

# DURAPLUS ABS INDUSTRIAL

3/8" - 12"

## 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 65 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 (depending on the size).

### DURAPLUS® FEATURES:

- High impact strength
- Outstanding ductility
- Wide chemical resistance
- Competitive installed cost
- Operating range from -40°F to +158°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 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

#### • 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".

## 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 +158°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	Equivalent DR	Continuous Pressure Rating at 73°F (23°C)	Size Range
Class B 90 psi	DR 24.0	90 psi	10" & 12"
Class C 145 psi	DR 15.5	145 psi	1" to 8"
Class D 180 psi	DR 12.5	180 psi	1" to 6"
Class E 230 psi	DR 10.0	230 psi	3/8" to 4"
Class T 230 psi		180 psi	3/8" to 2"

### 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.

## 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.



## PRODUCT SELECTION CHART – DURAPLUS

Dimension inches	Significant Number	Product Code
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### Backing Ring – Galv, M.S. Drilled ASA 150



Dimension inches	Significant Number	Product Code
1/2	425102	337426
3/4	425103	337427
1	425104	337428
1-1/4	425105	337429
1-1/2	425106	337430
2	425107	337431
3	425109	337433
4	425110	337434
6	425112	337435
8	425113	337436
10	425114	337437
12	425115	337438

Note: For use with flanges.

### Blind Flange – Drilled ASA 150

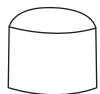


Dimension inches	Significant Number	Product Code
3	325109	337364
4	325110	337365
6	325112	337366
8	325113	337367
10	325114	337368
12	325115	337383

Note: A metal backing ring must be used with this flange.

Undrilled flanges are available at the same price as drilled. Order code 131.

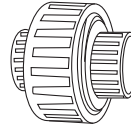
### Cap Soc



Dimension inches	Significant Number	Product Code
3/8	140101	337245
1/2	140102	337246
3/4	140103	337247
1	140104	337248
1-1/4	140105	337249
1-1/2	140106	337250
2	140107	337251
3	140109	337252
4	140110	337253

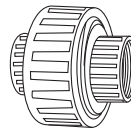
Dimension inches	Significant Number	Product Code
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### Union – EPDM Seal Soc



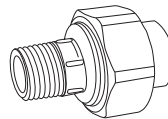
Dimension inches	Significant Number	Product Code
3/8	205101	337270
1/2	205102	337271
3/4	205103	337272
1	205104	337273
1-1/4	205105	337274
1-1/2	205106	337275
2	205107	337276
3	205109	337277
4	205110	337278

### Union ABS Soc x Brass Female Thread



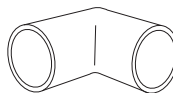
Dimension inches	Significant Number	Product Code
1/2	212102	337280
3/4	212103	337281
1	212104	337282
1-1/4	212105	337000
1-1/2	212106	337283
2	212107	337284

### Transition Union ABS Soc x Brass Male Thread



Dimension inches	Significant Number	Product Code
1/2	217102	337103
3/4	217103	337104
1	214104	337109
1-1/4	217105	337191
1-1/2	217106	337192
2	217107	337193

### 90° Elbow Soc



Dimension inches	Significant Number	Product Code	
3/8	115101	337132	
1/2	115102	337133	
3/4	115103	337134	
1	115104	337135	
1-1/4	115105	337136	
1-1/2	115106	337137	
2	115107	337138	
3	115109	337139	
4	115110	337140	
6	115112	337141	
8	115113	337142	
*	10	115114	337011
*	12	115115	337012

\* Only available in spigot x spigot.

All Threads are BSP tapered unless otherwise noted \*\*\*.

Systems using plastic threaded components are restricted to 180 psi. The use of PTFE sealing tape is recommended.

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