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LEVIN, S.S., st. nauchn. sotr.; POLUBNEVA, V.I., inzh., red.

[Surfaces of cellular concrete products finished by milling; practices of cellular concrete plants of the Sverdlovsk Economic Council] Otdelka poverkhnostei izdelii iz iacheistykh betonov frezerovaniem; opyt zavodov iacheistykh betonov Sverdlovskogo sovnarkhoza. Moskva, Gosstroiizdat, 1962. 21 p. (MIRA 17:3)

1. Laboratoriya zhelezobetonnykh konstruktsiy Nauchno-issledovatel'skogo instituta po stroitel'stvu Akademii stroitel'stva i arkhitektury v Sverdlovske (for Levin).

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

MONFRED, Yu.B., kand. tekhn. nauk, red.; RUBANENKO, B.R., glav. red.; POZAHOV, N.F., zam. glav. red.; ONUFRIYEV, I.A., red.; YUDIN, Ye.Ya., red.; MASONOV, V.N., red.; ISIDOROV, V.V., red.; MAKARICHEV, V.V., red.; POLUBNEVA, V.I., inzh. red.

[Improving the technology of building large-panel apartment houses] Sovershenstvovanie tekhnologii krupnopanel'nogo domostroeniia. Moskva, TSentr. biuro tekhn. informatsii in-ta organizatsii, mekhanizatsii i tekhn. pomoshchi stroit.,1962. 51 p. (MIRA 16:8)

(Apartment houses)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

MOROZOV, N.V., kand. tekhn. nauk; MKRTUMYAN, A.K., kand. tekhn. nauk; ANTIPOV, T.P., arkh.; KOCHESHKOV, V.G., inzh.; LISAGOR, I.A., inzh.; TSAPLEV, N.N., inzh.; IVASHKOVA, V.K., kand. tekhn. nauk; SHIKUNOV, I.Ya., inzh.; FILIN, Yu.D., inzh.; MOSTAKOV, V.I.; BUBLACHENKO, P.Ye., kand. khim. nauk[deceased]; PANKRATOV, V.F., inzh.; RUBANENKO, B.R., glav. red.; ROZANOV, N.P., zam. glav. red.; ONUFRIYEV, I.A., red.; YUDIN, Ye.Ya., red.; NASONOV, V.N., red.; ISIDOROV, V.V., red.; MAKARICHEV, V.V., red.; POLUBNEVA, V.I., red.

[Ways of improving design details for the seams of exterior wall slabs] Puti uluchsheniia konstruktivnykh reshenii stykov panelei naruzhnykh sten. Moskva, TSentr. biuro tekhn. informatsii i nauchno-issl. in-ta organizatsii, mekhanizatsii i tekhn. pomoshchi stroit., 1962. 78 p. (MIRA 16:8)

1. TSentral'nyy nauchno-issledovatel'skiy i proyektno-eksperimental'nyy institut industrial'nykh zhilykh i massovykh kul'turno-bytovykh zdaniy (for TSaplev). 2. Nauchno-issledovatel'skiy institut betona i zhelezobetona Akademii stroitel'stva i arkhitektury SSSR, Perovo (for Mostakov). 3. Vsesoyuznyy nauchno-issledovatel'skiy institut novykh stroitel'nykh materialov Akademii stroitel'stva i arkhitektury SSSR (for Pankratov).

(Walls)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

AFANASENKO, M.Ye.; POLUBNEVA, V.I., inzh., red.

[Prestressed two-layer floors of attic roofs]Predvaritel'no napriazhennye dvukhsloinye nastily cherdachnykh perekrytii; opyt Kombinata zhelezobetonnykh konstruktsii No.2. Glavmospromstroimaterialov. Moskva, osstroiizdat, 1960. 42 p. (MIRA 15:12)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu. 2. Glavnyy inzhener Kombinata zhelezobetonnykh konstruktsiy No.2 Glavnogo upravleniya promyshlennosti stroitel'nykh materialov i stroitel'nykh detaley (for Afanasenko).
(Lightweight concrete) (Roofing, Concrete)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

YEFIMOV, N.N., inzh.; POLUBNEVA, V.I., inzh., red.

[Manufacture of reinforced-concrete products from stiff mixes at construction sites with immediate removal of forms; work practices of the "Osobstroi" Trust of the Main Division of the Moscow Province Construction Office] Izgotovlenie zhelezobetonnykh izdelii iz zhestkikh smesei na poligonakh s nemedlennoi raspalubkoi; opyt raboty tresta "Osobstroi" Glavmosoblstroia v g.Zhukovskom. Moskva, Akad. stroit. i arkhit. SSSR, 1959. 26 p. (MIRA 15:7)
(Zhukovskiy—Precast concrete)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

MOROZOV, N.V., kand. tekhn. nauk; LAGUN, I.I., inzh., nauchnyy sotr.; ZHELUDKOV, V.I., starshiy inzh.; POLUHNEVA, V.I., inzh., red.

[Experimental residential building made of vibrated brick slabs; practices in the construction of block no.18 in Novyye Cheremushki (Moscow)]Eksperimental'nyi zhiloi dom iz vibrokirpichnykh panelei; opyt stroitel'stva v 18 kvartale Novykh Cheremushek (Moskva). Moskva, 1959. 34 p. (MIRA 15:8)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu. 2. Rukovoditel' laboratorii steniperegorod Nauchno-issledovatel'skogo instituta stroitel'noy fiziki i ograzhdayushchikh konstruktsiy Akademii stroitel'stva i arkhitektury SSSR (for Morozov). 3. Laboratoriya kamennykh konstruktsiy TSentral'nogo nauchno-issledovatel'skogo instituta stroitel'nykh konstruktsiy Akademii stroitel'stva i arkhitektury SSSR (for Lagun).

(Moscow--Apartment houses)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

LEV, Naum Yakovlevich; POLUBNEVA, V.I., inzh., red.

[Wall blocks made of coarse-pored concrete] Stenovye bloki iz krupnoporistogo betona; opyt stroitel'stva krupnoblochnykh domov v Latviiskoi SSR. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1961. 27 p. (MIRA 14:11)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stva. Byuro tekhnicheskoy informatsii. 2. Nachal'nik tekhnicheskogo otdela Ministerstva stroitel'stva Latviyskoy SSR (for Lev).
(Latvia--Concrete walls)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

SOKOLOV, Vladimir Aleksandrovich, kand. tekhn. nauk, starshiy nauchnyy sotr.; POLUBNEVA, V.I., inzh., red.;

[Manufacture of parts for series I-464 apartment houses] Izgotovlenie detalei dlia domov serii I-464; opyt zavodov Glavmospromstroimaterialov. Moskva, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961. 52 p. (MIRA 14:11)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut organizatsii, mekhanizatsii tekhnicheskoy pomoshchi stroitel'stvu. Byuro tekhnicheskoy informatsii. 2. Nauchno-issledovatel'skiy institut zhelezobetonnykh izdeliy i nerudnykh materialov Glavnogo upravleniya promyshlennosti stroitel'nykh materialov i stroitel'nykh detaley (for Sokolov).
(Apartment houses) (Precast concrete)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

SVISTUNOV, G.A., inzh.; MANUKYAN, M.M., inzh.; POLUBNEVA, V.I., inzh., red.

[Heating frozen ground with devices operating on diesel fuel] Otogrev merzlovo grunta ustanovkami na dizel'nom toplive; opyt organizatsii Glavmosstroia. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961. 16 p. (MIRA 14:12)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu. Byuro tekhnicheskoy informatsii. 2. Glavnyy nauchnyy konsul'tant po mekhanizatsii i energorabotam v stroitel'stve Moskovskoy vystavki novoy stroitel'noy tekhniki 1960 g. Vystavki dostizheniy narodnogo khozyaystva SSSR (for Svistunov). 3. Rukovoditel' gruppy Spetsial'nogo konstruktorskogo byuro "Mosstroy" (for Manukyan).
(Frozen ground)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

POLUBNEVA, V.I., inzh., red.

[Experience in the prefabrication of elements and assembly of buildings in series I-464A; a collection of articles. Based on data of the Minsk Residential Construction Combine No.1 and the Planning and Design Office of the All-Union Construction and Installation Trust] Opyt zavodskogo izgotovleniia detalei i montazha domov serii I-464A; sbornik statei. Po materialam Minskogo domostroitel'nogo kombinata No.1 i PKK "Industroiproekt." Moskva, Gosstroiizdat, 1962. 35 p. (MIRA 17:3)

1. Akademiya stroitel'stva i arkhitektury SSSR. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

VAYNBERG, G.D., inzh.; KRICHEVSKAYA, Ye.I., kand. tekhn. nauk; MAZALOV, A.N., inzh.; ROZENFEL'D, A.G., inzh.; FOLOMIN, A.I., doktor tekhn. nauk; TESLER, P.A., kand. tekhn. nauk; SHOLOKHOV, V.G., arkhit.; RUBANENKO, B.R., glav. red.; ROZANOV, N.P., zam. glav. red.; ONUFRIYEV, I.A., red.; YUDIN, Ye.Ya., red.; NASONOV, V.N., red.; ISIDOROV, V.V., red.; MAKARICHEV, V.V., red.; POLUBNEVA, V.I., inzh., red.

