

All Aboard Florida!

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Meadow Burke's Double Shear Dowel

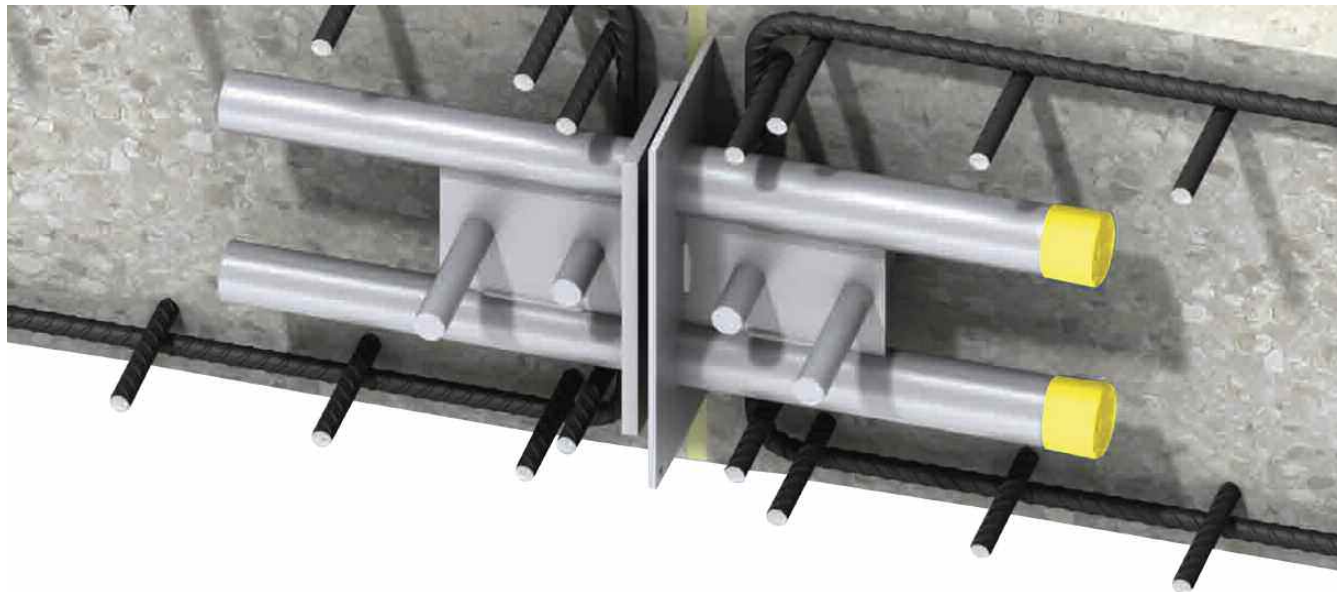
Rendering courtesy of Brightline

PROJECT SUMMARY: Historically, public transportation between Miami, Ft. Lauderdale and West Palm Beach has been minimal. Up until now a safe, reliable intercity travel method has not existed. All Aboard Railroad is the first phase of the Brightline Express Train Service that will connect passengers from Miami to Ft. Lauderdale all the way through West Palm Beach, transporting passengers at speeds between 80 and 125 miles per hour. The Miami portion of the \$3+ billion project began in early 2015 as part of the first phase of construction on the entire railway system. The project will take several years to complete and station construction projects at the four destination cities are at various stages. Skidmore, Owings and Merrill (SOM) is responsible for the design of the three South Florida stations.

The service between Miami and West Palm Beach launched in 2017 and service from Miami to Orlando will follow. Suffolk Construction was the general contractor for the Miami portion of the project working alongside Baker Concrete who was responsible for the concrete base of the railway system.

