GRIGOR'YEV, V. N.

Cand Tech Sci - (diss) "Ring furnaces for heating metals; characteristics of heat exchange; methods of heating calculations; further improvement of design and performance." Moscow, 1961. 25 pp including cover; 6 pp of diagrams; (Ministry of Higher and Secondary Specialist Education RSFSR, Moscow Order of Labor and Red Banner Inst of Steel imeni I. V. Stalin); 150 copies; free; (KL, 6-61 sup, 216)

S/193/62/000/002/001/006
A004/A101

AUTHORS: Kaplunov, P. F., Grigor'yev, V. N.

TITLE: Rapid-heating sectional furnace for the heat treatment of electrically welded pipes

PERIODICAL: Byulleten' tekhniko-ekonomicheskoy informatsii, no. 2, 1962, 14-16

TEXT: The authors describe the design and operation of a sectional furnace for heat-treating electrically welded pipes. The furnace consists of a number of sections mounted in one line and fuelled by gas. Each section consists of a welded or cast jacket lined with refractories, a layer of insulating material being placed between jacket and lining. The pipes are conveyed by a furnace roller conveyer made of carbon steel. The heat condition control of the first furnace zones ensures a forced heating with the desired temperature drop. The thermal load of the last furnace zones is, in a number of cases, reduced and automatically controlled. The ratio of the peripheral rotation speed to the pipe feed rate at a given angle of inclination of the furnace conveyer rolls increases with a decreasing pipe diameter. The accelerated normalization of electrically welded pipes during rapid heating to 900°C in the sectional furnace

Card 1/2

Rapid heating sectional furnace ...

with subsequent air-cooling ensures a full phase recrystallization over the whole pipe section, including the welding seam, resulting in a uniform increase in strength limits and yield point of the pipe walls. The sectional furnaces of Gipromez design are fitted with double-line burners, mounted tangentially in the lateral walls of the sections, which ensure a multiple circulation of the furnace gases. To save fuel, the air is preheated in recuperators. The authors give a detailed description of a sectional single-flow furnace of the Gipromez system built at the Moskovskiy trubnyy zavod (Moscow Pipe Plant). The furnace consists of 24 sections with water-cooled rollers and individual motors. Depending on the assortment of pipes, the pipe traveling speed can be adjusted in the range of 10 - 50 m/min. Automatic heating regulation is effected by zones comprising eight sections each. The temperature of each section is measured by radiation pyrometers, the readings being indicated by twelve-point ЭПП-16 (EPP-16) potentiometers, while the temperature control in each section is effected by the radiation pyrometer, potentiometer with rheostat pickup, isodromic ИР-130М (IR-130M) regulator and servomechanism. There is 1 figure.

Card 2/2

KAPLUNOV, P.F.; GRIGOR'YEV, V.N.

Rapid-heating sectional furnace for heat-treatment of electric welded pipes. Biul.tekh.-ekon.inform. no.2:14-16 '62. (MIRA 15:3)

(Furnaces, Heat-treating)

42020
S/185/62/007/007/004/010
I048/I248

AUTHORS: Grigor'yev, V.N. and Rudenko, N.S.

TITLE: The density of H_2-D_2 liquid solutions

PERIODICAL: Ukrains'kyy fizychnyy zhurnal, v.7, no.7, 1962, 737-739

TEXT: For the purpose of ascertaining the deviations from ideality pointed out by earlier investigators, very pure H_2 and D_2 were used in concentrations calculated from the partial pressures. The results are presented by a table relating excess volume ($\Delta V/V$) as a function of the temperature and the D_2 concentration in the liquid (C_D). The deviation was large and considerable compression was observed during the formation of the H_2-D_2 solutions; the

Card 1/2

S/185/62/007/007/004/010
I048/I248

The density of...

values of $\Delta V/V$ measured are of the same order as the values of $\Delta V/V$ in the case of compressed gas systems such as O_2-Ar, O_2-N_2, etc. The value of $\Delta V/V$ is practically independent of the temperature within the range studied. Sample values of $\Delta V/V$ are (in parentheses - the C_D): 0.74 (9.7), 0.85(20.35), 1.00 (38.3), 1.16 (47.75), 0.98 (57.3), 1.05 (61.6), 1.02 (76.95), and 0.52% (91.1%). These results do not agree with M. Simon and A. Bellemans (Physica, 26, 191, 1960) nor with the equation of Mears (Trans. Far. Soc., 45, 966, 1949).

ASSOCIATION: Fiziko-tekhnicheskiy institut AN USSR (The Physico-Technical Institute of the AS UkrSSR, Kharkov)

Card 2/2

BULATOVA, R.F.; GRIGOR'YEV, V.N.; KOGAN, V.S.

Microcolumn for separating and analyzing mixtures of hydrogen isotopes. Atom. energ. 12 no.5:428-429 My '62. (MIRA 15:5)
(Hydrogen--Isotopes) (Chemical apparatus)

GRIGOR'YEV, V.N.

Difference of saturated vapor pressures of crypton and xenon isotopes. Zhur.fiz.khim. 36 no.8:1779-1781 Ag '62. (MIRA 15:8)

1. Fiziko-tekhnicheskiy institut AN USSR.
(Crypton--Isotopes) (Xenon--Isotopes) (Vapor pressure)

GRIGOR'YEV, V.N.

Surface tension in deuterium. Zhur. eksp. i teor. fiz. 45 no.2:98-100 Ag '63. (MIRA 16:9)

1. Fiziko-tekhnicheskiy institut AN UkrSSR.
(Surface tension) (Deuterium)

ACCESSION NR: AP4042374 S/0056/64/047/001/0092/0096

AUTHORS: Grigor'yev, V. N.; Rudenko, N. S.

TITLE: Surface tension of liquid isotopes of hydrogen and of H_2--D_2 solutions

SOURCE: Zh. eksper. i teor. fiz., v. 47, no. 1, 1964, 92-96

TOPIC TAGS: hydrogen, deuterium, surface tension, deuterated compound

ABSTRACT: The authors hope to resolve the discrepancy between the theoretically calculated and experimentally observed relatively large decrease in volume (~1%) upon formation of solutions of hydrogen and deuterium, which cannot be explained within the framework of the simplest theory, by obtaining information on other properties of solutions of hydrogen isotopes. Experimental data are presented on the temperature dependence of the surface tension of hydrogen,

1/ 6

ACCESSION NR: AP4042374

deuterium, and deuterohydrogen, and solutions of hydrogen and deuterium. To permit comparison with calculations based on the quantum theorem of corresponding states, the authors first determine the surface tensions of the pure isotopes. These measurements are of independent interest since the published data on the surface tension of hydrogen are contradictory, thus casting doubt on the data on deuterium, which were measured with similar installations. The procedure and equipment used to measure the surface tension of the pure isotopes of hydrogen were described elsewhere (V. N. Grigor'yev, ZhETF, v. 45, 98, 1963). The same equipment was used for the solutions of hydrogen and deuterium. The method of preparing the solutions and of measuring their concentrations was the same as described by the authors elsewhere (ZhETF, v. 40, 757, 1961). The data on the surface tension of hydrogen agree well with the results obtained by Kamerlingh-Onnes (Comm. Leiden v. 13, 142d, 1914) while the data previously obtained for deuterium by Van Itterbeek and Van Paemel (Physica, v. 7, 325, 1940) are approximately 5% too high. The sur-

ACCESSION NR: AP4042374

face tension of the solutions was found to be several per cent lower than the additive values, in qualitative agreement with the theoretical calculations of I. Pirgogine (Molecular Theory of Solutions, Amsterdam, 1958). "The authors are grateful to O. N. Grigor'yeva for help with the measurements." Orig. art. has: 3 figures, 1 formula, and 2 tables.

ASSOCIATION: None

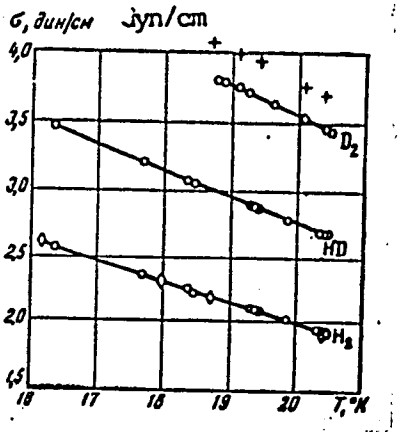
SUBMITTED: 18Feb64 ENCL: 03

SUB CODE: NP NR REF SOV: 004 OTHER: 009

3/6

ACCESSION NR: AP4042374

ENCLOSURE: 01



Temperature dependence of surface tension of hydrogen isotopes

o - present work

Card 4/6

ACCESSION NR: AP4042374

ENCLOSURE: 02

Surface tensions of hydrogen and deuterium solutions

T, °K	σ, dyn/cm	$\frac{\Delta\sigma}{\sigma}$, %	T, °K	σ, dyn/cm	$\frac{\Delta\sigma}{\sigma}$, %	T, °K	σ, dyn/cm	$\frac{\Delta\sigma}{\sigma}$, %
c_{D_2} = 7,2%			c_{D_2} = 32,8%					
20,44	1,98$_1$	1,4	20,42	2,31$_8$	2,9	19,06$_8$	2,72$_1$	2,5
19,98	2,04$_4$	1,9	20,41	2,31$_7$	2,9	19,30$_8$	2,82$_6$	2,7
19,66	2,11$_4$	1,0	20,41	2,31$_7$	2,7	18,94	2,91$_1$	3,2
19,28	2,18$_9$	1,2	19,27	2,53$_8$	2,4	18,40$_8$		—
18,82	2,25$_7$	1,0	18,86	2,60$_8$	2,4	18,93	2,91$_8$	2,8
18,48	2,31$_6$	—	18,25	2,70	—	17,93		—
18,23	2,35$_8$	—	18,48	2,67$_6$	—	17,34		—
17,94	2,40$_6$	—	17,92	2,76$_8$	—	16,77		—
						16,60		—

