CHOPRIYENKO, V.P.; LEBEDEV, A.Ye.

Composition of the sinter charge mixture and its preparation for sintering in sintering plants of the Ukrainian S.S.R. Sbor.trud. UNIIM no.11:7-17 '65.

(MIRA 18:11)

LEBEDEV, A.Ye.; ANTONOV, V.K.; TATSHYENKO, P.A.; ARBUZOV, V.A.; NEVOYSA, G.G.;
Prinimali uchastiye: ZAPARENKO, V.Ye.; KARPOVETS, B.S.

Experience in the sintering of raw (unconcentrated) [illegible] ore. Sbor.trud. UNIIM no.[illegible] '6[illegible].

(MIRA [illegible])

LEBEDEV, B.

Communist labor competition in a brigade. Sov.profsoiuzy 17 no.22:24-26 N '61. (MIRA 14:10)
(Instrument industry) (Socialist competition)

LEBEDEV, B.

Resolutions of the November Plenum are going into effect. Sel'. stroi. 17 no.4:3-4 Ap '63. (MIRA 16:7)

1. Predsedatel' Kaluzhskoy oblastnoy mezhkolkhoznoy stroitel'noy organizatsii.

(Collective farms—Interfarm cooperation)
(Construction industry)

Z/056/62/019/006/004/005
I037/I237

AUTHORS: Paton, B. and Lebedev, B.

TITLE: Some results and further tasks in the field of industrialization of mounting works in steel sheet constructions

PERIODICAL: Přehled technické a hospodářské literatury, v. 19, no. 6, 1962, 372, item HS 62-4710

TEXT: Introduction of mechanized welding of steel leaves 18–50 mm thick for high furnace coatings. Variations in methods for the construction of the coat from the leaves, in order to have the joints favorable for mechanized welding. The evaluation of the variants. Electroslag and gas welding. Improvement of the welding instruments. The advantages of large areas prefabricated by welding of leaves in the workshop. Some shortcomings and way for improvement.

Prom. Stroit, v. 40, no. 1, 1961, 1, 28–33

[Abstracters' note: Complete translation.]

Card 1/1

LEBEDEV, B.A.

POVORINSKIY, Yu. A.; LEBEDEV, B.A.

V.N. Miasishchev; 60th anniversary of his birth and 34th anniversary of his scientific, pedagogic, and organizational activities. Zh. nevropat. psikhiat., Moskva 53 no.12:979 Dec. 1953 (CIML 25:5)

LEBEDEV, B.A.

LEBEDEV, B.A.

Coupled function of the cerebral hemispheres in man. Zhur.vys.nerv. deiat. 4 no.4:474-481 Jl-Ag '54. (MLRA 8:3)

1. Tret'ya psikhiatricheskaya klinika Leningradskogo psikhonevrologicheskogo instituta im. V.M.Bekhtereva.
(BRAIN, physiology,
couples funct. of cerebral hemispheres in man)

LEBEDEV, B. A.

"Characteristics of the Higher Nervous Activity of Patients with Psychic Distrubances and Foci of Brain Disease During Arteriosclerosis." Cand Med Sci, First Leningrad Medical Inst imeni I. P. Pavlov, Leningrad, 1955. (KL, No 16, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (16).

LEBEDEV, B.A.

LEBEDEV, B.A.

Ditilin, a Russian preparation for facilitation in electroshock therapy and prevention of possible complications [with summary in French]. Zhur.nevr. i psikh. 57 no.12:1487-1494 '57. (MIRA 11:2)

1. 3-ya psikhiatricheskaya klinika (zav. - prof. Ye.S.Averbukh) Leningradskogo psikhonevrologicheskogo instituta imeni V.M. Bekhtereva.

(SHOCK THERAPY, ELECTRIC,
adjuvant, musc. relaxant ditiline (Rus))
(MUSCLE RELAXANTS, therapeutic use,
ditiline, prev. of compl. in electric shock ther. (Rus))

AVERBUKH, Ye.S.; VISHNEVSKAYA, L.N.; GAPONOVA, V.D.; DOIL'NITSYNA, A.D.; YEFIMENKO, V.L.; LEBEDEV, B.A.

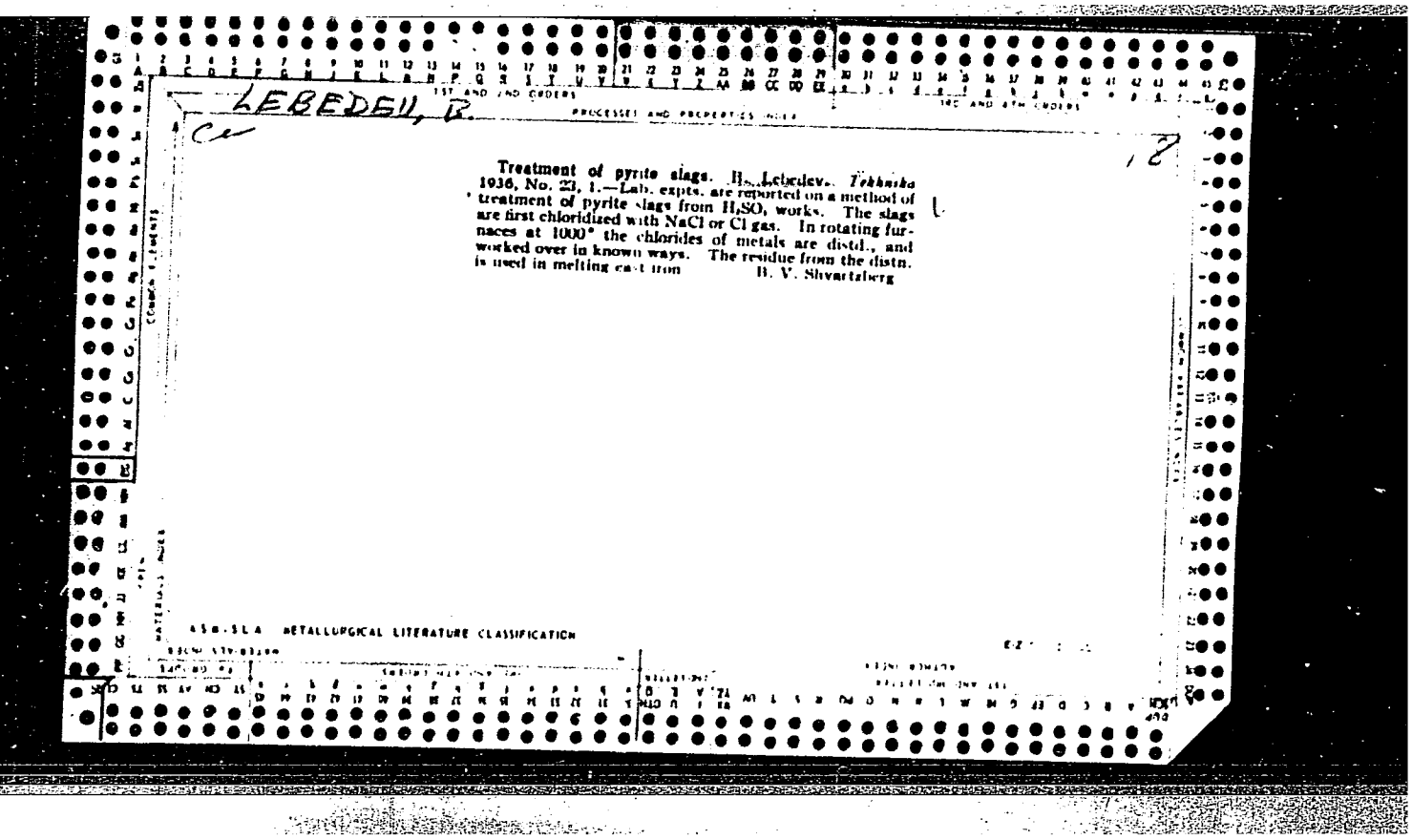
Modern approach to the investigation and treatment of mental disturbances in hypertension. Trudy Gos. nauch.-issl. psikhonevr. inst. no.20:149-162 '59. (MIRA 14:1)

1. Gosudarstvennyy nauchno-issledovatel'skiy psikhonevrologicheskiy institut imeni V.M. Bekhtereva, Leningrad.
(MENTAL ILLNESS) (HYPERTENSION)

LEBEDEV, B.A.

Prevention of neuropsychic disorders in hypertension. Trudy Gos. nauch.-issl. psikhonevr. inst. no.24:67-73 '61. (MIRA 15:5)

1. 3-ye psikhiatricheskoye otdeleniye Gosudarstvennogo nauchno-issledovatel'skogo psikhonevrologicheskogo instituta imeni Bekhtereva.
(MENTAL ILLNESS) (HYPERTENSION)



