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Mechanical characterization of a spray formed AA-6082

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The spray forming technology has raised attention due to the possibility of combination; in a single step the advantages of the rapid solidification techniques and the high productivity similar to conventional casting process, allowing obtention of a refined microstructure almost without porosity and macrosegregation free. The rapid solidification processes inherent to the spray forming allow the production of alloys with different compositions from those obtained by conventional ingot processes. The aim of this work is to carry out mechanical properties characterization of a spray formed AA-6082 alloy. The results are shown in terms of Vickers hardness evaluation in distinct regions of a preform billet. The material was evaluated in the as sprayed condition and after heat treatments of solution for periods of 1 h at 525 °C and aging for 1 h, 10 h, 100 h and 500 h at 125 °C. It is showed that the spray formed AA 6082 aluminum alloy is very stable regarding hardness variation.