

Quality People. Building Solutions.

Comfort Systems USA (Arkansas), Inc.
P.O. Box 16620
Little Rock, AR 72231
Phone 501-834-3320
Fax 501-834-5416

Date: 2/12/2024

Return Request: 2/22/2024

Project: Arkansas Children's Hospital – 4D Renovations

Supplier: Custom Metals

Manufacturer: Various

Submittal: HVAC Ducts & Casings

Submittal Number: 23 31 00-01

Drawing # and Installation: Mechanical Drawings

ARCHITECT

Cromwell
1300 E. 6th Street
Little Rock, AR 72202
501-372-2900

ENGINEER

Cromwell
1300 E. 6th Street
Little Rock, AR 72202
501-372-2900

GENERAL CONTRACTOR

Nabholz
612 Garland St.
Conway, AR 72032
501-505-5800

MECHANICAL SUBCONTRACTOR

Comfort Systems USA (Arkansas), Inc.
9924 Landers Rd.
N. Little Rock, AR 72117
501-834-3320

Notes:



Job: **ACH 4D Renovations**

Spec Section: **HVAC**

Item: **High Pressure Spiral Ducts**

Submitted by:

Joe Minton Jr.

HVAC Project Manager

(501) 607-0043

02-09-2024



QUOTE #:

DATE: 2/9/2024

PROJECT: ACH 4D Renovations

LOCATION: Little Rock, AR

ENGINEER: Cromwell

CUSTOMER: Wade Company

SYSTEM

PRODUCT

Single Wall Round Spiral
Duct and Matching Fittings.

CONSTRUCTION

All spiral pipe and fittings
are manufactured in
accordance with the latest
edition of SMACNA 2005
Duct Construction Standards

MATERIAL

G-60 Paint Grip G-90 Galvanized

Steel is of lock-forming quality, conforming to A-653 standards manufactured as Spiral Lock-seam in accordance with the following table:

SPIRAL PIPE

Diameter
6"-14" 26

FITTINGS

Diameter
6"-14" 24

BRANCH TAPS

High Efficiency Taps Straight Taps
 Lateral Taps Conical Taps

FITTING / ASSEMBLY SEAMS

Tack Welded & Sealed

CONNECTIONS

Coupling Slip-Fit
 Accu-Flange Factory Installed

SPIRAL PIPE – RECTANGLE DUCT – FITTINGS – SEALANT

P.O. Box 14439 – 5936 Eden Drive – Haltom City, TX 76117

1-800-299-8340 – Fax: 817.834.2971 – E-Mail spiral@landlfab.com

www.landlfab.com





Fabrication
HVAC Metal Products

FITTING INFORMATION

- Provided As ManifolDED System (Taps And Reducers Factory Installed On Duct)
- Provided As A Loose System (Taps And Reducers Sent Loose For Field Installation)

ELBOW RADIUS PROVIDED AS

- 1 1/2 x Diameter

Comments:

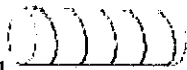
SPIRAL PIPE – RECTANGLE DUCT – FITTINGS – SEALANT

P.O. Box 14439 – 5936 Eden Drive – Haltom City, TX 76117

1-800-299-8340 – Fax: 817.834.2971 – E-Mail spiral@landlfab.com

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SPIRAL PIPE

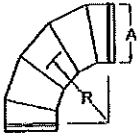
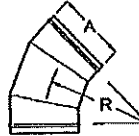
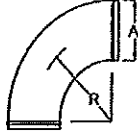
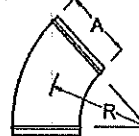
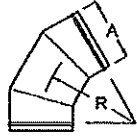
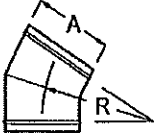
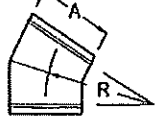
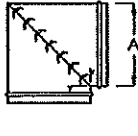

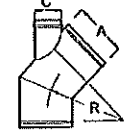
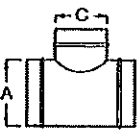
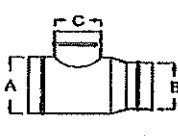
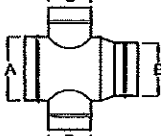
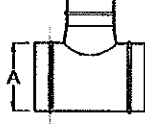
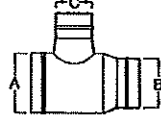
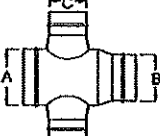
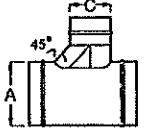
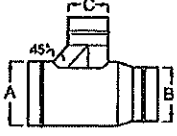
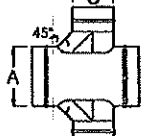
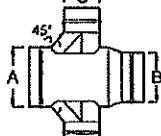

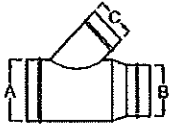
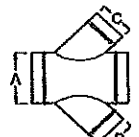
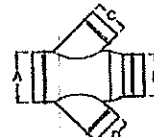
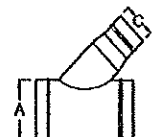
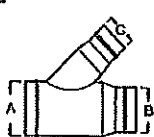
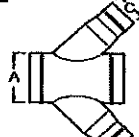



SPIRAL DIVISION



LONG SEAM PIPE

Project: ACH 4D Renovations

Quote #:

SINGLE WALL ROUND PIPE & FITTINGS				
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E5-90	E3-45	SE-90	SE-45	E3-60
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E2-30	E2-22 1/2	EV2-90	HTE3-90	HTE2-45
<input type="checkbox"/> 	<input type="checkbox"/> 	<input type="checkbox"/> 	<input type="checkbox"/> 	<input type="checkbox"/> 
T1	T1R	T2R	CT1	CT1R
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CT2R	HT1	HT1R	HT2	HT2R
<input type="checkbox"/> 	<input type="checkbox"/> 	<input type="checkbox"/> 	<input type="checkbox"/> 	<input type="checkbox"/> 
L1	L1R	L2	L2R	CL1
<input type="checkbox"/> 	<input type="checkbox"/> 	<input type="checkbox"/> 	<input checked="" type="checkbox"/> 	<input type="checkbox"/> 
CL1R	CL2	CL2R	R1	ER1

Dimensions: A = Inlet Size B = Outlet Size C, D = Branch Sizes R = Radius

*Items checked or highlighted are included in this project.



