

### COMMERCIAL GRADE

3" Metal, 3" Fabric, 3" Metal  
Gauge of Steel; 24 Gauge .024" Galv.  
Commercial & Industrial Applications

### RESIDENTIAL GRADE

1 3/4" Metal, 3" fabric, 1 3/4" Metal  
Gauge of Steel; 28 Gauge .017" Galv.  
Light Commercial & Residential Applications

### TDC/TDF COMMERCIAL GRADE

Designed to be compatible with both TDC  
(Lockformer) and TDF (Engel) roll forming  
flange - fabricating machines  
4" Metal, 4" Fabric, 4" Metal  
Gauge of Steel; 24 Gauge .024" Galv.  
Commercial & Industrial Grade

### ECONOMY GRADE

2 3/4" Metal, 4" Fabric, 2 3/4" Metal  
Gauge of Steel; 28 Gauge .017" Galv.  
Light Commercial Applications

### EXTRA WIDE COMMERCIAL GRADE

3" Metal, 6" fabric, 3" Metal  
Gauge of Steel; 24 Gauge .024" Galv.  
Commercial & Industrial Grade

### INSULATED - ALL WEATHER FLEXIBLE DUCT CONNECTOR

4" Metal; 5" Fabric, 4" Metal  
Gauge of Steel; 28 Gauge .017" Galv.  
Commercial & Industrial Grade

### FLEX-LOC

The double-lock gripping  
fingers of Cain Flex-Loc add  
tremendous holding power  
compared with conventional  
locking methods. Cain connec-  
tor lays flat for easy marking, cut-  
ting and fabrication. Flex-Loc is stan-  
dard on Commercial Duct Connector. Plain seam  
without notches also available upon request.



### S-LOC

Shielded with metal on both  
sides at the seam, S-Loc forms  
a tough metal-to-fabric bond.  
Brake forming is simpler, and  
the shielded fabric is protected  
from tears. Standard on economy  
and residential grades - available on  
Commercial Grade Duct Connector - specify  
"S-Loc".

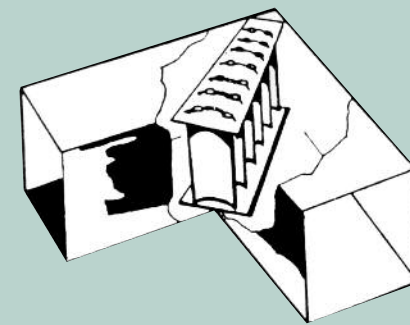


### FABRIC ONLY, WITHOUT METAL



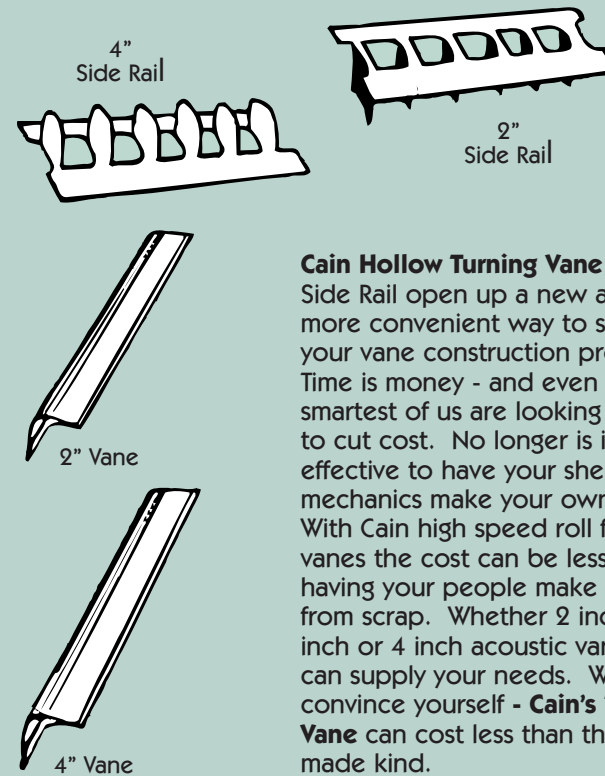
Cain fabrics are available without metal to customers  
who have need of fabrics only. Refer to our Fabric  
Selection Chart for descriptions, approvals, technical  
data and recommended uses. Cain fabrics are avail-  
able in 4", 5" and 7" widths, in 100 ft. rolls. Some  
fabric may be available in other widths. Contact your  
factory representative or call Cain direct.

