

# Grand Design

A Lone Star is at the pinnacle of the roof spanning the center atria at the Opryland Hotel and Convention Center in Grapevine, Texas. Steel for the facility was fabricated and finished by Hirschfeld Steel of San Angelo, Texas.

## Hirschfeld Steel helps make Opryland Hotel and Convention Center an engineering showpiece

**T**he people at Hirschfeld Steel Co., Inc., rarely bat an eye at the sheer volume of steel that will go into a project.

Once you've fabricated and shop-finished 15,000 tons of steel for a new football stadium, or 16,000 tons for a new manufacturing facility, or 12,000 tons for a convention center, big projects become a matter of routine.

So why did the mere 5,600 tons of steel the San Angelo, Texas-headquartered firm fabricated and finished for Gaylord Hotels new Opryland Hotel in Grapevine, Texas, draw so much attention?

It surely wasn't because of the painting. Specifications called for Sherwin-Williams as a sole-source supplier of a system with which Hirschfeld personnel were familiar.

Rather, this project stood out because of the complexity of the steel pieces that were going into it.

"Hirschfeld has some history with big hotel projects, but this one was different because of the large center atria and the amount of free-standing steel," says Hirschfeld Project Manager Shel Harrison. "The geometry here is very complex — the octagonal shape of the atria, the tremendous clear span underneath the roof, the changing elevation on the roof lines. This wasn't typical beam and column work.

"It may have not been a big project in terms of the volume of steel, but it was so complex that we treated it like a big project."

And for the people of Hirschfeld Steel, a company that has grown roots into the Texas landscape for more than half a century, at least one element of this project makes it a matter of personal pride. A

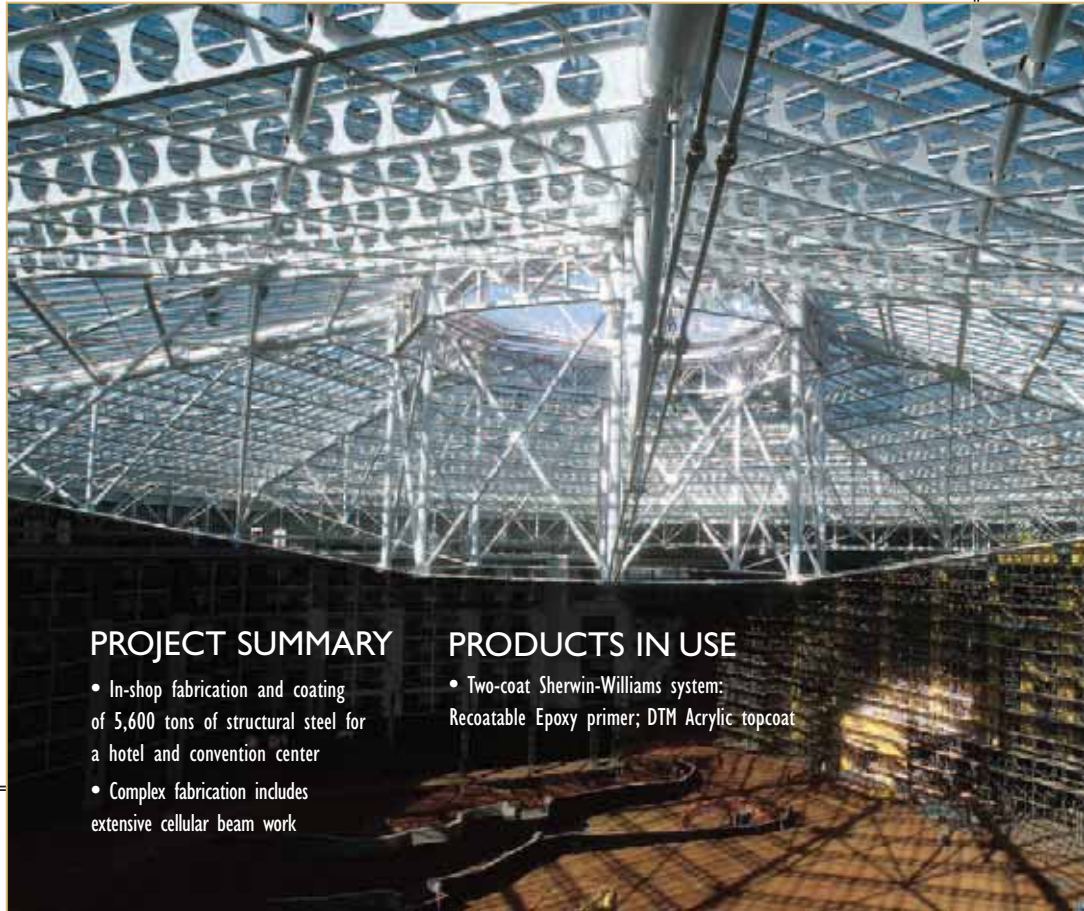
clearly visible Texas Lone Star insignia is at the peak of the roof.

