

PTFE FLEXIBLE HOSE

for process fluids transfer



BIOFLEX HOSE
CORROFLON HOSE
CORROLINE HOSE
PHARMALINE HOSE
PHARMALEX HOSE
HYPERLINE FX HOSE
SMOOTHBORE HOSE
VISIFLON HOSE



TECNIK PROFILE

Tecnik Fluid Controls Pvt. Ltd.

Tecnik Fluid Controls Pvt. Ltd. is an eminent part of TECNİK GROUP of COMPANIES. Renowned for its expertise in providing the best quality PTFE Hoses (Aflex make) for numerous applications in Industrial, Pharmaceutical, Chemicals, Automotive and Process Industries.

Our extensive range offers the customer a surreal "One-Stop-Shop" experience for all their PTFE hose requirements. Our Customer Care Executives are technically trained to respond immediately and precisely to any kind of enquiry. We also provide Consultancy Services where our panel of experts advise our esteemed customers on the optimum solution for any kind of application.

We guarantee the highest level of consistency in quality that is associated with THE TECNİK GROUP of COMPANIES. Our philosophy is to provide instantaneous and quality services which fuels our continuous drive for improvisation in all facets of our activities.

LOCAL DISTRIBUTOR



FACTORY:

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FE82013

PTFE – THE OPTIMUM CHOICE FOR HOSE LININGS

PTFE, or Polytetrafluoroethylene, comprises long-chain molecules of carbon atoms, each linked to two fluorine atoms.

The fluorine atoms provide a helical spiral which surrounds the carbon chain and protects it.

It is this structure which creates the unique properties for which PTFE is well-known.

EXCELLENT CHEMICAL RESISTANCE

PTFE is renowned as the most chemically resistant material known. Only a very few, very unusual substances and conditions can affect it, like fluorine gas at high temperature and pressure and liquid, boiling sodium metal.

PTFE lined hoses can therefore be used for a wider variety of chemicals than any other hose type, making it the ideal choice for very corrosive chemical applications and multi-product applications.

NON-STICK SURFACE

The use of PTFE as a surface for cookware products has demonstrated to the world how easily cleanable PTFE surfaces are.

This means that PTFE lined hoses can be purged 100% clean more quickly, easily and reliably than any other type of hose.

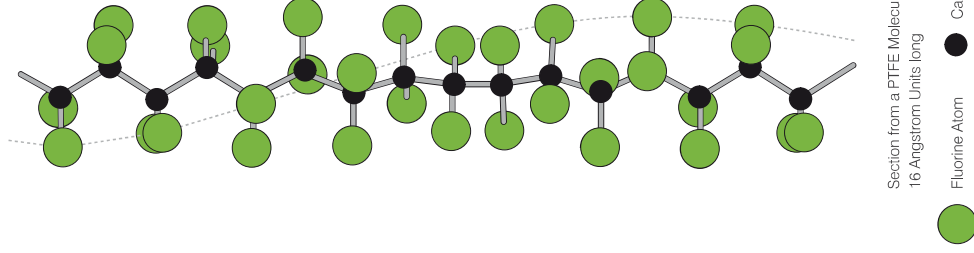
EXCELLENT TEMPERATURE RANGE

The cookware application also demonstrates another of PTFEs many attributes — temperature resistance. PTFE itself can be used as a hose liner at temperatures from -150°C up to +260°C, dependent upon the hose design and the application conditions.

This is the widest temperature range of any rubber or plastic hose lining material.

HOSE DESIGN

The only issue with PTFE as a hose lining material is the best way it can be integrated in to the hose design. This is where Alex Hose have a proven record of success over the last 30 years.



INTRODUCTION TO AFLEX HOSE

Aflex Hose was established as a PTFE hose manufacturing company in 1973 and, since then, has led the world in inventing and developing all the major innovations in PTFE hose design for use in process fluids transfer applications. Pharmaceutical, Biotech and Chemical manufacturing plants worldwide recognise the Alex PTFE hose product range to be the best available, and have adopted them as 'site standard' over many years.



Technically trained Alex Hose sales staff are available to respond quickly and effectively to every kind of enquiry, and to advise the optimum hose solution for any application.

