

Florida

# SMACNA Inc.

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Volume 28

## TECH/SPEC NEWS

ATLANTIS PHASE 3-WATERPARK,  
PARADISE ISLAND, BAHAMAS



Sheet Metal Contractor: Vickers Metal Works, Inc., Orlando, FL



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## ATLANTIS PHASE 3-WATERPARK, PARADISE ISLAND, BAHAMAS



**Theming Contractor:** The Nassal Company, Orlando, FL

**Sheet Metal Contractor:** Vickers Metal Works, Inc., Orlando, FL

The scope of the project undertaken by Vickers Metal Works, Inc. of Orlando, Florida, was to fabricate 28 each custom architectural features to crown the top of the new Atlantis Water Park in Paradise Island, Bahamas.

The Nassal Company contracted with Vickers Metal Works of Orlando, Florida to fabricate this project because of their reputation for completing complex metal projects accurately and on time. Vickers charge was to fabricate the colossal tulip frames for the top of the water park.

These unique frames required Vickers to use 3D AutoCAD drawings to lay out and construct a jig that would keep the compound radius tubes and pipes within tolerances as required so that the Nassal Company would be able to fit their fiberglass molded parts within the metal frames.





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## ATLANTIS PHASE 3-WATERPARK, PARADISE ISLAND, BAHAMAS



Sheet metal patterns were laid out for the fiberglass infill panels, and, once used to create the jig, were provided by Vickers to Nassal for fabrication of the translucent fiberglass panels. All of the frames, as large as 23 feet high, were welded to AWS D1.1 code using almost 1000 pounds of Flux Core steel wire to ensure it would hold up to 140 mph hurricane force winds.

As always the schedule was a challenge, requiring one frame to be ready for pick up every four days to keep up with shipping and installation schedules.

Approximately 1900 man hours were required for fabrication on this project.





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## RUBY LAKES HILTON RESORT, ORLANDO, FL



**Architect:** HKS, Orlando, FL  
**Engineer:** TLC Engineering, Orlando, FL  
**General Contractor:** Turner Construction Co., Orlando, FL  
**Mechanical Contractor:** Harper-Limbach, Sanford, FL  
**Sheet Metal Contractor:** McDonald Air & Sheet Metal Co., Inc., Orlando, FL  
**Project Manager:** Jim Sheer  
**General Forman:** Jack Colbert

The Ruby Lakes Hilton Resort project in Orlando, Florida consists of two fourteen-story towers containing approximately 480 residential systems. McDonald Air & Sheet Metal, Inc. of Orlando, Florida presently has under contract buildings 100 and 200.

Initially the specifications for these buildings called for fiberglass duct board in the rooms, but the Hilton design team rejected it.

The design team was then presented with

three options for the duct system: sheet metal with exterior insulation, lined sheet metal or KoolDuct. KoolDuct was selected.

KoolDuct is a product that is fairly new to the United States. It features a CFC-free closed cell phenolic foam board faced on both sides with reinforced aluminum foil, using patented aluminum flanges to connect duct sections and assure a strong, tight closure.

The use of KoolDuct has been particular-



*To date, the size and complexity of KoolDuct being fabricated in McDonald Air's shop is equal in versatility to that of conventional sheet metal ductwork.*

ly well suited to the Ruby Lakes Hilton Resort due to the limited space above the ceilings in the rooms. There the pre-insulated aluminum duct work is saving valuable space while meeting the engineer's critical standards.

KoolDuct has been widely used in Europe for many years. It offers compet-

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## RUBY LAKES HILTON RESORT, ORLANDO, FL



titive advantages over conventional sheet metal systems in weight, space, installation time and energy performance. KoolDuct has met the stringent quality standards of Lockheed Martin and many school districts in the state of Florida.

KoolDuct's applications are very diverse ranging from rooftops to hotel rooms. It has superior R-ratings and requires only one inspection, thus allowing McDonalds to maintain very aggressive construction schedules.

"We've got KoolDuct" said Ralph Carver, President of McDonald Air & Sheet Metal, Inc. "Given the ever increasing standards for durability and cleanliness, it was just a matter of time before KoolDuct was discovered by innovative contractors in the United States."

We have been working with KoolDuct for the past four years and, given our growing market share in Central Florida, from Tampa to Titusville, and the wide spread recognition of the quality of this product, we're very proud to have realized the potential of KoolDuct. Everyone from owners to engineers to the certified mechanics that fabricate and install KoolDuct love this product, but change is hard for some people to accept.

All I can ask is that firms seeking to provide their client base with a superior ducting system look at the performance and clear benefits that KoolDuct has to offer. As more and more engineering firms specify this product as an option to sheet metal with blanket wrap, the market is determining its value."



*Certified KoolDuct fabricators Malinda Bostic and Nick Dean easily move a huge unit tie-in.*



*McDonalds protected storage maintains contaminant free ductwork interior. In this photo the ends have been sealed for shipment.*



## FLORIDA SMACNA, INC. MEMBER FIRMS

In the sheet metal and air conditioning business, nobody knows excellence quite the way SMACNA Contractors do.  
After all, they wrote the book on it. Why take a chance on doing business with anyone who offers less.

### **Air Management Systems, Inc.**

3801 Commerce Pkwy.  
Miramar, FL 33025  
305-651-0440  
Chris Hightower

### **All Southern Fabricators, Inc.**

5010 126th Avenue N.  
Clearwater, FL 33760  
727-573-4846  
Manuel Santana, Jr.

