

New Ultrasonic Technologies for Structural Integrity Improvement

The Structural Integrity Technologies Inc. (SINTEC) is a world leader in the development and industrial application of ultrasonic technologies for fatigue life improvement and residual stress measurement. SINTEC manufactures and provides equipment for ultrasonic impact treatment (UIT/UP) of parts and welded elements and for ultrasonic measurement (UM) of residual and applied stresses.

Ultrasonic Impact Treatment (UIT/UP)

The most efficient fatigue improvement technique



UIT/UP of welds in mining equipment



Ultrasonic Peening system UP-600

Ultrasonic Measurement (UM) of Residual and Applied Stresses

Effectively used in laboratory and field conditions



Measurement of residual stresses in a welded bridge



System UltraMARS™ for residual stress measurement



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SINTEC - Improving Reliability and Endurance

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Publications

Selected Recent

Y. Kudryavtsev and J. Kleiman. Increasing Fatigue Strength of Welded Joints by Ultrasonic Impact Treatment. *International Institute of Welding. IIW Document XIII-2338-10. 2010.*

Y. Kudryavtsev and J. Kleiman. Measurement of Residual Stresses in Welded Elements and Structures by Ultrasonic Method. *International Institute of Welding. IIW Document XIII-2339-10. 2010.*

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Y. Kudryavtsev. Ultrasonic (Hammer) Peening. *Handbook on Residual Stress. Edited by Jian Lu. Volume 1. SEM. 2005. p. 160-169.*

Y. Kudryavtsev, J. Kleiman, O. Gushcha, V. Smilenko and V. Brodovy. Ultrasonic Technique and Device for Residual Stress Measurement. *X International Congress and Exposition on Experimental and Applied Mechanics. Costa Mesa, California USA, June 7-10, 2004. (on CD)*

Y. Kudryavtsev, J. Kleiman and O. Gushcha. Ultrasonic Measurement of Residual Stresses in Welded Railway Bridge. *Structural Materials Technology: An NDT Conference. Atlantic City. NJ. February 28-March 3. p. 213-218. 2000.*

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Y, Kudryavtsev et all. Increasing of Fatigue Strength of Welded Joints in Cyclic Compression. *International Institute of Welding. IIW Document XIII-1569-94. 1994.*

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Trufiyakov V., Mikheev P. and Kudryavtsev Y. Fatigue Strength of Welded Structures. Residual Stresses and Improvement Treatments. *London. Harwood Academic Publishers GmbH. 100 p., 1995.*

Trufiyakov V. I., Mikheev P. P., Kudryavtsev Y. F. and Statnikov E. S. Ultrasonic Impact Treatment of Welded Joints. *International Institute of Welding. IIW Doc. XIII - 1609 - 95. 1995.*