart	337469

FK, EPDM Seals - Glass filled PP Body



2	337651
3	337652
4	337653
6	337654
8	337655

General service (GS) - offered primarily for use with water, but suitable for a wide range of diluted chemicals, swimming pools, irrigation, potable water, etc. The GS valve is also suitable for compressed air and gases.

Joints

An indication of the number of joints likely to be made per quart of Duraplus® cement is as follows (it is recommended that MEK Cleaner order equals one-half the quantity of solvent cement required):

Pipe Size inches	Number of Joints
3/8 - 1	290
1-1/4 - 2	144
3	48
4	32
6	16
8	10
10	4
12	4

Only the correct Duraplus® cement will provide a compatible joint. All warranties void if other cement used.



Enviro-Tite®
 4" – 15" (100mm – 375mm)
 SDR35 and SDR28 sewer pipes
 made from 50% recycled material.



Ring-Tite®

4" – 42" (100mm – 1050mm)
 SDR35 and SDR28 sewer pipe and fittings.



**SEWER PIPING
 SYSTEMS**



Perma-Loc™
 21" – 36" (525mm – 900mm)
 Spiral-wound PVC profile sewer
 pipe with fusion welded seams.



Ultra-Rib®
 8" – 24" (200mm – 600mm)
 PVC open-profile
 sewer pipe and fittings.



Ultra-X2®
 30" – 36" (750mm – 900mm)
 Dual wall PVC profile sewer pipe
 and fittings up to 900mm.



LifeSaver®
 High impact HDPE adjustment units
 designed to bring manhole and
 catchbasin castings up to the exact
 height of the roadway, and prevents
 road damage caused by infiltration.



**SPECIALTY
 PRODUCTS**



**TEMPEST® Storm Sewer
 Inlet Controls**
 6" sewer outlet pipe and larger
 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.



Vortex Flow™ Insert
 Custom designed, the Vortex
 Flow Insert eliminates odorous
 emissions and minimizes
 corrosion in vertical sewer drops.

Products manufactured by IPEX Inc.
 Blue Brute®, BIONAX®, IPEX Centurion®, IPEX Fusible™, TerraBrute® CR, Cycle Tough®, Blue904™, O-Line®,
 Gold901™, Philmac® 3G™, Ultra-Rib®, Ultra-X2™, PermaLoc™, Ring-Tite®, Enviro-Tite®, Vortex Flow™, and Life
 Saver® are trademarks of IPEX Branding Inc.

Fusible PVC™ is a trademark of Underground Solutions Inc. used under license.

PLUMBING & MECHANICAL PRODUCT OVERVIEW

POTABLE WATER

AquaRise®

1/2" – 4" (12mm – 100mm)

IPS SDR11 CPVC pipe, valves and fittings for hot and cold water distribution.



Pipe-with-the-Stripe®

1/2" – 2" (12mm – 50mm)

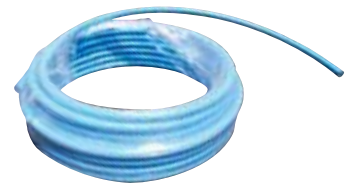
Pipe with the Stripe is available in standard and CSA-certified Polyethylene, with a permanent coloured stripe ID system.



Blue904™

3/4" – 2" (19mm – 50mm)

PEX water service tubing made to CTS OD (SDR 9).



Q-Line®

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

AWWA C903 composite water service tubing.



Philmac® 3G™ Compression Fittings

3/4" – 2" (20mm – 50mm)

Water line compression fittings in CTS OD and ID Series sizes.



System 636® Flue Gas Venting

1-1/2" – 8" (40mm – 200mm)

PVC-FGV Type BH Class II A vent pipe and fittings and CPVC-FGV Type BH Class II B vent.



GAS VENTING

XIRTEC & CORZAN

Xirtec 140® PVC – Corzan® CPVC

1/2" – 24" (12mm – 600mm)

XIRTEC 140®: PVC Schedule 40 & 80 pipe and fittings systems.

CORZAN®: CPVC Schedule 80 pipe and fittings systems cell classification 24448 & 23447

