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WAGON FRAME WELDING TECHNOLOGY

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ABSTRACT

In this article, one of the most effective methods used in the welding of vagon frames, the semi-automatic welding method, mode, description of the material of the vagon frame and welding technology in the atmosphere of shielding gases are covered.

Today, production has an important task of reducing the modern labor productivity and cost of production. It is one of the main tasks of the modern economic policy to ensure the management of the labor market in the production process and the sustainability of the product in the consumption process.

Currently, in our Republic, the design of freight car frames is a complex engineering task that ensures the safety of train traffic. To a large extent, it affects the technical and economic indicators of all the divisions of the railways and many sectors of the national economy, as well as the population of the country who use railway transport services. Carrying the main load of wagon frames is a complex system that includes systems.

Welding is a technological process that is widely used in almost all sectors of the economy.

Welded structures have their technical, operational and economic advantages. High demands are placed on the technological and operational characteristics of the wagon structure in the construction industry in all sectors, therefore, the production of these products must be carried out using the most advanced and effective technologies.

In the preparation of wagon frames, the types of welding and welding material are chosen. In this case, the arc is ignited and the electrode is transferred manually by the welder.

Semi-automatic welding in the atmosphere of shielding gases. This is arc welding, in which the arc and molten metal, in some cases, the cooled weld, are under the influence of shielding gases supplied to the welding zone by a special device, that is, it is protected from air.

Welding in protective gases can be done with soluble and insoluble electrodes.

Welding with an insoluble electrode in the environment of protective gases - in this process, an arc discharge is used as a heat source, the arc discharge is ignited between the workpiece and tungsten, carbon, graphite electrodes.

This method of welding is an economically useful, highly productive and mainly mechanized technological process, which is widely used in all branches of machine building in the wagon industry. It ensures the increase in production efficiency of welded metal constructions, an important part of which is various welded constructions.Yuk tashuvchi vagon ramalarini metall konstruksiyalari - bu eng ko‘p metallni talab qiladigan qismlaridir, uning asosiy vazivasi hal qiluvchi ta’sir ko‘rsatadi.

Metal constructions with the required properties must be very strong from a technological point of view. Freight cars are a key link in the railway industry.

When performing welding work, first of all, it is very important to be able to choose the thickness of the metal of the frames to be welded, as well as the method of welding. It is very important to be able to correctly choose the parameters of the welding mode and conditions, and take into account the technological measures that provide the necessary technical and economic production indicators of the product being welded need to get. The properties of the metal to be welded, the thickness of the metal to be welded, its parameters, and the right choice of the electrode are necessary and necessary.

In the preparation of the structure of wagon frames, the selected materials in most cases are made of steel sheets of type 09G2S, depending on the chemical and mechanical properties. These steels are alloyed in such a way that while increasing the strength and yield strength of the steel, it is necessary to maintain sufficient plasticity, ductility, and weldability. These steels are mainly used in metal structures.

Steels of this selected brand are widely used in industry. Steels of this brand are resistant to corrosion and are very convenient for stamping and cutting. They are very well welded and do not require additional processing of workpieces before or after welding. It is considered very convenient to use it for the production of wagon frames, but it requires certain restrictions on the thickness of the material and, most importantly, compliance with the temperature regime during the operation of the finished structure

In conclusion, preparation of wagon frames by semi-automatic welding in an atmosphere of protective gases is economically beneficial, production productivity is high. impact viscosity, weldability properties should be preserved.

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