CUSTOM HOSES FOR CRITICAL ENVIRONMENTS

Aflex Hose takes particular pride in our ability to design, specify and custom build special purpose hose assemblies to customers' non-standard requirements. From hose assemblies for fluorine, with non-standard hastelloy end fittings to an electrically trace heated hose assembly with a colour coded rubber cover for viscous fluids transfer — whatever the customer requires, Alex Hose can develop a specific solution.

TOTAL MANUFACTURE

The primary reason for our success is that Alex is the only PTFE hose company in the world to carry out all the hose manufacturing operations ourselves, from raw materials to finished products, at our plants in Yorkshire (UK) and Pennsylvania (USA).

- PTFE powder is extruded into tube and convoluted
- Stainless steel or polypropylene yarn is wound and braided onto the tube
- Plastic and rubber extruders are used to apply external covers when required
- End fittings are machined from bar stock on state of the art CNC lathes
- And, finally, the hoses are assembled to individual customer requirements, tested and dispatched to end users

Because of this, Alex is able to achieve unbeatable levels of build quality, design excellence and economy of scale, which are unmatched by our competitors.

AUTOMOTIVE, MOTOR SPORT AND GENERAL PURPOSE APPLICATIONS

Aflex Hose also manufactures another range of PTFE hose products for use in automotive, motor sport and general industrial applications. The Smoothbore and Hydraline FX, SB and V ranges of hose are described in another brochure, and information is also available on our website.

BIOFLEX HOSE

The introduction of Bioflex hose in 1998 was the most important advance in PTFE hose design to take place in the last 20 years.

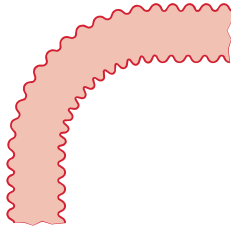
There had been a long-recognised need for a PTFE lined hose with the flexibility of a convoluted hose, but with a smooth bore.

The smooth bore was requested for two main reasons: firstly for inner cleanliness, in order to avoid fluids being trapped in the convolutions; and secondly, to overcome the turbulent flow induced in convoluted hose bores, which severely reduces the flow rates through the hose.

The key feature of Bioflex PTFE hose is the PTFE liner tube design, comprising integral rib sections which support the tube against kinking, vacuum and pressure, and highly compressed web sections which give a smooth bore inner surface and excellent flexibility.

CONVENTIONAL CONVOLUTED PTFE LINER

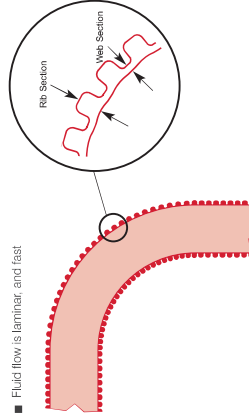
- Fluid can be trapped in the convolutions
- Fluid flow is turbulent, and slow



Bioflex Hose Assembly with an Integral PTFE Lined Triclover Fitting

BIOFLEX PTFE LINER

- Fluid is not trapped and the hose is self-cleaning
- Fluid flow is laminar, and fast



Another feature is the integral PTFE lined and flared end fitting design which is available for all standard end fittings applied to Bioflex hose assemblies. This provides clean, full-bore flow through the end fitting without any restrictions or entrapment points — unlike conventional fittings, which introduce a bore restriction, also an entrapment device at the inside end of the fitting tail. Much higher flow rates are achieved, in comparison with conventional fittings, reducing the time required to fill/empty vessels through the hose.

Bioflex has become the established standard in high purity process fluid applications all over the world, and continues to be introduced into new applications every day.

