JAMES HAGEDORN AVIATION COMPLEX, EMBRY-RIDDLE AERONAUTICAL UNIVERSITY, DAYTONA BEACH, FL

SHEET METAL CONTRACTOR: MCDONALD AIR & SHEET METAL, ORLANDO, FL
The Hagedorn Aviation Complex at Embry-Riddle Aeronautical University consists of six facilities covering 97,000 square feet. Three new buildings have recently been added.

McDonald Air and Sheet Metal, Inc. of Orlando manufactured and installed the duct work in those new buildings: the Flight Operations Center, Emil Buhler Aviation Maintenance Science Building and the Fleet Maintenance Hangar.

Flight Operations is a two-story building containing everything needed to dispatch and retrieve student training aircraft. The three story Aviation Maintenance Science Building houses classrooms and laboratories to support the Aviation Maintenance Science degree programs.
The Fleet Maintenance Hangar is where the university can maintain five Cessna aircraft at one time.

This $1 million project involved manufacturing and installing the duct in the three new buildings. In the Aviation Maintenance Science Building 30,000 lbs. of galvanized duct, 60,000 lbs. of aluminum duct along with stainless steel, double wall and spiral duct were used. The laboratories required ventilation and exhaust duct.

The labs are dedicated to aircraft systems, turbine engines, metallic and composite materials, avionics and avionics electronics.

A major challenge was to make sure the Aviation Maintenance Science building, which involved mostly exposed aluminum duct, be plumb and level. The first floor is mainly shop lab classrooms.

Embry-Riddle Aeronautical University is the world’s largest, fully accredited university specializing in aviation and aerospace.
The scope of work for the project at The Waverley on Lake Eola, a downtown Orlando high rise condominium, was to fabricate and install the custom aluminum guardrail around the water feature in the lobby.

These guardrails around the water feature were to match the existing Lobby guardrails. The guardrails were composed of one radius section approximately 19 feet long and one straight section approximately 10 feet long. The sections were mitered and welded to form one continuous rail.
One-half inch aluminum plate was used to fabricate the guardrails.

Each part was cut to shape with all edges routed to ½ inch radius. The railing was then welded and finished in the Vickers shop and then transported to the site for installation.

Installation included drilling holes in the existing lobby floor tile and anchoring the railing with epoxy as required. The water feature railing was given a brush finish to match the existing railings. A clear coat finish was applied after installation.

Approximately 90 man hours were required for fabrication and installation.
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skarr@flsmacna.org
SMACNA’s “HVAC AIR DUCT LEAKAGE TEST MANUAL” RECEIVES ANSI ACCREDITATION

The American National Standards Institute (ANSI) announced that SMACNA’s “HVAC Air Duct Leakage Test Manual” second edition, has been approved as an American National Standard.

The soon-to-be published manual covers revised leakage criteria and builds on the proven methods for testing ductwork for air leaks used in the first edition. A new chapter written specifically for designers and specifiers was added to help reduce some of the misunderstandings related to duct leakage and the methods of testing.

The new standard contains updates to the expected leakage rates for ductwork, duct leakage test procedures. Recommendations on use of leakage testing, types of test apparatus and test setup and sample leakage analysis.

SMACNA’s free Duct Air Leakage Test app, available for Android, iPhone, iPod, iPad, or as a web-based version, uses the methodology found in this new book enabling users to calculate total allowable leakage when combining multiple sections of ductwork varying by size and shape. Visit www.smacna.org/dalt to use the web version or to download the app. The app is also available from iTunes, and the droid marketplace. Search for SMACNA or DALT.

SMACNA’s highly respected technical manuals are industry standards that are specified and adhered to by the design and construction community.

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Florida

SMACNA Inc.

6767 N. Wickham Road, Suite 400
Melbourne, Florida 32940

RETURN SERVICE REQUESTED

Florida SMACNA, Inc.
6767 N. Wickham Rd. #400
Melbourne, FL 32940
Tel: 321-242-8223 Fax: 321-242-8277
skarr@flsmacna.org
Susan E. Karr
Executive Vice President
http://www.flsmacna.org