"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

Vacuum Metallurgy

SOV/6270

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Okorokov, G. N. The Use of Vacuum Arc Furnaces in Steelmaking
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APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, G.N, kand.tekhn.nauk; BOYARSHINOV, V.Ya., kand.tekhn.nauk; SHAMIL', Yu.F. inzh.; LEYBENZON, S.A., inzh.; PAKHOMOV, A.I., inzh.; POLYAKOV, A.I., inzh.

Improving the macrostructure of ShKh15 steel made in a vacuum arc furnace. Stal' 23 no.1:30-34 Ja '63. (MIRA 16:2)

1. Dnepropetrovskiy staleplavil'nyy zavod vysokokachestvennykh i spetsial'nykh staley i TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.
(Steel—Electrometallurgy) (Vacuum metallurgy)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

L 10733-65 EPA(s) EWT(m)/EWP(t) Pu-10/Pu-4 WW/RDW

ACCESSION NR: AT4045992 S/0000/64/000/000/0034/0040

AUTHOR: Syuch, P.; Kashin, V. I.; Okorokov, G. N.; Samarin, A. (Corresponding member AN SSSR)

TITLE: Effect of vacuum-arc melting on the quality of R18 high-speed steel

SOURCE: AN SSSR. Institut metallurgii. Issledovaniya metallov v zhidkom i tverdom sostoyaniyakh (Research of metals in liquid solid states). Moscow, Izd-vo Nauka, 1964, 34-40

TOPIC TAGS: high speed steel, R18 high speed steel, steel v arc melting, vacuum melted steel, vacuum melted steel propert

ABSTRACT: R18 high-speed steel was melted in a consumable vacuum-arc furnace at 10⁻³ mm Hg. Steel ingots 75 mm in diam were furnace cooled, annealed at 830—840C for 2.5 hr, slowly and then forged at 950—1150C. Forgings were annealed at 840 2.5 hr. Metallographic examination, chemical analyses, and tests showed that vacuum-arc melting substantially reduces the tent of nonmetallic inclusions, eliminates chain-like inclusions

Card 1/2

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L 10733-65
ACCESSION NR: AT4045992

lowers oxygen and nitrogen content by 50—60% and 15--30% [illegible] tively. No loss of alloying element was observed except [illegible] in the manganese content. Carbide inhomogeneity decreased [illegible] tially. Grain size of vacuum-melted steel was smaller, and [illegible] properties were 10--12% higher. No change in red hardness was [illegible] served. At a cutting speed of 30 m/min, the wear of vacuum-[illegible] steel tools remained the same as that of conventionally melted [illegible] but at 50, 60, or 70 m/min the speed was found to be somewhat [illegible] Orig. art. has: [illegible] tables.

ASSOCIATION: none

SUBMITTED: 18May64 ATD PRESS: 3117 ENCL: [illegible]

SUBCODE: MM NO REF SOV: 007 OTHER: [illegible]

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

L 39469-65 EPA(s)-2 EWT(m) EPF(n)-2 EWP(t) EWP(b) Pt-10 Pu-4

ACCESSION NR: AP4047869 S/0279/64/000/005/0035/0044

AUTHOR: Shalimov, Al.G. (Moscow); Okorokov, G.N. (Moscow); Boyarshinov, V.A. (Moscow)

TITLE: Simulation of the process of vacuum degassing liquid steel

SOURCE: AN SSSR. Izvestiya. Metallurgiya i gornoye delo, no. 5, 1964

TOPIC TAGS: liquid steel, vacuum degassing, decarburization

ABSTRACT: The effect of pressure on the formation and growth of gas bu in vacuum degassing of liquid steel was studied from simulated hydrodyna operations in a transparent model. Although absolute values for the deca tion of molten steel under vacuum could not be established from this mini operation, the following conclusions were derived. The last few millimet pressure should be reduced. Lowering the pressure of the metal bath from to 1.0 mm mercury tripled the amount of gas carried by each bubble and increa ed the agitation of the upper zone of the bath. The surface boiling or blowing moved gas from liquid containing even small amounts of dissolved gas, so the

Card 1/2

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

L 39469-65
ACCESSION NR AP4047869

overall decarburization rate was increased much more than three times b
indicated pressure reduction. Reducing the pressure below 1.0 mm Hg d
improve the degassing effect any further. Degassing occurred primarily a
surface zone of the bath-- 70-80% of the gas in the bubbles came from the
15-20% of the bath. Orig. art. has: 7 figures, 20 equations and 2 tables.

ASSOCIATION: None

SUBMITTED: 29Aug63 ENCL: 00 SUB CODE: MM

NR REF SOV: 005 OTHER: 005

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

L 13603-66 EWP(e)/EWT(m)/EWP(t)/EWP(k)/EWP(z)/EWP(b) JD

ACC NR: AP6002869 SOURCE CODE: UR/0286/65/000/024/0030/0030

INVENTOR: Voyarshinov, V. A.; Okorokov, G. N.; Polyakov, A. I.; Nikulin, A. A.; Bochkov, D. A.

ORG: none

TITLE: A method of heating a liquid-metal bath. Class 18, No. 176935, [announced by the Central Scientific Research Institute of Ferrous Metallurgy im. I. P. Bardina (Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 30

TOPIC TAGS: metal, metal melting, vacuum melting, arc melting, magnetically controlled arc

ABSTRACT: This Author Certificate introduces a method of heating a metal bath in a vacuum arc furnace. In order to obtain an improved crystal structure in the ingot, the electric arc is moved on the surface of the bath under the effect of differently oriented alternating magnetic fields.

[WW]

SUB CODE: 11/ SUBM DATE: 29Jul63/ ATD PRESS: 4186

vacuum melting

Card 1/1 UDC: 669.187.26

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

L 03678-67 [illegible]

ACC NR: AR6020939

SOURCE CODE: UR/0137/66/000/002/V061/V061

AUTHOR: Shcherbakov, A. I.; Nikulin, A. A.; Okorokov, G. N.; Bochkov, D. A.; Boyarshinov, V. A.; Volokhonskiy, L. A.; Polyakov, A. I.

TITLE: The effect of the electric power parameters on a vacuum arc furnace on ingot crystallization conditions

SOURCE: Ref. zh. Metallurg, Abs. 2V396

REF SOURCE: Elektrotermiya. Nauchno-tekhn. sb., vyp. 45, 1965, 34-37

TOPIC TAGS: vacuum arc furnace, alternating magnetic field, constant magnetic field

TRANSLATION: An investigation was made of the effect of electric parameters of a vacuum arc furnace on crystallization conditions of an ingot, as well as the possibility of influencing the crystallization process with the use of constant and alternating magnetic fields. An analytic and experimental correlation between these parameters and the crystallization of an ingot was determined. The relative depth h/D of a liquid wall was equivalent for molds of different dimensions by maintaining the equality I/D = constant. The value I/D suitable for a metal with a small 2-phase region extension may serve as the criterion for selection of the electrical melting cycle. For a metal with an extended 2-phase region it is necessary to decrease the ingot diameter and to decrease the operating current as much as possible in order to prevent segrega-

Card 1/2

UDC: 621.365.22-982.001.5

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

ACC NR: AR6020939

tion defects. The use of an alternating magnetic field prevents structural defects, characteristic of ingots melted in a constant magnetic field, and is a promising method for arc stabilization during vacuum arc melting. 3 figures. G. Lyubimova.

SUB CODE: 13, 20

fv

Card 2/2

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

ACC NR: AP6026553 SOURCE CODE: UR/2776/66/000/046/0099/0104

AUTHORS: Belikova, N. I.; Boyarshinov, V. A.; Antipov, V. M.; Pirogova, Z. N.; Okorokov, G. M.; Guley, G. G.