SIZE RANGE

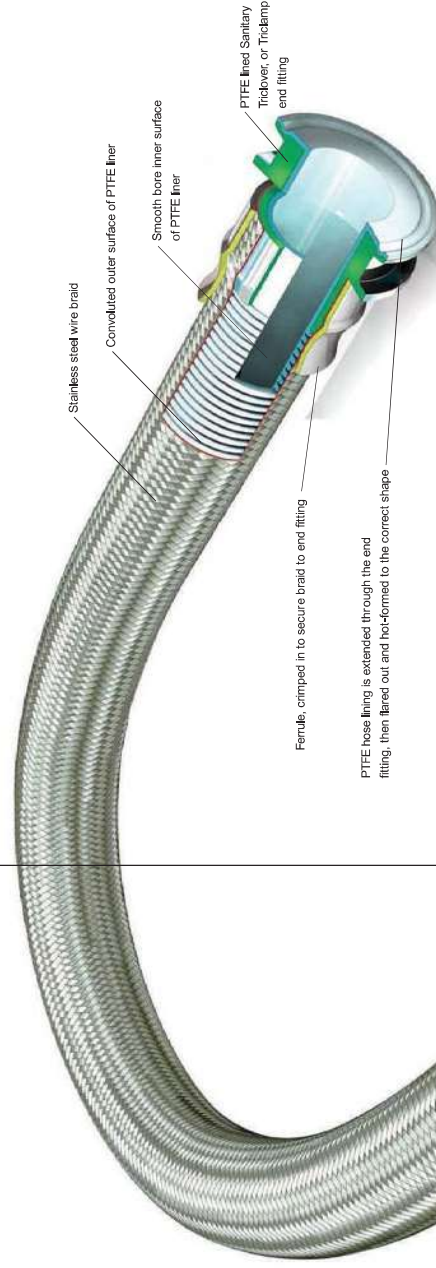
- 3/8" (9.5mm) up to 2" (50mm)

HOSE DESIGN OPTIONS

- Natural or anti-static PTFE, stainless steel braid, with or without an EPDM or silicone rubber cover, or polypropylene, PVDF or hastelloy braid

END FITTING OPTIONS

- ASA150 or DIN flanges, Sanitary Triclamps (Triclovers), Camlocks, DIN11851, RJT, RJF and SMS fittings, BSPT or NPT fixed males, BSP or NPSM females, JIC, I-Line and many other standard and special fitting designs



PTFE hose lining is extended through the end fitting, then flared out and hot-formed to the correct shape

NOTE: The bore size of the hose is maintained right through the end fitting.

ADVANTAGES

1. No bore restriction at the ends, as with conventional inserted fittings, therefore higher flow rates.
2. Free, cleaner flow of fluid, without the fluid entrapment which occurs at the inside end of an inserted fitting

PHARMALINE HOSE

Pharmaline is a unique, genuinely smooth bore PTFE lined hose product, based on the same patented PTFE hose liner design developed for Bioflex hose.

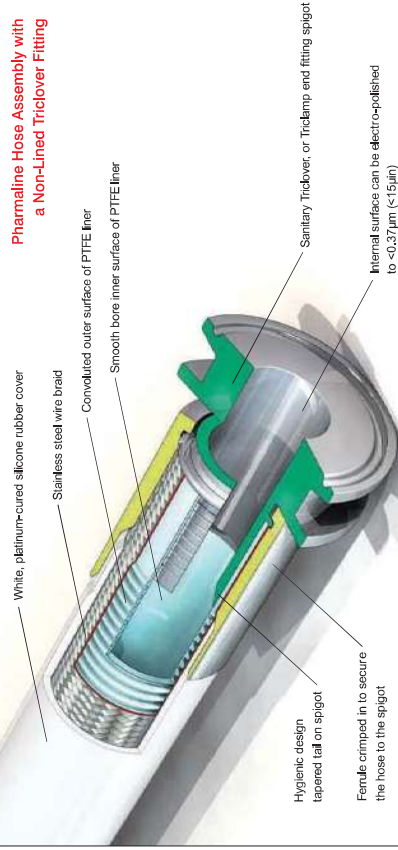
Pharmaline is designed to overcome the very poor flexibility of currently available silicone rubber covered smooth bore PTFE hose products.

Pharmaline is also designed to offer a replacement for silicone rubber hose providing much better chemical resistance and steam resistance (during autoclave sterilisation) and much improved ease of cleaning.

Pharmaline hose assemblies are manufactured in 'clean room' conditions and meet USP VI, FDA and all other specification requirements (see page 15).