"It's just beautiful," says Harrison. "I knew we were going to be awful proud of this one."

### VISIBLE FROM ABOVE

Large center atria are a trademark of Gaylord Hotels Opryland properties, which exist in Nashville, Tenn., and Kissimee, Fla. But the Texas facility, designed by the Hnedak Bobo Group of Memphis, Tenn., and engineered by Uzun & Case of Atlanta, will be unique. The \$330 million complex will offer 1,511 rooms and more than 400,000 square feet of meeting and convention space upon opening in April 2004. And the Lone Star insignia, incorporated into a 72-foot-diameter steel-pipe circle that is visible to passengers on flights arriving at nearby Dallas-Fort Worth airport, is just one of many design features that set this facility apart.

"We used a lot of pipes here, as opposed to



### PROJECT SUMMARY

- In-shop fabrication and coating of 5,600 tons of structural steel for a hotel and convention center
- Complex fabrication includes extensive cellular beam work

### PRODUCTS IN USE

- Two-coat Sherwin-Williams system: Recoatable Epoxy primer; DTM Acrylic topcoat



Above, touchup work occurs on some of the cellular beam work at the Opryland Hotel and Convention Center. Below, the facility rises from the Texas plain.

beams and columns” says Harrison. “The atria are predominantly tube and pipe structures.”

Harrison cites the octagonal atria and roof structure which peaks at 165 feet, the complexity of joint “cans” in the steel work, and the use of cellular beams in the construction as examples of fabrication innovation unique to this property. The atria uses cellular beams provided by SMI, Inc., extensively, according to Harrison.

“These are basically wide-flange beams cut apart in two alternating semicircular patterns, then welded back together to create a deeper beam with circular holes along the web while reducing the original mass,” Harrison says. “With regard to layout of complex geometry and difficult access for stiffeners, this is one of the most complex steel jobs we’ve ever fabricated at Hirschfeld.”

#### EASY PAINTING

For a project that called for genuine fabricating expertise, painting it proved comparatively easy, and that’s the way Harrison likes it. Outside of on-site touchup, the steel was entirely finished in-shop at Hirschfeld’s San Angelo and Abilene facilities in Texas. The architect provided Hirschfeld Steel with a sole-source specification for a Sherwin-Williams system calling for a prime coat of Recoatable Epoxy at 4-6 mils dft and a topcoat of DTM Acrylic

at 2.5-4 mils dft. The steel for the convention center, which generally would not be exposed to public view, received a prime coat only.

The single-source spec saved Hirschfeld personnel some work comparing quotes and gave them confidence that the coating process would come off without a hitch.

“Our last three major projects have been Sherwin-Williams projects,” says Harrison of the coatings supplier, which will also provide architectural coatings for the project when the need arises. “Our shop is familiar with the application procedures, and their personnel have proven to be very valuable in terms of technical knowledge and support.”

The project is consistent with a trend toward complete shop finishing as compared to extensive on-site painting.

“The general contractor can get the follow-on trades on the steel sooner this way,” he says. “Otherwise they’d have to wait for painters.”

“The erectors were very proactive and forward-thinking with regards to minimizing damage to the finished steel. For example, they used nylon slings instead of steel chokers when they were moving it around. They had an interest in keeping the touchup work to a minimum too.”

Finished steel began arriving on-site in May of 2002, and erection began immediately thereafter. Today the erection is complete, and construction is on pace for a planned April 2004 opening of the facility. Harrison, among hundreds of other Hirschfeld employees who had a hand in the project, is looking forward to seeing the final product.

“I get a great feeling when I take a look at every project we’ve finished, but this one is special.”

Harrison is surely one of many in the Lone Star State who feel the same. 