



## **Portable Flooring Maximizes Multipurpose Venues**

By Ron Fenhaus, Vice President—Sales, Action Floor Systems, LLC

Every public and private venue needs to maximize the use of its facilities. The challenge for multipurpose venues is maximizing facility use while meeting the needs of diverse user groups. Today's arenas need to be able to set-up multiple flooring surfaces to accommodate various activities, thereby enhancing the venue's flexibility and appeal.

Arenas often rotate from basketball to hockey to concerts during the course of a week, with each change taking time and manpower. Event complexes comprised of arenas and exhibition spaces experience even more extreme changeovers. These facilities host tournaments that can accommodate larger groups taking advantage of both arena and exhibition space. These venues need to have the right surfaces available to earn the trust of promoters and organizations to host their events. But just having the playing surfaces available doesn't ensure success. To make everything work in a timely fashion and meet the schedule allowed for change-over, you need to have the "right" surfaces.

### **Facilities in Action**

The Osceola County Heritage Park in Kissimmee, Florida covers 120 acres and its facilities include the Osceola County Stadium, a 5,300 seat outdoor baseball facility that can accommodate professional spring ball to hosting teaching seminars; the Silver Spur Arena, a 10,500 seat arena with private boxes, outstanding amenities, and 33,900 square feet of floor area; and an Exhibition Hall with 47,850 square feet of floor area plus additional meeting rooms, concession areas, and pavilions. The facility hosts a wide range of events from sports tournaments to business trade shows.

To further increase tournament business, Osceola Heritage Park expanded its facilities with the addition of seven new portable basketball floors. Action Floor Systems furnished Heritage Park seven 7,200-square-foot NitroPanel maple portable floor systems totaling 50,400 square feet. The NitroPanel portable floors enable the Park to host small events where one or two of the floors are used to large regional or national tournament events where all seven are used.

When using all seven floors for a major event, five NitroPanel portable floors are set up in the Exhibition Hall and two NitroPanel portable floors are installed in the Arena. Each floor is composed of 232 panels, so when all seven floors are being used for a tournament or event, the installation team is handling a total of 1,624 panels for installation that then need to be disassembled after the event. On this large of a scale, it is critical that the portable floor system is engineered to install easily and reliably. The floor must be durable and possess features that maximize efficiency. Whether it is a large scale effort like at Heritage Park or when installing a single floor, time is always of the essence and a portable floor system that makes the task easier and more efficient is a winner for the venue.

## **Engineering in Action**

Action NitroPanel incorporates innovative engineering and design concepts combined with premium materials to produce a maple portable floor system that is structurally superior. Through the use of laminated veneer lumber (LVL) and 4-ply hardwood plywood, the substructure panels are assembled to deliver a sturdy base. LVL is stronger and straighter than typical pine lumber, and while pine lumber will twist with changes in humidity, LVL stays true as it is composed of layers of wood veneer press glued together under pressure to form one solid strong piece. Action selected 4-ply hardwood plywood for its strength and product consistency. Hardwood plywood delivers great diagonal strength and stability--attributes that are critical in building a great substructure.

The NitroPanel features true continuous tongue and groove interlock at the full perimeter of each panel. The NitroPanel tongue and groove interlock is comprised of a high strength polymer material that resists dings and deformation and can easily be replaced in cases of severe damage. Most portables only feature partial grooves to receive the tongue; all the installation stress is then loaded to limited areas. The partial interlock panel-to-panel design does not offer full perimeter alignment thereby reducing the uniformity from panel to panel, making it inferior to designs that feature full perimeter tongue and groove.

Floor systems without a reasonable method to repair or replace a damaged tongue and groove are expensive to repair when the tongue or groove section becomes damaged. Often the damaged panel must be sent back to the factory for repair, adding to the repair cost freight charges plus potential delays. The NitroPanel's hardware assembly brackets are produced from laser cut and precision formed heavy duty steel. Laser cutting maximizes material use and the precise forming process builds strength in the brackets by adding radiuses and formed angles that resist twisting and bending when the floor is being assembled or disassembled. The brackets are secured to the panel by two bolts horizontally through the laminated veneer lumber (LVL) stringers and two heavy duty screws vertically into the bottom of the panel. This keeps the assembly brackets firmly attached and limits any unwanted slack that can make floor assembly more difficult and time consuming, while maintaining the aesthetics of the floor. Many sports flooring manufacturers in the industry only secure assembly brackets with a single pair of fasteners that are prone to deformation resulting in misalignment of panels when the floor is being assembled. During assembly of the NitroPanel flooring, hardened steel drop-pins are used to secure the panels together and maintain panel alignment with an option to use threaded thru-bolts which take longer to secure but resist vibration