Unlike Pharmalex (page 11) Pharmaline includes a stainless steel wire braid to reinforce the hose construction against internal pressure and mechanical abuse in applications which require this. The braid is covered with an extruded, pure white silicone rubber with a smooth, easy-clean surface finish.

Pharmaline Hose Assembly with a Non-Lined Triclover Fitting



The primary application area for Pharmaline is in high purity pharmaceutical, biotech, chemical and foodstuffs plants where ease of cleaning the hose, both internally and externally is required.

Pharmaline is also very suitable for use in other general industrial applications, particularly those where hot fluids or gases are being passed, if there is any risk of burns due to accidental touching of the hose — for example, hot oil or steam transfer applications.

SIZE RANGE

- 1/4" (6.6mm) up to 2" (50mm)

HOSE DESIGN OPTIONS

- Natural or anti-static PTFE

END FITTING OPTIONS

- Sanitary and mini tri-clamp Triclover fittings, I-Line fittings, DIN11851 and Aseptic fittings, Neumo and other hygienic fitting designs, Re-Link fittings — reusable self-assembly fittings

PHARMALEX HOSE

Pharmalex is a unique, genuinely smooth bore PTFE lined hose product based on the patented PTFE hose liner design developed for Bioflex hose.

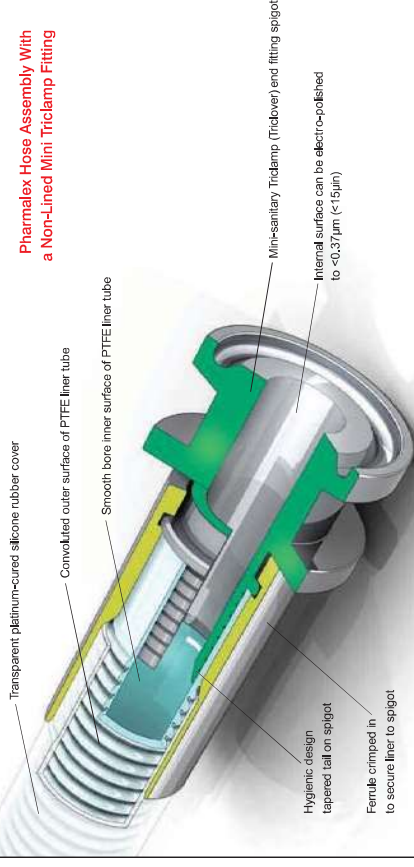
Pharmalex is designed to overcome the very poor flexibility of currently available PTFE tube products. Pharmalex is also designed to offer a replacement for silicone rubber hose and tube, providing much better steam and chemical resistance and much improved ease of cleaning.

Pharmalex hose assemblies are manufactured in 'clean room' conditions and meet USP VI, FDA and all other specification requirements (see page 15).

Unlike Pharmaline, Pharmalex does not include an SS wire braid in its construction, and so is more suitable for low pressure, light duty applications.

The silicone rubber cover over the PTFE tube is transparent, permitting some visual inspection of fluids passing through.

Pharmalex Hose Assembly With a Non-Lined Mini Triclover Fitting



Pharmalex is designed for use in high purity pharmaceutical, biotech, chemical and foodstuffs application areas where ease of cleaning the hose internally and externally is required.

Pharmalex is also very suitable for use in other general industrial applications, particularly those where hot or corrosive fluids are being passed.

SIZE RANGE

- 1/4" (6.6mm) up to 1" (25mm)

HOSE DESIGN OPTIONS

- Natural or anti-static PTFE

END FITTING OPTIONS

- Sanitary and mini tri-clamp Triclover fittings, I-Line fittings, DIN11851 and Aseptic fittings, Neumo and other hygienic fitting designs, Re-Link fittings — reusable self-assembly fittings

INTRODUCTION

Corroline hose was designed and developed to provide customers with a universal hose product which combined all the requirements they had requested for process applications, particularly the need for improved flexibility. Corroline hose not only supersedes but also improves upon the wide variety of alternative Process Hose products currently available.

CONSTRUCTION

Corroline is built around a patented PTFE hose liner design, which has a slightly rippled smooth bore inside, but convoluted outside to generate excellent flexibility combined with "hoop strength".

