

ANALISIS VIBRASI TINGGI DAN PERBAIKAN PADA IDF (INDUCED DRAFT FAN) B MB 23 PT. IKPP PERAWANG

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ABSTRAK

PT. Indah Kiat Pulp & Paper Perawang merupakan salah satu perusahaan industri pulp dan kertas terbesar di Indonesia yang mengandalkan peralatan mekanis beroperasi secara kontinu, termasuk Induced Draft Fan (IDF B) sebagai komponen vital dalam sistem pembakaran boiler. Namun, dalam pengoperasiannya, IDF B mengalami permasalahan berupa tingkat vibrasi dan temperatur yang tinggi, yang berpotensi menyebabkan kerusakan mekanis dan mengganggu kestabilan operasional sistem.

Penelitian ini bertujuan untuk menganalisis sumber penyebab vibrasi berlebih serta kenaikan temperatur pada IDF B. Metode yang digunakan meliputi pengukuran vibrasi dengan vibration analyzer, analisis spektrum frekuensi, serta pemantauan temperatur bantalan (bearing) menggunakan thermal camera dan sensor suhu. Hasil analisis menunjukkan bahwa tingginya vibrasi disebabkan oleh ketidakseimbangan massa rotor, misalignment poros, serta potensi keausan bantalan. Rekomendasi perbaikan mencakup realignment poros, rebalancing rotor, serta perbaikan sistem pelumasan untuk menjaga performa IDF B tetap stabil dan efisien.

Kata kunci: Vibrasi, Temperatur Tinggi, Analisa Prediktif.

ANALYSIS OF HIGH VIBRATION AND REPAIR ON IDF (INDUCED DRAFT FAN) B MB 23 PT. IKPP PERAWANG

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ABSTRACT

PT. Indah Kiat Pulp & Paper Perawang is one of the largest pulp and paper industries in Indonesia that relies on mechanical equipment operating continuously, including the Induced Draft Fan (IDF B) as a vital component in the boiler combustion system. However, during operation, IDF B experiences problems in the form of high vibration and temperature levels, which can potentially cause mechanical damage and disrupt the stability of the operational system.

This study aims to analyze the source of excessive vibration and temperature increase on IDF B. The methods used include vibration measurement with a vibration analyzer, frequency spectrum analysis, and bearing temperature monitoring using a thermal camera and temperature sensor. The analysis results show that high vibration is caused by rotor mass imbalance, shaft misalignment, and potential bearing wear. Recommendations for improvement include shaft realignment, rotor rebalancing, and lubrication system improvement to maintain IDF B stable and efficient performance.

Keywords: *Vibration, High Temperature, Predictive Analysis.*