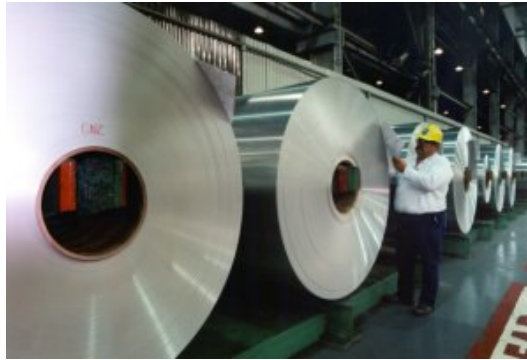




## Failure Analysis - Iron and Steel Industry



### Situation

The company's Bloom and Billet mill was experiencing an unacceptable level of failures and stoppages in the primary and secondary processes. These problems were leading to production losses and quality issues with serious cost implications.

### Task

The project started by analysing the maintenance and production history records. This helped to identify the items of equipment that were contributing to the production losses and delays and clarify the problems that were directly attributable to the maintenance function as opposed to being production related.

### Activities

A detailed failure analysis of the key items of equipment was undertaken using for example, the Weibull technique to establish the failure mode / modes, MTBF, MTTR etc. After this information had been produced the maintenance procedures, PM activities, inspection routines, spare parts etc were reviewed.

### Result

Following the review a small number of significant changes were implemented leading to an immediate improvement in reliability. For example one key benefit was the elimination of an early life failure that was causing significant short duration stoppages. The problem had been created as a result of the wrong specification of a spare part being ordered. The purchasing department had changed the supplier of the part but the newly specified part was of a lower grade.

In addition, some maintenance procedures were also changed to ensure that the individual spares were installed correctly. Other items were double-checked before the equipment was released back to production to ensure that the parts had been installed in the correct way. These changes increased the availability figures for the mill and eliminated the short duration stoppage's that had been occurring after a drop shift.