Job: **ACH 4D Renovations**

Spec Section: **HVAC**

Item: **Rectangle Ducts**

Submitted by:

Joe Minton Jr.

HVAC Project Manager

(501) 607-0043

02-09-2024

HVAC DUCT CONSTRUCTION STANDARDS METAL AND FLEXIBLE

THIRD EDITION – 2005

• DWM Rectangular Duct & Fittings are available in the following materials

- Galvanized G60 & G90
- Phosphatized (Paint-Grip)
- 304L Stainless Steel
- 316L Stainless Steel
- Polyvinyl Coated
- Aluminum

• Special materials are available. Please contact representative for more information.

• DWM products are manufactured in accordance with applicable SMACNA, ASHRAE & ASTM A 653 standards.



SHEET METAL AND AIR CONDITIONING CONTRACTORS'
NATIONAL ASSOCIATION, INC.

4201 Lafayette Center Drive
Chantilly, VA 20151-1209

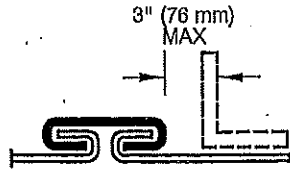
www.smacna.org

Project: _____ Job No: _____

Location: _____ Date: _____

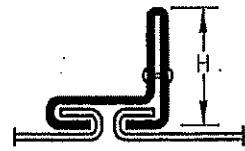
Mechanical Contractor: _____

**RECTANGULAR DUCT
CONSTRUCTION**



T-1 - DRIVE SLIP
T-3 - REINFORCED

- Gage no less than two gages less than duct gage
- 24 ga minimum
- Qualification as reinforcement per Table 2-48
- T-3 - Slip Gage as per T-1
 - Any length at 2 in. wg
 - 36 in. maximum length at 3 in. wg
 - 30 in. maximum length at 4 in. wg
 - Not allowed above 4 in. wg

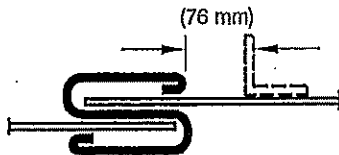


STANDING DRIVE SLIP
T-2

- Fasten standing portions within 2 in. of each end and elsewhere at 8 in. spacing or less
- Any length at 2 in. wg
- 36 in. maximum length at 3 in. wg
- 30 in. maximum length at 4 in. wg
- Not allowed above 4 in. wg

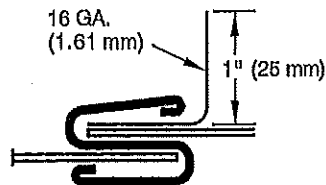


PLAIN "S" SLIP
T-5



T-6 HEMMED "S" SLIP
(T-6a REINFORCED)

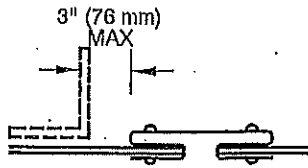
- Not less than two gages less than duct gage
- 24 ga minimum
- When used on all 4 sides, fasten within 2 in. of the corners and at 12 in. maximum intervals
- 2 in. wg maximum pressure



REINFORCED "S" SLIP
T-7

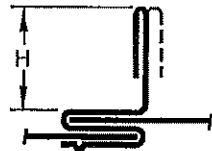
- Use slips conforming to T-6
- Use 16 ga angle of 1 in. height into slip pocket
- Fasten with screws at ends
- Angle used only for A, B, or C rigidity class
- 2 in. wg maximum pressure

FIGURE 2-1 RECTANGULAR DUCT/TRANSVERSE JOINTS

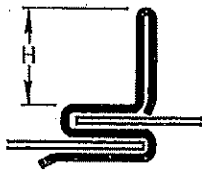


T-8 DOUBLE "S" SLIP
(T-8a REINFORCED)

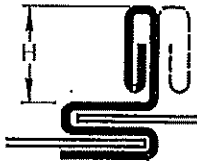
- 24 ga for 30 inch width or less
- 22 ga over 30 inch width
- Fasten to each section of the duct within 2 in. from corners and at 6 in. maximum intervals
- 5/8 in. minimum tabs to close corners



STANDING S
T-10

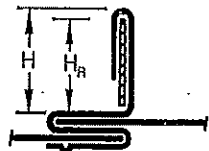


STANDING S (ALT)
T-11



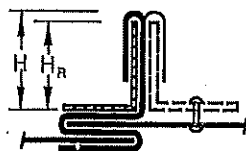
STANDING S (ALT)
T-12

- When using S on all four sides, fasten slip to duct within 2 in. of the corner and at 12 in. maximum intervals
- Any length at 2 in. wg
- 36 in. maximum length at 3 in. wg
- 30 in. maximum length at 4 in. wg
- Not allowed above 4 in. wg



STANDING S
(BAR REINFORCED)
T-13

- Fasten as per Joint T-10
- Standing portion as per T-10 or T-11 to hold Flat Bar
- Fasten bar stock to the connector within 2 in. of the corner and at 12 in. maximum intervals
- Any length at 2 in. wg
- 36 in. maximum length at 3 in. wg
- 30 in. maximum length at 4 in. wg
- Not allowed above 4 in. wg



