



Lovejoy® Solution Helps Streamline Paper Processing Plant

The Challenge

As smooth gleaming rolls of white paper stream out at a rate of almost 700,000 tons per year, another 100,000 tons of fine bleached white paper is being produced for envelopes, computer paper and business forms. While these products are designed to make businesses across the nation more efficient, the same was not holding true for this Eastern Seaboard paper plant.

Inefficiency was plaguing the machinery that produces this essential commodity. In this paper plant, the engineer was experiencing frequent and expensive failures in the dryer section of the paper machine. Initially, the company used gear couplings. They later replaced them with disc couplings only to find them failing after 90 days of operation. These failures caused production slow-downs, equipment inefficiencies and consequent economic loss due to excessive time spent on maintenance and repairs. "Typically, the plant would utilize an entire 8-hour shift to replace this simple part," explains Len Andersen, the local Lovejoy sales representative, regarding the failure-prone couplings. "Depending on the material the plant is producing, it can cost tens of thousands of dollars for this unexpected shutdown" Andersen added.

After a careful assessment of the situation,



*Lovejoy Disc Coupling
- Paper Mill*

Andersen concluded that a small part can either cause a serious problem or offer an effective solution. He found that the competitor's disc coupling was not rated for the amount of misalignment inherent in this type of installation, which caused the equipment failures. That particular coupling design was also difficult to install and required a great deal of time for the plant staff to maintain.

The paper machine is comprised of two main areas, the wet area and the drying area. According to Andersen, there can be anywhere from 100 to 125 processing pumps supporting one paper machine, as well as conveyors and power systems, that all require some type of coupling.

"Many paper mills don't have the personnel to maintain the couplings," adds Andersen. Frequently, the management will contract with an outside company to perform routine lubrication services. With over 100 pumps and other components requiring lubrication,



the costs add up rapidly for these contracting services.

The Result

One replacement option -- a lubricated gear coupling -- was ruled out because it would still require machine shutdown for routine maintenance. The sheer weight of the coupling also increases the risk of premature breakdown and wear.

The best solution proved to be a Lovejoy Disc Coupling which offers superior tolerance of misalignment, thus eliminating the costs of high-precision alignments for heavy machinery and costly breakdowns. Because the Lovejoy Disc Coupling has no moving parts, there is also no need for lubrication, saving time and money by eliminating downtime for maintenance. Although one coupling replacement doesn't necessarily eliminate the need for an outside lubricating contractor, Andersen notes that several mills in his area are rapidly advancing towards a lubrication-free plant environment. They are examining the existing couplings utilized in pumps and power generators and replacing them with Lovejoy parts that require no lubrication.

In this case, the plant engineer decided to keep their current coupling until it failed, but purchased the Lovejoy Disc Coupling as the replacement. This decision proved to be a wise course of action. When the Lovejoy Disc Coupling was delivered, it was installed



Lovejoy Disc Coupling - Paper Mill

immediately as the competitor's coupling had just failed.

All this happened over three years ago and the original Lovejoy Disc Coupling is still keeping this paper plant successfully streaming out smooth rolls of paper. For a properly sized Lovejoy Disc Coupling, 10 to 12 years of service can typically be expected.

The experience of this paper plant is yet another example of the value, engineering expertise and quality products Lovejoy offers for long lasting results.