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E.O. Paton Electric Welding Institute, NASU

International Association «Welding»

Publisher

International Association «Welding»

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E-mail: journal@paton.kiev.ua

www.patonpublishinghouse.com

State Registration Certificate

KV 4790 of 09.01.2001

ISSN 0957-798X

Subscriptions

\$348, 12 issues per year,

air postage and packaging included.

Back issues available.

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herein are protected by copyright.Permission to reproduce material contained in this
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PRODUCTION OF FLUX-CORED WIRES IN «TM.VELTEK» COMPANY

In 1993 in Kiev on the initiative of the group of colleagues of the E.O. Paton Electric Welding Institute the joint Russian-Ukrainian enterprise OJSC «SP TM.VELTEK» was founded. The successful start of production of flux-cored wires in the new political and economic conditions of the 90s was provided due to the support of the «Dnepropetrovsk Hardware Production Association», whose management treated the idea of restoring the production of flux-cored wires with understanding. In 2001, the production of flux-cored wires was allotted into a separate division: the company OJSC «TM.VELTEK».

The close cooperation with leading research centers, including those in the field of welding and a high professionalism of engineering and technical staff and workers allowed mastering a stable classical technology of production of welding and surfacing flux-cored wires and wires for electric arc spraying to perfection.

Over the period of work of the company the complex of measures on repair and modernization of basic equipment, in particular, the production lines for flux-cored wires and the charge division, was realized. The modern types of products delivery were mastered. The technologies of manufacturing flux-cored wires of diameters from 1.0 to 6.0 mm were updated.

The efforts of the enterprise allowed preserving a significant part of the market of welding consumables of Ukraine for domestic producers and providing the consumers with quality materials at reasonable prices. The practice of work of the enterprise includes rendering consulting advice on the choice of material, the optimal technology and equipment for its realization, providing engineering support of the production process. In some cases, the enterprise produces flux-cored wires according to technical specifications, individually agreed with the customer. The weldability of the already mastered grades is constantly improved and new grades of wires are developed, which have no analogues.

Regardless of the nomenclature and volumes of batches, the high scientific and technical potential

of the enterprise allows fulfilling the orders in the shortest terms and with the required quality. This allowed occupying a large enough share of the market in Ukraine, ensuring stable fulfillment of foreign contracts and becoming a permanent partner for many enterprises.

As to their purpose and technical characteristics the flux-cored wires of grade VELTEK are not inferior to the products of leading foreign companies, which is confirmed by their high estimate at the domestic and foreign exhibitions, recognition by the leading enterprises of Ukraine and CIS, the continuous expansion of application areas and growth of sales volumes despite the ever-changing economic and political conditions. Over the years of work the enterprise acquired the status of a reliable partner at the market of welding consumables in Ukraine, Russia, Belarus, Uzbekistan and other CIS countries, Lithuania, Latvia and also the Czech Republic, India.

Since 2004, at the enterprise the quality management system was realized certified by UkrSEPRO and the Russian Maritime Register of Shipping, which meets the requirements of DSTU ISO 9001:2009 (ISO 9001:2008, IDT). The certificates of conformity UkrSEPRO on more than 100 grades of welding and surfacing flux-cored wires, the Certificate of approval of welding consumables of the Russian Maritime Register of Shipping, the Certificate of approval of welding consumables Lloyds Register and the Certificate on approval of welding consumables of the Register of Shipping of Ukraine were obtained.

The flux-cored wires of grade VELTEK are used in a wide range of industries: at the railway enterprises, at the integrated works of mining and metallurgical complex, at the plants of metal structures, at the machine-building plants of mine, transport, hoisting equipment, in shipbuilding, diesel locomotives and carriage engineering. Below the nomenclature of a wide range of flux-cored wires for welding and surfacing, manufactured by the OJSC «TM.VELTEK» is briefly given.



The enterprise OJSC «TM VELTEK» produces flux-cored wires for welding of low-carbon and low-alloyed steels (PP-AN1, PP-AN4, PP-AN8, PPs-TMV6, PPs-TMV8, PPs-TMV29, PPs-TMV7, PPs-TMV10N), low-alloyed high-strength (VeT PPs-TMV57) and heat-resistant steels (VeT PPs-TMV14, VeT PPs-TMV15), as well as for welding of high-manganese steels of the type 110G13L in combination with low-alloyed and alloyed structural steels (VELTEK-N210U, VELTEK-215, VeT PPv-TMV11). The last wires can also be used for surfacing of buffer layers before application of hard-alloy coating. Also, the OJSC «TM.VELTEK» produces a large amount of surfacing flux-cored wires, which are applied in different industries and are designed for restoration of different types of worn-out parts of machines.