STANDING S
(ANGLE REINFORCED)
T-14

- Fasten as per Joint T-10
- Fasten angle to the connector or duct wall within 2 in. of the corner and at 12 in. maximum intervals
- Any length at 2 in. wg
- 36 in. maximum length at 3 in. wg
- 30 in. maximum length at 4 in. wg
- Not allowed above 4 in. wg

FIGURE 2-1 RECTANGULAR DUCT/TRANSVERSE JOINTS (CONTINUED)

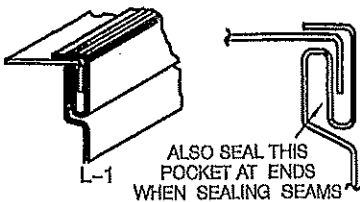
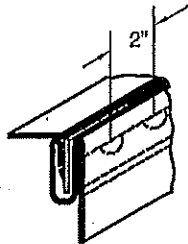

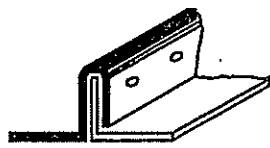
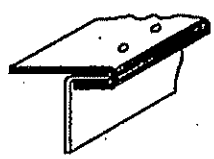
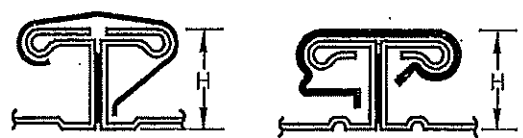
 <p>L-1 ALSO SEAL THIS POCKET AT ENDS WHEN SEALING SEAMS</p> <p>PITTSBURGH LOCK</p>	<ul style="list-style-type: none"> • Pocket depth from ¼ in. to ⅝ in. • Use on straight duct and fittings • To ± 10 in. wg
 <p>L-2 BUTTON PUNCH SNAP LOCK</p>	<ul style="list-style-type: none"> • ⅝ in. pocket depth for 20, 22, and 24 ga • ½ in. pocket depth for 24 and 26 ga • To ± 4 in. wg • Screws must be added at the ends of all duct of 4 in. wg and at the ends of 3 in. wg when the duct is over 48 in. width
 <p>L-3 GROOVED SEAM ALSO CALLED FLAT LOCK AND PIPE LOCK</p>	<ul style="list-style-type: none"> • To ± 10 in. wg
 <p>SEE FIG. 2-7 ALSO</p> <p>L-4 STANDING SEAM</p>	<ul style="list-style-type: none"> • To ± 10 in. wg • 1 in. seam up to duct width of 42 in. • 1 ½ in. seam for larger ducts • May be used on duct interiors • Fasten at 2 in. maximum from ends and at 8 in. maximum intervals
 <p>L-5 SINGLE CORNER SEAM</p>	<ul style="list-style-type: none"> • To ± 10 in. wg • Fasten as per L-4
 <p>FLANGED (WITH GASKET) T-25a</p> <p>FLANGED (WITH GASKET) T-25b</p>	<ul style="list-style-type: none"> • Assemble per Figure 2-17. • Ratings may be adjusted with EI-rated bar stock or members from Tables 2-29 and 2-30 • Supplemental members may be attached to the duct wall on both sides of the joint • Single members may be used if they are fastened through both mating flanges • Gasket to be located to form an effective seal

FIGURE 2-2 RECTANGULAR DUCT/LONGITUDINAL SEAMS

SEE TABLES 2-47 AND 2-48.
 DUCTS WITH FLAT SLIP CONNECTORS
 AND NO REINFORCEMENT
 SEE OTHER FIGURES AND TEXT
 FOR COMPLETE REQUIREMENTS
 AND LIMITATIONS

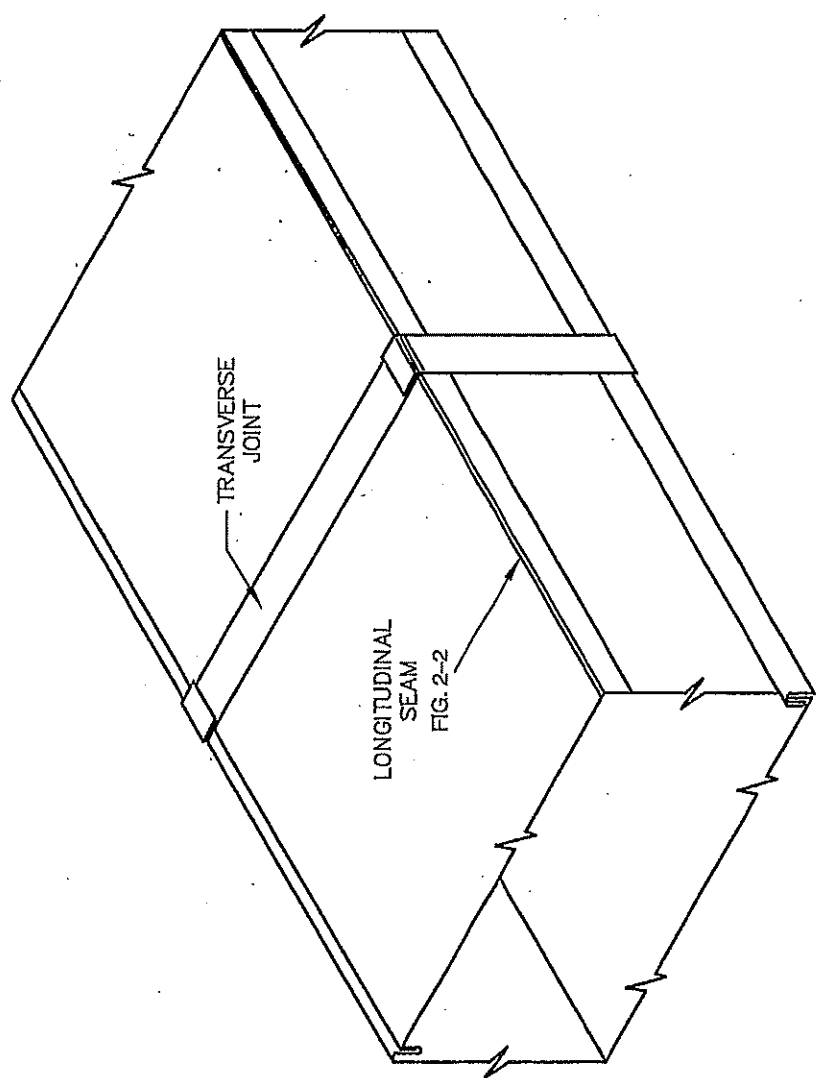
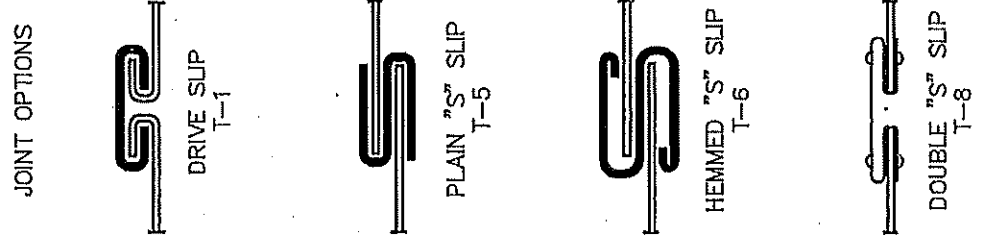


