

Editor-in-Chief B.E.Paton

Editorial board:

Yu.S.Borisov	V.F.Khorunov
A.Ya.Ishchenko	I.V.Krivtsun
B.V.Khitrovskaya	L.M.Lobanov
V.I.Kyrian	A.A.Mazur
S.I.Kuchuk	Yatsenko
Yu.N.Lankin	I.K.Pokhodnya
V.N.Lipodaev	V.D.Poznyakov
V.I.Makhnenko	K.A.Yushchenko
O.K.Nazarenko	A.T.Zelnichenko
I.A.Ryabtsev	

International editorial council:

N.P.Alyoshin	(Russia)
U.Diltay	(Germany)
Guan Qiao	(China)
D. von Hofe	(Germany)
V.I.Lysak	(Russia)
N.I.Nikiforov	(Russia)
B.E.Paton	(Ukraine)
Ya.Pilarczyk	(Poland)
G.A.Turichin	(Russia)
Zhang Yanmin	(China)
A.S.Zubchenko	(Russia)

Promotion group:

V.N.Lipodaev, V.I.Lokteva
A.T.Zelnichenko (exec. director)

Translators:

A.A.Fomin, O.S.Kurochko,
I.N.Kutianova, T.K.Vasilenko

Editor:

N.A.Dmitrieva
Electron gallery:
D.I.Sereda, T.Yu.Snegiryova

Address:

E.O. Paton Electric Welding Institute,
International Association «Welding»,
11, Bozhenko str., 03680, Kyiv, Ukraine
Tel.: (38044) 200 67 57, 200 82 77
Fax: (38044) 200 04 86, 200 82 77
E-mail: journal@paton.kiev.ua
http://www.nas.gov.ua/pwj

State Registration Certificate
KV 4790 of 09.01.2001

Subscriptions:

\$324, 12 issues per year,
postage and packaging included.
Back issues available.

All rights reserved.
This publication and each of the articles
contained herein are protected by copyright.
Permission to reproduce material contained in
this journal must be obtained in writing from
the Publisher.
Copies of individual articles may be obtained
from the Publisher.

CONTENTS

SCIENTIFIC AND TECHNICAL

<i>Kharlamov M.Yu., Krivtsun I.V., Korzhik V.N. and Petrov S.V.</i> Heating and melting of anode wire in plasma arc spraying	2
<i>Kuzmenko V.G.</i> On the subject of electric submerged-arc welding	8
<i>Labur T.M.</i> Strength and features of fracture of welded joints on high-strength aluminium alloys at low temperature	13
<i>Knysh V.V., Solovej S.A. and Bogajchuk I.L.</i> Optimisation of the process of strengthening of welded joints of 09G2S steel by high-frequency mechanical peening	20
<i>Nazarenko O.K., Matvejchuk V.A. and Galushka V.V.</i> Simulation of the effect of high-voltage cables on current ripple in welding guns with automatic bias	24
<i>Kuchuk-Yatsenko V.S.</i> Peculiarities of resistance welding of copper with aluminium alloys using nanostructured foil of Al-Cu system	28
<i>Lyushinsky A.V.</i> Application of nanopowders of metals in diffusion welding of dissimilar materials	31

INDUSTRIAL

<i>Engindeniz E., Kaplan E., Ganioglu E., Yuksel F., Bayezid N. and Rosert R.</i> Manufacture of outstanding thick-walled constructions	35
<i>Razmyshlyaev A.D., Mironova M.V., Kuzmenko K.G. and Vydmysh P.A.</i> Efficiency of melting of electrode wire in submerged-arc surfacing with influence of transverse magnetic field	39
<i>Bartenev I.A.</i> Technological peculiarities of cladding of high alloys	43
<i>Shlensky P.S., Dobrushin L.D., Fadeenko Yu.I. and Ventsev S.D.</i> Chambers for explosion welding of metals (Review)	47
To 130th anniversary of the first method of arc electric welding	51

BRIEF INFORMATION

International Scientific-Practical Seminar in Kiev	53
New Book	55