The Coated Board Manufacturer

Without Precision Grinding, Production Efficiency Is Dead

When one of the most modern paper mills in the country sees drastic improvement from changes to its processes, it's best that the entire paper industry pays attention. This coated board manufacturer experienced significant improvements to its production efficiency from precision grinding services. It was only after its switch to PRG that it realized how much of a difference such roll grinding made.

Prior to PRG, the paper mill utilized mill roll services from other grinding partners. Despite being originally designed to produce 700 tons a day, the coated board machine of this particular mill had a production budget of 925 tons per day. In addition, its original design speed was 850 feet per minute, but it had a production budget of 1,050 feet per minute. To say the least, any imperfection in this mill's rolls would be amplified at such speeds.

About Coated Board

Producing heavyweight paper, or board, involves the machines adding a coating to the sheet. The product typically becomes a premium cardboard container, often for products such as sleeves of golf balls, tissue boxes and much more. This is a premium "paper" that requires high printability.

In coated board production, there are two kinds of caliper: wet stack and dry stack. The former is when moisture is used to enhance calendering results; the latter when hard steel rolls press against a calender configuration.

The Tax On Production Efficiency

For this major paper mill, the run life of both its wet and dry calender stacks was merely six months. Before partnering with PRG to achieve precision grinding on its rolls, this manufacturer incurred not only a significant expense for roll grinding, but also outrageous costs of downtime.

With so much connectivity in the process of producing coated board, roll maintenance cost this paper mill 24 hours. Incurring $20,000 to $25,000 per hour of downtime, the coated board manufacturer lost up to $1.2 million per year on the opportunity cost of roll grinding alone. Adding in the cost of grinding, the expense of imperfection was (and is) steep.

The Differentiation Of Precision Grinding

This paper mill, having enlisted PRG to grind its rolls, experienced the tangible impact of precision grinding on its production efficiency. With PRG, the mill was able to use its rolls for 12 months without need for any servicing – doubling its roll life. Plus, when rolls needed precision grinding services, downtime was reduced to 12 hours, decreasing the original amount of time by half. In all, PRG saved the roll mill 36 hours of production per year, or approximately $900,000.

As for the specific properties of coated board production, the switch to PRG optimized the mill's production by way of:

- Improved yield by approximately 1.5% – an estimated cost savings of $1.5 million
- Greater levelness (printing surface uniformity) – from 500 sheet-finish variability to 700
- More exact and measurable smoothness in calender stacks
- More precise caliper – 18-point grade, for example
- Longer-lasting board finish

Because the paper mill was no longer running rolls that had barring, feedlines and surface variances, its calenders no longer needed to work as hard to produce the smoothness its clients demanded. It used fewer fibers, improved its yield and significantly reduced the cost of maintenance. In addition, the manufacturer elevated its board grade to "holographic," which has empowered the mill to increase revenue as well. With the additional premium for its paper and the superior production efficiency, the mill became more profitable across the board.

Tired of imperfections in your rolls cutting into your profitability and manufacturing efficiency? Contact PRG and realize the benefits of roll perfection.

About PRG

PRG is the leading large roll and cylindrical shaft grinding company in the western hemisphere. Our services improve the precision and profitability of critical manufacturing, industrial and power generation processes. For more information, visit www.precisionrollgrinders.com.