

Hira Industries LLC - Aeroduct Division

VIETNAM PRESENTATION



"Serving the Electro Mechanical Industry Since 1980"

Flexible Duct Connectors in Ductwork

Models and Applications

Flexible Duct Connectors

- Installed between equipment and ducting.
- Helps to Eliminate Noise and Vibrations through ductwork.
- Important to select right fabric for each application.



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Fabrics

- Vinyl – Commonly used fabric for clean Air Systems.
- Silicon – High Temperature : 400 deg C for 2 hours. Fire rated fans.

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Technical points

- Vinyl :—
 - Basic fabric is polyester yarn coated with vinyl.
 - Weight is 576 g/m²
 - Tear strength is 45x45 kg/m²
 - Tensile strength is 108 x 100 kg/m²
 - Low temperature -40 deg
 - High Temp +93deg
 - UL classified
 - Achieves class 1 as per ASTM E-84

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Technical points

- Silicon :—
 - Basic fabric is Woven Fiberglass coated with silicon rubber.
 - Weight is 627 g/m²
 - Tear strength is 27x22 kg/m²
 - Tensile strength is 81x90 kg/m²
 - Low temperature -40 deg
 - High Temp 400 deg
 - UL classified
 - Achieves class 1 as per ASTM E-84
 - Rated for class 1 as per BS 476, Part 7 flame test

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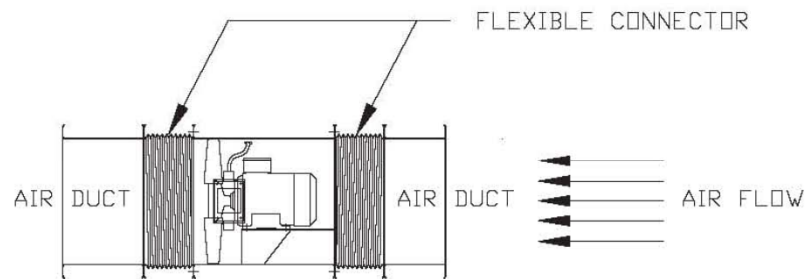
Insulated Duct Connector

- 25mm thick fiberglass Insulation sandwiched between two layers of fabrics.
- Eliminates condensation at the joint.

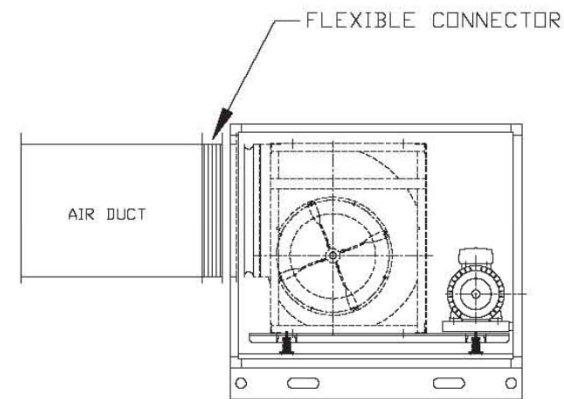


Application

Typical Application



EXHAUST FANS



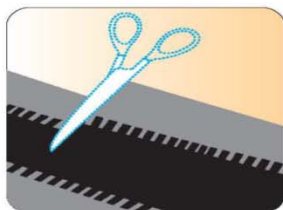
FAN COIL / AIR HANDLING UNITS

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RECOMMENDED INSTALLATION PROCEDURE

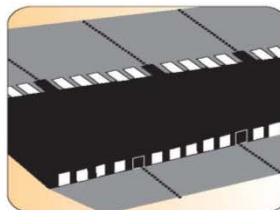
Ensure that the notched side of the connector faces outward and position the joint in the middle of a side rather than at a corner.

1.



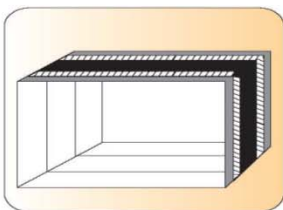
Remove the roll from the box, and cut the connector to the required length.

2.



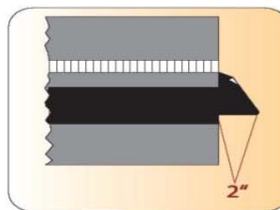
Holding the seam portion upwards to an angle of 90 degrees, make notches at the points where bending is required.

3.



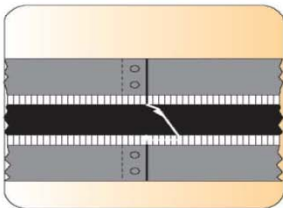
Bend the connector to form the required shape.

4.



