

Industry:
Wood processing

Plant:
Fan impeller

Lining System:
K-CLAD metallic system

K-CLAD LINED MAIN DRIER FAN IMPELLER

Key Features:

- ✓ Greater resilience to wear
- ✓ Increased operational uptime
- ✓ Reduces expensive replacement
- ✓ Minimises loss in efficiency

Problem: The original equipment manufacturer of the main drier fan on a European particleboard plant designed the exhaust system to convey mostly virgin wood products. After many years of operation the plant now use up to 90% of recycled wood products resulting in excessive wear being experienced in many areas of the plant with the main drier fan situated between the rotating drier and separation cyclones being subject to more wear than any other area of the plant due to processing large volumes of product at high velocities due to its rotational speed.

Solution: As the end user had used a range of abrasion resistant steels to try to improve the performance of the drier fan it was identified that the areas where the steel had been profiled and welded were subject to more wear than the rest of the assembly. This was due to the inability of re heat treating the softened quench and tempered steel plate once fabricated. Upon investigation Kingfisher identified that we could protect the main wear areas of the fan by incorporating our 12mm thick K-CLAD chromium carbide wear resistant steel plate. This is applied by means of welding a sacrificial wear plate onto the main body of the fan using a MMA welding process utilising low hydrogen rods to ensure structural integrity.

Benefit: Upon being put into service the refurbished impeller has been operating in the same conditions and has outperformed the previously improved version of the fan impeller produced from quench and tempered steel by a factor of 3 times and is still in good condition. Based on visual inspections and previous operating criteria, the new improved system is expected to achieve 5 to 6 time's greater service longevity before the need for repair or replacement.

Protecting Industry Worldwide