### INSTANT VANE RAIL



**Cain Instant Vane Rail**, made of 24 gauge (.024")  
G-90 galvanized steel slotted and stamped on pre-  
cision tooling assuring uniform vane spacing. **Cain  
Instant Vane Rail** allows workers to economically  
construct vane assemblies in just minutes. Cain  
Instant Vane Rail positions the vanes, just right, to  
guide air evenly around turns without the normal  
turbulence or pressure drop associated with right  
angle turns. With Cain Instant Vane Rail, which is a  
pre-fabricated side rail, no layout is needed. Vanes  
are quickly assembled with only a blow of a ball  
peen hammer. Efficient, inexpensive, air turning  
vane assemblies are fabricated in just minutes  
adding strength and sturdiness to the finished  
elbow, eliminating rattle and detrimental air  
turbulence and pressure drop.

### HOLLOW TURNING VANE



**Cain Hollow Turning Vane** and  
Side Rail open up a new and  
more convenient way to solve  
your vane construction problems.  
Time is money - and even the  
smartest of us are looking for ways  
to cut cost. No longer is it cost  
effective to have your sheetmetal  
mechanics make your own vane.  
With Cain high speed roll formed  
vanes the cost can be less than  
having your people make vanes  
from scrap. Whether 2 inch, 4  
inch or 4 inch acoustic vane, Cain  
can supply your needs. Why not  
convince yourself - **Cain's Turning  
Vane** can cost less than the hand  
made kind.

### FIBERGLASS TURNING VANE



Ductboard is gaining in popularity everywhere we go. For our customers who use  
ductboard we offer Fiberglass Turning Vanes designed especially for you. **Cain  
Fiberglass Vane** is a top of the line vane designed to speed your air flow through  
those 90° elbows without a sound. We call it Silent Vane just for that reason. No  
side rail is needed to position our vane, just use our layout chart and our duct-  
board vane cutter and save the side rail cost - **forever**. Our competitors won't like  
it because with them you must buy their side rail too - sorry fellows, but our cus-  
tomers enjoy the savings.

**Never say can't  
say Cain!**

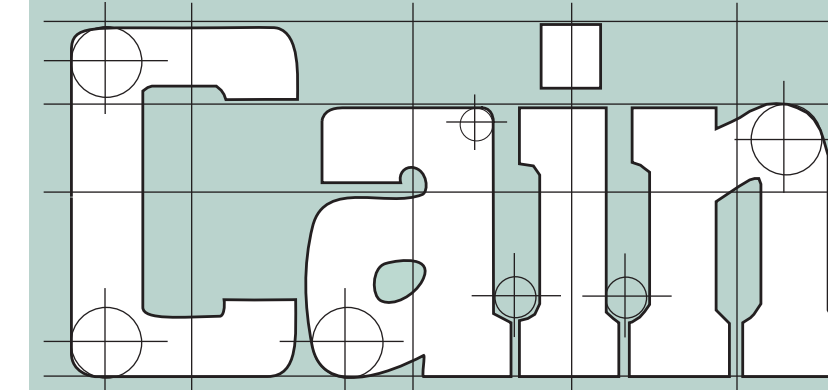


**Cain**  
MANUFACTURING COMPANY, INC.

QUALITY HVAC PRODUCTS SINCE 1935

P.O. Box 1000 • Pelham, AL 35124  
205-663-2200 • 1-800-554-0342 • FAX 205-663-2298

www.cainmfg.com



Flexible  
Duct  
Connector

### How to select the proper type of Flexible Duct Connector for your installation!

To meet every type of application requirement, Cain has  
developed the **FABRIC SELECTION CHART** for a quick  
comparison of the many types of fabric currently  
available. Whether for institutional, factory, office  
or residential, Cain offers just the right fabric.\*\*  
Cain Duct Connectors are pre-assembled with  
the (24 gauge or 28 gauge\*) sheet metal  
permanently secured to fabric by means  
of Cain "Flex-Loc" or optional "S-Loc"  
seam locks.

Cain Flexible Duct Connectors are  
produced in continuous coils of 50',  
100' or 150' long and are shipped in  
convenient dispenser cartons.

Any questions remaining may be  
answered by your local factory  
representative, or call Cain direct,  
to talk with our engineers.

