

SOV/79-28-12-6/41

Chemistry of Xanthates and Viscose. IX. The Detection of Polysulfur Compounds in Viscose and the Part Played by Them

The chemical transformations which are important in the course of ripening of viscose take place with the xanthate of cellulose, sodium sulfite, sodium thiocarbonate etc. Whereas the entire content of polysulfur compounds in viscose is determined by means of sodium cyanide and sodium sulfite, the separate determination of their content by means of the potentiometric method is very difficult, especially in the presence of alkali. The xanthate can be liberated from side compounds by activated carbon and anionites. The course of the curve of optical density of the viscose solutions and alcoholic solutions of trithiocarbonate are the same; in the aqueous solutions of trithiocarbonate sodium disulfide was found by the hydrolysis and oxidation of the former. In the viscose solution there is a large quantity of trithiocarbonate and a small amount of perthiocarbonate. Figures 1,2,3 present the comparative potentiometric titrations of the salt solutions with silver nitrate considered in the investigation (solutions of sodium sulfite, sodium thio-sulfate, trithiocarbonate, perthiocarbonate, sulfide, disulfide, etc.). The spectrographic investigations aimed at detecting the polysulfur compounds of sodium disulfide and perthiocarbonate to

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Chemistry of Xanthates and Viscose. IX. The Detection of Polysulfur Compounds in  
Viscose and the Part Played by Them

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find these compounds in viscose. In figure 4 the dependence of the optical density of the solutions on the wave length is given.- There are 4 figures and 20 references, 12 of which are Soviet.

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy Akademii nauk SSSR i Leningradskiy khimiko-tehnologicheskii institut imeni Lensovet (Institute of High-Molecular Compounds, Academy of Sciences USSR, and Leningrad Chemotechnological Institute imeni Lensovet)

SUBMITTED: January 23, 1958

Card 3/3

OKUN', M.G.; SKRYNNIK, I.V.; SUKHANOVSKIY, S.I.; CHUDAKOV, M.I.

Use of hydrolytic lignin in the manufacture of plastics.  
Gidroliz.i lesokhim.prom. 13 no.3:14-16 '60.  
(MIRA 13:7)

1. Nauchno-issledovatel'skiy institut gidroliznoy i sul'fitno-  
spirtovoy promyshlennosti.  
(Lignin) (Plastics)

CHUDAKOV, M.I.; OKUN', M.G.

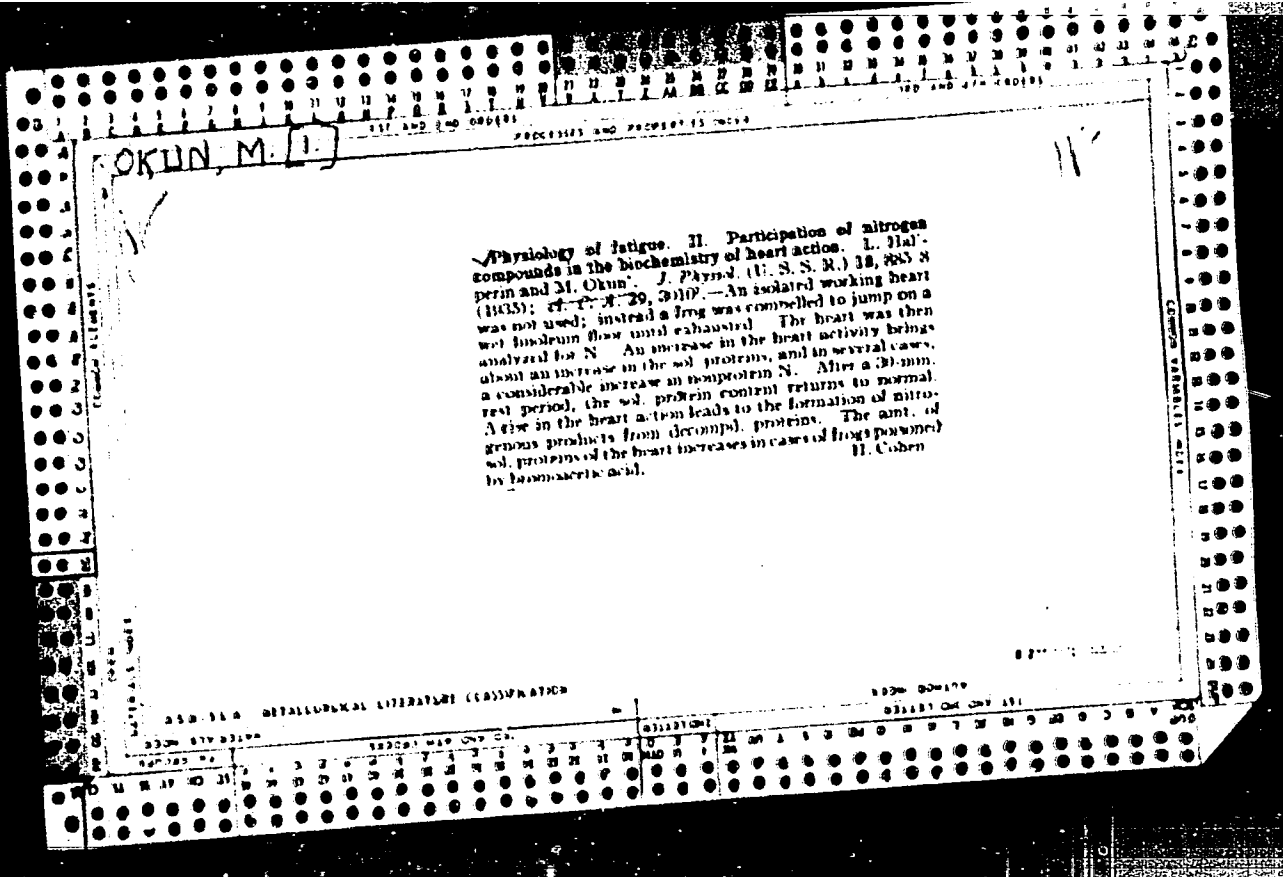
Production of nitrophenols from hydrolysis lignin. Zhur.  
prikl.khim. 35 no.7:1602-1604 J1 '62. (MIRA 15:8)  
(Phenol) (Lignin)

ONOFKO, B.N., otv. red.; KAVRATSEV, S.O., zam. otv. red.;  
BLAGOVESHCHENSKAYA, I.M., red.; VIKHODKOVA, A.V., red.;  
GAIKUSHEA, P.P., red.; ZIL'BER, Ye.Ye., red.; LYUBIMOV,  
V.Ye., red.; KAKSINOVICH, V.S., red.; OKUN', E.I., red.

[Basic problems of hygiene, industrial physiology and occupational pathology in the leading branches of Donets Basin industries; scientific session of May 1964; abstracts of the reports] Osnovnye voprosy gigieny, fiziologii truda i professional'noi patologii v vedushchikh ot-rasliakh promyshlennosti Donbassa; nauchnaya sessiya, ma-iy 1964 g.; tezisi dokladov. Donetsk, 1964. 127 p.

(MIRA 18:1)

1. Donetsk. Nauchno-issledovatel'skiy institut fiziologii truda.



OKUN, M. I.  
CA

11F

The phosphatide content in the brains of hibernating animals under various functional conditions. M. I. Okun. *Biochimie* 2, 590-5 (1957). — During hibernation, the brain of mammals undergoes a decrease in the unsatd. phosphatide fraction, with a simultaneous increase in the satd. fraction. The total phosphatide content remains unchanged. H. Cohen

Biochemical Laboratory of the Ukrainian Inst.  
of Experimental Medicine, Khar'kov

OKUN, M. I.

PROCESSES AND PROPERTIES INDEX

The transformation of adenosinetriphosphoric acid in muscles. VI. A study of the synthesis of separate components of adenosinetriphosphoric acid in muscles. M. I. Okun and D. L. Fridman. *J. Physiol.* (U. S. S. R.) 27, 788-805 (in English 1957); of *U. S. S. R.* 31, 3129.

Brief autolysis of heart muscle results in a 15-20% increase in pentose-5-phosphate compounds, at the expense of the formation of free pentose. The increase in the pyrophosphate fraction during the freezing of heavily loaded muscle in liquid air is due to the formation of inorg. pyrophosphoric acid in the muscles. S. A. Karjala.

ASS-38.3 METALLURGICAL LITERATURE CLASSIFICATION

3309 51782199

582023 418 1297 121

011111111111

03111111 048 0797 111



OKUN, M. [ ]

ca

113

Transformations of the active substances during work by warm-blooded animals. M. Okun. *Biokhimiya* 5, No. 1, 25-28 (in German, 32) (1940).—In muscles *in situ* an intensive decomp. of creatinephosphoric acid and glycogen and a slight decomp. of adenosinetriphosphoric acid take place during the initial 30 sec. of work. After 1.5-2.0 min. the content of creatinephosphoric acid decreases to nearly the same values as after work to complete exhaustion. The decomp. of adenosinetriphosphoric acid leads to the formation of adenylic and pyrophosphoric acids, which are split off with the formation of  $NH_3$  and  $H_2PO_4$ . In the initial period of work the content of inorg.  $H_2PO_4$  decreases in the muscles with a simultaneous accumulation of hexosemonophosphoric acid in some other phosphoric esters stable to hydrolysis. Four references.

W. R. Henn

Biochem. Lab. of the Ukrainian Central Inst. of Work Hygiene and Occupation Disease, Kharkov

ASB-31.2 METALLURGICAL LITERATURE CLASSIFICATION

OKUN', M.I.; RODKINA, B.S.; BARU, A.M. (Stalino)

Blood protein fractions in pneumoconiosis. Klin.med. 37 no.12:  
113-117 D '59. (MIRA 13:4)

1. Iz biokhicheskoy laboratorii (zaveduyushchiy - kand.biolog.  
nauk M.I. Okun') Donetskogo instituta fiziologii truda (direktor -  
kand.med.nauk I.M. Zhislin).  
(LUNGS--DUST DISEASES)  
(BLOOD PROTEINS)

OKUN', M.I.; RODKINA, B.S.; BAEU, A.M.

