KANAYEV, A.F.; CHEKOTILLO, A.M.; KOLOSKOV, P.I., doktor geogr. nauk, prof., otv. red.; KUDASHEV, A.I., red. izd-va; SIMKINA, Ye.N., tekhn. red.

[Cold storage installations made of ice and their use] Ledianye sklady i ikh ispol'zovanie. Moskva, Izd-vo Akad. nauk SSSR, 1952. 110 p.
(Icehouses) (Cold storage)

CHEKOTILLO, A. M.

"On the Ice Layers of Alaska," Merzlotovedenoye, Vol. 1, No.2, pp. 111-118, 1946

U-3213, 3 Apr 53

CHEKOTILLO, A. M.

"On the Ice Layers of Alaska," Merzlotovedeniye (Permafrost Science), Vol 1, No 2, 1946 (111-118).
(Meteorologiya i Gidrologiya, No 6 Nov/Dec 1947)

SO: U-3218, 3 Apr 1953

CHEKOTILLO, A. M.

PA 160T45

USSR/Engineering - Heat, Transmission 11 May 50
Pipes, Gas

"Basic Property of the Temperature Regime in the Ground Around Gas Main Pipes," A. M. Chekotillo, Inst of Refrigeration imeni V. A. Obruchev, Acad Sci USSR, 3 pp

"Dok Ak Nauk SSSR" Vol LXXII, No 2

Curves show drop in temperature of gas in pipes and temperature difference between gas and ground as functions of distance (up to 25 km) from compressor station. Includes chart of isotherms around underground pipe. Submitted 13 Mar 50 by Acad V. A. Obruchev.

160T45

CHEKOTILLO, A. M.

"Deformation of Ice Storehouses," Inst. of Frost Study im. V.A.Obruchev, Priroda, 42, No.4, pp 94-97, 1953

Describes the plan of the ice storehouses located at the Shcherbakob fruit and vegetable base of Mosglavrestoran (Moscow Main Admin of Restaurants), which are made of ice 2 m. thick covered with sawdust 1 m. thick. States that the first exptl ice isothermal storehouses were constructed in the winter of 1939-40. Photographs show the sagging of the storage galleries and their mode of construction.

261T90

CHEKOTILLO, A.M.

USSR/ Miscellaneous - Cold storage

Card 1/1 Pub. - 17/36

Authors : Krylov, M. M., and Chekotillo, A. M.

Title : Storage of fruit and vegetables in ice houses

Periodical : Priroda 2, 95-98, Feb 1954

Abstract : The problems of storing fresh vegetables, fruit, meat, fish and dairy products in ice houses are discussed. Tables; drawings; illustration.

Institution : Acad. of Sc., USSR, The V. A. Obruchev Institute of Refrigeration

Submitted : .....

CHEKOTILLO, A. M.

USSR/ Agriculture - Irrigation

Card 1/1 : Pub. 86 - 20/38

Authors : Chekotillo, A. M., Cand. Tech. Sci.

Title : Experience with winter irrigation

Periodical : Priroda 43/12, page 103, Dec 1954

Abstract : An account is given of tests made by flooding a growing crop twice during the summer, flooding during the winter without watering during the summer, and a combination of both methods. The results showed that most benefit was derived from the winter flooding. Table.

Institution: .....

Submitted : .....

CHEKOTILLO, A.M.

CHEKOTILLO, A.M., starshiy nauchnyy sotrudnik.

Cold storage warehouses for agricultural products. Trudy LTIKHP 10:103-107 '56. (MLRA 10:6)

1. Institut merzlotovedeniya imeni V.A. Obrucheva Akademii nauk SSSR.
(Farm produce--Storage) (Cold storage warehouses)

Cherkotillo, A.M.

CHERKOTILLO, A.M., kand.tekhn.nauk, otvetstvennyy red.

[Abstracts of reports; based on papers received by the Organization Committee of the 1956 Conference on frozen ground] Tezisy i plany dokladov; po postupivshim v Orgkomitet materialam k soveshchaniiu 1956 g. po merzlotovedeniiu. Moskva. No.2. [Reports on the general problem of frozen ground] Doklady po obshchemu merzlotovedeniiu. 1956. No.3. [Reports on frozen ground engineering] Doklady po inzhenernomu merzlotovedeniiu. 1956. 29 p. No.4. [Reports on the physics and mechanics of frozen ground] Doklady po fizike i mekhanike merzlykh gruntov. 1956. 19 p. (MIRA 11:2)

1. Akademiya nauk SSSR. Institut merzlotovedeniya.
(Frozen ground)

CHEKOTILLO, A.M., kand. tekhn. nauk; otvetstvennyy red.

[Abstracts and outlines of reports; based on papers received by the Organization Committee for the 1956 Conference on Frozen Ground Studies] Tezisy i plany dokladov; po postupivshim v Orgkomitet materialam k soveshchaniiu 1956 g. po merzlotovedeniiu. Pt.1. [Principal reports] Osnovnye doklady. Moskva. 1956. 24 p.
(MIRA 11:7)

1. Akademiya nauk SSSR. Institut merzlotovedeniya.
(Frozen ground)

CHEKOTILLOV, A.M., kandidat tekhnicheskikh nauk.

Variation of soil temperature in the Moscow area. Priroda 45 no.8: 114-115 Ag '56. (MLRA 9:9)

1.Institut merzlotovedeniya imeni V.A.Obrucheva Akademii nauk SSSR, Moskva.
(Moscow Province--Soil temperature)

15-57-1-1062

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 1, p 170 (USSR)

AUTHOR: Chekotillo, A. M.

TITLE: Permafrost Studies in Foreign Countries up to 1955 (A Survey of the Literature) /Merzlotovedeniye za rubezhom k 1955 g. (Literaturnyy obzor)/

PERIODICAL: Materialy k osnovam ucheniya o merzlykh zonakh zem. kory, Nr 3, Moscow, AN SSSR, 1956, pp 186-229

ABSTRACT: The building of the Alcan Highway in 1942 and other construction again attracted the attention of Soviet students of permafrost to foreign studies in this field, which had developed, as in the USSR, during utilization of regions of permanently frozen soil. Seasonally frozen ground, despite its great extent, is not considered here. Therefore, only the USSR and the USA are countries in which the study of permafrost has

Card 1/3

Permafrost Studies in Foreign Countries (Cont.)

been developed and has acquired obvious value, especially in solving numerous engineering problems. European countries, except Iceland, all lie outside the region of permafrost, and the study of this subject in these countries has not acquired the status of an independent branch of science. In such countries, study is confined to individual, sometimes very valuable, investigations of seasonally frozen ground. The author furnishes data on the survey by the American Blake on the distribution of permafrost around the globe. Prior to the Second World War, studies in permafrost in foreign countries were meager. But this situation began to change quickly when the U. S. Army began to construct huge military bases, airfields, highways, and other structures in Alaska and in northern Canada. Numerous deformations and destroyed structures, built on frozen soil, impelled the U. S. government to create a broad program of scientific research organizations for studying the properties of frozen ground and the problems of building on such ground in arctic and subarctic regions. All this work was done under the guidance of the Corps of

Engineers of the U. S. Army. Numerous papers were published by these organizations, especially on engineering problems, to which Americans ascribe considerable importance. Examples are given of solutions to engineering problems worked out in the U.S.A. and in Canada. The author supplies a list of foreign literature on permafrost, published chiefly in the last five or six years. The bibliography contains 239 references.

