Shortened conclusion of technical report No. 4300477 "Analysis of crack on propeller blade" by Department of strength at SVUM Běchovice, accredited testing laboratory No. 1151.

Summary of findings and conclusions

According to investigation, the formation of fatigue crack on propeller blade refers to the repair method of the leading edge with welding. Welded area has rounded form of dimension about 25 x 9 mm.

The fatigue crack itself was developed from the defective area in the crack starting zone of dimension about 5 mm at leading edge.

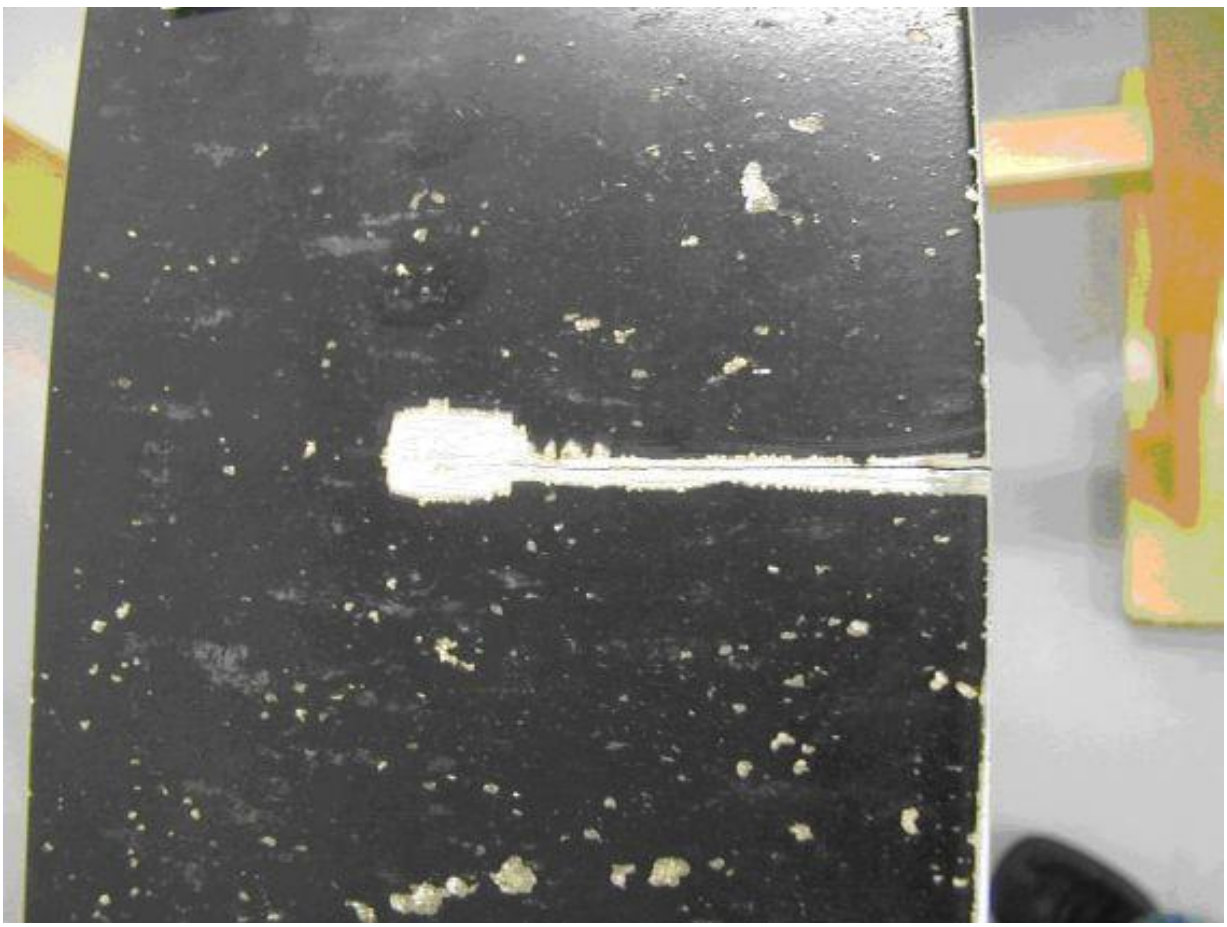
One of stairs in those defective starting zones of crack area is directly related to the crack, which is in the welded repaired area.

