Tecflex 400 Series Flexible Ducting

- Fire-resistant – Tested to and complies with BS476, parts 6, 7 and 20.
- 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 un-insulated flexible ducting is required.

Construction
Tecflex 400 is manufactured from aluminium & 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 1/2 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 & 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, 7 and 20.

Packaging
Each 10 metre length of duct is individually cartoned & 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.

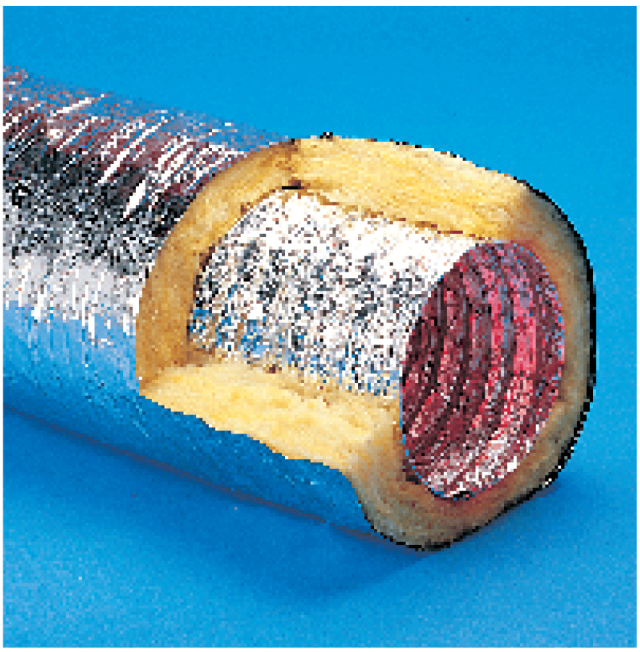
Installation
Fully extend ducting, then cut to exact length required using a sharp knife and pliers. We recommend that joints be sealed on medium and high pressure applications using Tecseal or Tectape XT.
To fix Tecflex 400 to spigots we recommend the Tecfix banding or clip system.

N.B. We also manufacture Tecsonic acoustic flexible ducting in three grades to meet virtually any application. Comprehensive literature is available.

Techerm 400

Description

Techerm 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

Techerm 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, 7 and 20.

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/m^3 Thermal Conductivity λ in 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 Techerm 400 to spigots we recommend the Tecfix banding or clip system. When installing Techerm 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.

N.B. We also manufacture Tecsonic acoustic flexible ducting in three grades to meet virtually any application. Comprehensive literature is available.

Tecflex and Tectherm 400

Fire Test Data

BSCP413:1973 recommends that flexible joints (lengths not normally exceeding 300mm) and flexible connections (lengths not exceeding 3.7 metres) shall meet certain criteria. This is a generally accepted standard and is also acceptable in the London area. The requirements are:–

1 BS476, Part 6 – Fire Propagation Test

The materials used in the construction of the duct be non-combustible or should have an index of performance not exceeding 12, of which not more than 6 should derive from the initial period of test.
Tecflex and Tectherm 400 – Passed.

2 BS476, Part 7 – Surface Spread of Flame
A Class I rating must be obtained.
Tecflex and Tectherm 400 achieved a Class I rating

N.B The ratings achieved by Tecflex and Tectherm 400 to Parts 6 and 7 provide a "Class 0" rating.

3 BS476, Part 20 – Fire Resistance
A resistance to the penetration of fire of at least 15 minutes is required. (Part 20 supersedes Part 8)
Tecflex & Tectherm 400 met this requirement.

4 Smoke & Toxic Fumes
Ducts should not give off excessive quantities of smoke when burnt.

In the event of a fire Tecflex and Tectherm 400 generate a negligible amount of smoke or toxic gases and contain no PVC. (There is no BS test in respect of smoke for flexible ducts.)

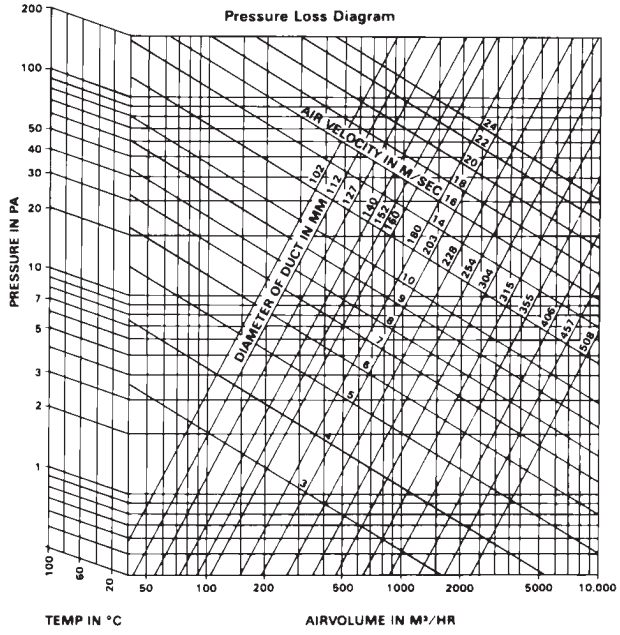
Independent Test Data

The above results are based upon independent testing at Warrington Research Centre, report numbers; 44874, 68399, 44872, 70103, 44873, 44871, copies of which are available on request. In addition BS476 Part 20 results are checked by indicative testing on a regular basis to ensure compliance. Tecflex 400 has been subjected to pressure testing at B.S.R.I.A. and exceeds the requirements of HVCA specification DW142, Class D (a more onerous standard than DW144).

Note: The Tecflex, Tectherm and Tecsonic ranges of flexible duct are manufactured in the U.K.

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.