Card 3/3

A. M. Ch.

CHEKOTILLO, A.M.

CHEKOTILLO, A.M.

Coordination conference on the study of permafrost. Izv. AN SSSR. Ser. geog. no.4:138-139 Jl-Ag '57. (MIRA 11:1)
(Frozen ground)

CHEKOTILLO, A.M.

GRAVE, N.A. [translator]; TOLSTOV, A.N. [translator]; USOVA, T.V. [translator]; CHEKOTILLO, A.M. [translator]; EFIMOV, A.I., red.; ZNAMENSKAYA, V.K., red.; GRIBOVA, M.P., tekhn. red.

[Frozen ground of Alaska and Canada; a collection of articles] [Translated from the English] Merzlye gornye porody Aliaski i Kanady; sbornik statei. S predisl. A.I. Efimova. Moskva. Izd-vo inostr. lit-ry, 1958. 262 p. (MIRA 11:7)
(Alaska—Frozen ground) (Canada--Frozen ground)

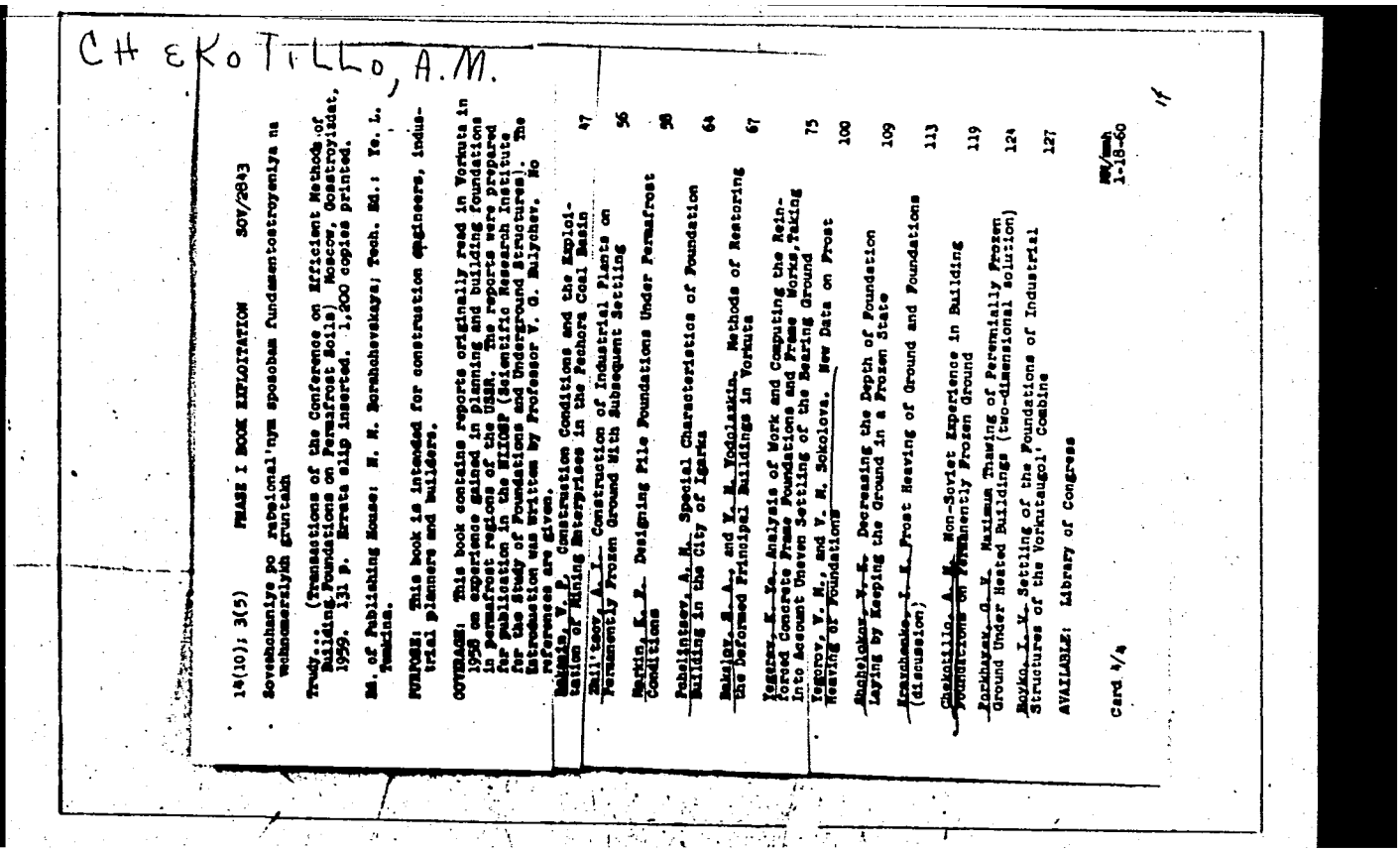
CHEKOTILLO, A.M.

Annotations on foreign frozen ground studies. Trudy Inst. merzl. AN SSSR 14:155-163 '58. (MIRA 11:8)
(Bibliography--Frozen ground)
(Bibliography--Soil mechanics)

CHEKOTILLO, A.M.

Conference dedicated to the 20th anniversary of the Planning Office of Noril'sk Combine. Prom. stroi. 36 no.12:43 D '58.
(MIRA 12:1)

(Noril'sk--Construction industry)



CHEKOTILLO, A.M.

14(10); 3(5) PHASE I BOOK EXPLOITATION SOV/2843

Sovetshchaniye po rayonal'nym sposobam fundamentostroyeniya na vechnomerzlykh gruntakh

Trudy... (Transactions of the Conference on Efficient Methods of Building Foundations on Permafrost Soils) Moscow, Gosstroyizdat, 1959. 131 p. Errata slip inserted. 1,200 copies printed.

Sp. of Publishing House: N. N. Berekhovskaya; Tech. Ed.: Ye. L. Ponkina.

PURPOSE: This book is intended for construction engineers, industrial planners and builders.

COVERAGE: This book contains reports originally read in Vorkuta in 1958 on experience gained in planning and building foundations in permafrost regions of the USSR. The reports were prepared for publication in the NIIOSP (Scientific Research Institute for the Study of Foundations and Underground Structures). The introduction was written by Professor V. G. Bulychev. No references are given.

