



**Submittal for
Single Wall
Rectangular Duct**



HRANEC SHEET METAL, INC.

SUBMITTAL

Single Wall Rectangular Duct

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SPECIAL NOTES:

1. OUR RECTANGULAR DUCT WORK HAS BEEN EXTENSIVELY AIR TESTED FOR LOW, MEDIUM & HIGH PRESSURES.
2. STANDARD MATERIAL GALVANIZED G90
ALTERNATE MATERIAL PAINT GRIP
ALTERNATE MATERIAL STAINLESS STEEL 304L,316
ALTERNATE MATERIAL ALUMINUM 3003
ALTERNATE MATERIAL PVC COATED
*(PVC IS NOT RECOMMENDED FOR EXPOSED DUCT THAT IS TO BE PAINTED DUE TO VARIATIONS IN COLORS)
3. METAL GAUGES ARE PRESSURE CLASS DRIVEN FROM LATEST SMACNA STANDARDS.
4. RECTANGULAR DUCT WORK BUILT AS SINGLE WALL CONSTRUCTION CAN ALSO BE INSULATED WITH INTERIOR DUCT LINER.
5. BEADED DUCT WORK APPLIES TO 16' IN WIDTH OR HEIGHT. INTERIOR INSULATED DUCT WORK RECEIVES NO BEADING.
6. REINFORCEMENT APPLICATION PER SMACNA STANDARDS.
7. STANDARD RECTANGULAR STRAIGHT DUCT CONNECTION LENGTHS AS FOLLOWS:
 - A.) 59" SLIP & DRIVE (MEASURED DRIVE TO DRIVE)
 - B.) 60" DUCTMATE 35
 - C.) 56" TDC

DESCRIPTION

NOTES

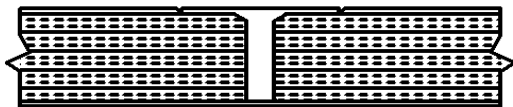


HRANEC SHEET METAL INC
SPIRAL MANUFACTURERS

INSULATION APPLICATION FOR SINGLE WALL INTERIOR LINED DUCT WORK

NUMBER OF PINS	LINEAR INTERIOR WIDTH
0	8" dn
2	9" - 16"
3	17" - 28"
4	29" - 40"
5	41" - 52"
6	53" - 64"
7	65" - 76"
8	77" - 88"
9	89" - 100"

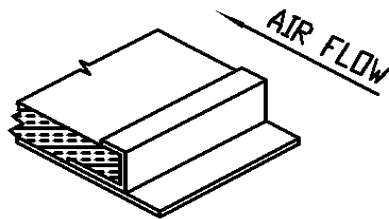
METAL NOSING MAY BE USED WHEREVER LINER IS PRECEDED BY UNLINED METAL; OTHERWISE WHEN VELOCITY EXCEEDS 4000 FPM (20.3 MPS) USE METAL NOSING ON EVERY LEADING EDGE. NOSING MAY BE FORMED ON DUCT OR BE CHANNEL OR ZEE ATTACHED BY SCREWS, RIVETS OR WELDS.



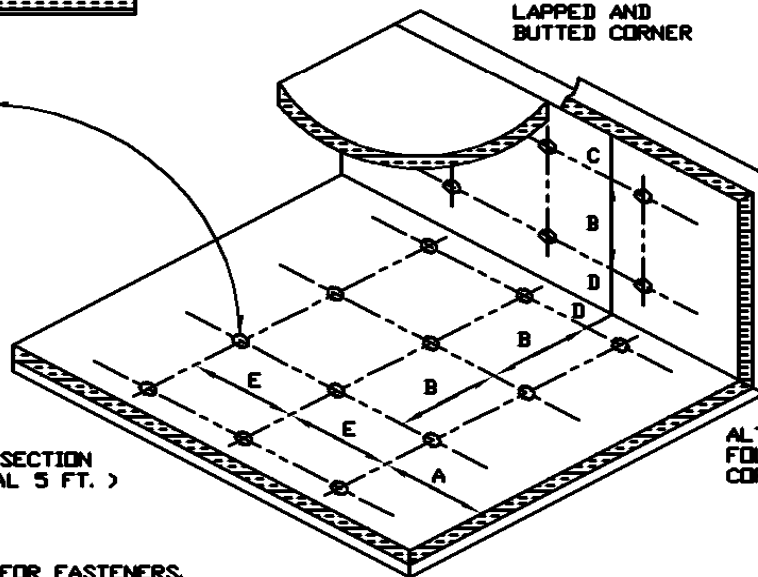
TYPE 1
LINER FASTENER
SPOT WELD PINS
SMACNA REF. FIG. 2.19