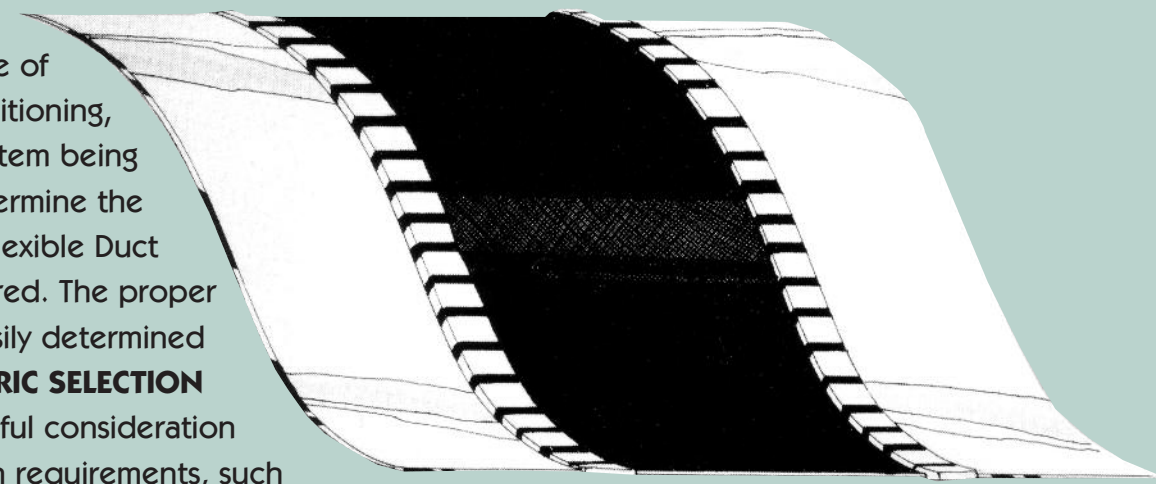
\*\* Cain metals meet ASTM 924/653  
Many Cain fabrics are ISO 9000 approved.  
\* Some products, also available in aluminum  
or stainless.



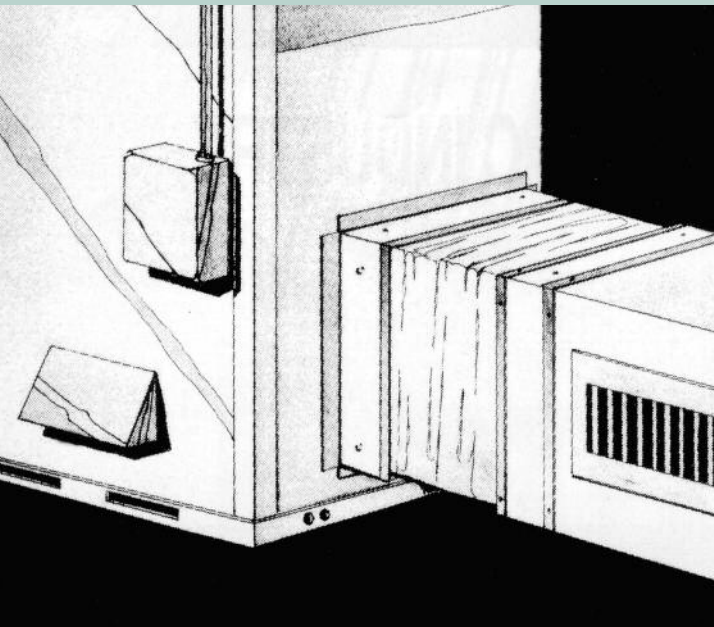


# FLEXIBLE DUCT CONNECTOR

The size and type of heating, air conditioning, or ventilation system being installed will determine the proper type of Flexible Duct Connector required. The proper fabric can be easily determined by using the **FABRIC SELECTION CHART** after careful consideration of the installation requirements, such as: pressure of the system, temperature range, indoor or outdoor installation, proximity to chemicals or fumes, and approvals required, such as: NFPA, UL, City of Los Angeles, Government/Military specifications or California Fire Marshall approvals.



Patent No. 2,825,384 and 3,183,701.



## SUGGESTED SPECIFICATIONS

At inlet and discharge of all air handling equipment, and where indicated on drawings, furnish and install **Cain Flexible Connectors** of ( name of fabric ) having a weight of \_\_\_\_\_ oz/yd<sup>2</sup> of fabric, having a tensile strength of no less than \_\_\_\_\_ lbs. and a temperature range of \_\_\_\_\_ °F ( to \_\_\_\_\_ °F (Please refer to the **FABRIC SELECTION CHART** on next page).

