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Poster ☐ Oral ☒

A decisão final será do Comitê Técnico.

### Study of two different aluminum alloys for subsea longterm application

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#### New Abstract

On the O&G subsea segment, aluminum has not been used in any significant extent, and it is usually limited for ROVs (Remote Operated Vehicles) and for non-permanent subsea tools for equipment installation/retrieval. For permanent subsea applications, aluminum is generally not selected as a construction material. Therefore, the present work aims to study two different aluminum alloys from the 6XXX series for permanent subsea application, evaluating susceptibility to crevice of non-anodized samples by standardized electrochemical methods. Also, the behavior of anodized samples submitted to cathodic protection is evaluated by electrochemical impedance. It was found that the cyclic potentiodynamic polarization method was the most suitable to differentiate the studied alloys. The anodized alloys presented a good stability along the time, showing no signs of degradation even after one year of immersion.

**Keywords:** subsea corrosion, aluminum, crevice, polarization, impedance.

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