THE VELOCITY RATED
SIDE OF LINER MUST
FACE THE AIR FLOW

DUCT SECTION
(TYPICAL 5 FT.)



LAPPED AND
BUTTED CORNER



ALTERNATE
FOLDED
CORNER

MAXIMUM SPACING FOR FASTENERS.
ACTUAL INTERVALS ARE APPROXIMATE.

VELOCITY *	DIMENSIONS				
	A	B	C	E	D
0-2500 FPM	3'	12"	4'	18"	6"
2501-6000 FPM	3'	6"	4'	16"	6"

* UNLESS A LOWER LEVEL IS SET BY
MANUFACTURER OR LISTING AGENCY

LINER ADHERED TO THE
DUCT WITH 90% MIN. AREA
COVERAGE OF ADHESIVE.

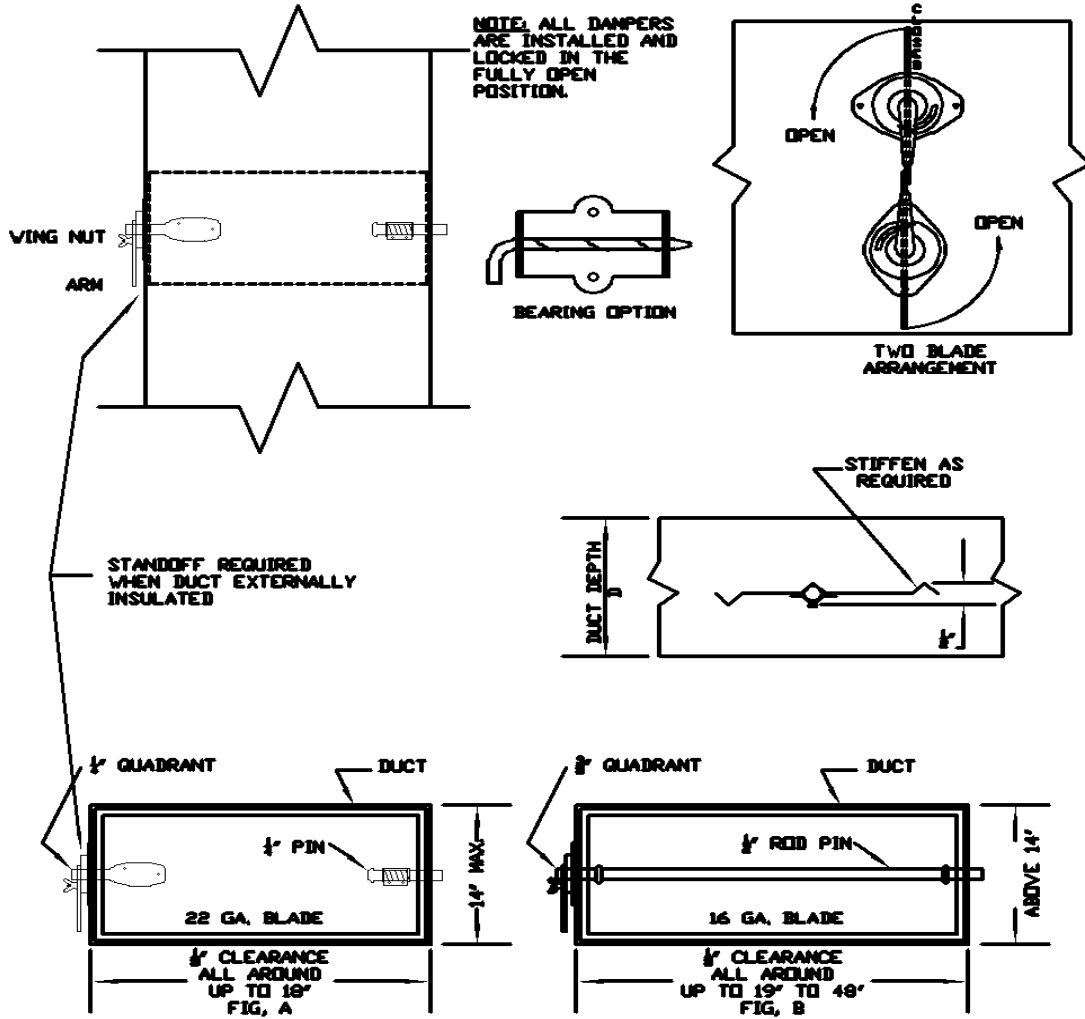
DESCRIPTION

INSULATION



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RECTANGULAR VOLUME DAMPER APPLICATION



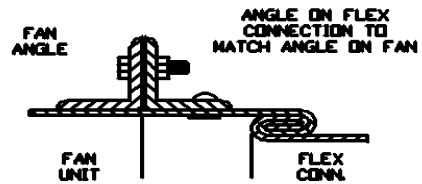
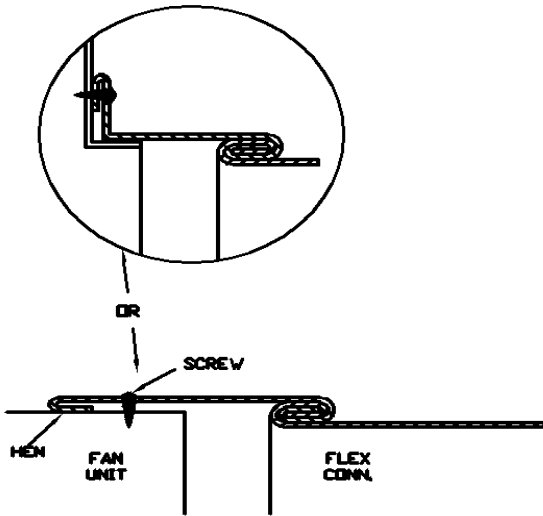
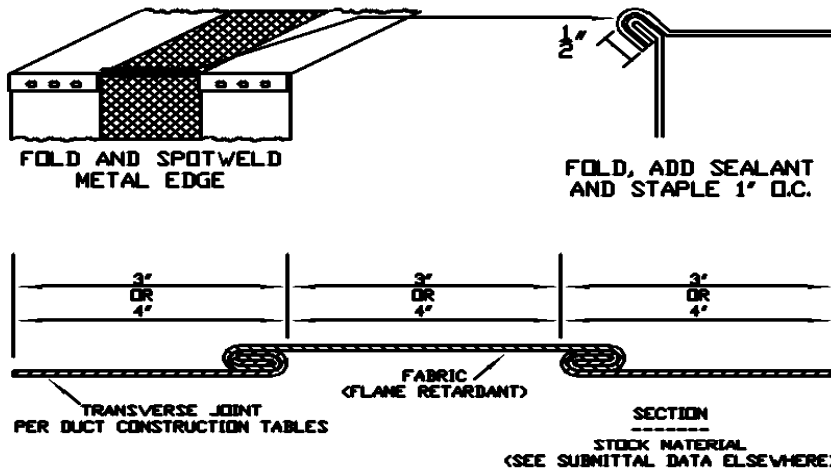
DESCRIPTION

