The Paton Welding Journal

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The content of the Journal includes articles received from authors from around the world in the field of welding, cutting, cladding, soldering, brazing, coating, 3D additive technologies, electrometallurgy, material science, NDT and selectively includes translations into English of articles from the following journals, published in Ukrainian:

• «Avtomatychne Zvaryuvannya» (Automatic Welding), https://patonpublishinghouse.com/eng/journals/as;

• «Suchasna Elektrometalurhiya» (Electrometallurgy Today), https://patonpublishinghouse.com/eng/journals/sem;

• «Tekhnichna Diahnostyka ta Neruinivnyi Kontrol» (Technical Diagnostics & Nondestructive Testing), https://patonpublishinghouse.com/eng/journals/tdnk.

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**Translated Article(s) from "Avtomatychne Zvaryuvannya" (Automatic Welding), No. 5, 2024.

***Translated Article(s) from "Suchasna Elektrometalurhiya" (Electrometallurgy Today), No. 3, 2024.

****Translated Article(s) from "Tekhnichna Diahnostyka ta Neruinivnyi Kontrol" (Technical Diagnostics & Nondestructive Testing), No. 2, 2024.



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INTERNATIONAL INSTITUTE OF WELDING AWARD



In 2024, Yevgenia Chvertko, Associate Professor of the Department of Welding Production at Kyiv Polytechnic Institute, PhD, has received the International Institute of Welding award. Yevgenia Chvertko served on the Board of Directors of the International Institute of Welding from 2021 to 2024. In this position, she actively promoted the integration of Ukrainian specialists into the global welding industry. Yevgenia continues her activities as a newly elected member of the International Authorization Board, a joint body of the International Welding Institute and the European Federation for Welding, Joining and Cutting, which deals with training, retraining, certification and qualification of welding personnel and certification of welding companies.

In 2001, Yevgenia Chvertko graduated from the Welding Faculty of the National Technical University of Ukraine "Kyiv Polytechnic Institute" with a Master's Degree in Welding Industrial Systems. After graduation she started working at the Department of Electrical Welding Equipment as an assistant. She worked as a senior lecturer, then as an associate professor, and held the position of deputy dean for work with foreign students and deputy dean for international cooperation. She has been actively involved in career counseling activities. She is a co-organizer of the annual festival "TechnoArt-KPI", developer of thematic lectures and master classes, in particular on welding of decorative structures. In 2018 she became a laureate of the State Prize in Education as a co-author of the work "Development and implementation of innovative teaching technologies for training of specialists in the profession of welder". Currently she works at the Welding Production Department of the E.O. Paton Institute of Materials Science and Welding.

In 2011 she presented her candidate's thesis on monitoring the process of resistance butt welding of concrete reinforcement bars. She holds international professional qualifications of International Welding Engineer, European Welding Engineer and International Welding Inspector.

Since 2008 she has been involved in training, certification and qualification of welding production personnel under the programs of the International Institute of Welding and the European Federation for Welding, Joining and Cutting. She led the creation of an Approved Training Body based on the Welding Faculty. At present, the training body is a part of the E.O. Paton Institute of Materials Science and Welding and has a license to train in the International Welding Engineer, Technologist and Specialist programs. Since its establishment, more than 300 students, graduates and industry representatives have been trained and successfully obtained professional qualifications.

Since 2009 she has been a member of the Ukrainian delegation to the International Institute of Welding and the European Federation, for Welding, Joining and Cutting. She actively participates in the activities of working groups on development and implementation of training programs, qualification and certification of welding personnel. Among the most successful projects are the development of harmonized theoretical and practical examinations for welding coordinators and inspection personnel, participation in the development of the training program for mechanized, orbital and robotic welding, participation in the development of a procedure for re-crediting previous work experience and education for applicants (the procedure for welding coordinators was implemented this year, the procedure for inspectors is currently being developed). The main provisions of the re-crediting procedure were highlighted in a report at the PolyWeld-2023 conference.

In 2018, she became the first representative of Ukraine to the team of assessors who audit the activities of bodies operating under the licenses of the International Institute of Welding and the European Federation for Welding, Joining and Cutting.