ORG: none

TITLE: Structure and properties of alloy EI437B smelted in a vacuum induction furnace

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii. Sbornik trudov, no. 46, 1966. Spetsial'nyye stali i splavy (Special steels and alloys), 99-104

TOPIC TAGS: alloy, vacuum arc furnace, vacuum melting / EI437B alloy

ABSTRACT: The effect of aluminum and titanium additions on the properties of the heat-resistant alloy EI437B, smelted in a vacuum induction furnace, was investigated. The study was prompted by the fact that the alloy smelted by the Chelyabinsk and Zlatoust Metallurgical Plants using vacuum induction furnaces was inferior to the alloy smelted in open arc furnaces. The experimental results are presented in graphs and tables (see Fig. 1). It was found that to insure high mechanical qualities of the alloys smelted in vacuum induction furnaces, the aluminum content should be

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

L 00952-67

ACC NR: AT6026553

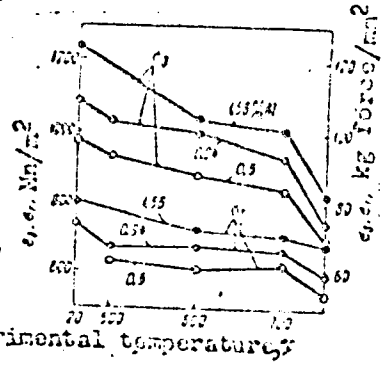


Fig. 1. Mechanical properties of alloy RT437B as a function of the testing temperature. Quenching from 1080C, annealed for 16 hrs, cooled in air, and aged for 16 hrs at 70C, cooled in air.

0.8--1.0% and the titanium content 2.7--3.0% respectively. Orig. art. has: 3 tables and 4 graphs.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 003

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

ANIKIN, V.G.; OKOROKOV, I.A.

Phasing indicator of coils with ferromagnetic cores. Izm. tekh. no.8:48-50 Ag '64. (MIRA 17:12)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, N. I.

Trebovaniia mekhanizatsii k organizatsii territorii kolkhozov [Requirements of mechanization for the organization of collective farm lands]. Moskva, Sel'khozgiz, 1952. 101 p.

SO: Monthly List of Russian Accessions, Vol. 6, No. 5, August 1953.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

[illegible], N. I.

Zemieustroistvo i mekhanizatsiia sel'skogo khoziaistva (Land organization and [illegible] mechanization of agriculture). Izd. 2-e. Moskva, Sel'khozgiz, 1[illegible]. [illegible] p.

SO: Monthly List of Russian Accessions, Vol. 7, No. 7, Oct. 1954

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

RAFAL'SON, D.I., kand.med.nauk; RABINOVICH, S.I., nauchnyy sotrudnik (Leningrad); Logvinova, O.K. (Irkutsk); Okorokov, N.I.; VIRIN, I.Ya.(Smolenks); GEKHMAN, S.I., kand.med.nauk (Kiyev).

Acceleration of the regeneration of blood in donors in various cities of the Soviet Union following use of the preparation Hemoglobin 4. Akt. vop.persl.krovi no.4:15-18 '55. (MIRA 13:1)

1. Donorskiy otdel i laboratoriya sukhikh preparatov krovi (zav. laboratoriyey - doktor med.nauk L.G. Bogomolova) Leningradskogo instituta perelivaniya krovi.

(HEMOPOIETIC SYSTEM)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, N.I.; BARANOV, V.V.; SEMENOV, V.M.; SHKOL'NIKOV, A.B., red.; GUREVICH, M.M., tekhn. red.

[Farm mechanization and electrification] Mekhanizatsiia i elektrifikatsiia sel'skogo khoziaistva. Moskva, Sel'khozizdat, 1962. 415 p. (MIRA 15:7)
(Farm mechanization) (Electricity in agriculture)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

ACC NR: AP6022210 SOURCE CODE: UR/0115/66/000/005/0083/0085

AUTHOR: Anikin, V. G.; Okorokov, I. A.

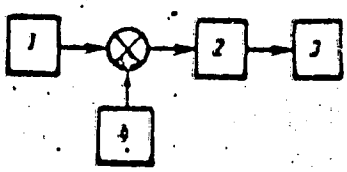
ORG: none

TITLE: Vacuum signaling device

SOURCE: Izmeritel'naya tekhnika, no. 5, 1966, 83-85

TOPIC TAGS: automatic ~~chemical process~~ vacuum control, vacuum ~~signaling device~~ measurement, magnetic amplifier

ABSTRACT: Intended for a measuring and automatically shutting-off vacuum, the new device is based on a self-saturating magnetic amplifier operating as a relay. From transducer 1 (see figure), the input voltage is applied to magnetic amplifier 2 where the input magnetizing force is combined with the magnetizing force of a bias winding



Card 1/2 UDC: 531.788

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

ACC NR: AP6022210

fed by reference element 4. When the pressure in the vacuum system is equal to atmospheric, no control signal is applied, and the magnetic amplifier rests in its first stable state. As the vacuum increases, the signal voltage rises, and the combined magnetizing force becomes sufficient for transferring the magnetic amplifier into its second stable state. Output power amplifier 3 repeats the operation of the magnetic amplifier. A Soviet-made LT-2 thermocouple manometer (13.3—0.133 n/m^2) serves as transducer 1. Tests have shown that the above device has a ± 5% error when its supply voltage varies within 180—240 v and temperature within 10—70C (over a period of 4 hrs). Operation time, 0.6—0.8 sec at the maximum-sensitivity point. Orig. art. has: 4 figures.

SUB CODE: 09 / SUBM DATE: none / ORIG REF: 002

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, I. F.: Master Tech Sci (diss) -- "The effect of wearing in the governor of the D-35 and D-54 engine on the regulation process". Khar'kov, 1959. 11 pp (Min Higher Educ Ukr SSR, Khar'kov Automobile and Road Inst), 150 copies (KL, No 4, 1959, 127)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, I.F.

Reasons for unequal wear of adjusting springs in regulators. Mekh. sil'. hosp. [9] no.5:24-25 My '58. (MIRA 11:6)

1.Kharkivs'kiy institut mekhanizatsii i elektrifikatsii sil'skogo hospodarstva.

(Tractors--Engines)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, I.F., kand.tekhn.nauk; PERSTNEV, S.N.; RUDYAK, V.I.

Harvesting lodged grain at increased speeds. Zemledelie 25 no.7:55-56 Jl '63. (MIRA 16:9)

1. Ukrainskiy nauchno-issledovatel'skiy institut sel'skokhozyaystvennogo mashinostroyeniya.
(Ukraine—Grain—Harvesting)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, I.F., kand. tekhn. nauk; PERSTNEV, S.N., inzh.; TARTAKOVSKIY, I.I., inzh.

Investigating a drum-type picker. Trakt. i sel'khozmash. 33 no.10:28-29 O '63. (MIRA 17:1)

1. Ukrainskiy nauchno-issledovatel'skiy institut sel'skokhozyaystvennogo mashinostroyeniya.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

PERSTNEV, S.N., kand. tekhn. nauk; OKOROKOV, I.F., kand. tekhn. nauk

Optimal parameters for a reel of harvesting machinery.
Trakt. i sel'khozmash. no.4:24-25 Ap '65. (MIRA 18:5)

1. Ukrainskiy nauchno-issledovatel'skiy institut sel'skokhozyaystvennogo mashinostroyeniya.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

S/120/62/000/004/005/047
E194/E420

AUTHORS: Kleopov, I.F., Lagin, S.P., Okorokov, I.S., Lazarev, N.V.