Investigation of proteins in the lung tissues of rats under normal conditions and following introduction of quartz and coal dust. Ukr,biohim,shur. 32 no.3:358-367 '60.

(MIRA 13:6)

1. Biochemical Laboratory of the Donetsk Institute of Labor Physiology, Stalino.

(LUNGS--DUST DISEASES)

(PROTEINS IN THE BODY)

OKUN<sup>1</sup>, M.I.

Oxidative processes in the lungs in silicosis. Dehydrogenase activity. Ukr. biokhim. zhur. 33 no.4:586-595 '61. (MIRA 15:6)

1. Donetsk Institute of Labor Physiology, Stalino.  
(LUNGS--DUST DISEASES)  
(DEHYDROGENASE)

MATVIYENKO, V.N.; PETLISON, A.Ya., OKUN', M.I.

Comparison of the results of measurements with electric and  
maximum thermometers. Neftgaz. geol. i geofiz. no.7:42 '83.  
(MIRA 1983)

1. Krasnodarskiy filial Vsesoyuznogo neftegazovogo nauchno-  
issledovatel'skogo instituta,

OKUN', M.I.

On the pulmonary transaminase activity during the development of  
pneumoconiotic fibrosis. Ukr. biokhim. zhur. 36 no.2:195-202 '64.  
(MIRA 17:11)

1. Laboratory of Biochemistry of the Donetsk Institute of Labor  
Physiology.

OKUN, M. M.

OK UN, M. M., Cand Tech Sci -- (diss) "<sup>Methods for</sup>Development of Intensifying  
~~cotton Methods for~~ <sup>the</sup> Drying and Moistening <sup>of</sup> Bast Raw Material."  
Mos, 1957. 14 pp. (Min Higher Ed ~~USSR~~ ~~USSR~~ ~~USSR~~ ~~USSR~~ USSR, Mos  
Textile Inst), 120 copies. (KL, 7-58, 111)

OKUN' M.M., nauch.sotr.; MIKHAYLOVA, N.N., ml.nauch.sotr.; FEDYAYEVA,  
M.I., ml.nauch.sotr.

"UV-TSNILV hemp fiber humidifier". Tekst.prom. 17 no.12:67  
D '57. (MIRA 11:1)

1.Rukovoditel' sushil'noy laboratorii Tsentral'nogo nauchno-  
issledovatel'skogo instituta lubyanykh volokon (for Okun')  
(Hemp)



DMITRIYEVA, A.I.; SHUSHKIN, A.A.; MIRONOV, K.M.; DERBENEV, S.I.;  
GRANICHNOVA, Z.P.; OKUN', M.H.; MIKHAYLOVA, N.N.; ANDREYEV,  
V.V.; MAKEYEV, V.S.; OSIPOVA, V.M.; L'VOVYY, V.S.)  
SMIRNOV, G.N., nauchnyy sotr.; ZAIKIN, I.N.; TAL'NISHNIKH,  
G.N.; MORKOVIN, V.A.; GALAGAN, V.A.; RAZUVAYEV, A.A., red.;  
SOKOLOVA, V.Ye., red.; TRISHINA, L.A., tekhn. red.

[Manual on the industrial primary processing of flax]  
Spravochnik po zavodskoi pervichnoi obrabotke l'na. Izd.2.,  
perer. i dop. Moskva, Rostekhnizdat, 1962. 755 p.

(MIRA 15:12)

1. Tsentral'nyy nauchno-issledovatel'skiy institut lubyanykh volokon (for Dmitriyeva, Shushkin, Mironov, Derbenev, Granichnova, Okun', Mikhaylova, Andreyev, Makeyev, Osipova).
2. Vsesoyuznyy nauchno-issledovatel'skiy institut okhrany truda (for Smirnov).
3. Upravleniye zagotovki i pervichnoy obrabotki l'na Kalininskogo sovnarkhoza (for Zaikin, Tal'nishnikh, Morkovin, Galagan, L'vovyy).

(Flax) (Flax processing machinery)

OKUN', Miron Vul'fovich; ARAV, O., red.; TROYANOVSKAYA, N., tekhn.red.

[Workday under the conditions of present-day capitalism] Rabochii  
den' v usloviakh sovremennogo kapitalizma. Moskva, Gos.izd-vo  
polit. lit-ry, 1957. 95 p. (MIRA 11:2)  
(labor and laboring classes)

MATUSEVICH, M.G., kand. ekon. nauk; MILOVANOV, V.A., kand. ist. nauk; NIKITIN, G.A., kand. geogr. nauk; GURVICH, G.Ts. kand. ekon.nauk; GOLUBEV, B.P., nauchn. sotr.; KRUTILINA, T.N., nauchn. sotr.; MIKHNEVICH, L.M., nauchn. sotr.; GIORGIDZE, Z.I., kand. ekon. nauk; RAVUN, I.I., kand. ekon. nauk; OKUN', M.V., kand. ekon.nauk; KOVALEVSKIY, G.T., kand. ekonom. nauk; KHROMOV, P.A., doktor ekonom. nauk, nauchnyy red.; LEONENKO, I., red. izd-va; ATLAS, A., tekhn. red.

[Economy of White Russia during the period of imperialism, 1900 - 1917] Ekonomika Belorussii v epokhu imperializma, 1900-1917. Minsk, Izd-vo AN BSSR, 1963. 420 p.

(MIRA 17:3)

1. Akademiya navuk BSSR, Minsk, Instytut ekonomiki.
2. Institut ekonomiki AN BSSR (for all except Leonenko, Atlas).

MARGULOV, G.D.; OKUN', N.M.

Certain regularities in the change of the chemical composition  
of hydrocarbons in the Gazli field. Gaz. delo no. 3:8-13 '64.  
(MIRA 17:5)

1. Ob'yedineniya "Bukharaneftegaz" i Tsekh nauchno-issledovatel'  
skikh i proizvodstvennykh rabot GNFU "Gazlineftegaz".

OKUN', H.M., MARGULOV, G.D.

Characteristics of a condensate taken from the Gazli-Kagan gas pipeline. Gaz. delo no.12:18-20 '64. (MIRA 18:2)

1. Gazlineftegaz i Bukharaneftegaz.

OKUN', N. S.

"The therapy of suppurative foci by penicillin without opening them."  
Biologicheskiye Antiseptiki, pp 185-189, 1950.

N. S. Okun', Candidate in Medical Sciences  
General Surgery Clinic of LSGMI (Leningrad Sanitary Hygiene Medical Inst)

Translation-M-86, 19 Jan 1955.

OKUN', N.S., kand.med.nauk

Use of synthetic thread for sutures and ligatures in surgery.  
Trudy ISGMI 59:48-58 '60. (MIRA 14:9)

1. Klinika obshchey khirurgii Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta (zav. klinikoy - prof. I.M.Tal'man).  
(SUTURES)

S/081/62/000/023/116/120  
B117/B186

AUTHOR: Okun<sup>1</sup>, N. S.

TITLE: New synthetic materials for sutures and ligatures in surgery

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 23, 1962, 778, abstract  
23P692 (Tr. Leningr. san.-gigiyen. med. in-ta, 1961, 73,  
89 - 90)

TEXT: The results of investigation and practical application of caprone in surgery showed that caprone threads, a non-dissolving material for sutures and ligatures, were the best material for stitching vessels, tendons, nerves, and for plastic skin and lung surgery. Caprone threads are strong and easy to sterilize and they do not rot. The author tested anid, lavsan, enanth, pellargon, and undecane for sutures and ligatures. Anid and lavsan affected the tissue unfavorably. The other fibers behaved similarly to caprone. [Abstracter's note: Complete translation.]

Card 1/1



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S/044/60/000/012/008/014  
C 111/ C 333

AUTHOR: Okun', S. D.

TITLE: The general form of a linear functional in the space of functions of two variables which are analytic in a twice circular domain

PERIODICAL: Referativnyy zhurnal, Matematika, no. 12, 1960, 114-115, abstract 14061 (Tr. Novocherk. politekhn. in-ta, 1959, 99, 3-25)

TEXT: The author considers the space  $A_D$  of all analytic functions  $f(w, z)$  of two variables in a twice circular finite or infinite domain  $D$  and the space  $A_{\bar{D}}$  of all analytic functions  $f$  in a certain domain  $\bar{D}$  containing  $D$  (in this case it is assumed that  $D$  is a finite domain). The following theorem is proved: There exists a function  $K(\lambda)$  depending on the domain  $D$  such that the function

$$f(w, z) = \sum_{m, n}^{\infty} a_{m, n} w^m z^n \text{ belongs to } A_D \text{ if and only if for every } \lambda (0 \leq \lambda \leq \infty)$$

Card 1/3

22862

S/044/60/000/012/008/014  
 C 111/ C 333

The general form of a linear ...

$$\lim_{\substack{m+n \rightarrow \infty \\ \frac{m}{n} \rightarrow \lambda}} \sqrt[m+n]{|a_{m,n}|} \leq \frac{1}{K(\lambda)} \quad (1)$$

is satisfied (in the case of the space  $\Lambda_D$  the symbol " $\leq$ " must be replaced by " $<$ " in (1)). In the proof of this theorem the construction of the function  $K(\lambda)$  is given. The results which refer to "the general form of a linear functional" are obtained as follows: The space  $\Lambda_D$  (or  $\Lambda_D^-$ ) is understood as space of sequences (the sequence  $(a_{m,n})$  is assigned to the function  $f(v, z) = \sum_{m,n} a_{m,n} v^m z^n$ ). With the aid of the function  $K(\lambda)$  the author gives conditions which must be satisfied by the growth of the sequence  $(a_{m,n})$  in order that it belongs, in the sense of G. Köthe and O. Toeplitz (J. reine und angew. Math., 1934, 171, Heft 4) to the "dual space of  $\Lambda_D$ " i. e. in order that the series  $\sum_{m,n} a_{m,n} v^m z^n (f)$  converges for every function

Card 2/3

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The general form of a linear ...

