

Exploring the durability of cork products

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Product lifetime extension is recognized as an important strategy to achieve sustainable consumption, for non-energy consuming products. Several factors are acknowledged to influence durability, ranging from intrinsic product aspects to user related and socio-cultural dimensions of use. Materials are an influencing product feature, where technical and experiential aspects interact in the formulation of replacement decisions.

Cork is a renewable resource, the bark of the cork oak tree, and can be removed without a significant alteration of the vitality of the tree; these forests provide multiple important functions, such as preventing soil erosion and the protection of biodiversity, and therefore its use has an interesting potential in contributing to sustainability.

In the context of cork, and from a resource sustainability perspective, developing long lasting products is proposed also as an interesting/ specific 'strategy' considering the relations with high quality and appreciation of products (value in market), economical interests in exporting due to localized production ('compensate' for transport impacts), and resource efficiency (cork is limited). And among other properties, cork doesn't rot easily – its chemically and biologically stable.

Several cork products are available in the market, but no specific information with regard to their quality, performance and durability has been identified in literature; additionally, information on experience and attachment to products also contributes to the 'construction' of durability; to enable an enhanced understanding of this (durability), these different aspects are investigated together. Furthermore, methodological approaches aimed at investigating these issues within design are scarce.

For these purposes, an explorative empirical study is being performed, with several cork products and users; 18 different products for household and personal use were selected from several producers, and the sample also includes different cork materials. Succinctly, the study is longitudinal, and information is obtained at different moments in time (Cumulative UX); interviews are performed with the users, and photographs of the products are taken to register changes through time.

In design things are normally shown as new – analysing used products is not common; as such, it is proposed that investigating the use of products can provide interesting information about the products, and in particular to learn about the material(s). And besides the more obvious opportunities for redesign, the intention is to achieve general knowledge applicable to other cork products, consisting of additional information when designing with cork materials, and which may contribute to a more appropriate use of the material.

Therefore, an overview of factors influencing product durability/ lifetime is presented, with an emphasis in distinguishing aspects related with materials and methodological approaches. The study setup is introduced and discussed considering the existing literature and preliminary findings, and some initial factors affecting the durability of these cork products are presented.

From the above, this paper addresses multiple complementary objectives; overall, besides introducing relevant knowledge about cork products, it aims to enhance the understanding on how materials influence product durability.