POKHMURSKIY, V.I.; KARPENKO, G.V.

Effect of high-temperature thermomechanical treatment of steel 45 on its fatigue strength in certain working media. Fiz.-khim. mekh. mat. 1 no.1:49-53 '65. (MIRA 19:1)

1. Fiziko-mekhanicheskiy institut AN UkrSSR, L'vov. Submitted August 3, 1964.

BOLTAROVICH, A.V.; POKHMURSKIY, V.I.; TABINSKIY, K.P.; SHPORTKO, V.P.

Effect of heat treatment on the structure, engineering characteristics and corrosion properties of the VTZ-1 alloy. Fiz.-khim. mekh. mat. 1 no.2:209-213 '65.
(MIRA 18:6)

1. Fiziko-mekhanicheskiy institut AN UkrSSR, L'vov.

POKHMURSKIY, V.I.; BOLTAROVICH, A.V.; BABEY, Yu.I.

Effect of machining on the fatigue strength of Kh17N2 and Kh17N5M3 (SN-3) steels. Fiz.-khim. mekh. mat. 1 no.2:244-246 '65. (MIRA 18:6)

1. Fiziko-mekhanicheskiy institut AN UkrSSR, L'vov.

POKHMURSKIY, V.L.

Effect of thermomechanical processing on the mechanical characteristics of 45, 60C2, and ShKh15 steels. Vilian. rab. sred na avois. mat no.3:63-69 '64. (MIRA 17:10)

L 62531-65 EPF(c)/EWP(z)/EWA(c)/EWT(m)/EWP(t)/T/EWA(d)/EWP(w)/EWP(t) MJW/JD/WB

ACCESSION NR: AP5012654 UR/0369/65/001/002/0209/0213

AUTHOR: Boltarovich, A. V.; Pokhmurskiy, V. I.; Tabinskiy, K. P.; Shportko, V. P.

TITLE: The effect of heat treatment on the structure, mechanical properties and corrosion properties of VTZ-1 alloy

SOURCE: Fiziko-khimicheskaya mekhanika materialov, v. 1, no. 2, 1965, 209-213

TOPIC TAGS: metal mechanical property, corrosion resistance, titanium alloy, heat treatment

ABSTRACT: The effects of heat treatment on the structure, mechanical properties, and corrosion properties of VTZ-1 alloy are studied. Alloy composition: Cu--0.06, Si--0.22, Cr--1.7, Fe--0.32, Al--5.03, N_2--0.032, H_2--0.015, Mo--2.64, Ti--remainder. Tests show that the duration of holding during annealing greatly affects the mechanical properties and corrosion properties of VTZ-1 alloy. At the recommended aging temperature (500°C) a maximum increase in mechanical properties occurs in a comparatively short holding time (nearly 2 hours). The alloy acquires maximum corrosion resistance to sulfuric acid with a second heating for 2-5 hours. The reannealing temperature also greatly affects the mechanical and corrosion properties of the al-

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L 62531-65

ACCESSION NR: AP5012654

loy. The alloy attains maximum mechanical properties and considerable corrosion resistance at an annealing temperature of 600°C. Minimum corrosion resistance is observed after reannealing near 700°C. Orig. art. has: 5 figures, 1 table.

ASSOCIATION: FMI AN UkrSSR, Lvov

SUBMITTED: 07Jan65 ENCL: 00 SUB CODE: MM

NO REF SOV: 003 OTHER: 000

Card 2/2

ACC NR: AP7004183 (N) SOURCE CODE: UR/0369/66/002/006/0661/0663

AUTHOR: Pokhmurskiy, V. I.; Boltarovich, A. V.; Shved, M. M.; Karpenko, G. V.

ORG: Physicomechanical Institute, Academy of Sciences, UkrSSR, L'vov (Fiziko-mekhanicheskiy institut AN UkrSSR)

TITLE: Effectiveness of surface strain hardening in increasing the fatigue and corrosion-fatigue strength of some stainless steels

SOURCE: Fiziko-khimicheskaya mekhanika materialov, v. 2, no. 6, 1966, 661-663

TOPIC TAGS: strain hardening, stainless steel, martensitic ferritic steel, austenitic ~~martensitic stainless~~ steel, precipitation hardening, ~~strain hardened stainless~~ steel, Kh17N2 stainless steel, Kh17N5M3 stainless steel

ABSTRACT:
Specimens of martensitic-ferritic Kh17N2 stainless steel were annealed at 1000C, oil quenched and tempered at 580C; specimens of precipitation-hardenable Kh17N5M3 stainless steel were annealed at 950C, air cooled, refrigerated at -70C, and aged at 450C. The heat-treated specimens were cold rolled to determine the effect of surface strain hardening on the fatigue and corrosion-fatigue strengths. It was found that the fatigue strength of Kh17N2 steel increases slightly (about 10%) with increased pressure of rolling and reaches its maximum at a pressure of about 50 dan. Increasing the pressure to 100 dan caused a sharp decrease in fatigue strength due to peeling and

Card 1/2 UDC: none

ACC NR: AP7004183

laminating of the surface. The rolling pressure magnitude has a similar effect on the corrosion-fatigue strength, which was maximum at about 65 dan. Cold rolling of Kh17N5M3 steel with 100 dan of pressure increases the fatigue strength by 30%, the corrosion-fatigue strength by more than 2.5 times, and the rupture life under high stresses 30—50 times. It is concluded that surface strain hardening is not very effective in increasing the fatigue strength of Kh17N2 steel and high rolling pressures even have a harmful effect. However, this method is very effective for increasing the fatigue strength and, particularly, the corrosion-fatigue strength of Kh17N5M3 steel, in which the strengthening effect increases with increasing rolling pressure. Orig. art. has: 3 figures and 1 table. [TD]

SUB CODE: 11, 13/ SUBM DATE: 14Aug66/ ORIG REF: 007/ ATD PRESS: 5115

Card 2/2

L 11422-66 EWT(d)/EWT(m)/EWP(w)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/EWP(h)/EWP(z)/EWP(b)/EWP(l) MJW/JD/WB

ACC NR: AP6002118 SOURCE CODE: UR/0369/65/001/006/0694/0696

61
59
13

AUTHOR: Pokhmurskiy, V.I.; Boltarovich, A.V.; Tabinskiy, K.P.; Meyerson, I.L.; Karpenko, G.V.

ORG: Physicomechanical Institute, AN UkrSSR, L'vov (Fiziko-mekhanicheskiy institut AN UkrSSR)

TITLE: Effect of certain coatings on the fatigue strength and corrosion-fatigue strength of Kh17N2 steel 44,55, 14 44,55, 14 44,55, 14

SOURCE: Fiziko-khimicheskaya mekhanika materialov, v. 1, no. 6, 1965, 694-696

TOPIC TAGS: fatigue strength, steel, nickel, cadmium, protective coating, organosilicon compound, metal property

ABSTRACT: The fatigue strength and corrosion-fatigue strength of hardened and tempered Kh17N2 steel were measured on NU machines after a nickel-cadmium and protective lacquer coatings (302 lacquer and V-58 material, a solution of an organosilicon polymer in toluene with mineral additives) were deposited on its surface. A 3% NaCl solution was used as the corrosion medium. In the latter, the coatings were found to affect considerably the strength of cyclically deformed steel, particularly at high stress amplitudes and

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2

L 14422-66

ACC NR: AP6002118

2

a small number of cycles. At about 2×10^7 cycles, the best protective effect was shown by the coating of 302 lacquer, but the fatigue strength decreased sharply, owing to a breakdown in the continuity of the coating. The situation was similar in the case of the nickel-cadmium electrodeposit, except that the fatigue limit was lower than with the 302 lacquer. At about 2×10^7 cycles, an extensive attack of the Ni-Cd coating and sharp drop of the limit of corrosion-fatigue strength took place. Deposition of V-58 had practically no effect on the corrosion-fatigue resistance of the steel, owing to the porosity and loose adhesion of this coating. Orig. art. has: 1 figure.

SUB CODE: 11 / SUBM DATE: 20Jun65 / ORIG REF: 003

FW

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L 14419-66 EWP(z)/EWT(m)/EWP(b)/EWA(d)/EWP(t) IJP(c) MJW/JD/JG

ACC NR: AP6002122 (N) SOURCE CODE: UR/0369/65/001/006/0712/0716

AUTHOR: Kaydash, N. G.; Pokhmurskiy, V. I.

ORG: Uman' Pedagogical Institute (Umanskiy pedagogicheskiy institut); Physico-mechanical Institute, AN UkrSSR, L'vov (Fiziko-mekhanicheskiy institut AN UkrSSR)

TITLE: Effect of boronizing on the fatigue strength and corrosion-fatigue strength of steel

SOURCE: Fiziko-khimicheskaya mekhanika materialov, v. 1, no. 6, 1965, 712-716

TOPIC TAGS: steel, fatigue strength, sodium chloride, corrosion protection, boride

ABSTRACT: Boronizing of 45 steel was carried out in a boron carbide-borax mixture containing 16% borax. X-ray analysis, etching in sodium picrate and microhardness measurements showed that the diffusion layers formed consist of FeB (outer layer) and Fe_2B (inner layer). Residual compressive stresses were found to arise in the surface layers of steel 45 as a result of the boronizing. The fatigue strength and corrosion-fatigue strength were studied on 20 steel boronized for 6 hr at 950C. Boronizing increased the fatigue strength in air by about 15%, and the corrosion-fatigue strength in a 3% NaCl solution by 35%. The increase is due to

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L 14419-66

ACC NR: AP6002122

5

the internal compressive stresses in the surface layers of the boronized samples, since these stresses prevent the generation and development of fatigue cracks; it is also caused by the greater corrosion resistance of the boride coatings. Metallographic analysis following the corrosion-fatigue tests showed that the attack of the samples usually begins under the diffusion layer, i.e., the fatigue cracks are generated in the zone of action of maximum stretching stresses. Orig. art. has: 4 figures and 1 table.