THE CHALLENGE: When designing a railway structure, it is mandatory that certain load requirements are met and exceeded for safety and long-term performance. The shear loading transfer requirement for the deck slab superstructure at the Miami Station was greater than 330 kips. Meadow Burke's Double Shear Dowel is designed to accommodate lateral movement in elevated slabs in buildings, making this a viable solution for the shear loading requirements. Additional fatigue testing for the Double Shear Dowels was required by AECOM and the All Aboard Florida team in order to demonstrate that the system would meet the expected loading requirements for the lifetime of the railway superstructure. To demonstrate the superior performance of the Double Shear Dowels, laboratory testing was developed that subjected the dowel bars to an alternated load range of 25 kips per device with a minimum load of 3 kips; the maximum applied stress range at the extreme fiber (i.e. at the farthest point from the neutral axis) of the dowel pin being 24 ksi. The tests were conducted over 10 million cycles, corresponding to a service life requirement of 75 years. The Double Shear Dowel easily exceeded the acceptance criteria.

All Aboard Florida (continued)



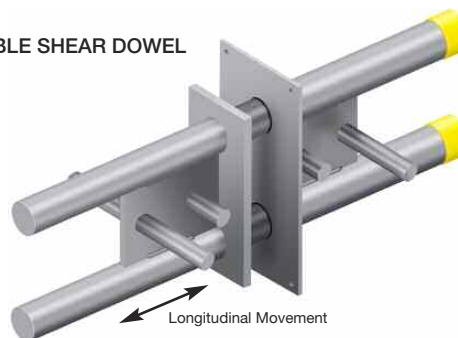
THE SOLUTION: For the All Aboard Florida Brightline project, the Meadow Burke Double Shear Dowel was chosen due to its unique ability to transmit high shear loads in concrete from the elevated rail superstructure to the pier foundations below. To ensure optimum performance under cyclic dynamic loads, a special version of the Double Shear Dowel was supplied. Welds between web plates and dowel bars were eliminated to avoid stress raisers that could potentially cause premature system failure and clamps were fitted at the extremities of the dowel bar and tubular sleeves to guarantee parallelism.

Manufactured from duplex stainless steel to ensure a high degree of corrosion resistance with no requirement for additional protection, the two-part assembly provided All Aboard Florida and their engineering and construction teams with a simple, maintenance-free solution to control the longitudinal movement in the rail viaduct superstructure's concrete construction joints while transferring significant shear loading.

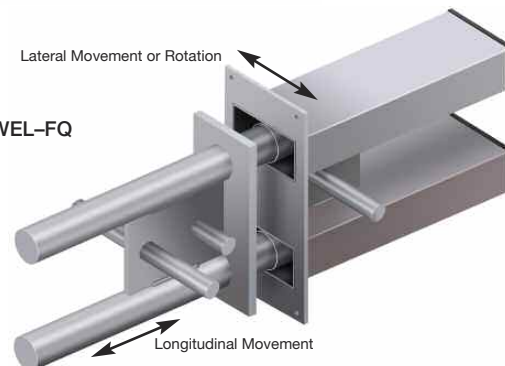
THE RESULT: Professional Engineering sealed designs conforming to ACI 318-11 specifications were provided to AECOM and the All Aboard Florida team to demonstrate that the dowels would meet the expected loading requirements for the lifetime of the rail-

way superstructure. The innovative collaboration of Meadow Burke, Eriksson Technologies and ANCON produced a viable solution for the high-speed rail system that will provide transportation to millions of people. The All Aboard Florida project has a safe, cost-effective solution to withstand shear and moment loadings that will enable the project to continue towards completion.

DOUBLE SHEAR DOWEL



DOUBLE SHEAR DOWEL-FQ



Industry Trade Show News



Mike Wolstenholme

WORLD OF CONCRETE: Meadow Burke debuted Super Lynk® at World of Concrete in Las Vegas, Nevada this past January hosting live demonstrations every day. Super Lynk is a panel-to-foundation connection system that eliminates the need for epoxy, grout and field welds. Meadow Burke also hosted its annual customer luncheon and over 150 customers attended the event.



