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S.A.
FÁBRICA NIESSEN

COMMUNICATION TO THE AGENTS INVOLVED IN THE LIFE CYCLE

Millenium Color Extension

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LCA

Communication to the agents

Millenium Color Extension – S2008

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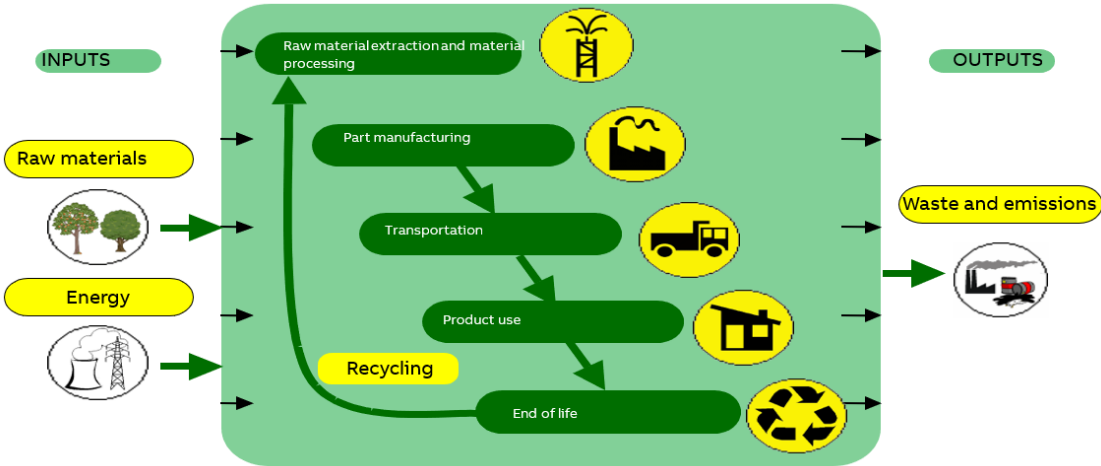
1. Introduction

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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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) for the plastic elements.

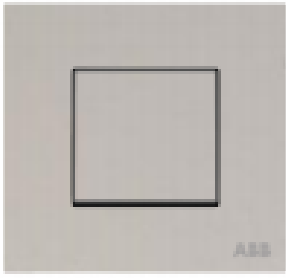
In this study the finishes of Millenium Color Extension (**DN, MO and KA** finishes) have been environmentally analysed to seek for an improvement. The most representative references of the project have been selected for this study, which are the following: AMD10120 XX, AMD10920 XX, AMD10520 XX, AM32144 XX, AM33644 XX, AM30144 XX, AMD5120 XX, AM50444 XX, AMD10144 XX, AM55044 XX, AMD40444 XX, AMD40344 XX, AM23786 XX, AM23586 XX, AM29486 XX, AMD11844 XX, AMD5144 XX, AMD43053 XX, AM50653 XX, AM50753 XX, AMD5153 XX, AMD5353 XX, AM239147 XX, AM118147 XX, AM235147 XX, AMD5244 XX, AMD5253 XX, AM40188 XX.

**note: XX stands for DN, MO or KA.*

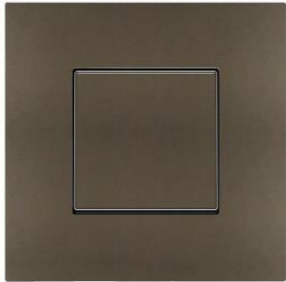
1.3. Eco-designed product

Although the study has been made for the most representative references, the results apply for the following references: AMD10120-XX, AM10120-XX, AMD10144-XX, AM10144-XX, AM10244-XX, AM18244-XX, AMD40444-XX, AM40444-XX, AMD10222-XX, AMD10622-XX, AMD11020-XX, AMD11422-XX, AMD10920-XX, AMD11140-XX, AMD11722-XX, AMD11822-XX, AMD11240-XX, AM17744-XX, AM17844-XX, AM99144-XX, AM19244-XX, AMD10520-XX, AM10520-XX, AMD10544-XX, AM10544-XX, AM19144-XX, AM10644-XX, AMD11520-XX, AMD11544-XX, AMD11622-XX, AMD10753-XX, AM10753-XX, AMD12153-XX, AMD11920-XX, AM11920-XX, AMD11944-XX, AM11944-XX, AMD12922-XX, AMD43020-XX, AM43020-XX, AMD42920-XX, AM42920-XX, AMD43044-XX, AM43044-XX, AMD43222-XX, AMD42944-XX, AM42944-XX, AM48944-XX, AMD40344-XX, AM40344-XX, AM43244-XX, AM48244-XX, AM49944-XX, AM42344-XX, AMD43053-XX, AM43053-XX, AM40244-XX, AM40244-XX, AM40544-XX, AM40544-XX, AMD11844-XX, AM11844-XX, AMD13444-XX, AM50653-XX, AM50853-XX, AM50753-XX, AM23386-XX, AM23486-XX, AM23786-XX, AM23886-XX, AM29486-XX, AM23686-XX, AM23586-XX, AM22186-XX, AM20986-XX, AM23186-XX, AM239147-XX, AM240147-XX, AM236147-XX, AM235147-XX, AM118147-XX, AM40188-XX, AM41144-XX, AM41344-XX, AM41244-XX, AM41786-XX, AM41786-XX, AM42086-XX, AM50444-XX, AM50444-XX, AM50444-XX, AM32144-XX, AM33344-XX, AM33644-XX, AM30544-XX, AM30644-XX, AM30144-XX, AM30344-XX, AM32944-XX, AM33744-XX, AM31344-XX, AM32344-XX, AMD5120-XX, AMD5044-XX, AMD5144-XX, AMD4144-XX, AMD5153-XX, AMD5153-XX, AMD5353-XX, AMD5244-XX, AMD5244-XX, AMD5253-XX, AMD5253-XX, AMD5344-XX, AMD5344-XX, AM40188-XX, AMD5444-XX, AMD5444-XX.