SUB CODE: 11 / SUBM DATE: 15Jun65 / ORIG REF: 009

Card 2/2 10

L 04781-67 EWP(e)/EWT(m)/EWP(t)/ETI IJP(c) JD
ACC NR: AP6023444 (N) SOURCE CODE: UR/0369/66/002/003/0295/0299

AUTHOR: Kaydash, N. G.; Nelyub, M. G.; Baranova, Z. I.; Pokhmurskiy, V. I. 51 B

ORG: Uman' Pedagogical Institute (Umanskiy pedagogicheskiy institut); Physico-Mechanical Institute, AN UkrSSR, L'vov (Fiziko-mekhanicheskiy institut AN UkrSSR)

TITLE: Effect of boronizing, borosiliconizing, calorizing and borocalorizing on the corrosion resistance of steel

SOURCE: Fiziko-khimicheskaya mekhanika materialov, v. 2, no. 3, 1966, 295-299

TOPIC TAGS: BORON, SILICON, photocolorimeter, metal coating, corrosion resistance, fatigue strength / FEK-M photocolorimeter, steel 45, steel 20

ABSTRACT: The effect of each of these types of the surface impregnation of steel was investigated with respect to such properties of steel 45 as corrosion resistance, fatigue strength and corrosion-fatigue strength. Boronizing was accomplished in a mixture of boron carbide and borax and of crystalline silicon with ammonium chloride; calorizing, in a mixture of ferroaluminum and ammonium chloride; and boronizing-calorizing and calorizing-boronizing, in boronizing and calorizing mixtures (G. V. Zemskov, N. G. Kaydash, MiTOM,

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1964, no. 3; 1965, no. 5). The steel specimens thus treated were tested for corrosion in freshly prepared 10% aqueous solutions of table salt, NaOH, HCl, H_2SO_4, HNO_3 and phosphoric acid, with subsequent analysis of the spent solutions for Fe and diffusing elements (B, Al, Si) and visual observation of corrosion damage to the specimens (cracks, pits and peeling of the diffusion layer from the base metal). Quantitative analysis was performed with the aid of a FEK-M photocolorimeter. Findings: diffusion boronizing, borosiliconizing, calorizing and borocalorizing all enhance the corrosion resistance of 45 steel in 10% aqueous solutions of the aforementioned aggressive media. In the NaCl solution the corrosion resistance of steel is best enhanced by calorizing, calorizing-boronizing and boronizing; in the NaOH solution, by calorizing, boronizing, borosiliconizing, and boronizing-calorizing; in the HCl solution, by borosiloconizing, boronizing, and calorizing-boronizing. Considering that many work parts perform under loads while being exposed to aggressive media, the effect of these types of surface treatment on the fatigue and corrosion-fatigue strength of steel 20 was also investigated and it was found that boronizing and borosiliconizing enhance the fatigue limit of the steel in corrosive media by as much as 35 and 80%, respectively. Boronized specimens display a higher corrosion resistance and lower corrosion-fatigue strength than borosiliconized specimens. This indicates that for diffusion coatings -- at least for those of the boride type -- there does not exist a correlation between the corrosion resistance of metals in nonstressed state and their corrosion-fatigue strength. Orig. art. has: 1 figure, 2 tables.

SUB CODE: 13, 11, 20/ SUBM DATE: 26Jan66/ ORIG REF: 009

LOPUSHANSKIY, A.I.; DENISENKO, V.P.; POKHMURSKAYA, M.V.

Polarographic properties of diquaternary ammonium derivative of ethylenediamine with activated C-N bonds. Zhur.ob.khim. 33 no.3:728-731 Mr '63. (MIRA 16:3)

1. Chernovitskiy meditsinskiy institut.
(Ammonium compounds) (Ethylenediamine) (Polarography)

LOPUSHANSKIY, A.I.; POKHMURSKAYA, M.V.

Polarographic study of hexamethylene-1,6-bis-dimethylamine.
Zhur.ob.khim. 32 no.10:3135-3137 O '62. (MIRA 15:11)

1. Chernovitskiy meditsinskiy institut.
(Dimethylamine) (Polarography)

L 37943-66 EWT(m)/EWP(w)/T/EWP(t)/ETI IJP(c) JD/WB

ACC NR: AP6023446 SOURCE CODE: UR/0369/66/002/003/0304/0307

AUTHOR: Smirnov, V. V.; Pokhmurskiy, V. I.; Boltarovich, A. V.

ORG: Physicomechanical Institute, AN UkrSSR, L'vov (Fiziko-mekhanicheskiy institut AN UkrSSR)

TITLE: Physicomechanical and corrosion properties of heat-resistant EP-479 stainless steel

SOURCE: Fiziko-khimicheskaya mekhanika materialov, v. 2, no. 3, 1966, 304-307

TOPIC TAGS: stainless steel, heat resistant steel, chromium steel, nickel containing steel, manganese containing steel, silicon containing steel, molybdenum containing steel, nitrogen containing steel, steel property/EP 479, Kh17N2 steel

ABSTRACT: The new EP-479 stainless steel, containing 0.12—0.18% C, 15—16.6% Cr, 2—2.5% Ni, 0.6% max Mn, 0.6% max Si, 1.2—1.5% Mo, and 0.05—0.10% N_2, is intended for parts used in the chemical and aircraft industry operating at temperatures up to 500C and was developed as a substitute for Kh17N2 steel, which is not suitable for operation at temperatures above 400C. The best combination of properties in EP-479 steel is achieved by annealing at 1040C followed by oil quenching and tempering at 570 or 650—680C. At 20, 400, or 500C, EP-479 steel has a respective tensile strength of 120, 98, and 80 dan/mm^2; a yield strength of 90, 80, and 70 dan/mm^2; an elongation of 12, 14, and 12%; a reduction of area of 50, 60, and 65%; and

Card 1/2

POKHNO, M.M.

Electrophoretic study of protein fractions of blood serum in donors.
Vrach.delo no.5:531 My '57. (MLRA 10:8)

1. Kafedra fakul'tetskoy khirurgii lechebnogo fakul'teta (zav. - prof. M.P.Sokolovskiy) Odesskogo meditsinskogo instituta
(ELECTROPHORESIS) (BLOOD PROTEINS)

POKHNO, M.M. (Cherkassy, per. Shchorsa, d.12)

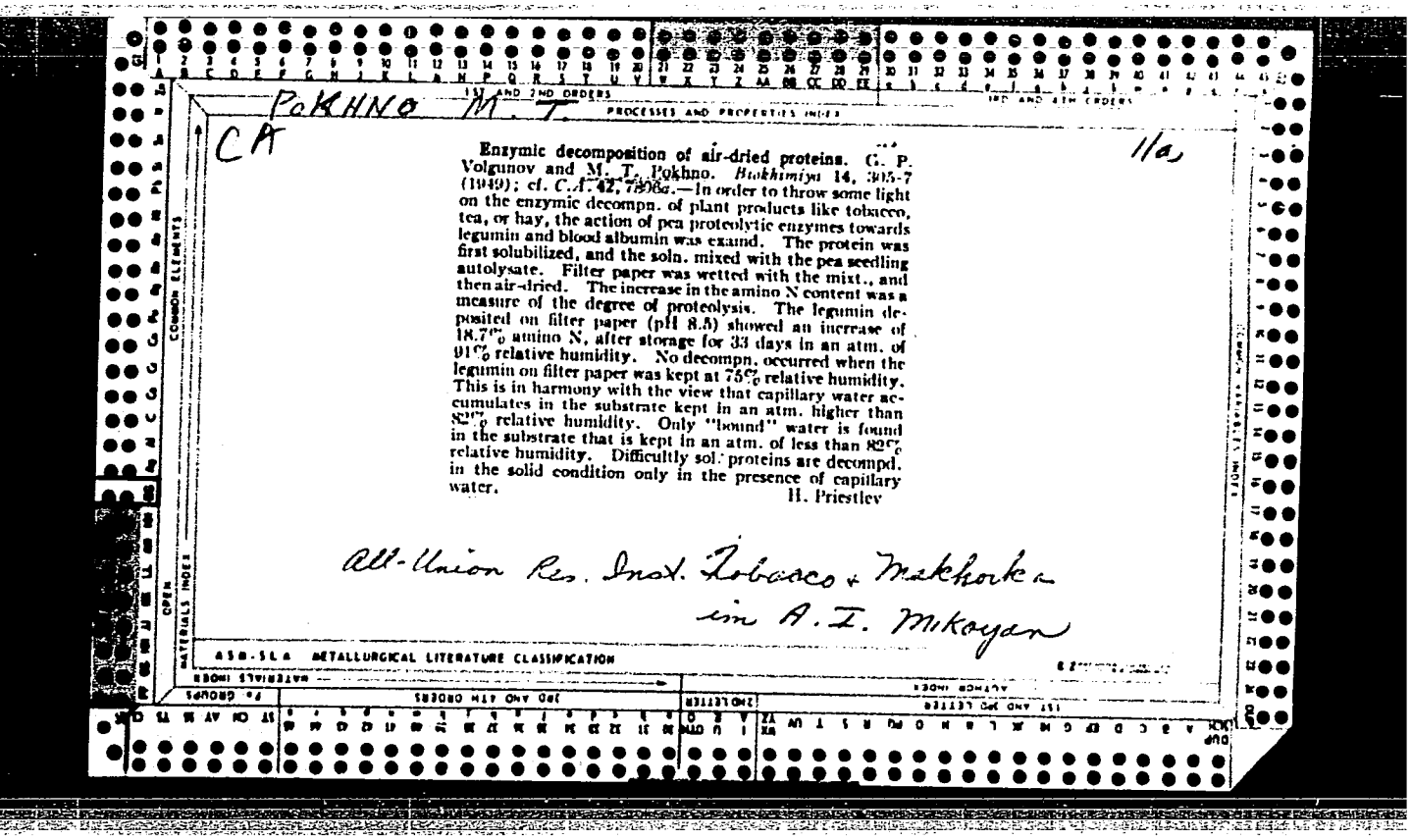
Electrophoretic study of blood protein fractions in endarteritis obliterans before and following intravenous infusion of distilled water by Sokolovskii's method. Nov.khir.arkhn. no.6:51-53 N-D '57. (MIRA 11:3)

1. Kafedra fakul'tetskoy khirurgii (zav. - prof. M.P.Sokolovskiy) lechebnogo fakul'teta Odesskogo meditsinskogo instituta.