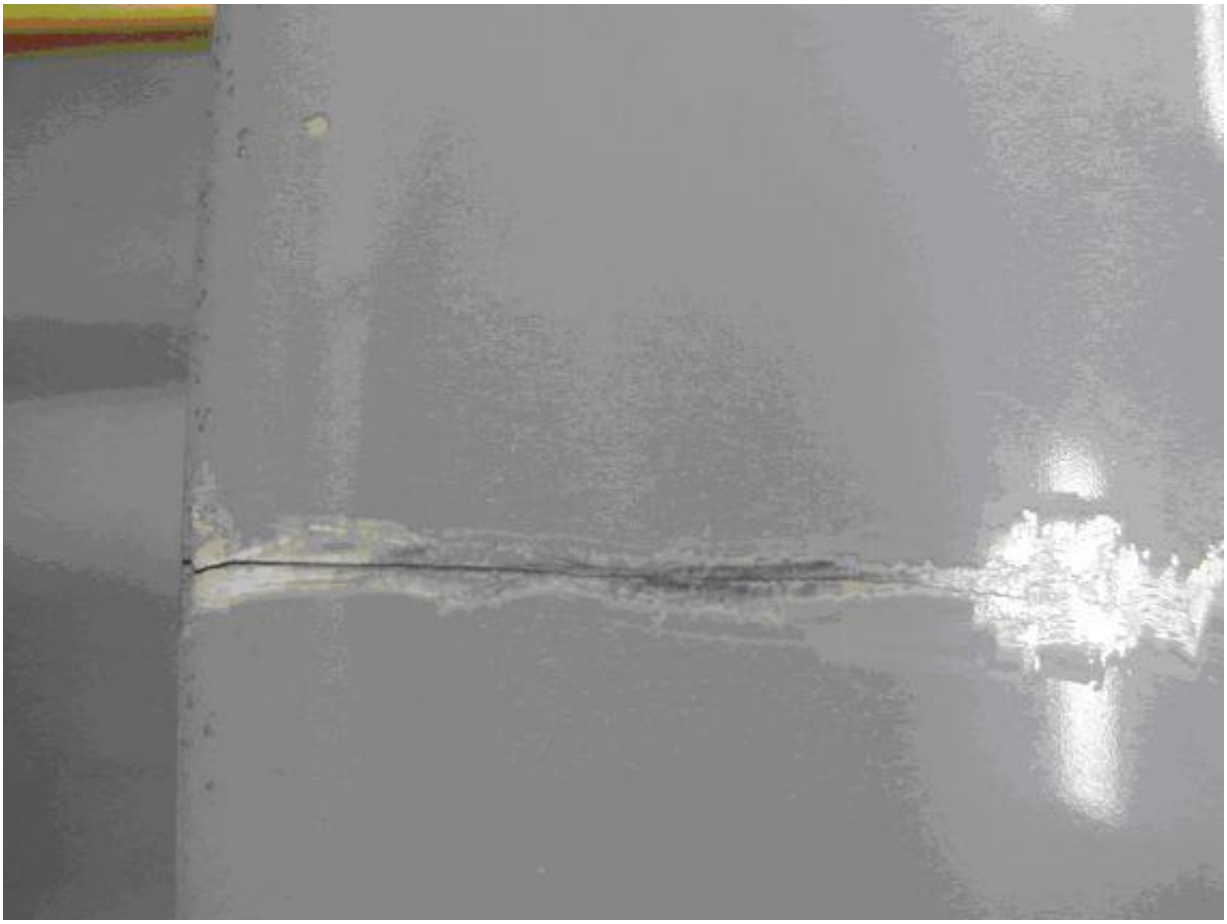
Further crack with intercrystal course of the length about 6 mm goes parallel towards the fatigue crack plane in distance of about 4 mm. It confirms the point of view, that the cracks was developed in the area of welding because of internal stress and welding process itself. These cracks were main reason for starting of fatigue failure. Presence of these defects in high stress area of the propeller blade then led to developing of founded long fatigue crack.

The fatigue crack itself has stair character of developing, which is evidently related to condition of variable load in operation and with repeated starts.

There are photos of the described cracks on propeller blade in the following appendixes

Pictures - Avia Propeller





Pictures - SVÚM a.s. Běchovice