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- Electrometallurgy Today (<https://patonpublishinghouse.com/eng/journals/sem>);
- Technical Diagnostics & Nondestructive Testing (<https://patonpublishinghouse.com/eng/journals/tdcn>).

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\*Translated Article(s) from “Automatic Welding”, No. 11, 2023.

\*\*Translated Article(s) from “Electrometallurgy Today”, No. 4, 2023.

## “DNEPROMETIZ” — NEW SOLUTIONS FOR WELDERS

“Dneprometiz” is a leading manufacturer of hardware in Ukraine, specializing in the production of low- and high-carbon wire. In order to meet the needs of consumers, the company is actively developing the production of welding wire of the Sv-08G2S and 4Si1 brands. Welding wire produced by “Dneprometiz” successfully competes with the products of European manufacturers in the markets of different countries, thanks to its high reliability and European quality. The range of welding wire packaging offered by the “Dneprometiz” plant has been expanded with a new type — 250 kg barrels. Welding wire in barrels is used for robotic welding complexes. It is impossible to imagine the work of large-scale production without robotic technology. In particular, it is better to entrust welding to special welders. The operation of such equipment is more productive and has stable quality, and it also completely eliminates the risks of injury during welding. Welders automatically join and create metal structures of varying degrees of complexity, from the largest to the smallest. Many models and a variety of software allow you to customize the manipulator for the finest, almost jewelry work. Such devices perform the same type of operations at high speed. They are also capable of performing different types of tasks, either individually or simultaneously.

As part of the implementation of an investment program aimed at modernizing production, in July the plant received new equipment for winding welding wire into 250 kg barrels. Production capacity is 1500 tons per year. The launch of the new line took place in October 2023. All tests were successfully completed, the products demonstrated good welding and technological properties. The use of welding wire in 250 kg barrels in production has a number of advantages:

- The balance of the wire and high-quality copper coating ensures stable current conductivity in the contact (wire-tip).
- Productivity increases due to continuous operation of welding machines.
- Wire is threaded into the torch less frequently and, as a result, its losses for the threading ends are reduced.
- The wire from the barrel goes directly into the hose, thereby protecting it from dust and clogging of the feed channel.
- Layer-by-layer laying of wire along the height of the container facilitates easy feeding into the welding zone and accuracy of its positioning in the weld.
- The packaging is made from fully recyclable materials and does not cause any harm to the environment.





- Impossibility of wire theft due to the large weight and volume of the packaging.
- Continuous feed of wire into the welding zone allows making long welds and improves their quality.
- Welders do not need to strain themselves physically, constantly changing cassettes with wire and wasting working time.
- It reduces the need for maintenance of the welding machine mechanism.

Currently, about 98 % of steel structures are welded. High quality and durability of metal welded structures depend on the quality of welding work and the efficiency of welding materials. One of the main conditions for welding metal structures, which affects their quality and performance, is the correct choice of the welding wire used, which must have high technological and mechanical properties, since it is the main material that provides the necessary chemical composition and properties of the weld metal. In this case, the most widely used welding electrode wire is made of sil-

icon-manganese steel, of type Sv-08G2S grade. Welding wire of Sv-08G2S brand is produced both in a copper-plated version (for protection against corrosion) and without coating. This popularity is explained by a wide range of applications, high versatility and excellent quality of welded joints.

In the production of welding wire, the most modern equipment from the leading Swedish manufacturer Lämneå Bruk AB and high-quality raw materials are used. Quality control of the wire rod used in production, as well as testing of finished products, are carried out in our own accredited laboratory, equipped with instruments and test equipment for chemical analysis, mechanical tests, as well as welding and technological tests.

This allows the plant to produce “extra-class” products, the highest quality of which has been proven when used at leading industrial enterprises. In 2020, 4Si1 welding wire was certified to meet the requirements of EU standards. SV-08G2S and G4Si1 welding wire manufactured by “Dneprometiz” is delivered in accordance with EN ISO, AWS, TU standards.

The production quality management system complies with ISO 9001 and is certified by the authority of certification of management systems of GLOBAL-CERTIFIC LLC. PrJSC “Dneprometiz” has been granted the right to mark products with the CE mark.

The commissioning of modern production facilities made it possible to expand the product range, satisfy the demand for welding wire and provide the domestic and foreign markets with products of the highest quality. Welding wire produced by “Dneprometiz” successfully competes with the products of European manufacturers in the markets of different countries, thanks to its high reliability and European quality.