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TRANSPORT

ANTICORROSIVE TREATMENT AS A MEANS OF CAR PROTECTION

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АНТИКОРРОЗИЙНАЯ ОБРАБОТКА КАК СРЕДСТВО ЗАЩИТЫ АВТОМОБИЛЯ

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АННОТАЦИЯ

В данной статье изложены краткие основные сведения антикоррозионной обработки, для защиты металлических конструкций, в основном кузовов автомобиля, который подвергается довольно сильному износу из-за абразивного воздействия и частого контакта с водой, особенно если в ней содержатся агрессивные вещества, например, зимой из-за соли, которую используют против гололеда.

ABSTRACT

This article presents brief basic information about anti-corrosion treatment, to protect metal structures, mainly the car body, which is subjected to quite severe wear due to abrasion and frequent contact with water, especially if it contains aggressive substances, for example, in winter because of the salt used against ice.

Ключевые слова: машиностроение, абразивный износ, коррозия, антикоррозионная обработка, защитный слой.
Keywords: mechanical engineering, abrasive wear, corrosion, anti-corrosion treatment, protective layer.

Like any metal structure, the car body is subject to corrosion. All vehicles face this problem. Moisture and poor ventilation of the garage will eventually destroy the

metal and reduce the life of the car. However, there is a very effective way to combat rust. Anti-corrosion treatment The underside and wheel arches of a car, although they

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do not include moving parts, are subject to quite a lot of wear due to abrasion and frequent contact with water, especially if it contains aggressive substances, for example, in winter due to salt that is used against icing. [1]

Regular anti-corrosion treatments help to solve this problem. The layer of anticorrosive coating, applied at

the factory, is effective only against mechanical impact and far from always saves from rust. And it's not surprising, because it is applied before painting, leaving all holes without proper treatment, at best closing them with protective plugs, which are removed during car assembly on the assembly line.



Figure 1. Body parts most susceptible to corrosion

So it's a good idea to check the condition of such places after buying the car, and if necessary, provide them with additional protection. How often you will need a rustproofing treatment depends on many factors.

These may include the conditions under which the car is used, the quality of the treatment agents, as well as the completeness of its previous performance.



Figure 2. The underside of a corroded vehicle

Anyway, once a year the vehicle needs a preventive inspection, which also checks the condition of the corrosion protection coating. During such inspection, all defects and damages that have appeared on it are identified and eliminated. It should be noted that the new body parts do not have a protective layer. Also it will be absent and on the welds of these parts during their installation. Without proper protection literally 3-4 years later all the new elements will fall into total disrepair and require replacement. To prolong their life, you will need corrosion protection treatment. Anticorrosive agents The range of agents to combat corrosion of car parts these days is very wide.

Of the most common, the following can be distinguished:

- Bitumen or rubber-bitumen mastics;

- masses to protect and preserve the body and underbody;
- Products for the protection of closed cavities and profiles;
- rust converters. All of these products prevent corrosion and extend the life of the metal parts of the car. Some of these products are applied directly to the metal surface, while others require a primer. Underbody protection products usually include bitumen or rubber-bitumen mastics. The protective layer formed after treatment with such means, reliably protects the metal from the formation of rust, as their composition includes substances that slow down corrosion,
- inhibitors. Thanks to bitumen base the water-repellent properties are provided. Some brands of

anti-corrosion means on the basis of bitumen may include a rubber paste, which makes the mastic more elastic.

Mastics of this type are applied to the metal surface, pre-treated with a primer.



Figure 3. Protective wheel arch

Means for protection of wheel arches In contrast to the bottom of the wheel arches are subjected to greater abrasion effects, because the solid particles receiving acceleration from the rotating wheels, with greater intensity hit the surface of the arch, than cause increased wear and corrosion of this area. And if you consider the condition and cleanliness of our roads, it becomes clear at

once that you cannot do without protection of this element of construction. In this case it is possible to install plastic undercovers. As a rule, such a solution allows you to get rid of most of the problems associated with metal wear, but this installation has its disadvantages. Firstly, plastic underlids are not universal and are made for each car model separately. Secondly, they are attached to the self-drilling screws, and this means that there will be new holes in the body, and thirdly, the installation of such elements significantly reduces the space between the wheel and the arch, resulting in tires with a higher profile may cling to the underlid while turning. All of these inconveniences can be avoided by applying liquid products to protect the arch. Popular among them is the "liquid locker. This product is a water-displacing polymer composition for anticorrosive protection. The composition is applied to the metal surface with a sprayer in 2-3 layers and demonstrates personal elasticity, noise insulation, protection against rust and wear. "Liquid locker" is not the only product that motorists can use.[2]. Wheel arches can also be treated with mastics designed to protect the underbody. Treatment of the surface with such mastics does not require the use of a sprayer and can easily be done on their own. Applying two or three coats provides good protection for the metal.



Figure 4. Examples of Hidden Cavities

The most difficult areas for anti-cavity treatment are probably the hidden cavities, of which there are a lot. These are the supports, trunk mounts and spars. Mastics, perfectly suitable for the open areas, here is absolutely no good. They simply do not have the necessary penetrating ability. These areas require a product to protect closed cavities and profiles. By consistency, they are low-viscosity, highly penetrating and water-dispersing products that contain corrosion inhibitors and rust inhibitors. Such products form a reliable water-repellent film and perfectly protect hard-to-reach and poorly ventilated parts of the body. The most suitable form of release of such agents is in aerosols. Anti-corrosion treatment by yourself When performing this kind of work, the first thing you need to do is to clean the treated surface of any contamination. So it is necessary to start with washing

the car. The next step will be drying. Wet surface will not give adhesion to the applied preparation. Also at this stage, it is desirable to degrease the surface on which the protective agent will be applied. When treating the underbody, you can use a brush, roller or spatula. Wheel arches are processed depending on the applied product: either with a sprayer or a brush. Well, hard-to-reach hidden cavities will require the use of aerosol cans. Such works should be performed at an air temperature of at least +15 ° C. [3]. Anticorrosive substances are non-toxic and harmless to humans. The service life of metallic elements of a car increases up to 12-15 years after treatment. The main thing is to conduct regular preventive inspections and timely elimination of all defects on the protective coating.

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