FIGURE 2-8 UNREINFORCED DUCT



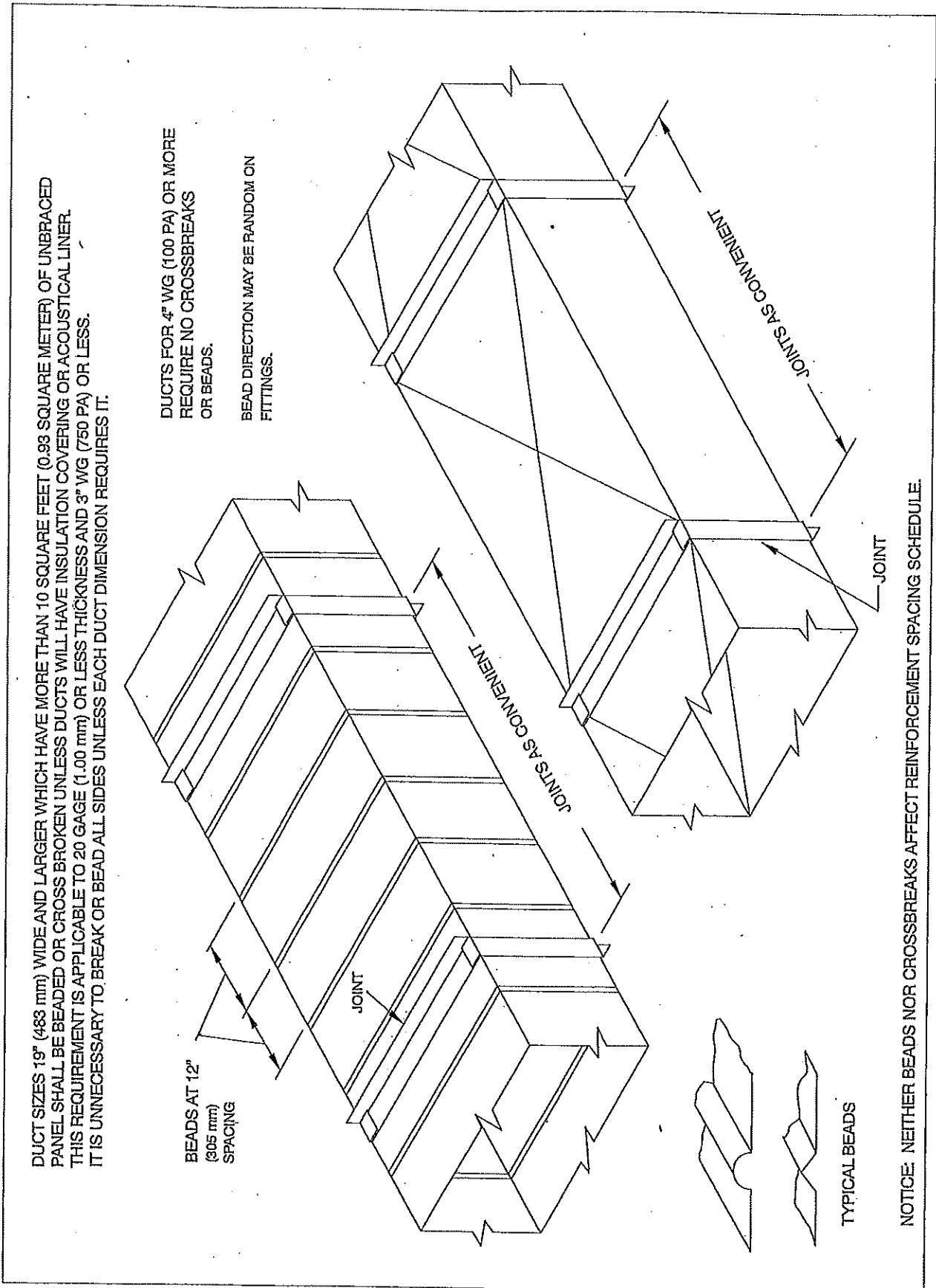


FIGURE 2-9 CROSSBROKEN AND BEADED DUCT



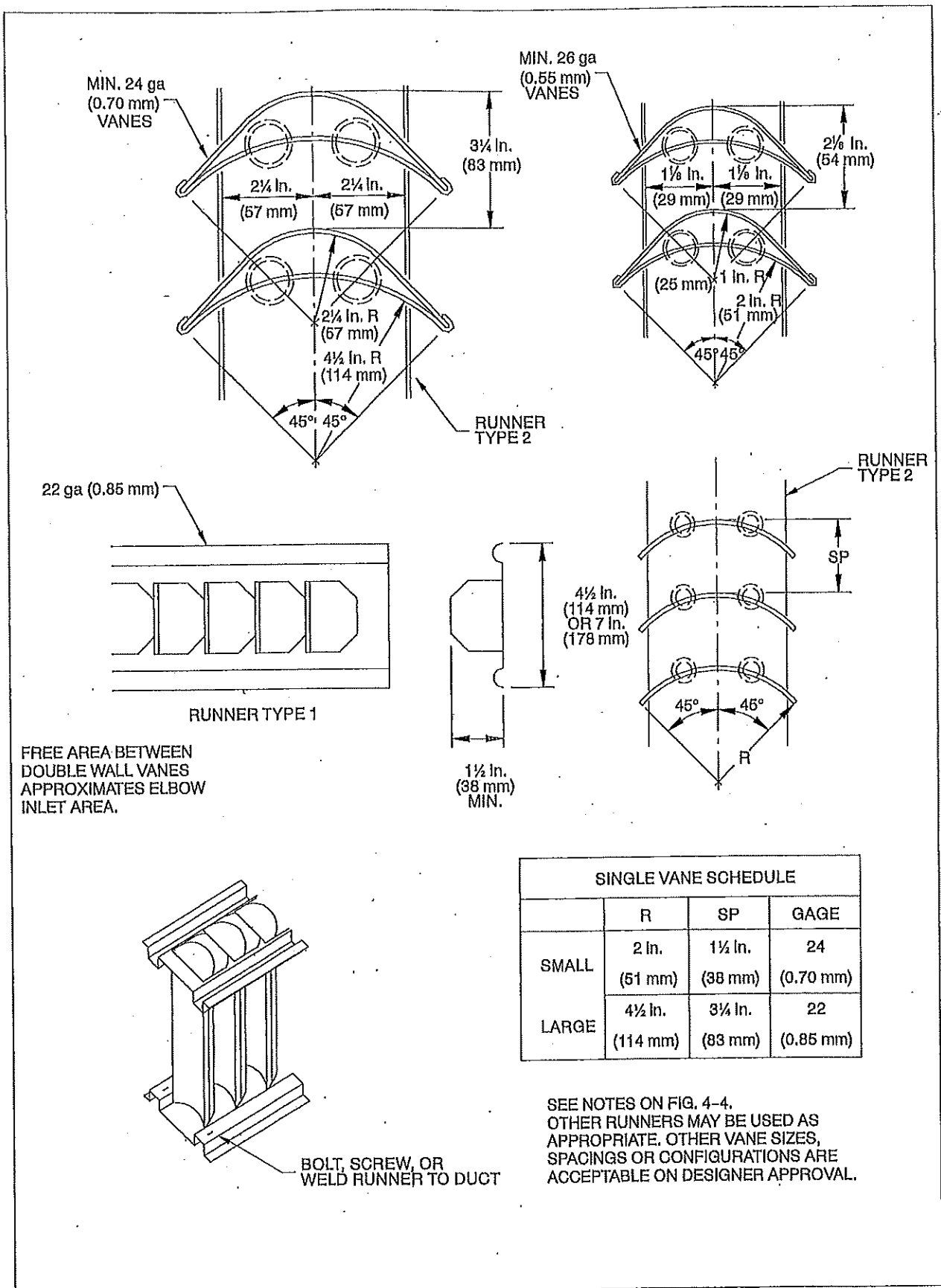


FIGURE 4-3 VANES AND VANE RUNNERS

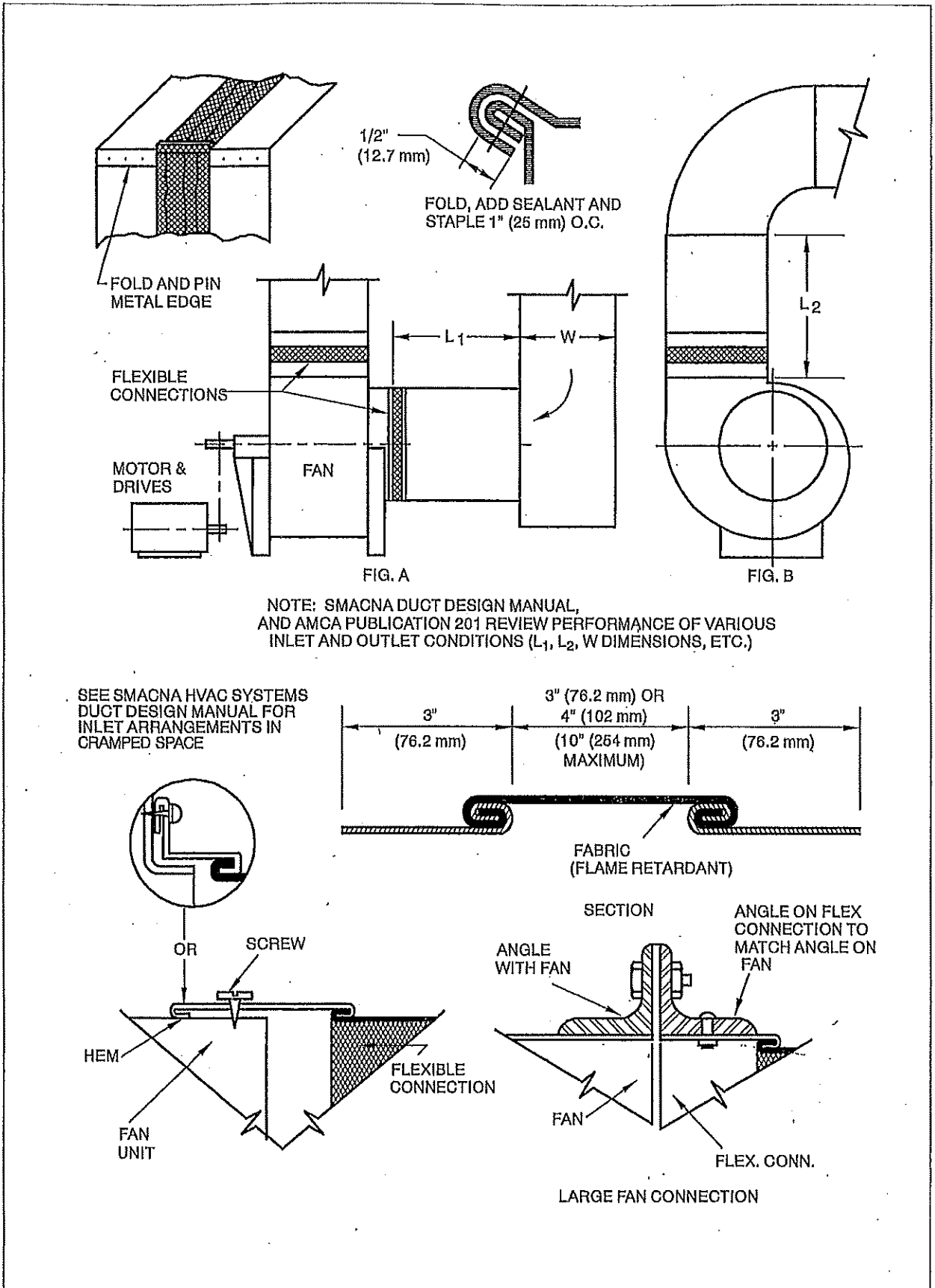
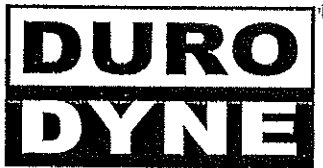


FIGURE 7-8 FLEXIBLE CONNECTIONS AT FAN

SUBMITTAL RECORD

JOB _____
 LOCATION _____
 SUBMITTED TO _____
 SUBMITTAL PREPARED BY _____
 APPROVED BY _____
 DATE _____

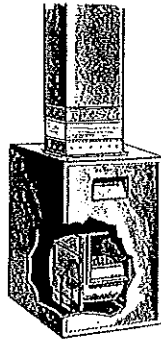


**Submittal Form
 DDFDC
 Flexible Duct Connector**

DESCRIPTION

