

ABSTRAK

IMPLEMENTASI *BUILDING INFORMATION MODELING* (BIM) DALAM ANALISIS WASTE MATERIAL TULANGAN KOLOM GEDUNG LVP PRODUCTION INDONESIA

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Pesatnya perkembangan teknologi informasi khususnya di bidang konstruksi menjadi isu penting dalam menunjang kebutuhan infrastruktur negara untuk menghasilkan produk infrastruktur yang semakin berkualitas, terintegrasi dan efisien. Oleh karena itu, Pemanfaatan teknologi *Building Informasi Modeling* (BIM) menjadi *alternatife* yang memungkinkan tahap-tahap pembangunan lebih cepat dan lebih *efisien* terutama dalam hal meminimalisir *waste material*. Penelitian ini bertujuan untuk mengetahui pengaruh penerapan konsep BIM dalam *optimasi waste material* tulangan kolom tipe 1, tipe 2 dan tipe 3. Penelitian dimulai dengan pengumpulan data, pemodelan 3D struktural, pemodelan tulangan, *input schedule mark* tulangan, *clash detection*, *output Bar Bending Schedule (BBS)*, *cutting list*, dan analisis *waste material*. Hasil penelitian menunjukkan total berat kebutuhan tulangan kolom tipe 1 sebesar 28.449 kg, kolom tipe 2 sebesar 26.390 kg dan kolom tipe 3 sebesar 26.784 kg, sementara untuk berat total *waste* kolom tipe 1 sebesar 1.256,41 kg, tipe 2 sebesar 872,6 kg, dan tipe 3 sebesar 916,14 kg. *Waste level* tulangan kolom tipe 1 sebesar 4,42%, kolom tipe 2 sebesar 3,31%, dan kolom tipe 3 sebesar 3,42%. Jadi dapat disimpulkan bahwa tulangan kolom tipe 2 lebih efektif dan efisien jika dibandingkan tulangan kolom tipe 1 dan 3.

Kata kunci: *Building Information Modeling* (BIM), Autodesk Revit, *Waste Material*, *Bar Bending Schedule* (BBS).

ABSTRAK**IMPLEMENTATION OF BUILDING INFORMATION MODELING (BIM)
IN THE ANALYSIS WASTE MATERIAL OF COLUMN REINFORCEMENT
IN LVP PRODUCTION INDONESIA BUILDING****By****NANANG ALDIKA CHANDRA**

The rapid development of information technology, especially in the construction sector, has become an important issue in supporting the country's infrastructure needs to produce increasingly high-quality, integrated, and efficient infrastructure products. Therefore, the utilization of Building Information Modeling (BIM) technology has become an alternative that allows construction stages to be faster and more efficient, especially in minimizing waste material. This research aims to determine the influence of applying BIM concepts in optimizing waste materials for column reinforcement of type 1, type 2, and type 3. The research begins with data collection, structural 3D modeling, reinforcement modeling, input of reinforcement mark schedules, clash detection, Bar Bending Schedule (BBS) output, cutting lists, and waste material analysis. The research results show that the total weight requirement of type 1 column reinforcement is 28,449 kg, type 2 column is 26,390 kg, and type 3 column is 26,784 kg, while the total waste weight of type 1 column is 1,256.41 kg, type 2 is 872.6 kg, and type 3 is 916.14 kg. The waste level of type 1 column reinforcement is 4.42%, type 2 column is 3.31%, and type 3 column is 3.42%. Thus, it can be concluded that type 2 column reinforcement is more effective and efficient compared to type 1 and 3 column reinforcement.

Keywords: Building Information Modeling (BIM), Autodesk Revit, Waste Material, Bar Bending Schedule (BBS).