Modern technology is used throughout the NitroPanel manufacturing process. The assembly bracket fastening holes are laser cut – always in the same spot – always the same size. All assembly holes in the substructure are drilled via CNC machining, and every panel is final sized by CNC machining. When combined it is easy to see all critical dimensions and holes are machined with the utmost precision delivering a product that is uniform and consistent. The NitroPanel's surface is Northern Hard Maple manufactured by Action Floor Systems, LLC. Action is a Maple Flooring Manufacturers Association (MFMA) Mill Member and the maple flooring used on the NitroPanel meets and exceeds all MFMA grading requirements.

## **Performance in Action**

Athletic performance is a top priority in the selection of any athletic floor system and the features engineered into the NitroPanel lead to unmatched consistency, ball bounce, and uniformity. The floor is uniform in play and response from panel to panel, area to area. A performance version is also available--the NitroPanel FC FIBA Certified floor system features natural rubber pads that meet and exceed FIBA Level 1 Competition requirements. The NitroPanel FC maintains the system's outstanding consistency, ball bounce, and uniformity, and adds exceptional levels of shock absorption. While many manufacturers attach pads to their portables as an afterthought, with the NitroPanel FC, Action encapsulates the pad in a protective polymer cup that is CNC machined into the LVL stringer, preventing the pad from being torn off during flooring set-up or take-down. The FIBA Level 1 Competition certification qualifies the Action NitroPanel FC Portable Floor System for Olympic Tournament and FIBA World Championship play.

After detailing the engineering, material, and design features of the NitroPanel portable floor system, the main benefit the system offers facility/venue managers and owners is its durability and handling ease, benefits that will enhance the floor for life. The panels are strong both vertically and diagonally and resist being racked and knocked out of square when being handled, allowing for more efficient installation with less checking and squaring by the field crew. The vertical accuracy of NitroPanel's tongue and groove design is unmatched in the industry and allows crews to slide the panels together quickly and accurately with minimal bumping of panels into place. Assembly hardware alignment is consistent because of the accurate machining, aiding the installation crew in getting the panels fitted-up quickly. The panels are some of the lightest performance arena panels available on the market today. The lower weight means the crew suffers less fatigue as the panels are easier to handle, move, adjust, and install. A crew that is less fatigued is not as prone to injury and is more attentive to the task at hand, resulting in less handling damage with the panels.

The importance of weight is highlighted by the Osceola County Heritage Park project. If a system was selected that weighed 22 lbs. more per panel, when installing one 7,200 square foot floor composed of 232 panels, the crew would have to handle an additional 5,104 lbs. When installing all seven floors totaling 1,624 panels, the installation crew would have to handle an additional 35,728 lbs. At a venue where a single portable basketball court will be cycled 30 times a year, the crew will handle over 306,240 lbs. of additional weight installing and taking down the heavier floor. The handling weight quickly adds up, and with the increased weight it is expected that the panels will incur some additional handling damage. The NitroPanel's weight savings is evident during set-up and take down. Crews can work quickly when handling the lighter panels, ramping up the venue's turn-around time with dealing with multiple events.

## **Portables in Action**

Many portable floor options are available and many manufacturers continue to use outdated manufacturing and panel assembly processes furnishing obese panels, irreparable tongue and groove designs, and poorly assembled bracket attachments. Action has pushed forward with a design that combines innovative components and modern manufacturing practices that establishes the NitroPanel as the industry leader. The NitroPanel is the result of designing, engineering, and manufacturing a portable floor system that is first and foremost athletically outstanding and an outstanding performer for venues. The NitroPanel is easy to install and pick-up; its components are strong and durable. The Action MFMA northern hard maple surface is the recognized standard for basketball, and the manufacturing and panel assembly technology deliver a premium

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sports surface. Portable floors provide options for many sports – basketball, volleyball, cheer, squash, racquetball, and handball. Installation cycle, durability, repair ability, panel weight, panel materials, panel assembly, and performance are key elements to consider when selecting your venue's portable floor.

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