(continued on enclosure #3)

Card 5/6

ACCESSION NR: AP4042374 ENCLOSURE: 03

c_{D_0} = 15,2%

20,44	2,00$_7$	1,2
20,43	2,10$_6$	1,0
19,61	2,24$_8$	1,1
19,17	2,31$_8$	1,3
18,80	2,38$_6$	0,8
18,35	2,45$_3$	—
17,74	2,57$_7$	—

c_{D_0} = 23,6%

20,43	2,19$_8$	2,3
20,41	2,20$_6$	2,0
20,08	2,26$_7$	1,8
19,48	2,37$_1$	1,8
19,43	2,38$_1$	1,8
18,69	2,52$_4$	1,4
18,08	2,62$_4$	—
17,47	2,71	—
16,44	2,86$_8$	

c_{D_0} = 38,6%

20,45	2,34$_8$	3,2
20,44	2,37$_3$	2,6
20,46	2,37$_9$	2,5
20,44	2,30$_6$	2,5
20,43	2,35$_9$	3,2
20,39	2,39$_1$	2,1
20,32	2,39$_3$	2,6
19,46	2,33$_4$	3,2
18,85	2,63$_6$	3,6
18,40	2,76$_6$	—
17,21	2,02$_1$	—
17,14	2,95$_4$	—

c_{D_0} = 40,9%

20,46	2,62$_6$	3,7
20,44$_6$	2,62$_4$	3,2
20,44	2,63	3,8
20,43	2,64	4,0

c_{D_0} = 74,1%

20,44	2,89$_3$	3,2
20,44	2,89$_3$	3,1
20,43	2,90$_2$	2,9
19,09	2,97$_8$	3,1
19,04	2,98$_8$	3,3
19,39	3,10	3,0
18,96	3,18$_4$	3,0
18,56	3,24$_3$	—
18,42	3,29$_5$	—
18,14	3,30	—
17,81	3,37$_3$	—

c_{D_0} = 82,3%

20,38	3,00$_5$	3,3
20,36	3,01$_8$	3,2
19,48	3,17$_3$	4,2
19,17	3,24$_1$	4,2
18,27	3,40$_1$	—
17,9	3,47$_8$	—

(continuation of enclosure #2)

Card 6/6

L 33178-65 EPF(c)/EWT(m)/T/EWP(b)/EWA(d)/EWP(t) Pr-4 IJP(c) JD

ACCESSION NR: AP5005238 S/0057/65/035/002/0332/0335

24
21
B

AUTHOR: Grigor'yev, V.N.

TITLE: Surface tension of H_2--HD and HD--D_2 solutions

SOURCE: Zhurnal tekhnicheskoy fiziki, v.35, no.2, 1965, 332-335

TOPIC TAGS: viscosity, hydrogen, deuterium, hydrogen deuteride, solution

ABSTRACT: The surface tension of H_2--HD and HD--D_2 solutions was measured by a capillary rise method at temperatures fro 20.5°K to the crystallization temperature. The author has described his apparatus elsewhere (ZhETF 45,98,1963). The measurements were undertaken to test the suggestion of I.Bigeloisen (J.Chem.Phys.39, 769,1963) that the lack of spherical symmetry of the H_2 molecule may play an important role in the behavior of H_2--D_2 solutions, since HD molecules may be expected to deviate even more from spherical symmetry than H_2 molecules. The solutions were prepared by mixing in the gaseous phase and repeated condensation and vaporization. The densities of the solutions were computed from those of the pure components on the assumption of additivity of molecular volumes. The measured surface tensions all exhibited the same linear dependence on temperature over the range in-

Card 1/2

L 33178-65

ACCESSION NR: AP5005238

3

vestigated. The concentration dependence of the surface tension of the solutions deviated from additivity in the negative direction by a maximum of about 2.5%. The experimental curves are compared with theoretical calculations based on the quantum principle of corresponding states with surface absorption corrected by the formula of A.Englert-Chwoles and I.Prigogine (Nuovo cimento,Suppl.9,347,1958). The theory represented the general course of the H_2--HD curve and was in quantitative agreement with the HD--D_2 curve. It is concluded that the lack of spherical symmetry of the HD molecule does not exert any significant influence on the surface tension of its solutions. "The author is grateful to N.S.Rudenko for his interest in the work, and to O.N.Grigor'yeva and K.G.Breslavets for assistance in performing the measurements." Orig.art.has: 1 formula and 4 figures.

ASSOCIATION: none

SUBMITTED: 24Mar64 ENCL: 00 SUB CODE:GC,ME

NR REF SOV: 006 OTHER: 008

Card 2/2

ACCESSION NR: AP4043621 S/0056/64/047/002/0484/0485

AUTHOR: Grigor'yev, V. N.

TITLE: Surface tension of parahydrogen

SOURCE: Zh. eksper. i teor. fiz., v. 47, no. 2, 1964, 484-485

TOPIC TAGS: liquid hydrogen, specific heat, density, evaporation, surface tension

ABSTRACT: The surface tension of liquid hydrogen with different ortho-para ratio was measured in view of the experimentally confirmed fact that ortho-hydrogen and para-hydrogen in the condensed state have noticeably different properties such as specific heat, density, and heat of evaporation. The surface tension was determined from the difference in the rise of the liquids in two capillaries of different diameter, using a setup described previously by the author (ZhETF, v. 99, 1963). The surface tension of ordinary hydro-

Card 1/3

ACCESSION NR: AP4043621

gen is described by a relation derived by the author (with N. S. Rudenko, ZhETF, in press) σ(dyne/cm) = 5.25 - 0.162 T, whereas for para-hydrogen the value obtained is σ = 5.27 - 0.165 T. At 20.4K the surface tension of para-hydrogen is approximately 2% lower. "The author is grateful to N. S. Rudenko for interest in the work and to O. N. Grigor'eva and K. G. Breslavets for help with the measurements." Orig. art. has: 2 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk UkrSSR (Physicotechnical Institute, Academy of Sciences, UkrSSR)

SUBMITTED: 21Mar64 ENCL: 01

SUB CODE: ME, TD NR REF SOV: 002 OTHER: 001

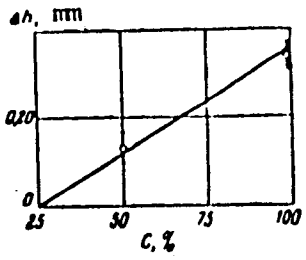
Card 2/3

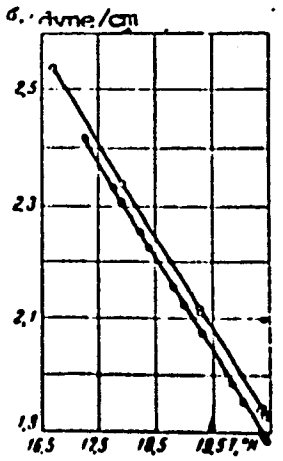
ACCESSION NR: AP4043621

ENCLOSURE: 01

Left: Difference in capillary rise as function of para-hydrogen concentration at 20.4K

Right:
Temperature dependence of surface tension of ordinary H (o) and of parahydrogen (●).





Card 3/3

L 40758-65 EWP(m)/EPF(c)/EPR/EWG(j)/EWA(h)/EWA(c)/EWT(l)/EWT(m)/FCS(k)/EWP(b)/
EWA(d)/EWP(t) Pd-1/Pi-4/Pr-4/Ps-4 IJP(c) WW/JD

ACCESSION NR: AP5006160 S/0258/65/005/001/0065/0072

54
50
B

AUTHOR: Malkin, O. A.; Grigor'yev, V. N.; Vitshas, A. F.

TITLE: Experimental investigation of shock waves excited by a current pulse in a rarefied gas

SOURCE: Inzhenernyy zhurnal, v. 5, no. 1, 1965, 65-72

TOPIC TAGS: shock wave, plasma motion, plasma electromagnetic wave interaction, pressure dependence

ABSTRACT: The authors investigated the motion of a plasma between two plane-parallel electrodes over a wide range of pressures, for the purpose of checking the applicability of the various theories proposed for the acceleration of a plasma by an electromagnetic field. Simultaneous measurements of the plasma velocity were carried out by optical (photomultipliers and spectrograph) and electrical (double probes) methods. The test set-up is illustrated in Fig. 1 of the Enclosure and the apparatus is described in some detail. The results show that, starting with an initial pressure 2--3 x 10^{-3} mm Hg, the layer of current flowing be-

Card 1/3

ACCESSION NR: AP5006160

4

tween two plane-parallel electrodes in air begins to behave like a shock wave moving over the gas particles, and can be described by the usual gasdynamic "piston-wave" model. The front of this shock wave and of the current layer coinciding with it, measured with high-speed framing camera, reaches a maximum value at an initial pressure 5 x 10^{-3} mm Hg. At pressures below 2 x 10^{-3} mm Hg the velocity of the layer coincides with that of the ions (heavy particles). The cause of this maximum is the fact that the nitrogen and oxygen have a maximum ionization rate at the same pressure. "The authors thank V. L. Granovskiy for useful discussions and Ye. G. Kormakov for furnishing the photomultiplier for the measurements." Orig. art. has: 6 figures, 1 formula, and 1 table.

ASSOCIATION: None

SUBMITTED: 20Mar64 ENCL: 01 SUB CODE: ME

NR REF SOV: 006 OTHER: 004

Card 2/3

GRIGOR'YEV, V.N.

