

## **ABSTRACT**

*In the production of NC212i aircraft, PT DI relies on polysulfide sealant material as one of the important components. The production process of this aircraft involves the use of polysulfide sealant material ordered from suppliers abroad. This material has a crucial role in uniting and protecting aircraft parts, as well as maintaining the overall quality and performance of the aircraft. The ordering process from overseas suppliers shows that PT DI must have proper inventory planning and management so that the supply of this material is always available in the appropriate quantity to maintain smooth production. The problem faced by PT DI in managing the inventory of polysulfide sealant material, where there is a buildup of material that exceeds the inventory limit (overstock). This can cause losses to the company because the material has a limited service life, and when its service life expires, the material can no longer be used. To overcome this problem, several actions need to be taken. First, it is necessary to improve the accuracy of forecasting the demand for polysulfide sealant materials taking into account historical data. Second, methods such as Economic Order Quantity (EOQ) can be applied to determine the optimal order quantity, so that material inventory does not exceed inventory limits. Calculations using the EOQ method are intended to obtain the right number of orders and order times so that there is no overstock material so that the total inventory cost is minimal. Based on calculations using forecasting analysis and the EOQ method, it can minimize overstock by 58% by producing optimal orders of 123 Kg in one order with an order time of 6 months and minimize total inventory costs by 44% of existing conditions with total inventory costs of IDR 113,681,261 / year.*

**Kata kunci — *Inventory, Economic Order Quantity, Overstock***