In 2021 she was elected to the Board of Directors of the International Institute of Welding. During her tenure on the Board, together with the E.O. Paton Institute of Electric Welding of the National Academy of Sciences of Ukraine, she has significantly intensified cooperation with professional organizations in Ukraine. In particular, the participation of Ukrainian scientists, including young specialists, in professional events has significantly increased, which helps to integrate scientific youth into the international welding community and to inform foreign colleagues about modern developments and research.

At the beginning of the large-scale invasion, she greatly contributed to revoking russia's membership in the International Institute of Welding, as well as the relevant licenses for personnel qualification and certification of welding companies.

We sincerely congratulate Yevgenia and wish her further fruitful work!

Editorial Board

CERTIFIED QUALITY: THE USE OF WELDING WIRE IN THE TRANSPORT INDUSTRY

Today, welding technologies play a crucial role in the manufacturing and repair of transportation, from railway cars to commercial vehicles. The quality of welding materials directly affects the safety, durability, and performance of vehicles. That is why stringent control and adherence to international standards are so important.

A prime example of the application of high-quality welding materials is their use in the railway industry, where safety and reliability are always top priorities. DNIPROMETYZ TAS, a manufacturer specializing in welding wire, has recently been certified by Deutsche Bahn a leading railway operator in Europe. This certification confirms that our products meet the most stringent requirements and can be safely used in the construction and repair of railway rolling stock.

Manufacturing Capabilities and Technologies

At DNIPROMETYZ TAS, advanced technologies from the Swedish manufacturer Lämneå Bruk AB and high-quality raw materials are used in the production of welding wire. Quality control of wire rods and testing of finished products are conducted in our own accredited laboratory, equipped with modern instruments for chemical analysis, mechanical tests, and welding technology tests. This ensures the production of the highest quality products, verified by leading industrial enterprises.

The plant employs intelligent production management systems, enhancing efficiency and flexibility, and improving customer orientation at all stages of production. The plant places



particular emphasis on product certification and holds several important certifications, including ISO 9001 and TÜV NORD compliance with European standards. Our products also meet the safety and health requirements of the European Union, as confirmed by CE marking.

• Advantages of Welding Wire for Transportation

The welding wire produced at our plant, thanks to stringent quality control standards, is ideal for complex welding tasks in the transport industry. It provides high joint strength, corrosion resistance, and durability, which is critical for vehicles operating in various climatic conditions.

Furthermore, our collaboration with organizations such as Deutsche Bahn allows us to continuously improve production technologies, develop innovative solutions, and ensure unparalleled quality of welding materials. Our plant manufactures welding wire grades 3Si1 and 4Si1, with diameters ranging from 0.6 to 2.0 mm, which have successfully passed Deutsche Bahn certification.

Reliability of Supplies

Effective logistics and timely delivery of products are key to our success. The plant has its own fleet, which reduces delivery time and improves service quality, ultimately contributing to increased customer satisfaction.

Reliability and speed of delivery play a crucial role in meeting our clients' needs. Therefore, we continuously work on improving operational efficiency, allowing us to provide high-quality products in the shortest possible time.

• Environmental and Social Aspects

DNIPROMETYZ TAS not only strives for excellence in products but also continuously invests in the development of its employees and technologies. Regular training and qualification courses are conducted both internally and with the involvement of external experts. The plant actively collaborates with educational institutions and technical universities to stay abreast of the latest achievements and technologies.

Additionally, we place significant emphasis on sustainable development and environmental responsibility. Energy-efficient technologies are used in the manufacturing process, and we aim to minimize waste. All our operations comply with environmental standards, and environmental audits are conducted regularly. We also invest in the development of environmentally friendly production methods to reduce our impact on the environment.

Deutsche Bahn certification is not only a confirmation of quality but also a commitment to our clients. We continue to improve our technologies to meet the strictest requirements of the transport industry and offer the market products that adhere to the highest standards

of reliability. Our plant remains one of the leading manufacturers of fasteners in Ukraine, maintaining a leading position and actively expanding its markets both domestically and internationally.