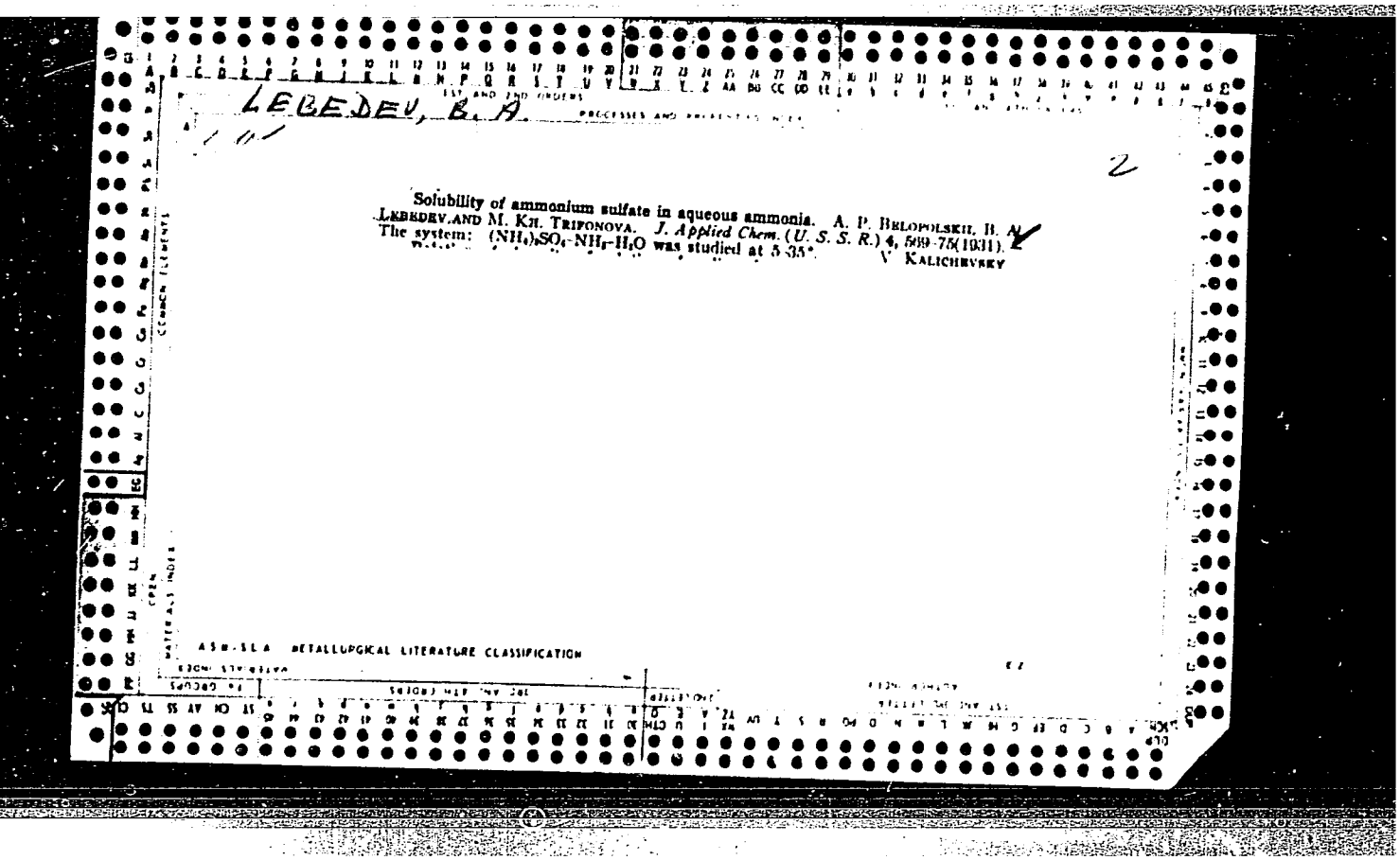
LEBEDEV, B.

Cu

18

Treatment of pyrite slags. B. Lebedev. *Tekhnika* 1936, No. 23, 1.—Lab. expts. are reported on a method of treatment of pyrite slags from H_2SO_4 works. The slags are first chloridized with NaCl or Cl gas. In rotating furnaces at 1000° the chlorides of metals are distd., and worked over in known ways. The residue from the distn. is used in melting cast iron. B. V. Shvartzberg

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



LEBEDEV, B. A.

2

Solubility of ammonium sulfate in aqueous ammonia. A. P. Belopolskii, B. A. Lebedev, and M. Kh. Triponova. *J. Applied Chem. (U. S. S. R.)* 4, 569-75(1931). The system: $(NH_4)_2SO_4$-NH_3-H_2O was studied at 5-35°. V. Kalichevsky

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1. LEBEDEV, B. A., CHAZOVA, V. V.

2. SSSR (600)

4. Ural Mountain Region-Agriculture

7. Action of fertilizers on newly reclaimed lands of the northern Urals. Sov. agron. 10, No. 11, 1952

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

4

Systems with concentrated hydrogen peroxide. III. Solution isotherms of the ternary system urea-hydrogen peroxide-water.

S. A. Makarov and B. A. Tolokev (Izvestia, 1953, No. 1, 58—63).—The system urea-H_2O_2-water is studied by solubility methods at 5° and 10·0° (±0·1°). Equilibrium is checked by analysis of successive samples from both phases. The H_2O_2 is freed from stabilisers and concentrated in vac. to 70—80%. At concn. of up to 5—7% H_2O_2 in the liquid phase, the solubility of urea increases to 48—54%, the solid phase being urea. At higher concn. of H_2O_2, the solubility of urea drops to 10% ('salting out') and the solid phase is the perhydrate containing 17% of active O_2. No other compound of urea is found. Intermediate points correspond to two solid phases, urea and urea perhydrate. At concn. of H_2O_2 >70%, difficulties are increased by decomposition of H_2O_2 and reaction of H_2O_2 with urea. The isotherms are characterised by two branches corresponding to two solid phases. The findings do not agree with those of Jaenecke.

W. Manz.

LEBEDER, B. A.

Journal of the Science
of Food and Agriculture
March 1954
Agriculture and Horticulture

(1)

Rôle of copper and boron in the cultivation of bog soils of the north Urals. B. A. Lebedev (*Pochvovedenie*, 1953, No. 4, 42—44; *Soils & Fert.*, 1953, **16**, 380).—Application of $CuSO_4$ (20 kg./hectare) doubled hay yields, but borax (20 kg./hectare) only slightly increased the crop.

A. G. POLLARD.

LEBEDEV, B.A.

The effect of soil conditions on the growth of Siberian pine in the Ural Mountain region. Trudy Inst.biol. UFAN SSSR no.6:62-75 '55. (MLRA 9:2)

(Ural Mountain region--Pine) (Ural Mountain region--Soils)

LEBEDEV, B.A.; LAVROV, A.V., otvetstvennyy redaktor, professor.

[Soils of the non-Chernozem zone of the Urals]. Pochvy nechernozemnoi polosi Urala. Sverdlovsk, 1956. 74 p. (Akademiia nauk SSSR. Ural'skii filial, Sverdlovsk. Institut biologii, Trudy no.7).

(Ural Mountain region--Soils) (MLRA 10:6)
(Agriculture)

LEBEDEV, Boris Alekseyevich; GREBNEV, B., red.; MAKSIMOVA, E., tekhn. red.

[Chemistry and agriculture] Khimiia i sel'skoe khoziaistvo. Sverdlovsk, Svedlovskoe knizhnoe izd-vo, 1959. 43 p. (MIRA 14:12)
(Agricultural chemistry)

LEBEDEV, B. A.; KARAVAYEV, V. N.

Use of basic open-hearth slags to increase crop yields. Zemledelie 24 no.9:35-39 S '62. (MIRA 15:10)

1. Ural'skiy nauchno-issledovatel'skiy institut sel'skogo khozyaystva.

(Fertilizers and manures)
(Slag)

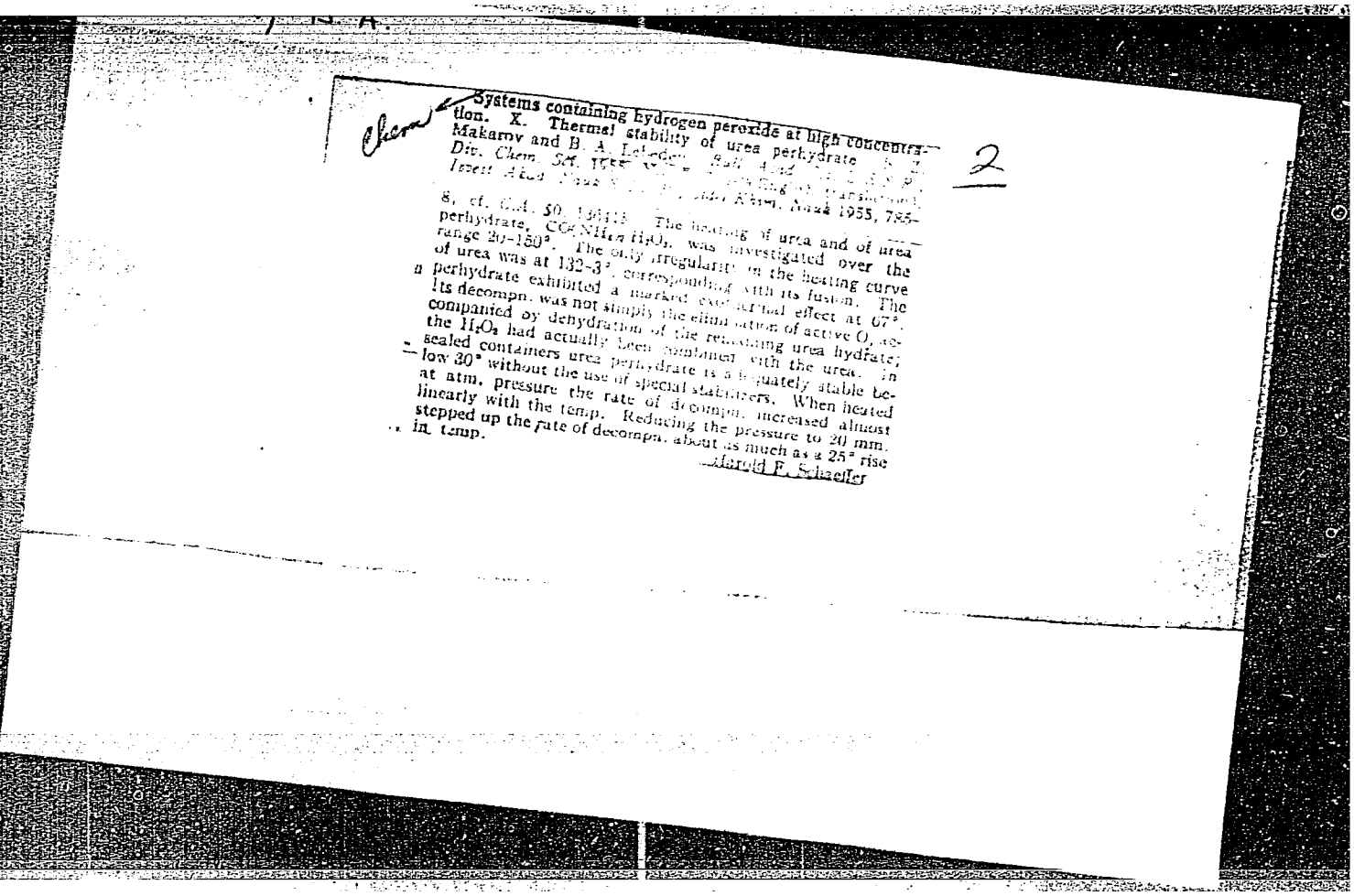
GLEBOVSKIY, S.S.; LEBEDEV, B.A.

Use of minor elements in breaking down a monotone cross section of sedimentary-metamorphic rocks. Vop. razved. geofiz. no.3: 187-191 '64. (MIRA 18:2)

LEBEDEV, B.A.