S/044/60/000/012/008/014  
C 111/ C 333

$f \in A_D$  (or  $A_{\overline{D}}$ ). In other words: The author gives necessary and sufficient conditions for the existence of a linear functional  $F$  in  $A_D$  (or  $A_{\overline{D}}$ ) which solves the "problem of moments"

$F(x^m) = \mu_{m,n}$  ( $m, n = 1, 2, \dots$ ).

[Abstracter's note: Complete translation].

X

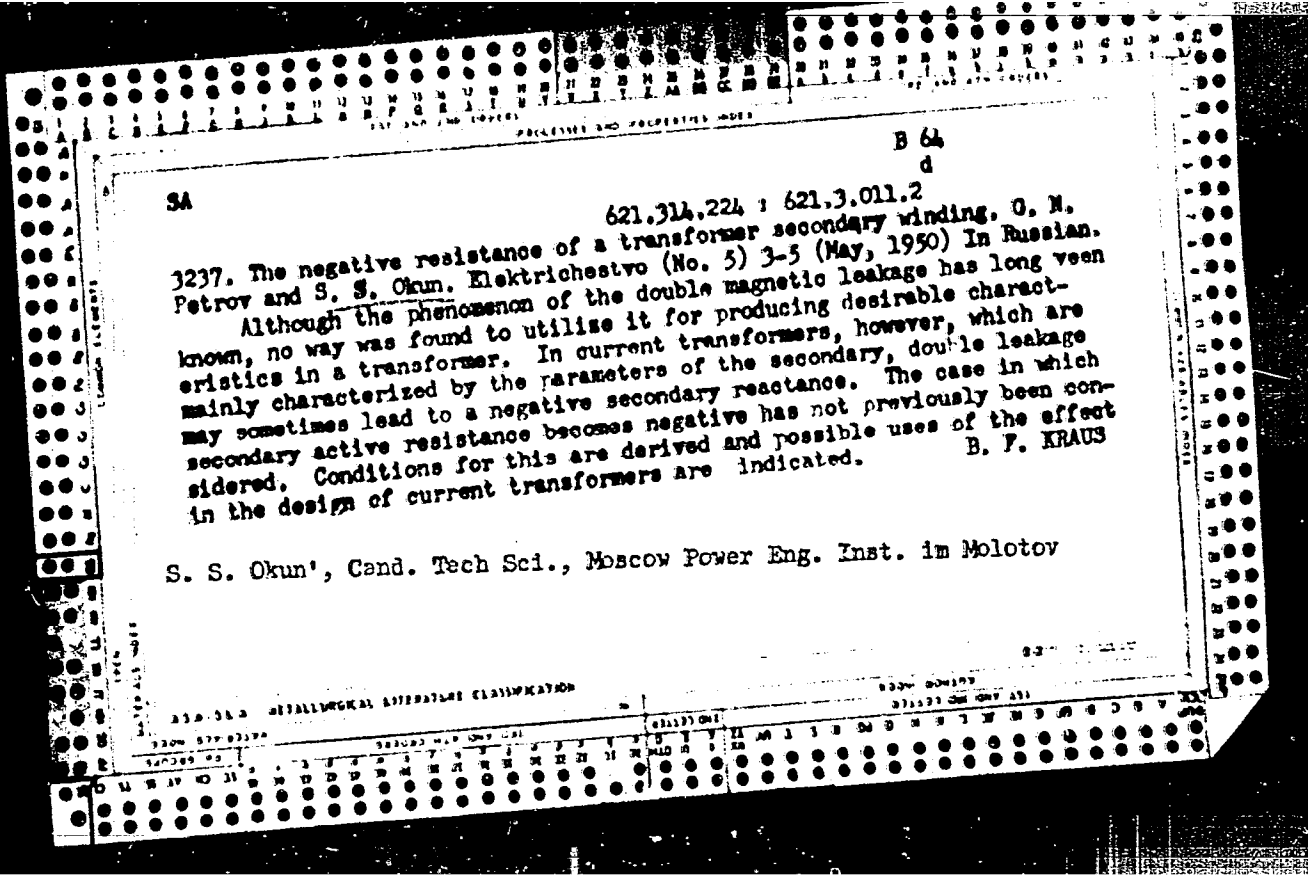
Card 3/3

OKUN', S.D.

Extension of the linear operator in an analytic space. Trudy NPI  
109:37-49 '60. (MIRA 14:3)

(Geometry, Analytic)

OKUN', S. D., Cand. Phys-Math. Sci. (diss) "Characteristic Function of a Concave-Circular Region and Its Application to Questions of Amplitude and Foundation." Rostov-on-Don, 1961, 9 pp. (Rostov State Univ.) 150 copies (XL Supp 12-61, 253).



PETROV, G.N.; OKUN, S.S.

Current transformers with error compensation by the MEI-method. Elektrichastvo, '52, No.12, 14-21. (MLRA 5:12)  
(IEA 56, no.666:2397 '53)

Docent S. S. Okun', Cand. Tech Sci, Moscow Power Eng. Inst. in Molotov.

Examines theory of instrument transformers (current), which have recently come into widespread use in electrification. In these transformers special magnetic shunts are used and secondary windings are placed on two legs to produce wide variation of secondary winding leakage emf in order to obtain optimum compensation conditions while retaining small size and wt. Submitted 18 Apr 52.

PA 242T22

ORUN, J.S.

USSR.

2

97 Some mutual induction phenomena in circuits containing iron. G. N. PITROV AND S. E. GUR'EV. *Elektrichesk.*, 1954, No. 8, 27-30. In Russian.

Cand. Tech Sci. 1

A sequel to the authors' previous article (Abstr 3237 (1950)) giving more details on the conditions under which reactance and resistance of the secondary winding of a compensated current transformer must be regarded as negative. The examples are chosen to show that in a closed magnetic circuit, individual elements of which are magnetically coupled, a partial transfer of active and reactive power from one circuit to another takes place through the magnetic field. In the equivalent circuits, positive as well as negative resistances and reactances may appear, subject only to the condition that the total resistance of the circuit remains always positive, as well as the total reactance, if there is no capacitance in the circuit. B. F. KRALIC

Moscow Inst. of Power Engineering and the Ministry

SA



*OKUN S.S.*  
PETROV, G.N., doktor tekhn. nauk, prof.: OKUN', S.S., kand. tekhn. nauk;  
KRAYZ, B.L., inzh.

Smooth contactless voltage control of a transformer under load,  
Vest. elektroprom, 29 no.3:1-8 Mr '58. (MIRA 11:4)

1; Moskovskiy energeticheskiy institut.  
(Electric transformers)

OKUN', S.S., kand. tekhn. nauk; SEROBYENKOV, B.N., inzh.

New designs and circuits of contactless premagnetized controlling  
transformers. Vest. elektroprom. 31 no. 11:66-73 N '60.  
(MIRA 13:12)

(Electric transformers)

PETROV, G.N., doktor tekhn. nauk, prof.; OKUN', S.S., kand. tekhn.  
nauk, dotsent; SERGEYENKOV, B.N., inzh.

Theoretical principles of the design of electric transformers  
with even noncontact voltage regulation. Trudy MEI no.39:39-  
54 '62. (MIRA 17:6)

ZUL', N.M., kand.tokhn.nauk; OKUN', S.S., kand.tokhn.nauk;  
SERGEYENKOV, B.N., inzh.; TSAGAREYSHVILI, S.A., inzh.

Smoothly regulated booster autotransformer for rural power  
distribution networks. Elektrotehnika 35 no.3:25-27 Mr '64.  
(MIRA 17:5)

ACC NR: AP6021797<sup>8</sup>

SOURCE CODE: UR/0413/66/000/012/0050/0050

INVENTORS: Okun', S. S.; Sergeyenkov, B. N.; Kisslev, V. M.

ORG: none

TITLE: Transformer-transistorized voltage regulator-stabilizer. Class 21, No. 182772

SOURCE: Izobretoniya, promyshlennyye obratzey, tovarnyye znaki, no. 12, 1966, 50

TOPIC TAGS: voltage regulator, voltage stabilizer, transistorized circuit

ABSTRACT: This Author Certificate presents a transformer-transistorized voltage regulator-stabilizer containing a regulating unit, a controlling unit of transistors or controllable rectifiers, and a pulse width modulation circuit. To produce an efficient, small time lag stabilizer and to insure the independence of the form of the output voltage curve on the magnitude and characteristics of the load, the regulating unit is in the form of two series connected autotransformers (transformers) (see Fig. 1). The optimal transformer coefficient is obtained by connecting electronic switches in the tertiary windings of the autotransformers.

Card 1/2

UDC: 621.316.722.1:621.314.2:621.382.3

SEMENNIKOVA, Nina Vladimirovna; OKUN', Yakov Mikhaylovich; KOLESOVA,  
Z.M., tekhn. red.

[Leningrad in three days; a brief story for those who come  
to our city and want to become acquainted with its artistic  
monuments] Leningrad za tri dnia; eto kratkii rasskaz dlia  
tekh, kto, priskhav v nash gorod, khochet poznakomit'sia s  
ego khudozhestvennymi pamiatnikami. Leningrad, Izd-vo  
"Iskusstvo," 1962. 163 p. (MIRA 15:11)  
(Leningrad---Guidebooks)

SEMENNIKOVA, Nina Vladimirovna; OKUNEV, Yakov Mikhaylovich;  
SHILOV, N.G., red.

