Tecflex 400 Series Flexible Ducting

- Fire-resistant – Tested to and complies with BS476.
- Complies with the requirements of DW144.
- Plain and pre-insulated types available.
- Duct construction provides low friction loss.
- Suitable for high, medium and low pressure applications.
- Individually cartoned 10 metre lengths.
- Ultra flexible puncture resistant ducting.
Tecflex 400

Description
Tecflex 400 is ideal for use in high, medium and low pressure air conditioning systems where a quality uninsulated flexible ducting is required.

Construction
Tecflex 400 is manufactured from aluminium and polyester film in a multi-ply format to provide a tough yet highly flexible, puncture resistant, ducting. The fabric is supported by an encapsulated high tensile steel wire helix at 35mm pitch. This construction results in a ‘sag free’ yet ultra flexible duct in which smooth bends of less than 1½ D radius can be produced.

Encapsulation of the wire helix between the inner and outer duct wall provides an exceptionally smooth inner wall resulting in excellent friction loss characteristics and reduced levels of noise generation.

Specification
Un-insulated flexible ducting for joints or connections shall be TECFLEX 400. It shall be manufactured from aluminium and polyester film to form a puncture resistant multi-ply laminate supported by an encapsulated high tensile steel wire helix. The duct shall meet the requirements of BS476 parts 6 and 7.

Packaging
Each 10 metre length of duct is individually cartoned and labelled. This production and packing configuration ensures that wastage through scrap is kept to a minimum and dramatically reduces the chance of damage in transit or on site. Storage space required is also kept to a minimum with a 10 metre length being compressed to 590mm.

Technical Data
- Diameter Range: 80mm to 500mm
- Temperature Range: From -30°C to +120°C
- Air Velocity: 30 M/S maximum
- Working Pressure: Maximum 2000 Pa positive
- Colour: Metallic Silver
- Standard Length: 10 Metres

Installation
Fully extend ducting, then cut to exact length required using a sharp knife and pliers. We recommend that joints be sealed on medium and high pressure applications using Tecseal or Tectape XT.

To fix Tecflex 400 to spigots we recommend the Tecfix banding or clip system.
Tectherm 400

Description
Tectherm 400 is a high quality fully flexible, factory insulated ducting offering excellent standards of performance. It is suitable for high, medium and low pressure applications.

Construction
Tectherm 400 is manufactured using Tecflex 400 as the inner core, wrapped in a 25mm thick high density fibreglass blanket which is overlapped to ensure continuity of thermal insulation (50mm thick fibreglass blanket also available). The insulation is then covered by a tough scuff resistant, reinforced aluminium and polyester laminate which acts as a vapour barrier. The use of Tecflex 400 as the inner core completely shields the airstream from the fibreglass insulation. This, together with highly automated insulating machinery ensures consistency of product quality. The exceptionally smooth inner wall of the ducting provides for excellent friction loss characteristics and reduced levels of noise generation.

This construction results in a highly flexible duct in which bends of 1/2 D radius can be produced.

Specification
Insulated flexible ducting for joints or connections shall be TECTHERM 400. It shall be manufactured using Tecflex 400 as the inner core and wrapped in an overlapped high density fibreglass blanket 25mm (50mm optional) thick and covered with a tough scuff resistant reinforced aluminium fabric jacket acting as a vapour barrier. The duct shall meet the requirements of BS476 parts 6 and 7.

Packaging
Each 10 metre length of duct is individually cartoned and labelled. This production and packaging configuration ensures that wastage through scrap is kept to a minimum and dramatically reduces the chance of damage in transit or on site. Storage space required is also kept to a minimum with a 10 metre length being compressed to 1160mm.

Technical Data
- Diameter Range: 80mm to 500mm
- Temperature Range: From -30°C to +120°C
- Air Velocity: 30 M/S maximum
- Working Pressure: Maximum 2000 Pa positive
- Insulation: 25mm thick microfibre 16kg/m³
  Thermal Conductivity in λ W/m.K at 10°C is 0.036
- Outer Jacket: Scuff resistant reinforced Aluminium laminate fabric
- Colour: Metallic Silver
- Standard Length: 10 Metres

Installation
Fully extend ducting, then cut to exact length required using a sharp knife and pliers. We recommend that joints be sealed on medium and high pressure applications using Tecseal or Tectape XT.

To fix Tectherm 400 to spigots we recommend the Tecfix banding or clip system. When installing Tectherm 400, securely clamp the inner core first and then tape or clamp the outer jacket and inner core to the spigot.

Taping the outer jacket to the spigot will prevent any fibre migration.
Tecsonic 400S

Description

Tecsonic 400S is a high quality fully flexible acoustic ducting with an acoustically transparent interliner between the inner core and fibreglass layers. It is ideal for use in low and medium pressure ventilation and air conditioning systems where attenuation of duct borne noise is required.