The flux-cored wires, applied at the railway enterprises (VELTEK-N250, VELTEK-N290, VELTEK-N351, VELTEK-N490, VELTEK-285) are designed for surfacing of thrust bearings of trolleys and wheels of railway cars, axles, shafts, surfacing and repair of defective areas of tracks and automatic couplers of car devices.

The flux-cored wires, applied for restoration and strengthening surfacing (VELTEK-N290, VELTEK-N300-RM, VELTEK-N350-RM, VELTEK-N351, VELTEK-N370-RM, VELTEK-N380, VELTEK-N450, VELTEK-N455, VELTEK-N475) are designed for restoration surfacing of seats of

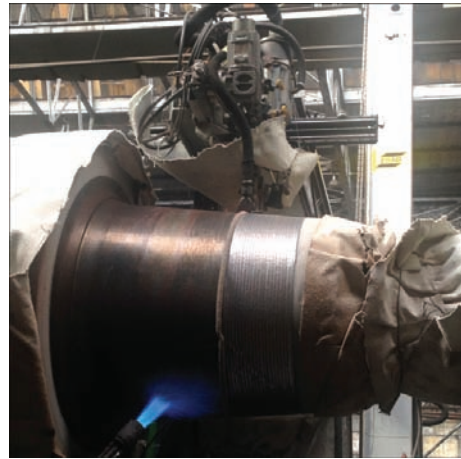


axles, shafts, necks of MCCB rollers, as well as for strengthening surfacing of tractor rollers and caterpillar tracks, rollers of roller conveyors, bandages, crane wheels, brake pulleys, gear teeth, support rollers, etc.

The flux-cored wires, applied at large metallurgical plants for parts, subjecting to significant specific pressures and wear at the elevated temperature (VELTEK-N390, VELTEK-N410, VELTEK-N415, VELTEK-N420, VELTEK-N460, VELTEK-N462, VELTEK-N465, VELTEK-N470, VELTEK-N472, VELTEK-N480, VELTEK-N495, VELTEK-N500-RM, VELTEK-N505-RM, VELTEK-N550-RM, VELTEK-N555, VELTEK-N565), are designed for surfacing of MCCB rollers, plungers of hydraulic presses, hot rolling rolls of pipe rolling and section rolling mills, knives of hot and cold metal cutting, punching and pressing tools, sealing surfaces of general industrial fitting valves.

The surfacing flux-cored wires, applied for restoration and strengthening surfacing of manganese steels of 110G13L type and parts, operating under the conditions of high specific pressures (VELTEK-N200, VELTEK-N220U, VELTEK-N230, VELTEK-N240, VELTEK-N245, VELTEK-N285) are designed for surfacing of railway frogs, crushing jaws, parts of





shot blast blades, beats of hammer mills, heavy-loaded crane wheels, for restoration of sizes and correction of defects of 110G13L steel casting.

The wires are produced, applied for deposition of buffer layer before the strengthening surfacing: VELTEK-N210U, VELTEK-N215, VeT PPs-TMV11. The flux-cored wires, applied for surfacing of parts, operating under the conditions of impact-abrasive wear (VELTEK-N552, VELTEK-N575, VELTEK-N600, VELTEK-N620) are designed for surfacing of teeth and buckets of mining excavators for operation at rocky soils and frozen conditions, scoops of drags, grader blades, blades of bulldozers, mills for grinding of hard materials, crushers, asphalt mixers, rotors of vertical hammer crushers, roller presses, parts of dredgers and pulp pumps.

The flux-cored wires, applied for surfacing of parts, experiencing a strong abrasive wear (VELTEK-N560, VELTEK-N580, VELTEK-N605, VELTEK-N617, VELTEK-N640, VELTEK-N634, VELTEK-N635, VELTEK-N650), are designed for surfacing the parts of agriculture, worn-out parts of mining and metal-

lurgical enterprises, construction and road machinery, screws, parts of mixers, smoke extractor blades, casings and impellers of dredgers, parts of cement and concrete pumps, etc. The flux-cored wires, applied for surfacing of parts experiencing a strong abrasive wear in combination with a high temperature (VELTEK-N479, VELTEK-N630, VELTEK-N690) are designed for surfacing of protective surfaces of charging tapers and bowls, screens and grinders of agglomeration plants, coke dumping mechanisms, parts of mining and processing plants and plants for pellets formation, cutting edges and teeth of rotor excavators, blades of mixers, worm conveyors, grinders of cement clinker, concrete and cement pumps and other parts, worn out by friction, operating at elevated temperatures. Also, the enterprise manufactures flux-cored surfacing wires in accordance with GOST 26101-84.

A.A. Golyakevich, L.N.Orlov, V.N. Upyr