

**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.Makhenko	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 82 77

Fax: (38044) 200 81 45

E-mail: journal@paton.kiev.ua

URL: www.rucont.ru

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**

- Yushchenko K.A., Romanova V.A., Balokhonov R.R.,  
Savchenko V.S., Chervyakov N.O. and Zvyagintseva A.V.*  
Experimental study and modelling of thermal-deformation  
processes occurring in welded joints on nickel superalloys ..... 2
- Kasatkin O.G., Tsaryuk A.K., Skulsky V.Yu., Gavrik A.R.,  
Moravetsky S.I., Nimko M.A., Strizhius G.N., Terovets N.V.,  
Byvalkevich A.I., Nemlej N.V. and Kuran R.I.* Welding from one  
side of clad piping of nuclear power plants ..... 10
- Kulik V.M., Demchenko E.L., Vasiliev D.V. and Elagin V.P.*  
Chromium-manganese consumables for welding of higher-  
strength steels without preheating and heat treatment ..... 15
- Dmitrik V.V. and Syrenko T.A.* To the mechanism of diffusion  
of chromium and molybdenum in the metal of welded joints of  
steam pipelines ..... 20

**INDUSTRIAL**

- «Binzel Ukraine GmbH» — 15 Years of Development: Interview  
with Yu.A. Didus, Director General ..... 25
- Kaleko D.M.* Modern methods of welding aluminium alloys to  
steels (Review) ..... 27
- Lobanov L.M. and Volkov V.S.* Development of the technology  
of manufacturing double-wall welded transformable-shell  
structure ..... 34
- Khorunov V.F., Stefaniv B.E., Sabadash O.M. and Voronov  
V.V.* Peculiarities of wear and criteria of reparability of drill  
bits with diamond-hard-alloy cutters ..... 39
- Murashov A.P.* Thermal spraying of coatings using tips ..... 44
- Protokovilov I.V. and Porokhonko V.B.* Control of formation of  
welded joints in ESW (Review) ..... 49

**NEWS**

- 6 Years Anniversary of Russian-German Regional Laser  
Centres ..... 55
- International Seminar «Materials Science in EU Projects» ..... 59