From the end of the connector, cut away the metal portion exposing only the fabric, with length of around 2 inches.

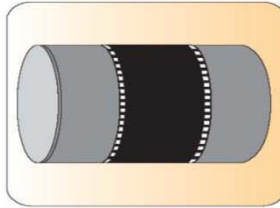
5.



Join the two ends of the sheet metal by using rivets or screws. Apply a liberal amount of adhesive on the fabric portion under the tongue, and hold the joint for few seconds to ensure the seal.

One side of the connector to be fixed with rivets on the mouth of the equipment and the other side to be fixed with rivets onto duct.

6.



Round Flexible connections can also be fabricated using the same procedure.

Testing Standards

- ASTM E 84
- NFPA 701 (UL Classified)
- BS 476, Part 7
- BS 476 , Part 6
- High Temperature Rating
- GWP and ODP

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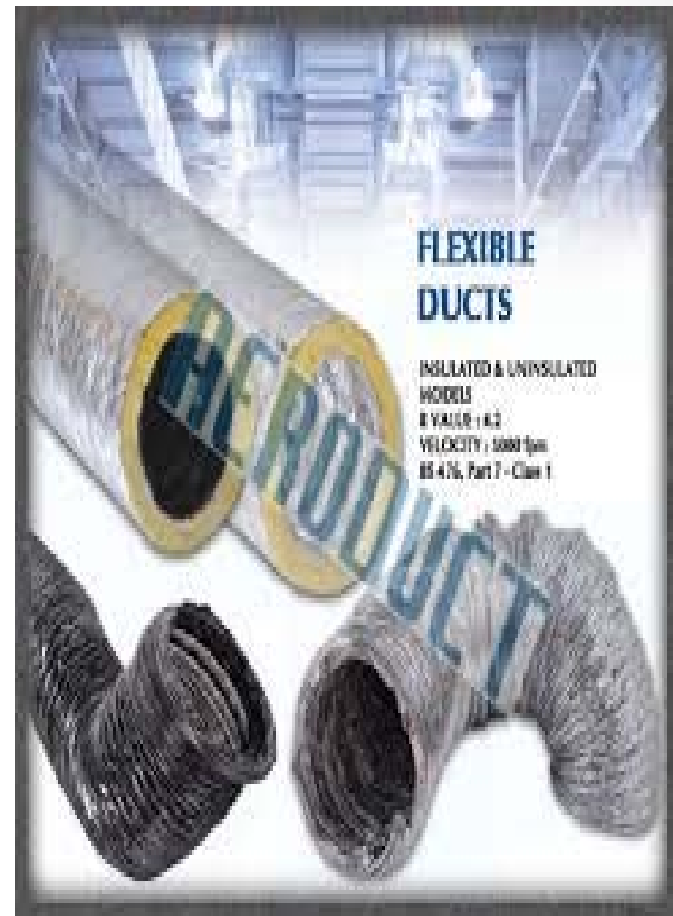


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Flexible Ducts

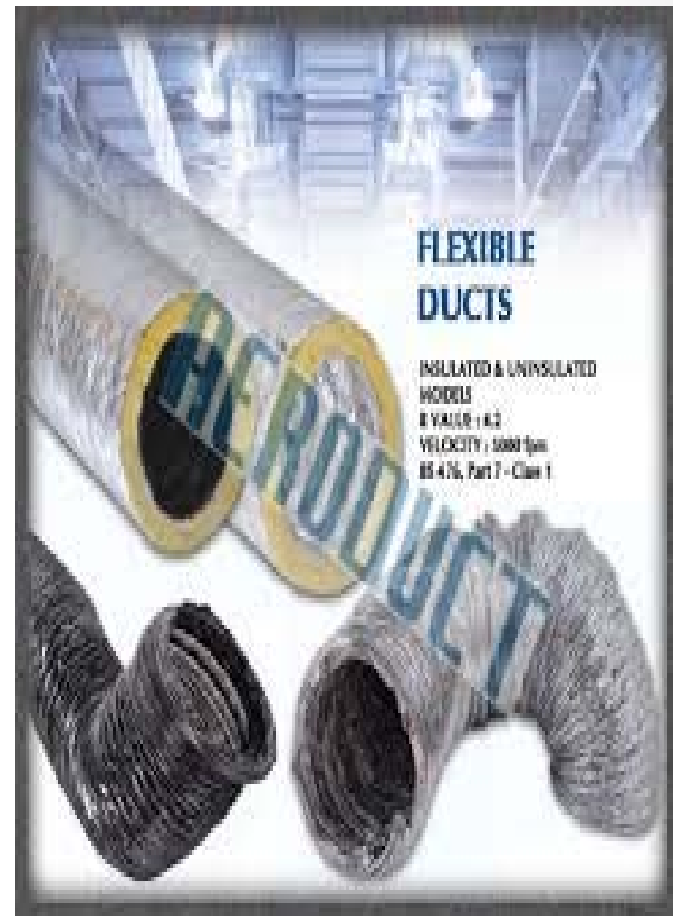
- Aeroduct Flexible Duct is a tough, completely flexible and low weight duct which is extensively employed in ventilation and air conditioning structure for residential, commercial and industrial applications.
- Available in insulated and uninsulated models.

