GRÄNGES

Performance and tool wear in large scale milling of aluminum rolling slabs

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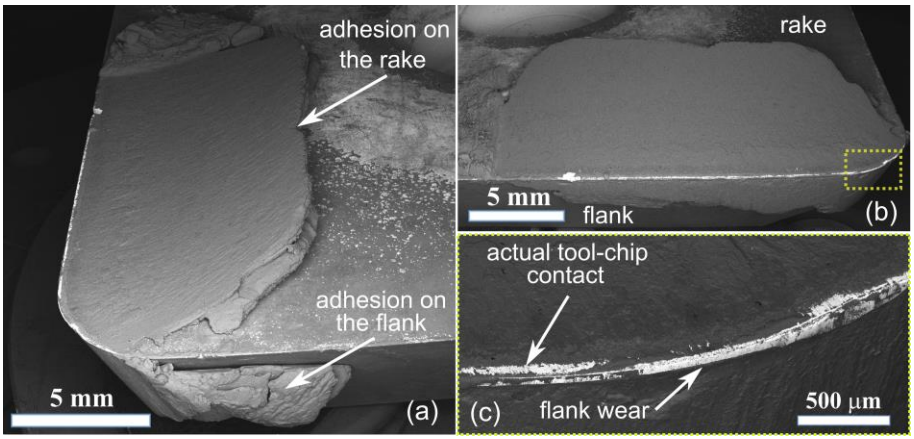
BACKGROUND

Gränges is a leading global supplier of rolled aluminium products for heat exchanger applications and other niche markets. Every second car produced today globally contains materials that Gränges has manufactured.The production facility in Finspång has a capacity of 100 ktonnes. A project is currently being carried out to increase capacity by 20 ktonnes, which is expected to be completed in 2022. The plant has been producing aluminium products since 1922 and aluminium products for brazed heat exchangers since 1972. Production is organized into three production sections: remelting, rolling and finishing. At the remelter, secondary aluminium is melted followed by DC (Direct chill) casting of rolling slabs. Before the slab is ready for rolling, the other casted surface need to be removed along rolling surface. This is done by milling (scalping) in large scale. It is of great importance that surface after milling fulfilling the requirement of further processing, including surface roughness, scratches and residues from lubrication. Mechanical wear of the tools are also critical to avoid unnecessary down-time and reduce costs.

STUDY OF PROCESS PERFORMANCE AND TOOL WEAR IN LARGE SCALE ALUMINIUM MILLING

The degree project involves mapping the process regarding its efficiency, performance and tool wear in relation to amount and type of material (aluminium alloy) processed. This thesis aims to also to analyze out-coming results of the milling process, including surface quality, defects and their impact along the process chain.



The degree project is suitable for students in mechanical engineering, materials science or a similar.

CONTACT

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