(BLOOD PROTEIN) (ARTERIES--DISEASES)
(WATER, DISTILLED--THERAPEUTIC USE)

POKHNO, M. M.

Cand Med Sci - (diss) "Role of protein fractions of serum and cholesterol of the blood in the pathogenesis of obliterating endarteritis." Stalino, 1961. 20 pp; (Ministry of Public Health Ukrainian SSR, Stalinskiy State Med Inst imeni M. Gor'kiy); 270 copies; price not given; (KL, 6-61 sup, 239)



Pokhno M. T.

CA

11a

Enzymic decomposition of air-dried proteins. G. P. Volgunov and M. T. Pokhno. *Biokhimiya* 14, 305-7 (1949); cf. *C.A.* 42, 7906a.—In order to throw some light on the enzymic decompn. of plant products like tobacco, tea, or hay, the action of pea proteolytic enzymes towards legumin and blood albumin was exaind. The protein was first solubilized, and the soln. mixed with the pea seedling autolysate. Filter paper was wetted with the mixt., and then air-dried. The increase in the amino N content was a measure of the degree of proteolysis. The legumin deposited on filter paper (pH 8.5) showed an increase of 18.7% amino N, after storage for 33 days in an atm. of 91% relative humidity. No decompn. occurred when the legumin on filter paper was kept at 75% relative humidity. This is in harmony with the view that capillary water accumulates in the substrate kept in an atm. higher than 82% relative humidity. Only "bound" water is found in the substrate that is kept in an atm. of less than 82% relative humidity. Difficultly sol. proteins are decompd. in the solid condition only in the presence of capillary water.

H. Priestley

All-Union Res. Inst. Tobacco & Makhorka im A. I. Mikoyan

CA POKHNO M. T.

77

Effect of substrate moisture on the formation of melanoid substances. G. P. Volgunov and M. T. Pokhno (Tobacco Inst., Krasnodar). *Biokhimiya* 15, 67–74(1950).—The quality of tobacco is in part judged by its color. One of the sources of color may be the formation of melanoid substances by the condensation of sugars with amino acids. Filter paper and asbestos were impregnated with the soln. of a sugar (glucose, fructose) and an amino acid (glycine, tyrosine). Color formation, along with changes in the amino N content and reducing power of sugars, were observed under conditions of temp. (21 and 67°), relative humidity, and in the presence or absence of O. Melanoid formation proceeded more energetically in an atm. of 45–91% relative humidity than in an aq. medium. The color was more intense under aerobic conditions. H. P.

BOCHVAR, O.S.; POKHODAYEV, K.S.

Constitutional diagram of the system Al - Cu - Cd. Issl. splav. tsvet. met. no.3:93-97 '62. (MIRA 15:8)
(Aluminum-copper-cadmium alloys--Metallography)
(Phase rule and equilibrium)

YOKHODAYEV, K. S.

Dissertation: "Phase Transformation in Steel During Heating by Electric Current." Cand Tech Sci, Moscow Aviation Technological Institute, 30 Jun 54. (Vechernyaya Moskva, 22 Jun 54)

SO: SUM 318, 23 Dec 1954

POKHODAYEV, K. S.

the temp measuring device ... speed of heating ranged from 10 to 2250°/sec. It was found that high heating speeds sharply accelerated the transformation. The initial structure was ... increasing the heating ... effects. The transformation temps for steel ... from about 730° at 10°/sec. to about 840° at 2250°/sec. heating speed. Analogous effects were found for other ...

ROSTOVTSEV, G.N., kand.tekhn.nauk; POKHODAYEV, K.S., kand.tekhn.nauk;
RESHCHIKOV, Yu.P., inzh., GOLOVIN, B.I., inzh.

Certain structural improvements in P-5 tensile testing machines for short time testing at high temperatures. Trudy MATI no.43:131-135 '60. (MIRA 13:7)

(Testing machines)

S/689/61/000/000/021/030
D205/D303

AUTHORS: Bochvar, O.S., and Pokhodayev, K.S.

TITLE: The mechanical properties of wire and rivets of the M40 (M40) alloy

SOURCE: Fridlyander, I.N., V.I. Dobatkin, and Ye.D. Zakharov, eds. Deformiruyemyye alyuminiyevyye splavy; sbornik statey, Moscow, 1961, 158 - 163

TEXT: It was shown that only accelerated ageing can strengthen the M40 alloy, while natural ageing had no influence on the mechanical properties. This alloy also possesses a high plasticity. The mentioned properties make it suitable for rivetting material. The present work is concerned with the evaluation of this suitability. It was preliminarily established that the best mechanical properties are obtained after hardening from 480 - 510°C, after 15 minutes heating. Technological tests of 1000 rivets made of the alloy have shown that they have good technological properties in all states: non-hardened,

Card 1/2

S/689/61/000/000/021/030
D205/D303

The mechanical properties of wire ...

hardened and naturally aged. The best schedule of the thermal treatment is hardening from 510°C into cold water. The good mechanical properties for rivetting are preserved at 250°C. There are 6 tables.

Card 2/2

L 29793-66 EWT(m)/[illegible] IJP(c) JD/GD/JH

ACC NR: AT6016412 (A) SOURCE CODE: UR/0000/65/000/000/0070/0077

39
B+1

AUTHORS: Bochvar, O. S.; Pokhodayev, K. S.

ORG: none

TITLE: Crystallization process and phase composition of alloys of the system aluminum-copper-lithium

SOURCE: AN SSSR. Institut metallurgii. Metallovedeniye legkikh splavov (Metallography of light alloys). Moscow, Izd-vo Nauka, 1965, 70-77

TOPIC TAGS: alloy phase diagram, aluminum alloy, crystallization, copper alloy, lithium alloy

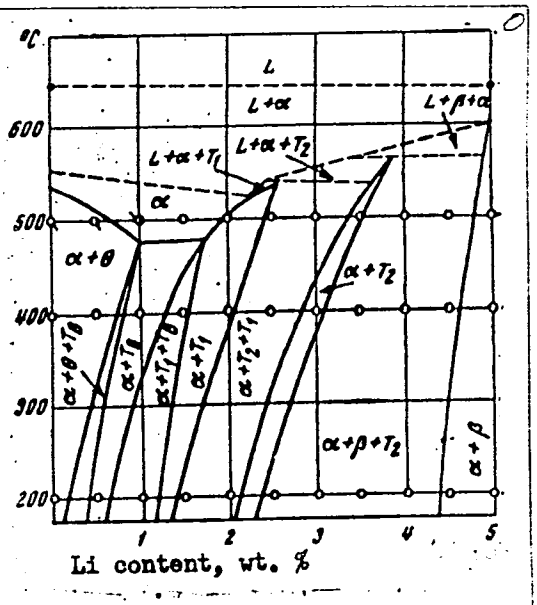
ABSTRACT: The phase composition of the system Al—Cu—Li in the high Al concentration region was determined. The phase diagrams were determined on the basis of cooling curves and microstructural analysis, and the experimental results are shown graphically (see Fig. 1). In addition to the phase θ and β, there exist three tertiary phases: T_B, T_1, and T_2 in the Al—Cu—Li system which are formed as the result of peritectic reactions.

Card 1/2

L 29793-66

ACC NR: AT6016412

Fig. 1. Vertical cross section of the diagram Al—Cu—Li for a constant Al composition of 95%, (Variables, Cu and Li).



Orig. art. has: 1 table and 6 figures.

SUB CODE: 11/ SUBM DATE: 16Sep65/ ORIG REF: 003/ OTH REF: 002

Card 2/2

L 29799-66 EWT(m)/EWP(t)/ETI IJP(c) JD/GD

ACC NR: AT6016414 (A) SOURCE CODE: UR/0000/65/000/000/0088/0092

AUTHORS: Bochvar, O. S.; Pokhodayev, K. S. 34 B71

ORG: none

TITLE: Solubility of copper and cadmium in aluminum

SOURCE: AN SSSR. Institut metallurgii. Metallovedeniye legkikh splavov (Metallography of light alloys). Moscow, Izd-vo Nauka, 1965, 88-92

TOPIC TAGS: alloy phase diagram, aluminum containing alloy, copper containing alloy, cadmium containing alloy, solubility

ABSTRACT: The simultaneous solubility of copper and cadmium in aluminum was determined at 400, 500, and 530C. The solubility was determined on the basis of microstructural analysis and electrical conduction data. On the basis of the experimental data, the phase diagrams for the system at 400, 500, and 530C were determined (see Fig. 1). The simultaneous presence of copper and cadmium decreases their solubility in solid aluminum.

Card 1/2

L 40330-66 EWT(m)/EWP(t)/ETI/EWP(k) IJP(c) JD/HW

ACC NR: AP6014114 SOURCE CODE: UR/0370/65/000/006/0092/0096

AUTHORS: Bochvar, O. S. (Moscow); Pokhodayev, K. S. (Moscow); Badayev, V. G. (Moscow)

ORG: none

TITLE: Effects of cyclic heat loads on irreversible geometric changes of alloy VAD23 sheet metal

SOURCE: AN SSSR. Izvestiya. Metally, no. 6, 1965, 92-96

TOPIC TAGS: metal property, electric conductivity, specific volume, metal heat treatment, metal aging, sheet metal / VAD23 sheet metal

ABSTRACT: The changes in geometry, electric conductivity, and specific volume as a function of thermal cycling of alloy VAD23 sheet metal were investigated and compared with "equivalent" steady-state heat-treated specimens and with specimens which had been artificially aged before testing. The specimens (100 x 35 x 3.3 mm) were heated from 20 to 150C in 60 seconds, cooled in water to 20C, and kept at 20C for 30 seconds before recycling. "Equivalent" heat treatment consisted of keeping the specimens at 150C for the same period of time which they spent at 140--150C during the cyclic loading. It was found that the longitudinal and lateral deformations increased with the number of cycles, reaching a maximum of 78 and 36 μ

Card 1/2 UDC: 669.715

L 40330-66

ACC NR: AP6014114

respectively (8 and 9.5% elongation) after 2000 cycles and remaining constant thereafter. "Equivalent" heat treatment showed identical behavior but reached steady state after an "equivalent" 3000 cycles. The specific volume increased by a maximum of 0.248% after 2000 cycles and after an "equivalent" 1000 cycles. The electric conductivity continued increasing with number of cycles but increased faster for the "equivalent" treatment (a table is presented). It was found that artificial aging at 165C for 12 hours resulted in specimens which were unaffected by cyclic or "equivalent" heat treatment. Orig. art. has: 3 figures and 1 table.