[Leningrad in three days; a short story for those who  
come to our city and want to get acquainted with its  
artistic landmarks] Leningrad za tri dni; eto kratkiy  
rasskaz dlia tekh, kto, priekhav v nash gorod, nashet  
poznakomit'sia s ego khudozhestvennyimi pamiatnikami.  
Leningrad, Iskusstvo, 1965. 161 p. (MIRA 18.12)

OKUN<sup>L</sup>, Ye., inzhener.

Medium-wave radio station for intraservice dispatching communications  
in harbors. Mor. flot 7 no.8:9-14 Ag '47. (MLRA 9:6)  
(Radio) (Harbors)



PHASE I BOOK EXPLOITATION

SOV/3617

Okun', Yevsey L'vovich

Radioperedayushchiye ustroystva (Radio Transmitters) Leningrad, Sudpromgiz, 1959. 411 p. 20,350 copies printed.

Scientific Ed.: A.M. Bayrashevskiy; Ed.: R.D. Nikitina; Tech. Ed.: L.M. Shishkova.

**PURPOSE:** This book is approved as a textbook for radio-engineering courses in special secondary schools. The approving agency is the Training Methods Administration for Schools of Special Secondary Education of the Ministry of Higher and Special Secondary Education, USSR. It may also be of use to students of radio-engineering tekhnikums and maritime navigation schools, and to technical personnel of radio-engineering and instrument-making industries.

**COVERAGE:** The book contains fundamental information on the theory, design, and circuit diagrams of radio-transmitter and radar systems operating in various frequency bands. It also gives reference materials necessary for term projects and theses. No personalities are mentioned. There are 17 references, all Soviet (including 2 translations).

~~Card #17~~

OKUN', YEvsy L'vovich; ZIZEMSKIY, Yo.I., retsenzenti; LITVINOV, V.I.,  
retsenzenti; NIKITINA, M.I., red.; DVORETSKIY, L.G., nauchnyy red.;  
KRYAKOVA, D.M., tekhn. red.

[Calculation and design of radio transmitters] Raschet i pro-  
ektirovaniye radioperedatchikov. Leningrad, Sudpromgiz, 1962.  
414 p. (MIRA 15:11)

(Radio--Transmitters and transmission)

RABINOVICH, Abram Grigor'yevich; VORONTSOV, A.Ye., retsenzent;  
NEOFITOV, A.M., retsenzent; OKUN', Ye.L., nauchn. red.;  
LESKOVA, L.H., red.

[Adjustment of radio systems] Regulirovka radiotekhnicheskikh  
ustroistv. Leningrad, Sudostroenie, 1964. 218 p.  
(MIRA 17:5)

OKUN', Yevsey L'vovich; KALANTAROV, M.N., retsenzent; STREL'NIKOV,  
M.T., retsenzent; SHAL'NIKOV, G.I., nauchn. red.;  
NIKITINA, M.I., red.; KLIMINA, Ye.V., red.; SACHUK, N.A.,  
red.; KVOCHKINA, G.P., red.

[Radio transmitting devices] Radiopredaiushchie ustroistva.  
Izd.2., perer. i dop. Leningrad, Sudostroenie, 1964. 539 p.  
(MIRA 17:5)

BELOTSEROV, G. I. (G. I. Belotserov); KAMENKOV, M. N., inzh.,  
soobshch. 1944; KAMENKOV, M. N., inzh., inzh. nauk,  
natsenn. 1944; Ya. L., inzh., inzh. nauk; KROCHINA,  
G. P., red.

[Oscillatory circuits and filters] Koleshatel'nye kontury i  
fil'try. Leningrad, Sudstroenie, 1965. 135 p.  
(MIRA 18:8)

OKUN', Z.S.

Using ash dumps in the final purification of some industrial waste  
waters. Vod. i san. tekhn. no.10:13-16 '59. (MIRA 13:1)  
(Ash (Technology)) (Sewage--Purification)

KHAYTIN, TS.D.; OKUNCHIKOV, Z.S.

Moving bridge spans of bridges with Gau-Zhuravskii girders and  
lower decks. Avt.dor.19 no.5:16-17 My '56. (MLRA 9:8)  
(Bridge construction)

FEDOTOVA, O. Ya.; LOSEY, I.P.; SKRIPCHENKO, N.I.; OKUNCHIKOVA, M.A.;  
BYKOVA, L.V.; SHFIL'MAN, M.I.

Synthesis and investigation of polyurea. *Vysokom.soad.* 1 no.11:  
1685-1690 N '59. (MIRA 13:5)  
(Urea)



ACC NR: AP6017552

(N)

SOURCE CODE: UR/0310/66/000/001/0032/0033

AUTHOR: Okunev, A. (Deputy chief designer of diesel engines)ORG: "Engine of Revolution" Plant (Zavod "Dvigatel' revolyutnii")

TITLE: New diesel engines for large river ships

SOURCE: Rechnoy transport, no. 1, 1966, 32-33

TOPIC TAGS: marine engineering, marine engine, diesel engine, diesel fuel, lubricant / G60(6ChRN36-45) diesel engine, G70(6ChRN36-45) diesel engine, "DC" diesel fuel, "DL" GOST4749-49 diesel fuel, "C" GOST305-62 diesel fuel, "TL" GOST10489-63 diesel fuel, M12B-MPTU-12M no. 3-62 lubricant, Dp-11GOST5304-54 lubricant, 4Kh14N14B2M alloy steel

ABSTRACT: New marine diesel engines of G60(6ChRN36/45) and G70(6ChRN36/45) types manufactured by the "Engine of Revolution" Plant are described. The G60 engine is rated at 900 hp at 375 rpm while the G70 engine is of 1200 hp at 375 rpm. A 50-pct supercharging is provided for G60 engine and a 100-pct increase for G70 engine. Both types are of a six-cylinder, four-cycle design having a 360-mm cylinder bore and a 450-mm piston stroke. Additional data on unit pressure, fuel and lubricant consumption, unit weight, and performance are summed up in a table for both types. The nomenclatures for fuel and lubricants are shown above under "Topic Tags". Design and arrangements of various engine parts are briefly described. It is mentioned that the compressed air of the G70 engine (average pressure 10.48 kg/sq cm) after leaving the turbosupercharger is cooled in a water

Card 1/2

UDC: 621.436.629.122

L 08197-57 ENT(d)/ENT(m)/ENP(f) VDN

ACC NR: AP6025348

(A)

SOURCE CODE: UR/0310/65/000/004/0030/0030

AUTHOR: Okunev, A. (Deputy to the chief engineer)

ORG: "Engine of Revolution" Plant (Zavod "Dvigatel' revolyutsii")

36  
B

TITLE: Possibility of improving the performance of G60 marine diesel engine

SOURCE: Rechnoy transport, no. 4, 1966, 30

TOPIC TAGS: <sup>MARINE ENGINE</sup> marine engineering, diesel engine, turbine compressor / G60(6ChRPN36-45),  
G70(6ChRPN36-45) diesel engine, 1311, 1317 turbine compressor <sup>DIESEL ENGINE</sup>

ABSTRACT: The performance of a <sup>TURBINE COMPRESSOR</sup> 900-hp, 375-rpm marine diesel engine of G60(6ChRPN36/45) is investigated. The causes of its relatively high fuel consumption are explained. Being initially designed for operation at 1200 hp with 100% of supercharging, the engine usually operates at 900 hp with 50% of supercharging. No cooling of supercharging air is provided. The operating characteristics of the engine and its turbocompressor are not coordinated. In order to improve the performance of the G60 engine its characteristics were tested, examined and compared with that of a similar G70 engine of 1200 hp and 375 rpm. The comparative characteristics and data on both types of engines are represented in curves and a table. In conclusion, some effective measures are recommended for improving the performance of the G60 diesel and for decreasing its unit fuel consumption. The measures include: decrease of speed from 375 to 340 rpm, the replacement of the turbocompressor by a 1317 type and the application of cooling to the air supercharging system. Orig. art. has: 2 graphs and 1 table.

SUB CODE: 13, 21/ SUBM DATE: None

Cord 1/1 dda

UDC: 621.436.002

OKUNEV, A.A.; DIYEV, N.P.

Kinetic analysis of certain pyrometallurgical processes using  
thermodynamic data. Trudy Inst. met. UFAH SSSR no.1:80-83 '57.  
(MIRA 11:9)

(Metallurgical research) (Thermodynamics)

USSR/Sci. Science. Organic Fertilizers.

J-4

Abs Jour: Ref Zhur-Biol., No 6, 1958, 24767.

Author : Okunev, A.A.

Inst :                     

Title : Experiment on the Application of Organo-Mineral  
Fertilizers in the Kolkhozes of the Brest Oblast.

Orig Pub: Agrobiologiya, 1957, No 3, 124-125.

Abstract: No abstract.

Card : 1/1

30

GRANOV, A. I., KOTOV, N. I.

"Modernization of the Equipment at the Moscow Machine Tool Plant," Stanki i Instrument, 10, No. 3, 1959, Engineer.

Report U-1505, 4 Oct 1951.

1. YESSIN, O. A. and OKUNEV, A. I.
2. USSR (600)
4. Metallurgy
7. Kinetics of interaction of metal and slag from the viewpoint of the ion theory. Izv. AN SSSR. Otd. tekhn. nauk no. 10, 1952.

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

OKUNEV, A.I.

Thermodynamics and kinetics of the interaction of zinc sulfide and  
zinc oxide. TSvet.met. 26 no.4:45-51 J1-Ag '59. (MIRA 10:10)  
(Zinc sulfide) (Zinc oxides)

OKUNEV, A.I.

OKUNEV, A.I.; ADLITSKIY, V.A.

Interaction of zinc-containing mattes and slag, and distribution  
of zinc between them. Dokl. AN SSSR 94 no.1:113-116 Ja '54.  
(MLRA 7:1)

1. Ural'skiy nauchno-issledovatel'skiy i proyektnyy institut  
Unipromed'. (Zinc--Metallurgy)



OKUNEV, A. I.

