

UNIVERSAL MULTI-LAYER SOLUTION FOR THE REPAIR OF CONTINUOUS CASTING ROLLERS – WEARcore 742 N-S / RECORD SK

Continuous casting lines are exposed to extreme temperature and corrosion. For steel mills requiring a universal multi-layer solution for the repair of rollers over the full length of the continuous casting line, the submerged arc cored wire / flux overlay combination WEARcore 742N-SK / RECORD SK is the best compromise to replace the usage of different wire/flux combinations. The wire gives a martensitic microstructure, and the chemical elements are balanced to provide optimized average resistance to the common wear mechanisms occurring along the line. A minimum of three layers is recommended to reach the desired weld composition in the top layer.

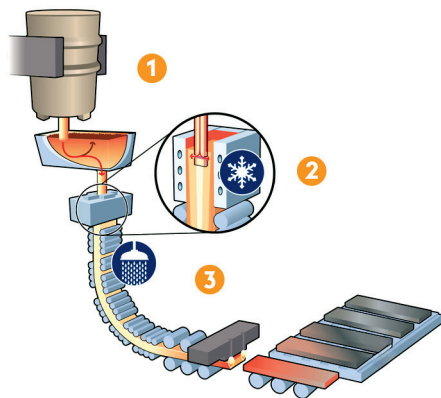
UTP has developed a special overlay material for all 4 series of rollers in the vertical section, directly after the mould of the continuous casting process:

The combination WEARcore 742N-SK / RECORD SK features excellent weldability with flat beads, smooth overlays and excellent slag release characteristics.

The wire / flux combination offers the advantage of a repeatable uniform repair procedure all along the continuous casting line. The combination is successfully used by major steel works worldwide for many years, with expected lifetime of reclaimed rollers above 3.5 million tons production output. As an alternative and to reach higher deposition rates you can use our strip / flux combination SOUDOTAPE 430 / RECORD RT 742. The cored wire was extensively tested at Tata Steel in the Netherlands.

Following targets were identified to develop the properties of the new solution

- » Hot oxidation (thermal fatigue)
- » Wet corrosion from aggressive cooling water contaminants
- » Erosive wear caused by steam formation
- » Erosive wear caused by oxides formation on the surface of the slab
- » Plastic deformation due to mechanical stresses



1. The molten steel can be tapped from the bottom of the ladle into an intermediate container known as the tundish. The temperature of the melt is now below 1,600°C.
2. The open mould consists of four water-cooled plates between which the hot steel slides. A solidified shell is formed during casting. The casting temperature is around 1,540°C.
3. Cooling continues by quenching with water along the whole of the stand. **Highest corrosion solicitation on the CC Line.**

PRODUCT FEATURES

WEARcore 742 N-S - EN 14700 T Fe7
RECORD SK - EN 760 SA FB 3

- » SAW cored wire
- » Microstructure: Martensite + 10 % Ferrite
- » Good machinability with metallic carbide tipped tools
- » Hardness as welded approx. 44 HRC

CUSTOMER BENEFITS

- » Extend the lifetime of concast rollers up to 4.5 Mio tons per service
- » Excellent weldability
- » Fast freezing, easy to remove slag
- » Excellent bead appearance
- » High productivity
- » Time and cost saving

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