VOLUME DAMPER



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RECTANGULAR CANVAS CONNECTION APPLICATION



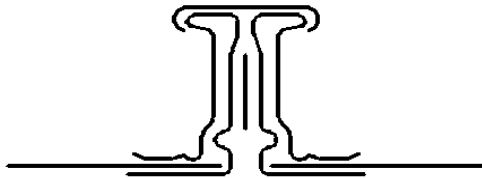
DESCRIPTION

CANVAS CONNECTION

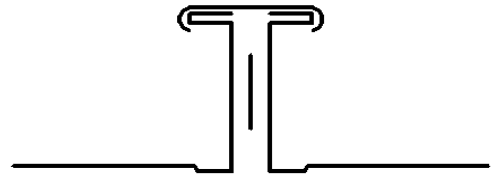


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RECTANGULAR CONNECTIONS



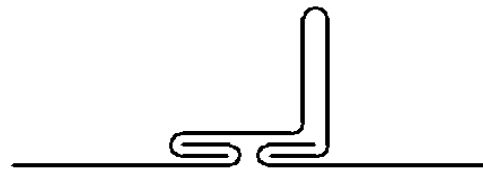
**DUCTMATE 35
CONNECTION**



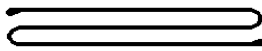
**TDC FLANGE
CONNECTION**



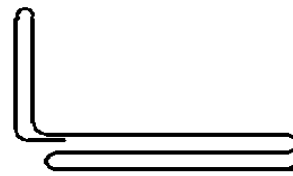
**FLAT DRIVE
CONNECTION**



**STANDING DRIVE
CONNECTION**



**FLAT SLIP
CONNECTION**



**STANDING SLIP
CONNECTION**

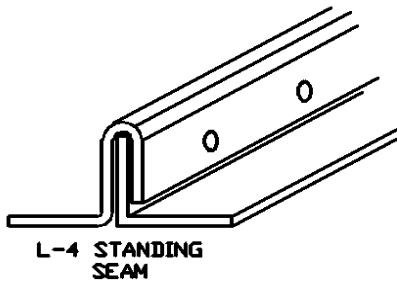
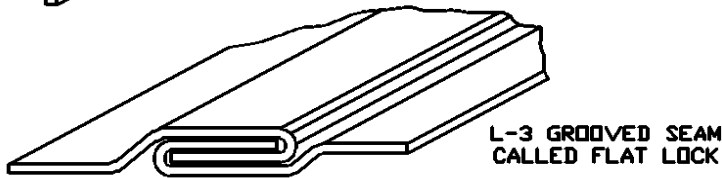
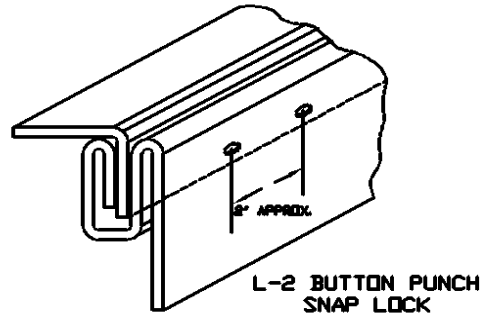
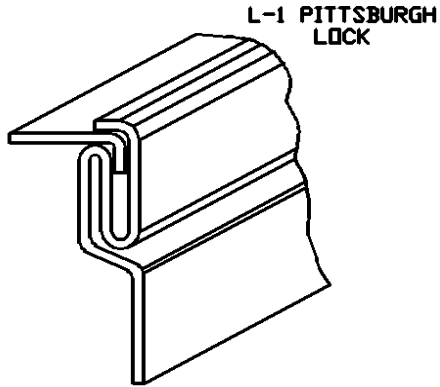
DESCRIPTION

CONNECTIONS

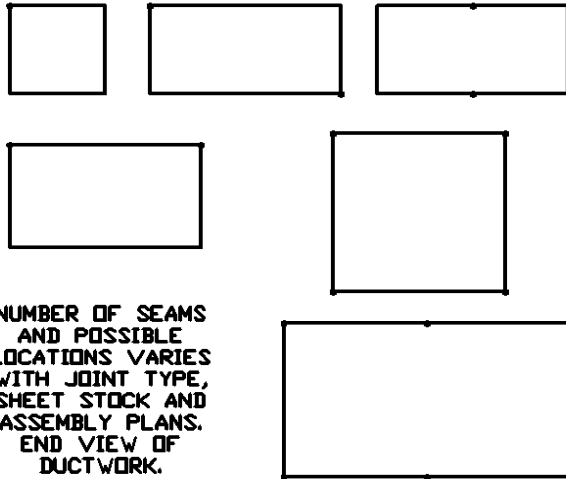


HRANEC SHEET METAL INC
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RECTANGULAR SEAMS



