GREENPOP - New eco sustainable technology for high quality metalizing plastic and Cr (VI) free

24/03/2015

The GREENPOP project consisted on the development of a new eco-sustainable technology of metalized plastics, enviromental clean and friendly and 100% Cr(VI)-free, achieving the consecution of metalized plastic parts fulfilling the requirements of the automotive sector and with higher performances and behaviour regarding metalized parts with traditional method using Cr (VI).

This proyect was focused on the development of a new, more efficient and enviromental friendly technology in such a way that the core goals of the proyect are more environmental-related.

- Decrease the enviromental impact.
- Reduce as maximum as possible the raw material and energy consumption, as well as effluents and wastes.
- Eliminate the Cr (VI) toxic emissions to air and waste waters.
- Achieve ecologic and efficient processes, coming early future European environmental regulations.
- Eliminate the percentage of rejection given the non-metalized areas and de-metalized generated by non-reduced Cr (VI) remains.

The duration of the project was two years (2014-2015) and the results obtained are detailed as follows:

-It was defined the new Cr(VI)-free chemical etching process, as well as its related stages.
-Prior to the implementation of new scaling process, the whole system, at theoretical level was validated.
-The scaling was successfully executed defining the working conditions of the different stages of the metallisation process. The adherence, layer thickness, corrosion resistance, homogeneity and uniformity of the products obtained was also validated.
-The environmental evaluation of the new process was completed, by means of the carbon footprint determination, where the figure obtained was lower than that obtained through the chrome plated conventional process.

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