TITLE: Operation of the supply system for a proton synchrotron of 7 Gev during the starting period

PERIODICAL: Pribory i tekhnika eksperimenta, no.4, 1962, 33-36

TEXT: The article describes early operating experience with the magnet supply system, the performance and construction of which are described in the present journal (27-33 - preceding abstract). The equipment usually works continuously for up to 5 days per week followed by a regular weekly shut-down. In 6 months it has operated for a total of 2200 hours. The faults that have occurred resulted only from defects in the control circuits, mainly in the ignitron firing control arrangements. A few backfires occurred because the valve temperature conditions were not right, most backfires occurred under inverter conditions for which the best lead angle was about 40°. The different kinds of fault, their causes and the steps that were taken to put them right are described. The stabilization of the primary rectified voltage is described and the operation of the control

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, I. S.

L0784

24.6739

S/120/62/000/004/045/047
E039/E420

AUTHORS: Sokolovskiy, V.V., Radkevich, I.A., Gol'din, L.L., Kleopov, I.F., Kulakov, F.M., Luzin, V.N., Mozalevskiy, I.A., Okorokov, I.S., Talyzin, A.N., Trokhachev, G.V.

TITLE: The effect of changes in the regime of the proton synchrotron supply systems on the magnetic characteristics of the blocks

PERIODICAL: Pribory i tekhnika eksperimenta, no.4, 1962, 240-244

TEXT: Measurements are made of the effect on the field and gradient in the C and X-blocks at a level of 90 gauss when the final smoothing condensers are either disconnected or connected symmetrically or non-symmetrically; in addition, the case when the final smoothing condensers are in circuit but the primary smoothing condensers are reduced to one quarter of their usual value is examined. The effect of a shunting thyratron and resistance is also investigated. Changes in the value of the field caused by any of the above do not exceed ± 0.6% while the difference between blocks is about ± 1%. The effect of these

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circuit changes on the rate of growth of the field covers the range +3.2 to -8.3% and for the difference between blocks +5.2 to -6.9%. Changes of the working range without altering the circuit produce significantly smaller effects than are produced by circuit changes, e.g. changes in the average field of separate blocks are 0.2 to 0.3% while the difference between their fields changes only by 0.02 to 0.05%. The introduction of an auxiliary control on the value of the residual field noticeably increases the accuracy of the results, i.e. error reduced to less than a half its previous value. There are 3 figures and 4 tables.

ASSOCIATIONS: Institut teoreticheskoy i eksperimental'noy fiziki GKAE (Institute of Theoretical and Experimental Physics GKAE)
Nauchno-issledovatel'skiy institut elektrofizicheskoy apparatury GKAE (Scientific-Research Institute of Electrophysical Apparatus GKAE)

SUBMITTED: April 11, 1962

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, M.A., inzh.

Dispatcher control of underground mine railroads. Biul. TSNIICHM no.5:15-21 '58. (MIRA 11:5)
(Mine railroads--Automatic train control)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, Mikhail Alekseyevich; SHULIN, Nikolay Ivanovich; GORBUNOV, K.N., red.; KISELEVA, T.I., red.izd-va; ISLENT'YEVA, P.G., tekhn.red.

[Signaling, interlocking, and communication system in mine transportation] Ustroistva STaB i sviazi na vnutrishakhtnom transporte. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1959. 316 p. (MIRA 12:8)
(Mine railroads) (Railroads--Signaling--Interlocking systems)
(Mine communications)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, M.A., inzh.

Wire-saving switch control system. Gor. Zhur. no.4:53-54 Ap '60. (MIRA 14:6)

1. Giprotsvetmet, Moskva.
(Mine railroads)
(Railroads--Switches)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, M.A., insh.

Automatic interlocking of underground railroad transportation by means of light signals. Gor.zhur. no.8:64-68 Ag '60. (MIRA 13:8)

1. Giprotsvetmet, Moskva.
(Mine railroads)
(Railroads--Signaling--Interlocking systems)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, M.A., inzh.

Economical and dependable automatic block-signal systems. Gor. zhur. no.11:58-62 N '61. (MIRA 15:2)

1. Gosudarstvennyy institut proyektirovaniya predpriyatiy promyshlennosti tsvetnykh metallov, Moskva.
(Mine railroads--Signaling) (Automatic control)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, M.V., prof.

Automatic control of the electrical conditions of steel smelting electric arc furnaces. Elektrichestvo no.12:22-27 D '62. (MIRA 15:12)

1. Moskovskiy institut stali.
(Electric furnaces)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

C

Thermocouple. N. V. Ogorodov and G. B. Lavitskii U.S.S.R. 65,416, Oct. 31, 1945 (June 13, 1944), abstracted in *Chem. Zentr.*, 120 (1) F47 (1949). The couple is made of a Cr Al Fe alloy of 20 to 50 Cr, 3 to 30 Al, and the remainder Fe, and of Ni or Ni alloy. The temperature range is 200° to 1300°C.

M Ha

METALLURGICAL OPERATIONS CLASSIFICATION

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

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B

Electric Furnaces in Ferrous Metallurgy. N. V. Okorokov. 440 pages. 1945. State Scientific-Technical Publishing House for Ferrous and Nonferrous Metallurgy, Moscow. (In Russian.)

Intended mainly for students, but should be useful also to metallurgical engineers. Covers all types of electric furnaces in operation in U.S.S.R. and abroad, indicating their main characteristics, and advantages and disadvantages when applied to different metallurgical processes. Structural designs, electrical equipment and theoretical bases for calculation and design are also covered.

METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, N. V., Doc-ent

PA 35/49T35

USSR/Engineering Jan 49
Furnaces, Electric Arc
Smelting

"Periodical Operation of Steel-Smelting Arc Furnaces," Docent N. V. Okorokov, Moscow Steel Inst, 4 pp

"Prom Energet" No 1

Establishes average smelting power, dimensions, and capacity of furnace as function of productivity and specific expenditure of power for furnaces which operate periodically. Steel-smelting arc furnaces in shaping shops often operate in this fashion.

[redacted] 35/49T35

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, N.V.

PHASE I

TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 97 - I

BOOK

Author: OKOROKOV, N. V. Call No.: TN 685.055

Full Title: ELECTRIC SMELTING FURNACES IN FERROUS METALLURGY

Transliterated Title: Elektroplavil'nyye pechi chernoy metallurgii

Publishing Data

Originating Agency: None

Publishing House: State Scientific and Technical Publishing House of Literature on Ferrous and Nonferrous Metallurgy. (Metallurgizdat)

Date: 1950 No. pp.: 563 No. of copies: 5,000

Editorial Staff

Editor: None

Editor-in-Chief: None Tech. Ed.: None

Appraiser: None

Text Data

Coverage: This book discusses the elements of the theory and practice of the application of electric smelting furnaces in ferrous metallurgy. Furnace classification and types of explained, and most recent models described. Methods of computation of electric furnaces are presented with special emphasis on the improvement of the furnace's efficiency. Arc steel smelting furnaces, most common in practice, are described in detail. Less attention is given to direct-thermal, coreless induction, and resistance furnaces. Special emphasis is given the operation of the electric furnaces. This edition differs from the two preceding by excluding chapters of general technical information.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, N.V.

Elektroplavil'nyye pechi chernoy metallurgii Call No.: TN 685.055
AID 97 - I

Purpose: A textbook for students specializing in electrometallurgy, and a guide for all working with the planning and exploitation of electric furnaces.

Facilities: None

No. of Russian or Slavic References: 65

Available: Library of Congress.

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APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, N. V., Dr Tech Sci

USSR/Electricity - Metallurgy, Dec 50
Electric Furnaces

"Heat Losses in Arc Steel-Smelting Furnaces,"
N. V. Okorokov, Dr Tech Sci

"Prom Energet" No 12, pp 1-5

Gives formula for sp elec power consumption to analyze heat losses, assuming heat loss values at various periods are proportional to furnace surface heat output and time. Concludes that arc furnaces can reduce power consumption by use of described mehtods.