Flexible Duct Connectors shall be pre-assembled  24 gauge,  28 gauge; Galv., Alum., Stainless, (metal type) x \_\_\_\_\_" wide to \_\_\_\_\_" wide fabric, clenched by means of a roll formed double lock seam. Flexible Duct Connectors shall be of a grade:  Commercial  Economy  Residential ( name of fabric ) as manufactured by **Cain Manufacturing Company, Inc., Pelham, AL 35124.**

# FABRIC SELECTION CHART

	<b>CANFLEX</b> (CANVAS) TRADITIONAL DUCT FABRIC	<b>FLEXLON</b> (HYPALON/FIBERGLASS) IDEAL OUTDOORS HIGH VELOCITY	<b>GLASSTITE</b> (VINYL/FIBERGLASS) GENERAL PURPOSE LOW/MED VELOCITY	<b>EPDM</b> ETHYLENE PROPYLENE DIENE MONOMER CLASS M RUBBER ALL WEATHER HIGH VELOCITY	<b>MULTIFLEX</b> (PVC/POLYESTER) GENERAL PURPOSE LOW/MED VELOCITY	<b>NEOFLEX</b> (NEOPRENE/FIBERGLASS) INDUSTRY STANDARD HIGH VELOCITY	<b>THERMOLON</b> (SILICONE/FIBERGLASS) SUPERIOR WEATHERING HIGH TEMPERATURES	<b>VINYLON</b> (PVC/NYLON/POLYESTER) GENERAL PURPOSE LOW/MED VELOCITY	
<b>DESCRIPTION</b>	CANFLEX is a canvas fabric which is fire retardant, waterproof and mildew proof. It will not burn or support combustion and will only char when exposed to a flame. Air leakage is virtually eliminated by its close weave and the finish will not wash out.	FLEXLON is a heavy glass fabric, coated on both sides with white hypalon. Fabric is non-combustible and coating is flame proof. Has excellent weathering quality and is waterproof. Resistant to ozone, acids, alkalis, gasoline and grease.	GLASSTITE is a glass fabric sealed airtight and watertight with a vinyl coating, both sides. The glass fabric is non-combustible and the coating flame retardant. Resistant to acids, alkalis, gasoline and grease.	EPDM is a polyester fabric with a heavy EPDM coating on both sides. Airtight and watertight fabric has outstanding resistance to weathering, ultraviolet radiation, ozone and is not affected by mildew.	MULTIFLEX is a new polyester fabric with a vinyl coating on both sides. An extremely tough connector material. Black in color, the coating is flame retardant. Multiflex is airtight, weather resistant and chemical resistant.	NEOFLEX is a heavy glass fabric, coated on both sides with neoprene. The glass fabric is non-combustible, and the coating is fire retardant, and has no glow time or char length. NEOFLEX is waterproof, airtight, and gasoline and grease resistant.	THERMOLON is a very heavy glass fabric, coated on both sides with silicone. Silver in color, flame proof, it has excellent resistance to many chemicals and weathering. Designed for high temperature applications.	VINYLON is a nylon polyester fabric with a heavy vinyl coating on both sides and extremely tough connector material. Dark gray in color the coating is flame retardant. Vinylon is airtight, weather resistant, and chemical resistant.	
<b>APPROVALS</b>	Listed by Underwriters' Laboratories, Inc. Meets the following government specifications MIL-D10860, CCC-C-419, CCC-D-428. Conforms with standards for flexible duct connectors outlined in pamphlet 90B published by National Fire Protection Association.	Listed by Underwriters' Laboratories, Inc. Conforms with standards for flexible duct connectors outlined in pamphlet 90A published by National Fire Protection Association. Complies with Federal Specifications MIL-C-20696B, MIL-Y-1140 C. Fabric is U.L. listed (File No. R 4597). U.L. 214 CCC-T-191A	Listed by Underwriters' Laboratories, Inc. Conforms with standards for flexible duct connectors outlined in pamphlets 90A and 90B published by National Fire Protection Association. Complies with Government Specifications and CCC-T-191B. Conforms To: UL181 Class 1 <b>L.A. APPROVED</b>	EPDM is designed to meet and conform with standards for flexible duct connectors outlined in pamphlet 90A and 90B published by the National Fire Protection Association. EPDM is U.L. listed and has received Class A Fire Resistance Approval (R 10321).	