

**ANALISIS TATA LETAK PENYIMPANAN BAHAN BAKU DI GUDANG
KERING PT DAGSAP ENDURA EATORE BANTUL SEBAGAI UPAYA
PENINGKATAN EFISIENSI OPERASIONAL**

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INTISARI

PT Dagsap Endura Eatore menghadapi tantangan efisiensi di gudang bahan baku kering akibat penerapan kebijakan penyimpanan acak (*randomized storage*) pada rak *drive-in* yang dikombinasikan dengan prinsip *First-In, First-Out* (FIFO). Kondisi ini menyebabkan pergerakan *material handling* yang tidak efisien dan meningkatkan total jarak perpindahan bahan baku. Penelitian ini bertujuan untuk mengevaluasi tata letak gudang yang ada, merancang alternatif tata letak dengan pendekatan *class-based storage*, dan memberikan rekomendasi perbaikan untuk meningkatkan efisiensi operasional.

Metode yang digunakan adalah mengklasifikasikan bahan baku ke dalam kategori *Fast*, *Slow*, dan *Non-Moving* (FSN) berdasarkan data historis *consumption rate* dan *average stay* selama tiga bulan. Analisis jarak perpindahan material menggunakan metode *Rectilinear Distance* untuk membandingkan tata letak awal dengan dua alternatif usulan, yaitu pembagian bahan baku menjadi 3 kelas yakni kelas FSN, serta pembagian menjadi 11 kelas dengan pertimbangan kelas FSN, jenis bahan baku dan karakteristik khusus.

Hasil utama menunjukkan bahwa kedua alternatif mampu mengurangi total jarak perpindahan material sebesar masing-masing 9,77% dan 9,17% dibandingkan tata letak awal. Pengurangan jarak ini secara langsung memberikan penghematan waktu tempuh hingga 11% pada kedua alternatif. Dengan demikian, penerapan metode *class-based storage* mendukung peningkatan efisiensi dan kelancaran proses operasional.

Kata Kunci: *Class Based Storage*, *Material handling*, Tata letak penyimpanan

**ANALYSIS OF THE STORAGE LAYOUT FOR DRY RAW MATERIALS
AT PT DAGSAP ENDURA EATORE BANTUL TO ENHANCE
OPERATIONAL EFFICIENCY**

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ABSTRACT

PT Dagsap Endura Eatore faces operational efficiency challenges in its dry raw material warehouse due to the implementation of a randomized storage policy in drive-in racks combined with the First-In, First-Out (FIFO) principle. This condition leads to inefficient material handling movements and increases the total travel distance of raw materials. This study aims to evaluate the existing warehouse layout, design alternative layouts using a class-based storage approach, and provide improvement recommendations to enhance operational efficiency.

The method used involves classifying raw materials into Fast, Slow, and Non-Moving (FSN) categories based on consumption rate and average stay using historical data over a three-month period. The material movement distance is analyzed using the Rectilinear Distance method to compare the initial layout with two proposed alternatives: (1) classification of raw materials into three FSN classes, and (2) classification into eleven classes based on FSN classes, material type and specific characteristics.

The main results indicate that both proposed layout alternatives successfully reduced the total travel distance by 9.77% and 9.17%, respectively, compared to the initial layout. This reduction directly results in a travel time saving of up to 11% in both alternatives. Therefore, the implementation of the class-based storage method effectively supports improvements in operational efficiency and overall process flow.

Keywords: Class-Based Storage, Material Handling, Layout Design