[Improving the durability of industrial built-up roofs] Voprosy povysheniia dolgovechnosti industrial'nykh sovmeshchennykh krysh. Moskva, Gosstroiizdat, 1962. 43 p. (MIRA 17:4)

1. Akademiya stroitel'stva i arkhitektury SSSR. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu. 2. TSentral'nyy nauchno-issledovatel'skiy i proyektno-eksperimental'nyy institut industrial'nykh, zhilykh i massovykh kul'turno-bytovykh zdaniy Akademii stroitel'stva i arkhitektury SSSR (for Vaynberg, Krichevskaya, Mazalov, Rozenfel'd, Folomin). 3. Nauchno-issledovatel'skiy institut stroitel'noy fiziki Akademii stroitel'stva i arkhitektury SSSR (for Sholokhov). 4. Nauchno-issledovatel'skiy institut betona i zhelezobetona Akademii stroitel'stva i arkhitektury SSSR, Perovo (for Tesler).

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

SERKOVA, Zinaida Vasil'yevna; LERNER, Lyudmila Konstantinovna; LYAKHOVICH, Iosif Abramovich; MUKHIN, Viktor Zakharovich; POLUENEVA, V.I., inzh., red.

[Manufacturing panels for series 1-468r apartment houses of dense and cellular lime concrete; practices of the Kuryazh Silica Brick Plant and the No.3 Reinforced Concrete Structural Element Plant] Proizvodstvo panelei domov serii 1-468r iz plotnogo i iacheistogo silikatnogo betona; opyt Kuriazhskogo zavoda silikatnogo kirpicha i zavoda zhelezobetonnykh konstruktsii no.3 (Khar'kovskaia oblast'). Moskva, Gosstroiizdat, 1963. 28 p. (MIRA 17:3)

1. Akademiya stroitel'stva i arkhitektury SSSR. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu. 2. Rukovoditel' laboratorii silikatnykh materialov Yuzhnogo nauchno-issledovatel'skogo instituta promyshlennogo stroitel'stva Gosstroya SSSR (for Serkova). 3. Rukovoditel' gruppy laboratorii silikatnykh materialov Yuzhnogo nauchno-issledovatel'skogo instituta promyshlennogo stroitel'stva Gosstroya SSSR (for Lerner). 4. Glavnyy inzhener zavoda zhelezobetonnykh konstruktsii No.3 (for Mukhin). 5. Glavnyy tekhnolog laboratorii silikatnykh materialov Yuzhnogo nauchno-issledovatel'skogo instituta promyshlennogo stroitel'stva Gosstroya SSSR (for Lyakhovich).

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

RUCH'YEV, Aleksandr Petrovich, kand.tekhn.nauk; POLUBNEVA, V.I., inzh., red.

[Continuous construction of residential areas in Novosibirsk; practices of the "Zhilstroi-2" Trust of the Novosibirsk Production Administration of the Main Construction Administration of Western Siberia] Potochnoe stroitel'stvo zhilykh massivov v Novosibirske; opyt tresta "Zhilstroi-2" Novosibirskogo proizvodstvennogo Upravleniia Glavzapsibstroia. Moskva, Gosstroiizdat, 1963. 50 p. (MIRA 17:9)

1. Moscow. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu.
2. Glavnyy tekhnolog Tresta industrial'nogo zhilishchnogo stroitel'stva No.2 Novosibirskogo proizvodstvennogo upravleniya Glavzapsibstroya (for Ruch'yev).

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

ROMASHKO, Aleksandr Ivanovich; GARKAVENKO, Georgiy Lukich; POLUBNEVA, V.I., inzh., red.

[Buildings of large keramzit concrete panels; practices of the Moscow Construction Administration and the Combine for Reinforced Concrete Construction of the Main Construction Administration] Dom iz ukrupnennykh keramzitobetonnykh panelei; opyt Moskovskogo stroitel'nogo upravleniia i Kombinata zhelezobetonnykh konstruktsii Glavstroia. Moskva, Gosstroiizdat, 1963. 30 p. (MIRA 17:9)

1. Moscow. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

MASLENNIKOV, Gennadiy Vladimirovich, Geroy Sotsialisticheskogo Truda, brigadir; NIKONOV, Mikhail Ivanovich; POLUENEVA, V.I., inzh., red.

[Council of construction brigade foremen; from the experience of the construction organization of Section 37-38 in the Southwestern District of Moscow] Sovet brigadirov stroiki; iz opyta organizatsii stroitel'stva kvartala 37-38 v IUgo-Zapadnom raione Moskvy. Moskva, Stroiizdat, 1964. 45 p. (MIRA 18:7)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

ABELEV, Yuriy Mordukhovich, doktor tekhn. nauk; KRUTOV, Vladimir Ivanovich, kand. tekhn. nauk; EYDUK, Rudol'f Petrovich, st. nauchn. sotr., inzh.; POLUMEEVA, V.I., inzh., nauchn. red.

[Preparation of foundation beds and the laying of foundations of large-panel apartment houses on sagging soil; practices of the Research Institute for Foundation Beds and Underground Structures of the State Committee on Construction of the Council of Ministers of the U.S.S.R. and of the Zaporozh ye Housing Construction Trust, and the Nikopol' Construction Foundations Trust] Podgotovka osnovanii i ustroistvo fundamentov krupnopanel'nykh zhilykh domov na prosadochnykh gruntakh; iz opyta NII osnovanii i podzemnykh sooruzhenii Gosstroia SSSR, trestov "Zaporozhzhilstroi" i "Nikopol'stroi." Moskva, Stroiizdat, 1965. 19 p. (MIRA 18:9)

1. Rukovoditel' laboratorii stroitel'stva na prosadochnykh gruntakh Nauchno-issledovatel'skogo instituta osnovaniy i podzemnykh sooruzheniy (for Abelev). 2. Laboratoriya stroitel'stva na posadochnykh gruntakh Nauchno-issledovatel'skogo instituta osnovaniy i podzemnykh sooruzheniy, Moskva (for Krutov, Eyduk).

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

KREYNDLIN, A.N., inzh., red.; POLUBNEVA, V.I., inzh., red.

[Improving the manufacturing technology at plants for large-panel housing construction] Sovershenstvovanie tekhnologii proizvodstva na zavodakh krupnopanel'nogo domostroeniia; sbornik statei. Moskva, Gosstroiizdat, 1963. 20 p. (MIRA 17:9)

1. Moscow. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

MKRTYCHEV, Ivan Arutyunovich, arkhit.; POLUBNEVA, V.I., inzh., red.

[Standard foundationless houses for temporary settlements of builders; based on materials of the All-Union Planning, Surveying, and Research Institute of the Administration for Planning, Surveying, and Research for the Construction of Hydraulic Engineering Structures of the Ministry of Electric Power Stations of the U.S.S.R.] Inventarnye bes-fundamentnye doma dlia vremennykh poselkov stroitelei; po materialam Vsesoiuznogo proektno-izyskatel'skogo i nauchno-issledovatel'skogo instituta "Gidroproekt" im. S.Ia.Zhuka. Moskva, Gosstroiizdat, 1963. 32 p. (MIRA 17:9)

1. Moscow. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu.
2. Vsesoyuznyy proyektno-izyskatel'skiy i nauchno-issledovatel'skiy institut imeni S.Ya.Zhukova (for Mkrtychev).

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

ORLOV, Sergey Il'ich, kand. tekhn. nauk; POLUBNEVA, V.I., inzh., red.

[Monolithic electric wiring] Zamonolichennye elektroprovodki. Moskva, Stroiizdat, 1964. 29 p. (MIRA 18:5)

1. Glavnyy inzhener i rukovoditel' elektrotekhnicheskoy laboratorii Moskovskogo instituta tipovogo i eksperimental'nogo proyektirovaniya (for Orlov).

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

OCHEV, V.G.; POLUBOTKO, I.V.

"ew finds of Ichthyosauria in the northeast of the U.S.S.R.
Izv. vys. uchet. zav.; geol. i razv. 7 no.7:50-55 Jl '64
(MIRA 18:2)

1. Saratovskiy gosudarstvennyy universitet i Severo Vostochnoye geologicheskoye upravleniye.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

POLUBOTKO, I.V.; KHUDOLEY, K.M.

Find of early Hettagian ammonites in the northeastern part of the U.S.S.R. Paleont.zhur. no.3:57-60 '60. (MIRA 13:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut.
(Viliga Valley (Khabarovsk Territory)--Ammonoidea)

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POLUBOTKO, M.; DARDIK, N.; KUZNETSOV, V., instructor,; EYDELAND, I., inzh.

Electrothermal stressing of reinforcements. Stroitel' no. 8:4-6 Ag '58. (MIRA 11:8)

1. Nachal'nik tekhnicheskogo otdela upravleniya Permstroy (for Polubotko). 2. Direktor zavoda No. 6, Glavmoszhelezobetona, Moskva (for Dardik). 3. Institut Orgstroy, Moskva (for Kuznetsov, Eydeland).
(Prestressed concrete)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

POLUBOYARIN, I. V.

We shall provide more excellent track kilometers. Put' i put. khoz. 6 no.8:3 '62. (MIRA 15:10)

1. Glavnyy insh. putevoy mashinnoy stantsii No. 59, stantsiya Shalayevo, Yuzhnoy dorogi.

(Railroads—Maintenance and repair)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

ARKHANGEL'SKAYA, Z.S.; KUSHKO, O.V.; POLUBOYARINOVA, A.G.