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Flexible Ducts

- Insulated flexible ducts available in various options like double and triple laminated inner core. Or with reinforced type vapor barrier.
- Uninsulated models are also available is triple or double laminated films.



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Insulated Flexible Ducts



Specifications	Insulated	Insulated	Insulated - Reinforced Barrier	Insulated - Reinforced Barrier
MODEL No	ADI1	ADI2	ADIR-1	ADIR-2
Inner Core	Double laminated polyester film, with black pigmented adhesive, permanently bonded to corrosion resistant steel wire helix.	Triple laminated aluminum foil, polyester film, permanently bonded to corrosion resistant steel wire helix.	Double laminated polyester film, with black pigmented adhesive, permanently bonded to corrosion resistant steel wire helix.	Triple laminated aluminum foil, polyester film, permanently bonded to corrosion resistant steel wire helix.
Outer Core	Strong vapour barrier made from metallized polyester film laminate.	Strong vapour barrier made from metallized polyester film laminate.	Triple laminated aluminum foil, polyester and metallized polyester film with fibreglass scrim reinforced vapour barrier.	Triple laminated aluminum foil, polyester and metallized polyester film with fibreglass scrim reinforced vapour barrier.

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Uninsulated Flexible Ducts

Specification Data



Specifications	Uninsulated	Uninsulated	Uninsulated
MODEL No	ADUI3	ADUI4	ADUI5
Inner Core	Triple laminated aluminum foil, polyester film, permanently bonded to corrosion resistant steel wire helix.	Double laminated metallized film, permanently bonded to corrosion resistant steel wire helix.	Double laminated polyester film, with black pigmented adhesive, permanently bonded to corrosion resistant steel wire helix.

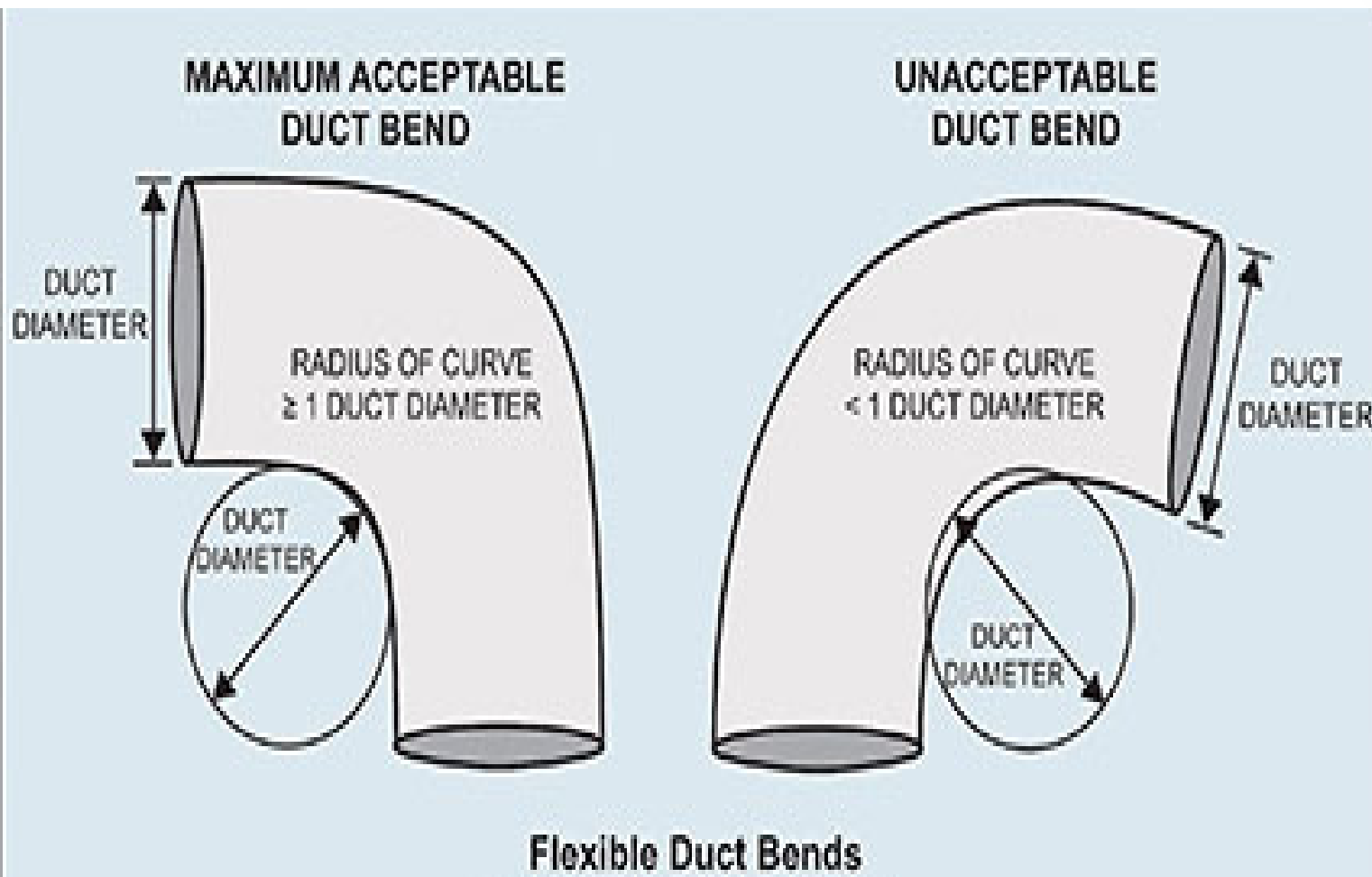
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Testing Standards and Specification