SUB CODE: 11, 13/ SUBM DATE: 29Jul65/ ORIG REF: 009/ OTH REF: 001

Card 2/2 MCP

L 42914-66 EWT(m)/T/EWP(t)/ETI IJP(c) JH/JD

ACC NR: AP6028588 SOURCE CODE: UR/0129/66/000/008/0035/0037

AUTHOR: Pokhodayev, K. S.; Badayev, V. G.

ORG: none

TITLE: Effect of thermal cycles on the dimensional stability of D16 alloy specimens

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 8, 1966, 35-37

TOPIC TAGS: aluminum alloy, ~~aluminum alloy dimensional stability~~, ~~cyclic~~ heat treatment/D16 alloy

ABSTRACT: D16T, D16T1, and D16TN alloy sheet specimens 100 x 35 x 3 mm, cut along and across the direction of rolling, were subjected to cyclic thermal treatment (CTT), heating to 150C in 60 sec followed by water quenching to room temperature and holding for 30 sec. Simultaneously, identical series of specimens were subjected to an equivalent treatment, aging at 150C with holding for a time equal to the total time of a certain number of cycles. The CTT of D16 alloy increased the length of longitudinal and transverse specimens. The equivalent treatment increased the length of longitudinal and decreased the length of transverse specimens. In D16T1 and D16TN, both types of treatment elongated the longitudinal specimens and shortened the transverse specimens. The effect was less pronounced than that in D16 alloy. Thus, CTT produces a change in the specimen dimensions, but the magnitude and sign of the change depend

Card 1/2 UDC: 669.71:621.78

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341620007-7

Card 2/2 MLP

1.2300

S/536/61/000/050/014/017
D217/D304

AUTHORS: Bochvar, O.S., and Pokhodayev, K.S., Candidates of Technical Sciences, Docents

TITLE: Influence of type of welding material used in hand argon arc welding on the properties of welds made in the alloy M40

SOURCE: Moscow. Aviatsionnyy tekhnologicheskiy institut. Trudy, no. 50, 1961, Voprosy metallovedeniya, 147-155

TEXT: Difficulties occasionally arise in the hand welding of structures made of the thermally strengthened alloy M40. They consist in the fact that on straightening complex, rigid welded structures, having a large number of crossing and parallel joins, cracking occurs in the zone in which the basis metal was melted. M40 wire was used as the welding material for the operation. Welding of this material was carried out under the direction of V.A. Pokrovskiy. In order to prevent crack formation during

Card 1/3

Influence of type of welding ...

straightening, welding conditions have to be chosen, under which the plasticity of the welded joint should increase without subsequent heat treatment. This problem was solved by the choice of a new welding material which increases the plasticity of the join without diminishing the strength. The alloys AMU (AMTs), AMg5 (AMg5) and AMg 6 (AMg6) were tested as weld materials. The structure and strength of the welded joins were investigated. It was found that the welded join exhibited high strength under all conditions of testing. The use of alloys AMg5 and AMg6 as weld materials results in practically identical strength both at room and at elevated temperatures. As compared with automatic welding, hand welding gives a U.T.S. of 2.3 kg/mm^2 less at all temperatures investigated. The application of alloys AMts, AMg5 and AMg6 as weld materials considerably increased the angle, through which welded joins made in alloy M40 can be bent. Peening of the welded join on straightening the specimens reduces the angle of bend somewhat. It is concluded that the angle of bend, as well as the U.T.S. at room temperature is determined not by the width of the molten zone, but by the degree to which the

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S/536/61/000/050/015/017
D217/D304

AUTHORS: Bochvar, O.S. and Pokhodayev, K.S., Candidates of Technical Sciences, Docents

TITLE: Influence of the conditions of automatic argon arc welding on the properties of welds made of the alloy M40

SOURCE: Moscow. Aviatsionnyy tekhnologicheskiy institut. Trudy, no. 50, 1961, Voprosy metallovedeniya, 156-164

TEXT: In this article, the results of investigating the structure and properties of welded joins made by automatic argon arc welding, using alloys M40 and AMg6 (AMg6) as weld material, are reported. The specimens were welded after full heat treatment, (quenching from 500°C and ageing at 150°C for 10 hours). The material was tested in two states, as quenched and aged (M40-T1) and as cold worked after quenching (M40-TN1). Automatic argon arc welding was carried out with M40, using AMg6 alloy welding rods. The structure and strength of the latter at room

Card 1/3

Influence of the conditions ...

temperature and the strength of M40 alloy at elevated temperatures were investigated. The influence of temporary heating on the strength of the welding material at room temperature, and the plasticity of the components welded by automatic argon arc welding was studied. It was found that on welding the alloy M40, structural changes in the cold worked zone lead to the formation of two weakened portions, these being the zones, in which alloying occurs between the basis metal and the weld metal. Other portions were also weakened as a result of high temperature tempering in the zone of thermal influence. The weakened portions determine the strength of the welded joint. At room temperature the strength of the join is limited by the zone, in which alloying has occurred, and at 200-250°C it is limited by the other weakened portions. The strength of the welded join at room temperature is 34-36 kg/mm^2, which is 80-90% of the strength of the artificially aged basis material. Cold-worked sheets of M40 alloy in the welded condition have the same strength as undeformed sheet. At elevated temperatures (200-300°C), the strength of the welded join attains that of the undeformed basis material. Heating for up to 10 hours does not noticeably change the strength of

Card 2/3

ACC NR: AT6036421 SOURCE CODE: UR/2536/66/000/066/0123/0127

AUTHOR: Bochvar, O S. (Doctor of technical sciences); Pokhodayev, K. S. (Candidate of technical sciences); Badayev, V. G. (Engineer)

ORG: none

TITLE: Cross section of the constitution diagram of the Al-Cu-Cd-Mn system with fixed Mn content at 500°C

SOURCE: Moscow. Aviatsionnyy tekhnologicheskiy institut. Trudy, no. 66, 1966. Struktura i svoystva aviatsionnykh staley i splavov (Structure and properties of aircraft steels and alloys), 123-127

TOPIC TAGS: alloy phase diagram, quaternary alloy, aluminum base alloy, copper containing alloy, cadmium containing alloy, manganese containing alloy

ABSTRACT: The isothermal model of the four-component constitution diagram of the Al-Cu-Cd-Mn system (Fig. 1) represents a tetrahedron whose apices correspond to 100% content of the system's components and edges and sides represent isothermal sections of the corresponding two- and three-component systems. Alloys containing the same amount of Mn

 UDC: 669.017:669.71'3'862'74

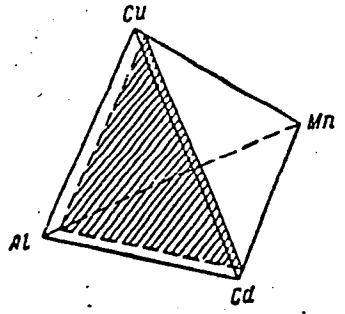
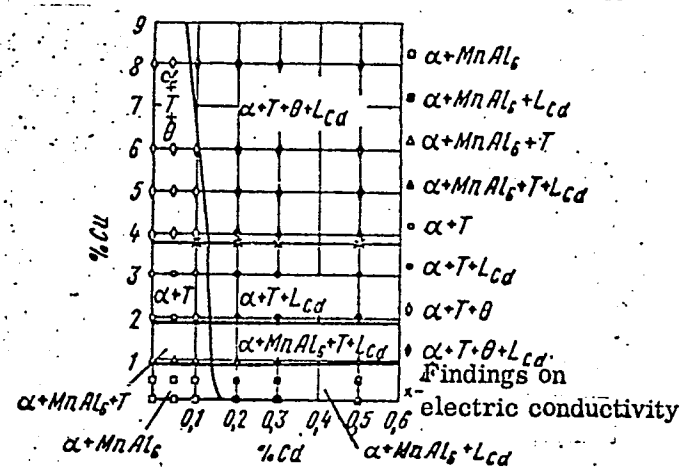


Fig. 1. Isothermal model of the constitutuion diagram of the Al-Cu--Cd-Mn system

correspond to the geometrical locus of points located within the tetrahedron and equidistant from the Al-Cu-Cd side. Such a geometrical locus is represented by a plane parallel to this side (In Fig. 1 this plane is indicated by the hatched area). The article deals with the phase competition and structure of alloys of the aluminum corner of the Al-Cu-Cd-Mn system at 500°C and given a fixed content of Mn (0.7%). Alloys containing up to 8.0% Cu and up to 0.5% Cd were investigated, on being prepared by adding Al-Cu and Al-Mn alloys and pure Cd to molten Al and casting this mixture into massive copper chill molds at 720°C, homogenizing

ACC NR: AT6036421



Findings on electric conductivity

Fig. 3. Sectional diagram of the isothermal model of the constitution diagram of the Al-Cu-Cd-Mn system at 500°C and in the presence of a fixed Mn content (0.7%)

Card. 4/6

ACC NR: AT6036421

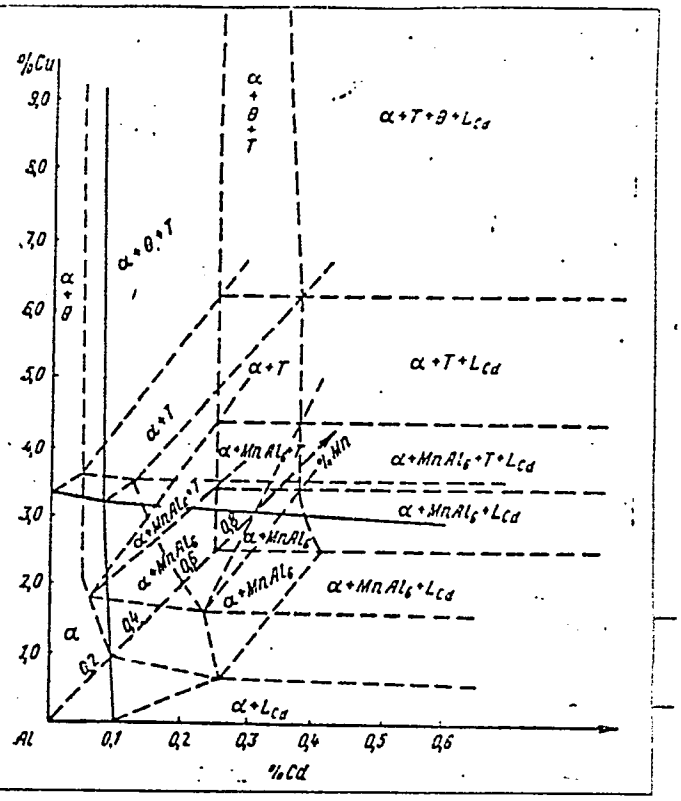


Fig. 4. Isothermal model of the Al corner of the Al-Cu-Cd-Mn constitution diagram at 500°C

Card 5/6

AKSEL'RUD, G.A.; POKHODENKO, L.A.