Bakanin, V. P. Construction Conditions and the Exploitation of Mining Enterprises in the Pechora Coal Basin 47

Bulichev, A. I. Construction of Industrial Plants on Permanently Frozen Ground With Subsequent Settling 56

Martin, K. F. Designing Pile Foundations Under Permafrost Conditions 98

Pchelintsev, A. N. Spatial Characteristics of Foundation Building in the City of Igarka 64

Rabiner, B. A., and V. N. Yodolaskin. Methods of Restoring the Deformed Principal Buildings in Vorkuta 67

Ignatov, K. Ya. Analysis of Work and Computing the Reinforced Concrete Frame Foundations and Frame Works, Taking Into Account Uneven Settling of the Bearing Ground 75

Tugarov, V. N., and V. N. Sokolova. New Data on Frost Heaving of Foundations 100

Shakhelokar, V. K. Decreasing the Depth of Foundation Laying by Keeping the Ground in a Frozen State 109

Ivanchenkov, I. K. Frost Heaving of Ground and Foundations (discussion) 113

Chekotillo, A. M. Non-Soviet Experience in Building Foundations on Permanently Frozen Ground 119

Ponkhyan, G. K. Maximum Thawing of Perennially Frozen Ground Under Heated Buildings (two-dimensional solution) 124

Boyko, I. V. Settling of the Foundations of Industrial Structures of the Vorkutaugol' Combine 127

AVAILABLE: Library of Congress

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MM/mmh
1-18-60

BARANOV, I.Ya., otv.red.; TSYTOVICH, N.A., otv.red.; CHEKOTILLO, A.M., otv.red.; BANKVITSER, A.L., red.izd-va; MAKUNI, Ye.V., tekhn.red.

[Studies in permafrost construction engineering] Materialy po inzhenernomu merzlotovedeniiu. Moskva, Izd-vo Akad.nauk SSSR, 1959. 199 p. (MIRA 12:8)

1. Mezhduvedomstvennoye soveshchaniye po merzlotovedeniyu. 7th, Moscow, 1956.
(Building--Cold weather conditions)

14(10)
AUTHOR: Chekotillo, A., Engineer SOV/29-59-2-35/41

TITLE: Low-temperature Accumulators (Akkumulyatory kholoda)

PERIODICAL: Tekhnika molodezhi, 1959, Nr 2, pp 37-38 (USSR)

ABSTRACT: In the present article, the author reports on the possibility of using ice as building material. In 1939-40, an experimental building of ice was erected for storing vegetables on the site of the Base Mosplodoovoshchtorg near the Station Severnaya on the Northern Railroad. This building was erected according to a plan by M. M. Krylov, Scientific Collaborator of the Institut merzlotovedeniya imeni V. A. Obrucheva AN SSSR (Institute of Permafrost imeni V. A. Obruchev AS USSR). After investigating for 20 years, M. M. Krylov came to the conclusion that natural cold in form of ice store-rooms can be utilized for storing fruit and vegetables. But ice as building material did not only require a suitable construction method. A way had also to be found to protect this peculiar material from melting. Cheap material available in large quantities such as sawdust, peat, moss, and slag, was used to protect the ice building. It was found that in the central section of the country, under the weather conditions

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prevailing in these latitudes, a protective layer of sawdust 70-80 cm thick was sufficient even in the hottest summer. To avoid the melting of the ice from inside Krylov suggested an ice-salt cooling. In filling up the ice-salt mixture, the temperature inside the building can be regulated and kept on the required level. A temperature of -1° is suitable for most sorts of fruit and vegetables. To reduce the admission of warm air during loading the entrance into the building was constructed as a sluice in form of a two-piece room. This room is also conditioned with an ice-salt mixture. In spite of all precautionary measures, such building requires an annual overhaul, and a general repair every 5-7 years. The colored insert sheet adjoining shows an ice storehouse designed according to the project by Krylov with a capacity of 250 tons, the arrangement of the corridor and the store-rooms. The basic condition for the successful erection of an ice building is a temperature of -5° and a sufficient water stock. The ice-houses can be built without sinking into the ground, especially in rough climate. Yet their sinking into the ground increases their thermal resistance. For this reason, the type projects published by Soyuzgiprotorg provide for the

sinking of ice-houses of any dimensions. Experience has shown that such ice store-houses prove a complete success in storing fruit, vegetables, potatoes, fresh meat (in the Trust "Lenryba"), fats, smoked goods, fish products, milk and dairy products. Small fruit can be stored fresh for 10-15 days. Experiments made by the Mosglavrestoran have shown that fresh vegetables were still fresh after 15 days and the weight loss was no more than 1-1.5 %. There is 1 figure.

ASSOCIATION: Dal'nevostochnyy institut Akademii stroitel'stva i arkhitektury ([Soviet] Far East Institute of the Academy of Building and Architecture)

CHEKOTILLO, A.M., inzh.

Thawing the areas designated for foundations before starting building operations in permafrost. Prom.stroi. 37 no.10: 54-55 O '59. (MIRA 13:2)

1. Dal'nevostochnyy nauchno-issledovatel'skiy institut po stroitel'stvu Akademii stroitel'stva i arkhitektury SSSR.
(Frozen ground) (Foundations)

CHEKOTILLO, A.M.; TSVID, A.A.; MAKAROV, V.N.; STOTSENKO, A.V., prof., doktor geograf.nauk, otv.red.; OVECHKINA, L.S., red.; FILATOVA, G.M., tekhn.red.

[Icings in the U.S.S.R. and their control] Naledi na territorii SSSR i bor'ba s nimi. Blagoveshchensk, Amurskoe knizhnoe izd-vo, 1960. 204 p. (MIRA 13:12)

(Ice)

CHEKOTILLO, A.M.

Permafrost study or "geocrylogy?" Izv. AN SSSR. Ser. geog. no.6: 102-103 N-D '60. (MIRA 13:10)
(Frozen ground--Terminology)

TARGULYAN, Yuriy Oganesovich, kand. tekhn. nauk; CHEKOTILLO, A.M., kand. tekhn. nauk, retsenzent; SMIRNOV, A.P., inzh. red.; CHVANOV, V.G., red. izd-va; GALAKTIONOVA, Ye.N., tekhn. red.

[Artificial structures over streams subject to icing] Iskusstvennye sooruzheniia na vodotokakh s naledianmi. Moskva, Nauchno-tekhn. izd-vo M-va avtomobil'nogo transp. i shosseinykh dorog RSFSR, 1961. 78 p. (MIRA 14:5)
(Road construction) (Ice on rivers, lakes, etc.)

CHEKOTILLO, A.M.

Laying depth of water pipes in the territory of Moscow as related to seasonal freezing of ground. Mat. k osn. uch. o merz. zon. zem. kory no.7:132-149 '61. (MIRA 14:7)
(Moscow—Water pipes—Cold weather conditions)

CHEKOTILLO, K.A.

Papers submitted for the 10th Pacfic Science Congress, Honolulu, Hawaii 21 Aug-6 Sep 1961.

