Duraplus™ air-line

Submittal Data Sheet

Job or Customer: .....

Engineer: .....

Contractor: .....

Submitted by: ..... Date

Approved by: ..... Date

Order No: ..... Date

Specification: .....

< APPLICATIONS >

- Plant Air
- Ventilation
- Valve Actuation-Control Systems
- Robotic installations

< STANDARDS >

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4800

COMPANION PRODUCTS

Duratec® AIRLINE SYSTEM

Duraplus™ Air-Line is manufactured from a specially formulated Acrylonitrile Butadiene Styrene (ABS) blend and is designed and engineering for the conveyance of compressed air. Available in 20mm to 110mm sizes. Air-Line is metric sized to prevent mixing with I.P.S. sized PVC and CPVC pipe.

In addition to its high-integrity solvent cement joints, Duraplus™ Air-Line systems include a variety of features that simplify installation and use – such as special metal-to-ABS adapter fittings, single and multi-port wall brackets and blue color coding for easy identification. Available in sizes from 20 mm to 110 mm, pressure rated to 185 psi at 73°F.

From manufacturing to the marketplace, Durplus™ Air-Line is supported by the technical experience gained through over 30 years of thermoplastic pressure pipe production. Both raw material and finished Air-Line products are subjected to rigorous tests, including aging, weathering and stressed environmental tests, to ensure complete system integrity over the designed operating life.

pipe and fitting availability

PIPE AVAILABILITY

Sizes:	20mm, 25mm, 32mm, 50mm, 63mm, 90mm, and 110mm
Configurations:	19ft lengths, 16.4ft lengths

FITTINGS AVAILABILITY

Sizes:	20mm, 25mm, 32mm, 50mm, 63mm, 90mm, and 110mm
Configurations:	Couplers, 45° Elbows, 90° Elbows, Caps, Tees, Reducer Tees, Reducer Bushings, Socket Unions, Reducer Couplings, Female Thread Adapters, Plugs, Blind Flanges, Composite Unions

ACCESSORIES AVAILABILITY

Sizes:	20mm, 25mm, 32mm, 50mm, 63mm, 90mm, and 110mm
Configurations:	Dropper Bends, Cobra Pipe Clips

CEMENTS AND PRIMERS AVAILABILITY

Sizes:	1 pint, and 1 quart
Configurations:	Air-Line Solvent Cement, MEK Cleaner

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AREAS OF USE

Duraplus Air-Line must be used downstream from the receiver or aftercooler only.

Care must be taken to avoid overheating Air-Line. Metal pipe must be used between compressor and receiver and at any other part of a system where conditions exceed those permissible for Air-Line.

Air-Line should not be connected directly to vibrating machinery. Flexible couplings should be incorporated to absorb vibrations.

INSTALLATION PRECAUTIONS

Duraplus Air-Line pipe must not be threaded.

Lubricators must only be installed at the downstream extremities of the system.

Air-Line must not be bent. Standard elbows and molded bends are available throughout the size range.

Certain types of flexible hoses contain plasticizers which are harmful to Air-Line piping. Therefore the suitability of hoses which are to be installed upstream of the Air-Line system must be checked with IPEX prior to installation.

Purge new compressors and ancillary equipment, including new steel piping, prior to connecting to the Air-Line system.

COMPRESSOR OILS

Air-Line is ideally suited to clean air applications.
Where air is not free from oil, IPEX must be consulted prior to installation concerning the suitability of the compressor oils to be used.

Note that synthetic oils are generally not compatible
with Air-Line and must not be used with the system. Certain additive rich mineral oils are also incompatible with the system.

As a safeguard, IPEX has produced oil warning labels for attachment to the compressor. These are available upon request. A reduced copy of the label is shown below.

Storage On-Site

The high-impact strength of the Air-Line system provides some protection against the damage which occurs during handling and storage on site.

However, it is recommended that the following precautions are taken:

1. The storage site should be flat, level and free from sharp stones, etc.
2. Pipe should not be stacked to heights exceeding the following:

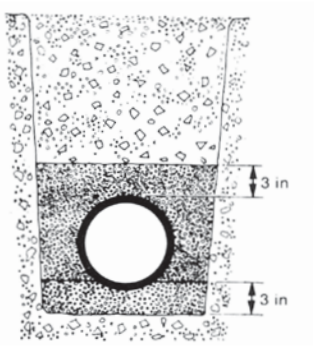
Pipe Size	Max. Stacking Height
Up to 3" (90mm)	20 x pipe size
4" (110mm) & 6" (180mm)	12 x pipe size
8" (220mm)	7 x pipe size
10"	4 x pipe size
12"	4 x pipe size

3. Smaller pipe may be 'nested' inside larger pipe.
4. Side bracing should be provided to prevent stack collapse.
5. Pipe should not be subjected to excessive temperature variation within the stack.
6. Pipe should be protected from the direct sunlight using a tarp or opaque sheet.
7. If temperatures reach above 100°F, proper air flow should be allowed under the tarp.