Surface tension of para hydrogen. Zhur. eksp. i teor. fiz. 47 no.2:484-485 Ag '64. (MIRA 17:10)

1. Fiziko-tekhnicheskiy institut AN UkrSSR.

GRIGOR'YEV, V.I.

Cambrian molasse formations in the western margin of the Siberian platform and its framework. Trudy GIN no. [illegible]. (MIRA 17:9)

GRIGOR'YEV, Vladimir Nikolayevich

Special features of the commutation of d.c. machines with compound armature windings. Izv.vys.ucheb.zav.; elektromekh. 5 no.9:1083-1088 '62. (MIRA 16:1)

1. Vedushchiy inshener Leningradskogo filiala Vsesoyuznogo nauchno-issledovatel'skogo instituta elektromekhaniki.
(Commutation (Electricity))
(Electric machinery—Direct current)

GRIGOR'YEV, V.N. [Hryhor"iev, V.M.]

Investigating the separation of crypton isotopes in an unpacked fractionating column. Ukr. fiz. zhur. 6 no.4:472-477 Jl-Ag '61. (MIRA 14:9)

1. Fiziko-tekhnicheskiy institut AN USSR, g. Khar'kov.
(Crypton—Isotopes) (Isctope separation)

L 16901-63 EPR/EWP(j)/EWT(d)/EPF(c)/EPF(n)-2/EWP(q)/EWT(m)/BDS AFFTC/
ASD/IJP(C)/SSD Ps-4/Pr-4/Pc-4/Pu-4 RM/WW/JD
ACCESSION NR: AP3005251 S/0056/63/045/002/0098/0100

AUTHOR: Grigor'yev, V. N. 85 84

TITLE: Surface tension of deuterohydrogen 27

SOURCE: Zhyr. eksper. i teoret. fiz., v. 45, no. 2, 1963, 98-100

TOPIC TAGS: deuterohydrogen, hydrogen isotope , surface tension

ABSTRACT: The surface-tension coefficient of liquid HD was measured in the temperature range between 16.7 and 20.5°K, using the method of capillary rise. The equipment was checked by means of preliminary experiments on ordinary hydrogen and found to yield correct results. Several samples of HD obtained from different distillations were tested. The surface tension was found to vary linearly with the temperature in the range of temperatures investigated. The results of the experiments also indicate that the surface tension of solutions of hydrogen isotopes is less than the sum of the surface tensions of the individual components. "I take this opportunity to thank N. S. Rudenko for interest and O. N. Grigor'yeva for help with the measurements." Orig. art. has 2 figures and 1 table.

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk ukrainskoy SSR (Physicotechnical Inst. Acad. Sci. Ukr. SSR)

Card 1/1

GRIGOR'YEV, V.N.; RUDENKO, N.S.

Density of H_2 - D_2 solutions. Zhur.eksp.i teor.fiz. 40 no.3:757-761 Mr '61. (MIRA 14:8)

1. Fiziko-tekhnicheskiy institut Akademii nauk Ukrainskoy SSR.
(Low temperature research) (Hydrogen--Isotopes)

[redacted], V.N.

[redacted] mechanized instrument for the improvement of varnish coating. Der. prom. 14 no.[redacted] '65. (MIRA 18:12)

GRIGOR'YEV, V.N.

Rotary cutter with grooves for the distribution of shavings.
Der. prom. 14 no.7:28 Jl '65. (MIRA 19:1)

1. Leningradskiy vagonostroitel'nyy zavod im. Yegorova.

L 34480-66 EWT(m)

ACC NR: AT6010801 (N) SOURCE CODE: UR/0367/66/003/001/0013/0016

AUTHOR: Belyayev, B. N.; Vasilenko, S. S.; Gvozdev, V. S.; Grigor'yev, V. N.

ORG: Physicotechnical Institute im. A. F. Ioffe, Academy of Sciences, SSSR (Fiziko-tekhnicheskiy institut Akademii nauk SSSR)

TITLE: Conversion transitions with pair production in Ga^{72}

SOURCE: Yadernaya fizika, V. 3, no. 1, 1966, 13-16

TOPIC TAGS: germanium, gallium, positron, electron positron pair, electron transition, gamma transition, neutron bombardment, dipole interaction, isotope, spectrum, energy

ABSTRACT: The authors measured, for the first time, the spectrum of the positrons produced in the decay of Ga^{72}. This has made it possible to determine the hitherto unknown multipolarities of a number of transitions with energies larger than $2mc^2$ from the pair-conversion coefficients. The positron momentum distribution was measured with the aid of a double-focusing spectrometer described by one of the authors earlier (Vasilenko, with M. G. Kaganskiy and D. L. Kaminskiy, PTE no. 5, 42, 1961). The decaying Ga^{72} was obtained with the aid of the (n, γ) reaction by bombarding gallium oxide with thermal neutrons for 24 hours. Positrons corresponding to γ transitions with energies 2510, 2490, 2465, 2400, 2200, 2120, and 1865 kev were observed. The positron spectrum had a complex form. The main part constituted the positrons due to the most intense γ transitions (2200, 2490, 2510 kev), of which the 2200-kev transition corresponds to dipole radiation and is identified as E1. The

Card 1/2

L 34480-66

ACC NR: AP6016808

multipolarities of the 2510 and 2490 kev transitions were also identified as E1. On the basis of the obtained multipolarity for the 2200-kev transition, the spin and parity of the 3050-kev level is identified as 2^-. The 2400-kev transition is tentatively identified as E0, although the place of this transition in the level scheme is still undecided. The authors thank M. G. Kaganskiy for a discussion of the results. Orig. art. has: 2 figures and 1 table.

SUB CODE: 20/ SUBM DATE: 31Jun65/ ORIG REF: 005/ OTH REF: 005

Card 2/2

GRIGOR'YEV, V.P.; METREVELI, S.G.

Photoelectric method of area measurement. Bot. zhur. 43 no.6:828-830 Je '58. (MIRA 11:7)

1.Severoosetinskiy gosudarstvennyy pedagogicheskiy institut im. K.L. Khetagurova, g. Ordzhonikidze.
(Photoelectric measurements) (Leaves)

GRIGOR'YEV, V.P.

Interaction of root systems of the pine (Pinus silvestris L.) and herbaceous plants. Dokl.AN BSSR 4 no.8:351-354 Ag '60.
(MIRA 13:8)

1. Belorusskiy lesotekhnicheskiy institut im. S.M.Kirova.
Predstavleno akad. AN BSSR I.D. Yurkevichem.
(Roots (Botany))

Grigor'yev, Vasiliy Prokhorovich

Aircraft Construction Technology. Wright-Patterson Air Force Base, Ohio, 1961.

4v. Illus., Diagrs., Graphs, Tables.

Translated from the original Russian: Tekhnologiya Samoletostroyeniya, Moscow, 1960.

Included Bibliographical References.

GRIGOR'YEV, V.P.; POPOV, S.Ya.

Protective properties of lime deposits. Zhur.prikl.khim. 35 no.7:1621-1625 Jl '62. (MIRA 15:8)
(Lime) (Corrosion and anticorrosives)

S/145/62/000/010/003/006
D263/D308

AUTHOR: Grigor'yev, V.P., Doctor of Technical Sciences, Professor

TITLE: Comparison of joints executed by various methods

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Mashinostroyeniye, no. 10, 1962, 81-88

TEXT: In the article the following cases are considered, in order to compare joint strength under static loads, vibrating loads (600 - 2000 vibrations/min), and repeated loads (4 - 20 per min) 1) φ = const. i.e. strength coefficients of compared joints (static load) are equal. 2) n = const., i.e. numbers of joining points of compared samples of various methods of joints (bolts, rivets, welding spots) are equal. 3) l = const. i.e. widths of lap joints (cemented, soldered, welded) in compared joints are equal. The results of the investigation of typical joints in each case are compared and analyzed, and their application in practice discussed. There are 5 figures and 3 tables.

Card 1/2

Comparison of joints ... S/145/62/000/010/003/006
D263/D308

ASSOCIATION: Moskovskiy aviatsionnyy institut (Moscow Institute of Aeronautics)

Card 2/2

GRIGOR'YEV, V.P.

Effect of the presowing treatment of seeds with microelements on the growth and reproductive capacity of perennial lupine. Bot.; issl. Bel. otd. VBO no.5:15-22 '63. (MIRA 17:5)

SOV/137-58-11-22076

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 11, p 35 (USSR)

AUTHORS: Oyks, G. N., Kryakovskiy, Yu. V., Grigor'yev, V. P.

TITLE: Intensifying Open-hearth Conversion of High-phosphorus Pig Iron by Introducing Oxygen Into the Bath (Intensifikatsiya predela vysokofosforistogo chuguna v martenovskoy pechi vvedeniyem kisloroda v vannu)

PERIODICAL: Sb. Mosk. in-t stali, 1957, Vol 37, pp 138-151

ABSTRACT: Heats in which the bath was blown with technically pure O_2 are run in tilting 350-t open-hearth furnaces at the Azovstal' plant, utilizing the high-molten pig iron practice, with consumption of ~75% of the pig iron (P 1.6%). The O_2 is introduced by lance from the backwall of the furnace, primarily during the melting period. Each 1000 m^3 of O_2 consumed in the blow reduces the duration of the melting and working period by 57 minutes and increases the rate of P and C elimination by 25%, while reducing fuel consumption. When 5.8 m^3/t O_2 is used to blow the metal, furnace output rises by 15%. As a result of the accelerated burning out of the impurities, the temperature of the metal (Me) is 50-70°C higher in heats with oxygen blow than in heats when the O_2 is delivered into the burner jet. The

Card 1/2

Intensifying Open-hearth Conversion of High-phosphorus Pig Iron (cont.)

formation of reactive basic slag is accelerated. When the O_2 is delivered into the Me during the finishing period, reduction in the finishing and pure-boil periods is 38 minutes in the case of rail and 44 minutes in the case of rimmed St per 1000 m^3 of O_2. When the rate of delivery of O_2 during the melting period is increased to 1200 m^3/hr, an increase in the burning off of C and P occurs. When the hourly consumption of O_2 is increased to above 1200 m^3/hr, the rate of P removal diminishes. This is explained by the fact that the rates of formation of reactive slag and the rate of temperature increase differ. This does not occur during the finishing period when formed slag is already present. Further improvement in furnace output rate should be sought in the direction of increasing the consumption of O_2 used in the blow, accompanied by changing those factors in the process that govern and speed slag formation.

