

Ultrasound excited thermography of load bearing members used in constructional steelwork

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Ultrasonic lockin and burst-phase thermography establish more and more as fail-save NDE methods in the scope of inspection of light-weight composite structures. The methods were not transferred to massive steel members used in constructional steelwork so far. Tests on a hot-rolled steel truss weighing more than 300 kg demonstrate that crack detection is possible but also show the known problems concerning infrared imaging of metal structures. Most critical points for the crack detection procedure are the strong dependency on the excitation frequency and the coupling between ultrasound converter and examined steel member.

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