USSR/Chemistry - Chemical Technology

Card : 1/1

Authors : Diav, N. P., and Okunev, A. I.

Title : Possible secondary reactions during oxidation of zinc sulfide

Periodical : Dokl. AN SSSR, 97, Ed. 2, 301 - 304, July 1954

Abstract : The reactions which probably take place during the oxidation of a pulverulent zinc sulfide in solid state, were investigated. The study of possible secondary reactions is of great importance for the solution of the problem regarding their practicability and their role during the oxidation of zinc sulfide. The secondary reactions occurring during the oxidation of zinc sulfide are described. Ten references. Graphs.

Institution : ...

Presented by : Academician I. P. Bardin, March 20, 1954

OKUNEV, A. I.

USSR/ Chemistry - Chemical technology

Card : 1/1

Authors : Okunev, A. I. and Diev, N. P.

Title : Characteristics of the behavior of zinc during the process of bessemerization of copper matte

Periodical : Dokl. AN SSSR, 97, Ed. 3, 491 - 494, July 21, 1954

Abstract : The behavior of Zn during the process of bessemerizing Cu-matte was investigated in the first and second periods of bessemerization and the results were compared with experimental data of industrial practices. The factors governing the behavior of zinc in the first and second periods, are explained. The basic reaction, determining the conversion of Zn into gaseous phase, is analyzed. Six USSR and 1-USA references. Table, graphs.

Institution : Acad. of Sc. USSR, Ural Branch. The Ural Scient. - Research and Planning Institute UNIFROMED'

Presented by : Academician, I. P. Bardin, March 20, 1954

OKUNEV, A.I.

Thermodynamics and kinetics of the reaction of metallic copper  
and zinc sulfide. TSvet.met. 28 no.1:41-45 Ja-J '55. (MIRA 10:10)

1. Institut Unipromed'.

(Copper--Metallurgy) (Zinc sulfide)

OKUNEV, A.I.

Importance of oxygen and the heating of the air in processing  
zinc-containing slags. TSvet.met. 28 no.4:35-40 J1-Ag '55.  
(MIRA 10:11)

1. Unipromed'. (Zinc—Metallurgy) (Slag)

CH Sulfide oxidation kinetics A. I. Okunev, N. P. D'g.,  
and A. L. Popovkina. Doklady Akad. Nauk S.S.S.R. 103,  
857-60 (1956).—ZnS was oxidized in a porcelain boat in a  
gas stream contg. between 21% O (air) and 100% O. Three  
oxidation types were clearly observed, (1) kinetic at < 600°,  
(2) transitional at 600-700°, and (3) diffusional at > 800°.  
Surface combustion starts during type 2, and the apparent  
activation energy varies between 3000 cal./mol. in type 1,  
through 25,000 cal./mol. in type 2, to 49,000 cal./mol. in  
type 3. The kinetic combustion rate is affected by the ZnS  
particle size, the proportion of O in the gas, and the gas flow  
rate. The effect of the O partial pressure during diffusional  
combustion shows that the reaction is unimol. W. M. S.

(2)

DM RW

OKUNEV, A. I.

Some characteristics of the behavior of zinc during the  
 bessemerization of copper matt. A. I. Okunev. *Trudy  
 Metall.* 1956, No. 1, 40-6; cf. *C.A.B.* 39, 15182d. The bes-  
 semerization processes are analyzed thermodynamically.  
 The fact that the calcd. values of the percentage of Zn  
 evapd. and the rate of Zn evapn. agree with plant data sup-  
 port the assumption that the reaction  $2ZnO + ZnS =$   
 $3Zn(g) + SO_2$  is practically at equil. at the gas bubble-liquid  
 interface during the first stage of bessemerization. On the  
 other hand, the effect of the cocaps. of the slag and the matt  
 on the proportion of Zn evapd. support the assumption that  
 during the 2nd stage of bessemerization the reaction is repre-  
 sented by  $2Cu + ZnS = Cu_2S + Zn$  (cf. *C.A.* 49, 12238g)  
 I. Bergowitz

OKUNEV, N. I.

Pilot-plant experiments on the coal blowing of slags in  
 the copper smelting industry. L. S. Sarkisov, L. S. Kal-  
 ranov, V. V. Lomov, V. I. Gerasimov, and V. A. Arhtskh  
 Plant Kuznetsk. *TEKHNIKA* 1986 No. 1 28-37

Desulfurizing of converter slag is accomplished by blowing C  
 dust was investigated in a pilot plant. Ni, Nb, and V  
 8-30% Zn were removed. In the dust simultaneously  
 40-48% Pb was driven off within 1-20 min. at an air ve-  
 locity of 6-10 m/sec. The weight of coal dust (85%)  
 that was converted was 10-15% through  
 was introduced to form a 40% CO in the CO + CO<sub>2</sub> mixt.,  
 at 1200-1250° the rate increased to form a 50-65% CO  
 gas. The rate of desulfurizing increased with the temp. and the  
 70% content in the gas phase. The content of Fe<sub>2</sub>O<sub>3</sub> was  
 reduced from 40% to 10-15% in the dust. A conclusion  
 the process is...

mit

CHERRY, J. I.

27 27 18

Theory of multicomponent glass formation. J. I. Cherry  
~~Journal of Applied Chemistry~~  
 The free energy and entropy change of the following  
 reactions were taken from available equilibrium data: FeO  
 with CO to give Fe and FeO with CO to give Fe and ZnO with CO  
 to give gaseous Zn, Fe + ZnO, Fe + ZnO + ZnO, and  
 C + ZnO. The last reaction was considered negligible at  
 the low partial pressures of Zn. The likelihood of ac-  
 cumulation of metallic Fe in the alloy is negligible in the  
 presence of 8% Zn. The results lead to the conclusion that  
 equal in weight during formation. Ben-Gurion

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OKUNEV, A. I.  
USSR/Phys. Chemistry, Thermodynamics, Thermochemistry, Equilibriums B-8  
Phys-Chem. Anal-16, Phase-Transitions

Abs Jour : Ref Zhur - Khimiya, No 7, 1957, 22251

Author : A. I. Okunev, L. A. Popovkina

Inst : Not given

Title : Experimental study of equilibrium conditions by interaction of zinc oxide with zinc sulfide.

Orig Pub : Dokl. AN USSR, 1956, 107, No 1, 97-98.

Abstract : Study of equilibrium conditions of the reaction  $2ZnO(\text{solid}) + ZnS(\text{sol}) \rightarrow 3Zn(\text{gas}) + SO_2(\text{gas})$  was conducted by blowing nitrogen through the mixture of chemically pure ZnO and ZnS with the rate of 5 liters /hour at 1000-1200°. Equilibrium composition of gases was determined by the weight of gases lost in the reaction. Values of  $\Delta Z$ ,  $lgK$  and  $P(Zn)$  are brought forward.

Card 1/1

-84-

OKUSKY, A. J.

6  
 4E4  
 4E2c

Removal of zinc from spinelle oxide melts by passing through a  
 carbon-air mixture. O. L. Danyev and V. A. Arshinov. Dokl  
 Akad. Nauk SSSR, 1983, 268, 1183-1186. The tests described  
 were conducted under quasi-production conditions, con-  
 sisting of a furnace with spinelle oxide melt in a specially-constructed  
 furnace with a diameter of 1.5 tons and with consumption of air 50-55  
 m<sup>3</sup> per ton of melt per hour. Samples of melt were taken periodi-  
 cally and analyzed for Zn. Results indicate that Zn reduction  
 is possible in this process. Results also indicate that Zn reduction  
 offers the advantage of a reduction in the rate of  
 J. N. PREKY

OKUNEV, A.I.

PHASE I BOOK EXPLOITATION 985

Akademiya nauk SSSR. Ural'skiy filial, Sverdlovsk. Institut metallurgii

Sbornik rabot laboratorii metallurgii tyazhelykh tsvetnykh metallov  
(Collection of Studies in the Metallurgy of Heavy Nonferrous Metals),  
Sverdlovsk, 1957. 168 p. (Series: Its Trudy, vyp. 1) 2,850 copies  
printed.

Resp. Eds.: Babadzhan, A.A., Candidate of Technical Sciences; and Kusakin,  
P. S., Candidate of Technical Sciences; Ed.: Demin, I.M.; Tech. Ed.:  
Izmodenova, L.A.

PURPOSE: This book is intended for scientific and industrial personnel  
interested in recent advances in the theory and practice of metallurgical  
processes.

COVERAGE: The articles in this book are grouped into five sections. Part I  
presents results of experimental studies in the theory and practice of the  
oxidation of sulfides, metals, and alloys. Part II contains data on the  
thermodynamics of metallurgical processes. The articles in Part III are  
devoted to individual problems in copper and nickel metallurgy. Part IV is  
concerned with certain aspects of the electrometallurgy of aluminum and

Card 1/6

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Zelyanskaya, A.I.; Bykov, I.Ye.; and Gorshkova, L.S. Effect of Heavy Metals on the Polarographic Waves of Selenium and Tellurium

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AVAILABLE: Library of Congress

Card 6/6

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SOV/137-58-12-24053

Translation from: Referativnyy zhurnal Metallurgiya, 1958, Nr 12, p.20 (USSR)

AUTHORS: Diyev, N. P., Okunev, A. I., Paduchev, V. V., Toporova, V. V., Mokronosov, V. S.

