

ABSTRAK

STUDI PERBANDINGAN LAJU KOROSI PADA BAHAN BAJA *MILD STEEL* YANG DILAPISI GALVANIS PADA LIMBAH SAWIT

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xvi + 71 Halaman, 31 Gambar, 17 Tabel, 9 Lampiran

Penelitian ini bertujuan untuk membandingkan laju korosi pada baja *mild steel* yang dilapisi dengan empat jenis pelindung, yaitu galvanis, cat pilox hitam, silver, dan putih, dalam media limbah cair kelapa sawit. Evaluasi dilakukan untuk menilai efektivitas masing-masing pelapis dalam menahan korosi akibat paparan lingkungan agresif. Sampel baja dipotong sesuai ukuran, dilapisi menggunakan metode spray, kemudian direndam selama 22 hari dalam limbah sawit yang telah dikondisikan. Pengamatan visual dilakukan secara berkala untuk mencatat perubahan warna, munculnya karat, dan kerusakan permukaan. Hasil penelitian menunjukkan bahwa pelapis galvanis memberikan perlindungan korosi terbaik, diikuti oleh cat pilox silver, putih, dan yang paling rendah performanya adalah cat pilox hitam. Dengan demikian, jenis pelapis terbukti berpengaruh signifikan terhadap ketahanan korosi baja *mild steel*, dan galvanis menjadi pelindung yang paling direkomendasikan untuk aplikasi di lingkungan korosif seperti limbah sawit.

Kata Kunci: Korosi, Baja *Mild steel*, Galvanis, Cat Pilox, Limbah Sawit

ABSTRACT

COMPARATIVE STUDY ON THE CORROSION RATE OF GALVANIZED MILD STEEL IN PALM OIL MILL EFFLUENT (POME)

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xvi + 71 Pages, 31 Pictures, 17 Tables, 9 Attachment

This research aims to compare the corrosion rate of mild steel coated with four types of protective layers: galvanizing, black spray paint, silver spray paint, and white spray paint, when exposed to palm oil mill effluent. The evaluation was conducted to assess the effectiveness of each coating in resisting corrosion under aggressive environmental exposure. Mild steel specimens were cut to a predetermined size, coated using the spray method, and immersed for 22 days in a conditioned palm oil waste solution. Visual observations were performed periodically to record changes in color, the appearance of rust, and surface damage. The results showed that the galvanized coating provided the best corrosion protection, followed by silver spray paint, white spray paint, and lastly black spray paint, which had the lowest performance. Therefore, the type of coating significantly affects the corrosion resistance of mild steel, with galvanizing being the most recommended for use in corrosive environments such as palm oil waste.

Keywords: Corrosion, Mild steel, Galvanizing, Spray Paint, Palm Oil Waste