Yu. K.

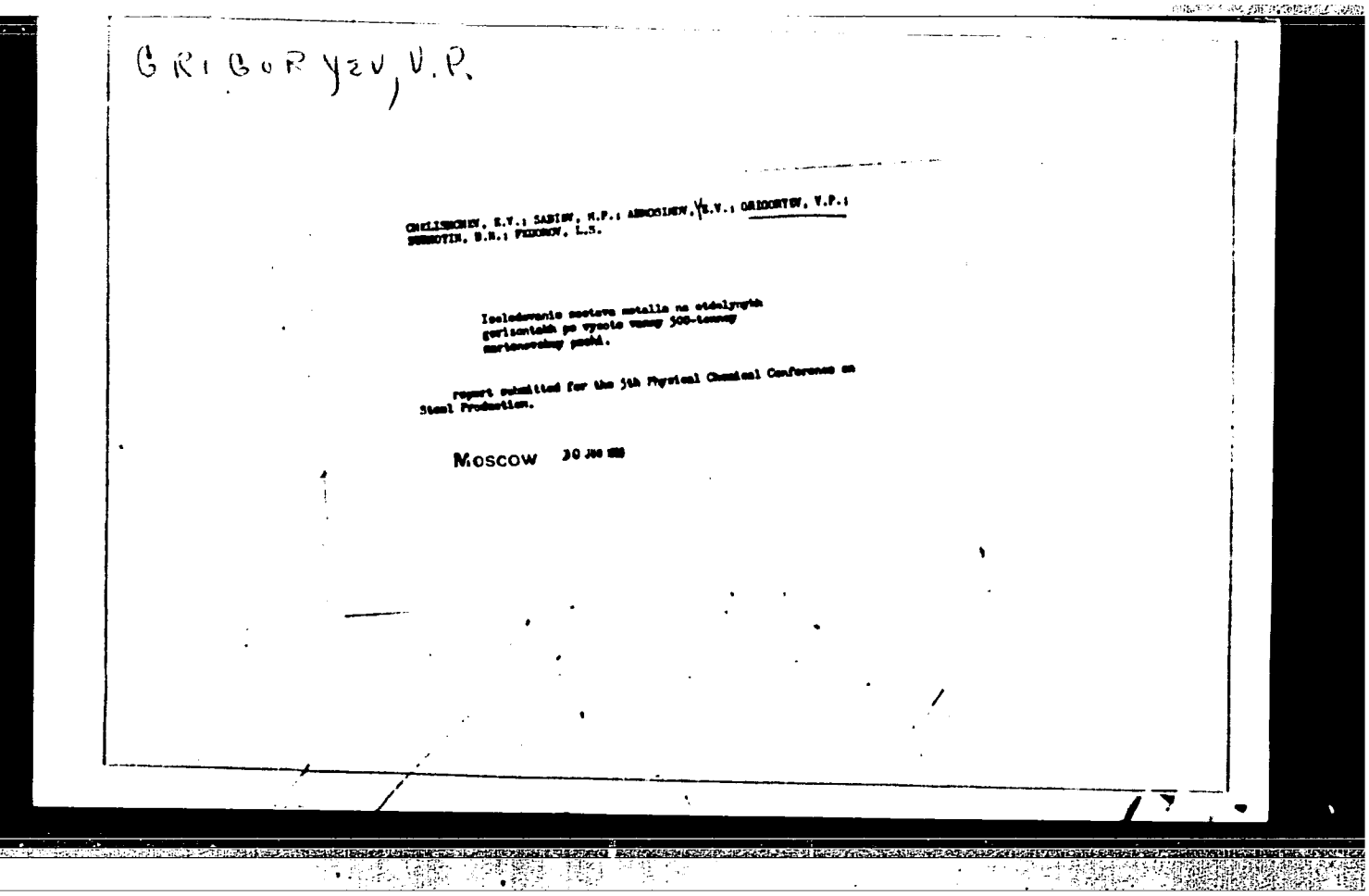
Card 2/2

OYKS, G.N., prof., doktor tekhn.nauk; KRYAKOVSKIY, Yu.V., kand.tekhn.nauk
KAPUSTIN, Ye.A., kand.tekhn.nauk; GRIGOR'YEV, V.P., inzh.

Efficiency of using oxygen-enriched air during highly phosphorous pig iron converter processes in open hearth furnaces. Sbor. Inst. stali no.37:152-165 '57. (MIRA 11:3)

1.Kafedra metallurgii stali Moskovskogo instituta stali im. I.V. Stalina.

(Oxygen---Industrial applications)
(Open-hearth process)



GRIGORYEV, V.P.

CHULISHKOV, E.V.; SABIN, M.P.; ABROSIMOV, E.V.; GRIGORYEV, V.P.; SEMENOVIN, E.N.; FEDOROV, L.S.

Issledovanie sostava metalla na otdelnykh gorizontakh po vysote vanny 500-tonnoy martenovskoy pechi.

report submitted for the 5th Physical Chemical Conference on Steel Production.

Moscow 30 Jun 68

GRIGOR'YEV, V.P., inzh.; ABROSIMOV, Ye.V.

Effect of silicon and manganese in pig iron on the dephosphorization process during smelting with oxygen blow of the metal bath. Izv. vys. ucheb. zav.; chern. met. 2 no.4:45-51 Ap '59. (MIRA 12:8)

1.Moskovskiy institut stali. Rekomendovano kafedroy metallurgii stali Moskovskogo instituta stali.
(Steel--Metallurgy) (Oxgyen--Industrial applications)

GRIGOR'YEV, V. P., Cand Tech Sci - (diss) "Oxidation of phosphorus in the first half of the melting period in the conversion of high-phosphorus-content pig iron under the conditions of scavenging with oxygen." Moscow, 1960. 22 pp including cover; (Ministry of Higher and Secondary Specialist Education RSFSR, Moscow Order of Labor, Red Banner Institute of Steel im I. V. Stalin); 120 copies; free; (KL, 19-60, 133)

GRIGOR'YEV, V.P.; VISHKAREV, A.F.; KOROLEV, B.G.; ABROSIMOV, Ye.V.; YAVOYSKIY, V.I.

Effect of phosphorus and manganese on the surface tension of iron-carbon alloys. Izv.vys.ucheb.zav.; chern.met. no.4: 55-65 '60. (MIRA 13:4)

1. Moskovskiy institut stali.
(Iron alloys) (Surface tension)

S/148/60/000/010/003/018
A161/A030

AUTHOR: Grigor'yev, V.P.; Abrosimov, Ye.V.

TITLE: Dephosphoration in the First Heat Half in Remelting High-Phosphorous Iron with Oxygen Blown Through the Bath

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, 1960 No. 10, pp. 46 - 57

TEXT: The Moscow Steel Institute investigated heats in 350-ton rocking open-hearth furnaces melting iron with 1.4 - 1.6% P content by scrap-ore process with an oxygen blast. The experiment techniques had been described in No. 4, 1959, of this periodical. The observation results in the first half of the heats (before the addition of scale, ore and lime) are given in this article. The effect of CaO content in slag was low at up to 500 m^3 oxygen blown through, but increased rapidly with a higher oxygen volume; with 1,500 - 1,700 m^3 the CaO content in slag was 1.5 times higher than in heats without oxygen. The dephosphoration rate also rose, which is due to the effect of the dissolved active CaO fraction (Fig.4). The increased SiO_2 content had a strong negative effect in heats without oxygen, but not in a process with oxygen, due to the high CaO content sufficient for the

Card 1/5

Dephosphoration in the First Heat Half in Remelting High-Phosphorous Iron with Oxygen Blown Through the Bath

binding of SiO_2 and P_2O_5, and intense foaming and spilling of slag. Still, the Si and SiO_2 content in the charge must not exceed certain limits (indicated in (Ref. 1)) because of the diluting effect on the phosphoric acid in slags used for fertilizers, and the excessive slag volume causing difficulties. FeO only lowers the P content in conventional process until the concentration reaches 14 - 16% (stated also in Ref. 3 and in the dissertation of A.I. Sukachev, Khar'kov, 1953). The observations confirmed the opinion of N.N. Dobrokhotov (Ref. 4) that the rate of dephosphoration at a high FeO content in slag is only determined by the rate of removal of oxyphosphorous aniones from slag-metal interface into the slag mass. At a higher oxygen volume the high metal temperature and intense mixing speed up all the exchange processes, and FeO content above 14 - 16% does not loose the effect (Fig. 7, curve 2). The effect is stronger at an oxygen volume above 1,000 m^3, and it is advisable to increase the ore charge in the first heat half from 9 - 11% to 13 - 14% when melting rail steel, and to place the ore on the top of loose charge to prevent excessive oxidation of carbon and "softening" of the heat. In general, an increased oxygen volume results in a more complete dephosphoration with an equal FeO content. Manganese has a negative effect on dephosphoration, as

