



## REPAIR SURFACE WELDING IN TURN-OUTS

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The significant deterioration of railway tracks – rails and crossings – is due to wear. Since the ideal geometry is changed because of the wear, the stress is increased on the worn surfaces, and the deterioration will be accelerated. The next stage of deterioration is: cracks will be developed on the places where the stress would be increased, bits will keep breaking off, the impairment will be extended to other structures as track fastenings, wooden and concrete sleepers, etc.

Like other railways companies, MÁV Rt. (Magyar Államvasutak, Hungarian State Railways Company) has been applying repair and surface (building-up) welding to mend several structures for a long time: "undulating" single track failures; joggled rails and frogs in the switches. But earlier the right welding technology has not been applied at all times; therefore the repair was not durable every time. The development and application of the right technology has brought steady improvement in the usage of surface welding since 1997. Since then, based on the excellent results of the welding done in the track, mending of other structures came to the front in 2001. Previously the worn switchblades could only be replaced; there were no other means for repairing them. The cross-section of the switchblade is rather jointed, asymmetrical, inflexed and made of high-tensile steel; therefore the repairing attempts with surface welding previously turned out a failure.

The poor economic situation of our days turned the attention to this technique, because mending with surface welding may result 6 to 12 times more savings compared to replacement. Based on experiences abroad, domestic experiments have been started again, and as a result, applying the elaborated technology the repair with surface welding is used in more and more switches in the track.

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## NAPRAWA NAPAWANIEM ELEMENTÓW STALOWYCH ROZJAZDÓW

*STRESZCZENIE: Przedstawiciele Węgier zawarli w swoim wystąpieniu omówienie procesów regeneracji szyn i stalowych części rozjazdów kolejowych na kolejach węgierskich. Napawanie wykonuje się metodą spawania elektrycznego łukowego. W rozjazdach napawane są fragmenty iglic, elementy krzyżownic tj. dzioby, szyny skrzydłowe i inne elementy. Uzyskiwane wyniki można rozważać jako zagadnienia techniczne i ekonomiczne.*