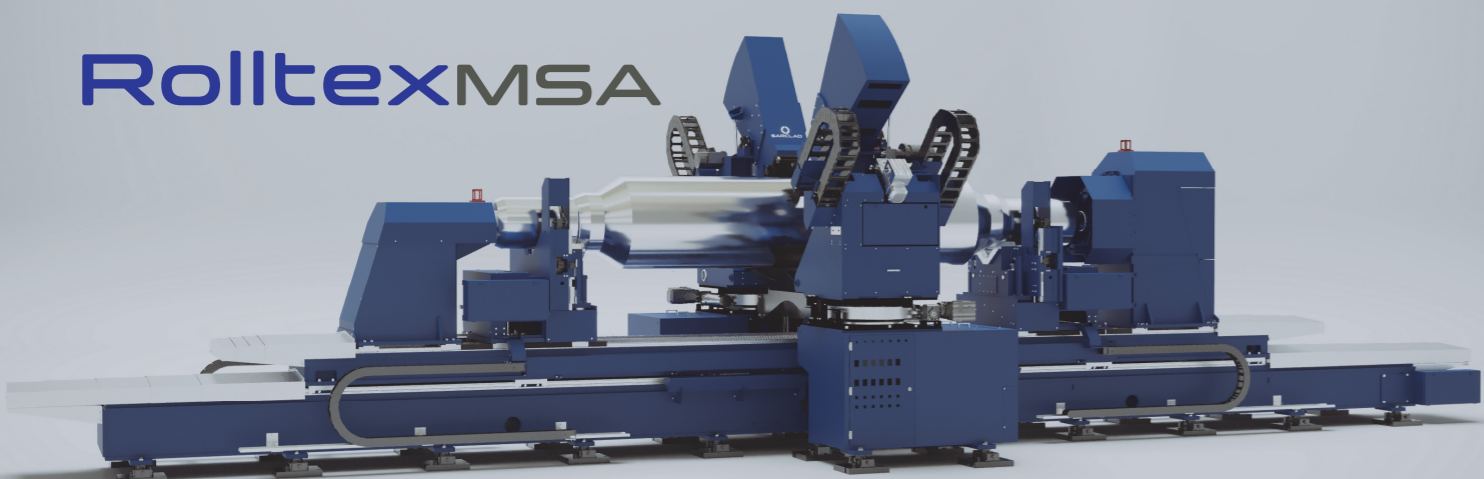
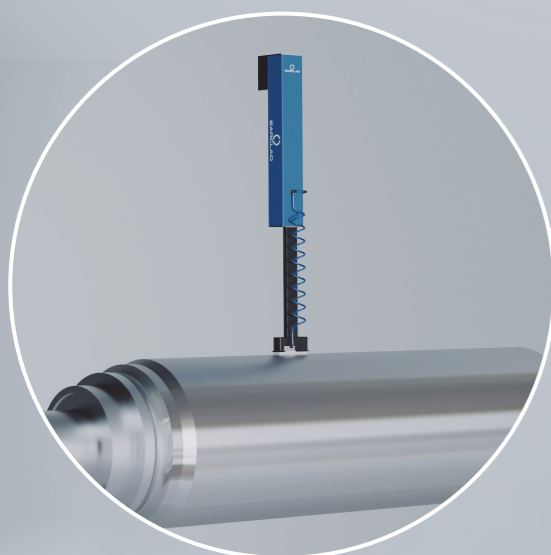