Kinetics of the extraction of a solid from a single capillary. Zhur. fiz. khim. 38:2971-2974 D '64. (MIRA 18:2)

1. L'vovskiy politekhnicheskiy institut.

KULIKOV, A.Ye.; BORZENKO, V.A.; POKHODENKO, N.T.

Nomogram for calculating hydraulically relieved end packing. Mash. i neft. obor. no.6:38-39 '65. (MIRA 18:7)

1. Bashkirskiy nauchno-issledovatel'skiy institut po pererabotke nefti, Ufa.

BUCHACHER, Ye.A.; NEYAGLOV, A.V.; POKHODENKO, N.T.; SHEMYAKIN, A.A.

Improved bydraulic systems for the double end packing of centrifugal pumps. Mash. i neft. obor. no.4:7-10 '64. (MIRA 17:6)

1. Bashkirskiy nauchno-issledovatel'skiy institut po p ererabotke nefti.

BUCHACHER, Ye.A.; NEYAGLOV, A.V.; POKHODENKO, N.T.; SHEMYAKIN, A.A.

Hydraulic systems of double end packing for centrifugal pumps. Trudy BashNII NP no.7:62-67 '64. (MIRA 17:9)

BRODSKIY, A.I.; POKHODENKO, V.D.; GAN YUK, L.N.

Study of the transformations of radicals during the oxidation of 2,6-di-(1,1'-dimethylalkyl)-4-methylphenols. Zhur.strukt.khim. 4 no.2:210-215 Mr-Ap '63. (MIRA 16:5)

1. Institut fizicheskoy khimii imeni L.V.Pisarzhevskogo AN UkrSSR, Kiyev.

(Phenol) (Oxidation) (Radicals (Chemistry))

POKHODENKO, V.D.; GANYUK, L.N.; BRODSKIY, A.I.

Radicals, products of the thermal decomposition of substituted cyclohexadienone peroxide. Dokl. AN SSSR 149 no.2:321-323 Mr '63. (MIRA 16:3)

1. Institut fizicheskoy khimii im. L.V.Pisarzhevskogo AN UkrSSR.
2. Chlen-korrespondent AN SSSR (for Brodskiy).
(Cyclohexadienone) (Radicals (Chemistry))

POKHODENKO, V.D.; GANYUK, L.N.; YAKOVLEVA, Ye.A.; SHATENSHTEYN, A.I.; BRODSKIY, A.I.

Electron paramagnetic resonance spectrum and the rearrangement of the radical formed during the oxidation of ionol-CD_3. Dokl. AN SSSR 148 no.6:1314-1315 F '63. (MIRA 16:3)

1. Institut fizicheskoy khimii im. L.V.Pisarzhevskogo AN UkrSSR i Fiziko-khimicheskiy institut im. L.Ya.Karpova. 2. Chlen-korrespondent AN SSSR (for Brodskiy).
(Cresol--Spectra) (Rearrangements (Chemistry)) (Deuterium)

ARUTYUNOV, N.B., inzh., red.; VOSKOBOYNIKOV, V.G., doktor tekhn. nauk, red.; GOTLIB, A.D., prof., doktor tekhn.nauk, red.; GUSOVSKIY, A.A., inzh., red.; KRASAVTSEV, N.I., kand. tekhn. nauk, red.; NEKRASOV, Z.I., akademik, red.; OSTROUKHOV, M.Ya., kand. tekhn. nauk, red.; POKHVISNEV, A.N., prof., doktor tekhn.nauk, red.; RAMM, A.N., prof., doktor tekhn. nauk, red.; TSYLEV, L.M., prof., doktor tekhn. nauk, red.; POZDNYAKOV, G.L., red. izd-va; ISLENT'YEVA, P.G., tekhn. red.

[Blast furnace process according to most recent developments; on the 100th. anniversary of Academician M.A.Pavlov's birth] Domennyi protsess po noveishim issledovaniiam; k 100-letiiu so dnia rozhdeniia akad. M.A.Pavlova. Moskva, Metallurgizdat, 1963. 325 p. (MIRA 16:8)

1. AN Ukr.SSR (for Nekrasov).
(Blast furnaces)
(Pavlov, Mikhail Aleksandrovich, 1863-1958)

S/020/63/148/006/016/023
B117/B186

AUTHORS: Pokhodenko, V. D., Ganyuk, L. N., Yakovleva, Ye. A., Shatenshteyn, A. I., Brodskiy, A. I., Corresponding Member AS USSR

TITLE: E.p.r. spectrum and rearrangement of the radical forming during the oxidation of ionone-CD_3

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 148, no. 6, 1963, 1314 - 1315

TEXT: Experiments with a tagged para-methyl group were made in order to prove the rearrangement of the phenoxy radical (I) in benzyl radical (II) which was observed during the oxidation of 2.6-di-tert-butyl-4-methylphenol (ionone) by means of deuterium tagging. Ionone with deuterium in the methyl group was obtained by hydrogen isotopic exchange with the KND_2 solution in liquid ND_3 under comparatively rigid conditions. Ionone-CD_3 (0.1 M solution in C_6H_6) turns yellow during the oxidation with PbO_2 in vacuo. In the infra-red spectra of the oxidized ionone-CD_3, dissolved in CCl_4, not only the frequencies corresponding to the phenol and the C=O group

(1610 cm^{-1}) were observed, but also a band (2692 cm^{-1}) corresponding to the OD group which confirms the regrouping (I)→(II). The e.p.r. spectrum of the phenoxy radical of ionone-CD_3 was found to consist of 9 lines. Intensity ratio of these lines: 1:4.4:13:23:26:23:13:4.5:1; the splitting between the components is equal and is a_1 = 1.8 oe. This spectrum corresponds to that determined previously for the phenoxy radical of ionone-CH_3 (A. I. Brodskiy, V. D. Pokhodenko, L. N. Ganyuk, Zhurn. strukturn. khim (in press); A. L. Buchachenko, M. B. Neyman, DAN, 139, 916 (1961)). In the case of continuous oxidation it is not changed, as was observed in the spectrum of the phenoxy radical of ionone-CH_3. After 1.5 hr it passes into a singlet with a width of 2.4 oe. There is 1 figure.

ASSOCIATION: Institut fizicheskoy khimii im. L. V. Pisarzhevskogo Akademii nauk USSR (Institute of Physical Chemistry imeni L. V. Pisarzhevskiy of the Academy of Sciences UkrSSR); Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physicochemical Institute imeni L. Ya. Karpov)

SUBMITTED: November 4, 1962

L 29343-66 EWP(j)/EWT(m)/T IJP(c) RM/WW/JW

ACC NR: AP6018594 SOURCE CODE: UR/0379/66/002/002/0234/0239

43
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B

AUTHOR: Pokhodenko, V. D.; Bidzilya, V. A.

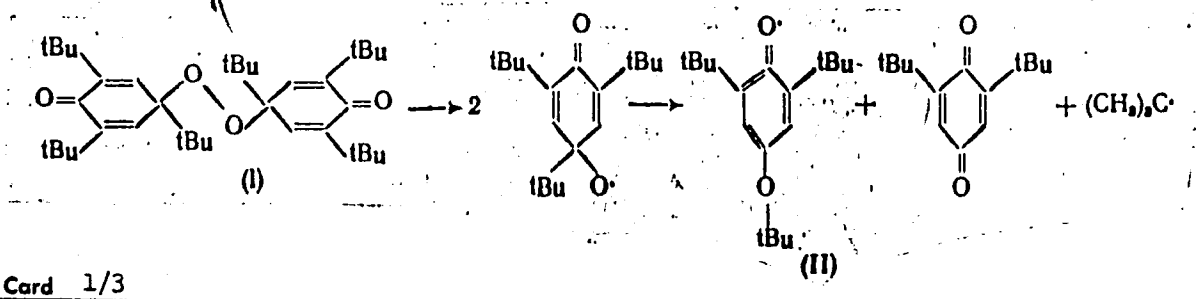
ORG: Institute of Physical Chemistry im. L. V. Pisarzhevskiy, AN UkrSSR (Institut fizicheskoy khimii AN UkrSSR)

TITLE: Reaction of 2,6-di-tert-butyl-4-(butoxy)phenoxy and diphenylnitrogen radicals with molecules containing the NH and OH groups

SOURCE: Teoreticheskaya i eksperimental'naya khimiya, v. 2, no. 2, 1966, 234-239

TOPIC TAGS: hindered phenol, oxidation inhibitor, electron paramagnetic resonance

ABSTRACT: The thermal decomposition of bis(1,3,5-tri-tert-butyl-2,5-cyclohexadiene-4-one) peroxide (I) to form 2,6-di-tert-butyl-4-(butoxy)phenoxy radicals (II),



(I) (II)

