

Hot Strip Mill Finds Savings With Lovejoy® Jaw In-Shear 6 Pin Couplings

The Challenge

A Hot Strip Mill located in one of the Midwest's leading steel manufacturing plants, produces a coiled steel roll commonly used to form large kitchen appliances and automobiles. Runout tables move these steel slabs along the shaping process. Each table consists of hundreds of rollers. Each roller uses a tire coupling that attaches to a motor which turns the roll. These tire couplings were wearing at a high rate due to a lower service factor and high misalignment between motor and roll. In addition, each tire coupling has several component fasteners that require tools to change the element. The design of the tire coupling also made it susceptible to corrosion from the heat, water, and slag associated with a runout table application. The mill was replacing large quantities of tire couplings monthly. The amount of time required for the maintenance team to change out the element on a tire coupling each week was significant. Having the maintenance team dedicated to this was costly, not only with time spent on the coupling, but time not spent maintaining more vital areas of the plant.

The Result

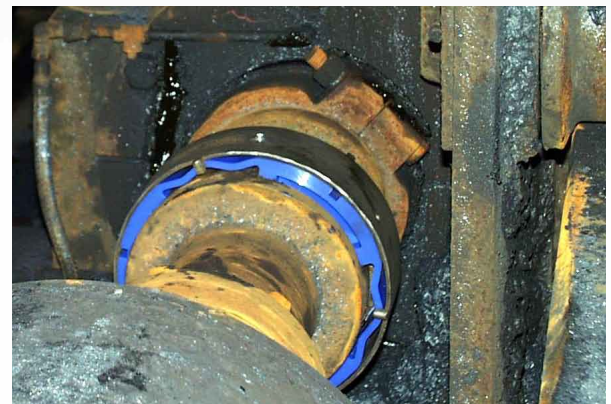
The tire couplings were replaced with Lovejoy's Jaw In-Shear 6 Pin (JIS) couplings. The Jaw In-Shear 6 Pin coupling is made up of a standard L-type jaw coupling, a radially assembled element, and stainless steel locking ring. The JIS eliminated the "slipping" that is common with tire couplings. Only one part had to be inventoried, because the plant currently stocked standard Lovejoy L-type jaw couplings, and the stainless steel locking ring provided the element with protection from heat, water, and slag. Additionally, JIS also allowed for easy visual inspection, and while the plant is in operation, the element could be quickly changed out. The reduction in failures and time previously spent on unscheduled maintenance resulted in a 33% savings per coupling.



Jaws line up so the element is in shear



Easy to install the Urethane element



Jaw In-Shear 6 Pin Coupling installed with Retaining Ring