- BS 476, Part 7 – Class 1
- BS 476, Part 6 - Class 0
- Velocity : 5000fpm (25.4 m/s)
- All Aeroduct Flexible ducts are design to meet NFPA 90A and NFPA 90B standards.
- Insulation used is Greenguard approved and formaldehyde free as option.

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Installation process

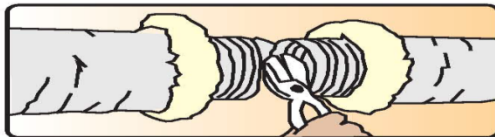


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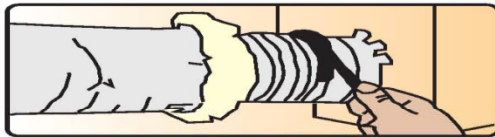
Installation process

RECOMMENDED INSTALLATION PROCEDURE

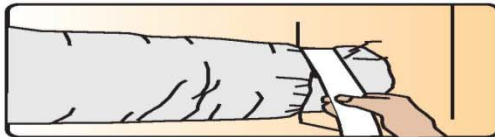
CONNECTIONS



Cut completely around and through the duct with knife or scissors. Cut the wire with wire cutters. Fold back the jacket and insulation.



Slide at least 1" (25mm) of core over fitting and past the bead. Seal core to cover with 2 wraps of duct tape. Secure the connection with clamp placed over the core and tape and past the bead.

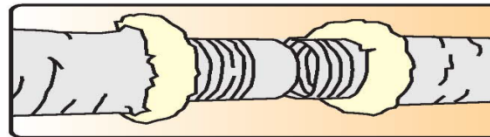


Pull jacket and insulation back over the core. Use at least 2 wraps of duct tape to tape the jacket. You may use a clamp along with or instead of the duct tape.

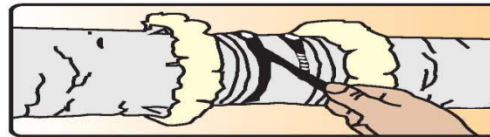
Precautions during installation:

Aeroduct insulated ducts use fibreglass insulation which is classified as a possible cancer hazard by inhalation. In addition fibreglass insulation may cause temporary irritation to the eyes and skin. Kindly ensure that protective clothing, face mask and gloves are used while handling or installing the flexible ducts. Wash hands properly with soap and water after use.

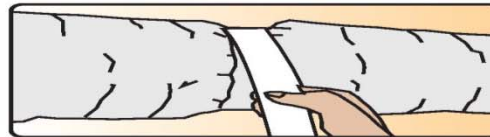
SPLICES



Fold back jacket and insulation from core. Butt 2 cores together on a standard 4" (100mm) length metal sleeve.



Use at least 2 wraps of duct tape to tape the jacket. Secure the connection with clamp placed over the core and tape and past the bead.



Pull jacket and insulation back over cores. Use at least 2 wraps of duct tape to tape the jacket.

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Wish You a Good luck



THANK YOU