213T43

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, N. V.

Electric Furnaces

"electric melting furnaces in ferrous metallurgy." Reviewed by G. A. Sisoian. Elektrichestvo. No. 3, 1952

SO: Monthly List of Russian Accessions, Library of Congress, June 1952 1953, Uncl.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, N V.

Okorokov, N. V. [illegible] Eisen-
metallurgie [illegible] Kiel, Kaiser
Berlin [illegible]

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, N.V.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

Name	Title of Work	Nominated by
Okorokov, N.V.	"Electric Smelting Furnaces for Ferrous Metallurgy" (textbook, 3d edition)	Moscow Institute of Steel imeni Stalin

SO: W-30604, 7 July 1954

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

137-58-6-11790

Translation from: Referativnyy zhurnal, Metallurgiya, 1958 Nr 6, p 84 (USSR)

AUTHOR: Okorokov, N.V.

TITLE: Selection of a Device for Electromagnetic Stirring of Steel in Electric Arc Furnaces (Vybor ustroystva dlya elektromagnitnogo peremeshivaniya metalla v dugovykh staleplavil'nykh pechakh)

PERIODICAL: Tr. Nauchno-tekhn. o-va chernoy metallurgii, 1957, Vol 18, pp 607-615

ABSTRACT: Experiments in the electromagnetic stirring of baths were conducted at the Moscow Steel Institute in 1937-38. They made use of a three-phase stator, located within the furnace shell, and 50-cps current. In 1950 the Swedish firm ASEA equipped its plant for the electro-magnetic stirring of 2 electric furnaces, and by the end of 1956 this equipment was installed on > 20 arc furnaces of 7-150 t capacities. The equipment is placed beneath the floor of the furnace shell and consists of a two-phase stator fed by 0.4-1.5 cps current. The furnace bottom is made of nonmagnetic steel. Other designs of devices for the electromagnetic stirring of metal are also in existence.

Card 1/2

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137-58-6-11790

Selection of a Device for (cont.)

The Westinghouse Corporation in the United States provides a rotating electromagnet beneath the furnace, inducing low-frequency currents in the bath which cause the metal to move. The "Elektrosila" stator with coil winding did not perform satisfactorily in tests. Work in electromagnetic stirring done at the Moscow Steel Institute in 1956 with an 0.5-t furnace made it possible to determine a number of parameters for the design of devices for electromagnetic stirring and to provide an evaluation of existing designs. Bibliography: 7 references.

V.B.

1. Stirrers--Design 2. Electromagnetic equipment--Applications 3. Electric furnaces--Equipment 4. Steel--Production

Card 2/2

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, N.V.

LEONIDOV, N.K.

25(5) PHASE I BOOK EXPLOITATION SOV/1497

Akademiya nauk SSSR. Institut mashinoy i tekhnicheskoy informatsii

Metallurgiya SSSR, 1917-1957, t. 1 (Metallurgy of the USSR, 1917 - 1957, Vol. 1) Moscow, Metallurgizdat, 1958. 745 p. 3,000 copies printed.

Ed. (Title page): L. P. Bardin, Academician; Ed. (Inside book): G. V. Popova; Tech. Ed.: G. G. Bakker.

PURPOSE: The book is intended for scientific workers and engineers in metallurgical plants and in the machine-building industry. It may also be used by students in advanced courses in metallurgical vases.

COVERAGE: This collection of articles covers extensively practical and theoretical developments in Soviet metallurgy during the last 40 years. The material deals with the discovery and development of the major ore deposits and the growth of the metal industry in various parts of European and Asiatic USSR. Research institutes, laboratories, their location, and the names of the scientists and engineers involved are listed. Many papers contain so many references and names of various personalities that it was considered beyond the scope of the coverage of each article to list them. The authors claim that the processes, methods and theories described in this book reflect the most recent developments in Soviet metallurgy.

Card 1/21

OKOROKOV N.V.

Metallurgy of the USSR (Cont.) SOV/1497

to be increased by 75 percent as compared to the 1955 level. The use of oxygen is also to be increased. New electric furnaces of 180 ton capacity and electromagnetic transfer of metal are to be designed. The introduction of mechanization of furnace operations is to be speeded up. At present the largest furnace in the USSR has a capacity of 40 tons as compared to American electric furnaces of 180 ton capacity, and the author stresses the fact that the USSR lags far behind USA in this field. New furnaces of 80 ton capacity are to be introduced shortly. There are 3 Soviet references.

Gherchov, N.V. Relationship Between the Main Parameters and the Coefficient of Production of Electric Furnaces 318

The author investigated the relationship between the capacity or size of the furnace and the fundamental coefficient of production which is defined as the "productivity per time unit and the specific electric power consumption per unit of production." These two factors depend on the relative position of the object to be heated, the source of heat, and the work cycle of the furnace. These relationships were calculated according to the numerous formulas and graphs contained in the text.

Card 9/21

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

18(0),18(5) SOV/163-58-4-47/47

AUTHOR: Okorokov, N. V.

TITLE: Automatic Control of Thermal Conditions in Melting in Electric-Arc Steel Furnaces (Avtomaticheskoye regulirovaniye teplovogo rezhima plavki v dugovykh staleplavil'nykh pechakh)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Metallurgiya, 1958, Nr 4, pp 261-264 (USSR)

ABSTRACT: For a thorough improvement of the work of electric-arc steel furnaces, the author (Reference Author's Certificate Nr 110075) suggested controlling the thermal conditions in melting according to the maximum brickwork temperature with systematic control of the metal temperature. The selection of the brickwork temperature is explained on the basis of its being an adjustable parameter. The test melts were made in 0.5-ton furnaces at the laboratoriya elektrometallurgii Moskovskogo instituta stali (Laboratory for Electric Metallurgy at the Moscow Steel Institute) in 1956-1957. In all cases, a metal of the required chemical composition was obtained.

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APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

Automatic Control of Thermal Conditions in Melting in Electric-Arc Steel Furnaces SOV/163-58-4-47/47

The method is applicable and can be introduced to industry. There are 2 figures and 2 Soviet references.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: November 6, 1957

Card 2/2

USCOMM-DC-61018

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, N.V., doktor tekhn. nauk, prof.; NIKOL'SKIY, L.Ye., insh.

Studying the distribution of radiation from single-phase and three-phase arcs on models of cylindrical, steel-smelting furnaces. Izv. vys. ucheb. zav.; chern. met. no.12:21-34 D '58. (MIRA 12:3)

1.Moskovskiy institut stali.
(Electric furnaces--Models)
(Heat--Radiation)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

18(5) SOV/105-58-12-14/26

AUTHOR: Okorokov, N. V., Professor, ~~Doctor of~~ Technical Sciences

TITLE: Improved Working Characteristics of the Electric Arc Furnace (Utochnennyye rabochiye kharakteristiki dugovykh staleplavil'nykh pechey)

PERIODICAL: Elektrichestvo, 1958, Nr 12, pp 58-61 (USSR)

ABSTRACT: On the strength of the investigations carried out here the following observations are made: (1) The useful resistance of an electric arc furnace equals the sum of two resistances, namely, that of the arc and that of the electrode section within the furnace (or the burden). In the case of ore reduction furnaces the resistance of slag and smelt has to be added. (2)The usual adding of the interior electrode section to the loss resistance leads to principal errors in the working characteristics and in the furnace heat economy. The larger the furnace dimensions, the greater is the relative error. (3) A more accurate supplementary circuit diagram as is shown on figure 1 δ should be used for the setting up of working characteristics. (4) When carrying out short-circuit experiments in electric arc furnaces, besides the instruments mounted on the

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Improved Working Characteristics of the Electric Arc Furnaces

SOV/105-58-12-14/20

primary side, wattmeters and ammeters should be provided also for the secondary side. This must be done in order to be able to determine the furnace efficiency as well as the resistance of the interior electrode section in the short circuit. The wattmeter tension windings are to be connected with the electrodes underneath the electrode holders. There are 3 figures, 4 tables, and 8 Soviet references.