Study of the method of blood conservation without a stabilizer. Trudy Kiev. nauch.-issl. inst. perel. krovi i neotlozh. khir. 3:40-47 '61. (MIRA 17:10)

1. Kiyevskiy institut perelivaniya krovi.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

POLUBOYARINOVA, A.G.; GUTNIK, R.B.

Possibility of using sodium lactate solutions as a medium for the preservation of the erythrocyte suspension. Trudy Kiev. nauch.-issl. inst. perel. krovi i neotlozh. khir. 3:48-51 '61. (MIRA 17:10)

1. Kiyevskiy institut perelivaniya krovi.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

POLUBOYARINOV, A.K.

POLUBOYARINOV, A.K.

Solving equations of an axisymmetric supersonic gas flow whereby these equations were linearized with regard to the flow from the source of gas [with summary in English]. Vest. LGU 12 no.13:102-112 '57. (MIRA 10:11)
(Differential equations, Partial) (Aerodynamics, Supersonic)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

POLUBOYARINOV, A.K.

POLUBOYARINOV, A.K.

Solving equations of an axisymmetric supersonic gas flow whereby these equations were linearized with regard to the flow from the source of gas [with summary in English]. Vest. LGU 12 no.13:102-112 '57. (MIRA 10:11)
(Differential equations, Partial) (Aerodynamics, Supersonic)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

Poluboyarinov, D. N. Refractoriness of clay-quartz brick. *Ogneupory* 1, [5] 23-27 (1933). The softening temperature of clay-quartz brick is greatly affected by the grain size of the quartz. Decreasing the grain size of quartz from 1 mm. to 0.2 mm. slightly lessens the refractoriness of the brick; if the grain size is less than 0.1 mm., the softening temperature is lowered to cone 4.

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R

Poluboyarinov, D. N., Popilskii, R. Ya., and Chinilkina, T. Ya. DRY PRESSING GROG BRICK FROM BOROVICHI CLAY. *Ogneupory*, 1 [6-7] 4-10 (1933).—Attempts to dry-press grog brick from Borovichi clays of various kinds and compositions were successful. The brick had good mechanical properties and their shapes were stable on firing.

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R

Poluboyarinov, D. N., and Karklit, A. K. LOW-GROG AND GROGLESS REFRACTORY MATERIALS. *Trans. All-Union Sci. Research Inst. Refractory and Acid-Resisting Materials* (V.I.O.K.), No. 2, 84 pp. (1934).—The authors discuss experiments carried out with "lean" clays containing fine-grained quartz, and products of self-combustion of gangues by winning coal near Moscow. The defect of the refractories thus obtained is their high firing shrinkage. The investigation will be of interest for those selecting the kind of fire-clay refractories (grogless, low-grog, grog, and highly grogged) it is most desirable to produce from a given type of clay.

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Polubyarinov, D. N., and Gracheva, O. N. INFLUENCE OF GRANULOMETRIC COMPOSITION OF GROG ON THE QUALITY OF PRODUCTS. *Trans. All-Union Sci. Research Inst. Refractory and Acid-Resisting Materials* (V.I.O.K.), No 2, 84 pp. (1934).—The authors' research work is discussed in reference to the investigations by Fuller, Skola, Litzow, Rieke, Swain and Phelps, etc. The question of how to obtain a dense batch is considered and numerous tables and experimental data are of practical value. The authors' conclusions are worth attention although the scale of the experimentation is not large enough to make fundamental generalizations.

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19

A rapid method for the determination of the degree of burning of chamotte. D. N. Poluboyarinov and O. N. Gracheva. *Ogneuporni* 2, No. 3, 40-6(1934); *Chem. Zentr.* 1935, I, No. 5, 770. Water absorption detns. were more accurate when the ground chamotte was divided into 3 fractions (5-2 mm., 2-0.5 mm. and < 0.5 mm.) and then mixed in the proportion 2:1:2. K. K.

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Refractory lining for lime kilns. D. Polubovarinov. *Trudui VISM* No. 6, 5-42; *Referatharlei Silikatliteratur* No. 42(1934).—Variations in porosity, d. and SiO_2 content of grog brick had no effect on the degree of corrosion by lime at 1400°. The depth of penetration of slag increased with a porosity over 28%. Bricks with a dense, small-grained structure and uniformly distributed small pores were corroded less. MgO in lime makes the slag more active and causes it to form at a lower temp. Grog and silica bricks do not withstand the lime attack (especially dolomitic lime) at over 1400°. The beginning of slagging of the bricks depends on its compn.; the temp. of formation of slag is lowest with alumina-quartz brick (1200-1250°). The slagging of acid (silica) bricks begins at 1400°. Aluminous bricks produce more viscous slag than do acid bricks. Bricks for lime kilns should contain not over 60% SiO_2 and not less than 35% Al_2O_3; firing cone not below 32, softening temp. 1300-1350°; the bricks must have a dense, uniform and finely granulated structure. M. V. Kondoidy

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R

Poluboyarinov, D. N., and Gracheva, O. N. CONDITIONS FOR HEATING GROG PRODUCTS WHEN DETERMINING ADDITIONAL SHRINKAGE. *Ogneupory*, 4, 692-701 (1936). With increasing temperature and heating time, the additional shrinkage of grog products increases. Wet-shaped products, when fired to 1350°C., show a change in volume as specified, while with semidried and pressed products this has not been obtained. An increase in additional shrinkage occurs with increased Fe content of the product and when it is fired in reducing atmosphere. With rapid heating, shrinkage decreases. The absolute values of shrinkage decrease with the increase in the size of the product and increased fineness of grains.

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Polubyarinov, D. N., and Popilskii, R. Ya. Additional shrinkage of grog products of the Semiluk Works. *Trudy Vsesoyuz. Nauch.-Issledovatel. Inst. Ogneupornykh i Kislotoupornykh Materialov*, No. 7, 93-106 (1936).—Because of the special characteristics of the clay used for the manufacture of grog products at the Semiluk Works, these products should be fired at higher temperatures (about 1400°) and for a longer time.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

Polubojarinov, D. N., and Karklit, A. K. UNFIRED REFRACTORY QUARTZ GROG BRICK. *Zütein-Tech.-SO, Series 27*, No. 3280, 7 pp.; abstracted in *Referat. Silikatliteratur*, 4 [7] 4233 (1937).—The use of unfired grog brick is possible only when the shrinkage due to firing is compensated by admixtures which expand. The brick contain 30% bonding clay, 50% grog, and 20% quartz sand. Their low strength is a disadvantage. Molasses, pectin glue, or sulfite waste liquor improve their strength; the best results were obtained with the latter. The usual methods are employed in the manufacture of these brick. Data as to their chief properties are tabulated.

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R

Polubeyarinov, D. N., and Zalkind, I. Ya. METHODS FOR DETERMINING GAS PERMEABILITY. *Ogneupory*, 7 [9] 611-14 (1939).—Methods used in the determination of gas permeability of refractories are reviewed. A preliminary test with a simplified method based on the determination of the air pressure only is discussed.

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A method for determining the gas-permeability (of refractories). D. N. Poluboyarinov and I. Ya. Zalking. *Ogneupory* 1939, No. 9, 611-14; *Khim. Referat. Zhur.* 1940, No. 3, 80.—Methods for detg. gas-permeability of refractories require measuring the vol. of air passing through the sample, the time and the air pressure. A simplified method is proposed which requires only the measuring of the working pressure of the air; an equation is derived for detg. the gas permeability. W. R. Henn

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Corrosion of refractory materials in metallurgy. D. N. POLUBOYARINOV. *Trudy Soveshchaniya Ogneupornym Materialam*, **1940**, 183-200; *Khim. Referat. Zhur.*, **1940**, No. 8, p. 94; *Chem. Abs.*, **36**, 6469 (1942).—The reaction velocity between the slag and the refractory material cannot be calculated; the degree of corrosion must be determined experimentally. The new standard method for determining the slag resistance of refractories on clay base, OST 3270 (All-Union Standard 3270), gives the dissolving and mixing effect of slag and unifies the chemical composition of slag and the temperature of the reaction. The degree of corrosion of the refractories made on clay base by the slag depends on the chemical composition and the η of the slag, on the temperature of the interaction between the slag and the refractory material, and on the structure of the refractory plate.

U-4768, full transl.

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Investigations of refractory materials. D. N. Polubarinov. *Trudy Moskov. Khim.-Tekh. Inst. Mendeleva* 1940, No. 8, 85-8; *Khim. Referat. Zhur.* 4, No. 7-8, 64-5(1941).—The following are discussed briefly: resistance to chilling of grog refractories; methods for detg. the abrasive properties of refractories; dynamic method for detg. the resistance of refractories to glass; a method for detg. gas permeability; destructive action of the Bel-reaction; destructive effect of slag on grog materials; increasing the resistance to the action of slag by the refractory materials; pyrochem. activity of fuel slags.