Imran Khan

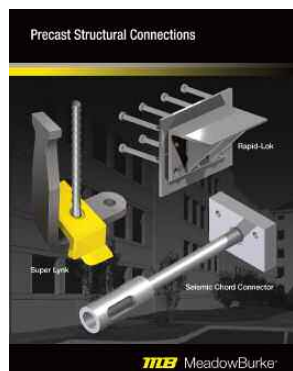


L to R: Imran Khan, Mike Wolstenholme, Gary Pascoe, Nate Kurek, Patrick Pusey

CANADIAN CONCRETE EXPO: The Meadow Burke and Thermomass teams attended the first annual Canadian Concrete Expo in Toronto, Ontario. Imran Khan gave a presentation on cost effective methods of connecting and lifting concrete. He also hosted live demonstrations of the Burke Lockable Dowel, Double Shear Dowel and Keyway Splice Box at the booth.



Jeff Myers



PRECAST SHOW: The Precast Show was hosted in Denver, Colorado this year. The Meadow Burke team made a big impact debuting new products and interacting with our Precast customers. Crowds gathered around the Meadow Burke booth every day when Imran Khan took the microphone to give live demonstrations of the Rapid-Lok, Seismic Chord Connector and Super Lynk®.

New Product Development

As the Innovators in Concrete Construction, Meadow Burke continues to place a high focus on new product development. The new product development team has commercialized four new products since the third quarter of last year and has nine new products in the new product development pipeline! Do you have a new product development idea that can help solve an industry or customer problem? Submit it today to the [New Product Development Team](#).



X TUFF
Slab Bolster

A new rebar support using high-performance PC/ABS plastic for best-in-class strength and durability.

MB MeadowBurke

The X Tuff Slab Bolster is a market-leading alternative to metal rebar supports. It eliminates concerns with rust and provides exceptional performance even in extreme temperatures and corrosive environments, helping contractors deliver fast and reliable rebar placement.

[Click Here](#) to learn more



Super Lynk

A panel to foundation connection system that eliminates the use of epoxy, grout or field welds.

MB MeadowBurke

Super Lynk is a fast, strong and discrete way to permanently connect concrete panels to footings. It requires only a single bolt to make the connection – no welds, grout or epoxy.

[Click Here](#) to learn more



Lifting & Leveling Insert

Allows for the lifting and positioning of precast paving panels used in concrete roadway repairs. After the panel is lifted and positioned, the insert acts as a 'jack' to establish the correct level of the slab.

MB MeadowBurke

The Lifting and Leveling Insert allows for the lifting and level positioning of precast concrete paving slabs used in concrete roadway installations and repairs. After the slab is lifted and positioned in place, the insert also acts as a 'jack' to establish the correct level of the slab to create a consistent surface height.

[Click Here](#) to learn more



Super Lift Shoe

Fits to the base of the Super Lift feet allowing the anchor to 'sit' level, on top of the insulation foam

MB MeadowBurke

For insulated panel applications, the Super Lift Shoe improves the positioning of all Super Lift Anchors.

[Click Here](#) to learn more

Community Events



PHOENIX, AZ: Meadow Burke Phoenix adopted three children from Dunbar Elementary school in Phoenix, Arizona for their Community Outreach project for Christmas.

Pictured at left with the children: Tom Drew, Becky Hebner and Tony Sanchez



TAMPA, FL: Tampa HQ participated in the Salvation Army Christmas Angel program for the second year. We provided 30 angels with Christmas gifts this year.

Pictured: Imran Khan



L to R: Adam Benavidez, Nate Kurek, Brenda Whitlock, Terry Baird, Breanna Hauser, Ron Naumann, Leslie Rivera, Martileana Aviles.

Not pictured: Jim Cacacie, Melissa McDonald, Denise Davis, Denise Senior, George Driver, Raquel Lee, Hernando (Nando) Montoya, Shaun Bennington, Anthony Roach, Mike Ellio

Our Core Values

Meadow Burke is a leading manufacturer of Tilt-Up, precast, forming, reinforcing and bridge concrete accessories. Our products are sold and distributed throughout North America to help connect, form, reinforce and lift concrete.

SAFETY: Keep our colleagues, customers and end users safe and healthy.

QUALITY: The relentless pursuit of better solutions.

PEOPLE: Invest in our people, so they become passionate about helping you to succeed.

SERVICE: Focus on customer satisfaction above and beyond what is expected.

COMMUNITY: Recognizing our duty as stewards of our neighborhoods, economy and environment.



MeadowBurke

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