SEAM LOCATIONS



DESCRIPTION

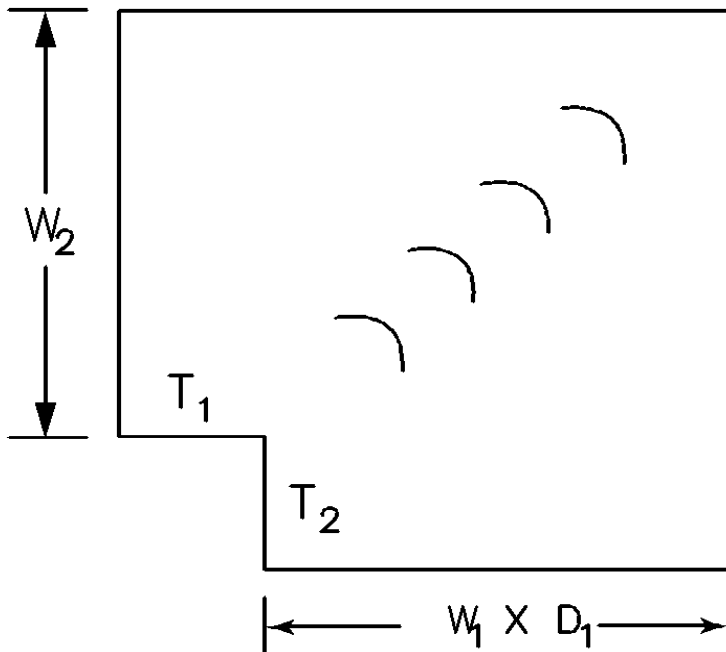
SEAMS



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RECTANGULAR ELBOWS

With or without vanes.



NOTE:

A. STANDARD ELBOW SHOWN. OTHER OPTIONS AVAILABLE AS FOLLOWS:

- A.) RADIUS HEEL RADIUS THROAT
- B.) RADIUS HEEL SQUARE THROAT

B. MITERED ELBOWS CONSTRUCTED PER SPECIFIED DEGREE.

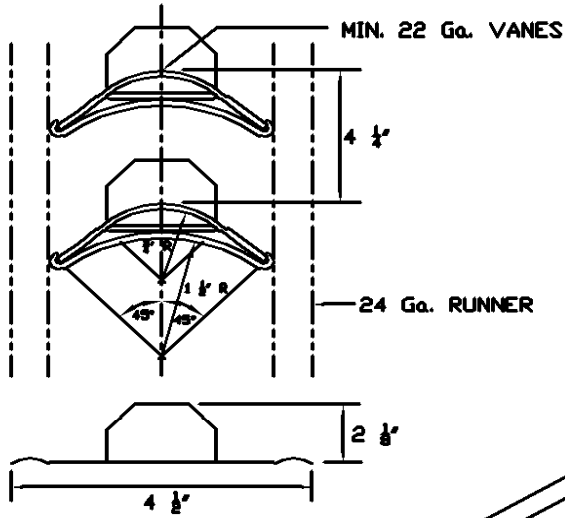
DESCRIPTION

ELBOWS

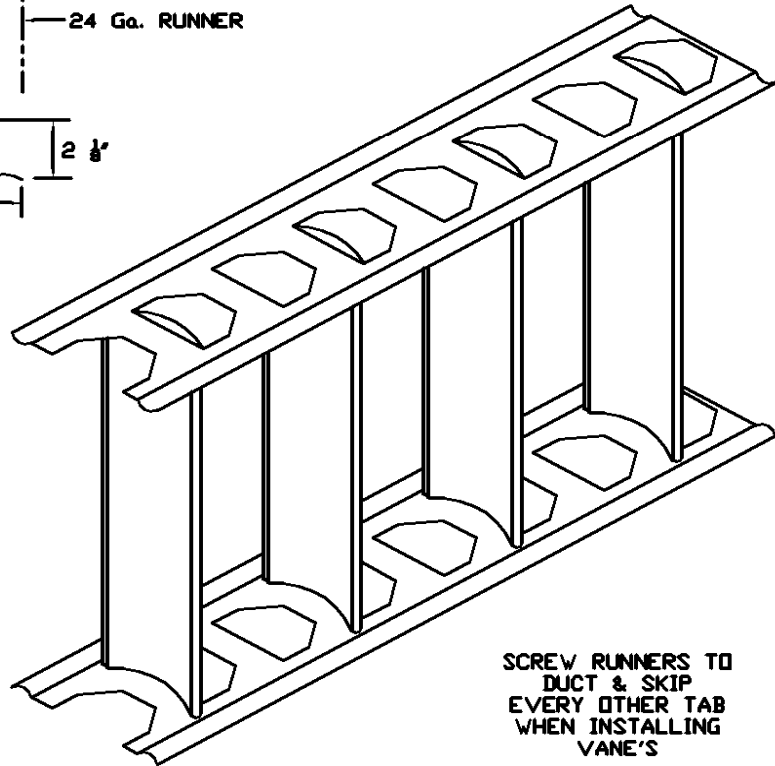


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RECTANGULAR TURNING VANES



FREE AREA BETWEEN
DOUBLE WALL VANES
APPROXIMATES ELBOW
INLET AREA



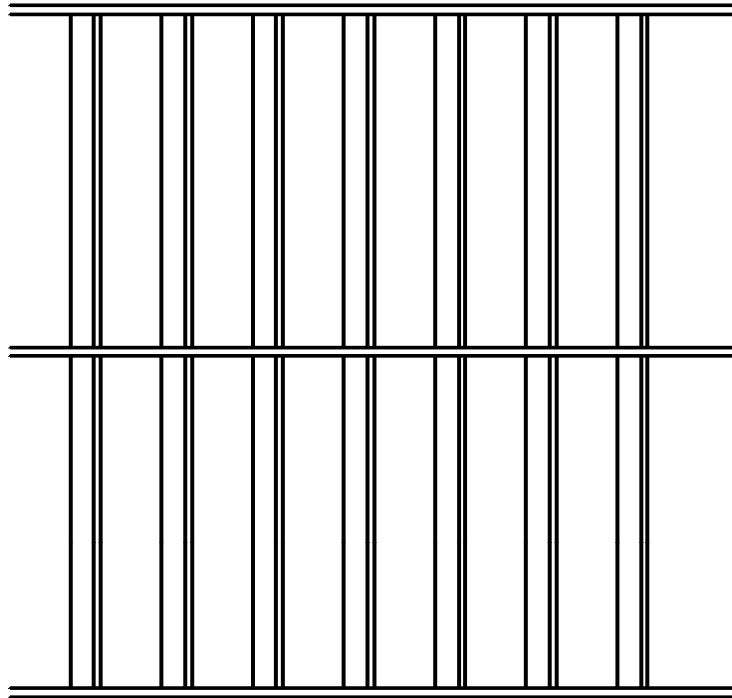
DESCRIPTION

TURNING VANES



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RECTANGULAR TURNING VANE
SUPPORT WHEN APPLICABLE



NOTES:

- A. VANES SHAL BE SECURELY FASTENED TO RUNNERS
- B. ALL VANES SHALL BE SECURE AND STABLE IN INSTALLED OPERATING POSITION.
- C. INSTALL VANES IN SECTIONS OR USE TIE RODS TO LIMIT UN-BRACED VANE LENGTH.
- D. TO PREVENT LINER DAMAGE, CARE MUST BE EXERCISED WHEN INSTALLING VANES IN LINED OR FIBROUS GLASS DUCT.