BUTINOV, N. A., Institute of Ethnology - "The ethnolinguistic groups in New Guinea" (Section II.A.7.C)

CHEKOTILLO, K. A., Institute of Oceanology - "The investigation of the horizontal and vertical circulation of waters during the winter period in the northern part of the Pacific Ocean" (Section VII.B)

DEMENT'YEV, G. P., and VINOKUROV, A. A., Chairman, Comission for Preservation of Nature, Academy of Sciences USSR - "The role of the birds of Siberia and the Far East of the USSR as possible spreaders of virus and rickettsial disease" (Section III.D.6)

DZERDZEYEVSKIY, B. L., Institute of Geography, Academy of Sciences USSR - "The analysis of some characteristic processes of atmospheric circulation overthe Antarctic" (Section VII.D.1)

FAVORSKAYA, M. A., Institute of Geology - "Advances in recent magnetism investigations of the Pacific shores of the USSR" (Section VII.C)

GALERKIN, I. I., Institute of Oceanology - "On the seasonal variations of level near the coasts of the Pacific" (Section VII.B)

GERASIMOV, I. P., Institute of Geography - "Soil formation in the monsoon climate of the Far East and the influence of recent volcanism" "Present laterites and lateritic soils" (Section I.C)

GORYACHEV, A. V., Institute of Earth Physics imeni O. Yu. Schmidt - "Geotectonic conditions of the Kurile Kamchatkin zone as an example of structural reformation of the earth's crust in the northwestern part of the Pacific basin" (Section VII.C.2)

GEYNRIKH, A. K., Institute of Oceanology - "Specific features in the distribution of zooplankton in the tropical part of the Pacific Ocean" (Section III.C)

GLIKMAN, L. S., The Geological Museum imeni A. P. Karpinskiy, Academy of Sciences USSR - "Sharks' teeth found at the bottom of the Pacific Ocean" (Section III.C)

GORSHKOV, G. S., The Laboratory of Volcanology - "Petrochemical features of volcanism in relation to the types of the earth's crust" (Section VII.C.3)

GZE; A. P., Institute of Oceanology - "The stratigraphy of bottom sediments and the paleogeographical conditions of sedimentation in the Pacific" (Section VII.C.1)

IGNAT'YEV, Ye. I., Institute of Geography of Siberia and the Far East - "The original trends and results of medical geographical research in the Soviet Far East" (Section VIII.B.4)

KAGANOVSKIY, A. G., Pacific Ocean Scientific Research Institute of Marine Fishing and Oceanography - "The ichthyological materials collected during the Bering Sea expedition sponsored by the All-Union and Pacific Ocean Scientific Research Institute of Fishing and Oceanography in 1958-59" (Section VII.C)

KAMENKOVICH, V. M., Institute of Oceanology - "Method of computing stationary currents taking into account the effect of islands" (Section VII.B)

KANAYEV, V. F., Institute of Oceanology - "The submarine relief of the Kuril arc" (Section VII.C.1)

KASS, T. S., Institute of Oceanology - "Deep-sea fishes of the northern part of the Pacific and adjacent seas" (Section III.C)

KHLEBOVICH, V. V., and USHAKOV, P. V., Institute of Zoology - "Polychaeta of the seas in the northwest Pacific and problems of amphi-Pacific distribution" (Section III.C)

KHUNDZHUA, G. G., Moscow State University, Physical Faculty - "The calculation of turbulent diffusion coefficients based upon the recordings of electroconductivity fluctuations and current rate at sea" (Section VII.D.5)

KITAYGORODSKIY, S. A., Institute of Oceanology - "Some regularities of the thermocline formation in the ocean" (Section VII.B)

KLENOVA, M. V., and LAVROV, V. M., Institute of Oceanology - ".... (Illegible) and relief of the continental shelf of the western seaboard in southern Sakhalin" (Section VII.C.1)

KLUMOV, S. K., Institute of Oceanology - "The zoogeographical zonation of the Kuril Islands and in the waters of adjacent areas" (Section VI.D)

KOBLENTS-MISHKE, O. I., Institute of Oceanology - "A survey of data concerned with primary production in the northern part of the Pacific" (Section III.A)

CHEKOTILLO, K.A.

Characteristics of the circulation of intermediate waters in the northern part of the Padific Ocean. Trudy Inst.okean. 45:113-122 '61. (MIRA 15:2)

(Pacific Ocean--Ocean currents)

CHEKOTILLO, K.A.

Vertical motions of water near the Pacific Coast of North America. (MIRA 15:2)
Trudy Inst.okean. 45:123-129 '61.
(Pacific Ocean--Ocean currents)

CHEKOTILLO, K.A.

Calculation of vertical motions of water in the northwestern part of the Pacific Ocean. Okeanologiia 1 no.6:1007-1019 '61. (MIRA 15:1)

1. Institut okeanologii AN SSSR.
(Pacific Ocean--Hydrology)

CHEKOTILLO, K.A.

Intensity of the vertical transport of oceanic waters. Dokl. AN SSSR 153 no.3:585-587 N '63. (MIRA 17:1)

1. Institut okeanologii AN SSSR. Predstavleno akademikom V.V. Shuleykinym.

GRUZINOV, V.M.; CHEKOTILLO, K.A.

Dynamic characteristics of the subpolar front in the North Atlantic. Dokl. AN SSSR 153 no.6:1307-1309 D '63.
(MIRA 17:1)

1. *Gosudarstvennyy okeanograficheskiy institut. Predstavleno akademikom Ye.K. Fedorovym.

* for Gruzinov - can not verify if CHEKOTILLO is also associated with this institute

CHEKOTILLO, K.A.

Study of ocean currents, caused by turbulent stresses. Okeanologiia 4 no.5:920-921 '64 (MIRA 18:1)

ACC NR: AP6030018 (N) SOURCE CODE: UR/0020/66/169/005/1071/1074

AUTHOR: Chekotillo, K. A.

ORG: Institute of Oceanography, Academy of Sciences SSSR (Institut okeanologii Akademii nauk SSSR)

TITLE: Determination of the velocity field of quasi-stationary flow in the ocean

SOURCE: AN SSSR. Doklady, v. 169, no. 5, 1966, 1071-1074

TOPIC TAGS: ocean current, ocean dynamics, ocean property

ABSTRACT: An analytical method is developed and used to compute the flow velocity vectors over a square surface of the Pacific Ocean (30-40° N, 145-155° E) and at a depth of 1500 meters. The three-dimensional flow along the 148° East longitude is also obtained between 32° and 40° N. The system of equations for the flow indicates that it has two types of components; flow due to the horizontal pressure gradient in the Coriolis force field and flow produced by the vertical gradient of the Reynolds stress in the Coriolis force field. The first flow is ordered and covers the entire thickness of the ocean water. The second flow has a turbulent nature and is generated in relatively thin layers which adhere to the surface of the ocean and to its bottom. The surface flow has the same form as the one determined experimentally. The predominant values of flow velocities are grouped at about 10 cm/sec. At 1000 and

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ACC NR: AP6030018

1500 meters the flow velocity, in general, is opposite to the surface flow. At 1000 meters the flow velocity is primarily from 1 to 5 cm/sec while at 1500 meters it is from 1 to 10 cm/sec. Presented by Academician Ye. K. Fedorov on 29 October 1965. Orig. art. has: 3 figures, 10 formulas.