SUBMITTED: March 31, 1958

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, N.V., prof., doktor tekhn. nauk; MAL'TSEV, L.A., inzh.

Heat exchange in an electric arc furnace bath with steady heat flow. Sbor. Inst. stali no.38:173-184 '58. (MIRA 11:8)

1. Kafedra elektrometallurgii Moskovskogo instituta stali im. Stalina.

(Electric furnaces) (Heat—Transmission)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

SOV/137-58-12-24203

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 12, p 40 (USSR)

AUTHORS: Okorokov, N. V.; Mal'tsev, L. A.

TITLE: The Movement of Metal and Equalization of Bath Temperature with Electromagnetic Stirring (Dvizheniye metalla i vyravnivaniye temperatury vanny pri elektromagnitnom peremeshivanii)

PERIODICAL: Sb. Mosk. in-t stali, 1958, Vol 38, pp 185-195

ABSTRACT: A 1.5-t arc furnace is employed to study the principles of metal (Me) motion under electromagnetic stirring (S). The S device is a 2-phase stator fed by line-frequency current and built into the furnace masonry. The rate of motion is determined visually and by motion pictures of the movement of graphite rings. The influence of S on the temperature drop in the Me was examined in a single-phase independent-arc furnace, since the influence of the arc distorts the S of the Me in small direct-arc furnaces. It is established that the rate of Me motion is directly proportional to the first power of the current or to the square root of the apparent stator power. When Me motion is constant, the power required for S rises more slowly than the volume of a geometrically similar bath. Production of orderly Me motion on

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SOV/137-58-12-24[illegible]

The Movement of Metal and Equalization of Bath Temperature (cont.)

the bath surface requires the penetration depth to be not greater than 50% of the maximum bath depth. Electromagnetic S sharply reduces the unevenness of bath heating. An empirical formula is provided for determining the temperature drop versus speed of movement of the Me.

V. B.

Card 2/2

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

S/148/60/000/003/018/018
A161/A029

AUTHORS: Nikol'skiy, L.Ye.; Okorokov, N.V.

TITLE: The Shape and Dimensions of the Work Space of Electric Six-Electrode Steel-Melting Furnaces

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. - Chernaya metallurgiya, 1960, No. 3, pp. 169 - 175

TEXT: The most common electric arc furnace type is the round furnace with three electrodes with a maximum capacity of 200-250 ton. This capacity cannot be increased without technical difficulties. In view of this fact a comparative investigation of three-electrode and six-electrode furnaces has been carried out at the Electrometallurgical Laboratory of Moskovskiy institut stali (Moscow Steel Institute). An elliptical 6-electrode furnace with two symmetrical groups of 3 electrodes and a round 6-electrode type were studied. The rational geometry for the 3-electrode furnace had been found previously (Ref.2). The optimum dimension correlations have been calculated for both furnace types, i.e., length and width of the elliptical work space or diameter of the round space; height from the metal bath surface to the center point of the vault. It is concluded that furnaces

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S/148/60/000/003/018/018
A161/A029

The Shape and Dimensions of the Work Space of Electric Six-Electrode Steel-Melting Furnaces

of any shape may and must have an equal specific bath surface area per 1 ton of charge and equal power per 1 m^2 of bath surface area; furnaces of different shape are equivalent from a metallurgical point of view; the difference in heat losses through the lining is practically insignificant. The statement by J. Preston (Ref. 3) concerning the particular thermic advantages of the elliptical 6-electrode furnace compared with the round 3-electrode furnace is disproved. There are 4 figures and 3 references: 2 Soviet, 1 English.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: February 7, 1959

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, N.V., prof., doktor tekhn.nauk

Mechanization and automation of electric-arc steel furnaces.
Bezop.truda v prom. 4 no.3:13-15 '60. (MIRA 13:6)

1. Moskovskiy institut stali.
(Electric furnaces) (Automatic control)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

GLADKIY, D.F., inzh.; KOVALENKO, A.Ya., inzh.; OKOROKOV, N.V., doktor tekhn. nauk, prof.

Stator with bar winding for mixing metal in arc furnaces. Stal' 20 no.10:905-910 O '60. (MIRA 13:9)
(Electric furnaces--Equipment and supplies)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, N.V., doktor tekhn.nauk, prof.

Automatic power regulation of an arc furnace by the temperature of the masonry. Vest.elektroprom. 31 no.3:17 Mr '60. (MIRA 13:6)
(Electric furnaces)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

PHASE I BOOK EXPLOITATION SOV/5783

Okorokov, Nikolay Valer'yanovich

Elektromagnitnoye peremeshivaniye metalla v dugovykh staleplavil'nykh pechakh; itogi opytnykh rabot (Inductive Stirring in Steelmaking Arc Furnaces; Results of Experimental Work) Moscow, Metallurgizdat, 1961. 176 p. Errata slip inserted. 2700 copies printed.

Ed. of Publishing House: G.L. Pozdnyakova; Tech. Ed.: P. G. Islent'yeva.

PURPOSE: This book is intended for technical personnel of metallurgical plants, and may also be useful to designers of stirrers and to students at schools of higher education and tekhnikums.

COVERAGE: The history of the development of inductive metal stirring in the USSR and in non-Soviet countries is briefly outlined. Attention is given to the following: the importance of metal stirring for metallurgical production, the engineering and economic results of inductive stirring in steelmaking arc furnaces, the results of a comparative study of various types and designs of stirrers

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OKOROKOV, N V

85

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. Oromov; 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.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

New [Developments] in the Theory (Cont.) SOV/5556

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, N.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 Moscow "Serp i molot" Metallurgical Plant); V.A. Fukiev (Central Asian Polytechnic Institute)

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

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Foreword 5

Yavoyskiy, V. I. [Moskovskiy institut stali - Moscow Steel Institute]. Principal Trends in the Development of Scientific Research in Steel Manufacturing 7

Filippov, S. I. [Professor, Doctor of Technical Sciences, Moscow Steel Institute]. Regularity Patterns of the Kinetics of Carbon Oxidation in Metals With Low Carbon Content 15
[V. I. Antonenko participated in the experiments]

Lovin, S. L. [Professor, Doctor of Technical Sciences, Dnepropetrovskiy metallurgicheskiy institut - Dnepropetrovsk Metallurgical Institute].

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

Grigor'yev, V.P. [Engineer], and Ye. V. Abrosimov [Moscow Steel Institute]. Effect of the Chemical Composition of the Charge and Slag on the Dephosphorization Process in an Oxygen-Blown Bath 305

Svinolobov, N.P. [Engineer], and I.D. Semikin [Professor], [Dnepropetrovsk Metallurgical Institute]. Obtaining a Luminous Flame in Open-Hearth Furnaces Fired With Natural Gas 315

Okorokov, N.V. [Professor, Doctor of Technical Sciences, Moscow Steel Institute]. Electromagnetic [Inductive] Stirring of Metal in Melting Furnaces 324

Semenenko, I.I. [Engineer, Metallurgicheskiy kombinat im. Serova - Metallurgical Combine imeni Serov]. Combustion of High-Sulfur Content Mazout Gasified in the Open-Hearth Port in Making High-Quality Steel 330

Discussion of Papers 332

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

S/137/61/000/012/012/149
A006/A101

AUTHOR: Okorokov, N.V.