All air duct installations for heating, cooling or ventilation are attached to mechanical equipment containing a fan or blower. Vibrations, noises and rattles resulting from operation of the fan or blower are transmitted into the metal ducts which carry the noises throughout the system.

In order to isolate the vibration and noises to the source, an air-tight flexible joint, consisting of a fabric which is attached to sheet metal on both side, must be inserted between the equipment and the ductwork. This vibration isolator is called a "Flexible Duct Connector".



RELATED NFPA 90A & 90B STANDARDS

2-3.2.2 Vibration isolation connectors in duct systems shall be made of an approved flame-retardant fabric or shall consist of sleeve joints with packing of approved material, each having a maximum flame spread index of 25 and a maximum smoke developed index of 50. Exception: Approved flame-retardant fabric having a maximum length of 10 in. (25.4 cm) in the direction of airflow-NFPA No. 90A 1999

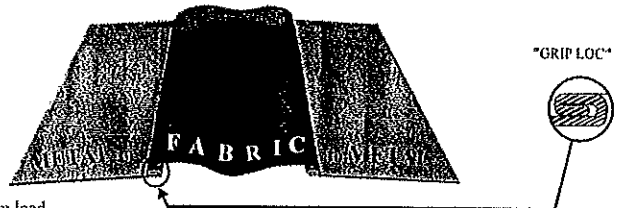
2-1.1.1 Exception No. 3: Vibration isolation connectors in duct systems shall be made of approved flame-retardant fabric or shall consist of sleeve joints with packing of approved noncombustible material. The fabric shall not exceed 10 in. (254 mm) in length in direction of airflow-NFPA No. 90B 1999

