



ASEA BROWN BOVERI,
S.A.
FÁBRICA NIESSEN

COMMUNICATION TO THE AGENTS INVOLVED IN THE LIFE CYCLE

Zenit New Colours – N2673.6 XX

DOC 42-03-04

REVIEW N° 2
NOV-2020

LCA

Communication to the agents

Zenit New Colours- N2673.6 XX

Contents

1. Introduction	2
1.1. Quality and environmental management.....	2
1.2. Purpose of the study.....	3
1.3. Eco-designed product	4
1.4. Materias primas empleadas Raw materials used	4
2. Considerations of the eco designed products	5
2.1. Usage considerations	5
2.2. Recyclability considerations.....	5
2.3. Environmental improvements.....	5
3. Impacts	5
3.1. Methodology and data	5
3.2. Comparative.....	6
4. Conclusions	7

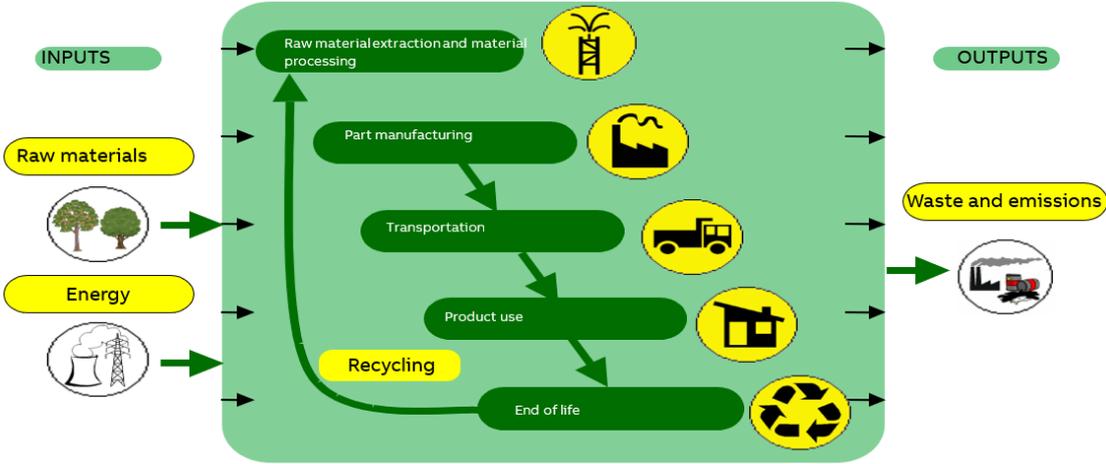
1. Introduction

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.



ED-0008/2007

STATUS	SECURITY LEVEL	DOCUMENT ID.	REV.	LANG.	PAGE
Draft	Internal	[1ABC123456]	A	en	2/7

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 Zenit 2 gang frame 3+3M new finishes (**CP, CC, CF and CH finishes**) have been environmentally analysed to seek for an improvement, and it has been compared with the previous finishes to check the reduction in its environmental impact.



CP



CC

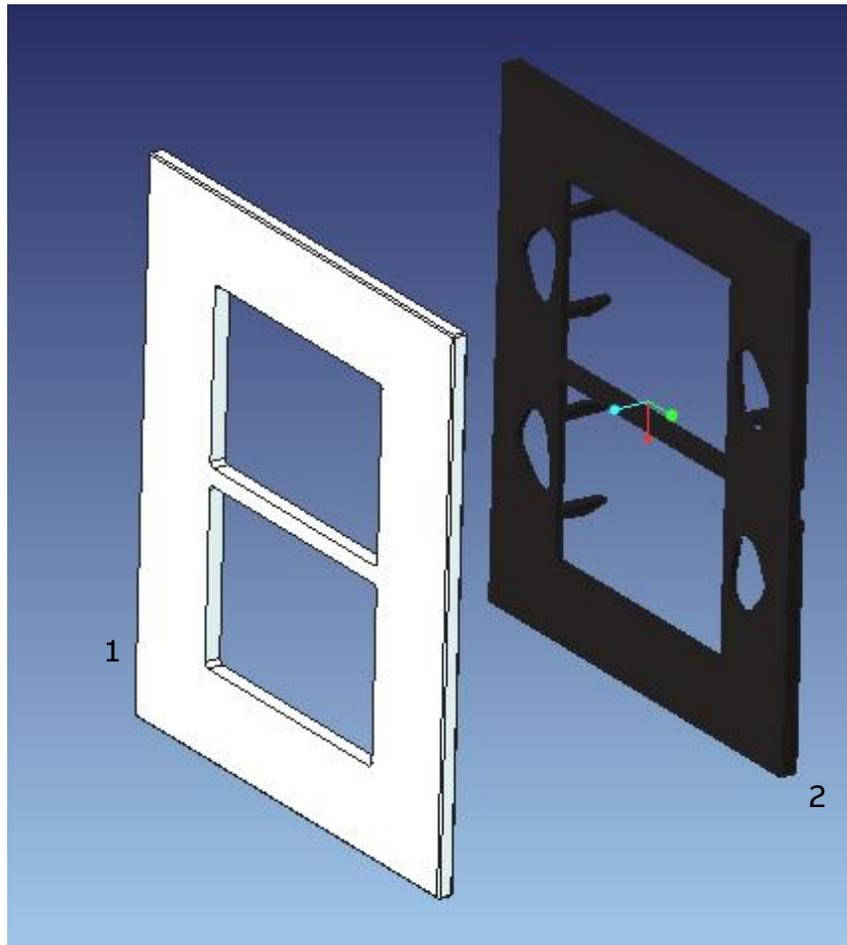


CF



CH

1.3. Eco-designed product



Part	Name	Material
1	Frame	Glass
2	Support	Blend (PC+ABS)

The support is the only component that needs moulding.