A stainless helical wire is wound in to the external convolutions, which adds to the kink resistance, crush resistance and the resistance of the hose to both pressure and vacuum.

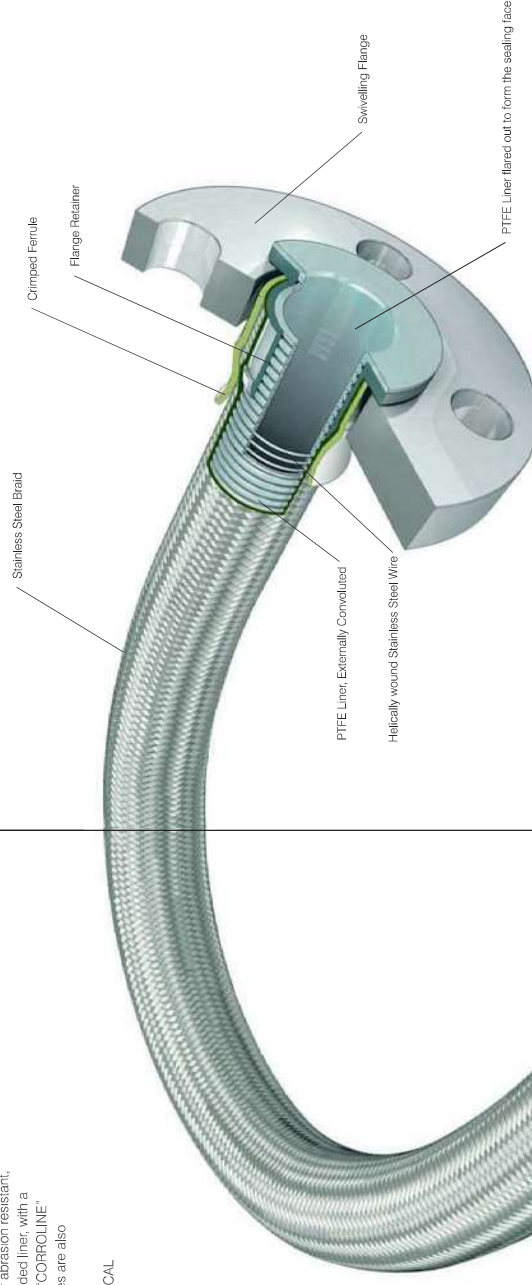
This reinforced PTFE Liner construction is strong enough to withstand full vacuum and kinking without the need for either internal convolutions or the need to bond the liner to an outer cover, making it an ideal hose liner design, and a significant improvement upon standard products currently available.

The PTFE liner is then further reinforced with an outer braid, either a Stainless Steel wire braid (SS Grade) or a Polypropylene braid (PB Grade) to provide two braided hose grades.

The most popular grade (PC Grade) includes an outer cover of abrasion resistant, black anti-static EPDM rubber which is extruded on to a SS braided liner, with a super-smooth surface finish to aid external cleaning. A yellow, "CORROLINE" stripe is printed on to the cover. Other texts and coloured stripes are also available to special order.

CORROLINE HOSE - THE BEST FLEXIBLE HOSE FOR CHEMICAL AND PROCESS APPLICATIONS

Corroline SS hose, fitted with an integral PTFE lined flange fitting



SIZE RANGE

- 1/8" (12.75mm) to 2" (50mm)

HOSE DESIGN OPTIONS

- Natural or anti-static PTFE, stainless steel braid, with or without an EPDM rubber cover, or polypropylene, PVDF or hastelloy braid

END FITTING OPTIONS

- ASA150 or DIN flanges, Sanitary Triclamps (Tridovers), Camlocks, DIN11851, RJT, RJT and SMS fittings, BSPT or NPT fixed males, BSP or NPSM females, JIC, H-line and many other standard and special fitting designs

CORROFLON HOSE

Corroflon hose was the first convoluted PTFE lined hose product in the world to be developed specifically for process fluids transfer applications in pharmaceutical and chemical plants.

