

Florida

SMACNA Inc.

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TECH/SPEC

NEWS

**WALT DISNEY WORLD CORONADO SPRINGS RESORT
COMMERCIAL ROOFTOP DUCTWORK REPLACEMENT,
LAKE BUENA VISTA, FL**



**SHEET METAL CONTRACTOR: LAPIN SHEET METAL COMPANY, INC.
ORLANDO, FL**

WALT DISNEY WORLD CORONADO SPRINGS RESORT COMMERICAL ROOFTOP DUCTWORK REPLACEMENT, LAKE BUENA VISTA, FL



Architect: Walt Disney World Company, Lake Buena Vista, FL
Mechanical Engineer: Millward Engineering Inc., Orlando, FL
Mechanical Contractor: Celsius Contractors, Lake Buena Vista, FL
Sheet Metal Contractor: Lapin Sheet Metal Company, Inc., Orlando, FL

The Coronado Springs Resort rooftop duct replacement project was unusual because it required the installation of new stainless steel dual wall return air duct while minimizing the downtime of the existing air conditioning system.

Lapin Sheet Metal Company, Inc. was first asked to meet with facilities management to review the condition of the rooftop duct.

Initial site review revealed that existing



WALT DISNEY WORLD CORONADO SPRINGS RESORT COMMERCIAL ROOFTOP DUCTWORK REPLACEMENT, LAKE BUENA VISTA, FL



return air duct had rusted through to the point where the duct was compromised.

Lapin submitted its proposal with a detailed analysis of what the replacement duct construction should be along with an action plan on how work was to be staged to minimize downtime.

Lapin Sheet Metal Company's plan was accepted, its bid was finalized, and the company was selected for the work.

Pre-manufacturing of new replacement duct together with tight coordination with rigging crews on both the ground and roof aided in expediting installation of new duct while at the same time removing the old duct.

Work was done on off hours to further minimize disruption to building operations.

Lapin expressed thanks to the Facilities

Management Department for their openness to the company's suggestions and their assistance in working with Lapin to facilitate the work.

Dan DeMaso of Lapin gave special recognition to Celsius Contracting for their effort on the project which aided the completion of work on time and with minimal discomfort to facilities management.

HOLY LAND EXPERIENCE / SHOFAR AUDITORIUM RENOVATION, ORLANDO, FLORIDA



Architect's/Engineer: OSI Associates, Inc., Altamonte Springs, FL

Construction Managers: Owner/Trinity Broadcast Network (TBN) (Kent Whitmore), Orlando, FL

Mechanical Contractor: E C Waters Heating & Air Conditioning (Clark Waters), Orlando, FL

Sheet Metal Contractor: McDonald Air & Sheet Metal, Inc., Orlando, FL

The scope of the work on this project consisted of adding one 25 ton Trane Roof Top Unit (RTU) to the two existing 25 ton RTU's serving the recording studio/auditorium. The ceiling was removed for all trades to raise the above-ceiling ducts, sprinkler pipes and conduits to a minimum of 21 feet to make room for a light grid system for the Trinity Broadcasting Network's future TV studio.

All existing metal-wrapped ductwork was removed and replaced with KoolDuct which was manufactured at McDonald Air's 25,000 sq. ft. facility. A major working challenge was that the studio had to remain operational during construction.

McDonald Air & Sheet Metal, Inc. replaced the demolished duct with KoolDuct, on a daily basis, in order to keep the air evenly distributed for guests and as required by the owner's instructions. Careful coordination with the owner and all the other trades made this job very successful.

Another one of the challenges of this project was that all work was completed on 3rd shift or during non-operational hours and McDonald Air had to have the auditorium cleaned and ready for business by 9:00 a.m. daily. Also difficult was working around the layout of the existing building with the steep slope of the roof, and four existing RTU's (not only serving the auditorium but also the merchandise gift shop too).

McDonald Air & Sheet Metal, Inc. had to modify the original duct design and air distribution (supplied by Tom Barrow Co., Orlando) in order to accommodate the owner's requirements. McDonald Air also had to re-submit amended drawings to the architect/engineer for approval because of height issues. According to the owner, the height was very critical for lighting the TV studio.

McDonald Air recognizes the valuable contributions of Clark Waters and his crew at E C Waters Heating & Air Conditioning, and also of McDonald Air's job foreman, Mike Rausch, and the shop manager, Les Jones, for coordinating daily to have special fittings made and shipped to the jobsite for installation every night.