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 products are common across the range. For that reason, in this study steel is the only raw material considered.

STATUS	SECURITY LEVEL	DOCUMENT ID.	REV.	LANG.	PAGE
Draft	Internal	[1ABC123456]	A	en	4/7

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.
- 21% of improvement regarding the mould needed to manufacture the frame support.

3. Impacts

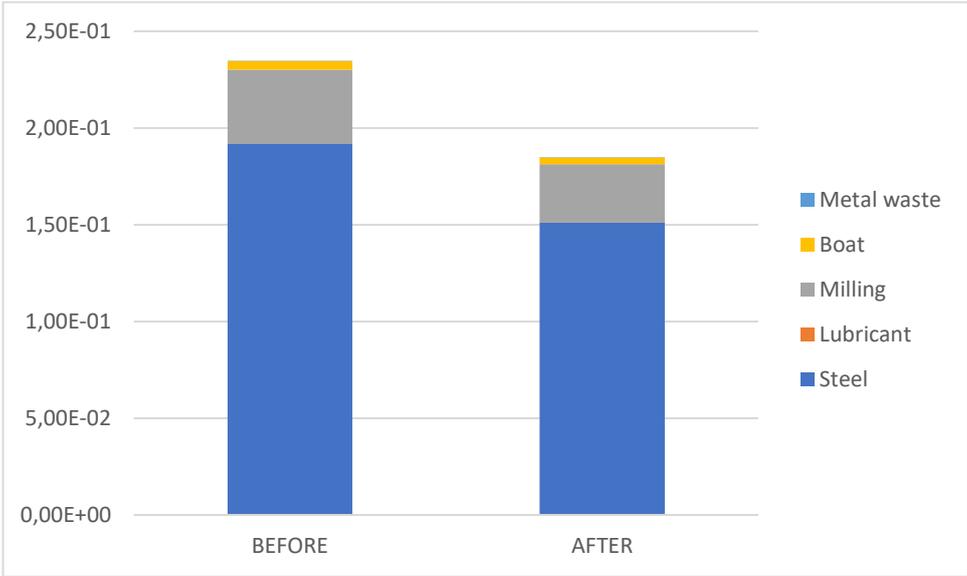
3.1. Methodology and data

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.

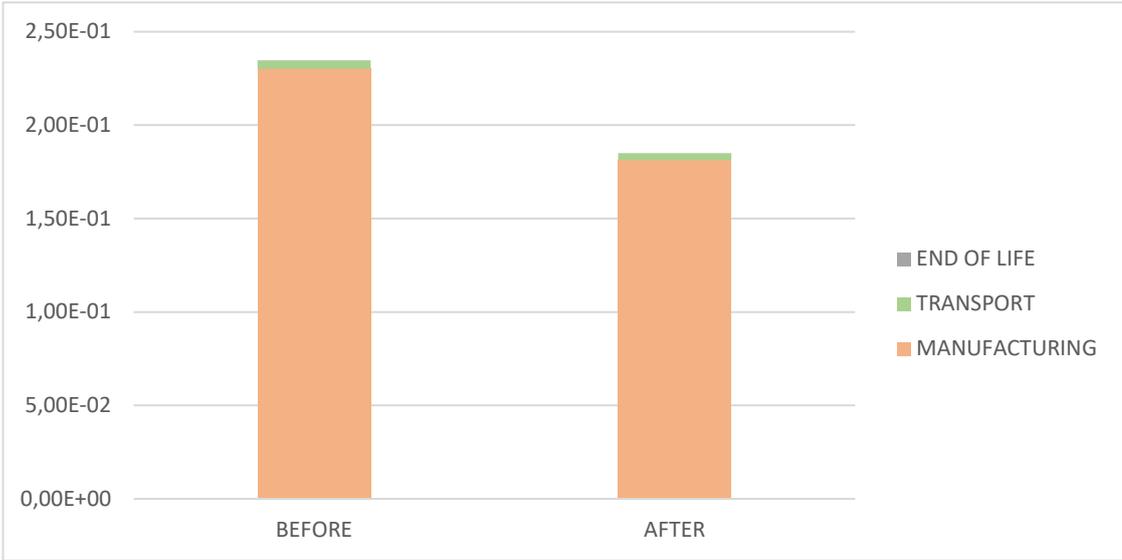
STATUS	SECURITY LEVEL	DOCUMENT ID.	REV.	LANG.	PAGE
Draft	Internal	[1ABC123456]	A	en	5/7

3.2. Comparative



The graphic shows the changes made and the differences on the impact (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. Overall, the improvement due to the lengthen in the life of the mould is 21% 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.

Cecilia de Acha
Responsable de Desarrollo / Development Responsible

20/01/2021