FABRIC COMPARISONS	Excelon ¹	Neoprene	Durolon	Insulflex ⁴	Thermafab ⁵	Envirofab	Teflon	Glassent
UL Classified File #	R4462	R4462	R4462	n/a	R4462	R4462	n/a	R4462
Continuous Temp. Range	-40°F. to 180°F.	-40°F. to 200°F.	-40°F. to 250°F.	-40°F. to 180°F.	-65°F. to 500°F.	-40°F. to 200°F.	-150°F. to 500°F.	-40°F. - 180°F.
Color	Black or Spec Chk Orange	Black	White	Black	Grey	Black/White	Grey Outside/ Beige Inside	Grey & Black
Weight Per Square Yard	22	30	26	28 (composite weight)	17	18	16.5	16
Abrasion Resistance ¹	15,000 cycles	600 cycles	500 cycles	500 cycles	125 cycles	15,000 cycles	1,000 cycles	1,400 cycles
Leakage Resistance ²	350	395	250	125	400	350	650	120
Tear Strength ³	100/100	12/12	12/12	8/11	50/40	60/80	50/30	8/9
Tensile Strength ⁴	240/220	500/450	225/300	70/70	200/150	200/190	400/300	90/90
Base Fabric	Woven Nylon/ Polyester Blend	Woven Fiberglass	Woven Fiberglass	Polyester	Woven Fiberglass	Polyester	Fiberglass/ Satin Weave	Woven Fiberglass
Coating	Vinyl	Neoprene	Hypalon	Vinyl	Silicon Rubber	Proprietary Vinyl Blend	Teflon	Vinyl
Features	High Tear Strength High Abrasion Resistance	General Purpose	Excellent Ozone and Weathering Resistance Best Overall Acid Resistance	Low Smoke Emission Insulated 3-4-3 Configuration	Very Low Smoke Emission High Temperature Resistant	"Green" 10% Recycled Content UV Reflective Puncture Resistant	High Temperature Resistant High Corrosion Resistance Excellent Chemical Resistance	Resistant to Acids & Chemical Fumes Resistant to Grease & Alkalies Unaffected By Mildew
Codes								
Metal-Fab 3x3x3 Grip Loc	MBX333 (#10159) MSPX333 (#10263)	MFN333 (#10003)	MFD333 (#10002)	IDC343 (#10173) *Gauge: 28 †Guard Loc	MFT333 (#10005)	MEV333 (#10301)	MCT333 (#10278)	MGL333 (#10004)
Super Metal-Fab 3x6x3 Grip Loc	MB6X363 (#10160) MSP6X363 (#10265)	MF6N363 (#10012)	MF6D363 (#10011)	Not Available	MF6T363 (#10013)	Not Available	Not Available	MF6G363 (#10016)
TDC/TDF 4x4x4 Grip Loc	MBX444 (#10210) MSPX444 (#10264) MBX464 (#10214)	MFN444 (#10211) MFN464 (#10246)	MFD444 (#10237) MFD464 (#10245)	Not Available	Not Available	MEV444 (#10300)	MCT444 (#10279)	Not Available

All Metal-Fab, Super Metal-Fab and TDC/TDF Flexible Duct Connectors are manufactured with 24 gauge galvanized steel. Other materials are available upon request. Stainless Steel configurations utilize 304 or 316 grade material.

Notes:

1. Abrasion resistance as per Federal Test Standard 191 Method #5306 using CS 17 wheel with 250 Gram load.
2. Leakage resistance as per Federal Test Standard 191 Method #5512. Results in P.S.I. (To convert inches of water multiply P.S.I. x 27.176.)
3. Tear strength in tongue pounds as per Federal Test Standard 191 Method #5134.1 (warp/fill).
4. Tensile strength in grab pounds as per Federal Test Standard 191 Method #5100 (warp/fill).
5. Standard Excelon is not LA city approved. Use Excelon-LA when LA city approval is necessary. (See Specification Form Excelon-LA - 203)



All Duro Dyne Flexible Duct Connector Products are suitable for pressures of -10 to +15 wg. Duro Dyne's standard single fold metal to fabric grip has been tested by an independent testing laboratory to withstand a negative pressure of -10" WC and a positive pressure of +17.25" WC with no tearing or visible separation.

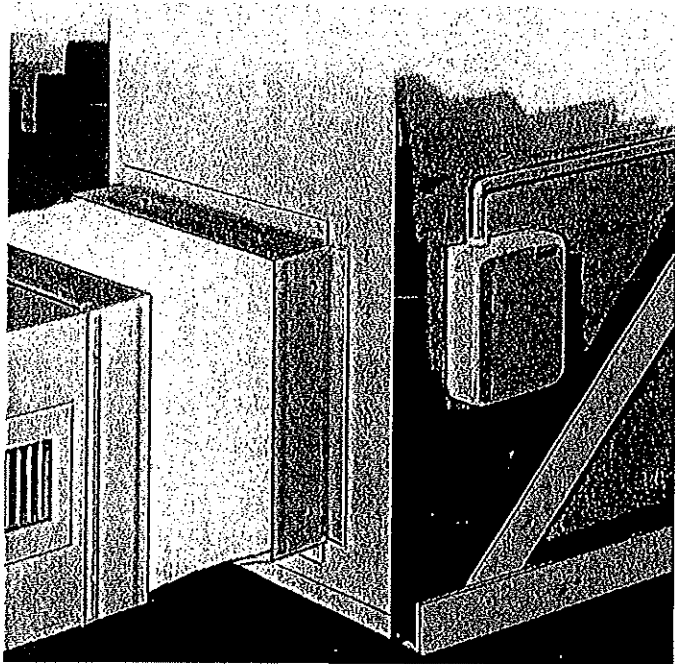
SUGGESTED SPECIFICATION

Vibration Isolating Flexible Duct Connector For Heating, Cooling & Exhaust Supplies & Returns.

At the inlet and discharge of all air handling equipment(unless otherwise noted) furnish and install vibration isolators. Vibration isolators shall be a coated woven fabric named _____ and shall be "Underwriters Laboratories Classified".

Vibration isolators shall have a tear strength of not less than _____, and a continuous temperature range of _____. Vibration isolators shall be preassembled metal to exposed fabric to metal. Fabric and metal shall be joined by means of a double lock seam.

Vibration isolators shall be code _____ (called Flexible Duct Connectors) as manufactured by Duro Dyne Corporation, Bay Shore, N.Y.



DURO DYNE[®]

Specifications

All Listed Duro Dyne Flexible Duct Connector Fabrics are designed to meet the following specifications:

1. MIL-C-20696B Para. 4.4.3. (Oil Resistance).
2. MIL-C-20696B Para. 4.4.4. (Hydro Carbon Resistance).
3. NFPA 90A Installation of Air Conditioning and Ventilating Systems Para. 4.3.2.2 2012 Edition.
4. NFPA 90B Warm air heating and air conditioning systems. Para. 4.1.1.1.3.1 2012 Edition. (*See note 1 below)
5. NFPA 701 Tests for Flame Propagation of Fabrics and film.
6. California State Fire Marshal Approved.
7. Los Angeles City Approved. (*See note 2 below)
8. Denver City Approved.

All Duro Dyne Flexible Duct Connectors utilize galvanized steel meeting ASTM-A-525 G 60 or better.

