

晶圓製造廠內具時間限制的生產線段之現場管控模式

杜瑩美, 黃英鈺, 陳欣男

工業工程與系統管理學系

管理學院

amytu@chu.edu.tw

摘要

Recently, wafer fabrication has become more complicated and lengthening the product queue time. To ensure final product yield, engineers need to set up queue time limits for particular machines. There is no doubt that time constraint will influence the manufacturing efficiency which is a new challenge to wafer fabrication.

A shop floor control model is developed in this work to solve the time constraints issues within a segment process. The concept of (S, s) policy is applied in the shop floor control rules. By this control model, the WIP (Working In Process) will be protected from over queue time by the upper bond of inventory, and the machine will avoid starvation by lower bond of it. Furthermore, a simulation model was established to validate the effectiveness of this control model. It revealed the system can get a good performance both on the idle rate of equipment and scrap rate of products.

關鍵字：Wafer Fabrication, Time Constraint, Working In Process, Shop Floor Control