

Praktik Keinsinyuran Dalam Proyek Analisis Unidentified Spot Pada Trimetal Bearing = Engineering Practice in the Project of Unidentified Spot Analysis on Trimetal Bearings

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Abstrak

Laporan Praktik Keinsinyuran ini membahas implementasi Praktik Keinsinyuran dalam proyek analisis kerusakan unidentified spot pada bearing tri-metal. Penelitian ini dilakukan dengan pendekatan analisis makroskopis, mikroskopis, pengujian komposisi material, dan analisis mikrostruktur untuk memastikan bahwa kerusakan tidak disebabkan oleh fenomena busur listrik liar. Hasil analisis menunjukkan bahwa kerusakan hanya memengaruhi lapisan Lead-Tin Overlay tanpa merusak lapisan Copper Layer atau Steel Layer di bawahnya. Penerapan prinsip K3LL, KEEI, profesionalisme, dan problem solving menjadi inti dalam proyek ini, memastikan analisis yang terukur, berbasis data, dan berstandar. Kesimpulan menunjukkan bahwa unidentified spot terbentuk akibat mekanisme termal lokal dan bukan pengaruh eksternal seperti busur listrik liar. Laporan ini memberikan panduan praktis dan teknis untuk mengelola kegagalan material secara komprehensif dan aman.

.....This Engineering Practice Report discusses the implementation of engineering practices in the analysis of damage on an unidentified spot in a trimetal bearing. The study employed macroscopic and microscopic analyses, material composition testing, and microstructural evaluation to confirm that the damage was not caused by a wild electric arc phenomenon. The analysis revealed that the damage was limited to the Lead-Tin Overlay layer, without affecting the Copper Layer or Steel Layer underneath. The application of OHS principles, ethics and integrity, professionalism, and problem-solving were central to this project, ensuring a systematic, data-driven, and standardized approach. The conclusion indicates that the unidentified spot was formed due to localized thermal mechanisms rather than external factors such as a wild electric arc. This report provides practical and technical guidance for managing material failure comprehensively and safely.