S/148/60/000/010/003/018
A161/A030

Dephosphoration in the First Heat Half in Remelting High-Phosphorous Iron with Oxygen Blown Through the Bath

was repeatedly stated previously (Ref. 6,7) and confirmed in this investigation. Dephosphoration was considerably lower at 0.25% Mn in metal than at lower contents in temperature below 1,450°C. The major cause of this appears to be a change in the transfer mechanism. It was stated in a special investigation that Mn causes an abrupt rise in interphase tension in Fe-C-P alloys thus preventing adsorption and oxidation of P in the interface. Conclusions: 1) Sucess with dephosphoration in the first heat half depends not only on the thermodynamics, but also on the rate of the rise in temperature in the bath, the development of the contact surface between the slag and metal, and the speed of the reagents' transfer. The oxygen blast has a boosting effect on these factors and speeds up the dephosphoration process 1.5 - 2 times compared with the process without oxygen. 2) The slag forms earlier when the oxygen blast is used. The calcium oxides in the slag is 35 - 40% compared with 22 - 26% which is normal in the conventional process. 3) SiO_2 content of 20 - 25% in the slag ceases to be an obstacle for dephosphoration when 1,300 m^3 oxygen is blown in. 4) Oxygen blast results in better utilization of FeO and lower phosphorous content in metal. 5) An increase of MnO content in slag results in a higher phosphorous content in metal. 6) To speed up dephosphoration in

Card 3/5

S/148/60/000/010/003/018
A161/A030

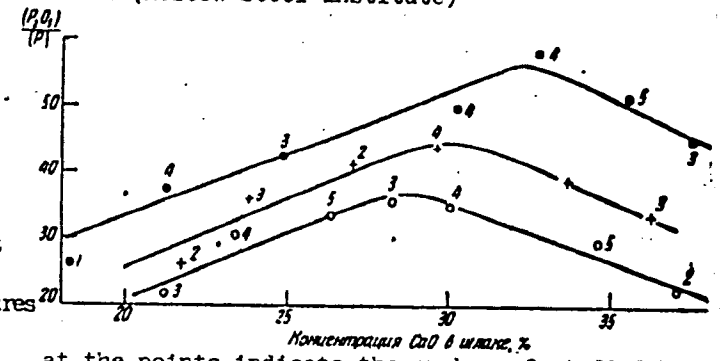
Dephosphoration in the First Heat Half in Remelting High-Phosphorous Iron with Oxygen Blown Through the Bath

the process with an oxygen blast it is necessary: a) to keep Mn content in iron at maximum 1.4% (comparing with 1.8 - 2.2% used in present practice); b) to raise the iron ore addition to 13 - 14% when melting rail steel. There are 10 figures and 7 references: 6 Soviet and 1 English.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: July 15, 1959

Figure 4:



The effect of CaO content in slag (1.5 - 2 h after the end of iron pouring into furnace). SiO_2=15-20%; FeO=10%. o-without oxygen; +-600-1200m^3 oxygen; •-1200-1900m^3 oxygen. The figures at the points indicate the number of studied heats

Card 4/5

PHASE I BOOK EXPLOITATION SOV/5556

Moscow. Institut stali.

Novoye v teorii i praktike proizvodstva martenovskoy stali (New [Developments] in the Theory and Practice of Open-Hearth Steelmaking) Moscow, Metallurgizdat, 1961. 439 p. (Series: Trudy Mezhvuzovskogo nauchnogo soveshchaniya) 2,150 copies printed.

Sponsoring Agency: Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya RSFSR. Moskovskiy institut stali imeni I. V. Stalina.

Eds.: M. A. Glinkov, Professor, Doctor of Technical Sciences, V. V. Kondakov, Professor, Doctor of Technical Sciences, V. A. Kudrin, Docent, Candidate of Technical Sciences, G. N. Oyks, Professor, Doctor of Technical Sciences, and V. I. Yavoyskiy, Professor, Doctor of Technical Sciences; Ed.: Ye. A. Borko; Ed. of Publishing House: N. D. Gromov; Tech. Ed.: A. I. Karasev.

PURPOSE: This collection of articles is intended for members of scientific institutions, faculty members of schools of higher education, engineers concerned with metallurgical processes and physical chemistry, and students specializing in these fields.

Card 1/14

COVERAGE: The collection contains papers reviewing the development of open-hearth steelmaking theory and practice. The papers, written by staff members of schools of higher education, scientific research institutes, and main laboratories of metallurgical plants, were presented and discussed at the Scientific Conference of Schools of Higher Education. The following topics are considered: the kinetics and mechanism of carbon oxidation; the process of slag formation in open-hearth furnaces using in the charge either ore-lime briquets or composite flux (the product of calcining the mixture of lime with bauxite); the behavior of hydrogen in the open-hearth bath; metal desulfurization processes; the control of the open-hearth thermal melting regime and its automation; heat-engineering problems in large-capacity furnaces; aerodynamic properties of fuel gases and their flow in the furnace combustion chamber; and the improvement of high-alloy steel quality through the utilization of vacuum and natural gases. The following persons took part in the discussion of the papers at the Conference: S.I. Filippov, V.A. Kudrin, M.A. Glinkov, B.P. Nam, V.I. Yavoyskiy, G.N. Oyks and Ye. V. Chelishchev (Moscow Steel Institute); Ye. A. Kazachkov and A. S. Kharitonov (Zhdanov Metallurgical Institute); N.S. Mikhaylets (Institute of Chemical Metallurgy of the Siberian Branch of the Academy of Sciences USSR); A.I. Stroganov and D. Ya. Povolotskiy (Chelyabinsk Polytechnic Institute); P.V. Umrikhin (Ural Polytechnic Institute); I.I. Fomin (the Moscov "Serp i molot" Metallurgical Plant); V.A. Puklev (Central Asian Polytechnic Institute)

and M.I. Beylinov (Night School of the Dneprodzerzhinsk Metallurgical Institute). References follow some of the articles. There are 268 references, mostly Soviet.

TABLE OF CONTENTS:

PHASE I BOOK EXPLOITATION SOV/5411

Konferentsiya po fiziko-khimicheskim osnovam proizvodstva stali. 5th, Moscow, 1959.

Fiziko-khimicheskiye osnovy proizvodstva stali; trudy konferentsii (Physicochemical Bases of Steel Making; Transactions of the Fifth Conference on the Physicochemical Bases of Steelmaking) Moscow, Metallurgizdat, 1961. 512 p. Errata slip inserted. 3,700 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni A. A. Baykova.

Responsible Ed.: A. M. Samarin, Corresponding Member, Academy of Sciences USSR; Ed. of Publishing House: Ya. D. Rozentsveyg. Tech. Ed.: V. V. Mikhaylova.

Card 1/16

PURPOSE: This collection of articles is intended for engineers and technicians of metallurgical and machine-building plants, senior students of schools of higher education, staff members of design bureaus and planning institutes, and scientific research workers.

COVERAGE: The collection contains reports presented at the fifth annual convention devoted to the review of the physicochemical bases of the steelmaking process. These reports deal with problems of the mechanism and kinetics of reactions taking place in the molten metal in steelmaking furnaces. The following are also discussed: problems involved in the production of alloyed steel, the structure of the ingot, the mechanism of solidification, and the converter steelmaking process. The articles contain conclusions drawn from the results of experimental studies and are accompanied by references of which most are Soviet.

TABLE OF CONTENTS:

GRIGOR'YEV, V.P.

S/137/61/000/011/018/123
A060/A101

AUTHORS: Chelishchev, Ye.B., Sabiyev, M.P., Abrosimov, Ye.V., Grigor'yev, V.P., Fedorov, L.F., Sukhotin, B.N.

TITLE: Metal composition at various levels of the vat of a 500-ton open-hearth furnace, and the decarbonizing of steel

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 11, 1961, 27-28, abstract 11V183 (V sb. "Fiz-khim. osnovy proiz-va stali", Moscow, Metallurgizdat, 1961, 5 - 11)

TEXT: In order to determine the degree of stirring and homogeneity of metal composition at various points of the vat of a 500-ton open-hearth furnace, and also to determine the possibility of a further increase of the vat dimensions, a series of metal samples was taken from 11 heats. The samples were taken with the aid of a welded box-rod affixed to the pan of a charging machine. Three chamotte molds were mounted in the box, each containing quartz crucibles with Al wire. The C content varied between the limits of 0.1 and 1.0%; O content - 0.005 to 0.03%. The altitude variation in carbon content is of no practical significance. The altitude-variation of O content is very noticeable. In the ma-

Card 1/ 2

jority of cases the O content at the upper levels of the vat is higher than that at the lower levels. In some cases at the upper levels of the vat the oxygen content is greater by a factor of 1.5 - 2.5 than at the lower ones. The authors consider that the experimental material obtained supports the viewpoint according to which the decarbonizing reaction takes place primarily at the upper levels of the metal at the metal-slag separation boundary. Samples of metal taken along the length of the 500-ton open-hearth furnace (10 heats) and of a 250-ton furnace (one heat) have shown that in the majority of cases the metal composition at any given level is practically homogeneous along the length of the vat. In individual cases sharp drops in the concentration of various elements were observed, connected with the additions of ore, Fe-Mn and other substances. In all the cases after the admixture was assimilated, the inhomogeneity of the vat content was liquidated. The distribution of the elements along the length of the 500-ton open-hearth furnace does not differ in principle from that of the 250-ton open-hearth furnace. The authors consider that a further increase in furnace capacity is possible by increasing the length and width of the vat.

V. Kudrin

[Abstracter's note: Complete translation]

GRIGOR'YEV, V.P.

Dependence of the values of protective currents on the conditions of formation of a lime deposit. Zhur. prikl. khim. 34 no.1:182-186 Ja '61. (MIRA 14:1)
(Iron--Corrosion) (Protective coatings)

GRIGOR'YEV, V.P.; LUZGIN, V.P.; ABROSIMOV, Ye.V.; ORLOV, V.I.; YAVOYSKIY, V.I.; GURSKIY, G.L.; GONCHAROV, I.A.; STARKOV, P.A.

