

SPECIAL REPORT

BLOW MOLDING & RIGID PACKAGING



Meredith-Springfield Associates Inc. photo

These plastic spheres will cut the amount of concrete needed for the Miami Art Museum, below, which is under construction.

'Green' construction with *flair*

Herzog & de Meuron architectural rendering



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When the Miami Art Museum opens in 2013, the collaboration between a blow molder and a manufacturer of reinforced steel will have contributed to the unique, airy appearance of the newest facility designed by the renowned Swiss architectural team of Jacques Herzog and Pierre de Meuron.

Meredith-Springfield Associates Inc. of Ludlow, Mass., created spheres made from post-consumer recycled plastic. They are placed in steel-wired cages that Barker Steel LLC of Milford, Mass., is using to form a Cobiax Technolo-

gies AG voided-concrete system in building the new museum. Reinforcing steel, commonly called rebar, adds strength and structure.

"This is the first full-scale project with Cobiax in the U.S.," Michael Russillo, senior manager of special products for Barker, said in a Sept. 16 interview after returning from a trip to Miami to view the construction.

The voided slabs will cover about 80,000 square feet. Russillo said he knows of a smaller U.S. project that used a similar system, but this is on a far larger scale.

Recesses in the voids, designed to accommodate lighting and piping, made it a challenge to get the right depths, *See Flair, Page 19*

Flair

Continued from Page 1

but the voided slabs decreased the amount of weight and cut costs, Russillo said.

Zug, Switzerland-based Cobiax's system is in use in Europe.

"Last spring in Zurich, I saw three to four jobs using it," Russillo said. The National Stadium for football in Warsaw, Poland; the nine-level Atrium Centre, a rail and air travel station in Frankfurt, Germany; and the L'Altra Sede skyscraper in Milan, Italy, were built using the Cobiax system.

Mel O'Leary, president and CEO of Meredith-Springfield, said company officials started talks with Barker Steel in August 2008. The voided-concrete system was scheduled to be used to construct the Harvard Life Sciences complex in the Allston area of Boston. However, that project was put on hold during the economic slowdown.

Harvard was supposed to be the first Cobiax use in the U.S. and a mockup version of the system was prepared before it was postponed. However, it may soon be back on the burner, as the *Boston Herald* reported Sept. 20 that the \$1 billion project is being resurrected for next year. O'Leary said the Cobiax plan has been ready to go since the spring



Meredith-Springfield Associates Inc. photo

A worker secures blow molded plastic spheres to a truck that will take them to the construction site of Miami's new art museum.

of 2009.

Working with a concrete company was a good experience, though "we have to educate each other," he said.

Though the process is not practical for all buildings, it works best in buildings with large spaces. A parking garage with minimal columns is a good example.

"This type of building system also allows for up to 20-meter [66-foot] spans with no obstructing beams, which amounts to 40 percent less columns," he said.

The spheres were not an easy project, O'Leary said.

"It was the continuous extrusion blow mold of a largely spherical structure, which actually is quite difficult," he said.

The spheres had to be uniform, with tight tolerances and dimen-

sions.

Meredith-Springfield has made a variety of products including vinyl fence caps, and packaging and bottles for the food, health and medical-device industries. It announced another complex project in the last month.

The company teamed up with Amerimax Home Products Inc. of Lancaster, Pa., to produce the trademarked Extend-A-Spout drainage system that is being sold at select Home Depot and Lowe's building product stores. O'Leary said his company used modified twin-sided shuttle blow molding machines to create parts as long as 36 inches in length and 9 inches in depth.

The drainage system has three components and fits 2-inch by 3-inch downspouts. It bends to multiple positions and can blend in with or be used under landscaping.

The groundbreaking for the new Miami Art Museum took place in November 2010. Designed by Herzog & de Meuron of Basel, Switzerland, the building will have 200,000 square feet of programmable space, including 120,000 square feet of interior space.