TITLE: Sulfur Monoxide as an Intermediate Product in the Oxidation of Certain Sulfides (Monookis sery kak promezhutocnyy produkt oksleniya nekotorykh sulfidov)

PERIODICAL: Tr In-ta metallurgii Ural'skoy obl. AN SSSR, 1957, Nr 1, pp. 17-21

ABSTRACT. The presence of SO as an intermediate product in sulfide oxidation is discovered by photometry of the absorption spectrum of a gas containing the oxidation products of Fe, Cu, and Zn sulfides, and also by the Schenck method, with a 3-4 m<sup>3</sup>/sec flow of roasting gases. SO is a reactant stimulating the oxidation of sulfide and facilitating formation of nascent oxygen. Thermodynamic analysis of the processes of ZnS oxidation, with formation and decomposition of SO, also indicates the probability of the following reactions:  $MeS_{ads} + 2O \rightarrow MeO + SO$ ;  $2SO \rightarrow SO_2 + S$ ;  $S + O_2 \rightarrow SO + O$ .

Card 1/1

G. F.

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 1, p 20 (USSR) SOV/137-59-1-134

AUTHORS: Okunev, A. I., Diyev, N. P.

TITLE: On the Significance of Dissociation Processes of Sulfides During Their Oxidation (O znachenii protsessov dissotsiatsii sulfidov pri ikh okislenii)

PERIODICAL: Tr. In-ta metallurgii. Ural'skiy fil. AN SSSR, 1957, Nr 1, pp 36-43

ABSTRACT: A comparison is made between the two-stage oxidation theory and kinetic data on the oxidation of sulfides, which showed the absence of interrelation between the rates of oxidation and the dissociation pressures of various sulfides. This fact, as well as the significant difference between the rates of oxidation and reduction of sulfides on the one hand and experimental values for the activation energy in the oxidation of some sulfides on the other hand confirm the inconsistency of the two-stage theory when applied to the lower hard-to-dissociate oxides at roasting temperatures. The inaccuracy caused by application of this theory in a number of practical metallurgical calculations is shown.

L. P.

Card 1/1



Translation from: Referativnyy zhurnal Metallurgiya, 1958, Nr 12, p 57 (USSR) SOV/137-58-12-24337

AUTHORS: Diyev, N. P., Okunev, A. I.

TITLE: Preparation of Pure Zinc Sulfide (Polucheniye chistogo sulfida tsinka)

PERIODICAL: Tr. In-ta metallurgii Ural'skiy fil. AN SSSR, 1957, Nr 1, pp 65-68

ABSTRACT: The methods of preparing ZnS described in the literature are examined. The following are experimentally verified and recommended: 1) The dry method based on reacting ZnO with H<sub>2</sub>S; 2) a combined method (wet and dry) based on reacting ZnSO<sub>4</sub> with Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> in aqueous solution and subsequent dry finishing of the product.

N. P.

Card 1/1

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 11, p 18 (USSR) SOV/137-58-11-21960

AUTHORS: Okunev, A. I., Diyev, N. P.

TITLE: A Kinetic Analysis of Certain Pyrometallurgical Processes on the Basis of Thermodynamic Data (Kineticheskiy analiz nekotorykh pirometallurgicheskikh protsessov s ispol'zovaniyem termodinamicheskikh dannyykh)

PERIODICAL: Tr. In-ta metallurgii. Ural'skiy fil. AN SSSR, 1957, Nr 1, pp 80-83

ABSTRACT: If equilibrium is attained rapidly in certain pyrometallurgical reactions, as for example the distillation of Zn in the Bessemer process or by fuming, the equation for the equilibrium constant  $K$  is a quantitative relationship between the process rate and a number of factors. Calculation of  $K$  and  $p_{Zn}$  will yield all the data needed to choose optimum conditions for running the process: slag composition, temperature, coal-to-air ratio. Analysis of the results for Bessemer processing of mattes and fuming of slags shows that the practical data on zinc distillation are in good agreement with the calculated results, i. e., equilibrium is attained in the given processes.

Card 1/1

G. F.

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136-2-5/22

AUTHOR: Okunev, A.I., Usachev, N.M., Lutokhin, D.I., Kurts, V.V., Fedotova, E.I. and Vostryakov, A.A.

TITLE: Results of Industrial Tests on the Smelting of Roasted Collective Copper-Zinc Concentrates. (Rezultaty promyshlennykh ispytaniy plavki obozhzhennykh kolektivnykh medno-tsinkovykh kontsentratov)

PERIODICAL: Tsvetnyye Metally, 1957, no.2, pp. 22 - 31 (USSR)

ABSTRACT: The use of flotation for concentrating many Ural copper-zinc ores has led to the production of copper concentrates containing as much as 10-12% with copper contents of 8-10%. The aim of the present work was to test the smelting of roasts of such concentrates in a full-scale reverberatory furnace to give a zinc slag. The experimental furnace used was at the Sredneural'skiy Works and had a hearth area of about 8 m<sup>2</sup>, chrome-magnesite walls and hearth and silica roof and was fired with coal dust. The following main results were obtained in 2.5 - 3 months' work with concentrates containing 7-9% Cu and 6 - 15% Zn to give slags with 14-15% Zn. The results of laboratory investigations on zinc distribution between slag and matte in relation to their compositions were confirmed. When mattes contained 40 - 50% Cu, the zinc content in the slag was about 1.6 - 1.8 times greater than in the matte. The

1/3

Results of Industrial Tests on the Smelting of Roasted Collective Copper-zinc Concentrates.

optimal compositions of matte (45% Cu) and slag as well as the degree of de-sulphurisation were determined. Deep roasting is one of the main requirements, even when roasting and smelting are carried out in one unit. With deep roasts 80% of the zinc goes from the solid charge into the slag, 8.9% into the matte and 8-12% into the gas. With a 45-50% Cu matte the copper content of dumped slags was 0.7%; extraction of copper into the matte depends on the copper content of the concentrate and can be 90-93% with return of dust to the smelter, and up to 96-97% with treatment of the zinc slag. Extraction of noble metals was about the same as with raw or lightly-caloried charge. Average dust production is 4.5% of the charge weight and there can be up to 20-24% zinc in it (depending on the zinc content of the charge). Optimal sulphur content of the roast is 9-10% (2.0 - 2.5% sulphate sulphur); de-sulphurisation during smelting is 48-56%. Good separation of smelting products was always obtained, but observations on the state of the hearth suggest desirable design changes. Besides tabulation of materials analysis and metals balance graphs of zinc distribution vs matte copper content, of copper content in matte and slag vs time and of product temperatures vs time are given.

2/3

SOV/137-58-9-18438

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 36 (USSR)

AUTHORS: Okunev, A. I., Popovkina, L. A.

TITLE: On the Conditions Under Which Various Processes of the Oxidation of Sulfides Can Be Put Into Practice (Ob usloviyakh realizatsii razlichnykh rezhimov pri okislenii sul'fidov)

PERIODICAL: Tr. i materialy. Ural'skiy n.-i. i proyekt. in-t medn. prom-sti, 1957, Nr 2, pp 275-279

ABSTRACT: On the basis of the analysis of bibliographical data and the investigations of the Unipromed' institute, the activation energies (AE) of the processes of oxidation of sulfides with evolution of SO<sub>2</sub> were established and the temperature limits for the realization of kinetic and diffusion processes were approximately identified. The apparent activations of the processes of interaction of metallic sulfates with metallic sulfides and of metallic oxides with metallic sulfides were calculated. It is noted that the AE values for the process of oxidation of metallic sulfides and the interaction of metallic sulfides with metallic sulfates coincide in the first approximation. It was found that the process of oxidation of metallic sulfides with an evolution of SO<sub>2</sub> is

Card 1/2

137-58-6-11955

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 110 (USSR)

AUTHOR: Okunev, A.I., Aglitskiy, V.A.

TITLE: Electrical Smelting of Ore in Copper Metallurgy (O rudnoy elektroplovke v metallurgii medi)

PERIODICAL: Tr. i materialy. Ural'skiy n. -i. i proyekt. in-t medn. prom-sti, 1957, Nr 2, pp 307-315

ABSTRACT: A list of the advantages and disadvantages of the electric smelting of ores is presented. It is noted that electrical smelting yields best results only when roasted or dried material is smelted.

G.S.

1. Copper ores--Processing 2. Electric furnaces--Effectiveness

Card 1/1

SOV/137-58-9-18823

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 95 (USSR)

AUTHOR: Okunev, A.I.

TITLE: ~~The Desirability of Dividing Tuyeres Into Heating and Reducing Categories in the Fuming of Slags~~ (O tselesoobraznosti razdeleniya furn na nagrevatel'nyye i vosstanovitel'nyye pri f'yumingovanii shlakov)

PERIODICAL: Tr. i materialy. Ural'skiy n.-i. i proyekt. in-t medn. prom-sti, 1957, Nr 2, pp 316-321

ABSTRACT: The practicality of the division of tuyere functions into heating and reducing categories so as to intensify the process of fuming Zn-containing slags, as suggested by the American writers Bell, Turner, and Peters (RZhMet, 1956, Nr 7, abstract 6129), was investigated. Calculating the Zn yield in the gases under the usual fuming conditions, and that obtained when tuyeres are divided into those with heating and those with reducing functions with consideration of oxidation and reduction in the zone of the heating tuyeres, the author holds that the separation of tuyere functions does not result in any intensification of the distillation of Zn, as its yield remains equal to the

Card 1/2

SOV/137-58-9-18823

The Desirability of Dividing Tuyeres (cont.)

quantity obtained by the usual method. The recommendation of the American authors that tuyeres be divided by function is the result of ignoring the phenomena of oxidation and reduction in the zone of the heating tuyeres.

N.P.

1. Slags--Processing
2. Zinc--Separation

Card 2/2

SOV/137-58-9-18824

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 95 (USSR)

AUTHOR: Okunev, A.I.