W. R. Henn

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Gasification of lumps of Moscow-region coal with oxy-steam blow. D. N. Polubojarinov. *Kislorod* 1944, No. 2, 21-9.—Gasification tests were made with Moscow-region nut coal and with other varieties of nut coal. The Moscow coal, although it is not one of the best for this purpose, is adaptable for gasification with an oxy-steam mixt. The O content in the dry constituents (i.e. exclusive of steam) of the blow was 88.0-94.6%. The CO and H contents of the generated gas were 25.1-33.2 and 30.84-40.4 vol. %, resp. The gas also contained considerable quantities of CO_2, CH_4, heavy hydrocarbons, and H_2S. For the synthesis of NH_3 this gas would have to be purified. If the cost of a ton of NH_3 synthesized from a gas generated with coke is taken as 100, then with gas generated by the bubbling-bed method it would be 108, and with gas generated from raw Moscow nut coal it would be 124. The gas was quite suitable as fuel for various metallurgical furnaces. The intensity of the process is improved and the cost is lowered if the coal is freed of pyritic constituents. M. Hosch

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Using ash from Moscow coal as raw material for refractories. D. N. Polubojarinov and E. V. Mirolinbova. *Ogneupory* 10, No. 1, 25-32(1945).—Fine ash from coal-burning boilers of electro-generating stations contains small amts. of CaO and Fe_2O_3 and a larger amt. of Al_2O_3. Refractoriness of this ash is above 1600°-1650°, reaching 1700°-1720° with finely ground fractions. Grog products in which coal ash replaced grog partially or entirely are characterized by high d. and durability of the body. Refractoriness (usually about 1670°) depends upon the refractoriness of the bonding clay and vol. of ash used. Temp. of incipient deformation under load does not differ from that of ordinary grog bodies. The surface of bodies contg. ash is satisfactory and is without marked defects but is somewhat darker in color. Only 10-20% ash should be used as an addn. to grog because it shrinks greatly. These bodies have a lowered thermal stability, which can be increased by addns. of grog (30-40%).

M. V. Condoide

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Refractories 1/1948

BC 8

148. CERAMIC PROPERTIES OF FINELY-GROUND ANDALUSITE. D.N. Polubouarinov and R.Y. Popilskii (Ogneupory 11 Nos. 7-8 13, 1946). The use of finely-ground andalusite in place of fireclay as a bond for andalusite refractories is discussed. Long-continued wet grinding produced a material having an average grain size of 1.7 u but almost devoid of plasticity. The degree of sintering at temperatures up to 1,550° C. was found to depend on the fineness of grinding. Finely ground andalusite, though lacking in plastics properties, has some bonding power. Mixtures containing 85% of andalusite grains bonded with fine material in slip specimens bonded with fireclay. The refractoriness under load value of the slipbonded specimens (initial softening temperature) was 90°C above that of the clay bonded shapes. (3 figs., 7 tables.)

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Ceramic properties of finely dispersed (wet-ground) andalusite. D. N. Polubovarinov and R. Ya. Popil'skii. *Ogneupory*, 11 [9-10] 35-43 (1946).—Andalusite refractories made in the Soviet Union have a clay binder which it is proposed to replace with finely ground andalusite. Compared with clay binder, the andalusite binder raised the temperature of initial deformation under load by 10°C. although the increase in alumina content was only 4%. Compressive strength was also increased, and porosity was improved. In connection with this work, sillimanite refractories imported from the U. S. and intended for use in "Detroit" arc furnaces were tested. Results show that a very small amount of clay or none at all was used as a binder.

B.Z.K.

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C

Technology of manufacture of high-alumina refractories from technical alumina. D. N. POLUBOYARINOV AND R. YA. POPIL'SKIĬ. *Ogneupory*, 12[6] 243-54 (1947). Materials were as follows: (1) technical alumina having a sp. gr. of 3.55, hygroscopicity of 4 to 4.5%, and ignition loss 1% (the calcined product contained 97.8% alumina); (2) calcined Latnensk clays with 11.9 to 13% ignition loss and 38.8 to 40% alumina; (3) Chasov-Yar clay containing 35.7% alumina; and (4) washed kaolin containing 44.4% alumina. Charges containing 20% alumina sintered satisfactorily at 1400°C.; as firing temperature increased, the bulk weight began to drop. Charges containing 51% alumina and fired to 1400°C. had such high apparent porosities (38 to 44%) that differences in degree of sintering were of no significance. Firing of a wet-ground charge to 1500°C. resulted in a drop in porosity of 13 to 14% and a rise in bulk density of 0.4 gm./cm.³. Firing of dry-ground charge at 1600°C. resulted in practically no drop in porosity, whereas the wet-ground charge was sintered. No sintering was observed with charges containing 82% alumina. Brief dry grinding of the alumina and mixing of the components in a drum improved the properties of briquettes low in alumina (50% or less). Wet grinding of the alumina and wetting of the clay with the alumina suspension resulted in improved products. Slip casting showed no advantages. Charges containing 51% dry ground alumina and fired to 1400° to 1500°C. showed aggregates of original alumina. After firing to 1600°C. the aggregates disappeared to a great extent. Use of wet-ground alumina resulted in noticeable mullitization starting at 1400°C.; this was not observed with the dry ground alumina. Latnensk and particularly Chasov-Yar clays swelled considerably between 1400° and 1500°C. and caused a drop in bulk density; within the same temperature interval kaolin becomes somewhat more dense. Admixtures of $CaCO_3$, MgO, and talc improved the sintering. Whenever the alumina content in the charge is to exceed 80%, the alumina should be wet ground to about 5 to 7 μ grain size to promote sintering. B Z K

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CA

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Deformation of grog ware under load at constant temperatures. D. N. Poluboyarinov and G. G. Fel'dgandler. *Ogneupory* 13, 107-18(1948).—To investigate and compare the generally used testing methods, a lab. device was constructed which permitted testing one brick instead of two at a time. Three methods were checked: (1) the isothermic method (at 1350°) on whole bricks; (2) the same method on cylinders 35 mm. diam. and 80 mm. high; (3) the standard (OST 3267) method on similar cylinders with continuous increase of temp. at a rate of 4-5° per min. until the sample had compressed 40%. The compression depends on the apparent viscosity at the testing temp., i.e. on the chem.-mineralogical compn. The exptl. values obtained are connected only relatively with the beginning-of-softening temp. and not at all with that of 40% compression. Several brands of brick showed a considerable discrepancy in values obtained for whole brick and for cylinders. In general, the three methods gave comparable results. K. E. Stefanowsky

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PA 12/49T53

POLUBOYARINOV, D. N.

USSR/Engineering Jul 48
Refractories

"Refractory Coatings and Glazes," D. N. Poluboyarinov, Dr Tech Sci, Prof, I. P. Trokhimovskaya, Engr, 4 pp

"Ogneupory" Vol XIII, No 7 - p. 322-25

Describes refractory coatings and glazes used in the US. (Data apparently taken from an article by V. I. Pavlyuchenko in "Amerikanskaya Promyshlennost'" 1945, No 2).

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4485. USE OF ENRICHED ASH OF MOSCOW COAL IN PRODUCTION OF LIGHT WEIGHT REFRACTORIES. Poluboyarinov, D.N. and Mirolyubova, E.V. (Ogneupory (Refractories), 1948, vol. 13, 435-442; abstr. in Chem. Abstr., 1949, vol. 43, 5562). At present only two plants in the Soviet Union produce frothed grog refractories, using fine grog (90-95% is finer than 0.5 m.m. and, of this at least 20-30% is finer than 0.1 m.m.). As a substitute for such fine grog enriched ash of Moscow coal was tested on laboratory and commercial scale. The ash was obtained from TET's boiler installation using coal dust where the ash is enriched in the process of removal. The ash analysed: SiO_2 48.20, Al_2O_3 + TiO_2 40.10, Fe_2O_3 9.90, CaO 0.70, and ignition loss 1.70%; grain fractions were: coarser than 0.2 m.m. 1.1, 0.2-0.1 m.m. 11.2, 0.1-0.06 m.m. 13.4, and finer than 0.06 m.m. 74.8%; refractoriness, 1620°. Slip was made from 80% ash and 20% clay. Clay analysed: SiO_2 64.92, Al_2O_3 + TiO_2 24.53, Fe_2O_3 1.07, CaO + MgO 1.28, and ignition loss 8.20%; refractoriness 1670°, air shrinkage 7.5%, fire shrinkage 0.8-7.2% (1000-1350°); and water absorption 18.5-4.7% (1000-1350°). Moisture content of the slip was about 40%. Resin-soap froth was added to the slip to give a volume weight of 0.85-100 g./c.c. The froth product was dried in metal moulds for 5-6 days at 60-70° and fired at about 1250°.

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B

22

Concerning the Sintering Process and Certain Properties of Mullite Produced Synthetically From Refractory Clay and Commercial Alumina. (In Russian.) D. N. Polubayarinov and R. Ya. Popil'skii. *Doklady Akademii Nauk SSSR* (Reports of the Academy of Sciences of the USSR), new ser., v. 62, Oct. 21, 1948, p. 803-806.

The above was investigated with particular emphasis of the influence of a series of factors on the mechanism of sintering and on the properties of the products. Data are tabulated.

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38082. POLUBOYARINOV, D. N., and BALKEVICH, V. L.

Vysokoglinozemistye ogneupornye materialy 12 elektroplavlenogo korunda. Ogneupory. 1949

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POLUBOYARINOV, D. N.

26418 Ob ogneutsornyka materialakh dlya futerovki vrashchayushchikhsya tsementnykh pechey. Sbornik nauch. Rabot po vyazhushchim materialam. m, 1949, s. 67-71. Bibliogr: 6 nazv.