Corroflon was launched in 1978, and since then all of the major advances in convoluted PTFE hose design have been pioneered by Alex Hose and incorporated into the Corroflon hose product range. These include anti-static PTFE, polypropylene braid, and EPDM or silicone rubber hose covers. Alex Hose also developed and introduced PTFE lined and flared end fittings which protect the end fitting from contact with the process fluid, and provide clean, uninterrupted fluid flow through the end fitting.

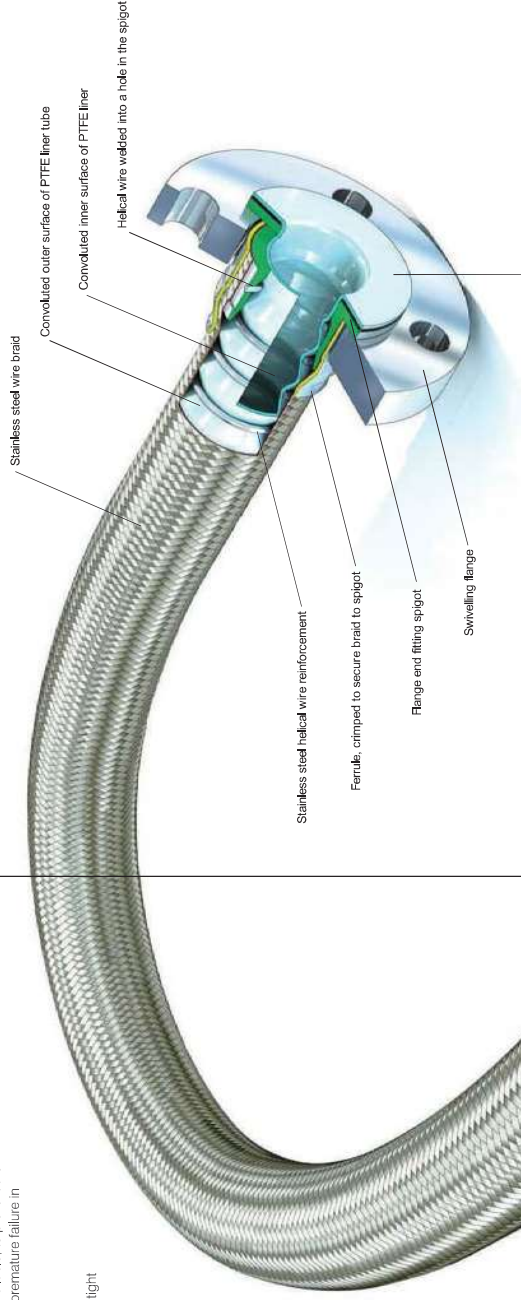
Over the years, Corroflon hose and end fittings have been continuously developed and improved to maintain market leadership, and design features which have been identified as prime requirements have been incorporated at every stage.

These include the thickest wall and the best processed tube lining available, to prevent the development of porosity in the PTFE, which is the primary cause of premature failure in competitors' products.

Corroflon is also fully kink resistant and vacuum resistant due to the light helical wire reinforcement and the convoluted design profile.

The build quality and design excellence of Corroflon hose have been tested and proved in numerous applications worldwide, and hundreds of thousands of Corroflon hoses have been applied and used successfully over the last 30 years.

Corroflon Hose Assembly with a PTFE lined Swelling Flange End Fitting



PTFE liner tube extended through the end fitting, then flared out to form the sealing face.

ADVANTAGES

1. Internally "welded" parts are all PTFE, protecting the end fitting from any corrosive fluids.
2. No bore restriction, so fluid flow through the fitting is clean, without entrapment zones.

SIZE RANGE

- 1/2" (12.75mm) to 6" (150mm)

HOSE DESIGN OPTIONS

- Natural or anti-static PTFE, stainless steel braid, with or without an EPDM or silicone rubber cover, or polypropylene, PVDF or hastelloy braid

END FITTING OPTIONS

- ASA150 or DIN flanges, Sanitary Triclamps (Triclovers), Camlocks, DIN11851, RJT, RJ-P and SMS fittings, BSPT or NPT fixed males, BSP or NPSM females, JIC, L-Line and many other standard and special fitting designs

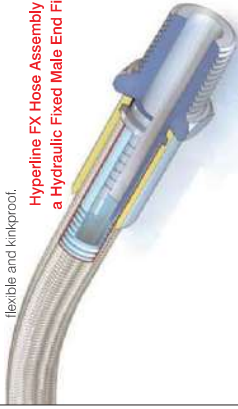
HYPERLINE FX HOSE

Hyperline FX is a new and revolutionary solution, providing a unique hose liner design which is flexible even in the larger bore sizes, yet which retains a smoothbore.