Designed to meet NFPA Standard 90A and 90B for flexible duct connectors. Complies with Government Specifications MIL-20696B. Fed. Std. 191B.	Listed by Underwriters' Laboratories, Inc. Conforms with standards for flexible duct connectors outlined in pamphlet #90A National Fire Protection Association. Complies with Federal Specifications MIL-Y-1140 C. U.L. Listed (File 327 G) Conforms To: UL 181 Class 1/0r Class A <b>L.A. APPROVED</b>	Meets requirements of Underwriters' Laboratory Test procedure U.L. 214. Lab tested for temperatures up to 500(deg symbol)F (continuous, 600°F intermittent. Will not support flame. Fabric meets requirements of MIL-Y-1140 H and FTMS 191 A test method 5903. MIL-C-20696 C. Conforms To: UL 181 Class 0 <b>L.A. APPROVED</b>	Listed by Underwriter's Laboratories, Inc. Test procedure U.L. 214. Designed to meet NFPA Standard 90A and 90B. Complies with Government Specifications MIL-C-20696B. U.L. 214 (R 4597) California Fire Marshall F-102.4	
<b>WEIGHT</b>	ASTM D 751-73 15 oz/sq yd +/- 0.5	<b>WEIGHT</b> ASTM D 751-73 23 oz/sq yd +/- 1.5	<b>WEIGHT</b> ASTM D 751-73 16 oz/sq yd +/- 0.5	<b>WEIGHT</b> ASTM D 751 Fed. Std. 191B Method 5041 39 oz/sq yd +/- 2	<b>WEIGHT</b> Fed. Std. 191B Method 5041. 12 oz/sq yd +/- 1	<b>WEIGHT</b> ASTM D 751-73 Method 5041 29 oz/sq yd +/- 1.5	<b>WEIGHT</b> ASTM D 751-73 Method 5041 34 oz/sq yd +/- 0.5	<b>WEIGHT</b> ASTM D 376 Fed. Std. 191B Method 5041 22 oz/sq yd +/- 1.5	
<b>GRAB TENSILE STRENGTH</b>	ASTM D 751-73 Method 5100 260 Lbs. Warp x 195 Lbs. Fill	<b>GRAB TENSILE STRENGTH</b> ASTM D 751-73 Method 5100 475 Lbs. Warp x 375 Lbs. Fill	<b>GRAB TENSILE STRENGTH</b> ASTM D 751-73 Method 5100 90 Lbs. Warp x 90 Lbs. Fill	<b>GRAB TENSILE STRENGTH</b> ASTM D 751-73 LBF(N) 60 (267) Lbs. Warp x LBF(N) 60(267) Lbs. Fill	<b>GRAB TENSILE STRENGTH</b> ASTM D 751-73 Method 5100 100 Lbs. Warp x 100 Lbs. Fill +/- 5%	<b>GRAB TENSILE STRENGTH</b> ASTM D 571-73 475 Lbs. Warp x 375 Lbs. Fill	<b>GRAB TENSILE STRENGTH</b> ASTM D 751-73 610 Lbs. Warp x 512 Lbs. Fill Method 5100	<b>GRAB TENSILE STRENGTH</b> ASTM D 7-1117 600 Lbs Warp x 500 Lbs Fill	
<b>FIRE RESISTANCE</b>	Fed. Std. 191A Method 5905 Will not burn nor support combustion. Test CCC-T-191 will conform to U.L. Approval File A Max. 2 sec. after flame	<b>FIRE RESISTANCE</b> Fed. Std. 191A passed U.L. 214 Does not burn - Test Method 5902 of Spec. Fed. Std. 191A (Vertical) U.L. 214, R 4597 After flame 2 sec. max. Char length 3.5" ASTM E 84	<b>FIRE RESISTANCE</b> Fed. Std. 191A Method 5903 Glass fabric non-combustible coating Flame retardant test CCC-T-191B U.L. 214, R 4597 After flame 2 sec. max. Char length 3.5" ASTM E 84	<b>FIRE RESISTANCE</b> Passed U.L. 214 Listed Class A Fire Resistance Approval (R 10321) ASTM E 84	<b>FIRE RESISTANCE</b> Test CCC-T-191B Method 5903 Time after flame 2 sec. Char length 5 inches ASTM E 84	<b>FIRE RESISTANCE</b> Passed U.L. 214 Flame Resistance After flame 2 sec. max. 3 1/2" char length ASTM E 84 FSI = 20 SD = 70 L.A. Approved FSI = 10; SD = 10	<b>FIRE RESISTANCE</b> Fed. Std. 191 A Method 5903 Flame Resistance FTMS 191 A Method 5903 U.S. Bureau of Mines Safety Standards 75-302-3 0" flame spread Self-extinguishing	<b>FIRE RESISTANCE</b> ASTM 2136 Passed U.L. 214 Flame Resistance R 4462 NAPA 701-1999 Test 2	