Buried Pipe

Air-Line is equally suited to above ground and buried use. Recommendations covering essential requirements for large runs below ground may be summarized as follows:

In general, trenches should not be less than 3' (.91m) deep. However, site conditions may permit pipe being laid nearer the surface – IPEX's Customer Service Department should be contacted for detailed advice.



Trenches should be straight-sided and as narrow as possible to allow proper consolidation of packing materials.

Trench bottoms should be as level as possible.

Large pieces of rock, debris and sharp objects should be removed.

Unless the excavation is in ground of natural materials of fine grains, a bed of finely graded pea gravel should be laid (3/8" (10mm), or similar) approximately 3" (76mm) deep on the floor of trench. (Sand may be used but a high water table may wash sand away and leave the pipe unsupported.)

If piping is joined above ground, it should remain undisturbed for 2 hours before being 'snaked' into the trench. Alternatively, the pipe may be joined in the trench.

Particular care should be taken to ensure piping and joining materials are thoroughly dry and that the joining procedure shown in this manual was strictly followed.

Care should be taken to ensure that sharp objects, stones, etc., are prevented from falling into the trench. Backfilling should be carried out between joints using pea gravel, or similar material, to a depth of 3" (76mm) above the pipe and extended sideways to both trench walls.
Joints should be left exposed for pressure testing.

After pressure testing, joints should be covered with pea gravel and backfilling completed.

Because of the condensation which can build up in any compressed air system, drain pits should be constructed at the lowest points of the line so a drain facility can be incorporated.

Installed Exposure to Sunlight

All Air-Line piping installed outside and subject to exposure to sunlight must be painted for protection to retain the full toughness and ductility of the material. This can be achieved as follows:

1. Lightly abrade the pipe and fittings, using medium grade glass paper, to provide a 'key' for the paint to adhere to.
2. Clean the system down with soap and water to remove any residual grease or oil. Do not use solvents or detergents.
3. Select a white, water-based latex paint, preferably one containing titanium dioxide. Do not use cellulose or solvent-based paints.
4. Apply an undercoat followed by a final gloss coat.

Air Testing Procedure

The purpose of a site pressure test is to establish that all joints have been correctly made.

Air test in accordance with the authority having jurisdiction.

The pressure testing procedure detailed below should be strictly followed.

Air Testing Procedure

1. Fully inspect the installed piping for evidence of mechanical abuse and dry or suspect joints.
2. Split the system into convenient test sections not exceeding 1,000ft (305m).
3. Slowly pressurize each section to 15psi (103kPa) and allow the system to equalize for 30 minutes.
4. Check joints for leaks with a Duraplus-approved foaming agent. Never use leak detection sprays such as Snoop. If leaks are detected or the system loses pressure, stop the test immediately and relieve pressure.
5. Any threaded joints found to be leaking should be re-made using Teflon® (PTFE) tape wrapped around the thread. Any defective solvent weld joint should be cut out and replaced. Further tests should be suspended until the joint has fully cured for 24 hours.
6. After successfully pressurizing the system to 15psi (103kPa) for 30 minutes, gradually increase the pressure to 50psi (345kPa) and apply for 30 minutes. If any loss in pressure occurs, immediately suspend the test, release the pressure and correct the leaks as indicated above. Re-pressurize to a maximum of 15psi (103kPa) and test each joint with a soap solution. Continue the test procedure as indicated above.
7. After successfully pressurizing to 50psi (103kPa) for 30 minutes gradually increase the pressure to full working pressure and apply for 1 hour.

If the system loses pressure, immediately suspend the test and release the pressure. Re-pressurize to a maximum 15psi (103kPa) and test each joint with soap solution. Continue the testing procedure as indicated above.

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As leading suppliers of thermoplastic piping systems, the IPEX Group of Companies provides our customers with some of the world's largest and most comprehensive product lines. All IPEX products are backed by more than 50 years of experience. With state-of-the-art manufacturing facilities and distribution centers across North America, we have established a reputation for product innovation, quality, end-user focus and performance.

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

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