SUB CODE: 08/ SUBM DATE: 22Oct65/ OTH REF: 003

Card 2/2

MEDOVAR, B.I., kand.tekhn.nauk; Prinimali uchastiye: LATASH, Yu.V., kand. tekhn.nauk; MAKSIMOVICH, V.I., inzh.; CHEKOTILO, L.V., inzh.; FUZRIN, L.G., inzh.

Improvement of the weldability of austenite steels and alloys as a result of remelting under electric slag. Svar. proizv. no.10:16-18 O '60. (MIRA 13:9)

1. Institut elektrosvarki im. Ye.O.Patona AN USSR.
(Heat-resistant alloys--Welding)

2

1-2310

22952
S/125/61/000/007/008/013
D040/D113

AUTHORS: Medovar, B.I.; Nazarenko, O.K.; Gurevich, S.M.; Chekotilo, L.V.; Povod, A.G.; and Pinchuk, N.I.

TITLE: Some peculiarities of electron-beam welding of austenitic steels and alloys

PERIODICAL: Avtomaticheskaya svarka, no. 7, 1961, 79-81

TEXT: In their introductory remarks, the authors state why the electron-beam welding of austenitic steels and alloys in a vacuum is superior to conventional welding. For experimental purposes, specimens of ЭИ 726 (EI 726) and ЭИ696 (EI 696) heat-resistant austenitic steels and a nimonic-type ЭИ 437Б (EI437B) alloy were welded by the electron-beam method. All these types contain boron and are prone to cracks in the area near the weld and in the weld metal, if the compositon of the base metal is reproduced. Welding was carried out with an electron-beam gun designed by the Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye.O. Patona AN USSR (Electric Welding Institute "Order of the Red Banner of Labor" im. Ye.O. Paton AS UkrSSR) using 120 mA, 20 kw current and a 35 m/hr welding speed. Metal

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produced by the electron beam was completely sound, except in the case of EI726 steel where an increased boron content of 0.025% caused cracks to form in the base metal at the seam and sometimes even in the weld metal. The following conclusions are drawn: The new method of electron-beam welding in a vacuum must be used not only for refractory and chemically active metals but also for heat-resistant austenitic steels and alloys. The electron-beam method gives welds much more resistance to crystallization cracks than other known welding methods. It is to be expected that the use of filler wire will make the electron-beam process applicable to a wider range of austenitic steels and alloys, and that the dagger shape of the seam will necessitate some modification of the design of the joints. There are 6 figures.

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

SUBMITTED: April 17, 1961

29051 S/125/61/000/010/011/014
D040/D112

1.2300

AUTHORS: Medovar, B.I.; Chekotilo, L.V.

TITLE: Tantalum - a new means for preventing hot cracks in welding stable-austentic steels and alloys

PERIODICAL: Avtomaticheskaya svarka, no. 10, 1961, 88-90

TEXT: It has been discovered in experiments at the Institut elektrosvarki im. Ye.O.Patona (Electric Welding Institute im. Ye.O.Paton) that alloying with tantalum increases the resistance to hot cracking in stable-austenite weld metal. For this discovery an author's certificate with a priority of November 14, 1960, has been awarded. The experiments were conducted with butt and T-weld specimens of austenitic heat-resistant ЭИ 725 (08Х15Н37В5ТР) (EI725 [08Kh15N37V5TR]) alloy, 04Х15Н37В5Т (04Kh15N37V5T) welding wire, and АНФ-5 (ANF-5) fluoride flux, using a current of 300 amp and 28 v and a welding speed of 16 m/hr. Hot cracks formed when no tantalum was added; no cracks formed when a tamtalum wire or tape (3.5% of the metal) was laid

Card 1/2

Tantalum - a new means ....

along the welding line. Sound T-welds without hot cracks were obtained by the addition of 5% of tantalum, and the test fracture was dull and fibrous, which indicates disoriented structure; when no tantalum was added, a longitudinal through crack formed, and the fracture structure was coarse. The positive effect of tantalum introduced into an austenitic weld may be explained by its peculiar influence on the nature of the primary crystallization of the welding pool. It turns the oriented transcrystalline structure into a disoriented refined structure due to the formation of a large number of primary carbides serving as crystallization centers. Besides this, addition of tantalum into the welding pool apparently promotes the formation of primary intermetallic compounds which also have a powerful structure-refining effect. The positive effect of tantalum may be also utilized in welding heat-resistant austenitic nickel-base alloys. The article includes micrographs of the metal structure. There are 3 figures. [Abstracter's note: essentially complete translation].

Card 2/2

12300 1573

S/125/61/000/011/010/012
D040/D113

AUTHOR: Chekotilo, L.V.

TITLE: Electro-slag welding of heat-resistant austenitic EI787 steel

PERIODICAL: Avtomaticheskaya svarka, no. 11, 1961, 82-84

TEXT: The ЭИ787, or 08Х15Н35В3ТЮР (EI787, or 08Kh15N35V3TYuR) is a new steel grade used as a substitute for expensive ЭИ437, or Х20Н80Т3 (EI437B, or Kh20N80T3) Ni-Cr alloy, mainly for parts of the high-temperature portion of gas turbines with an operating temperature of up to 750°C. The Institut elektrosvarki im. Ye.O.Patona (Electric Welding Institute im. Ye.O. Paton) has developed the technology of electro-slag welding EI787 steel parts, 160 by 80 mm in cross section area, using a plate electrode 10 mm thick and 80 mm wide. An А-550 (A-550) apparatus and a ТШС-3000-1 (TShS-3000-1) transformer were used. A special device used for shaping the weld was made of copper and consisted of a massive uncooled pocket, water-cooled side backings, and outlet blocks. Welding was conducted with an

Card 1/2

Electro-slag welding ...

АНФ-7 (ANF-7) flux (80% CaF_2, 20% CaO). The flux was roasted for 1 hour at 800°C prior to welding. The slag pool was produced with the use of ПАМ-3 (PAM-3) aluminum-magnesium powder (10% of the flux weight). The following optimum process conditions were chosen: electrode feed rate - 5.4 m/hr, 1,700-1,900 amp welding current, 30 v idle run voltage, 27-28 v work voltage, 35 mm gap between the forgings, 250 to 300 g flux taken per weld (slag pool depth of 12-18 mm). The base metal and the welded joints were subjected to brief mechanical tests and to long-term endurance tests at 750°C. Before testing, the specimens were heat treated by holding for 8 hours at 1,170°C, 4 hours at 1,050°C and 16 hours at 750°C and cooled in the open air. The long-term strength of the joints and base metal at 750°C was 26.5 to 29 kg/mm^2 and 32 kg/mm^2 respectively. A photograph shows the microscopic structure of a weld. There is 1 figure and 1 table. [Abstracter's note: Essentially complete translation].