TITLE: Electromagnetic mixing of metal in melting furnaces

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 12, 1961, 53, abstract 12V318 (V sb. "Novoye v teorii i praktike proiz-va martenovsk. stali" Moscow, Metallurgizdat, 1961, 324 - 329, Discussion, 332 - 334)

TEXT: Electromagnetic mixing of metal is an independent of the technological process means of controlling the factors of heat conductivity and diffusion, which finally determine the duration of melting and the efficiency of units. Data are given which show that the duration of melting may be considerably reduced by accelerating deoxidation of the metal and dissolving of the alloying admixtures, when the pool is stirred by electromagnetic means.

V. Shumskiy

[Abstracter's note: Complete translation]

Card 1/1

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

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OKOROKOV, N.V.; NIKOL'SKIY, L.Ye.; YEGOROV, A.V.

Effect of tubular electrodes on thermal processes in electric arc steel smelting furnaces. Iz. vys. ucheb. zav.; chern. met. 5 no.9: 105-110 '62. (MIRA 15:10)

1. Moskovskiy institut stali i splavov.
(Electric furnaces) (Heat—Transmission)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

DONSKOY, A.V.; ZHERDEV, I.T.; ZOTOV, V.P.; MURATOV, S.M.; NOVIKOV, O.Ya.; OKOROKOV, N.V.; PATON, B.Ye.; SIBOYAN, G.A.; SVENCHANSKIY, A.D.

Stepan Ivanovich Tel'nyi; obituary. Elektrichestvo no.1:93 Ja '63. (MIRA 16:2)

(Tel'nyi, Stepan Ivanovich, 1890-1962)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

1. OKOROKOV, P. D.

2. USSR (600)

4. Fruit Culture

7. Let us create fruit tree nurseries in every forest station of our homeland. Les khoz. 5, no. 10, 1952.

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

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, S.D.; VOLKONSKIY, B.V.; SATALKINA, M.A.

Study of the formation process of anhydrous calcium aluminate sulfate with the aid of the ionizing high-temperature X-ray installation. Trudy Giprotsement no. 26:3-18 '63. (MIRA 17:5)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, S.D.; FOMINA, V.K.

Comparative study of some autoclave hardened cements. Trudy LTI no.59:54-59 '61. (MIRA 17:9)

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CA

CLASSIFICATIONS OF LIME-CLAY-MAGNESIA DEPOSITS AND THEIR UTILIZATION IN THE PRODUCTION OF CEMENTS. V. A. Kind and S. D. Okorokov. Mineral Suirle 8, Nos. 8-9, 5-14 (1933).- The chem. classification of the U. S. S. R. mixed deposits of $CaCO_3$, $MgCO_3$ and clay into 24 types is based on the properties of the resulting cements, and is presented by a triangular graph and tabulation.

Chas. Blanc.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

Influence of chemical composition of clinker on the physicomechanical properties of pozzuolanic and slag portland cements. V. A. Kind, S. D. Okorokov and L. V. Prolov. *Tsement* 3, No. 4, 13-19(1935). Highly satd. clinker having also high silicate and aluminate moduli, improves the mech. properties of pozzuolanic and slag portland cement. Preliminary results suggest that the silicate modulus must vary from 4 to 4.5 in order to obtain the best mech. properties. E. E. Stefanowsky

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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BC

P 1-15

Permeability of mortar and concrete made with various cements. S. D. Okorokov (Puzzuolanic Cements, U.S.S.R., 1936, 201—202).—For the production of an impermeable concrete it is recommended that puzzuolanic cements, having a silicious admixture (preferably Si-stoff or diatomite) should be used. The aggregate should have round and smooth particles, gravel being better than crushed stone and natural sand better than artificial or angular sands. The aggregate should also be graded to conform with the grading determined in the laboratory as giving the best results, whilst the max. size of coarse aggregate should be the largest possible under the job conditions. A min. slump for the concrete, consistent with a proper workability, should be used; the concrete should be kept wet and at a temp. of 15—20° during curing. The latter conditions apply particularly to puzzuolanic concretes. T. W. P.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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BC

B-1-19

Production of high-strength (rapid-hardening) [illegible] Portland cements. V. A. [illegible] and L. V. [illegible] (Puzzuolanic Cements, U.S.S.R., [illegible]).—The rate of strength development of [illegible] and slag Portland cements [illegible] the composition [illegible] the [illegible]. The [illegible] obtained with [illegible] factor, varying [illegible] ratio [illegible] and 5·00, and a [illegible] of [illegible]. The clinkers [illegible] to be [illegible] at a temp. for normal sintering. The % of added puzzuolana or slag in the rapid-hardening cements was the same as that for the ordinary type. T. W. P.

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

Effect of the chemical composition of portland cement on its mechanical strength V. A. Kind, S. D. Okorokov and S. I. Volfson. *Tsement* 5, No. 2, 22-32(1937).

Co

30

Seventy-two different brands of cement were investigated. The mechanical strength increases with increase of the satn. coeff. In the interval of satn. coeff. 0.82-1.0 the lowest strength is evidenced by cements with satn. coeff. 0.82; those with satn. coeff. from 0.87 to 0.98 are practically equal in their mechanical properties. The mechanical strength decreases with decrease in the silicate modulus in the interval 4 to 1.7, when the Al_2O_3 modulus is 1 or 2, but for Al_2O_3 modulus 3, the strength remains equal at different values of the silicate modulus. The fall of the alumina modulus is followed by an increase of the mechanical strength, especially when the SiO_2 modulus is 1.7-2.5. Cements with a satn. coeff. 0.67 have, especially at early periods, a lower mechanical strength than those of satn. coeff. 0.82-1.0. Their mechanical strength increases very slowly at early periods of hardening and rather intensively in later periods. The silicate modulus influences the mechanical strength of these cements in the same way as in the case for those of satn. coeff. 0.82-1.0.

R. R. Stefanowsky

A38-31A METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

Heats of hardening of portland cements of different chemical composition. V. A. Kind, S. D. Okorokov and S. L. Vol'fson. *Tsement* 8, No. 7, 12-17(1937).—By changing the chem. compo. of the batch, heats of hardening can be varied from 26.7 to 90.0 cal./g. in 3 days and 45.6 to 136.0 cal./g. in 3 months. The greatest heat evolution occurs during the first 3 days of hardening. Increase of the satn. coeff. leads to an increase in the evolution of heat. Increase of the silicate modulus from 1.7 to 4.0 decreases heat evolution; this effect is the more evident, the lower the satn. coeff. of the cement. Increase of the alumina modulus from 1 to 3 increases heat evolution in all cases. E. B. S.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

Deformation by shrinkage and swelling in the hardening of portland cements of different chemical composition. V. A. Kind, S. D. Okorokov and S. L. Vol'fson. *Tsement* 3, No. 8, 10-14(1937); cf. C. A. 31, 1978[8], 4470[9].

Changes of the satn. coeff. in the limits 1.0-0.83 have a small practical effect on the amount of swelling and shrinking of these cements for all time intervals. Cements with the coeff. = 1.0 show a somewhat lower shrinking and a somewhat higher swelling value than cements with other satn. coeffs. This is due to a latent inconstancy of vol due to the presence of free lime. The absolute value of shrinking for all cements with different satn. coeffs. is much higher than the absolute swelling value. In the above interval the $3CaO.Al_2O_3$ and $4CaO.Al_2O_3.Fe_2O_3$ contents remain practically unchanged; only the $3CaO.SiO_2$ and $2CaO.SiO_2$ contents change. The shrinking and swelling deformations increase for all hardening time intervals with the increase of the aluminate modulus. The highest values are obtained for cements with $p = 3$. This growth is independent of the satn. coeffs. and the value of the silica modulus. With the increase of the alumina modulus the content of silicates shows no practical change, but an abrupt increase of $3CaO.Al_2O_3$ and a decrease of the $4CaO.Al_2O_3$ and Fe_2O_3 contents take place; thus the effect of the increase of the alumina modulus is accounted for by the increase of the amount of $3CaO.Al_2O_3$. A cement with a satn. coeff. = 0.87 principally composed of dicalcium silicate showed low shrinking and swelling deformation in early periods, but after 3 months the deformation was much greater than in normal portland cements. With the decrease of the silica modulus a tendency toward increased deformations is evident. The increase of the alumina modulus has the same effect as in normal cements.