Foreword. Trudy Gos. nauch. issl. psikhonevr. inst. 29:3 '63.
(MIRA 17:8)

1. Direktor Gosudarstvennogo nauchno-issledovatel'skogo psikhonevrologicheskogo instituta imeni V.M. Bekhtereva.



Chem

Systems containing hydrogen peroxide at high concentration. X. Thermal stability of urea perhydrate

Makarov and B. A. Lebedev

Div. Chem. Sci. [illegible]

[illegible]

8, cf. C.A. 50, 13013i. The heating of urea and of urea perhydrate, $CO(NH_2)_2 \cdot H_2O_2$, was investigated over the range 20–150°. The only irregularity in the heating curve of urea was at 132–3°, corresponding with its fusion. The perhydrate exhibited a marked exothermal effect at 67°. Its decompn. was not simply the elimination of active O, accompanied by dehydration of the remaining urea hydrate; the H_2O_2 had actually been combined with the urea. In sealed containers urea perhydrate is adequately stable below 30° without the use of special stabilizers. When heated at atm. pressure the rate of decompn. increased almost linearly with the temp. Reducing the pressure to 20 mm. stepped up the rate of decompn. about as much as a 25° rise in temp.

Harold F. Schaeffer

2

Lebedev, B.A.

MAKAROV, S.Z.; LEBEDEV, B.A.

Study of systems with concentrated hydrogen peroxide. Part 10. The thermal stability of the urea hydroperoxide. Izv. AN SSSR. Otd.khim.nauk no.5:785-788 S-O '55. (MLRA 9:1)

1.Institut obshchey i neorganicheskoy khimii imeni N.S.Kurnakova Akademii nauk SSSR.
(Hydrogen peroxide) (Urea)

S/078/61/006/005/011/015
B121/B208

AUTHORS: Rode, Ye. Ya. and Lebedev, B. A.

TITLE: Physico-chemical study of molybdenum trisulfide and of the products resulting from its thermal decomposition

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 6, no. 5, 1961, 1189 - 1197

TEXT: Molybdenum trisulfide preparations and the products resulting from its thermal decomposition were studied by physico-chemical methods. The preparations synthesized were subjected to chemical, thermographic, thermogravimetric and X-ray analysis, and the diagram composition versus temperature was studied. The thermograms were recorded on a Kurnakov pyrometer with differential recorder. The preparations were synthesized by the following methods: a) saturation of the hydrochloric acid solution of ammonium molybdate with hydrogen sulfide, b) treatment of the aqueous solution of ammonium thiomolybdate with hydrochloric acid, c) treatment of crystalline thiomolybdate piperazine with dilute hydrochloric acid solutions, d) dry method - by thermal decomposition of pure ammonium tetra-

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thiomolybdate at 190 - 200°C in the absence of oxygen. The preparations of molybdenum trisulfide obtained by the wet method contain more sulfur than corresponds to their stoichiometric composition (up to $MoS_{3,7}$). Extraction with carbon disulfide reduces the sulfur content to $MoS_{3,3}$. The molybdenum sulfide prepared by the dry method contains less sulfur than the preparations obtained by the wet method. Thermograms and thermogravimetric analyses indicate that the aqueous molybdenum sulfide preparations, when heated to 250°C in oxygen-free atmosphere, are completely dehydrated and partly release the excess sulfur. At temperatures of 250-400°C MoS_3 is decomposed forming intermediate products the end product of which is MoS_2. X-ray phase analysis disclosed that at 300°C amorphous products result from the thermal decomposition of the preparation of no. 1 obtained by treating ammonium thiomolybdate solution with hydrochloric acid. At 350°C X-ray lines of crystalline MoS can already be observed in these products. The X-ray analysis of preparation 9 which was obtained by treating thiomolybdate piperazine with hydrochloric acid indicated that this preparation is also amorphous up to 200°C, so that the term "crystalline molybdenum trisulfide"

seems to be incorrect. It differs from the usual preparations in that thermal decomposition sets in already at a temperature of 190°C under the formation of new phases. The crystallization process of MoS_2 resulting from the thermal decomposition of molybdenum trisulfide proceeds in two stages. First a rhombohedral modification of MoS_2 is formed which then passes over into a hexagonal stable modification on continuous heat treatment at 600°C. Molybdenum disulfide obtained by the method of M. Guichard (Ref. 7: Ann. chim. phis. 7, 23, 557 (1901)) by thermal decomposition of ammonium molybdate and sulfur in the presence of potash contains both rhombohedral and hexagonal MoS_2 modifications which was confirmed by X-ray analysis. P. A. Koz'min is thanked for his interest in these studies. Papers by L. Sokol (Ref. 31: Sb. chekhoslovatskikh khimicheskikh rabot, 1956, razdel "Khimiya", t. 21, no. 5, str. 1140) and A. N. Zelikman, L. V. Belyayevskaya (Ref. 25: Zh. neorgan. khimii, 1, 2239 (1956)) are mentioned. There are 5 figures, 3 tables, and 31 references: 8 Soviet-bloc and 23 non-Soviet-bloc. The four most recent references to English-language publications read as follows: Ref. 18: R. E. Bell, R. E. Her-

Card 3/4

Physico-chemical study of ...

S/078/61/006/005/011/015
B121/B208

fert, J. Amer. Chem. Soc., 79, 3351 (1957); Ref. 19: R. G. Dickinson, L. Pauling, J. Amer. Chem. Soc., 45, 1466 (1923); Ref. 24: F. Jellinek, G. Brauer, H. Müller, Nature (London), 185, 376 (1960); Ref. 26: P. Cannon, Nature (London), 183, 1612 (1959).

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR
(Institute of General and Inorganic Chemistry imeni N. S. Kurnakov of the Academy of Sciences USSR)

SUBMITTED: June 2, 1960

Card 4/4

S/078/61/006/005/012/015
B121/B208

AUTHORS: Rode, Ye. Ya. and Lebedev, B. A.

TITLE: Physico-chemical investigation of rhenium sulfides

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 6, no. 5, 1961, 1198 - 1203

TEXT: Re_2S_7 was obtained by precipitation with hydrogen sulfide from a hydrochloric acid potassium perrhenate solution in the following way: A homogeneous stream of hydrogen sulfide was passed for 3 - 4 hr through a solution of $KReO_4$ (5 g in 2.7 l water and 1.3 l concentrated hydrochloric acid) at 80 - 90°C, to cool the solution. The precipitate was allowed to stand over night, and decanted some times with cold water saturated with hydrogen sulfide. The precipitate was filtered off, washed with hot water, and dried in the vacuum exsiccator over concentrated sulfuric acid. A dark-brown powder with variable composition was obtained. The preparation synthesized was examined by thermographic, thermogravimetric, and X-ray analysis. It may be seen from the thermographic analysis that the

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first endothermic effect appears at 35 - 110°C, which indicates the release of hygroscopic and not firmly bound water. The second endothermic effect appears at 156 - 280°C indicating a further release of water and the decomposition of rhenium heptasulfide. The thermogram of rhenium heptasulfide dried over sulfuric acid in the vacuum exsiccator shows only one endothermic effect at 120 - 230°C. At higher temperatures no other thermal effects occur. At 400°C decomposition of the compound sets in forming ReS_2. At higher temperatures a continuous decomposition of Re_2S_7 takes place, at 800°C the decomposition product has the composition $ReS_{2,08}$. Intermediates of a composition between Re_2S_7 and ReS_2 were not found to be formed. The rhenium heptasulfide obtained by the wet method is amorphous in the X-ray pictures, only after a heat treatment at about 400°C crystallization products of ReS_2 were found. The crystallization of rhenium disulfide obtained by thermal decomposition of Re_2S_7 begins at 400°C and proceeds more slowly than the crystallization of MoS_2. P. A. Koz'min assisted in this work. There are 4 figures, 2 tables, and 17 references: 2 Soviet-bloc and 15 non-Soviet-bloc. The references to English-language

Physico-chemical investigation ...

publications read as follows: Ref. 5, H. V. Briscoe, P. L. Robinson, E. M. Stoddart, J. Chem. Soc. (London), 1439 (1931). Ref. 11, R. W. Wyckoff, Crystal Structures, 1948, v. 1, p. 15.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry imeni N. S. Kurnakov of the Academy of Sciences USSR)

SUBMITTED: June 2, 1960

Card 3/3

RODE, Ye, Ya.; LEBEDEV, B.A.

Physicochemical study of molybdenum trisulfide and of the products of its thermal decomposition. Zhur.neorg.khim. 6 no.5:1189-1197 My '61. (MIRA 14:4)

1. Institut obshchey i neorganicheskoy khimii imeni N.S.Kurnakova AN SSSR.

(Molybdenum sulfide)

L 20681-65 EWT(m)/EWP(b)/EWP(t) IJP(c) JD/JG

ACCESSION NR: AP4044806 S/0078/64/009/009/2068/2075

AUTHOR: Rode, Ye. Ya.; Lebedev, B. A.

TITLE: Tungsten sulfides

SOURCE: Zhurnal neorganicheskoy khimii, v. 9, no. 9, 1964, 2068-2075

TOPIC TAGS: tungsten sulfide, tungsten trisulfide, tungsten disulfide, ammonium thiotungstate, ammonium thiotungstate, catalyst

ABSTRACT: The thermal decomposition of ammonium thiotungstate was investigated in an inert and in a reducing atmosphere. The WS_3 obtained as an intermediate product by thermal decomposition at 280C in nitrogen differed from the WS_3 formed by precipitation of ammonium thiotungstate with HCl in that it did not contain sulfur and oxygen-compounds of tungsten. The thermograms for this WS_3 showed a gradual endotherm beginning at 250C, attributed to simultaneous decomposition of WS_3 and vaporization of the sulfur, and an exotherm at 330C, when the WS_3 crystallized. No other thermal effects were observed up to 700C. X-rays showed decomposition of ammonium thiotungstate was only partial at 280C and

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that WS_2 started to form at 360C. WS_3 dissociated, starting at about 300C, to form WS_2 containing excess sulfur ($WS_{2.29}$) characterized by disordered crystalline structure. The end product of decomposition in inert atmosphere at 1000C was WS_2 of stoichiometric composition with the ordinary hexagonal crystalline structure of the molybenite (MoS_2) type. Thermally stable decomposition products intermediate between WS_3 and WS_2 were not observed. The decomposition of ammonium thiotungstate in a hydrogen current was conducted from 100-1000C. There was no decomposition at 150C; an amorphous material containing WS_2 with a small excess of sulfur was obtained at 200C. It was suggested that this material might have better catalytic properties than WS_2 obtained at 400C. Stoichiometric WS_2, characterized by disordered structure, was stable in the hydrogen atmosphere at 300-650C. The decomposition product obtained at 700C was poor in sulfur in comparison to WS_2 and was monophasic with disordered structure of behavior similar to WS_2. Starting at 800C the decomposition products were mechanical mixtures of WS_2 and W; at 1000C the product was practically all metallic tungsten. No compounds of intermediate composition between WS_2 and W, as suggested by S. M. Samoylov (Izv. AN SSSR. Otd. khim. n., vy*p. 8, 1416

(1961)) were established in the hydrogen current thermal decomposition of the ammonium thiotungstate. "L. Z. Gokhman took part in the work." Orig. art. has: 6 figures and 2 tables

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry, Academy of Sciences SSSR)

SUBMITTED: 13Jun63 ENCL: 00

SUB CODE: GC, IC NO REF SOV: 005 OTHER: 011

35007

S/563/61/000/216/004/007
D215/D304

1.Y300

AUTHOR: Lebedev, B.D.