Card 2/2

MEDOVAR, B.I., doktor tekhn.nauk; CHEKOTILO, L.V., inzh.

Single-pass submerged-arc welding of stabilized austenitic steel.
Mashinostroenie no.2:55-57 Mr-Ap '62. (MIRA 15:4)

1. Institut elektrosvarki im. Ye.O.Patona AN USSR.
(Electric welding)

36074
S/135/62/000/004/007/016
A006/A101

18.1111

AUTHORS: Medovar, B. I., Doctor of Technical Sciences, Chekotilo, L. V., Pinchuk, N. I., Lutsyuk-Khudin, V. A., Engineers

TITLE: Intercrystalline weld-adjacent cracks in welding austenite steels and alloys

PERIODICAL: Svarochnoye proizvodstvo, no. 4, 1962, 17-21

TEXT: The authors, with the participation of engineer L. G. Puzrin, present some concepts on the formation of weld-adjacent intercrystalline cracks in flash-welding of austenite steels and alloys. During this process the following types of crack may arise: 1) crystallization cracks extending into the weld, or originating in the weld; 2) cracks along the fusion line at a distance from one to several grains; 3) cracks along the linear clusters of intermetallic and nonmetallic impurities. An effective means of preventing crystallization cracks in heat-resistant austenite steels, is to raise the boron content in the weld metal, for the purpose of increasing the quantity of boride eutectics, which is able to close-up weld-adjacent cracks. To prevent cracks which run at an equal distance from the fusion line, it is imperative not to

Card 1/2

Intercrystalline weld-adjacent cracks ...

allow superheating of the base metal and slow cooling in the temperature range of least resistance of the gamma-solid solution. Changes in the chemical composition of the steel or alloy, and, first of all, a reduced carbon content and the development of a second phase in the structure, should help to prevent the formation of weld-adjacent cracks of this type. To prevent cracks along linear clusters of impurities, it is necessary to use for stressed parts a metal that had been subjected to electric slag remelting in order to raise sharply its micro-homogeneity. Electric slag remelting is simultaneously a reliable means of preventing weld-adjacent crystallization cracks. There are 7 figures and 12 references: 9 Soviet-bloc and 3 non-Soviet-bloc.

ASSOCIATION: Institut elektrosvarki imeni Ye. O. Patona AN USSR (Institute of Electric Welding imeni Ye. O. Paton, AS USSR)

S/125/62/000/005/003/010
D040/D113

AUTHORS: Medovar, B.I., Chekotilo, L.V., Lutsyuk-Khudin, V.A., Pinchuk, N.I., and Puzrin, L.G.

TITLE: Alloying heat-resistant austenitic steels, alloys and welds with 0.3 - 1.5% boron

PERIODICAL: Avtomaticheskaya svarka, no. 5, 1962, 9-17

TEXT: The authors review data from their own experiments and from 22 Soviet and non-Soviet publications, and show that heat-resistant austenitic metal, alloyed with 0.3 - 1.5% boron, features increased long-term strength and crack-resistance. It is proved that metal containing boron as an alloying element has a two-phase (austenitic and eutectic boride) structure, which improves the properties of the metal. As revealed by Medovar and Lutsyuk-Khudin, ("Avtomaticheskaya svarka", no. 12, 1961), 0.015 - 0.020% B in steel leads to [illegible]al fusion of the grain boundaries and to the growth of hot cracks which

Alloying heat-resistant austenitic steels....

can subsequently cause local failure of welds; however, no austenitic steel samples with more than 0.35% B were prone to local failure in the weakness zone. According to data presented by Professor G.V. Estulin and Engineer L.Ye. Ivanova, boron greatly increases the heat-resistance of welds, e.g. addition of 0.41% B to Kh18N11B (Kh18N11B) type welds almost doubled the strength of welds in 100-hour tests at 650°C under a load of 20-36 kgf, or raised the pre-failure test time ten times. Similar results were obtained with Kh15N35 (Kh15N35) welds. Welding of steel with not more than 0.8 - 1.0% B caused no difficulties, but higher B content increased the cold cracking danger because of lowered plasticity and a large eutectic phase. It is advised to use pre-heating and moderated cooling in welding such steel. Electroslag remelting is suggested for improving the plasticity of boron-alloyed steel destined for fabrication with deformation, i.e. rolling. Conclusions: Alloying heat-resistant austenitic steels and welds with over 0.3 - 0.4% boron greatly increases the resistance to crystallization cracks, practically eliminates the danger of hot cracks appearing at the welds, produces very good welded joints in service at high temperature and loads, and considerably improves the heat

Card 2/3

resistance of the metal. There are 7 figures and 3 tables.

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

SUBMITTED: January 14, 1962

Card 3/3

MEDOVAR, B.I., doktor tekhn.nauk; CHEKOTILO, L.V., inzh.

Manganese fluoride flux for the welding of austenitically stable steel and alloys. Svar. proizv. no.8:17-19 Ag '62. (MIRA 15:11)

1. Institut elektrosvarki im. Ye.O.Patona.
(Steel, Stainless--Welding)
(Flux (Metallurgy))

MEDOVAR, B.I., doktor tekhn.nauk; CHEKOTILO, L.V., inzh.; KUMYSH, I.I., inzh.

Fused carbide fluxes for the welding of austenitically stable steels and alloys. Svar. proizv. no.8:19 Ag '62. (MIRA 15:11)

1. Institut elektrosvarki im. Ye.O.Patona.
(Flux (Metallurgy)) (Steel, Stainless—Welding)

ACCESSION NR: AT4013946 S/2659/63/010/000/0178/0185

AUTHOR: Medovar, B. I.; Chekotilo, L. V.; Lutsyuk-Khudin, V. A.; Pinchuk, N. I.; Puzrin, L. G.

TITLE: Boron alloys (over 0.3-0.4%) for high temperature austenite steel and weld seams

SOURCE: AN SSSR. Institut metallurgii. Issledovaniya po zharoprochny*m splavam, v. 10, 1963, 178-185

TOPIC TAGS: boron, boron containing alloy, austenite steel, high temperature steel, weld seam, weld metal

ABSTRACT: Austenite high-temperature steels alloyed with boron consist of two phases (austenite + boron component of eutectic origin) and are characterized by high tensile strength and elasticity. The use of boron alloys (over 0.3-0.4%) for high temperature austenite steel allows one to solve several important problems. The weld metal sharply increases stability against the formation of hot (crystalline) cracks. Hot cracks adjacent to the weld seams are completely eliminated during welding. The reliability of weld seams working under high temperature and loads is increased significantly by the exclusion of the causes of local brittle failure in the seam zone. The heat resistance of austenite steel and

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ACCESSION NR: AT4013946

weld seams is increased to a great extent. Investigations and experimental work at plants should be expanded so as to develop both new high-temperature austenite steel, as well as flow processes for the use of these steels for welding. Orig. art. has: 3 tables and 3 microphotographs.

