LCA

Communication to the agents

Sky New Colours – S1918B

Contents

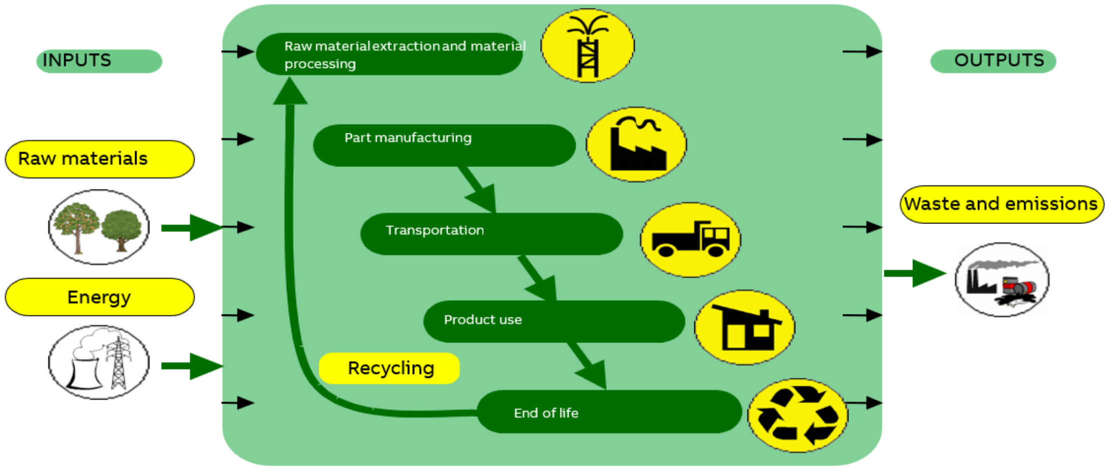
1. Introduction

1.1. Quality and environmental management

Our policy of continuous improvement also requires a demanding and responsible work, which has led to the implementation of the UNE-EN-ISO 14006: Environmental management systems Guidelines for incorporating eco-design in our Quality Management System and Environment.

Eco-design is understood as a process integrated within the design and development that aims to reduce environmental impacts and continually to improve the environmental performance of the products, throughout their life cycle from raw material extraction to end of life.

In order to be of benefit to our organization and to ensure that we achieve our environmental objectives, we carry out eco-design as an integral part of the business operations of our organization.



So, in 2007 Asea Brown Boveri, S.A. NIESSEN factory, certify the Environmental Management Design and Development process according to UNE 150301. To subsequently adapt the system to the international standard UNE-EN ISO 14006.

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UNE-EN ISO 14006

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1.2. Purpose of the study

The introduction of new colours to the range results in a longer life of the needed tools for the manufacture and a longer life of the range itself. For that reason, in this project it has been analysed the impact resulting in the manufacturing of the tooling (moulds).

In this study the finish of Sky New Colours B has been environmentally analysed to seek for an improvement. The most representative references of the project have been selected for this study, which are the following: **8500 BB, 8501 BB, 8501.3 BB, 8507 BB, 8511 BB, 8514 BB, 8517 BB, 8518.2 BB, 8529 BB, 8540.5 BB, 8550 BB, 8555 BB, 8585.2 BB, 8587 BB, 8588 BB and 8588.3 BB**.

1.3. Eco-designed product

Although the study has been made for the most representative references, the results apply for the following references: **8500 BB, 8501 BB, 8501.2 BB, 8501.3 BB, 8501.4 BB, 8504 BB, 8504.2 BB, 8504.3 BB, 8504.4 BB, 8507 BB, 8511 BB, 8514 BB, 8517 BB, 8518.1 BB, 8518.2 BB, 8529 BB, 8530 BB, 8540.5 BB, 8544 BB, 8550 BB, 8550.1 BB, 8553 BB, 8553.1 BB, 8554 BB, 8555 BB, 8555.1 BB, 8555.2 BB, 8560.2 BB, 8565.3 BB, 8568 BB, 8568.3 BB, 8585.2 BB, 8585.3 BB, 8587 BB, 8587 BB, 8588 BB, 8588.1 BB, 8588.3 BB, 8588.9 BB, 8531.1 BB, 8531.2 BB, 8540.9 BB, 8559 BB, 8585 BB, 8580.4 BB and 8544.4 BB.**