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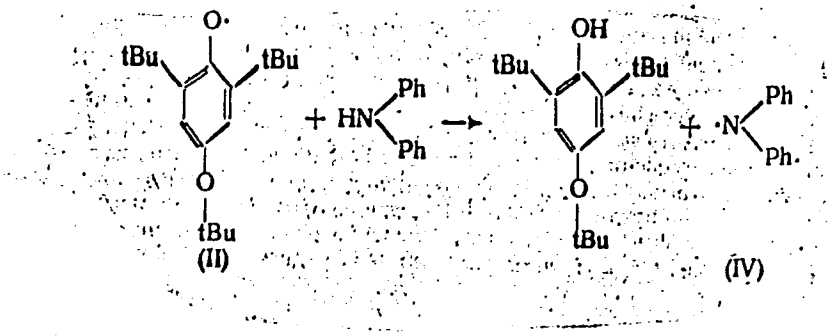
and the reactivity of these radicals (II) were studied by EPR spectroscopy. It is noted that the study of the reactivity of radicals formed by oxidation of hindered phenols is of both theoretical and practical interest in view of the use of these phenols as oxidation inhibitors. The thermal decomposition of I was carried out in xylene solution at 80—100C. It was found that the thermal decomposition was a first-order reaction. It was also found that radicals (II) react with diphenylamine and 2,6-di-tert-butyl-4-methylphenol (Ionol), abstracting the hydrogen of their hydroxy groups, e.g.,



L 29343-66
ACC NR: AP6018594

The reverse reaction, viz., the abstraction of hydrogen by the diphenylnitrogen radical from the hydroxy groups of hindered phenols to form the corresponding phenoxy radicals was also found to occur. In this case, the diphenylnitrogen radical was prepared by the thermal dissociation of tetraphenylhydrazine in organic solvents at 100C. Orig. art. has: 3 figures. [SM]

SUB CODE: 07, 20 SUBM DATE: 20May65/ ORIG REF: 008/ OTH REF: 013/ ATD PRESS: 5009

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L 29342-66 EWP(j)/EWT(m)/T IJP(c) RM
ACC NR: AP6018595 SOURCE CODE: UR/0379/66/002/002/0240/0246

AUTHOR: Pokhodenko, V. D.; Khizhnyy, V. A.; Yershov, V. V.; Nikoforov, G. A. 42 B

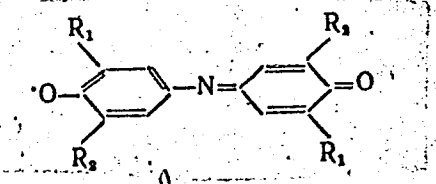
ORG: Institute of Physical Chemistry im. L. V. Pisarzhevskiy, AN UkrSSR, Kiev (Institut fizicheskoy khimii AN UkrSSR)

TITLE: EPR spectra and behavior of substituted indophenoxy radicals

SOURCE: Teoreticheskaya i eksperimental'naya khimiya, v. 2, no. 2, 1966, 240-246

TOPIC TAGS: hindered phenol, oxidation inhibitor, electron paramagnetic resonance

ABSTRACT: A study has been made of the EPR spectra and the structure of substituted (with CH_3, iso-C_3H_7, tert-C_4H_9, tert-C_5H_{11}, cyclohexyl) indophenoxy radicals



formed on oxidation of the indophenols. It is noted that hindered phenols are widely used as oxidation inhibitors for polymers. It was found that the impaired electron

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L 29342-66
ACC NR: AP6018595

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reacts with the nitrogen and with the ortho and meta hydrogens of both benzene rings. The reaction of indophenols with benzoyl peroxide to form indophenoxy radicals was of the first order with respect to indophenol. The annihilation of indophenoxy radicals in benzene was a second-order reaction with respect to the radical. From the values of rate constants of the annihilation of radicals having different substituents, data were obtained on their stability. This stability dropped sharply on going from radicals with o-tert-alkyl substituents to radicals with less-branched groups. Orig. art. has: 7 figures and 2 tables. [SM]

SUB CODE: 07, 20 SUBM DATE: 19Jun65/ ORIG REF: 006/ OTH REF: 013/. ATD PRESS: 5109

Card 2/2 CC

POKHODENKO, V.D.; GANYUK, L.N.; BRODSKIY, A.E.

"Die Umlagerung von Phenoxylradikalen in Benzylradikale bei der Oxydation sterisch gehinderter Phenole"

Third Working Conference on Stable Isotopes, 28 October to 2 November 1963, Leipzig.

BRODSKIY, A.I.; POKHODENKO, V.D.; ALEKSANKIN, M.M.; GRAGEROV, I.P.

Formation and decomposition of cumene hydroperoxide in H_2O^{18}.
Zhur.ob.khim. 32 no.3:758-760 Mr '62. (MIRA 15:3)

1. Institut fizicheskoy khimii imeni L.V.Pisarzhevskogo AN USSR.
(Hydroperoxide) (Oxygen--Isotopes)

BRODSKIY, A.E.; POKHODENKO, V.D.; GANIUK, L.N.

Transformations of free radicals formed by oxidizing sterically hindered phenols. Rocz chemii 38 no. 1:105-113 '64.

1. Institute of Physical Chemistry, Academy of Sciences, Ukrainian S.S.R., Kiev.

18(7) SOV/125-59-8-6/18

AUTHORS: Rabkin, D.M., Langer, N.A., Yagupol'skaya, L.N., and Pokhodenko, V.D.

TITLE: On Methods of Corrosion Testing of Welded Joints of Aluminum in Nitric Acid

PERIODICAL: Avtomaticheskaya svarka, 1959, Nr 8, pp 49-56 (USSR)

ABSTRACT: The article deals with methods of testing corrosion resistance of welded joints of aluminum. The authors wish to ascertain the character of the action of nitric acid in relation to its concentration and temperature, and more precisely define the necessary preparation of surface of samples and other experimental conditions in order to work out the most acceptable accelerated method of testing welded joints of aluminum in nitric acid. The authors open with a review and critique of other work in this field, including that of V.P. Batrakov [Ref 1], V.A. Savchenko [Ref 7], and F.B. Slomyanskaya and A.N. Krutikov [Ref 10], but they find a comparison difficult because the methods used varied. A method of testing welded joints of aluminum, worked

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On Methods of Corrosion Testing of Welded Joints of Aluminum in Nitric Acid

out by NIIKhIMMASh - boiling test samples in concentrated nitric acid for a long period of time (100-200 hrs)- is criticized as having poor reproducibility of results. The experiments described in this article were performed on type Al aluminum of the following composition: 0.20% Fe, 0.20% Si, $\leq$ 0.01% Cu, the rest - aluminum. Sample dimensions were 70x30x4 mm; seam width was 12-14 mm. Nitric acid in concentrations of 10, 20, 30, 40, 50, 60, 70, 80% by wt. were used. Further particulars are contained in the text. The following conclusions were reached on the basis of the experiments: 1) the highest rate of corrosion was attained using 30% HNO_3; for accelerated corrosion testing it is recommended that boiling 50% HNO_3 be used; 2) corrosion speed in 50% HNO_3 was determined as a function of time (Fig 1); the curve of this function levels out 2 hours after the start of the test; 3) tests in 50% HNO_3 guarantee a higher reproducibility of results in comparison with tests in concentrated

acid; in addition the character of the corrosion damage is preserved. The condition of the surface of the samples was found to have a comparatively small effect on the rate of corrosion (Fig 3). Further tests were carried out for comparative evaluation of the corrosion resistance of welded joints; a) boiling samples in 98% HNO_3, for 100 hours, and b) by the accelerated method, i.e. two-hour boiling in 50% HNO_3. Samples with three types of welds were used. Samples were compared by weight in arriving at a criterion for corrosion resistance. Results are tabulated (Table 3). Results of the 100-hour test in 98.3% HNO_3 support known data to the effect that identical samples in the same acid and under similar testing conditions give poorly corresponding results. However, good reproducibility of results was obtained in the 2-hour tests with 50% HNO_3. In addition, structure and defects in the seam show up better after the two-hour test. Weight criterion of the corrosion resistance should be supple-

On Methods of Corrosion Testing of Welded Joints of Aluminum in Nitric Acid

mented by visual inspection of the seam. There are 2 photographs, 3 graphs, 5 tables, and 13 references, 9 of which are Soviet, 2 English, 1 German, and 1 Czech.

ASSOCIATION: Ordena trudovogo krasnogo znameni - Institut elektrosvarki imeni Ye.O. Patona AN USSR (Order of the Red Banner of Labor - Institute of Electric Welding imeni Ye.O. Paton, AS UkrSSR)

SUBMITTED: April 10, 1959

18(7)

SOV/125-60-1-10/18

AUTHOR: Rabkin, D.M., Yagupol'skaya, L.N., Pokhodenko, V.D., Langer, N.A.

TITLE: On the Problems of Accelerated Corrosion Tests of Welded Aluminum Joints in Nitric Acid

PERIODICAL: Avtomaticheskaya svarka, 1960, Nr 1, pp 74-78 (USSR)

ABSTRACT: In their previous work [Ref 1] the authors showed that 50% nitric acid can be used for the accelerated testing of aluminum welds for corrosion resistance. Boiling for two hours in such an acid concentration ensures better results than tests with concentrated nitric acid. The optimum sizes of test samples are determined and the accelerated test method is explained. The size of the samples can considerably influence the results of the tests. Table 1 and graphs 1 and 2 show test results depending on the size of samples. The latter were tested for two hours in boiling 50% nitric acid. Figure 3 shows samples of different length after the tests. As the ratio of the area of the basic metal in the

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On the Problems of Accelerated Corrosion Tests of Welded Aluminum Joints in Nitric Acid

sample increases in relation to that of the weld, the mean rate of corrosive destruction gradually drops. To determine the influence of the size of the butt end surfaces on corrosion of the welded joint, different thicknesses of the latter were tested. The results of these tests are given in table 2. Experiments were made by putting samples straight into boiling acid, and by putting them into cold acid and then bringing it up to the boiling point. The average rate of corrosive destruction depending on these two conditions is shown in table 3. On the basis of investigations, the results of which are described in the previous work [Ref 1] and in this article, and after consideration of the results of tests conducted at plants, an industrial test method was developed. It includes instructions for the preparation of samples, the tests themselves and the methods of evaluating results. The method has been tried at a number of

On the Problems of Accelerated Corrosion Tests of Welded Aluminum Joints in Ntric Acid

plants where it received approval. It can be used for testing the welded parts of chemical equipment for corrosion by nitric acid. The authors thank engineer Ivleva (Penzkhimmash), S.V. Shimanskaya, V.G. Labetskiy (zavod "Krasnyy Oktyabr'") ("Krasnyy Oktyabr'" Plant) and Kuramzhin (Uralkhimmash) for their aid in developing the method. There are 1 diagram, 2 graphs, 1 photograph, 3 tables, and 2 Soviet references.

