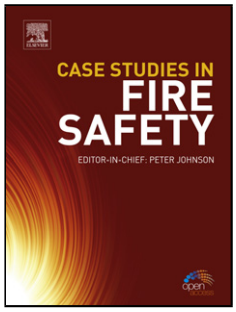

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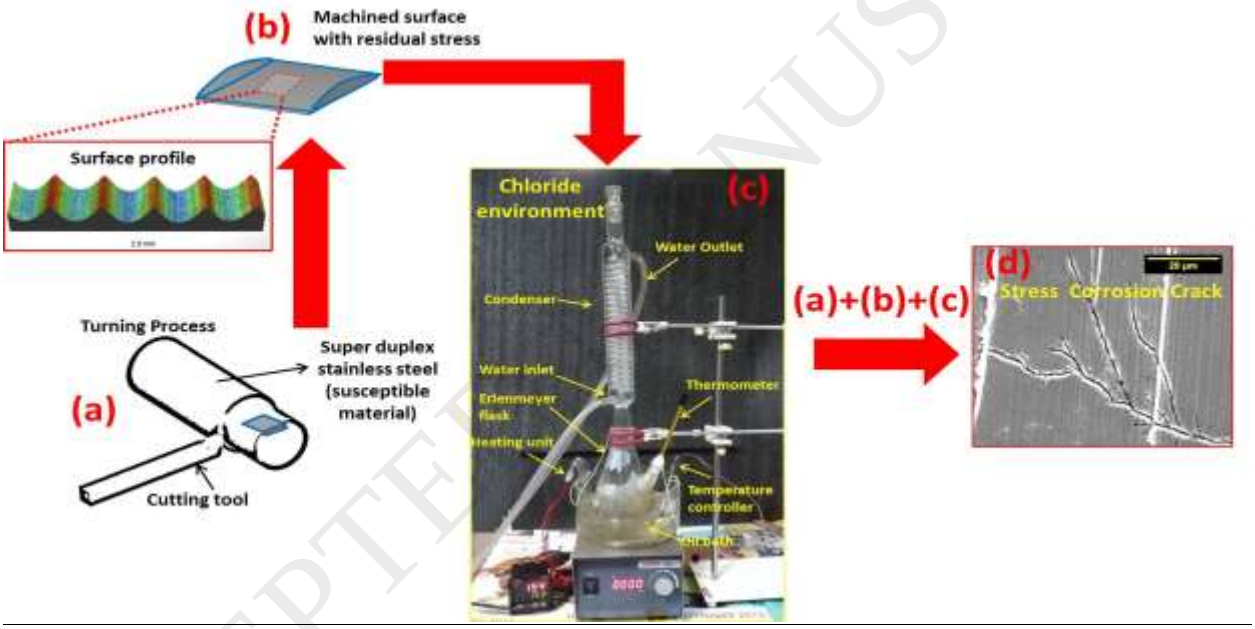
Investigation on Machining Induced Surface and Subsurface Modifications on the Stress Corrosion Crack Growth Behaviour of Super Duplex Stainless Steel

Rajaguru J[a] *and Arunachalam N*[b*]

[a] *Research Scholar, Department of mechanical engineering, IIT Madras, Chennai, Tamil Nadu, 600036, India*
[b]*Assistant Professor, Department of mechanical engineering, IIT Madras, Chennai, Tamil Nadu, 600036, India*

[*] **Corresponding author**. Tel.: +91-44-2257-4722
E-mail address: chalam@iitm.ac.in

Graphical abstract



Highlights:

- The direction of cracks on the surface is mainly influenced by the magnitude of residual stress along cutting and feed direction.
- The surface defects (feed marks and long grooves) generated after machining also influenced the crack direction and orientation.
- With an increase in exposure time, the secondary crack width grows at a faster rate than the primary crack width.
- Even though the austenite exhibited better crack resistance than ferrite, microcracks were initiated in both the phases.