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INTRODUCING

Bossard Joint Analysis Ultrasonic Testing

Ultrasonic preload force measurement for securely bolted joints

The correct preload force is a decisive factor in ensuring that bolted joints work and remain secure in the long term. It guarantees that two components that are bolted together behave as a single unit. Bossard's fastening technology experts will take care of measuring the preload force for you in a technical test laboratory or on-site – to keep you on the safe side throughout your bolted joint's entire life cycle.

What is the purpose of an ultrasonic preload force measurement?

When a bolt is tightened, a preload is generated that is heavily dependent on the relevant friction in the threads and beneath the bolt head or nut bearing area, as well as on the lubrication and the assembly tools used. Consequently, the generated preloads vary a great deal during the assembly process. By measuring the preload force ultrasonically, we can determine the precise load in the actual joint as it is being assembled in its production configuration without altering any of the joint parameters. This method is significantly more accurate and reliable than using force washers.

We also have the capability of measuring load and torque simultaneously giving us a smooth torque/tension curve graph that can help with joint analysis.

How does ultrasonic preload force measurement work?

Utilizing specialized equipment, an ultrasonic signal is passed through the head of a bolt which bounces off the opposite end and back to the transducer. The "time of flight" for this signal changes as the bolt stretches under load and can be calibrated to accurately determine the load in the joint within +/- 5%.

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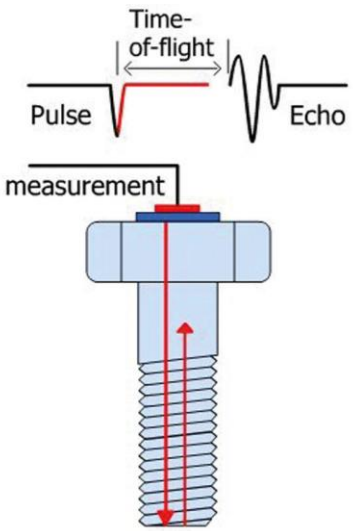
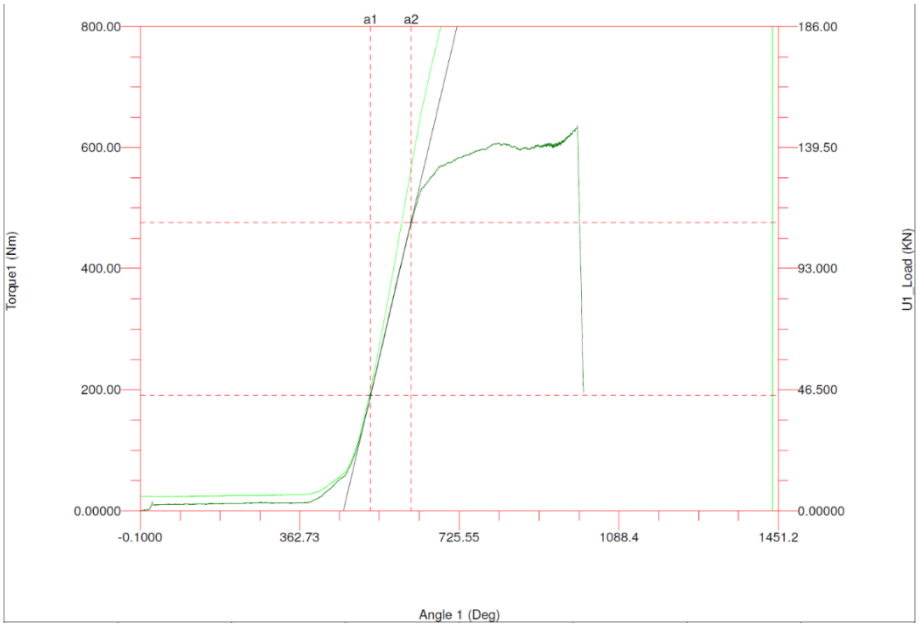
BOSSARD JOINT ANALYSIS

Ultrasonic Testing





Please reach out to Bossard Engineering today to discuss your joint analysis needs.

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