ASSOCIATION: Institut metallurgii AN SSSR (Metallurgical Institute AN SSSR)

SUBMITTED: 00	DATE ACQ: 27Feb64	ENCL: 00
SUB CODE: ML	NO REF SOV: 015	OTHER: 007

Card 2/2

MEDOVAR, B.I.; PINCHUK, N.I.; CHEKOTILO, L.V.

Increasing the maximum permissible concentrations of phosphorus and silicon in stable austenitic welds. Dokl. AN SSSR 150 no.3:541-543 My '63. (MIRA 16:6)

1. Institut elektrosvarki im. Ye.O. Patona AN UkrSSR. Predstavleno akademikom B.Ye. Patonom.
(Welding)

MEDOVAR, B.I.; CHEKOTILO, L.V.; LUTSYUK-KHUDIN, V.A.; PINCHUK, N.I.; PUZRIN, L.G.

Addition alloys of boron (more than 0.3 - 0.4%) in austenitic heat-resistant steels and weldments. Issl. po zharoproch. splav. 10:178-185 '63. (MIRA 17:2)

L 26038-65 EWP(c)/EWP(k)/EWT(m)/EWP(h)/EWP(b)/T/EWA(d)/EWP(l)/EWP(w)/EWP(v)/EWT(d)/
EWP(t) Pf-4/Pad IJP(c) EM/MJW/JD/HM/HW S/0125/65/000/001/0043/0049 53
ACCESSION NR: AP5005001 42
B

AUTHOR: Medovar, B. I. (Doctor of technical sciences); German, S. I. (Candidate of technical sciences); Latyshev, Yu. V. (Engineer); Chekotilo, L. V. (Engineer); Levenberg, N. Ye. (Engineer)

TITLE: Mechanized arc welding of austenitic, heat-resistant EI725(KhN35VTP) alloy

SOURCE: Avtomaticheskaya svarka, no. 1, 1965, 43-49

TOPIC TAGS: heat resistant alloy, nickel base alloy, electroslag melted alloy, alloy welding, weld metal property, EI725 alloy

ABSTRACT: Several series of experiments with submerged arc welding of EI725 austenitic, heat-resistant alloy (0.35—0.7% C, 1% max Mn, 14—16% Cr, 36—38% Ni, 4—6% W, 1.31—1.73% Ti, 0.005% B) have been conducted. Conventionally metled alloy was found to have a poor weldability because of the susceptibility of the weld and the weld adjacent zone to hot cracking. Therefore, electroslag melted alloy was used in form of large, 1340—1800 mm in diameter, rings (200 x 200 and 150 x 200 mm in cross section) and rolled plates 14 and 24 mm thick intended for the housing of a large gas turbine. Welding of electroslag melted alloy with electrode wire of base-metal composition yielded weld metal highly susceptible to hot cracking.

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L 26638-65
ACCESSION NR: AP5005001

Several other electrodes were tested. Satisfactory results were obtained with EP-235(Kh15N35G7V7M3T) alloy wire (0.05% C, 0.14% Si, 7.78% Mn, 14.79% Cr, 36.07% Ni, 7.62% W, 1.95% Ti, and 3.28% Mo). Arc welding with this wire under ANF-17 and ANF-22 fluxes yielded weld metal with a satisfactory heat-resistance and ductility. A new TsT-22 electrode with EP-235-alloy core has also been developed for manual welding of EI725 alloy. The developed technology was successfully used for welding the gas turbine housing at the Kharkov Turbogenerator Plant. Orig. art. has: 8 figures and 3 tables. [MS]

ASSOCIATION: Institut elektrosvarki im. Ye. O. Patona, AN UkrSSR (Electric Welding Institute, AN UkrSSR); KhTGZ im. S. M. Kirova; TsNIIChM im. Bardina

SUBMITTED: 12Aug64 ENCL: 00 SUB CODE: MM, IE

NO REF SOV: 013 OTHER: 001 ATD PRESS: 3187

Card 2/2

L 2638-66 EWT(m)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c) MJW/JD/HM

ACC NR: AP5022351 SOURCE CODE: UR/0135/65/000/009/0030/0032

AUTHOR: Medovar, B. I. (Doctor of technical sciences); Chekotilo, L. V. (Engineer); German, S. I. (Candidate of technical sciences)

ORG: Electric Welding Institute im. Ye. O. Paton (Institut elektrosvarki); KhTZ im. S. M. Kirov

TITLE: Fluoride-boric acid flux for arc and electroslag welding of austenitic steels and alloys

SOURCE: Svarochnoye proizvodstvo, no. 9, 1965, 30-32

TOPIC TAGS: austenitic steel, austenitic alloy, heat resistant steel, heat resistant alloy, arc welding, submerged arc welding, electroslag welding, steel welding, alloy welding, welding flux/ANF22 flux

ABSTRACT: A fluoride-boric acid flux ANF-22 for submerged-arc and electroslag welding of heat-resistant austenitic steels and alloys and boron-containing austenitic steels has been developed. The ANF-22 flux (the CaF_2-B_2O_3 system), for which Author Certificate No. 164777 was issued, consists of fluorite concentrate and boron oxide. The flux has good technological and metallurgical properties in a wide range of welding conditions (a voltage range of 26—40 v and a welding speed of 16 to 50 m/hr) and ensures good weld forming and satisfactory slag removal. No boron oxidation was observed in the weld metal when ANF-22 flux was used in submerged-arc

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UDC: 621.791.048:669.15-194

L 2638-66

ACC NR: AP5022351 4

welding of boron-containing austenitic steels. In welding with boron-free Kh20N77T3Yu [Nimonic 80A] and Kh20N80T [Nimonic 75] filler wires under ANF-22 flux, the boron content in welds increased by 0.52 and 0.12%, respectively. Welds without hot cracks and with a notch toughness of 5—8 kgm/cm^2 and a high rupture strength also were obtained in austenitic, stainless, heat-resistant EI695P and EI725 steels. The flux also gave good results in electroslag welding of stainless, heat-resistant, nickel-chromium EI725, EI787, and other steels. Sound welds without cracks and other defects were obtained in welding, under an ANF-22 flux, a high-pressure gas-turbine housing, ribs, and other lap plates made of EI725 steel 14 mm thick. The high resistance to hot cracking is due to the formation in the weld metal of a two-phase structure consisting of austenite and a boride phase. Orig. art. has: 4 figures and 4 tables. [MS]

SUB CODE: MM, IE/ SUBM DATE: none/ ORIG REF: 004/ OTH REF: 000/
ATD PRESS: 4124

Card 2/2 AP

L 10251-66 EWT(m)/EWP(w)/EWP(v)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c) IJP(c)
ACC NR: AP5027467 JD/HM/HW SOURCE CODE: UR/0032/65/031/011/1388/1389

AUTHOR: Medovar, B. I.; Chekotilo, K. V. 44,55 44,55 61 B

ORG: Electric Welding Institute im. Ye. O. Paton, AN UkrSSR (Institut elektrosvarki AN UkrSSR) 44,55

