

In this work, repaired crack in 2024 T3 aluminium plate with composite patch is presented, the problem is handled in plane stress condition under tensile Mode I crack growth. In the numerical simulation, firstly we determine the displacement, strain and stress, also the first six mode shapes of the plate, secondly we compare the first results with result of a cracked plate, thirdly we repair the crack with composite patch for different materials (Glass, Boron, carbon) and for (2 layers, 4 layers). Finally the comparison of stress, strain, displacement and six first natural frequencies between uncracked, crack initiation and composite patch repair crack. The best offer operating according to the need is selected.