

## Flexiduct Flexible Ducting



Certified

**ISO 9705**

**AS 4254**

## Flexiduct - Flexible Ducting

### Overview

Temperzone Flexiduct is certified to both ISO 9705 and AS4254. These are test procedures to establish compliance with the New Zealand Building Code in accordance with Verification Method C/VM2 Appendix A. Test standard ISO 9705 includes full scale room fire testing of internal surfaces for HVAC systems. Test standard AS4254 includes 11 separate tests (detailed on next page) for ductwork of air handler systems in buildings.

Flexiduct is available in two types: Nude (uninsulated) and Insulated. Both types are certified in accordance with ISO 9705 and AS4254.

### Nude

Incorporates a steel spring coil encapsulated in a metallised polyester fire rated laminate. Nude Flexiduct has a smooth inner surface to minimise friction losses within the duct and maintain operating efficiency.

Lightweight yet durable and strong, nude flexiduct retains its full diameter, even around 180° bends.

### Insulated

Insulated Flexiduct comprises a Nude inner core, wrapped in polyester insulation and sheathed in a UV resistant metallised polyester laminate sleeve.

The insulation is a thermally bonded polyester fibre blanket with zero moisture absorption and no known health hazards.

Flexiduct insulation has been tested by BRANZ to AS4508 and has a Thermal Resistance (R value) of 0.672 m<sup>2</sup>K/W. The R value is a measure of its ability to minimise energy loss through the walls of the duct; the higher the better.

### Construction

Flexiduct is manufactured in 3 and 6 metre lengths. 3 metre Nude and Insulated types are compacted to approximately 100mm and 300mm packs respectively and 6 metre lengths to 550mm to allow convenient handling and storage. Flexiduct is available in the following nominal diameter sizes.

#### Stock (mm)

3 metres: 100 (nude only) / 150 / 200 / 250 / 300 / 350  
/ 400 / 450 (insulated only)

6 metres (insulated): 200 / 250 / 300 / 350 / 400

#### Non-Stock (mm)

3 metres (insulated): 500 / 550

Non-stock sizes available to order on 3 - 4 day lead time.



*Nude (bottom) and Insulated (top) temperzone Flexiduct*

### Operating Range

Temperature: -20°C to +80°C

Pressure: -190 Pa to +1200 Pa

### Installation

Flexiduct should not be installed in a way that will constrict the internal diameter of the ducting in order to minimise pressure drops.

Install the ducting fully extended and cut off any excess. Flexiduct should be adequately supported with hanger straps at approx. 1200mm centres to prevent sagging and deformation of the effective area. Failure to do this can result in greatly increased pressure loss.

As with any type of duct it is important that all changes in direction are made gradually to minimise resistance to airflow. Bends should not have a centreline radius of less than 1.5 times the diameter of the duct.

Make sure you use temperzone AS4254 certified duct tape with Flexiduct to ensure your entire duct system complies with the NZ Building Code.

### Accessories

temperzone stocks a wide range of accessories including: duct tape, branch take-offs, duct fans, grilles, louvres and diffusers. See back page for details.

## Technical Specifications

### Temperzone Flexiduct is certified to NZ Building

**Code** – C3.4(a) - 2013. Protection from Fire: Verification Method C/VM2 Appendix A. Which covers:

**ISO 9705** - Temperzone Flexiduct is certified to ISO 9705:1993 'Fire Tests - Full scale room test for surface products' (the standard) and fully complies with the NZ Building Code C/VM2 Appendix A in respect to fire performance of wall and ceiling lining.

Results were analysed in accordance with NZ Building Code: Establishing Group Numbers for Lining Materials.

**Result** Group Number: 1-S  
SPR (m<sup>2</sup>/s): 1.6\*

\*The smoke production rate (SPR) averaged over the period 0 - 20 minutes is not more than the 5.0 m<sup>2</sup>/s limit and therefore the Group Number 1-S applies.