### **Anderson Technical Systems, Inc.**

333 W. Marion Avenue  
Edgewater, FL 32131  
386-423-2500  
Tim Anderson

### **Bohnert Sheet Metal**

2225 NW 76th Street  
Miami, FL 33147  
305-696-6851  
William H. Marvel, Jr. (Skip)

### **BSA Sheet Metal**

2530 Ali Baba Avenue  
Opa Locka, FL 33054  
305-681-3771  
John Rudisill

### **CADVANTAGE Drafting Service, Inc.**

2220 1st Avenue S.  
St. Petersburg, FL 33713  
727-321-2072  
Dan Sinclair

### **Cailis Mechanical Corp.**

12555 Orange Drive, Suite 108  
Davie, FL 33330  
954-252-0263  
Emanuel Cailis

### **Dodec Inc.**

3140 W. 84th Street, Bay #2  
Hialeah, FL 33018  
305-826-4022  
Trevor Pantry

### **Ferber Sheet Metal Works, Inc.**

P.O. Box 26069  
Jacksonville, FL 32226-6069  
904-356-3042  
George Ferber

### **Lapin Sheet Metal Company**

3825 Gardenia Avenue  
Orlando, FL 32839  
407-423-9897  
Ronald J. Lapin

### **Lee's Sheet Metal Works, Inc.**

P.O. Box 756  
East Palatka, FL 32131  
386-328-5563  
James Lee

### **McDonald Air and Sheet Metal, Inc.**

2730 Eunice Avenue  
Orlando, FL 32808  
407-295-0220  
Ralph Carver

### **Magnum Sheet Metal, Inc.**

7470 NW 68th Street  
Miami, FL 33166  
305-885-5656  
William H. Murphy, Sr.

### **MetalFab, Inc.**

28212 Rice Road  
San Antonio, FL 33576  
352-588-9901  
Wally Ruda

### **National Sheet Metal Co.**

8318 Atlantic Blvd.  
Jacksonville, FL 32211  
904-724-7476  
Ed Dickey

### **Omega Test and Balance**

126 Wisteria Avenue  
Fort Pierce, FL 34982  
772-216-7362  
Hugh Grimes

### **R. Neth & Son, Inc.**

360 E. Landstreet Road  
Orlando, FL 32824  
407-855-9096  
Steven Woodley

### **Ray's Metal Works, Inc.**

P.O. Box 700  
Alachua, FL 32615  
386-462-1415  
Ray Burnsed, Sr.

### **Sheet Metal Experts, Inc.**

8986 N.W. 105th Way  
Medley, FL 33178  
305-805-2019  
William F. Medlin

### **South Florida Sheet Metal**

5217 NE Shore Village Terrace  
Stuart, FL 34996  
954-647-6457  
Wayne Bozer

### **United Sheet Metal Company**

14945 NW 25th Court  
Miami, FL 33054  
305-685-3526  
Rich Applegate

### **Vickers Metal Works, Inc.**

6701 Edgewater Commerce Pkwy.  
Orlando, FL 32810  
407-297-7546  
Tim Vickers

## OTHER CONTRIBUTORS TO THE FLORIDA SHEET METAL INDUSTRY

### **Air Duct, Inc.**

Apollo Construction & Engineering

D&J Sheet Metal

DKG & Associates

Digital Climate & Control

EK Installations

EMC2 Sheet Metal

Florida Metal Art

FCR Mechanical Contractors

Industrial Steel

JP Sheet Metal

JV Installation

MFH Sheet Metal Fabricators, Corp.

Precision Mechanical, Inc.

Quality Metal Works, Inc.

SDB Engineers and Constructors, Inc.

Triple M Roofing Corp.

Universal Fabrication Services

[skarr@flsmacna.org](mailto:skarr@flsmacna.org)

## FROM SMACNA'S TECHNICAL SERVICES IN 2007

- Published third edition of the "Sheet Metal Welding Guide."
- Issued the newly revised fourth edition of the "HVAC Systems - Duct Design" manual, which presents the basic methods and procedures required to design commercial HVAC air distribution standards.
- Started working on revisions for both the "Residential Comfort Installation Standards" and "HVAC Applications" manuals.
- Made the third edition of the "Seismic Restraint Manual: Guidelines for Mechanical Systems" available for 60-day review.
- Continued development of revisions to the "Accepted Industry Practice for Industrial Duct Construction: and "HVAC Air Duct Leakage Test Standard.
- Published the second edition of the "Rectangular Industrial Duct Construction Standards," metric (SI) version.
- Started revision of the "Guide for Steel Stack Construction," third edition, slated for publication in the last quarter of 2008.
- Conducted edge metal testing for ensuring compliance with ANSI/SPRIES-1 for the SMACNA "Architectural Sheet Metal Manual"
- Responded to more than 800 technical inquiries regarding SMACNA standards from SMACNA contractors, architects, engineers, etc.

Florida

# SMACNA Inc.

### • SMACNA'S CONSTRUCTION STANDARDS

- Accepted Industry Standards for Sheet Metal Lagging.
- Architectural Sheet Metal Manual.
- Architectural Sheet Metal Manual, CADD Version 2.0
- 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 Guidelines.
- Managers' Guide for Welding.
- Residential Sheet Metal Guidelines.
- Seismic Restraint Manual: Guidelines for Mechanical Systems.

- SMACNA/ASHRAE Seismic Restraint Applications CD-ROM.
- Standard Practice in Sheet Metal Work.

### • SMACNA'S DUCT STANDARDS

- Duct Research Destroys Design Myths (Bubble Video).
  - Duct System Calculator - Imperial.
  - Ducted Electric Heat Guide for Air Handling Systems.
  - HVAC Duct Design Home Study
  - HVAC Systems - Duct Design.
- ### • SMACNA'S DESIGN GUIDELINES
- 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 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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**Florida**

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