IS ALUMINUM A PROPER MATERIAL CHOICE?

The following is one of many frequently asked questions of SMACNA's Technical Resources Department regarding content in SMACNA's publication "Round Industrial Duct Construction Standard," second edition, 1999, an American National Standard.

Question?: I'm in the process of installing a ventilation system that will be venting an area that will have the potential for hydrogen gas releases.

I selected 3003 aluminum as the material of choice, as it is a non-ferrous and non-sparking material. The fans that were procured were constructed to meet AMCA Standard 99-0401-86 Type A, for a spark-resistant construction (all aluminum fan housing, inlet cone, and wheel).

In Section 3.2.6 (Aluminum), the note at the bottom states: "Aluminum is not recommended for the fabrication of systems operating at temperatures above 400°F, or systems conveying corrosive, flammable or explosive vapors, fumes, mists, or particulates of any type."

I'm confused about the statement concerning "not recommended...for explosive vapors."

Since I chose 3003 aluminum as it is a non-ferrous and non-sparking material, I would like to understand the rationale of the note regarding passing a potentially explosive gas through the aluminum duct.

Answer: SMACNNA's Industrial Ventilation and Power Industry Task

Force that wrote this standard meant to recommend aluminum for Class 1 applications only.

Whether flammable or explosive fumes, vapors, and mists are included in Class 1 can be debated. But, certainly, the Task Force did not intend to issue construction recommendations dealing with such specialized and hazardous applications; therefore the note excluding them.

We recognize that for such applications as the choice of materials is severely limited, and therefore it is the designer/specifier who is called upon to make an informed decision.



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OTHER CONTRIBUTORS TO THE FLORIDA SHEET METAL INDUSTRY

Advanced Metal Works
Apollo Construction & Engineering
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Digital Climate & Control

Florida Metal Art
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Quality Metal Works, Inc.
SDB Engineers and Constructors, Inc.
Spratlin Sheet Metal
System Tech Services
Triple M Roofing Corp.
Veritab Environmental

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WINNER OF THE MANUAL DRAWING FROM THE OCTOBER NEWSLETTER!

The October SMACNA technical manual drawing winner was Joseph Hafner, Hafner-Ferlita Architects, Tampa, FL

He chose to receive the Architectural Sheet Metal Manual, 6th edition 2003

Enter today for the next drawing.



Florida

SMACNA

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• SMACNA'S CONSTRUCTION STANDARDS

- Accepted Industry Practices for Sheet Metal Lagging.
- Architectural Sheet Metal Inspection Guide.
- Architectural Sheet Metal Manual, 6th edition 2003
- Fire Smoke and Radiation Damper Installation Guide for HVAC Systems.
- Guide for Steel Stack Construction.
- Guidelines for Roof Mounted Outdoor Air-Conditioner Installations.
- HVAC Duct Systems Inspection Guide.
- Kitchen Ventilation Systems & Food Service Equipment Fabrication & Installation Guidelines.
- Residential Sheet Metal Guidelines.
- Seismic Restraint Manual: Guidelines for Mechanical Systems.
- Sheet Metal Welding Guide.

- Standard Practice in Sheet Metal Work.

• SMACNA'S DESIGN GUIDES

- Duct System Calculator - Imperial + Metric
- Ducted Electric Heat Guide for Air Handling Systems.
- Guidelines for Change Orders
- HVAC Systems - Duct Designs.

• SMACNA'S DUCT STANDARDS

- Accepted Industry Practice for Industrial Duct Construction.
- Fibrous Glass Duct Construction Standards.
- HVAC Air Duct Leakage Test Manual.
- HVAC Duct Construction Standards - Metal and Flexible.
- Rectangular Industrial Duct Construction Standards.
- Residential Comfort System Installation Standards Manual.
- Round Industrial Duct Construction Standards.

- Round Industrial Duct Construction Standards (RIDCS) Software Version 2.0.
- Thermoplastic Duct (PVC) Construction Manual.
- Thermoset FRP Duct Construction Manual.

• SMACNA'S ENVIRONMENTAL PUBLICATIONS

- Building Systems Analysis and Retrofit Manual.
- Energy Systems Analysis and Management.
- HVAC Sound & Vibration Manual
- HVAC Systems - Applications.
- HVAC Systems - Commissioning Manual.
- HVAC Systems - Testing, Adjusting & Balancing.
- IAQ Guidelines for Occupied Buildings Under Construction.
- Indoor Air Quality - A Systems Approach.
- TAB Procedural Guide.

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