

Schaeffler Global Technology Solutions

Steel and non-ferrous metals

Reworking and Reconditioning of Support Rollers for the Steel Industry

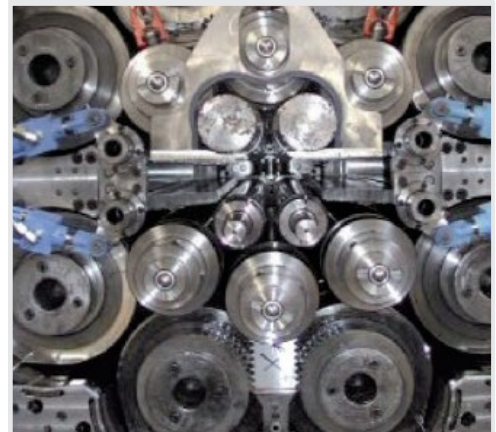
The customer is a medium-sized French steel manufacturer who has specialised in the production of cold-rolled strip steel. The range of products comprises surface-finished strip steel as well as quenched and drawn steels. The company belongs to an internationally operating steel group from Germany.

Challenge for Schaeffler

The outside diameters of the support rollers produce the surface of the finished strip material. Six to eight support rollers form a cluster. The surfaces of the support rollers and the minimal variation of their diameters are, therefore, decisive for zero-defect quality and the thickness tolerance of the finished product. That is why the support rollers are completely disassembled, measured, reground and remounted with a total tolerance of 5 µm per cluster as part of regular general inspections. The customer was looking for a new partner who could carry out the reconditioning of the support rollers, meeting the highest quality standards.

Schaeffler Solution

The support rollers were sent to the Schaeffler reconditioning competence centre for reworking and reconditioning. There, they were disassembled, washed, examined, measured, ground and sorted according to section height groups. After the reworking, the outer rings and inner rings have been assembled again, mounted onto their shafts, packaged and sent back to the customer. In order to ensure a consistent quality of the finished product, the general inspection is carried out twice a year since then.



Technical Information about the Plant

Four rolling stands of different configurations in two mills (48 or 32 yoke type track rollers per machine)



Rolling mill back-up roller, 3-row



Inspection of the yoke type track rollers



Mounting the yoke type track rollers

Customer Benefit

The support rollers' service lives are extended significantly by the regular reconditioning. The Schaeffler reconditioning team can regrind the outer rings with extreme precision while removing only a minimal amount of material. In the case in hand, it was important to observe the permissible total section height tolerance of 5 µm per cluster. The bearings' quality is not impaired by the grinding compared to a new bearing. What's more, costs are significantly lower and delivery periods much shorter.

What's special

The intervals at which the support rollers must be changed depend on the degree of stress to which they are subjected and must be determined individually for each customer. It is also possible to recondition every component. In the case of yoke-type track rollers, for example, Schaeffler takes the fully-assembled rollers from the customer and returns them – reconditioned and ready for installation – in the shortest time possible. Defective bearings are replaced with new rolling bearings if needed.

Technical Information about the Solution

Steps of the reconditioning process:

- Dismantling
- Cleaning
- Visual inspection and runout testing
- Regrinding of the outside surface
- Assembly
- Measurement and marking of the section height
- Preservation, packaging, and shipping