

Abstract. The microstructure and its evolution during isochronal annealing of a twin roll cast Al-3.2Mg-0.19Sc-0.14Zr (wt.%) alloy was investigated by light optical microscopy and electron microscopy. Two procedures – equal channel angular pressing and annealing at 300 °C for 8 h were applied to enhance mechanical properties of the alloy. The annealing led to the precipitation of a fine dispersion of Al<sub>3</sub>(Sc,Zr) particles providing an increase of ~20 HV in the Vickers microhardness. Equal channel angular pressing refined significantly the microstructure and raised the microhardness by about 30 HV. Applying of the 300 °C / 8 h both before and after equal channel angular pressing did not induce further strengthening. However, the precipitation of the Al<sub>3</sub>(Sc,Zr) phase had a stabilizing effect when the material was exposed to the subsequent isochronal annealing.