



KiTEC



Composite Pipe System

Sets new benchmark for Compressed Air System



**Innovative Compressed Air
and Inert Gas Distribution System**

Rewriting the Standards

Innovative Compressed Air and Inert Gas Distribution System

EXPENSIVE AIR LEAKS ROB US OF OUR MONEY



Operating efficiently is the first priority for any business. This mandate becomes even more important with today's soaring energy costs, which are driving energy conservation measures within the largest corporations as well as the smallest shops.

According to a study commissioned by the U.S. Department of Energy (DOE), compressed air accounts for 10 percent of all electricity and nearly 16 percent of all motor system energy used in manufacturing facilities. With 82 percent of manufacturing facilities using compressed air and inert gas distribution systems, its uses have become widespread and varied.

Plant air, hand tool operations, valve actuation and robotic installations are just a few of the potential uses for compressed air. However, compressed air system leakage is an everyday occurrence, and more than just air is getting out, money is lost in the form of wasted energy, wear and tear on compressors, and increased operating and maintenance expense.

How much do air leaks cost ?

(As per study conducted by Department of Energy in USA)

Diameter of air leak	CFM of air lost at 100 psig	x 60= cubic ft. lost per hour	x 24 cubic ft. lost per day	x 365 cubic ft. lost per year
1/32"	1.62	97.20	2332.80	851472.00
1/16"	6.49	389.40	9345.60	3411144.00
1/8"	26.00	1560.00	37440.00	13665600.00
1/4"	104.00	6240.00	149760.00	54662400.00
3/8"	234.00	14040.00	336960.00	122990400.00
1/2"	415.00	24900.00	597600.00	218124000.00
3/4"	934.00	56040.00	1344960.00	490910400.00
1"	1661.00	99660.00	2391840.00	873021600.00

The figures given above are on account of the air leakage quantity and considering the current energy cost, one can work out the losses. In case of metal pipes, apart from the leakages, the loss due to malfunctioning / stoppage of machine should also be considered. Which is because of foreign particles getting stuck up in the pneumatic valves coming along with compressed air due to rusting/corrosion of metallic pipes.



An innovative KiTEC PE/Aluminum or PEX / Aluminium Composite Piping System has been designed to address this industry problem by reducing leaks and costs, and improving the overall performance of compressed air and inert gas piping systems.

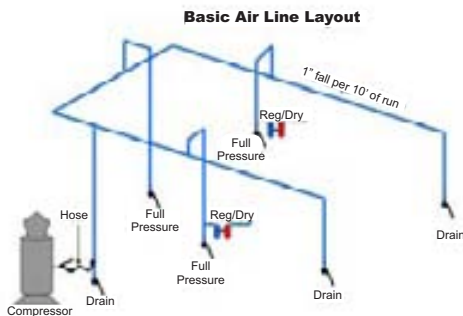
Innovative Blend Of Technology

This new compressed air and inert gas piping system consists of an inner and outer layer of tough High Density Polyethylene (PE) or Cross Linked PE, permanently bonded to an aluminum core. The smooth inner HDPE layer will not rust, corrode, pit or scale, which translates to:

- ✍ Lower pressure drops,
- ✍ Higher flow rates,
- ✍ Reduced system maintenance and
- ✍ An overall extended life for the system.

The outer HDPE layer provides UV protection while it protects against condensation and corrosion in the toughest industrial environments. In the middle is a unique aluminum core that provides the strength and rigidity of traditional metallic piping without any of the shortcomings of metal pipe.

Fewer pipe joints + engineered fittings = No leakage



The unique combination of metal and plastic creates a flexible yet rigid pipe that will not sag. Its long, lightweight coils cut down on the number of potential leak points in a compressed air system. And the pipe can be easily bent by hand; once bent, it maintains its shape, greatly reducing the number of fittings required.

The fittings used on this composite pipe are supplied in DZR brass and feature simple mechanical connections that require no special tools for installation. Each fitting incorporates a double 'O' ring seal that ensures maximum long-term joint integrity at elevated temperatures and pressures. These fittings may be easily removed and reused when system maintenance or modifications are required. And as an added benefit, the need for soldering or threading pipe on site is eliminated. Health and safety are assured. In many cases, especially in the food and beverage industry, it is imperative that pipe and fittings be contaminant-free. Coils of composite pipe and fittings are free of any oils or other contaminants and are packaged to ensure they arrive clean and free of damage. The PE / PEX plastic and colorant used to make this composite pipe, as well as fittings made with DZR brass meet guidelines.



The unique construction of composite pipe means that accidental impact or puncture of the pipe results in a safe, ductile mode of failure. The pipe has been tested and certified to stringent quality and safety requirements.

Rated for long-term continuous operating pressures of 17 Kg/CM² at 23°C and 10Kg / CM² at 71°C. KiTEC Composite pipe and fitting assemblies are also capable of taking pressure surges of 1.5 times the rated pressure. This built-in safety factor ensures system performance and provides peace of mind for designers and facility managers.

Reduced costs

Installing the KiTEC composite pipe and fitting system for compressed air and inert gas systems results in savings in material cost, installation cost and overall system operating cost.



KiTEC Composite pipe and associated fittings are less expensive than metallic alternatives. The entire system is easily installed, modified or expanded without the need for specialized training or equipment. This means reduced downtime and a more productive system.

Summary of advantages

- Low friction seamless connections of KiTEC minimise pressure drop thus effectively reduces the cost of ownership of your piping system.
- With smart design and low weight materials, KiTEC can be installed 70% faster than conventional systems.
- KiTEC pipes and recommended DZR brass fittings are assembled in just a few steps by a single installer, without the need for heavy machinery.
- The system can be pressurised immediately after assembly, limiting downtime to an absolute minimum.
- KiTEC system is adaptable to any existing pipe work.
- KiTEC consists of aluminum and polymers. These highly durable materials make it suitable for compressed air as well as for vacuum and Nitrogen gas.
- The KiTEC piping system is resistant to corrosion, mechanical shocks, thermal variations and outdoor weather conditions.
- With consistent clean quality air, KiTEC protects the downstream manufacturing process and contributes to equipment longevity.
- The KiTEC leak resistant connections offer superior sealing
- KiTEC fittings and pipes are supported by a 10 year guarantee against any material defect.

The advantages of PE plastic combined with aluminum has allowed for the birth of a **new and innovative compressed air and inert gas distribution system**. The result is a tougher, better performing and longer-lasting system that sets a new benchmark for piping systems while saving time and money.

ACCREDITATIONS



KiTEC®

KiTEC Industries (India) Pvt. Ltd.

CIN: U74999MH1994PTC076323

C18/11 Jeevan Bima Nagar, Bowivali (W), Mumbai-400 103.

Tel No. 022-28951144 Fax:022-28942549

email: sales@kitecindia.in/ kitec.services@gmail.com

Website: <http://www.kitecindia.in>

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To the best of our belief, the technical data set out in this publication is accurate.
However it is purely for guidance purpose.