

**PENNIMAN  
& BROWNE,  
INC.**

CHEMISTS / ENGINEERS / INSPECTORS  
INDUSTRIAL HYGIENE SERVICES  
FOUNDED 1896

December 16, 2005

Tate Access Floors  
7510 Montevideo Road  
Jessup, Maryland 20794  
Attn: Bill Perry

Re: Air Leakage Testing  
P&B No. 04-40-0905

Test Objective:

Determine rate of air leakage through the openings and seams of one High Capacity PVD Box installed in 10.5 inch-square cutout on a carpeted ConCore panel.

System Mockup:

Nine ConCore 1000 panels were installed on a system of bolted stringers with one High Capacity PVD Box installed in the center panel. The mockup was sealed around the four sides with fascia to provide a sealed plenum space. All panel seams were sealed so that air leakage would be confined to the area of the PVD lid and frame assembly. The center panel (with a Shaw Industries commercial carpet tile applied) had a 10.5 inch-square cutout to accommodate the PVD box. The PVD receptacle plate was fitted with two duplexes; the voice/data section of the box was fitted with three steel interface plates each of which was fitted with two RJ 45 connectors.

Test Instruments

- Air Compressor with 1/2" FNPT Carbon Steel Globe Needle Valve
- V/A Master Indicating Flowrater Meter
- Alnor Series 6000 Velometer

Test Procedure

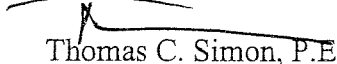
A volume of air was introduced into the plenum after first passing through a calibrated flowmeter. The pressure rise in the plenum was measured with an Alnor Velometer, which has a scale of zero to 1.0 inches w.g. Air volumes required maintaining specified pressure levels in the plenum were measured at static pressures of 0.05", 0.10", 0.20" and 0.30".

A *baseline* leak rate was established using the above procedure with the PVD lid and frame seams taped over to account for leakage occurring only through the fascia. Then to determine the *total* leakage (occurring simultaneously through the fascia and PVD assembly) the tape was removed from the lid-frame assembly and the procedure repeated. The net difference of the total and the baseline leak rates (at each pressure level) indicated the leakage attributable to the cutout and PVD assembly.

The data and results are as follows:

Static Pressure In. of H <sub>2</sub> O	Baseline Leak Rate in CFM (PVD Taped)	Total Leak Rate in CFM (Tape Removed)	PVD Assembly Leak Rate in CFM
0.05	1.1	7.0	5.9
0.10	1.85	9.5	7.65
0.20	3.45	12.15	8.7
0.30	4.45	13.85	9.4

Respectfully,

  
Thomas C. Simon, P.E.  
Principal Engineer