TITLE: A Comparison of the Efficiency of Various Reductants in the Fuming of Slags (Sopostavleniye effektivnosti razlichnykh vosstanoviteley pri f'yumingovanii shlakov)

PERIODICAL: Tr. i materialy. Ural'skiy n.-i. i proyektn. in-t medn. prom-sti, 1957, Nr 2, pp 322-328

ABSTRACT: It is found that when Zn-containing slags are blown with a methane-and-air mixture, the output capacity of the plant remains approximately the same as when coal dust is used as the reductant. The consumption of reductant - C, H<sub>2</sub>, and CH<sub>4</sub> - per g/atom of Zn driven off is, respectively, 7.2, 8.78, and 3.43 moles (when  $a_{ZnO} = 0.1$ ). If the blast is heated and O<sub>2</sub> is employed in the fuming of slags, the efficiency of CH<sub>4</sub> as a reductant rises more than in blow with powdered coal or H<sub>2</sub>. when slags are blown with a mixture of coal and air heated to 550°C, the productivity of the furnace may be doubled, approximately, and the saving of coal is 30-35%. When a mixture of methane and air heated to 550° is used, the furnace output

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137-58-6-12026

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 120 (USSR)

AUTHORS: Okunev, A.I., Bovykin, V.S.

TITLE: Behavior of Cadmium During Fuming of Slags (Povedeniye kadmiya pri f'yumingovanii shlakov)

PERIODICAL: Tr. i materialy. Ural'skiy n.-i. i proyekt. in-t medn. prom-sti, 1957, Nr 2, pp 361-364

ABSTRACT: An analysis of the behavior of Cd in the process of fumigation of Zn slags shows that practically 100% of the Cd are driven off within the first few minutes of slag blowing. The extraction of Cd into sublimates reaches the value of  $\sim 100\%$ . Thus, at the Flin-Flon plant the content of Cd in the initial and in the waste slags amounts to 0.0036% and 0.0008% respectively, while the Cd content in sublimates constitutes 0.066%. The extraction of Cd into the sublimates constitutes 80%, and in excess of 100% when taken in terms of the Cd driven off into the sublimates. 1. Cadmium--Separation 2. Zinc ores--Processing 3. Slags--Properties G.S.

Card 1/1

137-58-6-12023

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 119 (USSR)

AUTHOR: Okunev, A.I., Vostryakov, A.A., Aglitskiy, V.A.,  
Travnikova, L.B.

TITLE: Fundamental Factors Influencing the Selection of Optimal Composition of Matte and Slag During Processing of Copper-zinc Cinders in Reverberatory Furnaces (Osnovnyye faktory, opredelyayushchiye vybor optimal'nogo sostava shteyna i shlaka pri pererabotke medno-tsinkovykh ogarkov v otrazhatel'nykh pechakh)

PERIODICAL: Tr. i materialy. Ural'skiy n.-i. i proyekt. in-t medn. prom-  
sti, 1957, Nr 2, pp 365-372

ABSTRACT: A brief examination of the fundamental factors that influence the selection of matte (M) and slag composition during processing of Cu-Zn concentrates in accordance with the following procedure: deep-penetration roasting-smelting-fumigation. The selection of an optimum M composition in smelting of roasted Cu-Zn concentrates is dictated by the following basic factors:  
1) Variation in distribution of Zn between the slag and the M depending on the composition of the latter; 2) variation in specific

Card 1/2

137-58-6 12023

Fundamental Factors Influencing the Selection of Optimal Composition (cont.)

gravity of the M depending on its composition: 3) a change in the melting point of the M; 4) a change in the fluidity of the M. It is noted that the distribution of Zn is favorably affected by an increase in the Cu content of the M and that it is most desirable that the Cu content be maintained at the highest possible value (up to 60-80%). The specific gravity of liquid M increases continuously with increasing Cu content. M's containing maximum possible amounts of Cu are best suited for efficient separation of M and slag, whereas M's containing 40-45% of Cu are most desirable from the point of view of fusibility of the M. These same M's also exhibit the best fluidity. Taking all factors presented into consideration one may state that the optimal value of Cu content in M's constitutes 45%. In reverberatory-furnace smelting of Cu-Zn concentrates the slags must contain 32-34% (or less) of SiO<sub>2</sub> depending on the Zn content.

G.S.

1. Copper ores--Processing
2. Zinc ores--Processing
3. Slags--Composition
4. Slags--Properties

Card 2/2

SOV/137-58-7-14225

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 38 (USSR)

AUTHORS: Okunev, A.I., Popovkina, A.A.

TITLE: Analysis of Some Methods of Oxidation of Sulfides (Analiz nekotorykh skhem okisleniya sul'fidov)

PERIODICAL: Tr. i materialy. Ural'skiy n.-i. i projektn. in-t medn. prom-sti, 1957, Nr 2, pp 373-380

ABSTRACT: Two methods of oxidation of sulfides were examined: Method A which includes the oxidation of the metal (M) produced during the interaction of  $MSO_4$  and MS, and method B which takes into account a direct decomposition of  $MSO_4$  to the oxide. A comparison of calculations according to these methods is cited, with experimental data obtained from the oxidation of a series of sulfides (Fe, Zn, and Cu). It is remarked that method A is insufficient because even in the case of Cu the interaction of  $MSO_4$  and MS terminates with the oxide, while a reduction to the metal is not possible. Method B likewise is contrary to the experimental data in a number of cases and requires further study.

Card 1/1

1. Metal sulfides--Oxidation

L.P.

AUTHORS: Okunev, A.I. and Vostryakov, A.A.

134-1 1/11

TITLE: Some Problems Concerning the Treatment of Ural Copper-zinc Concentrates in the Suspended State (Nekotoryye voznikshie problemy pererabotki Ural'skikh medno-tsinkovykh kontsentratov vo vzveshennom sostoyanii)

PERIODICAL: Tsvetnyye Metally, 1957, No.11, pp. 24 - 29 (USSR).

ABSTRACT: In this article, theoretical and practical data are used for the construction of material and heat balances, the discussion of the distribution of zinc between the products of oxygen smelting of copper-zinc concentrates, the analysis of copper recovery, furnace design and other problems. The balances show that for concentrates with 40% S to produce 70% SO<sub>2</sub> gases smelting with oxygen leads to excessive temperatures: leaner mattes and gas with 40-50% SO<sub>2</sub> are recommended and the possibility of preliminary roasting to produce elementary sulphur is considered. Analysis of zinc transfer into the gas phase showed that with low-sulphur concentrates when the temperature does not exceed 1300 - 1400 °C, 3-16% of the zinc enters the gas phase, 75-85% the slag and the rest the matte; with high-sulphur concentrates 40% of the zinc enters the gas phase but by re-charging the dust all the element can be transferred into

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138-11-7/17

Some Problems Concerning the Treatment of Ural Copper-zinc Concentrates in the Suspended State

the slag. Thus, in both cases, oxygen smelting offers the possibility of producing a zinc slag with roasting and smelting being effected together in one plant. For Ural copper-zinc concentrates, smelting with oxygen can be effected to give relatively lean (25-35%) mattes (high copper recovery without de-coppering the slag with pyrites); copper can be extracted from rich mattes by burning high sulphur concentrates; fuming is another possibility considered. Flash roasting, it is suggested, could lead to simplification of furnace construction, now being studied by the Unipromed', UFAI, Giprotsvetmet and other institutes. In the article, conditions for smelting Ural copper and copper-zinc concentrates with hot blast, oxygen-enriched blast and blast both hot and oxygen-enriched have been formulated: a temperature of 400 °C or an oxygen content of 30% are necessary. The construction of the appropriate flash-roasting plant at the Urals Works is recommended. There are 5 figures, 2 tables, 4 Russian and 1 English references.

ASSOCIATION: Unipromed'

AVAILABLE: Library of Congress  
Card 2/2

1. Copper zinc concentrates-Treatment
2. Furnaces-Preparation
3. Furnaces-Construction

OKUNEV, H. I.

137-58-5-8757

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 5 (USSR)

AUTHORS: Okunev, A. I., Aglitskiy, V. A.

TITLE: The Distribution of Certain Rare and Dispersed Elements During the Process of Concentration of Copper-zinc Ores of the Ural Region (Raspredeleniye nekotorykh redkikh i rasseyannykh elementov v protsesse obogashcheniya ural'skikh medno-tsinkovykh rud)

PERIODICAL: Byul. tsvetn. metallurgii, 1957, Nr 15, pp 14-15

ABSTRACT: In order to establish how the rare and dispersed elements are distributed in the products of concentration, mean monthly samples, taken from plants of the Ural region, were investigated at the Unipromed' Institute. In the process of concentration, the greater part of the elements S, Fe, Ge, Tl, Se, Te, and others remains in the pyrite concentrates (tailings). Considerable amounts of Cu, Zn, Cd, and other elements are extracted into the same concentrates. For this reason it is essential that pyrite concentrates be subjected to exhaustive processing methods.

A. Sh

Card 1/1

1. Rare earth elements--Determination 2. Copper-zinc ores--Processing

OKUNEV, A.I.

137-58-5-9286

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 72 (USSR)

AUTHOR: Okunev, A.I.

TITLE: Distribution of Cadmium and of Rare and Dispersed Elements in Products of Pyrometallurgical Processing (Raspredeleniye kadmiya, redkikh i rasseyannykh elementov v produktakh piro-metallurgicheskoy pererabotki)

PERIODICAL: Byul. tsvetn. metallurgii, 1957, Nr 15, pp 24-27

ABSTRACT: Studies were conducted in order to determine the distribution of rare and dispersed elements in pyrometallurgical processing of Cu-Zn concentrates. It has been established that in the course of smelting raw and roasted charge, the elements In, Ge, Ga, Ta, and others concentrate primarily in the slags (up to 80-90%). It is imperative that the valuable components be recovered from such slags (by means of the fuming process, for example).

G.S.

1. Copper-zinc ores--Processing 2. Slags--Processing 3. Rare earth elements--Separation 4. Cadmium--Separation

Card 1/1



137-58 6-12024

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 120 (USSR)

AUTHORS: Okunev, A.I., Sarkisov, I.G., Vil'mov, V.M.

