European Journal of Emerging Technology and Discoveries
ISSN (E): 2938-3617
Volume 1, Issue 7, October, 2023.

PRODUCTION OF CAR PARTS FROM COMPOSITE MATERIALS IN A MODERN WAY AND USE IN CARS

Axrorjon Abduraximov
Assistant, Fergana Polytechnic Institute, Fergana, Uzbekistan
E-mail: a.a.abduraximov@ferpi.uz

Abstract
As we know, most of the modern car parts are made of plastic materials. Polymers, due to their structural properties, are replacing many expensive and rare materials as composite materials, and sometimes surpass them in terms of operational properties, which makes them widely used. enables its application. Their use is also economically effective, for example, material costs are reduced, labour costs for the preparation of parts and details are reduced, capital and operating costs are reduced, etc. Polymer composite materials that are suitable for use in various conditions and have the desired physical, mechanical and operational properties are made from a certain composition and amount of binders and fillers. To increase the durability of fuel tanks and car reservoirs in car service enterprises to increase their resistance to any force and to reduce the price of reservoirs.

Keywords: Composite, plastic, temperature, indicators, compounds, aggregates.

Introduction

One of the main ways to reduce vehicle fuel consumption and thereby the amount of toxic gases is to reduce the weight of vehicles. Polymer and composite materials are used to lighten the weight of cars. Polymer and composite materials are stronger and lighter and reduce the environmental risk of cars than steel. The use of polymer and composite materials in the automotive industry reduces the weight of cars and increases fuel efficiency, while at the same time, they are durable, resistant to corrosion, corrosion, temperature and other negative effects of the environment and reduce the negative effects of the car on the environment, namely noise and it is considered a material with low emission characteristics, dampening vibrations [1,2].
Science and technology are achieving good results in the production of construction materials. If in 1940 the strength of quality steel was 110-130kg/mm^2, in 1985 it reached 200-250kg/mm^2. In high-strength aluminium alloys, its strength is 40 kg/mm^2 and 50-60 kg/mm^2 (according to 1940 and 1985). Extreme low temperature, vibration loading, development of fatigue cracks, increase or decrease of corrosion, and increase of relative strength and stiffness of ordinary materials, increase the effect of the above factors. In the material, the sensitivity to the concentration of stresses increases near holes, and various sections, corrosion resistance decreases, and the probability of the appearance of cracks increases [3,4].

The Main Part

As an example, let's look at the history of aluminium alloy. It is known that duralumin - an aluminium alloy alloyed with copper and magnesium - appeared before the war. Studies have shown that by adding zinc and changing the percentage of magnesium and copper, the strength of the material suddenly increases: from 40kg/mm^2 to 80kg/mm^2. However, one part of this

material began to crack before leaving the factory, due to corrosion. As a result, later, a very strong aluminium alloy was obtained. It is corrosion-resistant, and its ability to resist heavy loads is satisfactory [5-7].

Plastic masses are obtained based on high molecular compound polymers. Depending on the type of connection between macromolecules, it is divided into linear, branched and mesh-like structured polymer materials. Linear and banded structural materials include thermoplastic (thermoplastic), and attached structural materials - Thermo-reactive (reactoplast). Thermoplastics melt when heated and return to their original state when cooled. Reaktoplast is distinguished by its high working temperature, its structure breaks down when heated, and does not return to its original state when cooled. The mechanical strength of plastic depends on the type of its filler.

The use of polymer and composite materials saves car manufacturers money due to their low cost, providing an ergonomic appearance and noiseless interior. At the same time, composite materials also have great advantages over steel, such as polymers, in automobile manufacturing, i.e., composite materials are lighter, safer, and stronger. The use of polymer and composite materials in automobiles is fully compliant with fuel economy standards, and even more polymer and composite materials are needed to reduce weight. In automobiles, steel and aluminium materials were mainly used in load-bearing elements, bodywork, transmission and friction parts, heat exchangers and high-temperature parts. In the automotive industry, the appearance and improvement of carbon fibre composite materials, which are resistant to corrosion, moisture and different temperatures, made it possible to make cars lighter and more efficient.

Conclusion

In short: fuel tanks in car service enterprises increase the life of fuel tanks and car reservators increase their resistance to any force and reduce the cost of reservators.

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ISSN (E): 2938-3617
Volume 1, Issue 7, October, 2023.

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