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#### **The effect of FSW on microstructure and intergranular corrosion of the AA2198-T8 alloy**

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In this investigation, the intergranular corrosion (IGC) resistance of the AA2198-T8 alloy welded by friction stir welding (FSW) was investigated by ASTM G110-97 test. The different zones resulting from FSW showed distinct resistances to intergranular attack depending on the heating and/or mechanical effects produced by welding. The base metal (BM) was the most susceptible to IGC whereas the thermomechanically affected zone (TMAZ) and the stir zone (SZ), presented the highest resistances to IGC comparatively to the other zones. The results of IGC tests were correlated with those of thermal simulation, microhardness measurements, transmission electron microscopy (TEM) and optical microscopy (OM). The dissimilarities in corrosion resistance of the various zones were associated to differences in hardening phase quantities between the various zones. In the BM and HAZ, T1 phase, the main hardening phase, was found at grain boundaries and it resulted in IGC susceptibility. The slight IGC observed in the SZ and TMAZ was not associated with T1 phase which was rarely found but to another precipitate (T2 phase) which was found preferentially located at the grain boundaries in these zones.