

Bender Successfully Laser Welds Panels

On July 23, 2003 Bender Shipbuilding & Repair Co., Inc. became the first shipyard in the United States to successfully laser weld a structural steel panel on the shipyard's production equipment.

Leveraging R&D work performed under the Advanced Joining Processes NSRP project and the Integrated Laser Optic controlled Welding (I-LOW) Office of Naval Research Small Business Innovative Research (SBIR) project, the project team of Bender, Visotek and Alabama Laser developed, built, installed and tested a laser welding system which was put through its paces on July 22nd and 23rd.

The test panels were 2' x 2' square panels with 5 closely spaced stiffeners, all laser cut from 1/8" plate. The Panels were sandwich type panels in which the stiffeners are installed between two plates, and the welding is done from the outside, on both sides. The panels used the tab & slot joining concept to fit the stiffeners and lock them in place, and the laser welds were done using a scanning optic developed by Visotek. The integration onto Bender's 6kW Tanaka laser was performed by Alabama Laser.

Additional development work will continue to resolve various issues identified during these first trials, and will result in a full production capability of large panels.

Bender Shipbuilding & Repair Co., Inc. continues to lead the industry in technology development and innovation.



Pat Cahill holding test panel in front of laser welding head.