TITLE: Influence of alloying elements on the mechanical properties of weld metal

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy, no. 216, Moscow, 1961. Svarochnoye proizvodstvo, 110 - 121

TEXT: Alloying elements were added singly to a mild steel electrode to give the following ranges of content in the weld metal: Cr, W, Cu, Si 0.5 - 3.0 %; Al 0.43 - 0.88 %; Mo 0.7 - 2.5 %; Mn 1.5 - 3.0 %; Ni 0.8 - 4.4 %. CT . 3 (St. 3) rimming steel plates were used as the parent metal; weld metal was deposited by the submerged-arc process into a 60°V preparation with 2 mm root face. Alloying was effected by using a powder-cored wire made from 0.5 x 15 mm mild steel strip and iron and alloy powders. From each weld were taken 2 3 mm dia. longitudinal weld tensile specimens and 3 transverse impact specimens (5 x 10 mm) with the notch vertical. The results are tabulated and shown in graphical form. With most alloy-

Card 1/2

ing elements the strength, mechanical properties and hardness increased continuously with increasing element additions except that 1) at 3.3 % W hardness continued to rise but the strength fell, 2) at Ni $>$ 3.0 % and Mo $>$ 1.0 % both strength and hardness decreased. Tensile ductility properties decreased with increasing contents of all elements except Ni up to 3.5 % (above this hot cracking was observed) and Mo up to 1.5 %. Impact strength was lowered by all elements. If a minimum elongation of 10 % and min. impact strength of 4 km/cm^2 at room temperature were mandatory, then the upper limit of single element addition was 2 % Si, 1 % Al, 3 % Ni, 2.5 % Mn, 2.5 % Cu, 1 % Mo, 1.5 % Cr, 3 % W. It was considered that the elements moved the A_3 line to the right and promoted (except Cu) increasing dispersion of the structure. All elements except Mo moved the eutectoid point to the left, decreasing the ferrite volume. Cu between 1.38 and 3.73 % formed a new phase, probably the ε-phase. Mo moved the eutectoid point to the right, first refining and then coarsening the structure. There are 12 figures, 2 tables and 8 Soviet-bloc references.

ASSOCIATION: Leningradskiy politekhnicheskiy institut (Polytechnic Institute, Leningrad)

Card 2/2

LEBEDEV, B.D.

Determination of the mechanical properties of the metal of welded low-alloyed seams from their chemical composition. Trudy DKHTI no. 16:193-201 '63. (MIRA 17:2)

LEBEDEV, B.D., kand. tekhn. nauk

Problem of determining the filling coefficient of a powder wire. Svar. proizv. no.9:32 S '65. (MIRA 18:9)

1. Dnepropetrovskiy khimiko-tekhnologicheskiy institut.

L 00971-67 EWT(m)/EWP(t)/ETI/EWP(k) IJP(c) JD

ACC NR: AP6027487 (A) SOURCE CODE: UR/0418/66/000/003/0044/0045

AUTHOR: Lebedev, B. D. (Candidate of technical sciences); Guzov, F. D. (Engineer)

ORG: None

TITLE: Cooling acid-resistant stainless steel with an atomized emulsion during machining

SOURCE: Tekhnologiya i organizatsiya proizvodstva, no. 3, 1966, 44-45

TOPIC TAGS: cooling, atomization, metal machining, temperature control, emulsion

ABSTRACT: The authors describe a study carried out at the cutting laboratory of the Dnepropetrovsk Plant of Metallurgical Equipment and the Department of Metal Technology of DKhTI on cooling steel with atomized liquid during machining. The cutting zone is cooled with an atomizer developed at the Scientific Research Laboratory of Machine Tool Building and Cutting Instruments at the Gor'kiy Polytechnical Institute. The temperature field of the cutting zone was studied under laboratory conditions and it was determined that the minimum temperature of the jet is 5 mm from the nozzle and decreases insignificantly as pressure is increased from 2 to 5 atm. The lowest temperature of the jet was observed at a flow rate of 830 g/hr. The distance between the atomizer nozzle and the cutting zone was always set at minimum. Optimum air pressure and flow rate were determined at 2-3 atm and 300-800 g/hr respectively. The results

Card 1/2 UDC: 621.90+532.695:669.14.018.84

L 06371-67

ACC NR: AP6027487

show that atomized fluid cooling improves cutting tool stability in all aspects of machining. The use of this method in machine shops shows that surface finish is improved, particularly in the case of 1Kh18N9T acid-resistant stainless steel. Examples are given showing the effect of atomized liquid cooling on various types of machining, tools and materials.

SUB CODE: 13/ SUBM DATE: None

Card 2/2

LEBEDEV, P.F.

LEBEDEV, P.F. "Investigation of the Strength of Weld Joints of Oil Tanks made by the 'Chunting Method.'" Min Higher Education Ukrainian SSR. Kiev Construction Engineering Inst. Kiev, 1956. (Dissertation for the Degree of Candidate in Technical Science)

So: Knizhnaya Letopis', No. 18, 1956,

Sub.: USSR/Engineering

PERIODICAL ABSTRACTS

LEBEDEV, B. F.

AID 4195 - P

PROCHNOST' SVARNYKH SOYEDINENIY VERTIKAL'NYKH REZERVUAROV, IZGOTOVLYAYEMYKH METODOM SVORACHIVANIYA (Strength of Welded Junctions in Vertical Containers Made by the Rolling Method). Avtomaticheskaya svarka, no. 1, Ja/F 1956: 58-64.

The author presents results of tests conducted on vertical tanks for fuel storage at low temperatures. He describes the effects of residue stresses on welded junctions, the static strength of junctions with crossing seams, the effects of the rolling process on the strength of welded junctions, and the static strength of junctions in points where the container bottom is connected with the body. The MSt.3 steel, 10mm thick was used in the sample tanks. Five tables and 4 drawings. Two Russian references, 1950.

AID P - 4509

Subject : USSR/Engineering

Card 1/1 Pub. 11 - 7/12

Author : Lebedev, B. F.

Title : Static Strength of Horizontal Butt-welded and Lap-welded Joints.

Periodical : Avtom. svar., 2, 48-57, Mr/Ap 1956

Abstract : The author describes the method and results of the investigation to ascertain the relative strength of butt and lap welding of joints in vertical cylindrical containers built primarily for petroleum products. His deduction is that the butt welding of horizontal joints in vertical vessels made of Martin and Bessemer steels has certain advantages over the lap-welding method. Eight tables, 2 photos, and 1 drawing. 3 Russian references (1951-1952).

Institution : Institute of Electrowelding im. Paton

Submitted : O 24, 1955

Subject : USSR/Engineering AID P - 4839

Card 1/1 Pub. 11 - 12/13

Author : Lebedev, B. F.

Title : Effect of surface hardening of sheet edges on strength of lap joints.

Periodical : Avtom. svar., 13, 95-101, Mr 1956

Abstract : The author presents results of static tests of metal lap joints, where one seam is of the intermittent weld type while the sheet edge is cut by shears. The tests were made at low temperatures and with stresses directed alongside the seam. The practical conclusion is that cutting metal with shears provokes a surface hardening condition in the metal, along the edge, and lowers strength of longitudinal lap joints. Four tables, 4 graphs and 1 photo. 3 Russian references (1949-56).

Institution : Electrowelding Institute im. Paton

Submitted : No date

LEBEDEV, B.F.

Strength of welded joints in vertical tanks built by the roll method. Avtom.svar.9 no.1:58-64 Ja-F '56. (MLRA 9:6)

1.Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki imeni Ye.O.Patona AN USSR.
(Tanks--Welding) (Electric welding--Testing)

LEBEDEV, B.F.

RAYEVSKIY, G.V.; BERNADSKIY, V.N.; LEBEDEV, B.F.; MARTYNOV, I.G.; TRUSHCHENKO, A.A.

Industrial methods for manufacturing pipes. Biul. stroi. tekh. 14 no.5: 10-13 My '57. (MLRA 10:6)

1. Institut elektrosvarki imeni Ye.O. Patona Akademii nauk USSR.
(Pipe, Steel--Welding)

LEBEDEV, B. F.

125-1-4/15

AUTHOR: Lebedev, B.F.,

TITLE: Investigation of the Influence of Cold Hardening on the Cold Brittleness of Steel and Welded Joints (Issledovaniye vliyaniya naklepa na khladnolomkost' stali i svarnykh soyedineniy)

PERIODICAL: Avtomaticheskaya Svarka, 1958, # 1, pp 28 - 31 (USSR)

ABSTRACT: The author mentions experimental data pertaining to the influence of minor cold hardening: 1) On the construction of storage tanks while the metal is being rolled (bended); 2) on the cold brittleness of the basic metal; 3) on metals in various areas of the welded joints. The investigations were carried out on rimmed steel and killed steels of open hearth production. Specimen blanks were subjected to tempering at 650°C. and submitted to 0.5, 1.0 and 1.5% stretching in a 100-ton tensile testing machine. Deformation values were evaluated by a deformation meter. It was stated that cold hardening of metals by a 0.5 - 1.0% stretching reduces the tendency of low carbon steel to brittleness, whereas the cold hardening of metal at higher magnitudes increases this property. Special tests have also shown that in the cold hardening of metal by a 0.5 - 1.0% stretching, the yield point increases slightly and attains even higher values (from 24.5 to 31.3 kg/mm^2) in cold hardening of metal by a 1.5% stretching.

Card 1/ 3

Investigation of the Influence of Cold Hardening on the Cold Brittleness of Steel and Welded Joints

Investigations pertaining to the effect of cold hardening by bending were conducted with regard to deformation values which occur in the rolling method of production of storage tanks. These methods were proposed by the Institute of Electrowelding imeni Ye.O. Paton.

