

**303-100**

**INFLUENCE OF COLD ROLLING IN AGING TIME FOR THE ALUMINIUM 2024 ALLOY**

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The conformation of AA2024 T354 aluminum alloys for the manufacture of components for the aircraft industry, often possess structural flaws like not homogenous cracks and deformations due to the processing of solubilization /precipitation performed in commercial alloys. This work proposes a manufacturing route to make ductile alloy to withstand the stresses during processing and further processing to recover the mechanical strength of the alloy. The sequence of operations began with the overaging heat treatment at 415 °C 2.5h, solubilization at 495°C 2.0h, mechanical forming 10%, 20%, 30% and 40% of plastic deformation, and artificial aging at 190 °C for periods of 2, 4, 6 and 8 hours. The results allowed to obtain higher values of mechanical properties compared to alloy in the state as received T354.

2024 alloy, solubilization, aging time, cold rolling, mechanical properties.