

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

# Hercules Industries

## Welded Fastener Specifications

**DESCRIPTION:** When liner is placed inside air conditioning or heating duct work, the movement of air could cause the insulation to delaminate. To prevent this, SMACNA Specifications call for the use of fasteners in addition to adhesive to secure the liner.

The fasteners may be of three types:

**A. ADHESIVE:** This fastener is bonded to the ductwork with an appropriate adhesive and allowed to set up. After sufficient drying time the liner is impaled on the pin and a washer added to retain the liner.

**B. MECHANICAL:** This type of fastener mechanically attaches itself to the duct work. The most popular style is a hardened nail with an attached washer. This fastener is impact driven through the liner and forms a positive mechanical grip with the metal.

**C. WELD:** This fastener forms a permanent bond to the duct work by becoming part of it as in any weld. Two styles are currently in use. The first fastener is a mechanical fastener which is driven through the liner and welded to the duct work underneath. The second fastener is a pin which is welded to the duct work prior to the insulation. The liner is then impaled (much like the adhesive fastener) over the pin and secured by a washer.

### SPECIFICATIONS

All Allstate Insulation Corp. Insulation Fasteners are designed to meet SMACNA HVAC Duct Construction Standard for Mechanical Fasteners.

All steel used in Allstate Insulation Corp. Insulation Fasteners meets ASTM-A591.

All dimensions used in pin length are from bottom of head or base of fastener.

**ALL PINS AND WASHERS ARE ZINC PLATED CRS UNLESS OTHERWISE STATED.**

### - WELDED FASTENERS - Cupped Washer Weld Pins

Pin: .130" Diameter  
 Washer: Diameter - 1.0"  
 Washer Thickness: - .015" - .017"



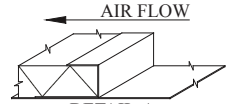
Item#	Code	Approx. Length		Use
		Before Welding	After Welding	
■ 26310	HWP12	.49	.365	1/2" insulation
■ 26311	HWP34	.656	.531	1" 1-1/2# density
■ 26313	HWP118	1.125	1.000	1" 3# density
■ 26314	HWP150	1.490	1.365	1 1/2"-2" insulation

### SUGGESTED SPECIFICATIONS

All duct liner shall be secured to the duct work in accordance with SMACNA HVAC Duct Construction Standards. Fasteners shall be weld type - Fastener Code \_\_\_\_\_ - as supplied by Hercules Industries. Welded fasteners shall be manufactured for Hercules Industries by Duro Dyne Corporation, with locations at Bay Shore, N.Y., Evendale, OH., or Santa Fe Springs, CA.

### - DUCT LINER INSTALLATION -

METAL NOSING MUST 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.



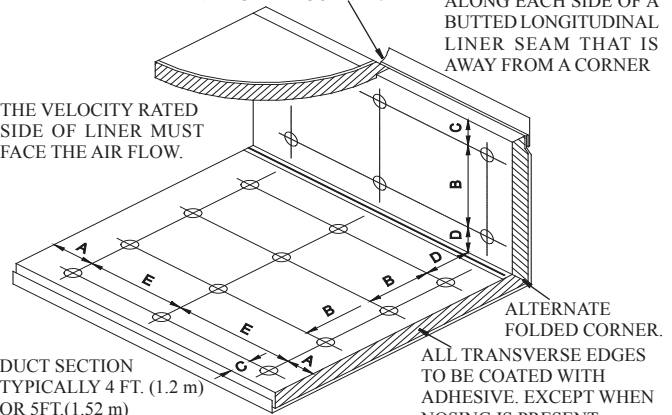
DETAIL-A  
METAL NOSING  
CHANNEL OR ZEE

INTERIOR WIDTH OF 8"(200 mm) AND LESS DOES NOT REQUIRE PINS

PLACE PINS 3" (76 mm) ALONG EACH SIDE OF A BUTTED LONGITUDINAL LINER SEAM THAT IS AWAY FROM A CORNER

LAPPED AND BUTTED CORNER.

THE VELOCITY RATED SIDE OF LINER MUST FACE THE AIR FLOW.



DUCT SECTION TYPICALLY 4 FT. (1.2 m) OR 5 FT. (1.52 m)

ALL TRANSVERSE EDGES TO BE COATED WITH ADHESIVE. EXCEPT WHEN NOSING IS PRESENT.

MAXIMUM SPACING FOR FASTENERS. ACTUAL INTERVALS ARE APPROXIMATE

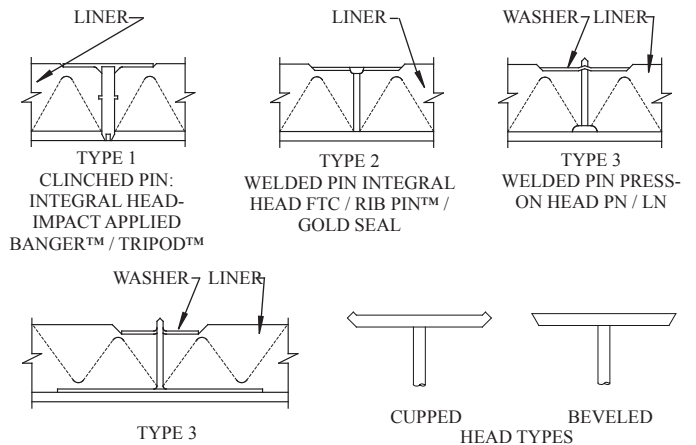
"A" PIN ROW MAY BE OMITTED WHEN METAL NOSING IS USED. "E" THEN STARTS FROM THE NOSING.

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

Velocity*	Dimensions				
	A	B	C	D	E
0-2500 FPM (0-12.7 MPS)	3" (76.2)	12" (305)	4" (102)	6" (152)	18" (457)
2501-6000 FPM (12.7-30.5 MPS)	3" (76.2)	6" (152)	4" (102)	6" (152)	16" (406)

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

### - LINER FASTENERS -



TYPE 3  
ADHERED PIN PRESS-ON HEAD SAH / PBH / STK / FLIPTIX

INSTALLED PINS AND WASHERS SHALL NOT COMPRESS LINER MORE THAN THE CORRECT LENGTH SPECIFIED FOR THE LINER THICKNESS USED.