SO: LETOPIS' NO. 35, 1949

On refractory materials for lining rotating cement furnaces

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8"

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POLUBOYARI OV, D. N.

Poluboyarinov, D. N., Karapet'yants, M. L. and Fogel'zang, M. P. - "The investigation of semi-acid clays," Trudy Mosk. khim.-tekhnol. in-ta im. Mendeleyeva, Issue 15, 1949, p. 106-25, - Bibliog: 6 items

SO: U-5240, 17, Dec. 53, (Letopis 'Zhurnal 'nykh Statey, No. 25, 1949).

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POLUBOYARINOV, D. N.

Pol boyarinov, D. N., Karapet'yants, M. L. and Fogel'zang, M. R. - "The manufacture of siphon wares from refractory semi-acid clays," Trudy Mosk. khim.-tekhnol. in-ta im. Mendeleyeva, Issue 15, 1949, p. 126-36, - Bibliog: 9 items

SO: U-5240, 17, Dec. 53, (Letopis 'Zhurnal 'nykh Statey, No. 25, 1949).

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POLUBOYARINOV, D. N. (PROF)

PA 153T52

USSR/Engineering - Refractory Materials Dec 49
Corundum

"High-Alumina Refractory Materials From Electrically Fused Corundum," Prof D. N. Poluboyarinov, V L. Balkevich, Engr, 8 pp

"Ogneupory" No 12 - p. 538-46

Subject materials are used mainly in high-temperature laboratory furnaces or in small, special-purpose industrial furnaces. Gives data on their properties, and methods of further improving their quality which were devised recently at the Chair of Ceramic and Refractory Technol, Moscow Chem Technol Inst imeni Mendeleyev. Includes eight tables.

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PROCESSES AND PROPERTIES INDEX

Manufacture of high-alumina refractories on the basis of the synthesis of mullite. D. N. Polubovarinov and R. Ya. Popil'skii. *Ogneupory*, 14 [2] 58-64 (1949).—The following method was developed for the manufacture of refractories containing about 80% Al_2O_3 from Latna clay (Al_2O_3 + TiO_2 37.42, SiO_2 48.04, Fe_2O_3 1.28, MgO 0.15, and ignition loss 12.87%) and technical alumina (Al_2O_3 + TiO_2 88.88, SiO_2 7.96, Fe_2O_3 0.24, CaO traces, MgO 0.14, and ignition loss 2.87%): (1) wet grinding of technical alumina in a ball mill, the final moisture content of the suspension being 40%; (2) preparation of a clay slip containing 50% moisture; (3) preparation of the mix from 58.5% clay and 41.5% alumina (based on weight of dry components); (4) formation of 110 x 75 x 50 mm. briquettes which are dried to 3% moisture, fired at 1570° to 1590° C., and then ground to 54.5% < 0.5 mm., 36.5% 0.5 to 2.0 mm., and 9.0% 2 mm.; (5) preparation of a multigrog mix with 15% clay (6% clay is added as a slip containing 1% liquid glass and 52% moisture, and the remaining 9% is added as a powder < 0.8 mm.; and (6) pressing of brick and firing at 1450°C. for 1.5 hr. Characteristics of the brick were as follows: firing shrinkage 0.7%, reheat shrinkage at 1000° 0.4% and at 1650° to 1680° 0.8%, bulk density 2.31 gm./cm.³, apparent porosity 17.8%, initial deformation under load 1480°, destruction starting after 11 heat cycles. Further improvement of properties is possible.

B.Z.K

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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POLUBOYARINOV, D. N.

PHASE X TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 707 - X

BOOK Aall No.: TP807.B9

Authors: BUDNIKOV, P. P., BEREZHNOY, I. A., BULAVIN, I. A., GRISSIK, B. M., KUKOLEV, G. V., POLUBOYARINOV, D. N.

Full Title: MANUFACTURE OF CERAMICS AND REFRACTORY MATERIALS

Transliterated Title: Tekhnologiya keramiki i ogneuporov

PUBLISHING DATA

Original Agency: None

Publishing House: State Publishing House of Literature on Construction Materials

Date: 1950 No. pp.: 575 No. of copies: 4,000

Editorial Staff

Editor: P. P. Budnikov, Member of the Academy of Sciences, Ukrainian SSR

PURPOSE AND EVALUATION: This manual is approved as a textbook for institutes of chemical technology and of construction materials. The book compares favorably with its American counterparts, e.g., volume III of Ceramics by Ed. P. Mcnamara (State College, Pa., 1939) and Factory Design and Equipment and Manufacture of Clay Wares by T. W. Garve (N.Y., 1929). All phases of manufacturing are extensively covered and the book can be used as a reference book.

NOTE: See card for BUDNIKOV, P. P. for pages 2-5 of the abstract.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

POLUBOYARINOV, D. N.

USSR/Engineering - Refractories, Slag Erosion Feb 50

"Solubility of Alumina-Silicate Refractories in Basic Slag," D. N. Poluboyarinov, Dr Tech Sci, I. V. Smirnova, Chair of Ceramics and Refractories of MKhTI imeni Mendeleyev

"Ogneupory" No 2, pp 71-81

Develops method for evaluating soly extent of refractory materials in slag in respect to time of their interaction, and for detg soln rate. Deg and rate of slag erosion decrease with increase of Al_2O_3 content in refractory.

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BCS

Ceramic Products
Refractories

347. Highly refractory materials on the basis of recrystallized alumina.—D. N. POLUBOYARINOV and V. L. BALKEVICH (*Ogneupory*, 16, 109, 1951). As a result of extensive investigations a method was evolved for the production of a corundum refractory from commercial alumina containing 99% Al_2O_3. The method depends on recrystallization of corundum bonded with pure finely dispersed Al_2O_3. After being fired at 1,700° C. a dense granular body is obtained with a low firing shrinkage. The products can be manufactured by pressing (simple shapes) or by ramming and vibration (more complex and massive articles). The properties of this material are considerably superior to those of products made of high-quality electro-fused corundum with a clay bond.

The material obtained shows: beginning of deformation in the refractoriness-under-load test (28 lb/sq. in.) 1,850° C.; high degree of vol. constancy up to 1,900° C.; satisfactory spalling resistance; high mechanical strength and considerably improved resistance to corrosion. (4 figs., 3 tables.)

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17

POLUBOYARINOV, D. N.

the latter was ... Apparently ... G. M. K.
glucose units. Apparently ... products of the ...
ethers but further reaction products of ...
or ethylidene derivs. of cross-chain type.

CA

Deformation under load at high temperatures of alumina-silicate refractories with high content of alumina. D. N. Poluboyarinov and G. P. Kalliga (Mendeleev Chem.-Technol. Inst., Moscow). *Ogneupory* 16, 272-80(1951); cf. *C.A.* 44, 7503i.—Plastic molded shapes having 39, 55, 70, 80, 90, and > 99% Al_2O_3 and contg., resp., 4.7, 3.8, 3.0, 2.5, 2.0, and 0.5% fluxes were fired, resp., at 1420, 1520, 1650, 1700, 1700, and 1750°. Detns. were made of the temps. of initial softening and of deformations corresponding to 4, 10, 20, and 40% compression under a load of 2 kg./sq. cm. With increasing Al_2O_3, there was a rise in temp. of deformation related to changes in phase compn. during firing at temps. at which the processes of crystn. were completed. An increase in the solid phase in the body and a corresponding decrease in the amorphous substance governs the rise in temp. of deformation. This regularity in rise of temp. of deformation was noted fully in shapes only up to the compn. of mullite. A pure mullite body had the highest softening temp.; for 3% fluxes, initial softening was at 1600-1620° and 40% compression at 1800-1820°. Further increase of Al_2O_3 in refractories of the mullite-corundum type (70-90% Al_2O_3) did not cause a noticeable rise in the temp. of deformation. This may be explained by the fact that deformation of such refractories is due to the softening of the mullite portion of the body. The corundum phase of the body, disconnected by the mullite and the corresponding amt. of amorphous substance, cannot raise the softening temp. of the material as a whole. Max. approximation and changeover to a pure corundum, completely cryst. body was accompanied by a sharp rise in initial softening temps. up to 1900° and higher.

B. Z. Kamich

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

POLUBOYARINOV, D. N.