**AS 4254 1995** – Ductwork for Air Handling Systems in Buildings, which includes the following tests:

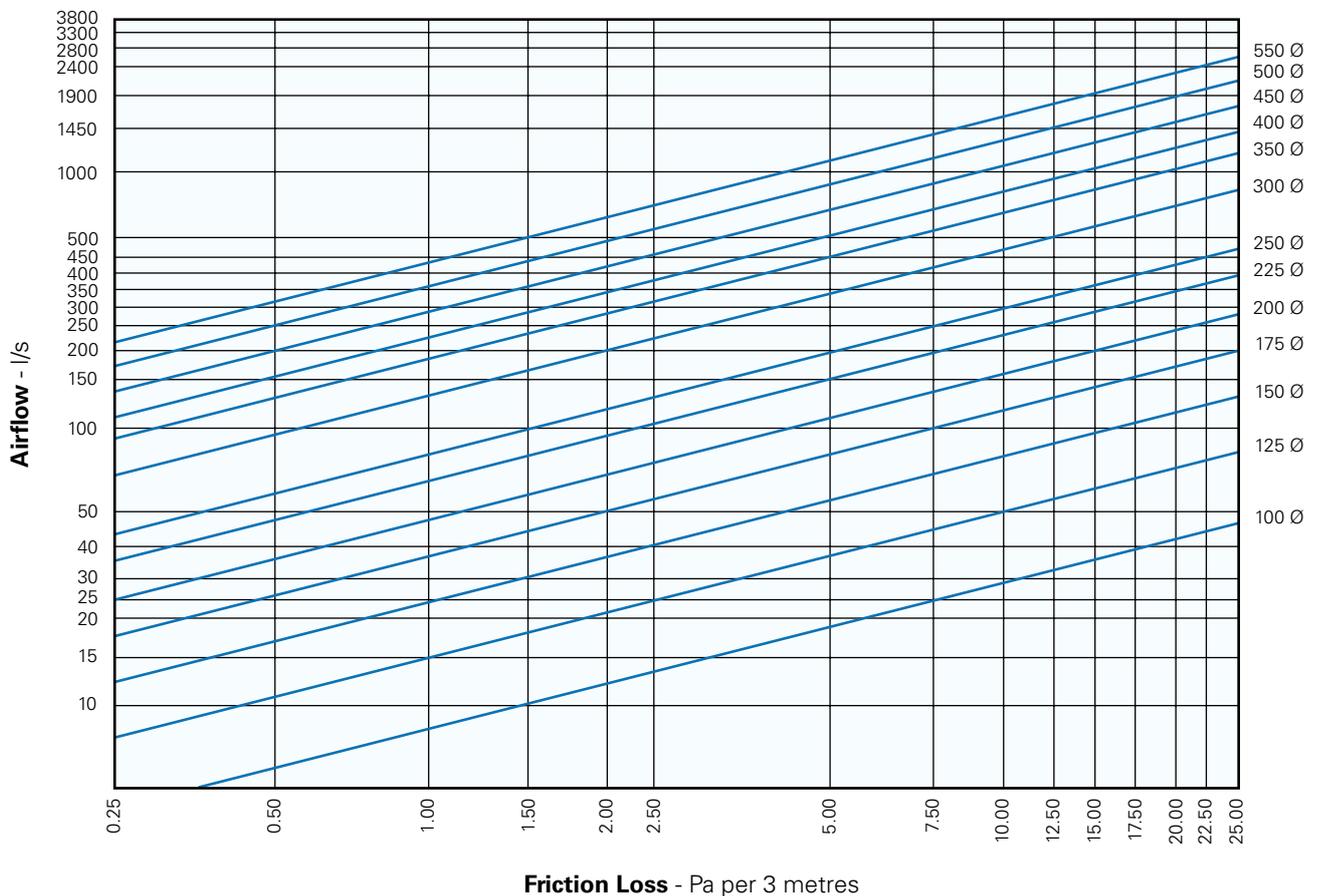
AS 1530.3	Radiant Burn Test
UL181.9	Flaming Burn Test
UL181.11	Mould Growth & Humidity Test
UL181.12.2	Low Temperature Test
UL181.12.3	High Temperature Test
UL181.13	Puncture Test
UL181.14	Static Load Test
UL181.15	Impact Test
UL181.17	Positive & Negative Pressure Test
UL 181.18	Collapse Test
UL 181.19	Tension Test

**AS 4508** – Thermal Resistance of Insulation for Ductwork used in Building Air Conditioning.

Insulated Flexiduct utilises user friendly thermally bonded polyester blanket. Density = 258 g/m<sup>2</sup>. Thermal resistance (R value) = 0.672 at 43 mm thickness, as tested by BRANZ.

## Performance Data

### Friction Loss Chart - Straight Duct Runs



## Flexiduct Accessories



### Grilles, Louvres & Diffusers

Designed for all commercial, industrial and residential exterior / interior applications in walls, floors, doors, partitions and ceilings. Hinged units are available which have been designed for easy access to filters. All robust aluminium construction finished in powder coating.



### Krantz RA-N3 Swirl Diffuser

The RA-N3 outlet is designed specifically to distribute air effectively and quietly while reducing the risk of draughts and air stagnation. Suitable for office buildings where personnel comfort and energy savings are priorities. Installed flush with ceiling or freely suspended.



### Multi-Neck Square To Round Adaptors

A convenient way of coupling ducting to square grilles and diffusers. Manufactured from durable plastic, it is black for low visibility when installed.



### Multi Directional Outlet (MDO)

Designed to allow the user to control the air flow in a room by simply repositioning the four louvre panels to redirect air flow where required. Made from tough white polypropylene, it is lightweight, easy to clean and suits most room decors.



### Round Plastic Ceiling Diffusers (RPD)

Round face, round neck supply outlet or extract which provides a 360° air distribution pattern and blends tastefully with most decors.



### In-Line Fans

AXC Series in-line ducted centrifugal fans provide a high performance supply or exhaust system where a small or medium volume of air is required to be moved against medium to high static pressure. Use to and from enclosed spaces for fresh air make-up, heat transfer and ventilation applications.



### Duct Tape

Available in plastic 48mm x 30m or Foil AS 4254 48mm x 60m.

Foil Flexiduct tape designed to meet AS 4254 and has superior performance in extreme environments.



### Branch Take-Offs

Constructed from high impact resistant polypropylene material, providing better insulation and no risk of rust. Adapts single duct to meet two branch ducts with low noise and zero air loss.



### Duct Joiners

Galvanised steel construction available in the following diameters:

150mm, 200mm, 250mm, 300mm and 350mm.



**Note:** The manufacturer reserves the right to change specifications at any time without notice or obligation.



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