

ABSTRACT

PT BEP is a manufacturing company located in Batujajar, Bandung which produce lightweight concrete with some types according to size and quality. The product which becomes the main sales target is grade A product with six sizes.

Meanwhile, PT BEP has been doing an inventory policy using traditional calculation based on the demand regardless the maximum inventory level and remaining *stock* in the warehouse. This problem causes overstock and makes some products get deteriorated which lead to higher total variable cost. Based on this problem, an improvement on the amount of production lot and cycle time per production process is necessary. Economic Production Quantity method is utilized in this research using a Production Lot Size Inventory Model for Deteriorating *Items* approach.

The inventory policy will be adapted to demand fluctuation and deterioration rate per type of lightweight concrete product, so a one year period of observation is taken in this research. The use of Economic Production Quantity method using A Production Lot Size Inventory Model for Deteriorating *Items* approach gives a decrease in the yearly deterioration amount with an average of 91% and the total variable cost decrease at 51%.

Keywords: Inventory, Overstock, Economic Production Quantity, Deterioration