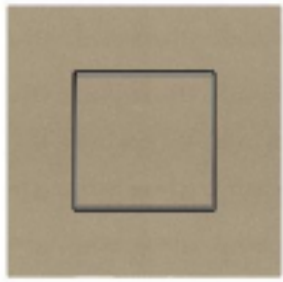
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Duna DN



Mocha MO



Kamale KA*

**note: The finish Kamale is a wildcard colour, will change over time.*

1.4. Raw materials used

The materials used for the product itself is less than 5% of the impact produced by the mould. The supports used for the frames and rockers are common across the range. For that reason, in this study steel is 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.
-5 % of improvement on average regarding the mould needed to manufacture the supports.

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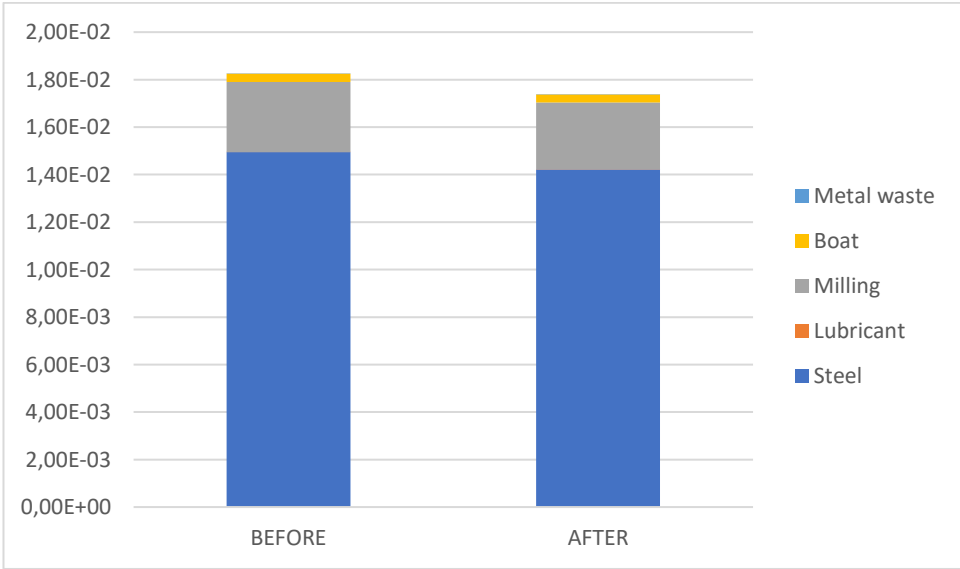
3. Impacts

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.

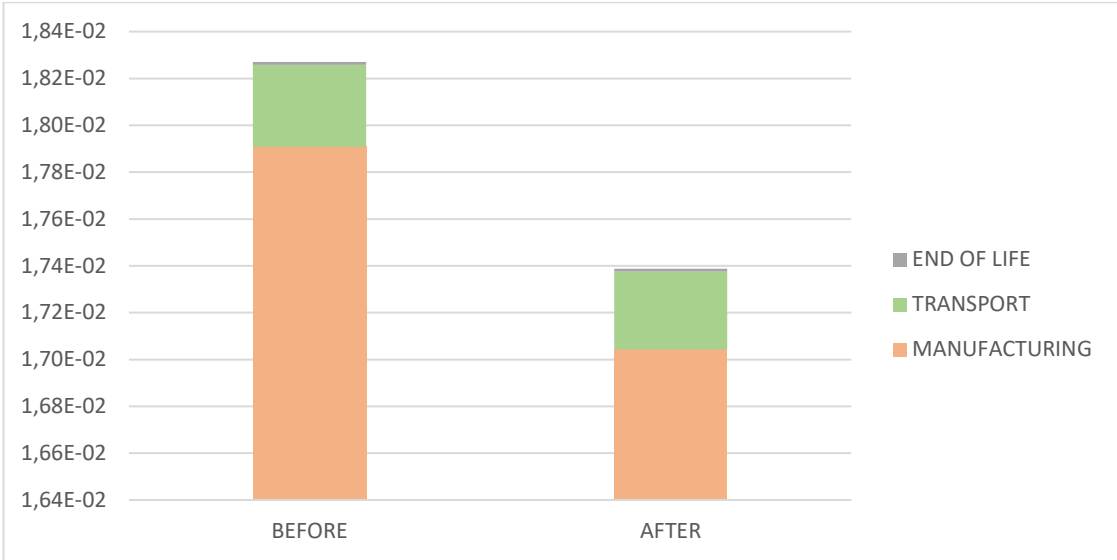
The data used for this study includes the sales of the previous finishes as well as the sales forecast for the new colours.

3.2. Comparative



The graphic shows the changes made and the differences on the impact on average (in Kg of CO₂ eq.). It shows that the improvement is not big in quantity, but the study is made for an individual unit. If it's considered the number of units that are going to be sold, the improvement is more notorious.

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 mould and the ours of milling 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, as the same frame support is used. On average, the improvement due to the lengthen in the life of the mould is 5% of the environmental impact.

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