

Cost Impact on Changing the Aluminium with Fibre Reinforced Polymers (FRP) in the Automotive Industry*

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Abstract

This paper describe, how automotive industry has been affected by aluminium price fluctuation, and how fibre reinforced polymers (FRP) has been started to be used more and more in nowadays, despite the price. In the past decades, prices for the raw materials used by car manufacturer, has changed significantly [1]. Not only the prices suffered major changes, but also the amount and type of the material/ t used in vehicle manufacturing, suffered some major transformation as well.

In the last 20 years the automotive makers used to build cars by using more raw material as steel and aluminium in the process, where today all manufacturers change the process and look for intelligent materials to be used, in order to create lighter, smarter and safer vehicles.

Aluminium have a representation of 8% from the Earth's crust and stand in the third position as most abundant element; it is noticeable for his low density and good resistance against corrosion [2].

This work explores the potential for a novel type of composite material, incorporating intelligent materials.

Keywords: Cost Impact, Fibre Reinforced Polymers, Aluminium, Intelligent Materials.