

**SUBMITTAL RECORD**

JOB \_\_\_\_\_  
 LOCATION \_\_\_\_\_  
 SUBMITTED TO \_\_\_\_\_  
 SUBMITTAL PREPARED BY \_\_\_\_\_  
 APPROVED BY \_\_\_\_\_  
 DATE \_\_\_\_\_

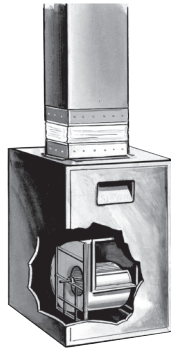


**Specification Form**  
**→ Stainless DDFDC ←**  
**Flexible Duct Connector**

**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. (45.4 cm) in the direction of airflow-NFPA No. 90A 1999

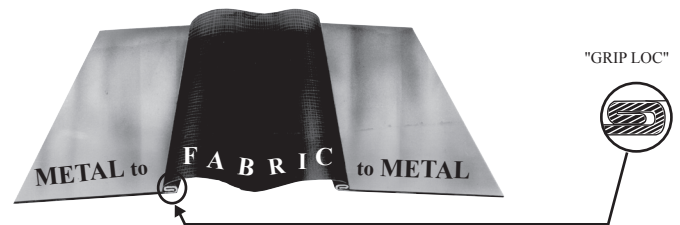
**2-1.1.1** Exception No. 3: Vibration isolation connectors in duct systems shall be made of approved flame-retardant fabric or shall consist of sleeve joints with packing of approved noncombustible material. The fabric shall not exceed 10 in. (254 mm) in length in direction of airflow-NFPA No. 90B 1999

| FABRIC COMPARISONS                                   | Excelon <sup>4</sup>                              | Neoprene                | Durolon  | Thermafab <sup>®</sup>                                    |
|--|---|-------------------------|--|---|
| Continuous Temp. Range                               | -40°F. to 180°F.                                  | -40°F. to 200°F.        | -40°F. to 250°F.   | -65°F. to 500°F.  |
| Color  | Black   | Black                   | White  | Grey  |
| Weight Per Square Yard                               | 22  | 30                      | 26   | 17  |
| Leakage Resistance <sup>1</sup>                      | 350   | 595                     | 250  | 400   |
| Tear Strength <sup>2</sup>                           | 100/100   | 12/12                   | 12/12  | 50/40   |
| Tensile Strength <sup>3</sup>                        | 240/220   | 500/450                 | 225/300  | 200/150   |
| Base Fabric  | Woven Nylon/<br>Polyester Blend                   | Woven Fiberglass        | Woven Fiberglass   | Woven Fiberglass  |
| Coating  | Vinyl   | Neoprene                | Hypalon  | Silicon Rubber  |
| Features   | High Tear Strength<br>High Abrasion Resistance    | General Purpose         | Excellent Ozone and<br>Weathering Resistance<br>Best Overall Acid Resistance | Very Low Smoke<br>Emission<br>High Temperature Resistance |
| Codes<br>Metal-Fab<br>3x3x3<br>Grip Loc <sup>+</sup> | MBXSS-100 (#10231)                                | MFNSS-100 (#10232)      | MFDSS-100 (#10234)   |   |
| TDC/TDF<br>4x4x4<br>Grip Loc                         | MBX4x4x4SS-100 (#10259)<br>MBX316SS4x4x4 (#10275) | MFN4x4x4SS-100 (#10260) | MFD316SS4x4x4 (#10276)   | MFT4x4x4SS-100 (#10261)                                   |
| TDC/TDF<br>4x6x4<br>Grip Loc                         | MBX4x6x4SS-100 (#10262)                           |                         |  |   |

The stainless steel Flexible Duct Connector is manufactured by Duro Dyne with stainless steel type 304\* and 316\*, .015 in thickness, with a 2B finish.

\*304 stainless steel: Item # 10231, 10232, 10234, 10259, 10260, 10261, 10262

\*316 stainless steel: Item # 10275, 10276



**Notes:**

1. 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.).
2. Tear strength in tongue pounds as per Federal Test Standard 191 Method #5134.1 (warp/fill).
3. Tensile strength in grab pounds as per Federal Test Standard 191 Method #5100 (warp/fill).
4. Standard Excelon is not LA city approved. Use Excelon-LA when LA city approval is necessary. (See Specification Form Excelon-LA - 203)

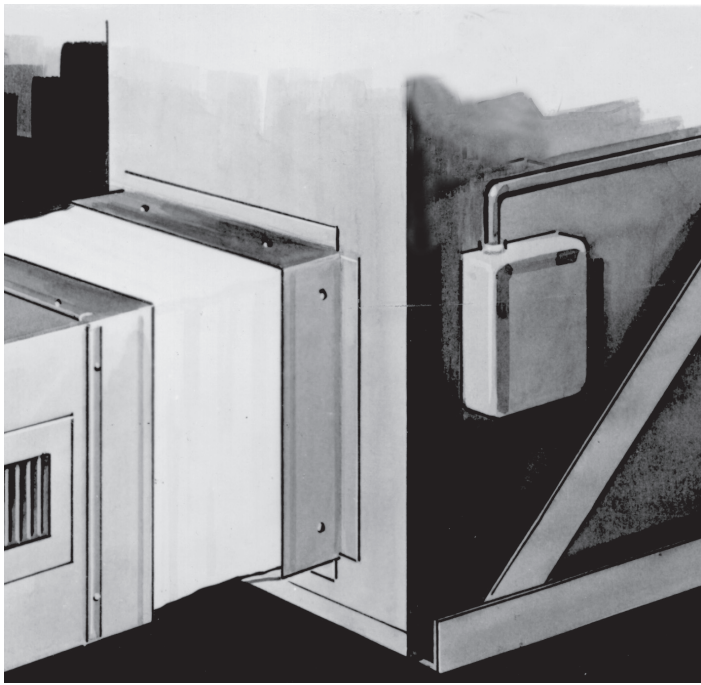
**SUGGESTED SPECIFICATION**

**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 \_\_\_\_\_, an abrasion resistance 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.



## 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. 2-3.2.2 1999 Edition.
4. NFPA 90B Warm air heating and air conditioning systems. Para. 2-1.1.1 exc. no 3 1999 Edition.
5. NFPA701 Tests for Flame Propagation of Fabrics and film.
6. California State Fire Marshal Approved.
7. Los Angeles City Approved. (See note 1 below)
8. Denver City Approved.

## CHEMICAL RESISTANCE

(X = Extremely Resistant)

(~ = Not Recommended)

(O = No Data Available)

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

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 Duro Dyne West Division, Santa Fe Springs, CA  
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