ASSOCIATION : Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im Ye.O. Patona AN USSR (Order of the Red Banner of Labor Institute of Electric Welding imeni Ye.O. Paton AS UkrSSR).

SUBMITTED: 1 July 1959

POKHODENKO, V.D.; GANYUK, L.N.; BRODSKIY, A.I.

Rearrangement of the free radical of oxidized ionol. Dokl.AN SSSR 145 no.4:815-817 Ag '62. (MIRA 15:7)

1. Institut fizicheskoy khimii im. L.V.Pisarzhevskogo AN USSR.
2. Chlen-korrespondent AN SSSR (for Brodskiy).
(Cresol) (Radicals (Chemistry))

L 45712-66 EWT(m)/EWP(j)/T WW/JW/JWD/RM

ACC NR: AP6024394 SOURCE CODE: UR/0020/66/169/002/0339/0342

AUTHOR: Brodskiy, A. I. (Corresponding member AN SSSR); Pokhodenko, V. D.; Khizhnyy, V. A.; Kalibabchuk, N. N.

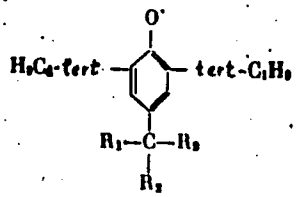
ORG: Institute of Physical Chemistry im. L. V. Pisarzhevskiy, Academy of Sciences, UkrSSR (Institut fizicheskoy khimii Akademii nauk UkrSSR)

TITLE: Mechanism of conversions of para-alkyl-di-ortho-tert-butylphenoxyl radicals

SOURCE: AN SSSR. Doklady, v. 169, no. 2, 1966, 339-342

TOPIC TAGS: free radical, phenol

ABSTRACT: The kinetics of disappearance of radicals (I) and (II)



$R_1=R_2=R_3=H$ (I)

$R_1=R_2=H$; $R_3=CH_3$ (II)

in benzene solutions were studied. The initial phenol solutions were oxidized in a vacuum by means of PbO_2, the oxidizing agent was driven off under vacuum, and the change in the concentration of these radicals with time was determined from ESR spec-

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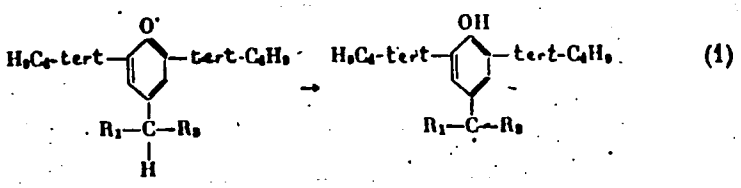
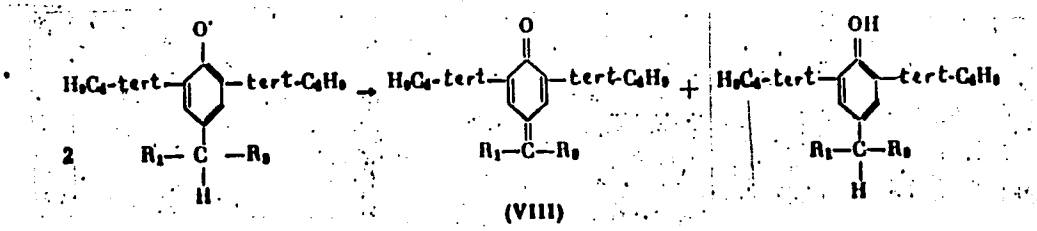
tra. The kinetic curves obtained showed that the rate of disappearance of radical I at 25° and radical II at 21 and 26° follows a first-order kinetic equation corresponding to the conversion



(1)

The disappearance of radical II at 47° obeys a second-order equation in accordance with the reaction



(VIII)

L 45712-66
ACC NR: AP6024394

At the intermediate temperature of 35°, a mixed mechanism is observed. The data indicate that radical II is more stable than radical I. The results of kinetic measurements show that the disappearance of 2,6-di-tert butyl-4-alkylphenoxyl radicals containing α hydrogen atoms in the para-substituents takes place quite rapidly via either mechanism (1) or (2), depending upon the structure of these substituents and the temperature. Orig. art. has: 2 figures, 1 table, and 5 formulas.

SUB CODE: 07/ SUBM DATE: 23Dec65/ ORIG REF: 004/ OTH REF: 008

Card 3/3 UDC

POKHODEYEV, V.

Unit for adding additives to lubricants. Neftianik 9 no.9:22 S '64 (MIRA 18:2)

POKHODILO, D.N.

Scraper for cleaning paraffin in pipes of free-flowing wells.
Neftianik 1 no.11:12 N '56. (MLRA 9:12)

1. Nachal'nik proizvodstvenno-tekhnicheskogo otdeleniya nefte-promyslovogo upravleniya Sakhalinneft'.
(Oil wells--Equipment and supplies--Repairing)

SOV/92-58-1-6/22

AUTHOR: Pokhodilo, D. N., Chief of the PTO NPU Sakhalinneft'

TITLE: Experience in Using Spiral Scrapers in Sakhalin Oilfields (Opyt primeneniya spiral'nykh skrebkov na Sakhalinskikh promyslakh)

PERIODICAL: Neftyanik, 1958, Nr 1, pp. 8-9 (USSR)

ABSTRACT: The author states that paraffin deposits which coat deep-well pipes can be removed by different methods. One of the most efficient methods applied for this purpose is the mechanical cleaning of pipes with scrapers attached to a rotating rod. Most oilfields employ scrapers with rotating blades. However, scrapers of this type have numerous defects and for this reason the Sakhalinneft' Petroleum Production Administration does not use them. In 1954 the author of the article, with the help of engineer M. N. Sobolev, developed a new type of a spiral scraper which is made as described by the author and as shown in the schematic drawing of the bench used for twisting spiral scrapers. This scraper can be employed without rotating the rod to which it is attached. The introduction of these spiral scrapers permitted the Sakhalinneft' Administration to discontimue operations connected

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Experience in Using Spiral Scrapers in Sakhalin Oilfields

with the deparaffinization of pump tubing. These operations were carried out in each well almost every month. As a result, a considerable annual saving was achieved in the Verkhneye Ekhabi oilfield. There is 1 drawing.

ASSOCIATION: PTO NPU Sakhalinneft'

1. Pipes—Cleaning 2. Industrial equipment—Performance

Card 2/2

POKHODILOV, G.A., inzh.

Using dippers designed by the Central Communications Research Institute. Avt.dor. 22 [i.e.23] no.9:31-32 S '60. (MIRA 13:9)
(Excavating machinery--Equipment and supplies)

POKHODILOV, G.A., inzh.

Constructing asphalt concrete pavements in winter. Avt. dor. 23 no.5:9 My'60. (MIRA 13:10)
(Pavements, Concrete)

L 23480-66

ACC NR: AP6013982 SOURCE CODE: UR/0230/65/000/004/0006/0008

AUTHOR: Pokhodilov, G. A. (Engineer)

ORG: none

TITLE: Experience with the use of pile foundations for the supports of a contact network

SOURCE: Transportnoye stroitel'stvo, no. 4, 1965, 6-8

TOPIC TAGS: railway construction, railway structure

ABSTRACT: In recent years, ever wider use has been made on the electrified sections of railroads of pile-grill foundations for the supports of the contact network. As compared with type R foundations, the pile-grill foundations are more economical, since no earth needs to be excavated. For driving piles 30 x 30 cm in cross section and 7.3 m long, use has been made of a vibration driver, suspended from the arm of a crane, together with the guiding frame. Orig. art. has: 2 figures. [JPRS]

SUB CODE: 13 / SUBM DATE: none

Card 1/1

UDC: 621.332:624.15

POKHODILOV, G.A., inzh.

Constructing temporary double-track roads using precast pavement slabs. Avt.dor. 23 no.6:7 Je '60. (MIRA 13:6)

(Pavements, Concrete)

POKHODIN, T.D.

POKHODIN, T.D., inzh.

Reducing the amount of technical specifications. Vest. mash. 38 no.1:84-86 Ja '58. (MIRA 11:1)
(Mechanical engineering--Tables, calculations, etc.)

OSTROVSKIY, S.A., kand. tekhn. nauk; RABKIN, D.M., kand. tekhn. nauk; MAKARA, A.M., kand. tekhn. nauk; SHEVERNITSKIY, V.V., kand. tekhn. nauk; ASNIS, A.Ye., kand. tekhn.nauk; POKHODNE, I.K., kand.tekhn. nauk; PODGAYETSKIY, V.V., kand.tekhn.nauk; PATON,B.Ye., laureat Leninskoy premii, akademik, doktor tekhn. nauk; BEL'FER,M.G., inzh.; MANDEL'BERG,S.L., kand.tekhn.nauk; MEDOVAR,B.I., doktor tekhn.nauk; GUREVICH,S.M., kand.tekhn.nauk; LATASH,Yu.V., kand.tekhn.nauk; KIRDO, I.V., kand.tekhn.nauk; SOROKA,M.S., red.; GORNOSTAYPOL'SKAYA, M.S., tekhn.red.

[Technology of electric fusion welding]Tekhnologiia elektricheskoi svarki plavleniem. Moskva, Mashgiz, 1962. 663 p. (MIRA 15:12)

1. Nauchnyye sotrudniki Instituta elektrosvarki imeni Ye.O.Patona (for all except Soroka, Gornostaypol'skaya).
(Electric welding)

POKHODNYA, G.A. [Pokhodnia, H.A.]; VDOVENKO, N.V.; OVCHARENKO, F.D., akademik

Effect of the structure of amine salts on the kinetics of their sorption by argillaceous minerals. Dop. AN URSR no.8:1060-1063 '65. (MIRA 18:8)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR.
2. AN UkrSSR (for Ovcharenko).

POKHODNYA, G.Ya.; VDOVENKO, N.V.

Kinetics of sorption of octadecylamine acetate on minerals. Koll. zhur. 27 no.1:90-94 Ja-F '65. (MIRA 18:3)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR, Kiyev.

POKHODILOV, G.A., inzh.