DESCRIPTION

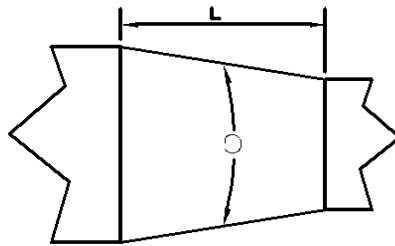
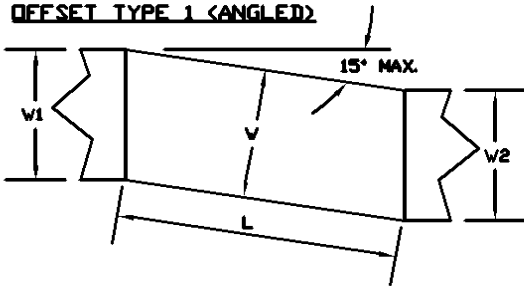
VANES



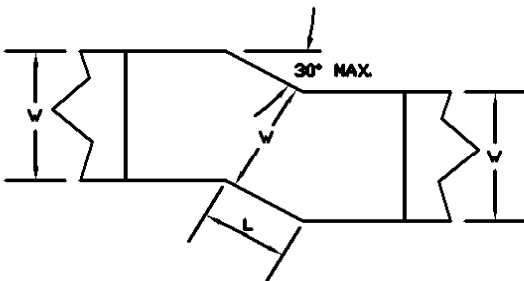
HRANEC SHEET METAL INC
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RECTANGULAR OFFSETS & TRANSITIONS

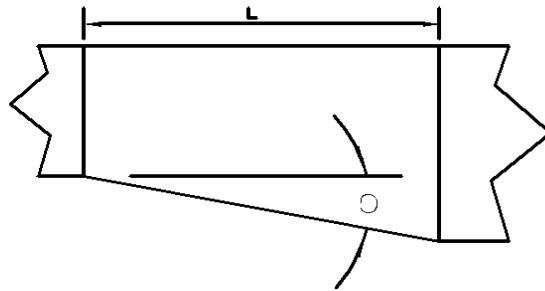
OFFSET TYPE 1 (ANGLED)



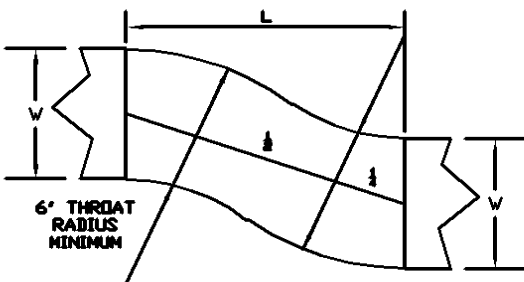
CONVERGING TRANSITION
 ○ MAX. 45° DIVERGING, 60° CONVERGING



OFFSET TYPE 2 (MITERED)



ECCENTRIC TRANSITION
 ○ MAX. 30°



**OFFSET TYPE 3
 (RADIUSSED OR DGE)**

NOTE:
 OFFSETS 2 & 3 & TRANSITIONS MAY
 HAVE EQUAL OR UNEQUAL INLET &
 OUTLET AREAS.

