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ON-LINE STEEL SURFACE CONTAMINATION MONITORING WITH LIBS-BASED SENSOR

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Sarclad and CRM Group have successfully developed a new on-line sensor for steel strip contamination. The system utilizes laser-induced breakdown spectroscopy to give a continuous and real-time assessment of the contamination levels post-cleaning on a typical steel strip processing line.
Critically, this is the first system available that can distinguish between surface carbon and iron fines contamination with quantitative data. This will enable the highest product quality alongside optimized core cleaning section parameters, like electrolysis current level, degreasing bath concentration or brushes pressure, to give the greatest process efficiency.
This paper describes the results obtained by this sensor in industrial demonstration trials on commercial continuous galvanising lines.

Keywords: laser induced breakdown spectroscopy, LIBS, surface contamination, galvanisation, iron fines, carbon pollution, online cleanliness.

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