<b>TEMPERATURE RANGE</b>	ASTM D 2136-66 ASTM D 573 Will withstand 210°F for short periods, 185°F Continuous	<b>TEMPERATURE RANGE</b> ASTM D 2136-66 ASTM D 573 -40°F to 240°F Continuous 250°F Intermittent	<b>TEMPERATURE RANGE</b> ASTM D 2136-66 ASTM D 573 -129°F to 200°F 248°F Intermittent	<b>TEMPERATURE RANGE</b> ASTM D 2136-66 ASTM D 573 -129°F to 200°F 248°F Intermittent	<b>TEMPERATURE RANGE</b> ASTM D 2136-66 ASTM D 573 -40°F to 180°F 200°F Intermittent	<b>TEMPERATURE RANGE</b> ASTM D 2136-66 ASTM D 573 250°F Intermittent -40°F to 200°F 250°F Intermittent	<b>TEMPERATURE RANGE</b> ASTM D 2136-66 ASTM D 573 250°F Intermittent -40°F to 200°F 250°F Intermittent	<b>TEMPERATURE RANGE</b> ASTM E 84 ASTM D 573 ASTM D 2136-66 -67°F to 500°F 600°F Intermittent Method 5903	<b>TEMPERATURE RANGE</b> ASTM E84 ASTM D 573 ASTM D 2136-66 -40°F to 200°F 250°F Intermittent
<b>TONGUE TEAR STRENGTH</b>	ASTM D 751-73 CCC-T-191B Method 5134 8 Lbs. x 8 Lbs.	<b>TONGUE TEAR STRENGTH</b> ASTM D 751-73 20 Lbs. x 15 Lbs.	<b>TONGUE TEAR STRENGTH</b> ASTM D 751-73 CCC-T-191B Method 5134 8 Lbs. x 9 Lbs.	<b>TONGUE TEAR STRENGTH</b> ASTM D 751-B Fed. Std. 191B Method 5134 240 Lbs. Tongue Tear	<b>TONGUE TEAR STRENGTH</b> ASTM D 751-73 Fed. Std. 191B Method 5134 12 Lbs. x 8 Lbs.	<b>TONGUE TEAR STRENGTH</b> ASTM D 751-73 35 Lbs. Warp x 25 Lbs. Fill (Min.)	<b>TONGUE TEAR STRENGTH</b> ASTM D 751-73 60 Lbs. x 25 Lbs. Method 5134	<b>TONGUE TEAR STRENGTH</b> ASTM D 751-73 162 Lbs. x 150 Lbs.	
<b>WATERPROOF QUALITIES</b>	Mullen Burst Test ASTM D 751-73 Method 5512 CCC-C-419 Water resistant	<b>WATERPROOF QUALITIES</b> Mullen Burst Test ASTM D 751-73 Method 5512 Hydrostatic Resistance 750 Lbs. per square inch	<b>WATERPROOF QUALITIES</b> Mullen Burst Test ASTM D 751-73 Method 5512 Hydrostatic Resistance 160 Lbs. per square inch	<b>WATERPROOF QUALITIES</b> Passed ASTM D518 Weather & Hydrostatic Resistance	<b>WATERPROOF QUALITIES</b> Mullen Burst Test ASTM D 751-A Method 5512 Hydrostatic Resistance 170 Lbs. per square inch	<b>WATERPROOF QUALITIES</b> Mullen Burst Test ASTM D 751-73 Method 5512 Hydrostatic Resistance 750 Lbs. per square inch	<b>WATERPROOF QUALITIES</b> Mullen Burst Test ASTM D 751-73 Method 5512 Hydrostatic Resistance 600 Lbs. per square inch	<b>WATERPROOF QUALITIES</b> Mullen Burst Test ASTM D 751-73 Method 5512 Hydrostatic Resistance 320 Lbs. per square inch	
<b>THICKNESS</b>	ASTM D 751-73 .028"	<b>THICKNESS</b> ASTM D 751-73 .020"	<b>THICKNESS</b> ASTM D 751-73 .016"	<b>THICKNESS</b> ASTM D 751-73 .045"	<b>THICKNESS</b> ASTM 751-73 .015"	<b>THICKNESS</b> ASTM D 751-73 .025"	<b>THICKNESS</b> .030" ASTM D 751-73 .032"	<b>THICKNESS</b> ASTM D 751-73 .023"	
<b>CHEMICAL/MILDEW RESISTANCE ASTM D 1149</b>	Treated for fire, water, weather and mildew resistance, Class 1. Will pass 14 day soil burial test CCC-T-191A	<b>CHEMICAL/MILDEW RESISTANCE ASTM D 1149</b> Resistant to ozone, acids, alkalis, gasoline and grease.	<b>CHEMICAL/MILDEW RESISTANCE ASTM D 1149</b> Resistant to acids, alkalis, chemical fumes, grease, oil and gasoline.	<b>CHEMICAL/MILDEW RESISTANCE ASTM D 1149</b> Outstanding resistance to weathering, ultraviolet radiation, ozone and is not affected by mildew.	<b>CHEMICAL/MILDEW RESISTANCE ASTM D 1149</b> Resistant to weathering, oil, gasoline and many other chemicals.	