Hyperline FX includes a liner which is smoothbore on the inside, but heavily convoluted on the outside. The liner is usually braided with Stainless Steel wire to provide reinforcement against pressure.

Hyperline FX is used in the same applications as Smoothbore, but has a wider range of applications because it is more flexible and kinkproof.

Hyperline FX Hose Assembly with a Hydraulic Fixed Male End Fitting



The actual bore sizes of Hyperline FX hose are sized to fit hydraulic fittings, slightly larger than the nominal size, same as Hyperline SB.

The advantage of a smooth bore as compared with a convoluted bore (see Hyperline V) is that it is easy clean, and does not create 'turbulent flow'. Which drastically reduces fluid flow rates.

SMOOTHBORE HOSE

Smoothbore Hose Assembly with a standard Fixed Male End Fitting

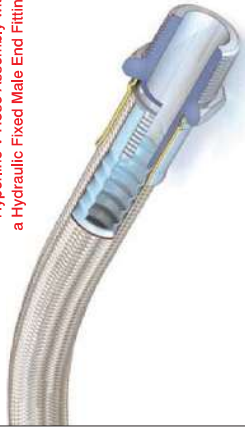


Smoothbore hose was the original PTFE hose product design, first introduced in 1955. It includes a straight PTFE tube with a standard or thick PTFE wall, and an external braid of stainless steel.

Smoothbore PTFE hose is used in a wide variety of flexible hose applications worldwide, with particular usage in automotive and motorsport applications, refrigeration systems, high pressure steam, hot oil, semiconductor applications, chemicals, paints and inks transfer and many more.

HYPERLINE V (VISIFLON) HOSE

Hyperline V Hose Assembly with a Hydraulic Fixed Male End Fitting



Hyperline-V (previously named Visiflon). Hyperline-V includes a highly convoluted PTFE liner tube, the tube is fully convoluted inside & out, this design makes the liner very flexible and very kink resistant.

Hyperline V is used in the same types of applications as Smoothbore hose, but it is much more flexible and kink resistant and is used where high flow rate and cleanliness is not required.

HYPERLINE FX HOSE

SIZE RANGE

- 1/4" (0.270" - 6.8mm actual bore) to 1" (1.040" - 26.4mm actual bore).

HOSE DESIGN OPTIONS

- Natural or anti-static (black) PTFE hose liner.
- Single Stainless Steel wire braid or Aramid Fibre braid.
- PVC, Nylon, Hyrel or Saflink plastic covered (on Stainless Steel braid only) - to special order.

END FITTING OPTIONS

- BSPT and NPT Fixed Males in MS or SS, BSP Cone Seat Females in MS or SS, Elbows, Metric & JIC fittings and many more.

SMOOTHBORE HOSE

SIZE RANGE

- 1/8" (0.125" - 3.2mm actual bore) up to 2" (50.8mm actual bore).

HOSE DESIGN OPTIONS

- Natural or anti-static (black) PTFE hose liner, Standard Wall or Thick Wall, Single Stainless Steel Wire Braid, or Double Braid if required.
- PVC, Nylon, Hyrel or Saflink plastic covered, and EPDM or Silicone rubber covered.
- PTFE Liner to HPG (High Pressure Gas grade) for very high specification applications.

END FITTING OPTIONS

- BSPT and NPT Fixed Males in MS or SS, BSP Cone Seat Females in MS or SS, Elbows, Metric & JIC fittings and many more.

HYPERLINE V (VISIFLON) HOSE

Hyperline V is used for the same types of applications as Smoothbore hose, but it is much more flexible and kinkproof in sizes above 3/8", and is used where high flow rates and cleanliness are not required.

