

ABSTRAK

PERANCANGAN ULANG TATA LETAK FASILITAS PRODUKSI *LINE STAMPING* 500 TON DI PT GDM MENGGUNAKAN METODE BLOCPLAN DAN CRAFT

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Tata letak fasilitas yang kurang optimal dapat meningkatkan jarak perpindahan material dan ongkos *material handling*, sehingga menurunkan efisiensi produksi. Penelitian ini dilakukan di *line stamping* 500 ton PT GDM yang memiliki masalah jarak antar stasiun kerja yang terlalu jauh. Tujuannya adalah merancang ulang tata letak fasilitas produksi untuk meminimalkan jarak perpindahan dan ongkos *material handling*. Metode yang digunakan yaitu BLOCPLAN untuk menghasilkan tata letak usulan berdasarkan kedekatan aktivitas, dan CRAFT sebagai metode perbaikan tata letak berdasarkan biaya. Hasil penelitian menunjukkan tata letak awal memiliki total jarak perpindahan 427,6 meter dan ongkos *material handling* Rp 364.647,7 per hari. Tata letak usulan metode BLOCPLAN mampu menurunkan jarak menjadi 298,5 meter dan ongkos *material handling* menjadi Rp 209.907. Sementara itu, tata letak usulan metode CRAFT menghasilkan jarak 369,9 meter dan ongkos *material handling* sebesar Rp 313.134. Efisiensi tertinggi dicapai dengan metode BLOCPLAN, yaitu penurunan ongkos *material handling* sebesar 42,4%. Kombinasi metode BLOCPLAN dan CRAFT terbukti efektif dalam meningkatkan efisiensi tata letak fasilitas produksi di PT GDM.

Kata Kunci: Tata Letak Fasilitas, Penanganan Material, Efisiensi Produksi, BLOCPLAN, CRAFT

ABSTRACT

REDESIGNING THE LAYOUT OF THE 500-TON STAMPING LINE PRODUCTION FACILITY AT PT GDM USING THE BLOCPLAN AND CRAFT METHODS

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Suboptimal facility layout can increase material handling distance and costs, thereby reducing production efficiency. This study was conducted on the 500-ton stamping line at PT GDM, which faces issues related to excessively distant workstations. The objective is to redesign the production facility layout to minimize material movement distance and handling costs. The methods employed are BLOCPLAN, to generate a proposed layout based on activity closeness, and CRAFT, to improve the layout based on cost optimization. The results indicate that the initial layout had a total material handling distance of 427,6 meters and a daily material handling cost of IDR 364.647,7. The proposed layout generated using BLOCPLAN reduced the distance to 298,5 meters and the cost to IDR 209.907. Meanwhile, the layout proposed using the CRAFT method further reduced the distance to 369,9 meters and the cost to IDR 313.134. The highest efficiency was achieved using the BLOCPLAN method, which resulted in a 42,4% reduction in material handling costs. The combination of BLOCPLAN and CRAFT methods has proven effective in enhancing the efficiency of the production facility layout at PT GDM.

Keywords: Facility Layout, Material Handling, Production Efficiency, BLOCPLAN, CRAFT