Materials balance in the scrap metal-iron ore process. Izv. vys. ucheb. zav.; chern. met. 5 no.5:63-67 '62. (MIRA 15:6)

1. Moskovskiy institut stali zavod "Zaporozhstal'".
(Steel--Metallurgy)

AMROSIMOV, Ye.V.; YAVOYSKIY, V.I.; LUZGIN, V.P.; STARKOV, P.A.; SURGUCHEV, G.D.; GRIGOR'YEV, V.P.

Automatic control of the open-hearth process. Izv.vys.ucheb.zav.; chern.met. 5 no.11:37-41 '62. (MIRA 15:12)

1. Moskovskiy institut stali i splavov.
(Open-hearth process) (Automatic control)

L 55050-65 EWT(m)/EPF(c)/EWA(d)/T/EWP(t)/EWP(s)/EWP(b) MJW/JD/HW/WB

ACCESSION NR: AP5014133 UR/0365/65/001/003/0280/0285
620.197.3

AUTHOR: Grigor'yev, V. P.

TITLE: Reducing passivation currents for 1Kh18N9T steel with some organic reagents

SOURCE: Zashchita metallov, v. 1, no. 3, 1965, 280-285

TOPIC TAGS: corrosion, passivator additive, anodic protection, stainless steel

ABSTRACT: The electric currents required to passivate metals are too large in many cases for practical use in anodic protection. For this reason the use of organic additives to lower passivating currents was studied. The tests were made on highly polished samples of 1Kh18N9T austenitic stainless steel with a surface area of 6.5 cm^2. The samples were suspended between two platinum electrodes. The electrical measurements were made with saturated calomel electrodes and recalculated for standard hydrogen electrode at 25°C. The bath was made up of chemically pure H_2SO_4 and NaCl. The tests were made by adding to a 14.3*N* sulfuric acid bath: acrylic acid, maleic acid, urotropin, aminoguanidine, aminophenol and dicyandiamide.

Card 1/4

L 55050-65
ACCESSION NR: AP5014133

The polarization curves, voltage vs. current density, were similar in shape. It was found that the additives did not affect the required passivating voltage but lowered the current density considerably. The most effective additive was dicyandiamide, which lowered the current density to 0.15 ma/cm^2 at a concentration of 1.25 g/ℓ in the bath. The passivating current density was also reduced by dicyandiamide when NaCl was added to a dilute sulfuric acid-dicyandiamide solution. In more concentrated sulfuric acid solutions (> 5 g/ℓ) the effectiveness of the dicyandiamide decreases rapidly. It is assumed that the reduction in current density is due to adsorption of the additives on the metal surface spotwise which reduces the available active surface for current passage. Assuming that the adsorbtion of the additive follows the Langmuir adsorbtion isotherm, the formula

$$\log\left[\frac{i_0}{i} - 1\right] = \log b + a \log C$$

is derived where i_0 is the initial current density without additive; i is the density of the passivating current at the passivating voltage; b is a constant which depends on the adsorbtion rate of the additive; C is the concentration of the additive by volume; a is a constant, which depends on the nature of the metal and of

Card 2/4

the additive. In the tests made, $\alpha = 1$ for all additives, except for urotropin and aminoguanidin. For the last two $\alpha < 1$. The results are in good agreement with the derived correlation, when

$$\log\left[\frac{i_0}{i} - 1\right]$$

is plotted against $\alpha \log C$, resulting in a straight line. The factor α may have a numerical value less than one because of a possible difference between the added concentration and the effective concentration or because of intermolecular and electrostatic forces at the solid-liquid interface, in which case the ionic type and the molecular type additives would produce different effects. The effects of the NaCl addition may be due to the adsorbtion of Cl^- ion at the interface. At low acid concentration, the chloride ions and the dicyandiamide compete for sites on the metal surface. At increased acidity the dicyandiamide is displaced by the acid anions, and the current density increases. The use of additives may be useful in two respects: they may reduce the current density required for anodic protection and serve as an inhibitor against corrosion.

L 55050-65

ACCESSION NR: AP5014133

ASSOCIATION: Rostovskiy-na-Donu gosudarstvennyy universitet (Rostov State University)

SUBMITTED: 14Nov64 ENCL: 00 SUB CODE: MM

NO REF SOV: 010 OTHER: 001

Card 4/4

[redacted]

Reducing the passivation currents of 1Kh18N9T steel in the presence of certain organic substances. Zashch. met. 1 no.3: 280-285 My-Je '65. (MIRA 18:8)

1. Rostovskiy-na-Donu gosudarstvennyy universitet.

L 25500-66 EWT(1)/EWT(m)/T IJP(c)

ACC NR: AP6011393 SOURCE CODE: UR/0057/66/036/003/0482/0485

AUTHOR: Grigor'yev, V.P.

ORG: none

TITLE: On the longitudinal instability of a particle cluster in a cyclic accelerator

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 3, 1966, 482-485

TOPIC TAGS: particle accelerator, cyclic accelerator, motion stability, particle bunch, kinetic equation, dispersion equation, particle acceleration

ABSTRACT: The author discusses the longitudinal instability associated with the Cherenkov interaction mechanism of a cluster of accelerated particles in a coaxial accelerator in the presence of the high frequency accelerating field. The calculations are based on the kinetic equation for small deviations from the equilibrium value of the function representing the distribution of the accelerated particles with respect to longitudinal velocity and phase. The transverse velocities of the particles are neglected. The interaction of the particles with the accelerating field and with the normal modes of the accelerator cavity are taken into account in the kinetic equation, and the dispersion equation that governs the behavior of small density fluctuations is derived. The dispersion equation was solved numerically for particular values of the parameters and a particular unperturbed distribution function. This solution is presented graphically and the behavior of the solution for other

Card 1/2 UDC: 621.384.61

L 25500-66

ACC NR: AP6011393

parameter values is discussed briefly. There is a range of frequencies within which unstable oscillations occur. The region of instability increases with decreasing Q of the accelerator cavity, increasing number of particles in the cluster, and decreasing accelerating field strength. The author thanks A.N.Didenko for discussing the results. Orig. art. has: 14 formulas and 1 figure.

SUB CODE: 20 SUBM DATE: 21Jun65 ORIG. REF: 006 OTH REF: 003

Card 2/2

GRIGOR'YEV, V. P.: Master Chem Sci (diss) -- "Some problems in protecting iron from corrosion using organic inhibitors". Novocherkassk, 1958. 16 pp (Min Higher Educ USSR, Novocherkassk Order of Labor Red Banner Polytech Inst im S. Ordzhonikidze, Chair of the Technology of Electrochemical Production), 160 copies (KL, No 5, 1959, 144)

ANTROPOV, L.I.; GRIGOR'YEV, V.P.; PETRENKO, A.T.

Utilising data of electrocapillary measurements for investigating inhibitors of acid corrosion of metals. Zhur. prikl. khim. 31 no.10:1497-1503 O '58. (MIRA 12:1)

1.Novocherkasskiy politekhnicheskiy institut imeni S. Ordzhonikidze.
(Electrocapillary phenomena)
(Corrosion and anticorrosives)

93642
SOV/81-59-5-15747

5.1140
Translation from: Referativnyy zhurnal, Khimiya, 1959, Nr 5, p 301 (USSR)

AUTHORS: Grigor'yev, V.P., Antropov, L.I.

TITLE: On the Possibility of Increasing the Effective Action of Organic Adsorption Inhibitors in Neutral Mediums

PERIODICAL: Tr. Novocherk. politekhn. in-ta, 1958, Vol 69/83, pp 115 - 128

ABSTRACT: Inhibition of the corrosion rate (C) of steels in synthetic sea water is noted by additions of caffeine, novocaine, thiourea, pyramidon, mannite, urotropine, PB-8, benzoethylammonia, monoethanolaminocarbonate as a result of cathode polarization. The effect observed is explained by a shift of the zero charge potential of the Fe surface (under the action of polarization), in the direction where the possibility of adsorption arises (or where the adsorption becomes more intense) of the cation-active C inhibitors, by the surface of the metal. As a result of the adsorption of the additives, however, the value of the supertension increases considerably in hydrogen depolarization, which becomes the main path of the cathode discharge in electrochemical

Card 1/2

50522

SOV/81-59-5-15747

On the Possibility of Increasing the Effective Action of Organic Adsorption Inhibitors in Neutral Mediums

C of steel in a neutral medium as a result of additional polarization of the cathode sections by a current applied from without. The combined method developed for protection against C helps to decrease the expenditure of the anode metal in the protector process and the consumption of energy in the protection by means of cathode polarization, and also to increase the effectiveness of the C inhibitor action.

A. Shreyder

Card 2/2

SOV/137-58-11-23096
Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 11, p 181 (USSR)

AUTHORS: Antropov, L. I., Grigor'yev, V. P., Petrenko, A. T.

