



Sustainable Lubricating Grease for Steel Mill Operations

Application: Cold Rolling Mill Work - Roll Bearing & Chock Lubrication

Location: USA

Challenge

Maintaining uptime for steel mill equipment is vital for operational performance and company success. Rolling steel coils operate continuously and thus machinery must be well maintained to prevent downtime. A customer had previously been lubricating their bearings and chocks with a tacky lithium-complex grease. While there was not a high failure rate, there was water etching present on the components. In addition to etching, lithium grease can often be an unsustainable lubrication solution. With a limited supply of lithium and most of it being diverted to support the development of batteries for electric vehicles, lithium-thickened greases have become much more expensive, and their supply has become unstable. The customer needed a reliable lithium-alternative that would prevent etching and reduce grease consumption.

Solution

FUCHS recommended the use of a calcium sulfonate complex grease, RENOLIT CXS AM 1, for their cold rolling mill applications. This grease offers excellent load-carrying capability, anti-wear performance, water resistance, corrosion protection and thermal stability. The product was sampled and the customer tested the performance against the lithium complex grease. The tests showed significant softening of the lithium complex grease due to rolling fluid ingress. RENOLIT CXS AM 1 showed no signs of softening.

Results

In addition to supplying the grease, FUCHS also provided training on how to optimize greasing intervals and how to visually inspect the grease to determine its condition. The purge rate using the lithium complex grease was typically 100% of the grease volume in the application. Using RENOLIT CXS AM 1, the customer reduced their purge rate to about 70%. The signs of water etching in the bearing were also eliminated. This led to savings of ~\$400,000 per year in purchasing costs and reductions in grease consumption. These savings exceeded the cost of the product from FUCHS – Technology that Pays Back!

Advantages

Prevents etching

Prevents wear & corrosion

Reduces purge rate