Duro Dyne Flexible Duct Connectors are also available with 300 series stainless steel or 3003 aluminum upon request.

*Note 1 - Standard Excelcon does not currently meet NFPA 90B 2012 but does meet all previous editions. Use Excelcon-LA if NFPA 90B 2012 approval is necessary.

**Note 2 - Standard Excelcon is not LA city approved. Use Excelcon-LA when LA city approval is necessary. (See Submittal Form for Excelcon-LA)

CHEMICAL RESISTANCE

(X = Extremely Resistant)

(NR = Not Recommended)

(O = No Data Available)

Chemical	Excelcon								Chemical	Excelcon							
	Neoprene	Duroton	Insulflex	Thermafab	Envirofab	Teflon	Glassel	Neoprene		Duroton	Insulflex	Thermafab	Envirofab	Teflon	Glassel		
Acetic Acid	NR	X	X	NR	NR	NR	X	NR	Hydrofluoric Acid (100%)	NR	X	X	NR	NR	NR	X	NR
Aluminium Chloride	X	X	X	X	X	X	X	X	Hydrogen Peroxide	X	NR	X	X	X	X	X	X
Aluminium Sulfate	X	X	X	X	X	X	X	X	Hydrogen Sulfide	X	X	X	X	O	X	X	X
Ammonia (Anhyd)	X	X	X	X	X	X	X	X	Lactic Acid	NR	X	X	NR	O	NR	X	NR
Ammonium Hydroxide	X	X	X	X	X	X	X	X	Linseed Oil	NR	X	X	NR	X	NR	O	NR
Ammonium Sulfate	X	X	X	X	X	X	X	X	Magnesium Chloride	NR	X	X	NR	NR	NR	X	NR
Barium Sulfide	X	X	X	X	O	X	X	X	Maleic Acid	X	NR	X	X	X	X	O	X
Black Sulfate Liquor	X	X	X	X	NR	X	X	X	Methyl Alcohol	NR	X	X	NR	NR	NR	X	NR
Boric Acid	X	X	X	X	X	X	X	X	Methyl Cellosolve	NR	X	X	NR	NR	NR	O	NR
Butyl Alcohol	NR	X	X	NR	NR	NR	X	NR	Mineral Oil	X	X	X	X	NR	X	X	X
Cadmium Plating Solution	X	NR	NR	NR	O	X	O	X	Naptha	NR	NR	NR	NR	X	NR	X	NR
Calcium Chloride	X	X	X	X	X	X	X	X	Nickel Chloride	X	X	X	X	O	X	X	X
Calcium Hypochlorite	X	NR	X	X	O	X	X	X	Nickel Sulfate	X	X	X	X	X	X	X	X
Chlorine Water	X	NR	NR	X	NR	X	O	X	Nitric Acid (40%)	X	NR	X	X	NR	X	X	X
Chromic Acid	X	NR	X	X	O	X	X	X	Oleic Acid	X	NR	NR	X	NR	X	X	X
Chromium Plating Solution	X	O	O	NR	O	X	O	X	Oleum	NR	NR	X	NR	O	NR	X	NR
Citric Acid	X	X	X	X	X	X	X	X	Oxalic Acid	X	X	X	X	X	X	X	X
Copper Chloride	X	X	X	X	O	X	X	X	Phosphoric Acid (85%)	NR	X	X	NR	X	NR	X	NR
Copper Sulfate	X	X	X	X	O	X	X	X	Pickling Solution	X	NR	X	X	O	X	O	X
Cottonseed Oil	X	X	X	X	X	X	O	X	Potassium Chloride	X	X	X	X	O	X	O	X
Diacetone Alcohol	NR	X	X	NR	O	NR	O	NR	Potassium Cyanide	X	X	X	X	O	X	X	X
Disodium Phosphate	X	NR	NR	X	O	X	O	X	Potassium Dichromate	X	X	X	X	O	X	X	X
Ethyl Alcohol	NR	X	X	NR	NR	NR	X	NR	Potassium Hydroxide (40%)	X	X	X	NR	X	X	X	X
Ethylene Glycol	NR	X	X	NR	X	NR	X	NR	Potassium Sulfate	X	X	X	X	O	X	X	X
Ferric Chloride	X	X	X	X	X	X	X	X	Propyl Alcohol	NR	X	X	NR	NR	NR	O	NR
Ferric Sulfate	X	X	X	X	X	X	X	X	Sodium Chloride	X	X	X	X	X	X	X	X
Fluoroboric Acid	X	X	X	NR	O	X	O	X	Sodium Hydroxide (40%)	NR	X	X	NR	X	NR	X	NR
Formaldehyde (40%)	X	X	X	X	O	X	X	X	Sodium Hypochlorite	NR	NR	X	NR	NR	NR	X	NR
Formic Acid	X	X	X	X	O	X	X	X	Steam	NR	X	NR	NR	O	NR	X	NR
Glucose	X	X	X	X	X	X	X	X	Sulfur Dioxide (Liquid)	NR	X	X	NR	X	NR	X	NR
Glycerine	NR	X	X	NR	X	NR	X	NR	Sulfuric Acid (50%)	X	NR	X	NR	NR	X	X	X
Heptane	NR	X	X	NR	O	NR	X	NR	Sulfuric Acid (over 50%)	NR	NR	X	NR	NR	NR	X	NR
Hexane	NR	X	X	NR	O	NR	X	NR	Tannic Acid	X	X	X	X	O	X	X	X
Hydrobromic Acid (40%)	NR	X	X	NR	O	NR	X	NR	Vinegar	X	X	X	X	X	X	X	X
Hydrochloric Acid (conc)	NR	X	X	NR	NR	NR	X	NR									

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 Duro Dyne West Division, Fontana, CA
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