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Applying the Cycle of Recycling Materials (CRM) as a Tool for Design of Products

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Abstract

Currently the development of new products can have more than 50,000.00 types of materials that are available. This demonstrates two important situations. The first situation contributes to the development of new products and technological innovation in several areas. The second situation is the counterpart to the first, ie, there is a real possibility of increased generation of various types of waste. Although they have been developed design tools, with an environmental focus, such as the Ecodesign and the 3R's, the disposal of materials, without proper treatment, have expanded in recent years. This situation causes many businesses, often pressured by public bodies, laws and the consumer, to rethink their industrial processes and methodologies for the display and manufacturing products. Thus, this research shows the cycle of recycling materials (CRM) as a support tool, technical and scientific, for the Selection of Materials, which aims to assist the area of Engineering and Design in the development of new products. CRM allows to evaluate the lifetime of the material as parameter, its mechanical properties after several cycles of recycling. Thus, knowing the value of these properties, it becomes possible to make decisions that will maintain or correct these properties, according to the needs of the construction product.

Biography:

Associate Professor in Product Design in Federal University of Rio Grande do Sul (Brasil), Productivity Fellow in Technological Development and Innovative Extension (DT 1D / CNPq). Researcher at Material Design and Selection Laboratory (LDSM / UFRGS). Since 2002, he has been conducting research on the following topics: ecodesign, micro power generation (sustainable and renewable), materials recycling cycle (CRM), technological processes for disassembly and recycling of electronic products, tools for innovation and technology transfer. Has extensive industrial experience in industrial equipment design and manufacturing technology processes. .

Speaker Publications:

1. "Development of junction elements from study of the bionics"; Journal of Bionic Engineering/ Vol 4 (2007) 41–46
2. "Microgeneration of energy with electrolyte use organic substrate compounds"; International Journal of Advances in Engineering & Technology/ Vol 10, 2017- Issue 5, 541-550
3. "Proposal of wet blue leather remainder and synthetic fabrics reuse"; Journal of Cleaner Production/ Vol 16, 2008- Issue 16, 1711-1716

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