Tests have shown that cold hardening by one-sided bending increases the critical brittleness temperature of killed steel samples by 5 - 10° and that of rimmed steel samples by 10°; opposite results were obtained in cold hardening by two-sided bending when temperatures fell by 10 - 15° as in the case of killed steel samples and by 20 - 25° for rimmed steel samples, although theoretical grounds have not as yet been found for the different effects of one and two-sided bending, there are, however, certain data which indicate a method of finding by the solution to this problem.

A comparison of the above mentioned peculiarities in cold hardened specimens with the structure of fracture, may lead to the conclusion that a two-sided bending induces a certain reduction of the grain size on the surface of the metal

Investigation of the Influence of Cold Hardening on the Cold Brittleness of Steel and Welded Joints

fracture. As a result, the energy of dynamic load is distributed more uniformly on a great number of surfaces.

The effects of cold hardening by bending were tested on specimens taken from butt-welded joints, which had been welded by one- and two-sided automatic welding under flux - ОСЦ-45 Incisions were made in the seams, lines of fusion and at a distance of 5 and 10 mm from these lines in the so-called ageing zone.

In such a manner it was stated that cold hardening by bending, when the deformation value of the extreme fiber equals 0.5%, has no negative effect on the cold brittleness of various weld zones if killed steel or two side welding is applied.

There are 3 diagrams and 8 Russian references.

ASSOCIATION: The Institute of Electrowelding imeni Ye.O. Paton (Institut elektrosvarki imeni Ye.O. Patona)of the Ukrainian SSR Academy of Sciences.

SUBMITTED: April 25th, 1956
AVAILABLE: Library of Congress

LEBEDEV, B.F., kand.tekhn.nauk.; MARTINSON, Ye.F., inzh.; SAVICH, I.M., inzh.

Constructing an experimental pipeline using flat-wound aluminum pipes. Nov.tekh.mont. i spets.rab. v stroi. 20 no.12:13-15 D '58. (MIRA 12:1)

1. Institut elektrosvarki im. akademika Ye.O.Patona i Trest No.7 Glavneftemontazha Ministerstva stroitel'stva RSFSR.
(Pipelines) (Pipe, Aluminum--Welding)

SOV/125-59-1-3/15

25(1)
AUTHOR: Barbanel', R.I., Martynov, I.G., Lebedev, B.F.

TITLE: Flat-Rolled Aluminum Pipes (Ploskosvorachivayemyye alyuminiyevyye truby)

PERIODICAL: Avtomaticheskaya Svarka, 1959, Nr 1, p 18-24 (USSR)

ABSTRACT: This article reports on experience in the production and assembly of flat-rolled aluminum pipes by methods worked out by the Experimental Design Office and the Institute of Electric Welding imeni Ye.O. Paton. The new technological process includes the semi-uninterrupted casting of round, hollow, thick-side ingots with an inner diameter equal to the diameter of the pipes to be cast. The inner surface is smeared with spindle oil and talc. The ingot is heated and rolled into a slab twice as thick as the future pipe. Surplus material on the edges is cut off, and the slab is rolled up, and is ready for use. A large consignment of pipes was prepared out of aluminum AD-1. The ingots were 7 m long, had an inner diameter of 150 mm, an outer diameter 290 mm. They were cut into pieces 2000-2500 mm in length, for the preparation

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25(1)
Flat-Rolled Aluminum Pipes

of 6-8m thick and 45-47 m long slabs. When blown out under a pressure of 8 atm, the slab takes an almost round shape. The breaking pressure for pipes with 4 mm thick sides is 29-32 atm, with 3 mm sides it is 19-24 atm. In order to secure the pipe's strength, its edges must be 2-2½ times stronger than the sides. The rolled aluminum piece had the following qualities: breaking point 10-16 kg/mm^2; flow limit 7.5-14 kg/mm^2; relative stretchability 5-24 %. According to SU-70 of the Glavneftemontazha (Main Directorate for Oil Installations), the laying of such aluminum pipes is considerably easier and cheaper than that of regular steel pipes. It was found out that such uninsulated pipes tested well, but when used in alkaline ground, the pipes must be insulated on the outside. This method was worked out by I.G. Martynov, R.I. Barbanel', P.A. Kolpakov, and L.I. Stoklitskiy. The assembly work was carried out by B.F. Lebedev with help from M.I. Dzyubenko, P.F. Filimonova and

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25(1)
Flat-Rolled Aluminum Pipes

SOV/125-59-1-3/15

A.D. Ivanov. There are two sets of photos, one diagram, one table and six Soviet references.

ASSOCIATION: Opytno-konstruktorskoye byuro moskovskogo oblastnogo sovnarkhoza (Experimental Designing Office of the Moscow oblast' Council of National Economy; Institut elektrosvarki imeni Ye. O. Patona, AN USSR (The Institute of Electric Welding imeni Ye.O Paton of AS UkrSSR).

SUBMITTED: October 22, 1958

Card 3/3

TITLE: [illegible] (Russian)

PERIODICAL: [illegible]

ABSTRACT: An experimental gas pipeline has been [illegible] of the city of Cheboksary, one of the [illegible] from [illegible] flat rolled pipes, [illegible] a wall thickness of 4 mm. This aluminum [illegible] for the transmission of [illegible] sion of according, to which steel pipes are [illegible] technology of production of these aluminum pipes is the [illegible] to that of steel pipes: the diameter of the [illegible] round hollow ingot is covered with a layer of [illegible] mastic and then flattened in a blooming mill. [illegible] then hot-rolled to a strip having twice the wall thickness of the pipe. The flat pipes are put in coils and the [illegible] ends are fitted with flanges and welded sleeves. The coils of flat pipes are unrolled on the site and pipes assembled the line, where the pipe is to be installed. [illegible]

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Aluminum Experimental Gas Pipeline

pressure the flat pipe is [illegible] round shape. It is recommended to carry out [illegible] under stretched condition of the pipe, to avoid [illegible] other irregularities liable to occur due to the uneven contours of the ground. The blank pipe tube [illegible] 30 to 40 m long. The butts of the pipe sections are [illegible] together with the use of insertion rings. Special flange joints are provided for connections between aluminum and steel pipes; while metal fittings are zinc plated, a dielectric washer and spacer are placed on the side of the aluminum flange. The article cites results of experiences with aluminum pipes in the USA.
There are 5 photographs, 2 diagrams, 1 table and [illegible] Soviet references.

Card 2/2

25(1) SOV/125-59-8-13/18

AUTHOR: Lebedev, B.F.

TITLE: Mechanization of the Welding of Air-Heaters of the Blast Furnace Shop

PERIODICAL: Avtomaticheskaya svarka, 1959, Nr 8, pp 90-91 (USSR)

ABSTRACT: It is stated by way of introduction that the bodies of air heaters are usually from separate sheets of metal which are welded by hand in a vertical position. This article describes a new method of manufacturing and mounting air heaters which permit extensive use of automatic welding in a lowered position. This method was developed by the "Uralstal' konstruktsiya" Trust of the Ministerstvo stroitel'stva RSFSR (Ministry of Construction of the RSFSR), the Institut elektrosvarki imeni Ye.O. Patona (Institute of Electric Welding imeni Ye.O. Paton) jointly with the "Promstal'-konstruktsiya" and "Proyektstal' konstruktsiya" institutes. The method is outlined in some detail. A TS-17-M welding tractor unit is employed in this process.

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Mechanization of the Welding of Air-Heaters of the Blast Furnace Shop

SOV/125-59-8-13/18

The author claims that when using this method quality of construction is better, and less time and labor are required for outfitting blast furnace air heaters. There is 1 photograph.

Card 2/2

Lebedev, B. I.

PHASE I BOOK EXPLOITATION SOV/5078

Akademiya nauk URSR, Kiyev. Instytut elektrozvaryuvannya

Vnedreniye novykh sposobov svarki v promyshlennost'; sbornik statey. vyp. 3. (Introduction of New Welding Methods in Industry; Collection of Articles. v. 3) Kiyev, Gos. izd-vo tekhn. lit-ry UkrSSR, 1960. 207 p. 5,000 copies printed.

Sponsoring Agency: Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki imeni akademika Ye. O. Patona Akademii nauk Ukrainskoy SSR.

Ed.: M. Pisarenko; Tech. Ed.: S. Matusevich.

PURPOSE: This collection of articles is intended for personnel in the welding industry.

COVERAGE: The articles deal with the combined experiences of the Institut elektrosvarki imeni Ye. O. Patona (Electric Welding Institute imeni Ye. O. Paton) and several industrial enterprises in solving scientific and engineering problems in welding technology. Problems in the application of new methods of mechanized welding and electroslag welding in industry are discussed. This is the third collection of articles published under the same title. The Foreword was written by B. Ye. Paton, Academician of the Academy of Sciences Ukrainian SSR and Lenin prize winner. There are no references.

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Lebedev, B. I. [Candidate of Technical Sciences, Electric Welding Institute imeni Ye. O. Paton], A. I. Alekseyev [Trest Uralstal'konstruktsiya (Ural Fabricated-Steel Trust)], and S. Yu. Rabinovich [Trest Dneprostal'konstruktsiya (Dnepr Fabricated-Steel Trust)]. Experience in the Mechanization of Welding [Operations] in the Erection of Metallic Structures for a Blast-Furnace Plant 194

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S/125/60/000/007/007/010
A161/A029

AUTHORS: Lebedev, B.F.; Sterenbogen, Yu.A.; Alekseyev, A.I.