<b>CHEMICAL/MILDEW RESISTANCE ASTM D 1149</b> Resistant to acids, alkalis, gasoline and grease, not affected by mildew. <b>NOTE:</b> Economy and residential grades are 23 oz/sq yd.	<b>CHEMICAL/MILDEW RESISTANCE ASTM D 1149</b> Excellent resistance to weathering, acids and alkalis. Adversely affected by gasoline, toluene, acetone and grease. MIL-C-20696C Section 4,4,3 and 4,4,4	<b>CHEMICAL/MILDEW RESISTANCE ASTM D 1149</b> Resistant to oil, grease, weathering and many other chemicals. <b>NOTE:</b> Surpasses safety standard specifications MIL-C-20696B	
<b>SUGGESTED USES</b>	CANFLEX can be used in all air conditioning, ventilating and heating systems where temperatures do not exceed 185°F. Not recommended for high pressure systems or outdoor connections. Not absolutely airtight or waterproof. Often used when Generic Term "CANVAS DUCT CONNECTOR" is specified.	FLEXLON can be used in practically every type of installation. White coating reflects heat and is clean appearing. Having excellent weathering characteristics, waterproof and ozone resistant makes Flexlon ideal for outdoor applications. Because it is resistant to acids, alkalis, gasoline and grease it can be used in kitchen exhaust and fume hoods. Being absolutely airtight, it is ideal for high pressure systems. Having exceptional strength and yet highly flexible it can be used equally well in domestic, commercial and industrial applications.	GLASSTITE, because it is flame retardant, can be used in domestic and medium size commercial heating, ventilating and air conditioning systems. Because it is airtight and watertight it can be used in fume hoods and on outdoor connections. The resistance to polar substances & steam are very good. Unsatisfactory compatibility with most oils, gasoline, kerosene and concentrated acids.	EPDM plain or insulated can be used in practically every type of installation. It is especially recommended for heavy weathering applications. It is not affected by ultraviolet radiation, ozone or mildew. Insulated EPDM has a R rating of 2 and will reduce heat loss/gain. Insulated EPDM is an energy efficient product. The resistance to polar substances and steam are very good. Unsatisfactory compatibility with most oils, gasoline, kerosene and concentrated acids.	MULTIFLEX can be used in practically every type of installation within its temperature range. Recommended for low to medium velocity applications where U.L. listing is not required.	NEOFLEX can be used in practically every type of installation, and most engineers specify it regardless of the type of system. Because it is resistant to acids, alkalis, gasoline and grease, it can be used in kitchen exhaust and fume hoods. Being absolutely waterproof and airtight, it is ideal for high pressure systems and in outdoor connections. Having exceptional strength and yet highly flexible it can be used equally well in domestic, commercial and industrial applications.	THERMOLON can be used in practically every type of installation, especially where high temperatures are used and an airtight connector is required. Thermolon is the logical substitute for asbestos products or where high temperatures are of concern.	VINYLON can be used in practically every type of installation within its temperature limitations. Low in cost - easy to fabricate and extremely high abrasion and cut resistant fabric. Tear and abrasive resistant. Rot, Fungus and UV resistant. Dielectric and thermally weldable.	