B. E. Stefanowsky

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

Binding properties of the ash obtained by burning Odesa shale in suspension. V. A. Kind, B. D. Okorokov, V. D. Sidorov and L. V. Frolov. *Stroitel. Materialy* 1937, No 10, 25–37.—In its physical and mechanical properties and chem. compn. the ash approximates Roman cement with a low content of Mg. Hardening proceeds in the same manner as in Roman cement. B. B. Stefanowsky

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R

Okorokov, S. D., and Novikov, P. I. OBTAINING HYDRAULICALLY HARDENING REFRACTORY DOLOMITE CEMENTS. *Tsement*, 3 [11] 27–35 (1938).—Study of the ceramic properties of refractory dolomite cements shows that these cements and materials made from them have high refractoriness, high temperature of deformation under load, and high resistivity to open-hearth slags and are sufficiently resistant to spalling (air cooling). They can be used for linings of cement kilns and metallurgical furnaces.

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PROCESSES AND PROPERTIES INDEX

20

Production of refractory dolomite cements from U. S. S. R. raw materials. S. D. Okorokov and P. I. Novikov. *Огнеупоры* 6, 143-42(1938).—As raw materials were used dolomite, chalk, magnesite, tripoli, fire-clay and refractory clay, dried and ground to a 10% residue on screen 4900 mesh/sq. cm. Batches of different compns. were (series 1) 7.9 and 11% of SiO_2, series (2) 2, 3, 5, 10 and 15% of Fe_2O_3; series (3) 7 and 10% of Al_2O_3) burned at 1450-1500°. Clinkers of the first series consisted principally of alite and of a small amount of belite, free lime and periclase; in those of the second series the principal minerals were alite, free lime, periclase and brownmillerite; in samples with 10 and 15% of Fe_2O_3 were brownmillerite and 2(?) Fe_2O_3 in solid soln. The same minerals were found in clinkers of the third series. No silicates were found in any of the samples. All MgO is contained as periclase, often in a disperse condition. Most cements do not stand the test of equal vol. change and give cracks on the first day. The three samples that stood the test showed a complete or nearly complete absence of free lime. These results were confirmed by further investigations, samples with an increased content of periclase and no free lime standing the test of equal vol. change. The mechanical strength falls with increase of MgO content; in some cases there is also a tendency for it to decrease after 3 months' water storage. The crushing strength is higher with clinker and magnesite fillers (even at high MgO contents) than with sand. The refractoriness varied from 1800° to 2000°. The samples were not attacked by open-hearth slags, absorbing them completely and forming with them a new cementing mass consisting of merrinite and olivine. The resistance to spalling was satisfactory for samples with magnesite filler; with the clinker filler they were satisfactory only in the case of air cooling. Burned magnesite or dolomite clinker mixed with magnesite should be used as filler. Only in certain cases can pure dolomite clinker be used, especially that contg. much MgO. R. H. B.

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PROCESSES AND PROPERTIES INDEX

The sulf resistance of cements of various mineralogical compositions. S. L. Vol'fson, S. D. Okorokov and T. N. Hyrakova. *Tsement* 1939, No. 8, 12-3; *Khim. Referat. Zhur.* 1939, No. 12, 81.—To produce portland cements stable in sulfate waters it is necessary to decrease the content of alite with increase of belite and to decrease the content of $CaAl_2O_4$ with an increase of the contents of braunmillerite and Ca ferrite. W. R. Henn

METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

R

Okorokov, S. D., and Novikov, P. L. PRODUCTION OF REFRACTORY DOLOMITE CEMENTS FROM SOVIET RAW MATERIALS. *Trudy Soveshchaniya Ogneupornym Materialam*, 1940, 108-82.—Dolomite cements contain the ordinary minerals composing the clinker of Portland cement, together with free MgO in the form of periclase; free CaO should not remain in appreciable amounts. Dolomite cements with clinker fillers have low thermal stability under conditions of water cooling. Cements with magnesite fillers have satisfactory thermal stability under conditions of both air and water cooling. Burned magnesite or dolomite clinker in mixtures with magnesite is recommended as filler. Pure dolomite clinker also can be used. Dolomite cements are recommended as refractories in the metallurgical industry.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

Production of refractory dolomite cements from Soviet raw materials. S. D. Okorokov and P. I. Novikov. *Trudy Soveshchaniya Ogneupornym Materialam*, 1940, 163–82; *Khim. Referat. Zhur.*, 1940, No. 8, p. 94; *Chem. Abs.*, 36, 6765 (1942).—Dolomite cements contain the ordinary minerals composing the clinker of Portland cement, together with free MgO in the form of periclase; free CaO should not remain in appreciable amounts. Dolomite cements with clinker fillers have low thermal stability under conditions of water cooling. Cements with magnesite fillers have satisfactory thermal stability under conditions of both air and water cooling. Burned magnesite or dolomite clinker in mixtures with magnesite is recommended as filler. Pure dolomite clinker also can be used. Dolomite cements are recommended as refractories in the metallurgical industry. Cf. "Obtaining...", *Ceram. Abs.*, 18 [7] 184 (1939).

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

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Evolution of heat by portland cement. S. D. Okorokov and S. L. Volfson. *Prom. Stroitel. Material.* 7, No. 8, 23-5(1940); cf. *C. A.* 32, 1801[9].—The heat evolved by setting cement can be varied within wide limits by varying the chem. compn. of the batch. Most of the heat is evolved in the first 3 days of setting. The rate of heat evolution is practically equal for all cements except belite cements, in which the evolution is slower at early periods than in other cements. Increase of the percentage of $3CaO.SiO_2$ or of $3CaO.Al_2O_3$ leads to an increase of heat evolution. Thus low-heat cements can be obtained by decreasing both of these constituents, but this is accompanied by a decrease of mechanical strength.

B. B. Stefanowsky

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PROCESSES AND PROPERTIES INDEX

20

Resistance of portland cements of different mineralogical composition to sulfates. S. L. Volfson, S. D. Okorokov and T. N. Burakova. *Prom. Stroitel. Materialov.* 3, No. 10-11, 34-7(1940); cf. C. A. 35, 5035.—The greatest resistance to sulfates is shown by cements contg. a small amt. of tricalcium silicate and no calcium aluminate.
R. H. Stefanowsky

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

Synthesis of minerals of Portland cement clinker. S. D. Okorokov, S. L. Vol'fson, and T. N. Burakova. *Sbornik Trudov Leningrad. Tekh. Inst. VSPK*, 1940, No. 3, pp. 91-125. *Khim. Referat. Zhur.*, 4 [3] 87 (1941).—Methods for synthesizing $3CaO \cdot SiO_2$, $2CaO \cdot SiO_2$, $3CaO \cdot Al_2O_3$, $3CaO \cdot 3Al_2O_3$, $4CaO \cdot Al_2O_3 \cdot Fe_2O_3$, and $2CaO \cdot Fe_2O_3$ are described. These minerals are not only component parts of Portland cement, but some enter into the composition of other binders, such as alumina cement, Roman cement, and hydraulic lime. The authors discuss the methods of calculating the batch, its calcining, and methods for determining the purity of the products and give the results of their experience with clinker minerals.

