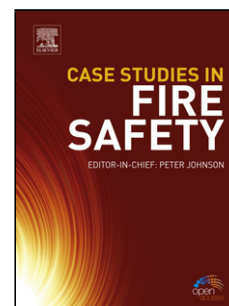


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The galvanic corrosion of welded ultra-high strength steels used for automotive applications

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**Abstract:** In situ Scanning Vibrating Electrode Technique and time lapse photography were used to study the galvanic corrosion of high strength low alloy (HSLA) steel, laser welded to hot stamped ultra high strength steel (UHSS) in 0.017 M NaCl. Samples of HSLA welded to UHSS exhibited corrosion focused on the UHSS. This galvanic effect was due to a -0.2 V vs. SHE difference in OCP for the UHSS. SVET derived metal loss increased by a factor of >2 for this couple. The localised corrosion observed may reduce the fatigue resistance and is of significance considering the increased use of thinner UHSS.

**Keywords;** A Steel

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