



From left to right: Rupert Marko, Raul Bracamontes, Georg Racher, Patrick O'Brien and Tiziano Tondin.

## Diamond Award Winners Announced at World of Concrete

**W**orld of Concrete, the commercial construction industry's biggest, most important event, was the venue for the announcement of the 2009 Diamond Award winners. The award ceremony, organized and presented by the International Association of Concrete Drillers and Sawers (IACDS), was held in the Las Vegas Convention Center on February 4, 2009 and drew great interest from members of the press and industry professionals alike. The ceremony, in fact, drew a standing room only crowd.

The Diamond Award is an internationally recognized competition for concrete sawing and drilling professionals to showcase their most complex and innovative projects, with the aim of being the gold award winner. Entries were judged on the degree of difficulty, planning, complexity, innovation and the quality of the work produced to ensure project success. Following a detailed review of each entry, the judging panel representing members of various country-wide sawing and drilling associations, chose the winning projects.

Since the first awards, presented during BeBoSa 2000, the Diamond Award entries have increased in both quantity and quality. Previous Diamond Award winners have experienced the benefits of being recognized for the outstanding results of their projects on an international scale.

Entries for the award came from all four corners of the globe, including sawing and drilling projects from Austria, Canada, Egypt, Germany, Italy, Japan, Russia, the UK and the US. Following a detailed review of each entry, the judging panel chose the winning projects.



Crucible repair project—ADRA.

### BRONZE AWARD

The third place award was won jointly by CSDA members ADRA Tecnología en Servicio of Mexico, and Germany's BWW.

Mittal Steel of Lázaro Cárdenas, Mexico, one of the biggest steel producers in the world, suffered a major explosion in its furnace, damaging its crucible. Because of the damage sustained, Mittal Steel was losing approximately two billion dollars a day due to lack of production, and so needed its crucible to be rebuilt quickly and efficiently.

The crucible, or melting pot, is a graphite container used to hold metal for melting in a furnace, and is required to withstand extreme temperatures. These crucibles are custom-made and are therefore extremely difficult to replace quickly.

ADRA's project was to repair the crucible by cutting 114 graphite blocks of different dimensions, using nitrogen gas instead of water, as a cooling agent. The reason for this was that if the graphite block absorbed water, this would create steam as the crucible heated up, creating pressure and cracking the furnace. The contractor also made new handling holes to elevate the pieces uniformly, coring 161 holes measuring 381 millimeters (15 inches) in diameter, 40 holes at 500 millimeters (20 inches) in diameter and two holes at 127 millimeters (five inches) in diameter in the furnace. This came to a total area cut of 70 square meters.

Raul Bracamontes of ADRA was pleased with the win, "I am very happy to be included as a winner along with these other great projects, and happy to be a CSDA member. ADRA worked hard to complete a difficult and demanding job, and this is a great reward for us."

BWW's job in Koblenz, Germany, involved a large roll mill replacement project with severe time constraints. The job was to be completed within 120 hours, requiring non-stop operation. The job consisted of extensive alterations to the mill's base to fit a new hot mill of a larger size. "It is a proud moment for myself and the company to win this award. The project was really hard, and the client was extremely pleased with the outcome. I would like to thank the IACDS



Roll Mill replacement project—BWW.

for the chance to receive the award here at World of Concrete," said Rupert Marko, managing director of BWW.

Various wall sawing and core drilling techniques, together with pressure removal and demolition methods, were used to remove concrete blocks and built-in anchors to create room for the new roll mill. The center of the existing base had a thickness of 4.5 meters (15 feet), where two recesses measuring 4.14 meters (13.6 feet) long, 2.1 meters (6.9 feet) wide and 2.25 meters (7.4 feet) deep were required to position the new roll mill in steel hulls with rolled concrete. Had BWW been allowed to carry out the work under standard shift hours, the process would have taken approximately two and a half weeks to complete.



Loggia Palace foundation consolidation project—Tondin srl.

## SILVER AWARD

Taking second place was another CSDA member, Tondin srl, for its work on a project to consolidate the foundation of the Loggia Palace in Brescia, Italy. Tondin was able to devise a high speed drilling system with micro bits to fit into confined spaces to restore the foundation. The project required the drilling of holes just 26 millimeters (1 inch) in diameter, with a horizontal axis to perform the coring with a safe distance between the foundation and the ground below it. The holes created would be used to fill cavities in the terrain below where the original wooden piles had deteriorated. As work progressed, Tondin had to increase to a 32-millimeter (1.25-inch) bit because of the presence of rocks, stones and other erratic material in the soil. The core drills were custom-made to produce a rotation speed of approximately 1,600 rpm. Tiziano Tondin was thrilled about his successful entry, “I would have been happy to receive any award for the project, so to win the second place Diamond Award is fantastic. To be chosen above so many other outstanding submissions and have the project recognized is a great honor indeed.”

## GOLD AWARD

In first place was Braun of Münster, Germany, for the company’s outstanding work dismantling a highly-contaminated steam dryer at a nuclear power plant. “I am honored to win this award, it is a great pleasure. The project specifications were very strict, with no room for mistakes. When the story was written and the entry submitted we were quite happy, as getting the story down on paper was a big task. Then to be invited to Las Vegas as a winner was an added bonus,” said Georg Rachor.

The project involved putting the steam dryer in a steel formwork for radiation shielding, encasing it with concrete, and cutting it into pieces via remote control using diamond wire sawing techniques. Remote control wire sawing was a necessity to keep operators at a safe distance from the contaminated material, avoiding exposure to high levels of radiation. The cut parts were dismantled using a special wire saw design by Hilti AG, a WS 30 E type. Wire tensioning was effected through pneumatic cylinders with a pressure of up to 6 bars. The speed of the 10.5-millimeter (0.4-inch)-diameter wire could be



Steam dryer dismantling project—Braun.

progressively adjusted between 0 and 35 meters per second. Once encased in concrete, the steam dryer was cut into 24 segments that were separated using hydraulic punches. These 24 segments were then individually removed and further cuts were performed to break the pieces down into smaller sizes for disposal. The cut pieces were packed in Type IV Konrad containers suitable for final disposal. In total, Braun removed approximately 184 square meters of steel and concrete while maintaining a high level of operator safety.

The winners of 2009 Diamond Awards were presented custom-made trophies and certificates by IACDS President Patrick O'Brien. The winners were notified in advance of the ceremony and arrived in Las Vegas via complimentary flights awarded by IACDS and complimentary hotel rooms by the World of Concrete. Georg Rachor, together with Tiziano Tondin, Rupert Marko and Raul Bracamontes were all on hand to accept their prestigious awards, and their companies now stand alongside the elite group of Diamond Award winners that has been growing since the first ceremony back in 2000.

IACDS is an international trade association of sawing and drilling associations from the concrete construction and renovation industry. Its mission is to provide an international union and cooperation of trade associations to support and promote professional development of professional sawing and drilling contractors and their methods. This umbrella organization of sawing and drilling associations is composed of associations from Australia, Austria, Germany, Japan, Spain, Sweden, Switzerland, the UK and the US.

Formed in 1995, the IACDS's headquarters in Switzerland and holds meetings annually around the globe. For more information, contact IACDS at [info@iacds.org](mailto:info@iacds.org) or visit [www.iacds.org](http://www.iacds.org).