M. Ho.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

Effect of the chemical and mineralogical composition and of production factors on the properties of dolomite refractories. S. D. Okorokov and P. I. Novikov. *Ogneupory* 8, 214-19(1940).—Better results are obtained with clinkers having a lower C_3S and a correspondingly higher C_2S content. The same tendency is noted when the content of iron minerals is increased in place of Ca aluminates. Ware contg. high-MgO clinker and cement or dead-burned magnesite as grog require higher burning temps.

E. B. Stefanowsky

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OKOROKOV, S. D.

30272

Zavisimost' svoystv bretona ot vyeshchyestvyennogo sostava tsvenventa. Trudy IV Vsyesouyz. knof-tsii po byetonu i zhyelyezobyeton. konstruktsiyam. Ch. 3. M.-L., 1949 s. 135-51

SO: LETOPIS' NO. 34

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, S.D.

YUNG, V.N., doktor tekhnicheskikh nauk, professor, redaktor; BUTT, Yu.M.; ZHURAVLEV, V.F.[deseased]; OKOROKOV, S.D.; BERKOVICH, T.M., kandidat tekhnicheskikh nauk, retsenzent; KRZHEMINSKIY, S.A., inzhener, retsenzent; SHPAYER, A.L., redaktor; PANOVA, L.Ya., tekhnicheskiy redaktor

[Technology of adhesives] Tekhnologiia viazhushchikh veshchestv. Moskva, Gos. izd-vo lit-ry po stroit. materialam, 1952. 600 p. [Microfilm] (MLRA 7:10)
(Cement)

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OKOROKOV, S. D.

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OKOROKOV, S. D

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

KIND, V.V., kandidat tekhnicheskikh nauk; OKOROKOV, S.D., kandidat tekhnicheskikh nauk.

New norms of corrosive action of water on hydrotechnical concrete. Gidr.stroi 23 no.8:25-27 '54. (MLRA 8:1)
(Concrete--Corrosion)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 4, p 132 (USSR) 15-57-4-4976

AUTHOR: Okorokov, S. D.

TITLE: Formation of Portland Cement Clinker When Clay Is Replaced by Slag (O protsessakh obrazovaniya portlandtsementnogo klinkera pri zamene gliny v syr'yevoy smesi shlakom)

PERIODICAL: Sb. nauch. rabot po khimii i tekhnol. silikatov. Moscow, Promstroyizdat, 1956, pp 45-53

ABSTRACT: Bibliographic entry

Card 1/1

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

Okorokov, S. A.

USSR /Chemical Technology. Chemical Products and Their Application I-12

Silicates. Glass. Ceramics. Binders.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31641

Author : Okorokov S. A.

Title : Concerning the Mechanism of A.A. Baykov's "Colloidization" During Hardening of Binders

Orig Pub: Tr. Soveshchaniya po khimii tsementa. M., Promstroyizdat, 1956, 173-182

Abstract: It is pointed out that the fundamental proposition of the theory of A. A. Baykov, to the effect that any hardening binder always passes through a stage of "colloidization" (C), has not been adequately developed and is controverted by some

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

14(6) SOV/112-59-5-8757

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 5, p 48 (USSR)

AUTHOR: Okorokov, S. D., Zaporozhets, I. D., and Pariyskiy, A. A.

TITLE: Methods for Selecting Materials and Planning Concrete Compositions for Large Hydraulic Structures

PERIODICAL: Nauchno-tekhn. inform. byul. Leningr. politekhn. in-t, 1958, Nr 1-2, pp 17-25

ABSTRACT: Experience of the Chair of Construction Materials, Leningrad Polytechnic Institute, as well as methods and sequence of operations are set forth: (1) breaking up the concrete structure into zones and selecting concrete grades for them; (2) careful analysis of ground and surface waters for aggressiveness; (3) selecting cement grades, and sometimes planning their composition; (4) exploring and choosing the borrow pits with due consideration of all engineering and economic factors; (5) finding the source of desirable coarse aggregate; (6) determining cement requirements and the W/C ratio.

M.K.B.

Card 1/1

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKORKOV, S.D.; GOLYNKO-VOL'FSON, B.L.; SHEVELEVA, B.I.; YARKINA, B.I.

Mineralizing effect of certain native minerals and industrial waste products in the process of burning portland cement clinkers. TSement 24 no.1:16-18 Ja-Fe '58. (MIRA 11:4)
(Portland cement)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

OKOROKOV, S.D.; MATSYNIN, Ye.V.

Role played by the "intermediate substance" of a Portland cement clinker in contributing to the mechanical strength of Portland cement. Trudy LTI no.46:75-93 '58. (MIRA 14:4)
(Portland cement) (Clinker brick)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001237910019-8

NEPOROZHNIY, P.S.; BELYAKOV, A.A.; VOZNESENSKIY, A.N.; GLEBOV, P.D.; KACHANOVSKIY, B.D.; BASEVICH, A.Z.; TARTAKOVSKIY, D.M.; VASIL'YEV, P.I.; ZARUBAYEV, N.V.; CHUGAYEV, R.R.; KOZHEVNIKOV, M.P.; KNOROZ, V.S.; IVANOV, P.L.; SHCHAVELEV, D.S.; OKOROKOV, S.D.; BELOV, A.V.; STAROSTIN, S.M.; YAGN, Yu.I.; IZBASH, S.V.

Ivan Ivanovich Levi; on his 60th birthday. Gidr. stroi. 30 no.9:61-62 S '60. (MIRA 13:9)
(Levi, Ivan Ivanovich, 1900-)

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A057/A126

AUTHORS: Okorokov, S.D., Golynko-Vol'fson, S.L.

TITLE: Improvement of technical cement properties by a directed change of the course of mineral formation during calcination

SOURCE: Novoye v khimii i tekhnologii tsementa; trudy soveshcheniya po khimii i tekhnologii tsementa, 1961 g. Ed. by P.P. Budnikov and others, Moscow, Gosstroyizdat, 1962, 82 - 92

TEXT: Experimental studies carried out during the last years at the Kafedra tekhnologii vyazhushchikh veshchestv Leningradskogo tekhnologicheskogo instituta imeni Lensoveta (Department for the Technology of Binder Substances of the Leningrad Technological Institute imeni Lensovet) showed a multiple effect of mineralizers during cement calcination. They may inhibit the formation of some minerals, and on the other hand accelerate the formation of others. Results of investigations on the course of mineral formation by the use of fluorine containing mineralizers are given in the present paper and demonstrated is the intensive effect of these and of gipsum on the phase composition, as well as on in-

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tensifiers of the kiln process. During mineralization they play a double role, as inhibitors of C_3A formation and simultaneously as accelerators of C_3S formation. It is, therefore, possible, by means of these mineralizers, to influence the course of mineralization during the kiln process and to obtain the most desirable minerals with high strength and hardening rate. The authors suggest to call this effect "directed mineralization". Recent studies by the authors showed that admixtures of gipsum effect the formation of $nCA \cdot CaSO_4$ instead of C_3A. However, the simultaneously generated CaO and C_3S do not react. The authors suggest, therefore, to use complex mineralizers. Thus alumina will be present in the calcinated product as stable and active monocalcium sulfoaluminate ($nCA \cdot CaSO_4$), while silica can be transformed completely to tricalcium silicate. There are 8 tables.

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OKOROKOV, S.D.; VOLKONSKIY, B.V.; YARKINA, T.N.

Characteristics of mineral formation in the synthesis of calcium aluminates in the presence of mineralizers containing flourine. TSement 28 no.4:7-9 Jl-Ag '62. (MIRA 15:7)

1. Leningradskiy tekhnologicheskiy institut im. Lensoveta i Gosudarstvennyy institut proyektirovaniya predpriyatiy i po nauchno-issledovatel'skim rabotam tsementnoy promyshlennosti.
(Calcium aluminates)
(Cement clinkers)

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