

The Ecodesign Strategy on Product Research and Development from the Life-Cycle Design

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ABSTRACT

This research is developing the design structure of green designed product by estimating the life period of green designed product. Green designed product development does open a new age of environmental protection, we already subscribe the target of environmental protection for the design research of green design, and subscribes the tactics of green design for short and long term. In this moment, (LCA) is a kind of environment assess concept with identification, It ' s also a important accordance with ISO 14000, therefore we use the concept of LCA on green design research, and harmony with tactics and assess of green design which may help designers and engineerers realize easily. It will develop the max benefit of green design product design. Therefore, the purpose of this research is establishing an assess mode that helps designers improve green design research process, Using product life assessment be the main intergrated frame of green design tactics. It provides designer effective assess mode of green desing life period. In the research consulting and analyzing products ' life period design principle which have environmental protection characteristics, It makes LCA become a guide tool for green design tactics. These design principle provide designers for product idea sketch direction, Moreover, by assessing mode example application, and from analyzing products, finding the ideal way of green design research practicaly, and develops green design tactics of companies clearly. The process and path of this project research are through related theme documents discussion and research, drawing up a convention LCA green design development tactics frame. The frame is main adjested from (Carolien van Hemel, Han Brezet, 1996) method. During the frame we put in MET (Material cycle, Energy use, Toxic emissions Assessment) life period analyzing matrix and green design checklist to be the LCA analyzing tool. The result of analyzing is the accordance of early days, then using Ecodesign Strategy Wheel to develop green design possibility of design solution. At last, subscribes the Ecodesign tactics of products. In this thesis, example application for demostretion is using Twinhead computer company to be the research target. Using notebook computer shape covers to be the product of life period assessment and Ecodesign tactics development. The research result presents that the company uses as an excuse LCA ' s Ecodesign tactics development frame proceeding, generating the redesign tactics of notebook computer shape covers ' green design, the achievement, through the chief of the company deep talking, we know that the ecodesign tactics development frame of our graduated school did help the early days of product R&D subscribing the correct solution way of eco-product design, it also proves that ecodesign tactics development frame ' s feasiblity of our research.

Keywords : green design strategies ; methods for life cycle assessment ; MET matrix ; green design checklist ; ecodesign strategy wheel

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