TITLE: Mechanization of Welding Works in Construction of Blast Furnace Casings

PERIODICAL: Avtomaticheskaya svarka, 1960, No. 7, pp. 70 - 75

TEXT: Mechanized welding in construction of blast furnaces was applied by the Electric Welding Institute imeni Ye.O. Paton and the "Stal'montazh" Trust in 1949 - 1951 at the Zaporozhskiy metallurgicheskiy kombinat (Zaporozh'ye Metallurgic Combine) (Reference 1). Later, electroslag welding of vertical joints was used for blast furnaces of the Stalinsk (in the Kuzbass) and Nizhniy Tagil works. The electroslag process requires space for welding equipment and the ends of the joints have to be moved out of the structure, therefore the furnace casing design had to be changed. The standard casing design has three variations: two are shown in Figure 1, in the third design the position of the sheets is vertical, which is the most convenient for electroslag welding but requires a bending stand with long rolls at the plant preparing the sheets, and high-capacity tower cranes on site. In Nizhniy Tagil, for the first time in the USSR practice,

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Mechanization of Welding Works in Construction of Blast Furnace Casings

a 75-ton "BK-1425" (BK-1425) tower crane was available on site, and the 2,500 square meter assembly site of the blast furnace had a 30 + 30 ton gantry crane (Ref. 2). The second casing layout was used here. At Stalinsk, only a 25-ton "BK-406" (BK-406) crane was available and the construction site was small. In view of this a slightly changed standard casing was chosen and divided into 9 cylindrical and tapered sections divided into 4 to 16 ton shells consisting each of two or three sheets of 6 to 6.5 m length. The assembly in progress is seen in a photo (Fig. 5). In this way the entire casing was divided into 11 parts (the heaviest in the lower portion weighing 32 - 48 tons). Every single part was joined by electroslag welding, and the annular joints on the furnace were welded manually. A photo (Fig. 2) shows a shell prepared for slag welding and another (Fig. 3) the electroslag welding, i.e., joining the shells together by vertical seam. At the site, where large sections were assembled, two metal huts were used as mobile welding stands with four "TTC-500" (PS-500) welding generators in each, the necessary starting and measuring equipment and two welding apparatus boxes. The shaping copper sliders were cooled by two cooling systems (one for two welders) up to 6 m above the pump level. The work was done mainly in winter

Mechanization of Welding Works in Construction of Blast Furnace Casings

time in -15°C to -30°C; 30-% water solution of calcium chloride was used for cooling fluid. In view of unevened transverse shrinking deformation, sheets were installed for welding with a wedge-shaped gap spreading 1 mm for every meter of the joint length (above the calculated gap width). The ⊓-shaped holding cramps and an end plate for the end of joint are seen in Figure 2. Assembled shells were installed on a manipulator and the joint was always held in vertical position. A magnetic "А-501м" (A-501m) walking welder (Fig. 3) of Electric Welding Institute design was used for electroslag welding of shells and sections. Process details are given. The quality of welds was checked by the appearance and by gamma-ray irradiation. Faults were revealed mainly in the spots of the end of the welding process. Faulty spots were chiseled out and filled by manual welding. According to "Uralstal'konstruktsiya" construction trust, the electroslag welding process is 1.5 to 2 times more productive compared to manual welding despite the difficulties with yet new techniques. The entire blast furnace casing was joined in 16 working days (comparing with a full month usually) and 11 lifts. It is mentioned for comparison that a similar blast furnace casing in Chelyabinsk required 100 lifts (Ref. 4). It is stated in conclusion that electro-

S/125/60/000/007/007/010
A161/A029

Mechanization of Welding Works in Construction of Blast Furnace Casings

slag welding may be used in -35°C frost without preheating of edges; with proper organization and skilled men the productivity and quality of work is much higher than in manual welding and the costs lower; vertical position of sheets in separate casing sections is the best. There are 5 figures and 4 Soviet references.

ASSOCIATIONS: Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye.O. Patona AN UkrSSR (Electric Welding Institute "Order of the Red Banner of Labor" imeni Ye.O. Paton of the Academy of Sciences of the Ukrainskaya SSR) - B.F. Lebedev and Yu.A. Sterenbogen; Trest "Uralstal'konstruktsiya" ("Uralstal'konstruktsiya" Trust) - A.I. Alekseyev

SUBMITTED: February 23, 1960

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S/125/60/000/009/009/017
A161/A130

AUTHORS: Fed'ko, I.V., Lebedev, B.F.

TITLE: Electro-Slag Welding of 14 mm Thick Metal

PERIODICAL: Avtomaticheskaya svarka, 1960, No. 9, pp. 54-57

TEXT: The article describes a new method of welding of blast furnace recuperator casings at Kuznetskiy metallurgicheskiy zavod (Kuznetskiy Metallurgical Plant). The casing was divided into eight assembling sections - the first consisting of the bottom and the first belt; the second to the seventh were cylindrical 9 m in diameter, made from 16 4980 mm high sheets placed vertically; the eighth (top) the dome. The electro-slag welding process was used for joining the separate sections on a special stand (diagram Fig. 2 and photo Fig. 3) with platforms moved around and lifted to the necessary height on guide rails, and a work platform for the auxiliary welder hanging on the outside of the section. The sections were prelimi-

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Electro-Slag Welding of 14 mm Thick Metal

narily joined into two "cards" each at the plant, and the "cards" then brought to the stand at the assembling site and joined as shown. Two electro-slag A-501M welders (A-501m) worked simultaneously on the two butt joints, with 400-450 amp and 34-36 volt current, 283 m/hr electrode wire feed, and 2.2-2.5 m/hr welding speed. Keen attention was necessary in view of the small pool volume (the slag process turns into the arc process when the slag pool depth is not maintained), and spoiled weld portions had to be cut out and newly welded. Normally, one welding device produced two 6 m welds per shift. It was stated that slight inward bulges appeared in cylindrical sections due to insufficient rigidity of 14 mm thick metal, and it is recommended to give the blocks a slight bulge to the outside, i.e. barrel shape, with maximum 8-10 mm deflection at the mid of a joint. This bulge disappears after welding. The horizontal joints between electro-slag welded sections were made by manual welding. A BK-406 (BK-406) tower crane lifted the casing sections (Fig. 4). The casing project was prepared by the Dnepropetrovsk branch of GPI "Proektstal'konstruktsiya" Institute jointly with Electric Welding Institute and "Stal'montazh-3" Trust.

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Electro-Slag Welding of 14 mm Thick Metal

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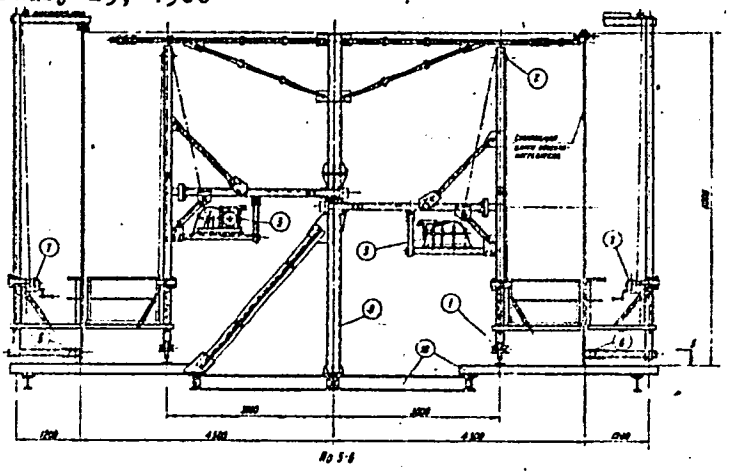
A161/A130

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

SUBMITTED: February 25, 1960



Card 3/5

LEBEDEV, B.F.; YAKIMISHIN, G.A.; ALEKSEYEV, A.I.

Automatic welding of the cylindrical part of an air preheater shell. Avtom. svar. 13 no. 10:52-58 O '60. (MIRA 13:10)

1. Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye.O.Patona AN USSR (for Lebedev, Yakimishin). 2. Trest "Uralstal'konstruktsiya" (for Alekseyev).
(Air preheaters--Welding)

21911
S/125/60/000/011/009/016
A161/A133

1.2300

AUTHORS: Alekseyev, A.I., Lebedev, B.F., Litvinchuk, M.D.

TITLE: Automatic welding assembly for large-diameter cylindrical sheet structures

PERIODICAL: Avtomaticheskaya svarka, no. 11, 1960, 52-56

TEXT: Up to now large-diameter casings of blast heaters, absorption towers and the like have been welded manually. The "Promstal'konstruktsiya" Institute and Electric Welding Institute in cooperation with the "Uralstal'konstruktsiya" Trust have developed and tested an automatic unit for joiningup to 9-m diameter structures on the site. The unit consists of a stand with rollers, longitudinal and transverse flux pads, reinforcing rings, and removable scaffolds. The stand consists of a frame with driven, idle and guide rollers, the latter designed for fixing the shells in longitudinal direction. The rubber coated driven rollers are joined with a shaft and rotated by a 1.1 kw motor through a PM-350 (RM-350) reducer, a shift gear box, a PM-400

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S/125/60/000/011/009/016
A161/A133

Automatic welding assembly...

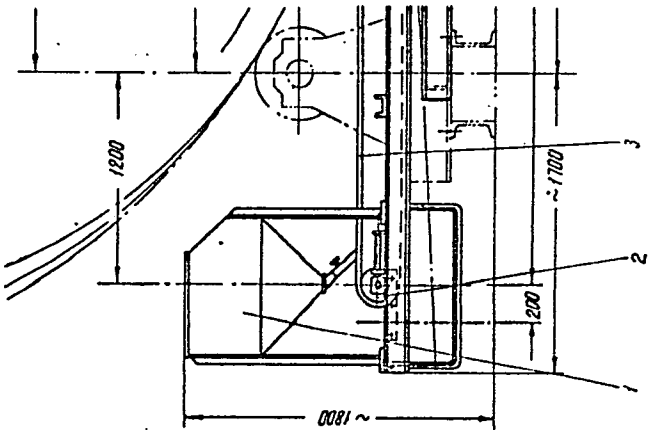
(RM-400) reducer, and another gear transmission. The welding speed is adjusted by the shift gears between 20 and 40 m/hr. A description of the design had been given previously (Ref.1), in "Avtomaticheskaya svarka", No.10, 1960. The flux pad, or flux holding belt for annular seams (Fig.2) includes flux hopper (1); endless belt (3) with boards; rocking frame (4); balancer (5); flux box (6), and base frame (7). The rotating casing being welded pulls the belt with flux falling from the hopper (1). The rocking frame and the balancer are pressing the belt to the seam. Flux must be periodically reloaded from the box into the hopper. The stand has two flux pads for simultaneous welding of two annular seams. The belt is stretched by roller (2) and two screws. The flux pad for longitudinal seams (Fig.3) has a base frame (1) with air cylinders (2) on it for actuating balancers (3). The flux pad is attached to the ends of the balancers and is a channel beam with open top. The flux is lifted to the seam on a hose expanded by compressed air. The air cylinders (2) move the pad to and from the seam. The reinforcing rings are made of two U-bars welded together into a box cross section and fitted with a spreading screw joint. Three such rings are installed in one cylinder being welded. Arch passages are made in the rings for the motor welder in spots where the rings are crossing the longitudinal seams. The

Automatic welding assembly...

entire unit can be dismantled for railroad transportation. There are 4 figures and 2 Soviet references.