TITLE: Utilization of the Data of Electrocapillary Measurements in the Investigation of Inhibitors of Acid Corrosion of Metals (Ispol'zovaniye dannykh elektrokapillyarnykh izmereniy pri issledovanii ingibitorov kislotnoy korrozii metallov)

PERIODICAL: Tr. Novocherk. politekhn. in-ta, 1958, Vol 69/83, pp 129-147

ABSTRACT: An investigation with the aid of the plotting of electrocapillary curves of the inhibiting action of 19 various classes of organic compounds on the corrosion of Fe in 1N H_2SO_4 solution at 20°C has established a regularity in the increase of the inhibiting action upon an increase of the surface activity of the compound introduced into the acid. It was noted that a departure from the regularity found upon comparison with corrosion tests can serve as a basis for a qualitative study of the inhibiting effect of separate functional groups of organic compounds and for the explanation of the process of the inhibition of acid corrosion of metals. An analysis of electrocapillary curves, plotted for Hg in 1N HCl solutions with additions of caffeine,

Utilization of the Data of Electrocapillary Measurements in the Investigation (cont.)

sulgine, norsulfasole, sulfidine, o-hydroxyquinoline, anthranilic acid, pyramidon, bis (tetramethylsilylmethyl) ethyl-methyl ammonium, and iodide (trimethylsilylmethyl) diethylallylammonium, and the determination of the rate of corrosion of Fe in the same solutions indicated that the existence of a linear relationship between the coefficient of corrosion inhibition and the magnitude of the decrease in the surface tension affords a quantitative determination of the inhibiting effect caused by a compound or by every functional group entering into the make up of that compound. The variation in the inhibiting effect on the metal corrosion caused by the variation in the concentration of an inhibitor can be calculated from the electro capillary curves and from the inhibition coefficient determined in the presence of one of the additives.
Bibliography: 31 references.

P. S.

Card 2/2

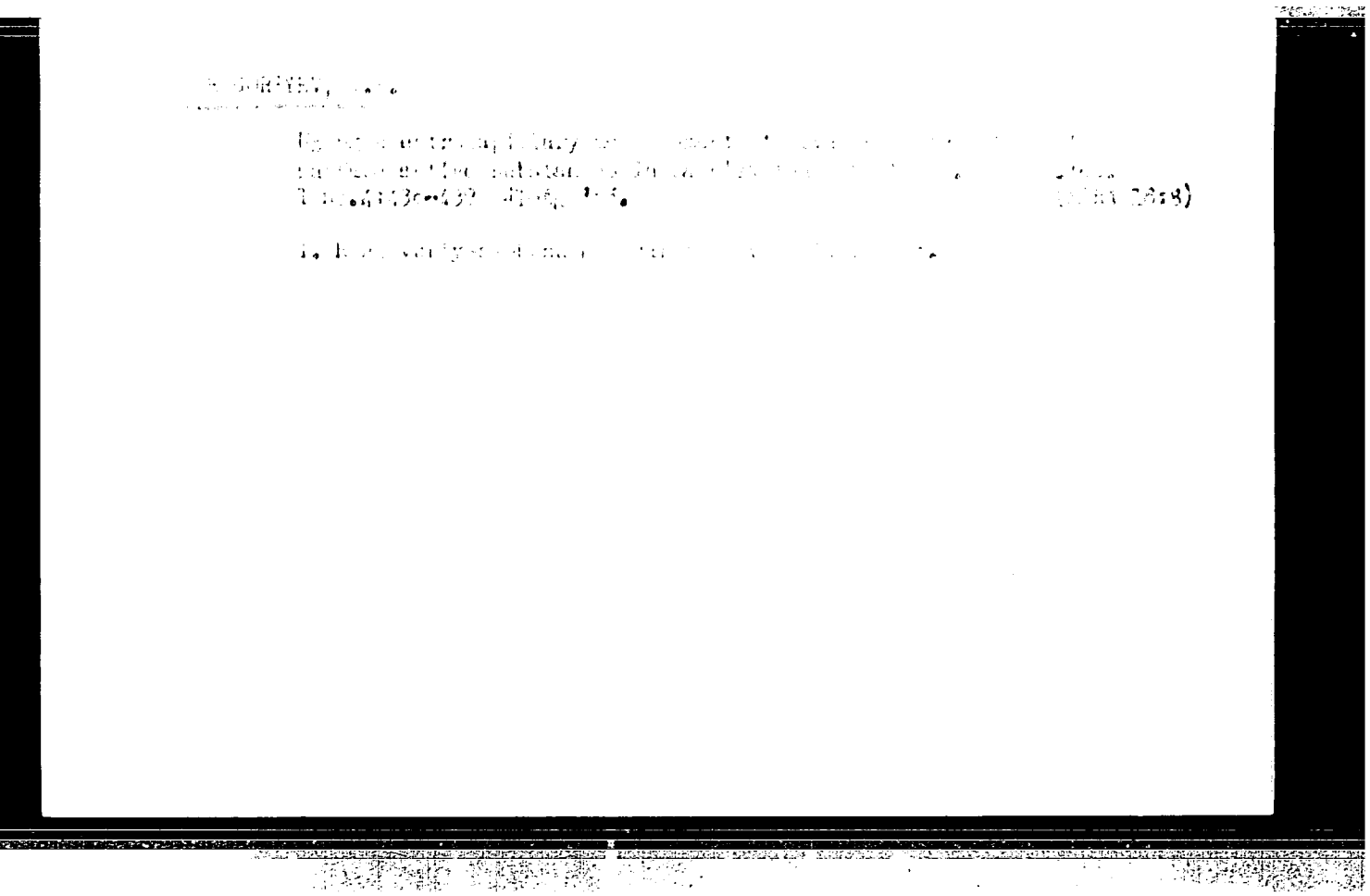
GRIGOR'YEV, V.P.; POPOV, S.Ya.

Contact deposition of copper on iron from a sulfate ammonium electrolyte. Zhur.prikl.khim. 35 no.6:1308-1314 Je '62. (MIRA 15:7)

(Copper plating) (Electrolytes)

GRIGOR'YEV, V.P.; POPOV, S.Ya.; NOSOV, I.M.

Industrial adoption of the technology of direct copper plating of iron parts in a sulfate ammonium electrolyte. Trudy NPI 134:59-63 '62. (MIRA 17:2)



L 39034-66 EWT(m)/EWP(w)/EWP(v)/T/EWA(t)/ETI/EWP(k)

ACC NR: AP6019894 SOURCE CODE: UR/0145/65/000/012/0027/0031

AUTHOR: Grigor'yev, V. P. (Doctor of technical sciences, Professor); Voronov, V. F., (Graduate student)

ORG: Moscow Aviation Institute (Moskovskiy aviatsionnyy institut)

TITLE: The effect of heating on the strength of bolted joints

SOURCE: IVUZ. Mashinostroyeniye, no. 12, 1965, 27-31

TOPIC TAGS: mechanical fastener, fatigue strength, durability, potentiometer, thermocouple, static load test, aluminum / D16AT1 aluminum

ABSTRACT: The authors study the effect of preliminary 100-hour heating on the strength, rigidity and durability of bolted joints made from D16AT1 aluminum. Sheets of aluminum are placed between the threaded hole and the bolt. These specimens are tested at temperatures of 20, 150, 175, and 200°C. Chromel-cupel thermocouples are used for measuring the temperatures of the specimens. Furnace temperature is controlled by the EPD-12 electronic potentiometer. The specimens are kept at a given temperature for 30 minutes before testing. Two series of specimens are tested. Series one consists of specimens tested immediately after assembly, i. e. without preliminary heating. Series two includes specimens which were preheated for 100 hours at a temperature of 170°C after assembly and then tested. The joints are tested for strength

UDC: 624.078.2+536.68/539.4

Card 1/2

L 32[illegible]4-66
ACC NR: AP6019894

under these conditions. The results show that the strength is nearly the same for the two test studies and does not differ by more than 3-5% which is within the limits of accuracy for the experiment. It is shown that strength decreases sharply at higher temperatures. Failure of the specimens for all cases was due to the weakening of plate cross sections. Joint rigidity is determined by the degree of seam deformation under a static load. Seam deformation is determined with respect to dislocation of the plates. Rigidity decreases as temperature is increased. Durability under vibrational loads is considered. The results of the entire experiment show that preliminary 100-hour heating at a temperature of 175°C does not significantly affect the static strength of bolted joints. Tightening the bolts increases the rigidity of bolted joints. Increasing the temperatures reduces joint rigidity, e. g. if the test temperature is raised from 20 to 200°C, rigidity is reduced by 20%. Bolt tightening loses its value at higher temperatures. Orig. art. has: 4 figures, 6 formulas.

SUB CODE: 11, 13/ SUBM DATE: 18Jun65

Card 2/2 mlf

GRIGOR'YEV, V.P.

PHASE I TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 570 - I

Call No.: ATIC 181225

BOOK

Author: GRIGOR'YEV, V. P., Kand. of Tech. Sci.
Full Title: RIVETING AND RIVETING EQUIPMENT IN AIRCRAFT CONSTRUCTION
Transliterated Title: Klepka i klepal'noye oborudovaniye v samoletostroyenii

PUBLISHING DATA

Originating Agency: Scientific and Research Institute of Technology and the Organization of Production (NIAT) of the Ministry of the Aviation Industry, USSR
Publishing House: State Publishing House of the Defense Industry (Oborongiz)
Date: 1948 No. pp.: 279 No. of copies: 3,500
Editorial Staff: None
PURPOSE: A textbook for designers, technologists, foremen, inspectors and students in aviation schools.

TEXT DATA

Coverage: In this book materials related to riveting are collected and developed. The book contains information on methods, equipment and technological processes of various kinds of riveting. The text is extensively illustrated with diagrams, photos, tables, graphs, etc.

1/2

Klepka i klepal'noye oborudovaniye v samoletostroyenii AID 570 - I

One large table summarizes the different types of riveting defects and their causes.
No. of References: 9 Russian, 1937-1947
Facilities: None

2/2

GRIGOR'EV, V. P. and P. P. GOLDOVSKII

Klepka na pressakh. Moskva, Oborongiz, 1950. 170 p. illus.

Riveting on presses.

DLC: TJ1310.37

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

GRIGOR'YEV, V. P.

