

Тема занятия: «Развитие сварки в России»

Цель занятия: выучить новый лексический материал по теме «Развитие сварки в России»; совершенствовать навыки чтения и перевода текста профессионального направления; систематизировать знания, ответив на контрольные вопросы по теме занятия.

Уважаемые студенты! Ознакомьтесь с материалами практического занятия на тему «Развитие сварки в России». Конспект занятия выполняйте **в рабочей тетради письменно, обязательно указывая дату занятия, тему занятия, номер упражнения.** Ответы предоставить преподавателю на проверку **до 12. 06. 2023 г.** в электронном виде (**фотоотчёт**) на e-mail mikagol2605@mail.ru. Телефон преподавателя для консультации и возникающих вопросов: +79591415816.

С уважением, Голодюк Марина Викторовна.

1. **Запишите** новую лексику в словарь, выучите новую лексику.
2. Прочитайте и **устно** переведите текст «Development of welding in Russia».
3. Дайте **письменно** ответы на вопросы к тексту.
4. **Напишите** сообщение о развитии сварки в России.

Development of welding in Russia

Vocabulary :

was mastered – был освоен

blindingly – ослепительно

electric arc – электрическая дуга

welding in a protective gas atmosphere – сварка в среде защитного газа

contact spot electric welding with tongs – контактная точечная электросварка
клещами

to correct casting defects – исправить дефекты литья

restore – восстановить

Metal welding is one of the outstanding Russian inventions and was first mastered in Russia.

In 1802, the Russian academician Vasily Vladimirovich Petrov drew attention to the fact that when an electric current is passed through two rods of coal or metal, a blindingly burning arc (electric discharge) appears between their ends, which has a very high temperature. He studied and described this phenomenon, and also pointed out the possibility of using the heat of an electric arc to melt metals, and thus laid the foundations for arc welding of metals.

The results of Petrov's experiments were not known abroad then, and were not used in Russia. Only 80 years later, Russian engineers - Nikolai Benardos and Nikolai Slavyanov put the discovery of V. Petrov into practice and developed various industrial methods for welding metals with an electric "Petrov's arc".

N.N. Benardos in 1882 invented a method of arc welding using a carbon electrode. In subsequent years, he developed methods for welding with an arc burning between two or more electrodes; welding in a protective gas atmosphere; contact spot electric welding with tongs; a number of designs of welding machines have been created. N.N. Benardos patented in Russia and abroad a large number of different inventions in the field of welding equipment and welding processes.



The author of the method of arc welding with a consumable metal electrode, the most common at present, is N.G. Slavyanov, who developed it in 1888.



N.G. Slavyanov not only invented arc welding with a metal electrode, described it in his articles, books and patented it in various countries of the world, but he himself widely introduced it into practice. With the help of a team of welders trained by him, N.G. Slavyanov used arc welding to correct casting defects and restore parts of steam engines and various large equipment. N.G.

Slavyanov created the first welding generator and an automatic welding arc length regulator, developed fluxes to improve the quality of the deposited metal during welding. Created by N.N. Bernados and N.G. Slavyanov methods of welding were the basis of modern methods of electric welding of metals.

At present, a large number of types of welding equipment, brands of electrodes have been created, new advanced welding processes have been developed, including highly mechanized and automated ones, welding techniques for many metals and alloys have been mastered, and the theory of welding processes has been developed in depth and comprehensively.

Now welding is the main method of joining parts in the manufacture of metal structures. Welding is widely used in combination with casting, stamping and special rolling of individual elements of product blanks, almost completely replacing complex and expensive solid and solid blanks.

Answer the questions:

1. Who laid the foundations for arc welding of metals in Russia?
2. What is the role of N. Bernados and N. Slavyanov in the development of welding in Russia?
3. What method of arc welding was invented by N. Bernados?
4. What method of arc welding was N. Slavyanov the author of?