

리사이클링 고려 설계카탈로그를 이용한 제품개발기간의 단축 이건상[†](국민대)

The Reduction of Product Development Period by the Design Catalogue for Recycling

Kun Sang Lee

Key Words: Design Catalogue(설계카탈로그), Product Development Period(설계시간), Recycling (리사이클링)

Abstract : Today the tastes of consumers change rapidly and the kinds of the products become diverse. Therefore the product life cycle becomes shorter and shorter. Moreover the save of resources and the recycling for the environmental preservation are the essential theme. On this the necessary information for the product development increases enormously. For the right use of the information the design process should be supported by the proper design tool. For this the "design catalogue system for recycling" is suggested here. This system consists of four parts, that is, 'the existing automobile system database', 'working principle database', 'assessment system of the ease of disassembly' and 'one's own product development database'. By the use of this system the product development period could be reduced about 30% drastically.

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Structural Optimization of Joined-Wing using Equivalent Static Loads

Hyun-Ah Lee, Yong-Il Kim, Gyung-Jin Park

Key Words: Equivalent static loads(ESLs, 등가정하중), Joined-wing(접합날개), Structural optimization(구조최적설계)

Abstract : The joined-wing is an new concept wing of a new concept. Its range and loiter are longer than those of a conventional wing. The joined-wing it can lead to increased aerodynamic performance, and structural weight savings. In this research, dynamic response optimization of a joined-wing is carried out by using equivalent static loads. Equivalent static loads are made to generate the same displacement field as the one from dynamic loads at each time step of dynamic analysis. The gust loads are considered as critical loading conditions and they dynamically act on the structure of an aircraft. However, it is difficult to identify exact gust load profile. Therefore, approximated dynamic loads are generated. Static response optimization is performed for one case. One uses the same design variable definition as dynamic response optimization. The results are compared.