

A small company of global reach

The beginnings of Norsk Sveiseteknikk AS (NST) - now celebrating its 30th anniversary - go back to the seventies of 20th century, when the manufacture of flux cored wires in ICF (in-line continuous flux filling process) technology started in Nippon Steel Welding & Engineering Co. (NSWE). Fascinated by the welding technology Age Ingebretsen, a Norwegian entrepreneur, is the founder of NST Company. Nowadays, it is represented in Europe, USA, Canada and Asia (the Company branches are situated in Glasgow, Gdynia, Rotterdam, Singapore and the United States).

NST delivers flux cored wires (FCW) which are used to weld steel and stainless constructions, mostly, in the shipyard industry, off-shore sector and for the purposes of public, industrial, railway transport infrastructure and to weld the elements of heavy machines. NST participates in the non-standard tests of welded joints for its own needs.

The offer covers steel and stainless wires (FCW) to weld structures which must comply with high requirements as far as the impact resistance (-20°C, -40°C, and -60°C) and low diffusing hydrogen coefficient ($H_5 < 4\text{ml}/100\text{g}$) are concerned, including very modern wires with metallic core of similar technological qualities. In addition, the Company delivers FCW wires used at automated or mechanized workplaces and for semi-automatic welding.

Almost all the wires in NST offer, colloquially known as Nittetsu brand, are manufactured in ICF technology (in-line continuous flux filling process) which warrants high quality, repeatability of production, excellent welding qualities and very good usability. A majority of the flux cored wires offered by NST Group is manufactured in the factories of Nippon Steel and Sumikin Welding in Japan (in Hakari, Kashiva and Narashino) as well as other factories in Europe and Asia.

NST is one of the biggest manufacturers of wires produced in ICF technology, a mass manufacturer, indeed. Competitive companies produce wires using a different technology and their efficiency is much lower. This is the main difference between NST and those companies. In fact, this is our considerable technological advantage' says **Jacek Zajączkowski** who recommends the Company's offer. He is a director in NST Management Board seated in Gdynia, while **Dag Ivar Drolsum** is the President. The main products include seamless wires of NSWE brand, developed according to the Company's own technology, namely, NSWE ICF (In-line Continuous Filling), which disclose a lower aptitude to moisture absorption.



The Company also offers a palette of NST welding additives and complementary products to satisfy the needs of the welding industry. The offer includes also low- or high alloyed flux cored wires.

The commercial activity is implemented through a network of own branches and local distributors. Thanks to a well-developed commercial network both companies, NST and NIPPON, efficiently control the market of welding materials all over the world. NST can also be proud of a wide network of warehouses which guarantees prompt deliveries in a short time. The logistic system is perfectly developed; it is linked and related to external logistic companies. NST has one of the biggest warehouses in Europe storing about 3000 tons of welding wires ready for shipment. Moreover, in the central warehouse situated in a small Norwegian town, Hokksund – Vikersund, where the ski flights contests are held and the NST employees engage in the organization of such sport events as volunteers and enjoy Kamil Stoch's fan club, approximately 2000 tons of welding wires are gathered. This is what ensures reliable and fast deliveries of the products in any quantities. Besides, NST keeps its warehouses in Great Britain, Poland, USA and Singapore. It happens sometimes that a transport of wires by air, in containers of 24 t, is simply necessary.

Company's operation in Poland

In 2003, because of many Norwegian companies' fruitful operation in the area of the Baltic and Black Seas, a need to support and implement the technology of flux cored wires use appeared in the companies which collaborated with the Norwegian principals and wanted to implement this welding method at the automated or mechanized workplaces. Such companies produce the elements of drilling platforms, shipping sections and other technological installations; and they often perform various constructional works.

'At the beginning, almost 20 years ago, we were engaged in the off-shore and shipyard industry for Norwegian clients. Thanks to experience, since 2008, NST has been successively developing commercial targets in the area of public infrastructure (roads, bridges, sport facilities) in Poland, Czech Republic and Slovakia. Today, we operate as the suppliers for the off-shore sector in the Mexican Gulf, domestic oil and gas production (PETRO Baltic); we also take part in building (welding) the domestic gas transmission systems and LNG from the Northern Sea', explains Jacek Zajączkowski.



