

The Development of Computer Aided System Design for Flexible Assembly System Planning

簡銘宏、黃開義

E-mail: 8515651@mail.dyu.edu.tw

ABSTRACT

The flexibility of an assembly system is its ability to assemble different products and to be switched over to new tasks. Flexible systems can assemble a wide spectrum of products, thus leading to profitable investment, while simultaneously providing the possibility for flexible product development. This paper presents a computer aided system design for flexible assembly. First, the flexibility of an assembly system is addressed from the viewpoints of product, process and system. The techniques for planning flexible assembly systems are thus developed. A parameter matching method as well as open structure is used for assembly system and equipment selection. In addition, a Japanese U-type production line concept is introduced for flexible assembly line planning. Furthermore, a computer aided system structure is developed for flexible assembly system design. Three modules are included in the system, they are: assembly system selection module, assembly equipment selection module, and assembly line planning module. Each of the modules processes the input data automatically through its planning procedure and condition examination; therefore increases the efficiency and quality in flexible assembly system design. Finally, an engine assembly system is adopted for illustrating and validating the system functions in the computer aided design and planning of flexible assembly systems.

Keywords : Flexible Assembly System ; Computer Aided System Design ; Assembly Line Planning ; U-type Production Line ; Engine Assembly System

Table of Contents

0

REFERENCES

0