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- Automatic Welding (<https://patonpublishinghouse.com/eng/journals/as>);
- 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. 1, 2024.

**Translated Article(s) from “Electrometallurgy Today”, No. 1, 2024.

***Translated Article(s) from “Technical Diagnostics & Nondestructive Testing”, No. 1, 2024.

SUCCESSFUL CERTIFICATION. DNI PROMETYZ TAS IS PREPARING FOR NEW CHALLENGES

Dniprometyz TAS is a market leader in manufacturing hardware products, specializing in the production of low- and high-carbon wire.

In 2023, the plant produced and sold more than 1,000 tons of welding wire and took one of the leading positions among manufacturers in Ukraine.

During Russian aggression, the Dniprometyz TAS plant continues to develop and increase its production, despite the difficult situation.

The year 2023 for Dniprometyz TAS is a year of significant changes and achievements. The plant is constantly developing, building new production sites to meet the growing demand for its products. The company's export activities are also growing rapidly, which indicates strong competition in international markets.

Projects have been implemented to modernize production, aimed at solving environmental problems, as well as expanding the range of products and increasing production volumes. The production base has been improved by purchasing modern equipment for the production of welding wire from the leading Swedish manufacturer Lämneå Bruk AB. Welding wire is widely used in metal structures, mechanical engineering, carriage building, defense industry and other industries.

The plant's product range includes a wide range of diameters of copper-plated welding wire, as well as uncoated and polished welding wire. The G3Si1 and G4Si1 wire is manufactured according to the international standard EN ISO 14341 (national standard DSTU EN ISO 14341). According to the results of the carried out procedure to confirm the compliance of the welding wire and the weld metal deposited by the method of arc welding in the shielding gas environment with the requirements of DB, the designations of the wire and the weld metal were confirmed: **EN ISO 14341 - A - G 46 4 M21 G3Si1 and EN ISO 14341 - A - G 46 4 M21 G4Si1**. Wire of the G3Si1 and G4Si1 brands occupies a large part in the total production of welding wire. Copper-plated welding wire of a solid section with diameters of 0.8 mm, 1.0, 1.2, 1.4, 1.6, 2.0 mm is produced on cassettes of 15, 5, 2.5, 1 kg with precision winding. The range of welding wire packages now includes 250 kg tubs for robotic welding complexes. This improves productivity and ensures the continuous operation of robotic machinery, as well as reducing wire loss and simplifying the welding process.

Welding wire produced by Dniprometyz TAS has established itself as a reliable and high-quality product used in industrial enterprises. In view of this, the plant has expanded its product line with the most popular brands of electrodes





for manual arc welding of structures made of carbon steel grades.

The central factory laboratory Dniprometyz TAS is one of the few that have been accredited and confirmed their technical competence. Based on the research results, the laboratory issues an expert opinion, which is an official document. The laboratory is equipped with instruments and testing equipment for chemical analysis, mechanical tests, as well as welding and technological tests. A modern in-house laboratory guarantees the highest standards at every stage of production. Given the various wire applications, mechanical and process requirements, thorough testing is important to ensure reliability and safety. To effectively study the microstructure and mechanical properties of wire rod and wire, the plant

invested in advanced equipment — a ZEISS Axiovert 5 digital inverted microscope and a Micro-Vickers hardness tester. This innovative approach ensures the compliance of products with the highest international standards.

In January 2024, G4Si1 wire produced by Dniprometyz TAS was successfully tested at the E.O. Paton Electric Welding Institute of the NAS of Ukraine and is ready for use in the production and erection of steel bridge structures. After intensive testing, positive results have been obtained indicating high efficiency and excellent quality of the welding wire. The use of G4Si1 wire is very important during the erection of steel bridges, ensuring the strength and reliability of structures. There is no doubt that the Dniprometyz TAS welding wire will help to improve the quality and duration of operation of bridge structures.

Dniprometyz TAS is one of the first Ukrainian manufacturers to successfully pass the certification of welding wire in accordance with the requirements of Deutsche Bahn.

In February 2024, the Dniprometyz TAS plant underwent a factory production audit, which was carried out by qualified specialists from Deutsche Bahn AG. The result of the audit was the completion of qualification tests of copper-bonded alloyed welding wire grades 3Si1 and 4Si1, with a diameter of 0.6–1.6 mm, as well as obtaining a certificate of conformity from Deutsche Bahn.

This certificate opens up wide opportunities for the plant to enter the European market. It confirms that the welding wire produced by Dniprometyz TAS meets the requirements of Deutsche Bahn. The presence of such a certificate is a mandatory condition for participation in tenders of one of the demanding Deutsche Bahn companies, as well as other enterprises in the field of carriage building, locomotive building and mechanical engineering.

Deutsche Bahn is a powerful manufacturer in the field of carriage and locomotive construction, has authority in the field of passenger and freight transportation by rail and road transport in Germany and abroad. As one of the largest transport operators in Europe and the world, Deutsche Bahn is an important player in the field of mobility and has authority and significant influence on the development and forming of the transport sector.

The certified welding wire produced by Dniprometyz TAS has a number of advantages that distinguish it from its competitors:

❖ **Credibility and reliability.** Certification of Deutsche Bahn products confirms their compliance with high European standards of quality and safety. This increases confidence in the products on the part of the company's customers and partners.

❖ **Market access.** Confirmation of product compliance with Deutsche Bahn standards opens access to the field of railway engineering, allowing Dniprometyz TAS to participate in tenders and enter into contracts with Deutsche Bahn and other European railway operators that comply with similar standards.

❖ **Security and compatibility.** The welding wire certified by Deutsche Bahn meets the safety requirements and is compatible with the railway network infrastructure, which is important for ensuring reliable and safe operation of trains.

❖ **Reputation and brand.** Certification of Deutsche Bahn products indicates a high level of quality and compliance with international standards. This strengthens the company's reputation and brand as a reliable and innovative supplier of welding consumables.

The high quality and reliability of welding wire produced by Dniprometyz TAS contributes to its successful competition with the products of European manufacturers in international markets.