Investigations on ceramic hot-pressing methods. D. N. Poluboyarinov and R. M. Zalonts. *Steklo i Keram.* 9, No. 9, 16-21(1952); through *Silikattechnik* 4, 327-8(1953).—Ceramic hot-pressing concerns the plastic shaping under high loads in preheated steel dies. The ceramic body is introduced as a powder and calcined at a temp. of partial softening. The process is complex in its tech. performance but highly promising for mass production of building ceramics (tiles) or refractory brick. The chem. compn. of 3 typical Russian brick clays (from Bezkudnikov, Odinzovsk, and Kudinovsk) is given, with Al_2O_3, 12-26%; Fe_2O_3, 3.6-6.7%; CaO 1-6.7%; and low SO_3 contents. The viscosity at increasing temps., in oxidizing and reducing atms., was detd. by deformation tests in comparison with the results of torsion tests. Reducing atm. decrease viscosities, but the highly calcareous Odinzovsk clay shows a sudden collapse at 1100°. The hot-pressing was done under a 30-ton hydraulic press, with an electrically heated die of EI-69 steel which has, at 1100°, a strength of 7 kg./sq. mm. The pressures were varied from 5 to 500 kg./sq. cm. during heating from 900 to 1000°; the soaking time was varied from 1 to 60 sec. The final d. was 1.7-1.9 g./cc. The viscosity data corresponding to these conditions varied between 10^9 and 10^4 poises, as orders of magnitude. Clays high in fluxes (Odinzovsk) are prone to rapid clinkering (final d. above 2.3). Pilot-plant expts. to produce hot-pressed plates of 120 × 80 × 35 mm. were made with a specific load of 250 kg./sq. cm., with a rapidly operating spindle-friction press. The steel dies failed after 16-20 charges at 950-1100°, by deformation and scaling. The max. viscosity required is 1-4 × 10^9 poises, realized at 950-1050°. The mech. strength of the plates mentioned above was 400 kg./sq. cm., for the optimum conditions of Kudinovsk clay. W. Eitel

C. A. V-48
Jan 10, 1954
Glass, Clay products
Refractories and
Enameled metals

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Dec 52

POLUBOYARINOV, D. N.

USSR/Engineering - Refractories, Aluminosilicates

"Effect of Certain Fluxes on the Deformation Temperature of Aluminosilicate Refractories Under Load at High Temperatures," D. N. Poluboyarinov, G. P. Kalliga, Moscow Chemicotechnologi Inst

Ogneupory, No 12, pp 543-551

Studies deformation of refractories under load depending on concn in initial raw materials of fluxes contg Na, K, Ca, Mg, Fe, and Mn. In manufacture of high-alumina refractories with Al_2O_3 content from 55% to mullite compn, CaO was found to be the most harmful admixt. Mineralizing action of Na + K or Mn and positive effect of these admixt on temp of deformation at initial stages also discussed.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

POLUBOYARINOV, D.N.; SMIRNOVA, I.V.

Solubility of aluminosilicate refractories in basic slag. Ogneupory 17, 71-81 '52. (MLRA 5:2)
(CA 47 no.16:8334 '53)

1. D.I.Mendeleyev Inst. Chem.-Technol., Moscow.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

POLUBOYARINOV, D.N.; KIRSHENBAUM, Ya.B.

Sintering of high-alumina briquets. Ogneupory 17, 243-52 '52. (MLRA 5:7)
(CA 47 no.19:10190 '53)

1. D.I.Mendeleyev Inst. Chem.-Technol., Moscow.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

POLUBOYARINOV, D.N.; KALLIGA, G.P.

Effect of some fluxes on deformation temperature under load at high temperatures of aluminosilicate materials. Ogneupory 17, 543-51 '52. (MLRA 5:12)
(CA 47 no.21:11685 '53)

1. D.I. Mendeleyev Inst. Chem.Technol., Moscow.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

POLUBOYARINOV, D. N.

PA 249T25

USSR/Engineering - Refractories, Corundum 11 Jan 53

"On the Sintering of Corundum Products in Relation to the Preliminary Firing Temperature and Dispersion Degree of Commercial Alumina," D. N. Polubo-yarinov, G. A. Vydrik, Moscow Chemicotechnological Inst imeni D. I. Mendeleyev.

DAN SSSR, Vol 88, No 2, pp 325-328

Establishes existence of optimum temp, 1,550-1,650°, for preliminary firing of alumina; this temp provides for obtaining completely sintered corundum

249T25

crock with Al_2O_3 content up to 99.7% and vol wt of about 3.80 at a lower sintering temp 1,650-1,700°. Presented by Acad D. S. Belyankin 15 Nov 52.

249T25

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

POLUBOYARINOV, D.N.

Results of discussions on the technology of high-alumina refractories. Ogneupory 19 no. 3:113-121 '54. (MIRA 11:8)

1. Institut im. Mendeleyeva.
(Refractory materials)
(Alumina)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

RUTMAN, D.S.; POLUBOYARINOV, D.N.; VINOGRADOVA, L.V.; POPIL'SKIY, R.Ya.; MIN'KOV, D.V.

Production of corundum refractories at the Shcherbinka plant. Ogneupory 19 no.4:237-238 '54. (MIRA 11:9)
(Shcherbinka (Moscow Province)-Refractories industry)
(Corundum)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

POLUBOYARINOV, D.N.; RAKHOVSKAYA, T.I.

Properties of refractory materials of the mullite-corundum order. Ogneupory 19 no.6:262-270 '54. (MIRA 11:10)

1. Kafedra keramiki i ogneuporov Moskovskogo khimiko-tekhnologicheskogo instituta im. D.I. Mendeleyeva.
(Mullite) (Corundum) (Refractory materials)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

Огнеупоры, 20 (1) 3 5-25 (1955)

—Continuous observations were made of dimensional changes dur ng heating. Practical measures eliminate growth of the mullite- orundum body during tempera- ture rise and increase its capacit for sintering during completion of the firing; the amount of ay should be at a minimum. filler containing the finest frac ions should be sufficient for re- action of mullite formation, p marily with the corundum in these fractions. The mix shoul be prepared to assure uniform distribution of the finely groun d clay component in the finely dispersed filler fraction. Mullit e-corundum filler should not be completely sintered. The mix hould contain a certain amount of ground alumina with a corre ponding decrease in the amount of filler containing the corundu m. 1 figure. B.Z.K.

Matls

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

POLUBOYARINOV, D.N.

V 841* Volume-Structural Changes Associated With Phase Transformations During the Firing of Mullite-Corundum Refractories. Ob'emno-strukturnye izmeneniia, svizannye s fazovymi prevrashcheniiami pri obzhige mullito-korundovykh ogneuporov. (Russian.) D. N. Poluboiarinov, R. Ia. Popil'skii, and Z. K. Sterliadkina. *Ogneupory*, v. 20, no. 7, 1955, p. 315-325.

Effects of grain size, firing treatment, and composition. Tables, graph. 14 ref.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

POLUBOYARINOV, D. N.

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1290. Methods of determination of the bending-strength of ceramic materials.—D. N. POLUBOYARINOV and G. N. VOLOSEVICH (Moscow: *Proc. Tech. Inst.*, No. 21, 80, 1955). Matls

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

POLUBOYARINOV, D.N.

USSR/ Chemistry - Structural ceramics

Card 1/1 Pub. 22 - 40/60

Authors : Beznosikova, A. V., and Poluboyarinov, D. N.

Title : The process of formation of secondary mullite

Periodical : Dok. AN SSSR 100/4, 761-764, Feb 1, 1955

Abstract : It was established experimentally that the temperature of origination and completion of the formation of mullite (aluminum silicate refractory) does not depend upon the preliminary thermal treatment of the alumina. The temperature of mullite origination in quartz masses with hydrate or technical alumina was established at 1300° and the cycle of mullite formation is completed at about 1500°. The factors affecting the origination and completion temperatures leading to the formation of mullite are listed. Eight USSR references (1933-1954). Table; graphs.

Institution : Scientific Research Institute of Structural Ceramics

Presented by : Academician A. G. Betekhtin, August 11, 1954

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

Poluboyarinov, D.N.

USSR/Chemical Technology. Chemical Products and their Application. Glass. Ceramics. Building Materials. J-12

Abs Jour: Referat Zh.-Kh., No 8, 1957, 27695

Author : L.V. Vinogradov, D.S. Rutman, D.N. Poluboyarinov, R.Ya. Popil'skiy.

Inst :

Title : Experimental Production of Refractory Mullite-Corundum Goods at Podol'sk Factory of Refractory Wares.

Orig Pub: Ogneupory, 1956, No 4, 178-179.

Abstract: The technique of the production of mullite-corundum refractory materials excelling by high heat resistivity, low porosity and satisfactory volumetric stability at high temperatures was developed. The composition of the paste is as follows: 13% of Ch-1 clay and 87% of chamotte with high content of alumina (about 84% of Al_2O_3) and water absorption of 1.5 to 2.0%. The paste is prepared by mixing 49% of the coarse fraction (1 to

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

USSR/Chemical Technology. Chemical Products and their Application. Glass. Ceramics. Building Materials. J-12

Abs Jour: Referat Zh.-Kh., No 8, 1957, 27695

3.0 mm) of chamotte and 51% of fine grained (below 0.09 mm) mixture of clay and filler in crusher rolls. The moisture of the paste at pressing is 5.2%, the pressure is about 240 kg per sq.cm, the burning temperature is 1500 to 1550°, duration 24 hours. Product properties: Al_2O_3 + TiO_2 content - 77%, porosity - 15.2%, volumetric weight - 2.76 g per cub.cm, σ compr = 682 kg per sq. cm; temperature of start of softening under load = 1520°; 40% of compression at 1750°, additional shrinkage at 1750° = 1.2%. The test of the refractory material at 1700 to 1750° in an intermittently working furnace and in a coal dust fireplace of a boiler at 1600° showed that it possessed a good stability under these conditions.

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POLUBOYARINOV, D.N.

USSR/Chemical Technology - Chemical Products and Their Applications - Silicates. Glass. Ceramics. Binders. I-10

Abs Jour : Ref Zhur - Khimiya, No 3, 1957, 9018

Author : Poluboyarinov, D.N., and Volosevich, G.N.
Inst : Moscow Chemical Engineering Institute
Title : On the Determination of the Modulus of Rupture of Ceramic Materials.