Figure 2:

Flux belt for annular seams



Card 3/8

LEBEDEV, B.F.; FED'KO, I.V.; AVRAMENKO, V.I.; RABINOVICH, S.Yu.

Mechanization of welding operations in building blast furnaces in the Ukraine. Avtom. svar. 14 no.2:77-85 F '61. (MIRA 14:1)

1. Institut elektrosvarki imeni Ye.O. Patona AN USSR (for Lebedev, Fed'ko, Avramenko). 2. Trest "Dneprostal'konstruktsiya" (for Rabinovich).

(Ukraine—Electric welding)
(Blast furnaces—Design and construction)

ALEKSEYEV, A.I.; Prinimali uchastiye: IVANOV, A.D.; LEBEDEV, B.F.; DARENSKIKH, P.V.; BABKIN, N.I.; MEL'NIKOV, V.G.; NIKITIN, V.V.; MUKHAMEDOV, K.A.

Automatic welding of the cylindrical part of a decomposer shell. Avtom. svar. 14 no.8:78-82 Ag '61. (MIRA 14:9)

1. Trest "Uralstal'konstruktsiya.
(Electric welding)
(Aluminum industry--Equipment and supplies)

26485
S/125/61/000/009/010/014
D040/D113

12310 1513, 2808, 2208

AUTHORS: Dudko, D.A., Rublevskiy, I.N., Fedʹko, I.V., and Letedev, B.F.

TITLE: New arrangement for electro-slag welding with a consumable nozzle

PERIODICAL: Avtomaticheskaya svarka, no. 9, 196-, 60-64

TEXT: An arrangement is suggested, consisting of a new kind of "melting nozzle" (filler metal plate), and a simple lifting system for the shoes. The new "nozzle" (Fig.1) is insulated over its entire surface to prevent contact with the metal being joined, and is provided with ducts inside that are filled with a measured quantity of flux for refilling the diminishing slag bath in the process. The shoe-lifting system (Fig.2) includes a spring (3) pressing the right and left shoe (1) to the gap walls, and two steel plates (4) insulated with common enamel. The "nozzle" (5) moves between these plates and resilient fixing pins (6). The shoes "walk" upward when the operator rocks one of the two handles (7) as indicated by the "p" arrows. The arrangement eliminates the conventional fixing inserts in the

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New arrangement for electro-slag welding ....

gaps that obstruct the way for slag refills in the process and cause difficulties. The operator has only to rock a handle periodically in the process after the slag bath is formed. It has been tested in practical use in welding joints in 20-50 mm thick blast furnace shell sections at the construction site. A photograph shows it in operation. Details of the welding process are included. The "nozzle" and the shoe-lifting system need not be used together only. They may be combined separately with any other electro-slag process sets. The arrangement makes electro-slag welding possible in spots that would be inaccessible otherwise. Joining thick-wall tubes on site (where tubes cannot be rotated) is another possible application. Wire can be used instead of the "melting nozzle", and rocking of the wire prevented simply by placing the wire guide outside the shoes. There are 6 figures.

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

SUBMITTED: May 12, 1961

LEBEDEV, B.F.

1

S/125/62/000/005/005/010
D040/D113

1.2300

AUTHORS: Langer, N.A., Yagupol'skaya, L.N., Yushkevich, Z.V., Koryagin, Yu.A. and Lebedev, B.F.

TITLE: Improving the corrosion resistance of low-carbon and low-alloy steel welds in an alkaline medium

PERIODICAL: Avtomaticheskaya svarka, no. 5, 1962, 36-43

TEXT: Since equipment used in the aluminum industry has to be frequently repaired because of caustic embrittlement of low-carbon and low-alloy steel, and since alternative steels cost too much, the effect of stress-relieving on the resistance of low-alloy steel welds to caustic embrittlement was studied, using a method described by T.W. Green and A.A. Holzbaur ("The Welding Journal", No. 3, 1946). The experimental equipment comprised a carriage with 4 gas burners producing a 120 mm-wide flame, and a water-cooling device 150 mm behind the flame. Five steel grades were tested. Calcium and ammonium nitrate solutions were used for corrosion tests. The electrode potential in specimens was measured. The experimental results show that the best ratio between Mn and C in the base

Card 1/3

Improving the corrosion resistance of low....

metal was 1.7 ÷ 3.0, and the highest potential was found in the 14Г2 (14G2) steel - 61 mv before heat treatment, and 30 mv after. The anode zone was always revealed directly at the welds and appears to be the result of stress concentration. It is presumed that caustic embrittlement of low-carbon steel in strong alkali solutions begins with the destruction of the protective surface film, and this process is most intensive in metal at welded joints, where the anode potential is highest, but weld defects such as pin holes, slag inclusions, or spills also cause stress concentration and anode potential. Conclusions: (1) Thermo-mechanical treatment considerably improved the resistance of low-carbon and low-alloy steels to caustic embrittlement; (2) welds in 19Г (19G), М16С (M16S) and Ст.3 (St.3) steels have better resistance to caustic embrittlement than М (M) and 14Г2 (14G2) steels; (3) the result of electrode potential measurements show that residual welding stresses intensify the anode processes in the weakness zone. There are 7 figures and 3 tables.

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S/125/62/000/005/005/010
D040/D113

Improving the corrosion resistance of low....

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

SUBMITTED: September 22, 1961

Card 3/3

S/125/62/000/006/009/013
D040/D113

AUTHOR: Lebedev, B.F.

TITLE: Digesters fabricated by field welding

PERIODICAL: Avtomaticheskaya svarka, no. 6, 1962, 63-70

TEXT: Many standard vertical digesters, 9 m in diameter, 33.6 m high, and 7.8 m in diameter and 28.8 m high, had to be built quickly at new Soviet aluminum plants. The "Stroymontazh" and "Uralstal'konstruktsiya" Trusts, the Institut elektrosvarki im.Ye.O.Patona (Electric Welding Institute im.Ye.O. Paton) and the "Promstal'konstruktsiya" Institute did the job jointly using new techniques which are described. Two prefabrication methods were developed in 1961 and employed since for steel casings, by coiling welded casing sections at the plant and uncoiling them on the site, and by rolling sections into shape at the plant and then welding them automatically on special roller stands on the site; however, neither method could be used because of the large size of the digesters and lack of time for building a large coiling machine. Besides, it was observed that tension stress and strain hardening caused by

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Digesters fabricated by field welding

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D040/D113

coiling makes the carbon steel more prone to hydrogen embrittlement. New techniques had to be used, the accent being put on using automatic submerged-arc welding as much as possible, because of the minimum of surface faults on welds and better resistance to caustic embrittlement. A site was especially equipped for preliminary joining of sheets, and then welding the spherical, conical and four cylindrical casing sections on separate welding stands. Welding was produced by motorized welders using flux pads on air hoses which pressed the flux to the seams. Smaller elements were partly prefabricated at a plant. The operation of the stands and the work sequence are described. The costs were very much lower than in previous practice, though serious mistakes in the work organization on the site are indicated. The Electric Welding Institute together with construction trusts is now working on mechanical welding of the annular assembly seam in the casing, and is investigating the feasibility of using the coiling method for industrially producing cylindrical elements of digesters. There are 7 figures and 2 tables.

Card 2/3

Digesters fabricated by field welding

S/125/62/000/006/009/013
D040/D113

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

SUBMITTED: October 23, 1961

Card 3/3.

ALEKSEYEV, A.I.; LEBEDEV, B.F.

Automatic welding of precipitating tanks. Prom. stroi. 40 no.7:29-32 '62. (MIRA 15:7)

1. Trest Uralstal'konstruktsiya Minstroya RSFSR (for Alekseyev).
2. Institut elektrosvarki im. Ye.O.Patona (for Lebedev)
(Aluminum industry--Equipment and supplies) (Welding)

ALEKSEYEV, A.I.; LEBEDEV, B.F.

Use of mechanized welding in the assembly of steel elements of the Kachkanar Mining and Ore Dressing Combine. Prom. stroi. 40 no.12:16-19 '62. (MIRA 15:12)

1. Trest Uralstal'konstruktsiya (for Alekseyev). 2. Institut elektrosvarki imeni Ye.O. Patona (for Lebedev).
(Steel, Structural—Welding)
(Kachkanar—Metallurgical plants)

ALEKSEYEV, A.I.; LEBEDEV, B.F.; YAKIMISHIN, G.S.; MELEKHIN, A.D.

Mechanizing welding operations in erecting the frame of the ore dressing plant of the Kachkanar Mining and Ore Dressing Combine. Avtom. svar. 16 no.1:60-67 Ja '63. (MIRA 16:2)

1. Institut elektrosvarki imeni Ye.O. Patona AN UkrSSR (for Lebedev, Yakimishin, Melekhin).
(Kachkanar region—Structural frames—Welding)

MELIK-TANGIYEV, Z.I.; YAKIMISHIN, G.G.; [illegible], B.F.; [illegible], A.M.; SAPRYKIN, Yu.I.

E Electric welding of span structures for oil field piers. Avtom. svar. 17 no.8:73-78 Ag '64. (MIRA 17:11)

1. Trest "Azmorneftestroy" (for Melik-Tangiyev). 2. Institut elektrosvarki im. Ye.O. Patona AN UkrSSR (for all except Melik-Tangiyev).

LANGER, N.A.; YAGUPOL'SKAYA, L.N.; YUSHKEVICH, T.V.; KORYAGIN, Yu.A.; LEBEDEV, B.F.

