

RELY ON EXCELLENCE

Turnkey Replacement of fluidized soft parts of expansion joints in boiler (CFB boiler), in Paper Industry – Klabin Paraná/Brazil

Replacement of expansion joints in chemical recovery boiler, one of the main equipment for the paper production process.



Project reference: FlexGen / Fluachem – Boilers 02 and 08



The recovery boiler has the function of recovering the sodium (Na) used in the digestion of wood by burning the by-product of the process called black liquor, in addition to using the heat generated in the burning for energy production.

According to our knowledge in Paper Mill process, we started to prospect this customer in 2017 and noticed a huge desire from them about reducing emergency shutdowns due to leakages in Expansion Joints, which consequently would increase efficiency.

In 2018 we had the opportunity to participate of our first shutdown at Klabin, where 49 expansion joints were replaced.

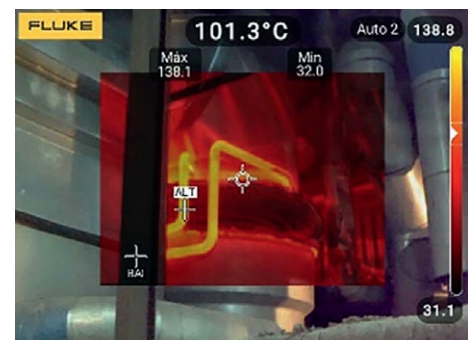
In 2019, we repeated the process for 45, which in 4 of them, metallic parts were replaced as well to have a better MTBF.

In total, we replaced 94 Expansion Joints in this customer in 2018-2019 and as a result of this work, a 90 % reduction, in the amount of expansion joints that would be replaced in the main boiler, was identified in 2020, as confirmed by Klabin.

Another significant reduction obtained in our partnership was the reduction of over 90 % in emergency stops due to premature failures in the expansion joints of these boilers. From 2019 to July 2020, there were no failures, while in previous years the frequency of failures was monthly.



Existing steel parts were re-used in most of expansion joints.



Thermographic and visual analysis performed every quarter to ensure reliability and MTBF of the materials.

- Industry: Pulp & Paper.
- Plant: Conventional Paper Mill - Klabin S/A - Monte Alegre.
- Location: Telêmaco Borba / PR - Brazil
- Period: 2018-2019
- Product: Fabric expansion joints, turnkey replacement and retrofit in metallic parts
- Application: CFB Boiler / Recovery Boiler
- Expansion joint specifications: FlexGen / Fluachem
- Temperature 200 °C to 800 °C
- Media: Flue gas / Air



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