Acoustic Performance

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Note: Care should be taken when estimating the attenuation of ducts of different lengths; the results are not linear. The possibility of noise ‘break-out’ should also be taken into consideration at the design stage since there may be some noise emission into the surrounding air space. Wherever possible acoustic ducting should be installed in a part of the building where noise break-out is not of concern or above an acoustic/insulated ceiling to prevent noise reaching the occupied areas.

Installation

Fully extend ducting, then cut to exact length required using a sharp knife and pliers. Pull back fibreglass insulation and tape the inner core to the spigot. Then tape and clamp the outer jacket and inner core to the spigot.

Construction

Tecsonic 400S is constructed in a similar manner to Tecsonic 400 but with the addition of an acoustically transparent interliner between the inner core and fibreglass layers. This interliner allows for a good acoustical performance yet shields the airstream from the fibreglass and prevents the possibility of fibre migration into the airstream.

This feature makes Tecsonic 400S especially suitable for specialist applications e.g. Food preparation, clean rooms etc. Like Tecsonic 400 this construction still provides a highly flexible duct in which bends of 1/2D radius can be produced.

Specification

Acoustic flexible ducting for joints or connections shall be TECSONIC 400S. It shall be manufactured with an aluminium/polyester inner core continuously perforated and wrapped with an acoustically transparent interliner. The interliner shall be covered by an overlapped fibreglass blanket with an outer jacket constructed from a reinforced aluminium fabric. The duct shall meet the time requirements of BS476 parts 6 & 7.

Packaging

Tecsonic 400S is supplied, as standard, in 10 metre lengths. Each length is individually cartoned and labelled. Storage space required is kept to a minimum with a 10 metre length being compressed to 1150mm.

Technical Data

Diameter Range: 100mm to 500mm
Temperature Range: From -30ºC to +120ºC
Air Velocity: 15 m/s maximum
Working Pressure: 1000 Pa maximum
Fibreglass: 25mm thk. 16Kg/m³ density
Outer Jacket: Scuff resistant reinforced aluminium laminate fabric
Colour: Metallic silver
Standard Length: 10 metres
Lindab Tecflex 400, Tectherm 400 and Tecsonic 400 have been independently tested by Exova Warrington Fire and have achieved BS476 Parts 6 & 7. Copies of the relevant Fire test reports are available on request.

Pressure Loss
Pressure drop in flexible duct varies significantly from the data given below if the duct is not fully extended when installed. Typically a duct which is 90% extended can result in an increased pressure drop of up to 80%. A duct which is 75% extended could result in a pressure drop variance of as much as 200%. This information applies to all types of flexible duct and illustrates the importance of careful installation. The pressure loss graph below is based on fully extended straight flexible ducting, per metre.

Mounting Instructions –
Recommendations

1. Ducting must always be installed fully extended to produce the best results.
2. Hanging straps should be at least 25mm wide.
3. The distance between supports will vary according to the diameter of ducting. As a guide, on straight runs, supports should be at approx. 1 metre centres. Keep duct sag to a minimum.
4. Ensure that when making connections the flexible duct is not over stressed.
5. Ensure that flexible ducting is not in contact with sharp objects which may puncture the duct when the system is commissioned.
6. Ensure that ducting is not placed on un-insulated steam or hot process pipes.
7. Connections to heater batteries should not be made using flexible duct.

Diagram 1: Pressure drop chart
Other Flexible Duct Products available from Lindab

Tecflex 800S
A highly flexible fabric ducting manufactured from a tough grey coloured PVC coated woven glass cloth fabric supported by an encapsulated high tensile steel wire helix.

Tecflex PU
Tecflex PU Ducting is manufactured from a spring steel wire helix, covered with a highly durable natural clear polyurethane membrane. Tecflex PU is an excellent abrasion resistant ducting with a working life many times longer than its PVC equivalents. Ideal for wood working, dust extraction, plastic granules, abrasive powders, etc.

Tecflex VF
Tecflex VF Ducting is manufactured from a PVC coated spring steel wire helix, covered with a high grade PVC material, heat welded to a form of continuous surface.
Tecflex VF ducting is specifically designed for efficient air, fume, dust and abrasive particle extraction.

Tecflex 500
Semi rigid flexible ducting manufactured from corrugated aluminium strip spirally wound to produce a double overlapped joint ensuring durability in use. Tecflex 500 has an operating temperature range of -30 to +250°C and a maximum operating pressure of 2000Pa. Tecflex 500 is supplied loose in 3m lengths compressed to 0.8m.