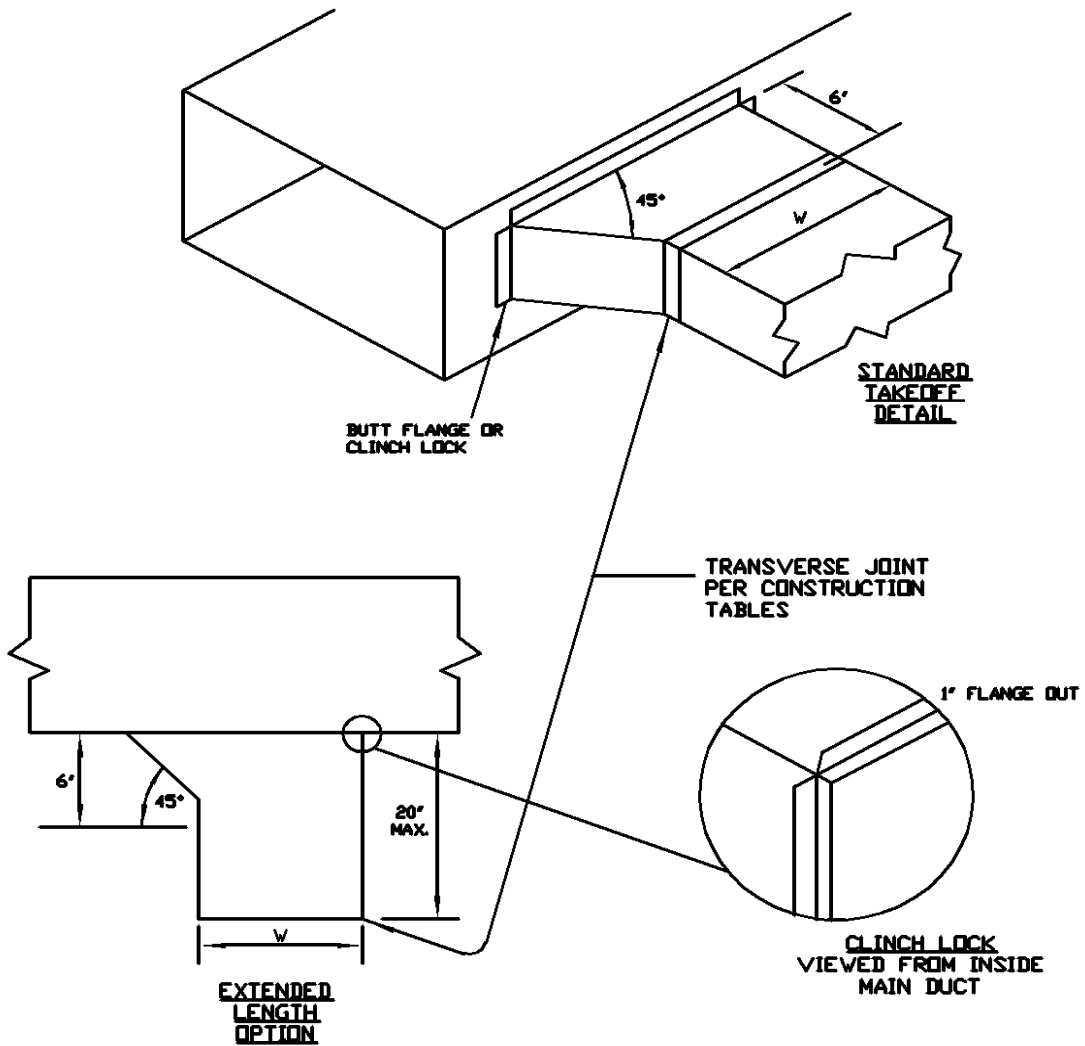
DESCRIPTION

OFFSETS & TRANSITIONS



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RECTANGULAR SHOE TAPS



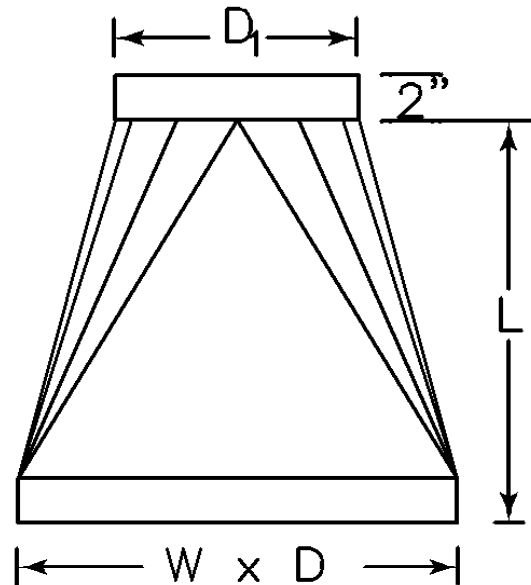
DESCRIPTION

SHOE TAPS



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SQUARE to ROUND



NOTES:

- A. SEALED, STITCH WELDED SEAMS USED ON SQUARE TO ROUNDS.
- B. COUPLING CONNECTION SMALL END.
- C. FLANGED CONNECTIONS PIPE SIZE.
- D. FITTING CAN ALSO HAVE AN END TREATMENT AS A DUCT CONNECTION SUCH AS S&D OR DUCTMATE 35.
- E. FITTING CAN ALSO BE USED AS A REGISTER CONNECTION WITH A FLANGE IN OR OUT.

DESCRIPTION

SQUARE TO ROUND



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