Effect of residual stresses on the corrosion resistance of welded equipment operating in alkali media. Vilian.rab. sred na svois. mat. no.2:87-96 '63. (MIRA 17:10)

L 43622-65 EPR/EPA(s)-2/EWA(h)/EWP(c)/EWP(k)/EWA(c)/EWT(d)/EWT(m)/EWP(h)/EWP(b)/EWP(1)/EWA(d)/EWP(1)/EWP(w)/EWP(v)/EWP(t) Pf-4/Pe-4/Peb IJP(c) EM/JD/EM/WS

ACCESSION NR: AT5008302 S/0000/64/000/000/0040/0052

AUTHOR: Lebedev, B.F. (Candidate of technical sciences); Peshchin, A. N.(Engineer

TITLE: Industrial methods for the manufacture and assembly of welded metal structure for industrial plants

SOURCE: AN UkrSSR. Institut elektrosvarki. Novyye problemy svarochnoy tekhniki (New problems in welding technology). Kiev, Izd-vo Tekhnika, 1964, 40-52

TOPIC TAGS: welding, welded metal structure, metal structure manufacture, metal structure assembly, welded machine part, tank welding, automatic welding, aluminum refining, blast furnace

ABSTRACT: The paper considers several examples of the mechanization of welding operations in some fields of factory construction. The building of aluminum plants, for example, encounters great difficulties during the manufacture and assembly of large tanks, such as decomposers up to 1800 m^3 in volume where the aluminate solution is decomposed with the precipitation of a solid solution of aluminum hydroxide. Previously, these decomposers were welded manually. Cracks appear in the decomposers as they operate in alkaline media, the cracks appearing most frequently at the defects. Therefore, welding should be improved and measures should be worked out for lowering the residual

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ACCESSION NR: AT5008302

stress. Automatic welding was tried for decomposers at the Bogoslovskiy alyuminiyevyy zavod (Bogoslov Aluminum Factory). The decomposer was divided by the "Uralstal'-konstruktsiya" Trust into 3-4 bands. All joints were welded manually inside, but antomatic welding was used on the outside. The use of automatic welding for 24 decompressors saved 8,000 rubles for welding operations. In 1958, the welding machine was modernized by the "Uralstal'konstruktsiya" Trust and the Institut electrosvarki im. Ye. O. Patona (Electric Welding Institute). New sectional distance rings were used during welding, and automatic welding was employed on both sides (inside and outside). Later, part of the joints were welded at the steel assembly plant. Shells of 7425x4029 mm were delivered to the aluminum factory. The heaviest unit weighed 48 tons. The labor required for the assembly of one decompressor was decreased by 58%, wages - by 63% and welding materials - by 47%. A different method was used where the bands were welded on both sides. The level of mechanization was 81%. The saving of labor was 43.4 and 42.6%. It should be noted that mechanization is profitable only for large volumes of work. Wrapping of the metal into rolls does not affect the brittleness of the metal. By wrapping on drums, the extreme fiber of the sheet is deformed to a lower extent than by wrapping into rolls. Cracks are primarily formed at the seams. Due to this, automatic welding was used instead of manual welding for lowering the residual stress, one of the causes of cracks. Heat treatment (up to 200C) lowers the welding

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ACCESSION NR: AT5008302

stress. Wrapping into rolls and heat treatment were used at the Bogoslov Aluminum Factory in 1963. The same methods are also used for blast furnaces. Low alloy steel was used for a very large blast furnace in KrYvoY Rog in 1960. The number of components was lowered by 25%. Later, seven blast furnaces of this type were assembled by automatic welding, both vertical and horizontal joints being formed automatically. For blast furnaces, wrapping of sheets was first used in 1960. In 1961, all new blast furnaces were assembled in this way. Many other industrial enterprises, such as cement factories, ore dressing plants and others, are now being assembled in this way, using automatic welding instead of manual welding and improving the technology of manufacture and assembly. Orig. art. has: 7 figures and 1 table.

ASSOCIATION: Institut elektrosvarki im. Ye. O. Patona AN Ukr SSR (Electric Welding Institute, AN UkrSSR)

SUBMITTED: 05Nov64 ENCL: 00 SUB CODE: IE, MM

NO REF SOV: 000 OTHER: 000

Card 3/3 pb

KULIK, B.F.; ANTONETS, D.P.; ASNIS, A. Ye.; LEBEDEV, B.F.

Experience in making housing for converters with charges of 100 to 130 tons. Avtom. svar. 17 no.6:68-72 Je '64 (MIRA 18:1)

1. Yuzhno-Ural'skiy mashinostroitel'nyy zavod (for Kulik). 2. Zhdanovskiy zavod tyazhelogo mashinostroyeniya (for Antonets). 3. Institut elektrosvariki imeni Ye.O. Patona AN UkrSSR (for Asnis, Lebedev).

LEBEDEV, G.F.; PASHCHIN, A.N.; IVANOV, A.D.; BELYAYEV, Yu.A.

Industrial method of making an apparatus for calcining alunite. Avtom.svar. 18 no.1:66-68 Ja '65. (MIRA 18:3)

1. Institut elektrosvarki im. Ye.O.Patona AN UkrSSR (for Lebedev, Pashchin, Ivanov). 2. Stroitel'no-montazhnyy trest Gosudarstvennogo proizvodstvennogo komiteta po montazhnym i spetsial'ny[illegible] (for Belyayev).

L 3382-66 EWT(d)/EWT(m)/EWP(c)/EWP(v)/T/EWP(t)/EWP(k)/EWP(h)/EWP(b)/EWP(l)/EWA(h)/EWA(c)/ETC(m) JD/WW/HM

ACCESSION NR: AP5023084 UR/0125/65/000/009/0047/0051

621.791.76:66.041.498(438)

AUTHOR: Kadushkevich, Ye. (Engineer); Tyushnyakov, I. F. (Engineer); Lebedev, B. F. (Candidate of technical sciences); Fed'ko, I. V. (Engineer)

TITLE: Welding of converter shells in the Polish Peoples Republic

33
30
B

SOURCE: Avtomaticheskaya svarka, no. 9, 1965, 47-51

TOPIC TAGS: automatic welding, welding flux, welding electrode

ABSTRACT: The article describes a welding job done by Polish workers with the aid of a brigade of Soviet specialists in assembling the shells, which had a thickness of 50 mm, special attention was paid to maintaining their diameters with an accuracy of 15 mm and to joining the two halves of each shell in the same plane with an accuracy of ±3 mm. Electric slag welding was done with A-433P and A-820 machines using 3 mm diameter Sv-10G2 welding rod and An-8 flux. To avoid a possible sharp increase in the width of the seam and fusing of the outlet housing due to decreased heat removal, the electrode voltage was decreased to 2-4 volts. Welding of metal with a thickness of 100 mm was started only after preheating of the under side of the joint to 300 C to guarantee good fusing of the

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L 3382-66
ACCESSION NR: AP5023084

bead at the start of the joint. Transverse residual deformations were found to be especially great at the end sections of the joint. The annular joining of the converter body was done by hand arc welding, with E42A electrodes brand UONI-13/45. The following conclusions were drawn from the work: 1) the magnitude of the end deformations is a direct function of the size of the gap and of the amount of fused metal; and 2) the sequence in which the joints are welded was found to have little ect on welding deformations. Orig. art. has: 5 figures and 1 table

ASSOCIATION: Yuzhno-Ural'skiy mashinostroitel'nyy zavod (South Ural Machine Fabrication Plant);Institut elektrosvarki im. Ye. O. Patona AN UkrSSR (Electrowelding Institute AN UkrSSR);Khuta im. V. I. Lenina, PNR (Khuta, Polish Peoples Republic)

SUBMITTED: 23Jan65 ENCL: 00 SUB CODE: MM

NR REF SOV: 000 OTHER: 000

Card 2/2

LEBEDEV, B.G.; LEVITSKIY, V.A.

Equilibrium of nickel orthosilicate and carbon monoxide at high temperatures. Zhur.fiz.khim. 35 no.12:2788-2790 D '61. (MIRA 14:12)

1. Moskovskiy institut stali i Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
(Nickel silicate) (Carbon monoxide)

LEBEDEV, B.G.; LEVITSKIY, V.A.

Reducibility and thermodynamic stability of the iron triad metal orthosilicates. Izv. vys. ucheb. zav.; chern. met. 5 no.7: 5-11 '62. (MIRA 15:8)

1. Moskovskiy institut stali i splavov.
(Silicates--Thermal properties)

LEBEDEV, B.G.; LEVITSKIY, V.A.; BURTSEV, V.A.

Reaction equilibrium of the reduction of cobalt orthosilicate by carbon monoxide. Zhur. fiz. khim. 36 no.4:877-880 Ap '62. (MIRA 15:6)

1. Moskovskiy institut stali i Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
(Oxidation-reduction reaction) (Cobalt silicates) (Carbon monoxide)

POLUKHIN, P.I., prof., doktor tekhn.nauk, red.; GRINBERG, B.G., dotsent, kand.tekhn.nauk; KANTENIK, S.K., dotsent, kand.tekhn.nauk; ZHADAN, V.T., dotsent, kand.tekhn.nauk; VASIL'YEV, D.I., dotsent, kand.tekhn.nauk; LEBEDEV, B.G., dotsent, kand.tekhn.nauk, nauchnyy red.; LAKHTIN, Yu.M., prof., doktor tekhn.nauk, retsenzent; KITAYTSEV, V.A., dotsent, kand.tekhn.nauk, retsenzent; RAZYGRAYEV, A.M., inzh., retsenzent; YUDINA, L.A., red.izd-va; RYAZANOV, P.Ye., tekhn.red.

[Technology of metals] Tekhnologiia metallov. Pod obshchei red. P.I.Polukhina. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1960. 460 p.

1. Kafedra metallovedeniya Moskovskogo avtomobil'no-dorozhnogo instituta (for Lakhtin, Kitaytsev, Razygrayev). (MIRA 14:3)
(Metals) (Metalwork)

LEBEDEV, B. G. (Moskva)

Thermodynamics of the reduction reaction of hercynite by carbon oxide. Izv. AN SSSR. Otd. tekh. nauk. Met. i topl. no.6:7-11 N-D '62. (MIRA 16:1)

(Hercynite)
(Oxidation-reduction reaction)

SAVICH, I.A.; PIKAYEV, A.K.; LEBEDEV, B.G.; KUZ'MICHEVA, Ye.U.; SPITSYN, Vikt.I.

Certain properties of chelate-type salts of uranyl with Schiff bases. Zhur.neorg.khim. 7 no.3:498-509 Mr '62. (MIRA 15:3)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova, kafedra neorganicheskoy khimii i Institut fizicheskoy khimii AN SSSR.

(Uranyl salts) (Schiff bases)

LEBEDEV, B.G.; LEVITSKIY, V.A.

Reaction equilibrium of the reduction of iron orthosilicate with carbon monoxide at temperatures from 850 to 1150°C. Zhur. fiz. khim. 36 no.3:630-632 Mr '62. (MIRA 17:8)

1. Moskovskiy institut stali i Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

LEBEDEV, B.I. (Moskva)

Changes in the peripheral nervous system of dogs in acute radiation sickness induced by intravenous administration of radioactive strontium. Arkh.pat. 21 no.5:25-30 '59. (MIRA 12:12)

1. Nauchnyy rukovoditel' - chlen-korrespondent AMN SSSR prof. N.A. Krayevskiy.

(NERVES, PERIPHERAL, eff. of radiations, radiostrontium, intravenous admin. in dogs (Rus))
(STRONTIUM, radioactive, eff. on peripheral nerves of intravenous admin. in dogs (Rus))