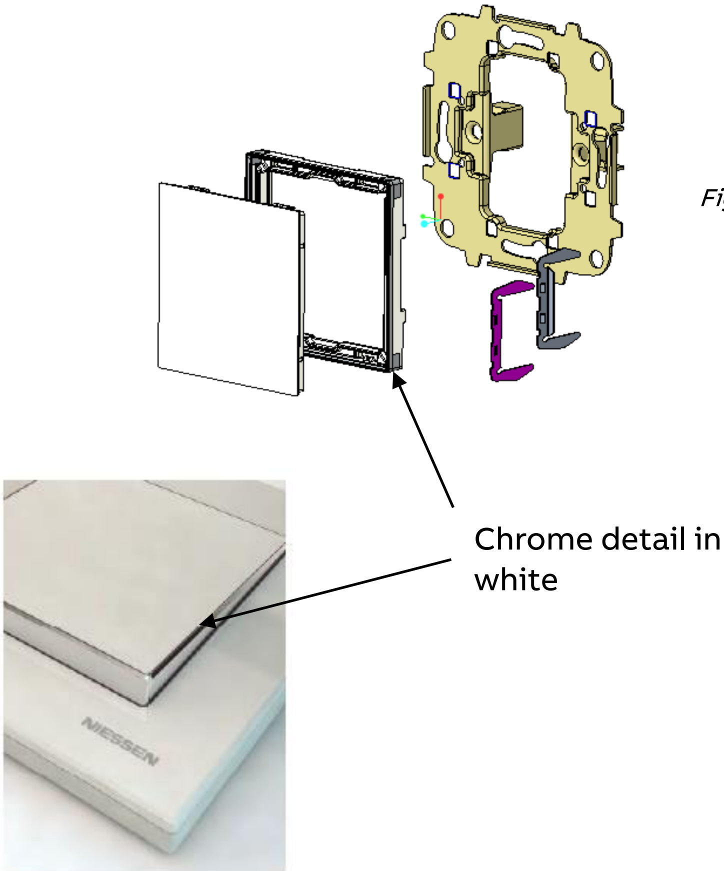


Figure 1: 8500 BB

1.4. Raw materials used

Most of the materials used for the product itself is less than 5% of the impact produced by the mould. For that reason, in this study steel and chrome are the only raw material considered.

2. Considerations of the eco designed products

2.1. Usage considerations

- Make strong electrical connections; this will prevent heat loss in connections, and unnecessary energy consumption.

2.2. Recyclability considerations

-The cardboard packaging is recycled
-The plastics are recyclable, and they include a marking inside (indicating the material they are made of) so they can be disassembled.

2.3. Environmental improvements

-Elimination of use of halogenated flame retardants, by using halogen-free materials.
-Minimum cardboard for recyclable packaging
-Minimum number of components, thereby savings in energy and raw materials in manufacturing processes.
-Use of water-based paints, avoiding the use of solvents harmful to the environment.
- 26% of improvement on average regarding the mould needed to manufacture the products.
- Elimination of the chrome.