TITLE: Fuming of Zinc-bearing and Sulfide-oxide Melts. Possibilities for Intensification of the Process (F'yumingovaniye tsinksoder-zhashchikh i sul'fidno-okisnykh rasplavov i vozmozhnosti intensivatsii etogo protsessa)

PERIODICAL: Byul. tsvetn. metallurgii, 1957, Nr 16, pp 16-20

ABSTRACT: Thermodynamic computations show that the reduction of Zn from sulfide compounds, with the aid of CO or C, proceeds at a rate 1/6 to 1/8 that of reduction of Zn from oxide compounds. It is for this reason that in the process of pyroselection the sulfides are initially subjected to air blowing without fluxes, after which the fused oxides are subjected to fuming. However, since any matte, a 20% one for example, contains 6.5-7.5% of O<sub>2</sub> even before the blowing, and since the reduction blowing employs a mixture of air with a reductant, the O<sub>2</sub> content in the sulfide melt is increased. Thus, during blowing of a sulfide-oxide melt the concentration of Zn vapors in the gases is not determined by the reaction between the CO + CO<sub>2</sub> and the

Card 1/2

137-58-6-12024

Fuming of Zinc-bearing and Sulfide-oxide Melts. (cont.)

sulfides but rather by a reaction with the melt; one may, therefore, expect a more efficient distillation of Zn than would be the case in reactions between CO and C and the sulfides. In order to verify this deduction, pilot-plant experiments were performed in a converter containing up to 5 tons of melt. The experiments demonstrated that it is possible (in principle) to drive the Zn from the sulfide-oxide melts. The possibility of intensifying the distillation of Zn by means of a reaction in which Zn is displaced from Cu-sulfide was also investigated. For this purpose a quantity of liquid blister Cu was introduced into the converter after a short period of blowing. Experiments have shown that the rate of distillation of Zn from the matte may be increased by 2.5-4 times in the process and that the Zn content in the melt can be reduced from 6-7% to 1% within an interval of 30 minutes.

A.P.

1. Zinc--Separation    2. Slags--Processing    3. Slags--Thermodynamic properties  
4. Slags--Chemical reactions    5. Carbon monoxide--Chemical reactions    6. Carbon dioxide--Chemical reactions

Card 2/2

SOV/137-58-7-14582

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 91 (USSR)

AUTHOR: Okunev, A.I.

TITLE: Behavior of Selenium and Tellurium in Pyrometallurgical Treatment of Copper Ores and Concentrates (Povedeniye selena i tellura pri pirometallurgicheskoy pererabotke mednykh rud i kontsentratov)

PERIODICAL: Byul. tsvetn. metallurgii, 1957, Nr 21, pp 23-27

ABSTRACT: The physicochemical properties of Se and Te, and the behavior of Se and Te in the roasting of Cu concentrates, Bessemer blow of Cu mattes, reverberatory smelting of green and roasted concentrates, shaft-furnace smelting of Cu ores, smelting in the suspended state, cyclone smelting, and fuming of slags, are presented. Also presented are tables with distribution of Se and Te among the products of matte converter blow, reverberatory smelting of concentrates, shaft-furnace smelting of ores, and cyclone smelting of concentrates.

Card 1/1 1. Copper ores--Processing 2. Selenium--Properties 3. Tellurium--Properties N.P.

137-58-6-11954

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 110 (USSR)

AUTHORS: Ryabov, Yu.F., Okunev, A.I., Kirr, L.D., Oshman, V.A.

TITLE: Distribution of Certain Rare and Disseminated Elements in the Treatment Products of Copper Ores and Concentrates (Raspre-deleniye nekotorykh redkikh i rasseyannykh elementov v produktakh pererabotki mednykh rud i kontsentratov)

PERIODICAL: Byul. tsvetn. metallurgii, 1957, Nr 22, pp 24-27

ABSTRACT: Tables of the distribution of rare and disseminated elements at various stages of conversion at the Karabash and Kras-noural'sk copper smelter are presented. Under conditions of pyrometallurgical treatment, In, Ge, and Tl chiefly go into the slags; Se and Te go into the blister Cu and the dust; and Cd into the dust.

G.S.

1. Copper ores--Processing    2. Rare earth elements--Determination

Card 1/1

137-58-0-11329

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 10 (USSR)

AUTHORS: Okunev, A.L., Kirr, L.D., Oshman, V.A., Ryabov, Yu.F.

TITLE: The Distribution of Rare and Disseminated Elements in the Milling of Ural Copper-and-zinc Ores by Separation of Independent Concentrates (Raspredeleniye redkikh i rasseyannykh elementov pri obogashchenii ural'skikh medno-tsinkovykh rud s vydeleniem samostoyatel'nykh kontsentratov)

PERIODICAL: Byul. tsvetn. metallurgii, 1957, Nr 23, pp 12-13

ABSTRACT: The Unipromed' Institute has made a study of the distribution of rare and disseminated elements among the various milling products at sections of the Krasnoural'sk and Karabash Ore Milling plants. The results of the analyses show that the Cd, In, and Ge contents of the Zn concentrate exceed many times over the contents thereof in the starting specimen. However, the total extraction thereof in the Zn concentrate is comparatively low, and it is 67-85% in the pyrite concentrate and tailings. The concentration of rare elements in the Cu concentrate is less, owing to the separation of Zn concentrate, than is the case in flotation involving a combined Cu-Zn concentrate.

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1. Copper ores--Processing 2. Zinc ores--Processing 3. Rare earth elements--Availability A.Sh.

SOV/137-58-7-14604

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 95 (USSR)

AUTHOR: Okunev, A.I.

TITLE: Behavior of Rare and Disseminated Elements in the Fuming of Slags (Povedeniye redkikh i rasseyannykh elementov pri f'yumingovanii shlakov)

PERIODICAL: Byul. tsvetn. metallurgii, 1957, Nr 24, pp 16-18

ABSTRACT: The behavior of Ge, Se, Te, Gl, In, and Tl in the fuming (F) of Zn-bearing slags is examined. The conclusion is drawn that distillation of the rare and disseminated elements may be employed effectively in the F of slags. The need to determine distillation kinetics to answer the question as to the desirability of F zinc-free slags in nonferrous and ferrous metallurgy and the need for studies in intensification of the distillation of rare elements from these slags is stated. The desirability of employing reductants containing elevated quantities of rare and disseminated elements in F is noted.

1. Slags--Processing 2. Rare earth elements--Separation N.P.

Card 1/1

SOV/137-58-7-14605

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 95 (USSR

AUTHOR: Okunev, A.I.

TITLE: A Technical and Economic Analysis of the Efficiency of Fuming Zinc-bearing Slags with Oxygen and Heating of the Blast (Tekhniko-ekonomicheskii analiz effektivnosti f'yumingovaniya tsinksoderzhashchikh shlakov s primeneniyem kisloroda i podogreva dut'ya)

PERIODICAL: Byul. tsvetn. metallurgii, 1957, Nr 24, pp 30-33

ABSTRACT: A technical and economic analysis demonstrates the high efficiency of the fuming of Zn-bearing slags: 1) annual treatment of 170,000 t hot and 34,000 t cold slag (0.5-0.56% Cu, 8.5-7.0% Zn, 0.7-0.6% Pb, 31-33% SiO<sub>2</sub>, 1.5% CaO) permits recovery of 22,000 t sublimates of the following tonnage contents: Zn 14,000, Pb 1300, Cd 9.8, Se 9.8, Te 9.8, Tl 1.5, In 0.77, Ge 1.54, and Cu 400 in Cu matte, and a considerable amount of high-energy steam: 2) with 31,715,000 rubles of marketable product from the fumed-slag installation, operating costs were 7,595,000 rubles, yielding a nominal profit of 24,120,000 per year; 3) capital investments in the construction

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SOV/137-58-7-14605

A Technical and Economic Analysis of the Efficiency of Fuming (cont.)

of a slag fuming plant are recouped through profits in less than a year; 4) the fuming process is markedly intensified when blast is employed and heated. Both in Case 1 and in Case 2, capital outlays are reduced considerably, and the rate of profit is high.

N.P.

1. Slags--Processing
2. Slags--Properties

Card 2/2



OKUNEV, A.I.; USACHEV, N.M.; LUTOKHIN, D.I.; KURTS, V.V.; FEDOTOVA, Ye.I.;  
VOSTRYAKOV, A.A.

Results of industrial tests for smelting roasted copper-zinc  
collector concentrates. TSvet. met. 30 no.2:22-31 P '57. (MIRA 10:4)

1. Unipromed' i Sredneural'skiy medeplavil'nyy zavod,  
(Copper--Metallurgy) (Zinc--Metallurgy)

OKUNEV, A.I.; VOSTRYAKOV, A.A.

Some problems in the treatment of Ural copper-zinc concentrates  
in a fluidized bed. TSvet. met. 30 no.11:24-29 N '57. (MIRA 10:11)

1. Unipromed'.  
(Copper--Metallurgy) (Zinc--Metallurgy) (Fluidization)

OKUNEV, A.I.; BOVYKIN, V.S.

Activity of zinc oxide in lead and copper slags during the fuming  
process. Dokl.AN SSSR 112 no.1:77-78 Ja '57. (MLRA 10:2)

1. Ural'skiy nauchno-issledovatel'skiy i proyektinyy institut mednoy  
promyshlennosti. Predstavleno akademikom S.I.Vol'fkovichem.  
(Lead--Metallurgy) (Copper--Metallurgy)  
(Chemistry, Metallurgic)

ORUNEV, A.J.

Distr: 4E2c

15

Fuming process for meta and slags. A. I. Okunecy, V. A. Aditskii, and I. G. Sarkisov U.S.S.R. ~~1947~~ Feb 48, 1958. Molten meta and slags are blown with a coal-air mixt. To hasten the distn of the metal, metals or their alloys are added to the melt during the fuming. M. Hesch...

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