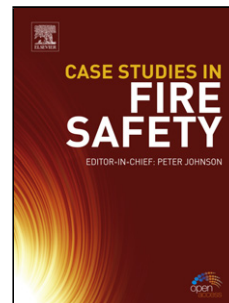


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Electrochemically-induced TiO₂ incorporation for enhancing corrosion and tribocorrosion resistance of PEO coating on 7075 Al alloy

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Research Highlights:

- Bipolar waveform with wider cathodic pulses (W3) prevented the pancakes formation.
- Titanium oxalate develops TiO₂ in anatase and rutile polymorphs in the PEO coating.
- Coatings with no large pores at the metal/coating interface was created by the W3.
- The W3 coating showed the best passivation behavior and corrosion performance.
- The lowest volume loss was also achieved for the W3 coating in tribocorrosion test.

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