



OPENING SHOT

Jack Champaigne | Editor | The Shot Peener

Welds: A Favorite Topic

MY INTEREST IN SHOT PEENING WELDS began in 2004 at a SAE weld challenge that included peening. Since then I've uploaded 48 papers on the topic to the Library at www.shotpeener.com.

In the past few months, several things happened that broadened my respect for shot peening's ability to improve the fatigue strength of welds. First, I met Civil Engineering Professor Robert Conner with Purdue University. He was one of the authors of "Fatigue Life Improvement of Welded Girders with Ultrasonic Impact Treatment." Ultrasonic Impact Treatment (also called "Needle Peening") is especially valuable to retrofitting applications such as aging steel bridges.

In addition, Julien Jeanneau, with Empowering Technologies, loaned needle peening equipment to Purdue through Purdue's Center for Surface Engineering and Enhancement (CSEE). The equipment is being used for student projects. Electronics Inc., through CSEE, is funding further student research on needle peening.

Coincidentally, Empowering Technologies used their needle peening technology on the Route 52 bridge over the Wabash River in northwest Indiana. According to Professor Connor, "Many of our country's bridges are at least 50 years old. We have found that needle peening can extend the useful life of older bridges by improving their fatigue strength." It's rewarding to me that the peening of welds can be part of the maintenance and repair solution for the United States' aging bridges.

Congratulations to our 2019 Shot Peener of the Year

I couldn't end this column without acknowledging our 2019 Shot Peener of the Year. Congratulations, Kelly, on this well-deserved recognition of your contribution to our industry. ●



Purdue engineering students gain hands-on experience with needle peening equipment on loan from Empowering Technologies. From left to right: Zane Smith, Sebastian Aldwin, Erik Dabagian, Steven Clark and Brandon Thornell with Empowering Technologies.

THE SHOT PEENER

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