166T74

USSR/Metals - Testing Equipment Jul 50

"Fatigue Testing Machine for Structural Members," V. P. Grigor'yev

"Zavod Lab" Vol XVI, No 7, pp 893-894

Describes new machine for testing, under repeated tensile-compressive stresses, of welded, riveted, bolted, and other joints. Design of driving mechanism permits adjustment for cycles of completely reversed or one-way stress, and for symmetrical or asymmetrical cycles. Machine may test simultaneously two specimens under different

166T74

USSR/Metals - Testing Equipment (Contd) Jul 50

conditions. It adapts for testing various structural members of length 200 - 320 mm and 300-mm diameter. For fatigue tests at various temperatures machine is provided with special stage for installing related equipment.

166T74

GOLDOVSKIY, P.B., inzh.; GRIGOR'YEV, V.P., kand. tekhn.nauk, red.;
PONOMAREVA, K.A., red.; RYABENKO, A.V., tekhn. red.

[Riveter] Klepal'shchik. Pod red. V.P.Grigor'eva. Moskva,
Oborongiz, 1951. 130 p. (MIRA 16:7)
(Rivets and riveting)

GRIGOR'EV, V.P., kandidat tekhnicheskikh nauk.

Technical-economic and strength indexes of riveted and welded joints from light alloys. Vest.mash. 33 no.5:64-68 My '53. (MLRA 6:5)
(Welding research) (Rivets)

GRIGOR'YEV, V. P.

KLEPKA KONSTRUKTSII IZ LEGKIKH SPLAVOV.
Riveting light alloy structures.
By V.P.Grigorev &F.B.Goldovskii.
Moscow,1954.

Met Struct

The book describes technological processes of rivetting metal structures of light alloys. It examines methods and means of mechanization and automation of these processes and also gives data on rivets and rivetting tools.
The main part of the book is a description of the process of assembly and rivetting; and the peculiarities of the process of welding pressurized cabins.

D

1/2

Riveting Light Alloy Structures

The book gives data on the influence of different technological factors on the strength of normal and hermetic joints and describes methods of testing equipment and tools, and the choice of equipment tools and fittings. The book is intended for technologists and foremen and may also be used as a text book.

D

2/2

Name: GRIGORYEV, Vasiliy Prokhorovich

Dissertation: Study of the influence of technological factors upon the quality of junctions with power points

Degree: Doc Tech Sci

Affiliation: [Not indicated]

Defense Date, Place: 21 May 56, Council of Moscow Order of Lenin Aviation Inst of Geography, Acad Sci USSR

Certification Date: 8 Jun 57

Source: BMVO 16/57

GRIGOR'YEV, V.P.
Min Higher Education USSR. Moscow Order of Lenin Aviation Inst Imeni Sergo Ordzhonikidze.

GRIGOR'YEV, V.P.: "Investigation of the effect of technological factors on the quality of connections with force points." Min Higher Education USSR. Moscow Order of Lenin Aviation Inst imeni Sergo Ordzhonikidze. Moscow, 1956. (Dissertation for the Degree of Doctor in Technical Sciences)

SO: Knizhnaya Letopis', No. 20, 1956

GRIGOR'YEV, V.P.

PHASE I BOOK EXPLOITATION SOV/4218

Boytsov, Vasiliy Vasil'yevich, Vasiliy Prokhorovich Grigor'yev, Mikhail Ivanovich Razumikhin, Anna Andreyevna Selezneva, and Yevgraf Porfir'yevich Shekunov (Deceased)

Sborochnyye i montazhnyye raboty (Assembling and Erecting Operations). Moscow, Oborongiz, 1959. 476 p. (Series: Tekhnologiya samoletostroyeniya) Errata slip inserted. 6,000 copies printed.

Reviewer: G.A. Belyavskiy, Eng.; Ed.: Yu.M. Brodyanskiy, Eng.; Ed. of Publishing House: I.A. Suvorova; Tech. Ed.: N.A. Pukhlikova.

PURPOSE: This book is intended as a textbook for students in aeronautical schools of higher education and may be used by specialists in aircraft production.

COVERAGE: The book discusses the general problems of assembling and erecting operations in aircraft production, as well as the technological requirements for the construction of assemblies, panels, and units of an aircraft. A detailed study is made of the problems of the technological preparation of production, methods of designing and the making and checking of assembly devices. The authors thank S.V. Yeliseyev, Candidate of the Technical Sciences, Docent at the Moscow Aviation Institute, and K.N. Vezenitsyna, Engineer, for their

Card 1/11

help in writing and editing the book. There are 12 references: 11 Soviet and 1 English.

TABLE OF CONTENTS:

PHASE I BOOK EXPLOITATION SOV/3524

Grigor'yev, Vasiliy Prokhorovich, Doctor of Technical Sciences, Professor

Tekhnologiya samoletostroyeniya (Aircraft-Construction Technology) Moscow, Oborongiz, 1960. 542 p. Errata slip inserted. No. of copies printed not given.

Reviewers: B.V. Luk'yanov, Candidate of Technical Sciences, and M.N. Gorbunov, Candidate of Technical Sciences; Ed.: S.D. Krasil'nikov, Engineer; Ed. of Publishing House: M.S. Anikina; Tech. Ed.: L.A. Garnukhina; Managing Ed.: A.I. Sokolov, Engineer.

PURPOSE: This textbook is intended for the course "Aircraft-Construction Technology" at schools of higher education specializing in aviation.

COVERAGE: The book deals with the fundamentals of aircraft engineering as taught in aviation institutes. The book includes information on the fundamentals of the manufacturing processes for

Card 1/13

sheet-metal flats and shapes, castings, stampings, and machined parts. The manufacture and assembly of parts, units, and sub-assemblies, as well as descriptions of the equipment used in such operations, are emphasized. Particular attention is paid to jigs and fixtures and to the most recently developed assembly methods. The practice of mating structures and the ways and means of insuring the highest degree of in-line accuracy are discussed. Descriptions and diagrams of a diversity of handling tools for transporting shaped parts through the main assembly stages are presented. An evaluation is given of the existing possibilities of reducing manufacturing costs by devising more economical processes and by more efficient utilization of available resources. The author thanks the following persons for their assistance: the staff of the Department of Aircraft Production, Khar'kovskiy aviatsionnyy institut (Khar'kov Aviation Institute), particularly D.A. Lyukevich, Docent; M.N. Gorbunov and B.V. Luk'yanov, Docents, Moskovskiy aviatsionnyy tekhnologicheskiy institut (Moscow Aviation Technology Institute); and A.V. Golyayev, Professor, V.V. Boytsev, Professor, A.L. Abibov, Candidate of Technical Sciences, Docent, I.T. Belyakov, Candidate of Technical Sciences,

Docent, S.V. Yeliseyev, Candidate of Technical Sciences, Docent, and R.M. Tarasevich, Docent, all staff members of the Department of Aircraft Production, Moskovskiy aviatsionnyy institut (Moscow Aviation Institute). There are 30 references (including one translation), all Soviet.

TABLE OF CONTENTS:

S/147/62/000/003/003/007
E191/E435

AUTHOR: Grigor'yev, V.P.

TITLE: Stressing of lap joints designed as bolted, rivetted or spot-welded joints

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Aviatsionnaya tekhnika, no.3, 1962, 71-78

TEXT: Single lap joints are examined, distinguishing the cases of sheet failure and fastening failure. In determining the ultimate strength of the joint, empirical coefficients are introduced expressing the weakening effect due to stress concentration and bending stresses in the sheet (0.75 for single row joints and 0.85 for multi-row joints) and the effective reduction in the sheet cross-section due to counter-sinking in bolted and rivetted joints and to a drop in material properties in spot-welded joints. The latter factor is applied as a multiplying factor to the reduction in the sheet cross-section due to the hole for the fastening. In a spot-welded joint, this factor is 1.8 for duralumin and 1.5 for steel. The optimum lap joint is one in which the sheet and the fastening fail

Card 1/2

simultaneously. For this maximum strength joint, the number of fastening points and their pitch are determined and a strength coefficient is defined as the ratio of joint strength to sheet strength. A procedure is given, assisted by a table of formulae, for the design of maximum strength joints. The significance of this procedure is further illustrated by considering joint failures due to fastening failures. Plotting the braking load against the number of fastening points, a progressive rise reaches its peak in the region of the optimum number of fastenings and is followed by a steep drop in rivetted and bolted joints or a constant value in spot-welded joints. Certain design conclusions are derived. Joints with a small number of fastening points in the last row and equal numbers in the other rows have the least number of rows, the smallest lap width and the smallest weight. Tests under alternating load and repeated impact conditions have shown that optimum strength joins as defined here are superior also in fatigue strength. There are 6 figures and 1 table.

SUBMITTED: September 19, 1961

Card 2/2

GRIGOR'YEV, V.P.; POPOV, S.Ya.

Effect of the acidity of the solution and of the conditions of adsorption of surface-active agents on the kinetics of copper contact displacement by iron. Trudy NPI 133:37-52 '62.

Effect of the conditions of cathodic polarization on the protective properties of lime deposits. Ibid.:73-93 (MIRA 17:2)

AM4007948 BOOK EXPLOITATION S/

Grigor'yev, Vasiliy Prokhorovich (Doctor of Technical Sciences, Professor)

Effect of the method of joining sheet parts on the strength and service life of joints (Vliyaniye tekhnologii vy*polneniya soyedineniy listovy*kh detaley na ikh prochnost' i vynoslivost') Moscow, Oborongiz, 1963. 207 p. illus., biblio. Errata slip inserted. 4500 copies printed.

TOPIC TAGS: sheet part, sheet part joining, sheet part welding, sheet part riveting, sheet part bolting, sheet part adhesive bonding, stress concentration, joint property

PURPOSE AND COVERAGE: This book, intended for engineers of machine-building plants, design bureaus, and planning institutions, presents experimental data concerning the effect of various joining processes on the strength and endurance of joints. Various operations such as surface preparation, hole making, location of load-carrying elements, and solidification of bonding substances are

Card 1/6