

Devcon® DFense Blok® Reduces Drum Debarker Abrasion and Wear Damage by 45%

Problem

In the pulp and paper industry, debarking is a process used to remove bark from wood in preparation for pulping. To begin the debarking process, logs enter a rotating wet drum which moistens surrounding bark. Logs then enter a drying debarker drum consisting of a rotating cylinder with ridges or “riflers.” As logs fall against one another, this scraping and wearing facilitates the bark removal.

At a pulp and paper plant in Sweden, logs are fed into a drying debarker. The initial third of the drum, made of S235 steel, suffered from severe abrasion and wear due to a high volume of logs and infiltration of ice and stone. Abrasion and wear of the drum debarker resulted in consistent wear of the steel throughout the year. With a limited time to complete all repairs on the unit, the customer evaluated the Devcon product. This customer was looking for a reliable, industrial strength epoxy coating, to help minimize downtime and reduce the typical annual wear found on the drying debarker drum.



A drying debarker drum

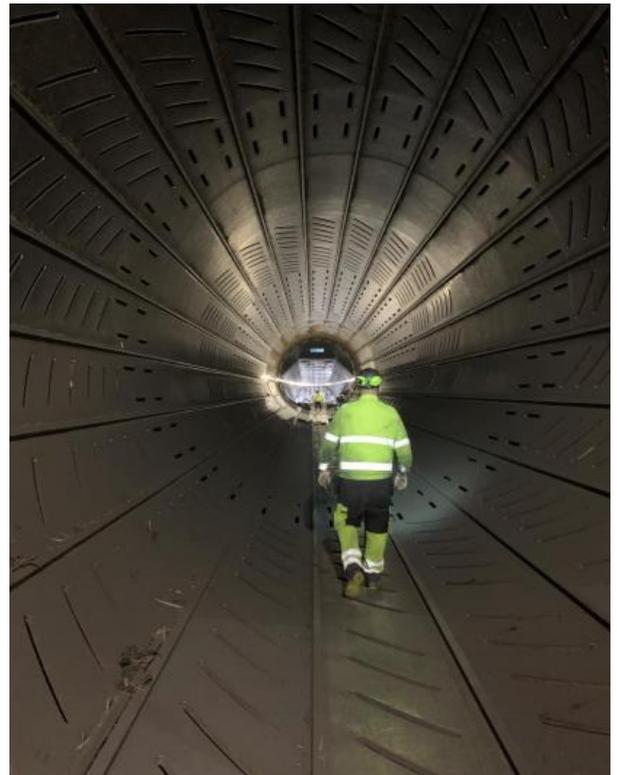
Application Conditions

- Yearly radius wear of 4 mm
- Debarking drum length 46 m
- Total coating area of 121 m²
- Maximum application time: 1 week

Solution:

Devcon DFense Blok outperformed the competition in reducing debarker wear & abrasion.

- For appropriate application, the debarker drum was removed of debris & foreign objects. The drum surface was then ground to a white metal surface and cleaned of oil and dust. Once dry, the wearing compounds were added to the surface at 6-8 mm.
- Devcon DFense Blok industrial strength epoxy coating was applied side by side against Competitor A.
- Both were applied in a similar location and application area
- The two products were tested over a 6-month period with the same processing materials and wood products
- Devcon outlasted and outperformed Competitor A's product against both extreme impact and high wear & abrasion.



Debarker drum before Devcon DFense Blok application

Project Outcome:

At the end of the six-month trial, the Devcon DFense Blok coating saw little wear impact on the test area. Competitor A's product visibly failed and was not considered to be a long-term solution as it suffered considerable amount of wear.

Reliable Long-Term Solution

- The harsh process of log debarking requires heavy duty, wear resistant equipment. As an industrial strength epoxy coating, Devcon DFense Blok has an extensive track record of providing long-term, reliable equipment protection in severe conditions.
- Utilizing the Devcon DFense Blok, the debarking drum retained long-term protection from abrasion resulting in yearly wear of only 1.8 mm in comparison to previous yearly wear of 4 mm. As a result, Devcon DFense Blok was approved for additional repairs on the debarker.

Reduces Equipment Downtime

As the initial piece of equipment employed in the paper production process, efficiency of the debarker is vital. Despite an extensive drum length of over 46 m, Devcon DFense Blok was applied seamlessly, limiting downtime to only one week. By increasing equipment uptime, the pulp and paper plant boosts productivity where loss was expected.

Easy to Install

Being an extensive and cylindrical space, this pulp and paper plant needed an efficient coating for overhead installation. Devcon DFense Blok provided a sag-free application, easily applied to the top of the debarker drum.



Mixing Devcon DFense Blok before application



After coating initial third of the debarker drum with Devcon DFense Blok

The technical information, recommendations and other statements contained in this sheet are based upon good faith tests or experience that ITW Performance Polymers believes are reliable, but the accuracy and completeness of such information is not guaranteed. This information is not intended to substitute for the customers' own testing.

©ITW Performance Polymers, June 2022.