PANORAMA FIRM

'Today NST generates about 10% of turnovers in the group. We are a big and significant market in Europe, but the markets of the Czech Republic and Poland are of different nature in comparison to Western Europe. In our part of Europe the subcontractors play the most important role, and that is why the companies develop and gain experience. During the last decade more and more Polish engineers managed huge projects all over the world. Let's add that apart from English and Norwegian the Polish language also matters, it is one of the basic languages in NST to communicate.'

Thanks to the excellent mechanical and utility properties of the materials originating from NST and comprehensive service in the field of preparation of the plants to perform welding works, the Polish companies have been taking advantage of the offered services in various kinds of works which must meet high requirements as far as the welded joints are concerned. NST simply aims at offering such services to other projects and welding works applications implemented in Poland by domestic and foreign principals.

In the north of Poland, at Szczecin – Gdansk coast, welding by means of flux cored wires is a dominant process. The wires were used to weld the constructions of such well-known facilities as Opera Leśna (Forest Opera) and Ergo Hestia Arena in Sopot, Polsat Plus Arena Gdansk in Gdansk, and finally, PGE Narodowy stadium in Warsaw and Warsaw subway.

It is worth mentioning that NST not only offers permanent deliveries of flux cored wires. The commercial targets are implemented in the NST branches worldwide via engineering and practical support in solving the welding problems, especially when the users and contractors working on steel constructions have got poor experience and the application of flux cored wires is a novelty for them. NST deals with organization of trainings, supports the performance of welding documentation. Generally, the Company is continuously willing to assist in all the welding projects. It also helps the Polish and Norwegian companies meet to start cooperation in the field of production and distribution.

Advantages of flux cored wires

Now the flux cored wires replace the covered welding electrodes when assembling the public, energetic and technical infrastructure in many countries in the world. Their suitability in the welding process is determined by their general availability, comfortable application and increased efficiency, improvement of the welding joints quality and elimination of non-conformities in the sticking type.

What is essential is a bigger depth of fusing while welding, so the risk of fusion absence is not so high. The flux cored wires have a bigger efficiency in fusing - about by 70% - in comparison to other wires. Additionally, the sources of energy or semi-automatic welding devices need not to be exchanged. In practice, all the generally accessible semi-automatic welding devices may be used without an additional system supporting the welding arc.

Almost all the wires in the NST offer are produced in ICF (inline continuous flux filling) technology which warrants high quality, repeatability of production and excellent welding and utility properties.



The flux cored wires in ICF may contribute to the increase of the welding works quality as they meet high requirements demanded by the welded constructions. The basic quality areas include the compliance with the low hydrogen process and acquisition of the technological weldability, complete identification and repeatability of the mechanical properties and high operational properties. They are also easy to store. The application of flux cored wires in ICF may bring considerable savings in the total cost of manufacturing the welded constructions resulting from a lower temperature of the initial heating and lower costs of labor. The high quality of the flux cored wires caused by stable manufacturing conditions is confirmed by the test results disclosing the most important criteria of their quality assessment.

Optimistic outlook for the future

During its 30-year active operation the Company faced some crises, but suffered no losses. In fact, the difficult times made it even stronger.

'The first crisis of 2008-2010 was of financial type. The oil-and-gas industry was the main sector NST operated as a supplier, but it has lost its significance', says Jacek Zajaczkowski.

'For us it was the time to enter a new sector, namely, windfarms. The requirements were similar. The companies dealing with drilling platforms changed their production; they began to produce steel constructions for the needs of the offshore windfarms. The other crisis caused by coronavirus is still pending. It did not bypass NST, because the logistic network broke down. Nevertheless, thanks to the Company's immense warehouses situated in Norway and smaller local warehouses we managed to continue our operation and deliver the wires to our clients.

We have developed and learned how to use communicators e.g. Teams and similar ones in order to solve the Company problems efficiently and discuss them while sitting in our own offices. We also communicate on-line with our clients. And although we employ only 25 persons we can operate commercially worldwide.

The future and development of NST depend on the fast adjustment to the current needs of the world markets. Its structure and staff are excellently prepared and perfected to be more and more effective at work. Thanks to a small team of people the Company is mobile and flexible in the decision-making process, and the employees are well educated, trained and offering their competence on permanent basis.' – says Jacek Zajaczkowski, Director of NST Polska.

