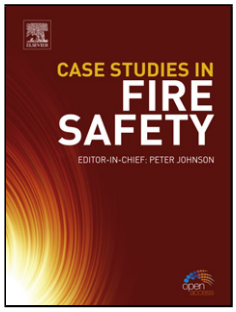

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The influence of microstructural evolution on selective corrosion in duplex stainless steel flux-cored arc welded joints

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Highlights

- Electrochemical potentiokinetic reactivation was used to study selective corrosion.
- Microstructure evolution affected corrosion behaviour in flux-cored arc welded DSS.
- Secondary austenite was preferentially attacked over ferrite and primary austenite.
- Localised corrosion occurred around Cr_2N and sigma phase in heat-affected zone.
- Flux-cored arc welded metal had the smallest susceptibility to localised corrosion.

Abstract: The influence of microstructural evolution on selective corrosion in duplex stainless steel flux-cored arc welding joint was investigated by the modified double loop electrochemical potentiokinetic reactivation in acidified chloride. Due to the lower pitting resistance equivalent