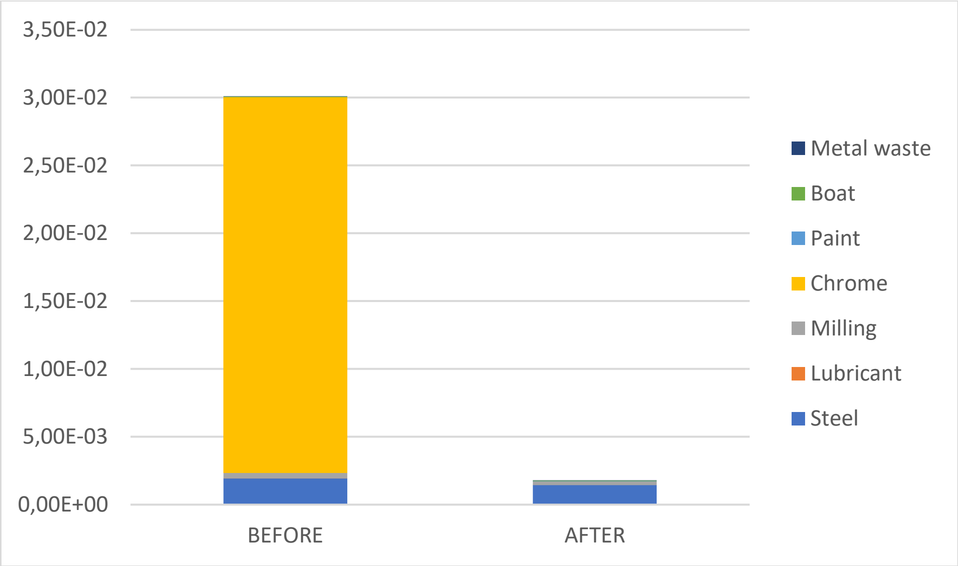
3. Impacts

3.1. Methodology and data

For this analysis the software Simapro 9.1.0 has been used, with the database Ecoinvent 3. The calculations have been made with the methodologies IPCC GWP 100a and CML-IA baseline. The lifecycle stages considered are the following: manufacturing, distribution and end of life. The data has been obtained from the different suppliers, as well as SAP.

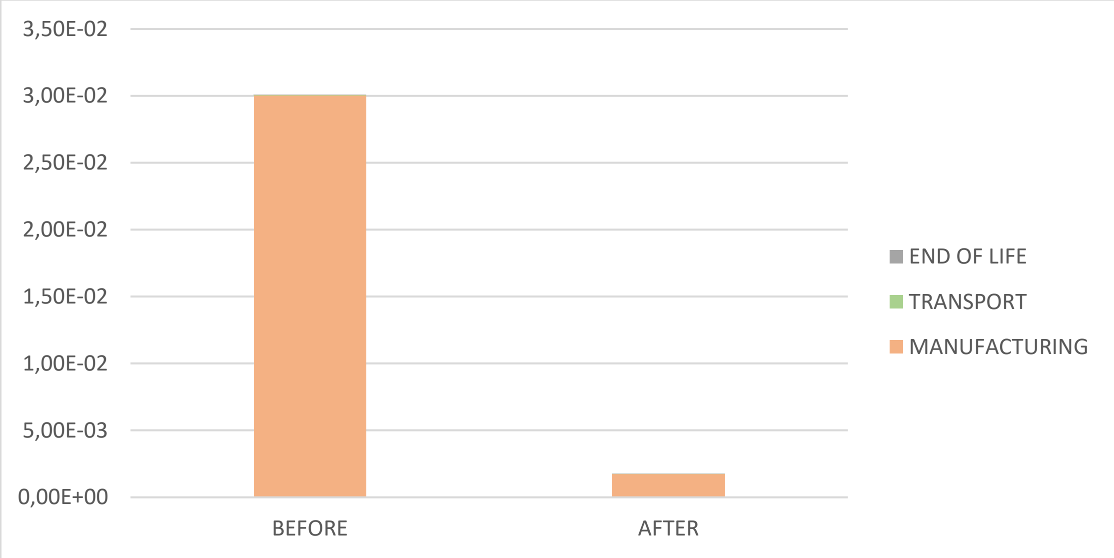
The data used for this study includes the sales of the previous finishes as well as the sales forecast for the new colours.

3.2. Comparative



The graphic shows that the elimination of the chromium from the product is a big improvement on the overall impact.

4. Conclusions



The graph shows that the lifecycle stage that has the most impact is manufacturing. That is due to the big impact that the steel of the mound, the ours of milling and the chrome used have. Instead of creating a new range to satisfy the consumers demand, the introduction of new colours in the existing range is a way to minimize the impact that the manufacturing of the tooling has over the product. On average, the improvement due to the lengthen in the life of the mould is 26% of the environmental impact. The elimination of the chrome represents a big improvement over the previous finishes of the product (2,77E-02 Kg CO_2 eq. per unit), as it is a hazardous and carcinogenic substance.

This kind of actions align with our circular economy policy, extending the use of the tooling and preserving what's already made.

Note: The presentation of these texts wrath according to the medium used (web, catalogues, instructions) so it does not always have this format.

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21/01/2021