Practices in the construction of pile foundations for the supports of overhead contact networks. Transp. stroi. 15 no.4:6-8 Ap '65. (MIRA 18:6)

POKHODNYA, I.K.

Automatic fusing of a layer of wear-resisting type Khl2 steel of high chromium content on work steel. Avtom.svar. 6 no.4:63-74 Jl-Ag '53. (MLRA 7:11)
(Steel--Welding)

POKHODNYA I.K.

FRUMIN, I.I.; POKHODNYA, I.K.; KIRDO, I.V.

Bimetallic cutters for drilling bits. Avtom.svar. 7 no.4:29-45 Jl-Ag '54. (MLRA 7:9)

1. Institut elektrosvarki im. Ye.O.Patona Akademii nauk USSR.
(Boring machinery)

POKHODNYA, I.K.; SHLEPAKOV, V.N.

PP-AN3 powder metal wire for the welding of low-carbon and low-alloy steels with nigh voltage currents. Avtom.svar. 17 no.1:61-65 Ja '64. (MIRA 17:3)

1. Institut elektrosvarki imeni Patona AN UkrSSR.

POKHODNYA, I. K.

POKHODNYA, I. K. -- "The Metallurgical Aspects of a Weld Seam of High-Chrome Ice-Breaker Steel." Min Higher Education USSR. Kiev Order of Lenin Polytechnic Inst. Kiev, 1955. (Dissertation for the Degree of Candidate in Technical Sciences)

SO: Knizhnaya Letopis', No 1, 1956

POKHODNYA, I. K.

BENUA, F.F., kandidat tekhnicheskikh nauk; VOL'PERT, G.D., inzhener,; YEMEL'YANOV, N.P., kandidat tekhnicheskikh nauk; KLEKOVKIN, G.P. inzhener; KUZMAK, Ye.M., doktor tekhnicheskikh nauk, professor; MILOVSKIY, I.A., laureat Stalinskoy premii;PANOV, B.N., inzhener; POKHODNYA, I.K., inzhener; FRUMIN, I.I., kandidat tekhnicheskikh nauk; PROVIN, S.R., inzhener; ZVEGINTSEVA, K.V., inzhener, redaktor; GOLOVIN, S.Ya., inzhener, redaktor; MATVEYEVA, L.S., redaktor; SOKOLOVA, T.F., tekhnicheskiy redaktor.

[Automatic built-up welding with wear-resistant alloys] Avtomaticheskaia neplavka iznosoustoichivymi splavami. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1955. 244 p.(MLRA 8:11)
(Electric welding)

POKHODNYA, I.K.

FRUMIN, I.I.; POKHODNYA, I.K.

Investigating the mean temperature of the submerged melt. Avtom. svar. 8 no.4:13-30 Jl-Ag'55. (MLRA 8:11)

1. Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki imeni Ye.O.Patona Akademii nauk USSR
(Electric welding)

POKHODNYA, I.K.; FRUMIN, I.I.

Flux temperature in the submerged arc process. Avtom. svar. 8 no.5:14-24 S-O '55. (MLRA 9:1)

1.Ordena Trudovogo krasnogo znameni institut elektrosvarki imeni Ye.O.Patona AN USSR.

(Electric welding) (Thermocouples)

POKHODNYA, I.K.

Interaction of slag and metal in arc welding and electric hard facing under flux of high-chromium ledeburite steels. Avtom. svar. 8 no.5:33-46 S-O '55. (MLRA 9:1)

1.Ordena Trudovogo krasnogo znameni institut elektrosvarki imeni Ye.O.Patona AN USSR.
(Chromium steel--Welding) (Hard facing)

Pokhodnya, I. K.

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1

Distr: 4E2c

18 18

Effect of Speed of Cooling on Formation of Solidification Cracks. I. K. Pokhodnya. (*Avtomaticheskaya Svarka*, 1955, (8), 64–73). [In Russian]. The relationships between the momentary rates of cooling of the solidifying weld metal (C 2·1, Cr 12·5, Si 0·3, Mn 0·77, W 1·1, V 0·2) and the temperature of heating prior to welding and the power consumption per foot run were examined. The distribution of cooling speeds in the weld pool were investigated. It was found that the optimum speeds of cooling to avoid hot cracking varied with differing conditions of welding. An increase in the cooling rate of the weld metal increased the amount of hot cracking. The rate of cooling can be reduced by prior heating of the part and by increasing the power per foot run.—R. S.

SOV/137-57-11-21684

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 11, p 148 (USSR)

AUTHORS: Frumin, I.I., Pokhodnya, I.K.

TITLE: Automatic Hardfacing of Certain High-alloyed Steels (Avtomaticheskaya naplavka nekotorykh vysokolegirovannykh staley)

PERIODICAL: V sb.: Probl. dugovoy i kontakt. elektrosvarki. Kiyev-Moscow, Mashgiz, 1956, pp 162-175

ABSTRACT: A description of methods for prevention of the formation of pores, cracks, and slag inclusions in the process of hardfacing under flux of high-alloy steels by means of powdered welding rods (PWR); the technology of depositing a layer of die-type steel of the 3Kh2V8 and Kh12VF type by means of welding is described, together with the development of necessary fluxes. Gaseous H, N, and CO are the primary cause of porosity. The H must be chemically combined into compounds that are insoluble in molten metal (OH and HF). SiF_4 is the main source of F. If the hardfacing operations are performed under low-silicon flux (LSF), the PWR are augmented with Na_2SiF_6. In order to prevent penetration of N into the molten metal, it is proposed

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Automatic Hardfacing of Certain High-alloyed Steels

that a gas medium be used in addition to the protective slag medium. Reducing the molten metal with the aid of Si, Ti, Mn, Cr, etc., precludes the formation of pores produced by the CO gas: Three types of cracks are described (hot and cold cracks, and cracks in the vicinity of the weld), reasons for their appearance are given, and methods for their prevention are outlined: Preliminary heating into a range above the martensite point of the parent metal; application of the LSF; leveling off the temperature at the end of hardfacing operations followed by uniform cooling of the components. Utilizing the steel Kh12 as an example, it is demonstrated that hot cracking may be avoided if the amount of liquid eutectic is increased (the C content is raised from 1.0-1.5% to 1.8-2.1%). The process of segregation of slag and metal in the bath is described; it is noted that Cr_2O_2 and V_2O_3 intensify the similarity between the slag lattice and the lattice of Fe^{δ}, which results in an increased number of slag inclusions. Essential characteristics required in fluxes are listed, and chemical composition, technological properties, and fields of application of LSF's (AN-10, AN-22, AN-20, AN-30) are described. The technology of hardfacing an area with a layer of die-type steel Kh12VF employed in cold-stamping (2.0% C, 12.5% Cr, 1.0% W, 1.0% Mn) involves the following procedures and materials: Electrode rods employed; PP-Kh12VF (PP= powdered welding rods); preliminary heating of blanks

Automatic Hardfacing of Certain High-alloyed Steels

300 mm long and 100 mm in diameter to a temperature of 400-450°C in an induction furnace operating on a current of industrial frequency; introduction of AN-30 flux; final cooling after hardfacing in the furnace. It is recommended that annealing operations follow an isothermal cycle. The technology of hardfacing, by means of depositing a layer of die-type steel K2V8 (0.35% C, 2.5% Cr, 8.5% W, and 0.3% V), employed for drop forging, on blanks with a diameter of 300 mm consists of the following procedures: Preliminary heating to 350-370°; hardfacing of blanks in 4-5 passes utilizing direct current with a reversed polarity (220-250 a, 25-28 v), the rate of welding being 35-45 m/hr; flux AN-20 is employed together with powdered welding rods 3.5 mm in diameter; after completion of the hardfacing operations the finished components are heated to a temperature of 370-400° and are then cooled in a heat-insulated box at a rate of 20°/sec. The authors point out that steels G13, R18, and R9 have been successfully employed for hardfacing of components.

V.B.

AID P - 5255

Subject : USSR/Engineering

Card 1/1 Pub. 11 - 6/15

Authors : Dudko, D. A. and I. K. Pokhodnya (Electrowelding Institute im. Ye. O. Paton)

Title : Resistance slag welding of parts of large cross-section area.

Periodical : Avtom. svar., 4, 70-75, Ap 1956

Abstract : A new method of resistance slag welding of large steel bars and rods is described by the authors. This new method was developed by the Electrowelding Institute im. Ye. O. Paton. Two tables, 7 photos and 1 drawing; 3 Russian references (1949-53).

Institution : As above

Submitted : No date

PERIODICAL ABSTRACTS

Sub.: USSR/Engineering

AID 4190 - P

FRUMIN, I. I., D. M. RABKIN, V. V. PODGAYETSKIY, I. K. POKHODNYA, and E. I. LEYNACHUK.
NIZKOKREMNISTYYE FLYUSY DLYA AVTOMATICHESKOY SVARKI I NAPLAVKI (Low Silicic Fluxes in Automatic Welding and Hard Facing).
Avtomaticheskaya svarka, 9, no. 1, Ja/F 1956: 1-20.

A discussion of the application of various special fluxes with a low silicic content, like the AN-10, AN-20, AN-22 and AN-30, used in welding of alloyed steel to achieve better results and prevent formation of pores in welded seams. The authors present the chemical composition of built-up metal, formation of built-up metal and bead, structure of built up metals, and tendency for formation of crystallized flows, separation of clinker, etc. Thirteen tables, some macropictures, graph and sketch. Sixteen Russian references, 1946-1955.

Order Labor Red Banner Inst Electric Welding im Ye. O. Paton AS Ukr SSR

Pokhodnia, I. K.

Title (Russian.) The Effects of the Chemical Composition of Iron-Chrome-Carbon Alloys on Weld Hot Cracking / O vliianii khimicheskogo sostava zhelezokhromouglerodistykh splavov na sklonnost' k obrazovaniu kristallizatsionnykh treshchin. I. K. Pokhodnia. Avtomaticheskaia Svarka, v. 9 – 6 Nov.-Dec.

Study of the [illegible]

POKHODNYA, I. K.

The interaction of slag and metal during arc welding and electro-slag welding of high-chrome and high-carbon steels.
I. K. Pokhodnya (E. O. Paton's Inst. Electric Welding, Kiev)