SIZE RANGE

- 3/8" (9.5mm) up to 2" (47mm).

HOSE DESIGN OPTIONS

- Natural or anti-static (black) PTFE, Stainless Steel Wire Braid.
- Polymer braid or PVC Nylon Hyrel or Saflink plastic covered.

END FITTING OPTIONS

- BSPT and NPT Fixed Males in MS or SS, BSP Cone Seat Females in MS or SS, Elbows, Metric & JIC fittings and many more.

END CONNECTIONS

Apart from the wide variety of standard fittings possible as Hose end connections we can also provide Positive locking type quick connection CAMS



Female Coupler



Male Coupler



Male Adapter



SMS / DIN Type Fittings



90° / 45° Rigid Elbow



DIP Pipe for Drum Filling

Please ask us for more available options and for specials

We can provide all these fitting combinations with lined PTFE ends – in Natural Grade PTFE & also in ANTI STATIC Grade PTFE.

AS – ANTI-STATIC PTFE LINER

Anti static PTFE liner is an essential where there is the risk of an electrostatic charge build-up on the inside surface of the PTFE tube which may then discharge through the tube wall.

Media passing through which create such a risk are fluids which have a Conductance of less than 10⁻⁶ S/m (Siemens per Meter), of 10⁻⁶ pS/m such as fuels, solvents, freons, some WFI (ultra-pure "Water for Injection") and non-polar organics which are being transferred at a medium to high flow velocity.

All twin or multi phase media, and any non-mixing media, such as powder in air, or water droplets in steam, in gases or in oil, also colloidal fluids constitute a particular hazard for static charge generation, and always require AS - Anti Static grade



QUALITY ASSURANCE, CERTIFICATION, TESTING & IDENTITY

EN ISO 9001 :2000

Alex products are all manufactured in accordance with BS EN ISO 9001:2000 Quality Management Systems independently assessed and registered by National Quality Assurance Limited (NOA).

USP CLASS VI

Natural and Antistatic PTFE Hose Liners, Platinum Cured Silicone Rubber Covers (White and Clear) and EPDM Rubber Cover (Blue) have been independently tested in accordance with USP protocols and are found to conform to the requirements of USP Class VI Chapter <88>, Natural and Antistatic PTFE Hose Liners, Platinum Cured Silicone Rubber Covers (White and Clear) have also been tested in accordance with USP protocols and are found to conform to the requirements of USP Class VI Chapter <87>, the L929 MEM Elution Test and are considered non-cytotoxic.

FDA

The materials used to manufacture the natural PTFE Tube liner conforms to FDA 21 CFR 177.1550, and the antistatic PTFE liner conforms to FDA 21 CFR 178.3297.

3-A SANITARY STANDARDS

The PTFE used in the liner is manufactured solely from materials which meet the requirements of the 3-A Sanitary Standards.

PHARMACEUTICAL MANUFACTURER S' APPROVALS

Most of the major pharmaceutical manufacturing companies in the world have audited and/or approved Alex Hose as a Hose Supplier.

CE MARKING (EUROPE ONLY)

Alex has been assessed by Zurich Risk Services and found to comply with the Pressure Equipment Directive 97/23/EC (European Community) Conformity Assessment Module D1, approved to CE Mark applicable hose products, accompanied by a Hose Usage Data Sheet, and a Declaration of Conformity.

ATTESTATIONS OF CONFORMITY TO ATEX DIRECTIVE 94/9/ EC

(Potentially Explosive Atmospheres)
Available for hose and assemblies for components used in Gas Zones 1 & 2 and Dust Zones 21 & 22, when applicable.

MATERIAL CERTIFICATION TO EN 10204

Available for all the hose or hose assembly components.

CERTIFICATES OF CONFORMITY TO EN 45014

Are available for all products.

HOSE IDENTIFICATION AND TESTING

All Alex Hose assemblies are identified with a stainless steel identification tag, ring or ferrule, vibro etched with a unique serial number for traceability and other relevant information. Each assembly is pressure tested to 1.5 times maximum working pressure before despatch, and pressure test certificates can be supplied.

