



UNITED RENTALS KEEPS LED COURT COOL DURING SPORTING EVENT

Cooling solution with temperature monitoring ensured optimal performance of a 27-million-pixel glass floor.

A high-tech video LED court was set to play a starring role in an annual exhibition game held by a major professional sports league. The 27-million-pixel glass floor displays a wide range of visual effects, including color changes, player tracking animations, game stats, and replays. The floor was making its U.S. debut at the event. Keeping it from overheating was the challenge.

The floor supplier knew that when video activity peaked, the floor would warm up. If temperatures got too high, the LEDs would malfunction. The floor itself had been used previously for an event in Europe, but the cooling system wasn't available in the U.S. A new, custom solution was needed.

The problem: How to chill a shallow space

The main obstacle to creating a cooling solution was the space available. The clearance beneath the floor was only a few inches, so fitting in ductwork was challenging. The floor was large, and given the venue layout, the chilling equipment had to be placed at a considerable distance.

In case an effective chilling solution couldn't be found, the league had a wooden floor built and ready to go.

An engineered solution

The United Rentals project manager, who was experienced in working on large-scale events, brought together the company's power and HVAC division, its local branch and its remote monitoring expert to provide a complete, one-stop solution.

Shortly after the initial meeting, United Rentals was able to present the customer with a cooling system design that fit their needs and budget. A 100-ton chiller and two air handling units placed in the back of the venue would create cool air and push it into ducts, including lay-flat ducts placed under the floor. United Rentals would supply and install the equipment.

Remote temperature monitoring played a critical role

Monitoring the floor temperature was critical to testing the solution and addressing any issues that arose. United Rentals strategically placed 25 environmental sensors under the floor. Unlike most of its competitors, the company uses its own proprietary environmental monitoring system, WEDGE™. As a result, it can respond quickly when a problem occurs instead of waiting for alerts from a third-party system.



The WEDGE sensors were programmed to send alerts if the temperature rose above a certain threshold. Both United Rentals and the customer were able to monitor the real-time temperature data via the WEDGE dashboard.

Testing delivered peace of mind

The day before the big event, the customer tested the cooling system during a simulation event. The temperature sensors showed a few warm spots. In response, United Rentals ran additional ducting and moved other ducting to ensure proper airflow to those areas.

United Rentals' proactive approach provided peace of mind to the customer and the event sponsor. "We set up the system so that the customer didn't have to call if something went wrong. We could see the problem -- and execute a fix -- before waiting for that trigger from the customer," said Emma Seymour, product development manager with United Rentals. During the game, United Rentals was on site to monitor the cooling system's performance and fulfill any emergency requests. The floor performed flawlessly.

One bonus for the customer and event sponsor: The environmental monitoring system gave them precise insight into the temperatures and airflow

needed to maintain optimal floor performance. Managers praised United Rentals' expertise, responsiveness and high level of phone and in-person support. The customer has expressed interest in bringing in United Rentals to provide the same cooling solution for next year's event.