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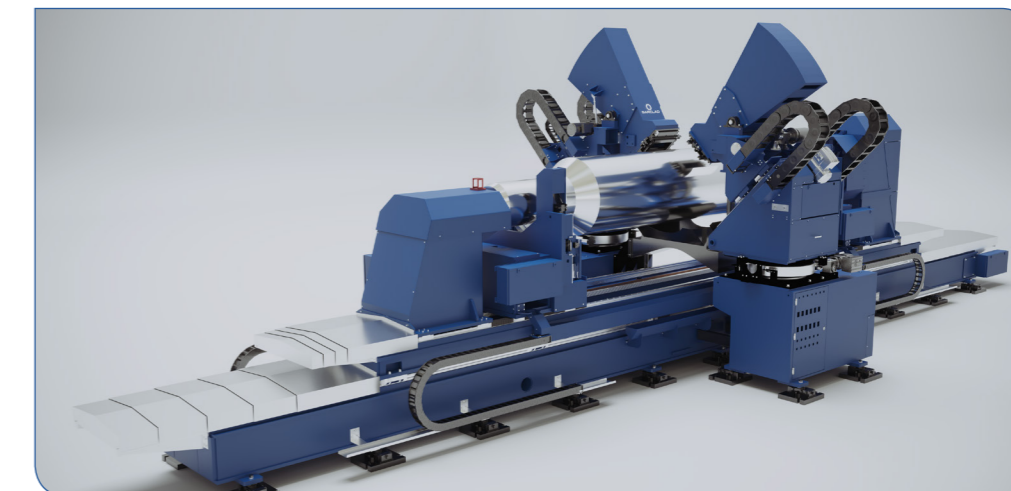
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Texturing on point

Richard Cowlshaw, managing director of Sarclad, explains why EDT continues to be the texturing technology of choice for steel sheet



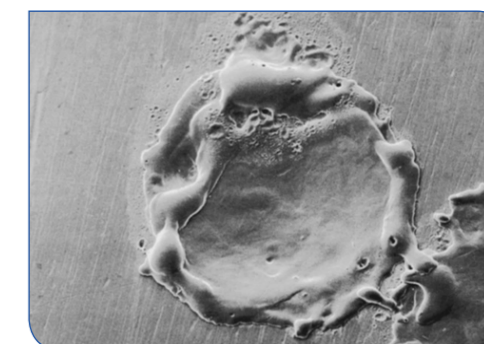
Quality demands on textured steel sheet are growing at an ever-increasing rate. Automotive customers are placing tighter demands on steel producers due to pressure to reduce thickness of coating and painting layers, all the time requiring the best forming behaviour and visual appearance after coating and painting. Textured work rolls of the highest surface quality are essential to meeting these demands.

Since 1987 Sarclad has delivered over 120 Rolltex roll texturing machines worldwide, supplying premier steel producers, based on electrical discharge texturing (EDT) technology. EDT uses electrical energy to produce microscopic craters on the surface of the roll to produce a specific surface roughness (Ra), peak count (R_{Pc}) and skew (R_{sk}).

Prior to the widespread adoption of EDT as the de facto standard roll texturing technology, rolls were typically processed by the shot blast texturing (SBT) method. However, texture quality and consistency could commonly be affected by many variables, including roll hardness, making it difficult to maintain consistency of rolled sheet.

Various other roll texturing technologies have tried over the years, but fail to produce the necessary quality and capacity that EDT provides. Texturing technologies based on laser and electron beam inherently produce repeating patterns and micro-features in the roll surface that prevent the sheet being acceptable for use in exposed automotive applications. Roll processing times are dramatically slower than EDT due to difficulties in covering the full surface area of the roll, while the consumption of inert gas used during laser texturing is wasteful and very costly.

EDT texturing naturally produces complete coverage of the roll surface. The crater produced by each electrical discharge has a rim around it where the roll material is resolidified. This crater rim acts to concentrate the charge density when the next electrical pulse is applied, resulting in a subsequent discharge producing a crater adjacent to the previous one. This ensures that the entire



roll barrel surface area is fully covered with a consistent and repeatable texture, which has no directionality. It is this stochastic, isotropic surface which is so highly prized by automotive OEMs and other applications that require the highest quality textured sheet.

Sarclad continues to push the boundaries of roll texturing technology. The latest being the MSA (Multi-Servo Array) EDT, which delivers pioneering improvements in surface texture quality and roll processing times. World-leading steelmakers have recognised the advantages of the MSA EDT, with orders secured for two of the latest MSA machines and many more in the pipeline.

Without doubt, surface quality requirements will continue to advance and Sarclad will continue to deliver machines of the highest performance and capacity, which enable steelmakers to produce the highest quality steel strip.

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