Orig Pub : Rr. mosk. khim.-tekhnol. in-ta, 1956, No 21, 80-85

Abstract : The modulus of rupture of corundum specimens of 7.8 mm (d) and of 100 mm length has been measured with a distance between the points of support (l) equal to 90, 40, 25, and 18 mm. It has been established that the absolute value of the modulus of rupture is the higher the

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

USSR/Chemical Technology - Chemical Products and Their Applications - Silicates. Glass. Ceramics. Binders. I-10

Abs Jour : Ref Zhur - Khimiya, No 3, 1957, 9018

smaller the distance between the points of support. No marked differences in the value of the modulus of rupture were observed when the separation between the points of support was 90, 40, and 25 mm; the modulus of rupture increases 30% when l is reduced to 18 mm. The latter observation is explained by the small ratio of l to d; thus in the latter case we are no longer dealing with rupture but with partial crushing.

Card 2/2

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

VINOGRADOVA, L.V.; RUTMAN, D.S.; POLUBOYARINOV, D.N.; POPIL'SKIY, R.Ya.

Experimental products production of heat resistant mullite-corundum at the Podolsk Refractories Plant. Ogneupory 21 no.4:178-179 '56. (MLRA 9:8)

1. Podol'skiy zavod (for Vinogradova, Popil'skiy); 2. Moskovskiy khimiko-tekhnologicheskiy institut imeni D.I. Mendeleyeva (for Poluboyarinov, Popil'skiy).
(Podolsk--Refractory materials)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

POLUBOYARINOV, D.N.

BUTT, T.S.; KALLIGA, G.P.; POLUBOYARINOV, D.N.

Changes in the physical and mechanical properties of clay in the process of heating. Ogneupory 21 no.7:318-321 '56. (MLRA 10:1)

1. Nauchno-issledovatel'skiy institut stroykeramiki.
(Clay--Testing) (Kaolin--Testing)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

Poluboyarinov, D.N.

USSR/Chemical Technology - Chemical Products and Their Application. Ceramics. Glass. Binders. Concrete. H-7

Abs Jour : Referat Zhur - Khimiya, No 1, 1958, 2001

Author : Pankratov Yu.F., Poluboyarinov D.N., Popil'skiy R.Ya.

Inst : -

Title : Study of Procedures for Increasing the Density of Pressed Articles Having a High Content of Chamotte.

Orig Pub : Ogneupory, 1957, 22, No 3, 109-120

Abstract : A description of the results of a study of procedures for increasing the density of pressed high-chamotte refractories with kaoline chamotte base. Investigated were the effects of the following factors: composition of high-chamotte mixtures, limited to the composition ranges of 30-65% coarse chamotte fraction, 20-55% fine chamotte fraction, 0-30% clay; paste preparation procedure; degree of comminution of fine chamotte fractions; grain size of coarse chamotte fraction; pressure of

Card 1/3

USSR/Chemical Technology - Chemical Products and Their Application. Ceramics. Glass. Binders. Concrete.

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 2001

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press-working; use of kaolin binder in lieu of clay binder; increased duration of firing and of the possibility of substituting fine chamotte fraction for the clay in high-chamotte pastes. It was found that the composition yielding highest density of green ware press-worked at 600 kg/cm^2 is within the following range (in %): coarse chamotte fraction 45-60, fine chamotte fraction 20-35, clay 15-20. Range of optimal compositions, as concerns density of fired body, corresponds to a content of 30-45% coarse chamotte fraction, 45-55% fine chamotte fraction, 10-20% clay. A sharp decrease in the density of green ware and of fired body is observed on lowering the content of clay below 10%. It is recommended to grind together the fine chamotte fraction and the clay, and use an additional preparation of the moistened paste. Optimal comminution of the fine fraction corresponds to a 10% content

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Card 3/3

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

BALAKIREV, A.A.; POLUBOYARINOV, D.N.

Hydration of ceramic products made of loess rocks. Trudy MKHTI no.24: 117-123 '57. (MIRA 11:6)

(Ceramic materials) (Hydration)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

SOV/137-58-7-14128

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 22 (USSR)

AUTHORS: Poluboyarinov, D. N., Silina, N. N.

TITLE: Certain Properties of Corundum Ceramics with Additions of ZrO_2, Cr_2O_3, TiO_2, and MgO (Nekotoryye svoystva korundovoy keramiki s dobavkami ZrO_2, Cr_2O_3, TiO_2 i MgO)

PERIODICAL: Tr. Mosk. khim.-tekhnol. in-ta im. D. I. Mendeleyeva, 1957, Nr 24, pp 155-163

ABSTRACT: Investigations were made of corundum with additions (A) of 1-20% ZrO_2 or Cr_2O_3, 0.5-5% TiO_2 and 1-5% MgO. The fusion temperature of all these substances except for that with 20% ZrO_2 is no lower than that of pure Al_2O_3 and exceeds 1900°C. A having 10% and more Cr_2O_3 or unstabilized ZrO_2 and even 1% of stabilized ZrO_2 reduces the softening temperature (ST) under load. A of up to 5% Cr_2O_3 raises the ST; A of up to 5% TiO_2 or MgO does not affect the ST. The σ_{bi} of massive refractories with A of up to 5% MgO or up to 10% ZrO_2 increases, as is also the case with A of 20% Cr_2O_3. On A of 20% ZrO_2 or 2-3% TiO_2, the σ_{bi} declines. The best resistance to heat is that of refractory substances with

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

SOV/137-58-7-14128

Certain Properties of Corundum Ceramics (cont.)

A of 5% ZrO_2 or 0.5% TiO_2. The minimal sintering temperature (1550°) was revealed by massive refractories with 0.5-1% TiO_2 A.

N. G.

1. Refractory materials--Properties 2. Refractory materials--Temperature factors 3. Corundum--Properties

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POLUBOYARINOV, D.N.

PA -2925

AUTHOR VOLOSEVICH, G.N., POLUBOYARINOV, D.N.,

TITLE On the Ways of Controlling the Microstructure of Corundum Ceramics. (K voprosu o putyakh regulirovaniya mikrostruktury korundovoy keramiki - Russian)

PERIODICAL Doklady Akademii Nauk SSSR, Vol 113, Nr 1 ,pp 152-155, (U.S.S.R.)
Received 6/1957 Reviewed 7/1957

ABSTRACT Corundum ceramics are at present attaining great industrial importance. Their pure variety is monoxide-like. The size and the form of the crystalls in the shards of these ceramics influence to a great extent their working quality. In the course of our investigation we have tried the described introduction of additions of small quantities which influence the crystallization and the sinter temperature essentially. Technical clay-earth "Go" was used, which had been burnt at 1450°. With rising temperature of burning the strenght of the shards increases. Fine crystals can not only be obtained by burning at lower temperatures but also by short heating up to a higher temperature. Coarse crystalls are produced by longer or repeated burning. The size of the pores in the corundum crystals corresponds roughly to the size of the grain of the primary material. The pores are densest in the center of the crystal. Various additions influence the type of crystallization. The effective mechanism, however, is not sufficiently investigated. Some additions retard the growth of corundum crystals (MgO, MgF_2, CaO, ZrO_2) and thereby produce a fine crystalline structure of the shards. Furthermore, the crystals

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SOV/156-58-4-42/49

AUTHOR: Poluboyarinov, D. N.

TITLE: On the Phase Composition of Synthetic Mullite (O fazovom sostave sinteticheskogo mullita)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 4, pp 773-778 (USSR)

ABSTRACT: The phase composition of the synthetic mullite consisting of an alumina mixture was investigated in detail. In order to investigate the composition of the phases of the synthetic mullite aluminium oxide and anhydrous silicic acid samples were taken in a ratio that corresponded to the mullite composition. The mixtures were annealed for two hours at a temperature of 1750°C and subsequently cooled for 24 hours. The sample with the mullite composition was additionally annealed for 30 minutes at 1820°C and quickly cooled. The phase composition of the synthesized mullite samples was investigated by means of chemical, radiographical and petrographical analyses. The samples were treated with a 20% HF. The radiographical and petrographical analyses were investigated by means of a synthetic powder, with an insoluble residue after treatment by hydrofluoric acid. The insoluble residue, the crystal phase, consists of mullite with an increased content of

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SOV/156-58-4-42/49

On the Phase Composition of Synthetic Mullite

Al_2O_3 (corundum). Upon treatment of the powder with 20% HF the glass phase contains small quantities of soluble highly dispersed mullite.
There are 2 tables and 11 references, 6 of which are Soviet.

ASSOCIATION: Kafedra keramiki i ogneuporov Moskovskogo khimiko-tekhnologicheskogo instituta im. D. I. Mendeleyeva (Chair of Ceramics and Refractory Products at the Moscow Chemico-Technological Institute imeni D. I. Mendeleyev)

SUBMITTED: July 15, 1958

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

POLUBOYARINOV, D.N., prof.

