



## INTERNATIONAL WORKSHOP ADVANCES IN CLEANER PRODUCTION

"KEY ELEMENTS FOR A SUSTAINABLE WORLD: ENERGY, WATER AND CLIMATE CHANGE"

### Assessment of the Presence of Ecodesign Principles in a Chemical Company

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#### Abstract

This paper presents a case study about ecodesign constructs assessment based on a multicriterial decision support method, the Analytic Hierarchy Process (AHP). The assessment took place in a chemical firm. The methodology was developed considering that the application in other organizations, belonging to other industries, is available. Firstly, a theoretical framework about ecodesign concepts and practices was prepared. Then, a focus group with multidisciplinary team of experts in eco-conception identified seven ecodesign constructs describing the top term ecodesign. The constructs are: materials, product components, product and process characteristics, use of energy, product distribution and stocks, packing and waste. Each construct was deployed in items. Using the AHP, the ecodesign constructs were weighted by the company respondents and it was possible identified the relative importance of each construct. The constructs with higher degree of importance were product and process characteristics and waste. At the end, a questionnaire was answered by the company team in order to check the performance of each item. Compiling the items performance, we can assess the construct performance. By comparing the assessed performance with the relative importance of each ecodesign constructs, it was possible to measure the gaps between importance and performance.

*Keywords: ecodesign; design for environment; Analytic Hierarchy Process.*

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