MATERIAL INVENTORY PLANNING OF TRILLIUM OFFICE AND RESIDENCE SURABAYA BUILDING PROJECT

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Abstract

In a construction project, the material inventory is very important things, it is playing a role to supporting the implementation of the project, unfortunately it is also needs a big cost. The materials delay and heaping occurrence caused the expansion of the total cost project. Therefore a good material inventory planning is needed to control the cost project as economic as possible and also to maintain the level of inventory still can fulfill the requirement in right number and right time.

In this final project, the object which taken is The Building Project of Trillium Office and Residence Surabaya. The Method of the material inventory planning in this project is Material Requirement Planning (MRP) which have 4 basic stages that is gross material requirements plan (ekspllosion), net needs analysis (netting), analysis of the number order (lotting) and determination of ordering time (offsetting). At the lotting stages is used 4 technique that is Lot For Lot, Economic Order Quantity, Period Order Quantity and Part Period Balancing. With these technique, the data will be processed in the form of number of material requirement, ordering cost, holding cost and lead time to get the optimum order and minimum inventory cost.

The analysis result is shown that lot sizing techniques that form minimum inventory of almost in every material is Part Period Balancing technique, while for a few material likes bar Ø10, D16 and D22, its minimum inventory cost formed also by Period Order Quantity technique. With the minimum total cost of material inventory Rp. 933.554.012,41 and total ordering cost of
material Rp. 933.172.610,00 shown that the material inventory cost is not far adrift with the material ordering cost.

Keyword : Material, MRP Method, Inventory, Lot Size.