High-alumina ceramic material. Khim. nauka i prom. 3 no.1:8-14 '58. (MIRA 11:3)
(Ceramics)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

AUTHORS: Arandarenko, T. T., Polubojarinov, D. N. SOV/131-58-10-6/11

TITLE: On the Use of Hydrate of Alumina for Highly Aluminous Products (Ob ispol'zovanii gidrata glinozema dlya proizvodstva vysokoglinozemistykh izdeliy)

PERIODICAL: Ogneupory, 1958, Nr 10, pp. 467-476 (USSR)

ABSTRACT: V.A. Rybnikov (Ref 1) pointed to the usefulness of hydrate of alumina. In this investigation the conditions for the production of various kinds of alumina were examined. Table 1 shows the chemical composition of the materials tested. The chemical analyses were carried out by M.N. Rybinskaya in the Niistroykeramika. The authors go on to describe:

- the disintegration of commercial hydrate of alumina, referring to the work done by G.A. Vydrik (Ref 2). Figure 1 shows the dispersion characteristics of commercial alumina and of the hydrate as a function of the disintegration conditions;
- the production of finely disperse hydrate of alumina by means of chemical condensation;
- the dusting loss of alumina;

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

On the Use of Hydrate of Alumina for Highly Aluminous Products SOV/131-58-10-6/11

- the agglomeration of mullite and corundum bodies out of different kinds of aluminiferous material. The X-ray analysis was carried out by A.V. Beznosikova (Ref 3) in the Niistroykeramika. The authors also refer to the work of G.A. Osmolovskiy. The results of the agglomeration examination are contained in table 2 and figure 2. Figure 3 shows the agglomeration of equally disperse briquets, figure 4 the agglomeration of mullite briquets as a function of the nature of finely disperse alumina. The X-ray analysis was carried out by T.S. Butt in the Niistroykeramika. Figure 5 shows the agglomeration of mullite briquets and figure 6 the agglomeration of corundum briquets, both as a function of the kind and dispersion of the hydrate of alumina. The sintering temperature of mullite and corundum bodies depends mainly on the dispersion of alumina.
There are 6 figures, 2 tables, and 14 references which are Soviet.

ASSOCIATION: Niistroykeramika

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BEZNOSIKOVA, A.V., kand.tekhn.nauk; POLUBOYARINOV, D.N., prof., doktor tekhn.nauk

X-ray analysis of synthetic mullite. Trudy NIIStroikeramiki no.13:51-71 '58. (MIRA 12:5)
(Mullite--Testing)
(X rays--Industrial applications)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

SHULIKO, L.F., kand.tekhn.nauk; POLUBOYARINOV, D.N., prof., doktor tekhn.nauk

Sintering of mullite, synthetized from highly dispersed alumina, kaolin, clay and quartz. Trudy NIIStroikeramiki no.13: 72-92 '58. (MIRA 12:5)

(Mullite) (Chemistry, Technical)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

15(2) SOV/131-59-2-6/16

AUTHORS: Guzman, I. Ya., Poluboyarinov, D. N.

TITLE: Light Aluminum Oxide Refractories (Legkovesnyye ogneupory iz okisi alyuminiya)

PERIODICAL: Ogneupory, 1959, Nr 2, pp 71-79 (USSR)

ABSTRACT: At the beginning Pirogov, Abbi, and Reyngart are mentioned who have dealt with this problem already earlier. The authors of the present paper investigated the production possibilities of pure light corundum products of high porosity, sufficient strength, and volumetric stability at high temperatures. For this purpose they used technical alumina of the G-2 mark which had been burnt before at temperatures of 1450 and 1600°. In order to increase the crystal growth 1-2% of TiO_2 were added to the alumina. The dispersion of alumina is mentioned in table 1. Furthermore, the production of samples from foam material and of a mass of burning out additions is described in detail. The dependence of the specific weight of the foam mass on the suspension humidity and the amount of foam is represented in figures 1 and 2. The change of the strength of the blank during the burning process may be seen from table 2. In figure 3 the linear change in the

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Light Aluminum Oxide Refractories

course of burning of foam mass samples from alumina which had been burnt before and in figure 4 the dependence of the breaking strength under pressure on the specific weight is represented. In tables 3 and 5 the properties of light foam mass products are given at various conditions, and in table 4 the coefficients of thermal conductivity of various corundum materials are mentioned. The linear changes of foam mass samples in burning are represented in figure 5. The properties of light products with burning out additions may be seen from table 6. Figures 6, 7, and 10 show the macrostructure and figures 8 and 9 the microstructure of light foam products as given by B. V. Ivanov. Conclusions: pure light corundum materials with a wide range of specific weights can be produced from alumina by the foam method. Products of pre-burnt alumina show the best qualities. The light corundum blank shows little strength as well as a high shrinkage in drying and burning and should be burnt at 1700 - 1750° .

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Light Aluminum Oxide Refractories SOV/131-59-2-6/16

By adding 1 - 2% of TiO_2 the burning temperature can be reduced to 1550°. The light corundum-foam product may serve as heat-insulating material up to 1750°. There are 8 figures, 6 tables, and 11 references, 8 of which are Soviet.

ASSOCIATION: Khimiko-tekhnologicheskiy institut im. Mendeleyeva (Chemico-Technological Institute imeni Mendeleyev)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

ZAYONTS, R.M., kand.tekhn.nauk; POLUBOYARINOV, D.N., prof., doktor tekhn.nauk

Using semi-industrial methods in hog-pressing of ceramic products. Trudy NII Stroikeramiki no. 14:36-45 '59. (MIRA 14:1)
(Ceramics) (Kilns)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

GUZMAN, I.Ya.; POLUBOYARINOV, D.N.

Lightweight refractories made of aluminum oxide. Ogneupory 24 no.2:71-78 '59. (MIRA 12:3)

1.Khimiko-tekhnologicheskiy institut imeni Mendeleyeva.
(Refractory materials) (Aluminum oxides)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

BALAKIREV, A.A.; POLUBOYARINOV, D.N.

Phase composition of ceramic products made of loess. Trudy MKHTI no.27:215-228 '59. (MIRA 15:6)
(Ceramic industries) (Loess)

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PHASE I BOOK EXPLOITATION SOV/4301

Poluboyarinov, Dmitriy Nikolayevich, Professor, Viktor L'vovich Balkevich, and Rafail Yakovlevich Popil'skiy

Vysokoglinozemistyye keramicheskiye i ogneupornyye materialy (High-Alumina Ceramic and Refractory Materials) Moscow, Gosstroyizdat, 1960. 231 p. Errata slip inserted. 3,000 copies printed.

Ed.: Dmitriy Nikolayevich Poluboyarinov, Professor; Ed. of Publishing House: M.A. Guzman; Tech. Ed.: Ye.L. Temkina.

PURPOSE: This book is intended for scientific, engineering and technical personnel in the building materials industry. It may also be used in schools of higher education.

COVERAGE: The book discusses the present state and the physicochemical bases of the technology of producing articles of high alumina content by ceramics methods. A review is given of the properties of high-alumina ceramics used in various branches of technology. These include refractory, electrical insulating, building, and chemically resistant materials. The book attempts to generalize the theoretical and processing research in this field performed by personnel of the Kafedra tekhnologii keramiki i ogneuporov of the Moskovskiy ordena Lenina khimiko-

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

15 (2) S/131/60/000/02/006/014
B015/B003

AUTHORS: Pankratova, G. F., Poluboyarinov, D. N., Zayonts, R. M.

TITLE: Cordierite Ceramics - a Heat-resistant Difficultly Fusible Material

PERIODICAL: Ogneupory, 1960, Nr 2, pp 73-76 (USSR)

ABSTRACT: In the paper under review the authors explain the elaboration of the processes and the investigation of the properties of cordierite products. The chemical composition of refractory clay types and of the raw magnesite which were used for the synthesis of the cordierite, is listed in table 1. The cordierite bricks were manufactured at the experimental plant of the NIIStroykeramika from 50% cordierite chamotte and 50% binding agents (Table 2). The properties of the cordierite products, dependent on the content of MgO, are mentioned in table 3. It is established in conclusion that the components of the cordierite products must be finely ground and exactly dosed. In other respects the technology of the cordierite products does not differ from that of refractory chamotte products. By using refractory clay types with a high content

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341910013-8

Cordierite Ceramics - a Heat-resistant Difficultly Fusible Material

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B015/B008

of Al_2O_3 (38%) and magnesite, the addition of technical alumina for the synthesis of the cordierite can be dispensed with. There are 3 tables and 11 references, 7 of which are Soviet.

ASSOCIATION: NIIStroykeramika (Obshchesoyuznyy nauchno-issledovatel'skiy institut stroitel'noy keramiki - All-Union Scientific Research Institute of Structural Ceramics)

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S/081/62/000/004/050/087
B150/B138

15.2210

AUTHORS: Pankratova, G. F., Poluboyarinov, D. N., Zayonts, R. M.

TITLE: Synthesis of cordierite from refractory clays and magnesite

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 4, 1962, 381, abstract 4K232 (Tr. Gos. Vses. n.-i. in-ta stroit. keramiki, no. 15, 1960, 3-19)

TEXT: The possibility is investigated, of cordierite synthesis on the basis of refractory clays and natural magnesite. In this case intensive formation of cordierite takes place at 1300 - 1400° C. The thermal expansion coefficient of these masses lies in the range $0.87 - 1.13 \cdot 10^{-6}$. The most massive formation of cordierite occurs when crude magnesite is used. To produce cordierite articles with a thermal expansion coefficient of $\sim 1 \cdot 10^{-6}$ crude magnesite with grains <0.06 mm must be used.
[Abstracter's note: Complete translation.]

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