TITLE: A method of determining the susceptibility to brittle failure of complexly alloyed dispersion-hardenable austenitic alloys 44,55,14 44,55,14

SOURCE: Zavodskaya laboratoriya, v. 31, no. 11, 1965, 1388-1389

TOPIC TAGS: , nickel alloy, heat resistant alloy, chromium alloy, brittleness, mechanical failure, metal crystallization

ABSTRACT: A method of express evaluation of the brittle failure susceptibility of austenitic, age-hardenable, complex, nickel-chromium alloys is described. Cylindrical (40 mm in diameter) or flat (40 mm thick) test specimens with sharp stress concentrators (single-bevel grooves 5 mm deep, 15 deg angle, machined at a distance of 25 mm from one another) are welded using filler wire of the same composition as the alloy being welded (see Fig. 1). Formation of crystallization cracks is promoted by the use of a high-silicon flux. If the metal is susceptible to brittle failure, cracks in the base metal and grooves become visible either immediately after welding or after aging at 700—850C for 50 hr. The method makes it possible to classify

Card 1/3 UDC: 620.178.2

L 10251-66

ACC NR: AP5027467

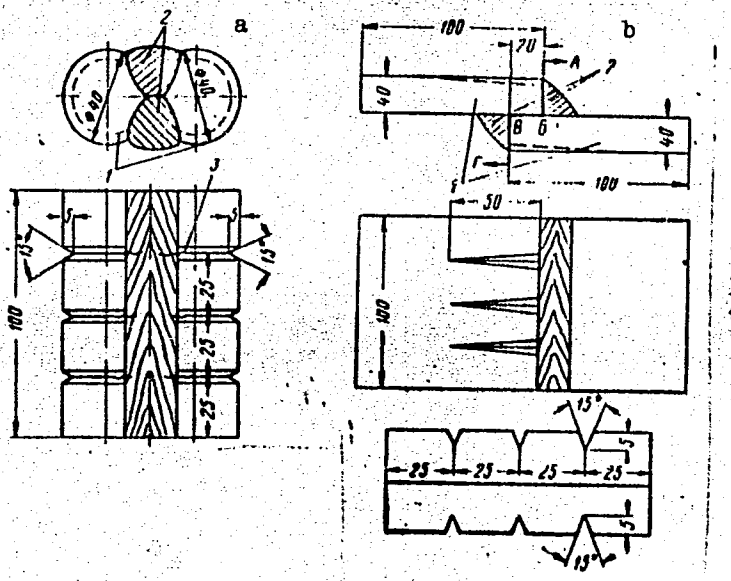

Fig. 1. Round (a) and flat (b) specimens for testing alloy for susceptibility to brittle failure

1 - Billet; 2 - welded seam; 3 - grooves (stress concentrators).

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L 10251-66
ACC NR: AP5027467

alloys, to determine their susceptibility to brittle failure depending on the alloy purity, heat treatment, grain size, etc., and, hence, to develop suitable methods for prevention of the brittle failure. Orig. art. has: 2 figures. [MS]

SUB CODE: 11/ SUBM DATE: none/ ATD PRESS: 4161

Card 3/3

L 21257-66 EWT(m)/EPF(n)-2/EWP(v)/T/EWP(t)/EWP(k) IJP(c) JD/HM/HW/JG

ACC NR: AP6008072 SOURCE CODE: CZ/0065/66/000/001/0055/0063

AUTHOR: Medovar, B. I.; Pavlijchuk, G. A.—Pavlijcuk, G. A.; Chekotilo, L. V.—Cekotilo, L. V.

ORG: Institute for Electric Welding im. Ye. O. Paton; Kiev (Institut elektrosvarki)

TITLE: The alloying of high temperature resistant Nimonic type Ni-alloys by boron

SOURCE: Kovove materialy, no. 1, 1966, 55-63

TOPIC TAGS: nickel base alloy, cobalt base alloy, boron containing alloy, weldability, plasticity

ABSTRACT: The article deals with the investigation of the effect of high boron content on the properties of nickel- and cobalt-based alloys conducted at the Institute of Electric Welding im. Ye. O. Paton. The investigation embraced alloys with 0.005, 0.45, and 0.70 per cent of boron and without it. The alloys were thermally treated and subjected subsequently to mechanical, strength and weldability tests. The results of the tests are given in tabulated form. They show that the alloying of the austenitic Cr-Ni alloys and welded joints of the type Nimonic by boron (0.3 to 0.7 per cent) seems to heighten their strength and high temperature stability, and at the same time maintaining acceptable plasticity and notch toughness. The austenitic boronic structure consists of two phases which makes these alloys unprone to hot cracking in the weld metal and in the welded zone while fusion welded. Owing to

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L 21257-66
ACC NR: AP6008072

good weldability and high strength the nickel-base alloys with different alloying elements and boron content over 0.3 per cent are very perspective for large-scale application in technical practice. Orig. art. has: 4 figures, and 4 tables. [JKP]

SUB CODE: 11/ SUBM DATE: 26Jun65/ OTH REF: 002/ SOV REF: 003/

Card 2/2 WLS

L 35825-66 EWP(k)/EWT(m)/T/EWP(v)/EWP(t)/ETI IJP(c) JD/HM

ACC NR: AP6021827 SOURCE CODE: UR/0413/66/000/012/0136/0136

INVENTOR: Nedovar, B. I.; Chekotilo, L. V.; Pinchuk, N. I. 43 B

ORG: none

TITLE: Welding wire. Class 49, No. 183042

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 12, 1966, 136

TOPIC TAGS: welding, steel, austenitic steel, [illegible] resistant steel, [illegible], welding rod, welding wire, weld

ABSTRACT: This Author Certificate introduces a filler or electrode wire for welding oxidation-resistant, austenitic, silicon-rich steels. The wire contains up to 0.1% carbon, 2.5—3.0% silicon, up to 1.5% manganese, 24—27% chromium, 18—21% nickel, 0.02% max sulfur, 0.03% max phosphorus and 0.45—0.65% boron. Boron increases the weld resistance against carburization, hot cracking, and sigma-phase formation. [ND]

SUB CODE: 13/11/ SUBM DATE: 06Aug64/ ATD PRESS: 5036

Card 1/1 UDC: 621.791.042

L 35823-66 EWP(k)/EWT(m)/T/EWP(v)/EWP(t)/ETI IJP(c) JD/HM

ACC NR: AP6021799 (N) SOURCE CODE: UR/0413/66/000/012/0063/0063

INVENTOR: Medovar, B. I.; Stroyev, V. S.; Cheketlo, L. V.; Tarkhov, N. A.; Pinchuk, N. I.

40
B

ORG: none

TITLE: Electrode for welding oxidation-resistant steels. Class 21, No. 182814 [announced by the Electric Welding Institute im. Ye. O. Paton (Institut elektrosvarki)]

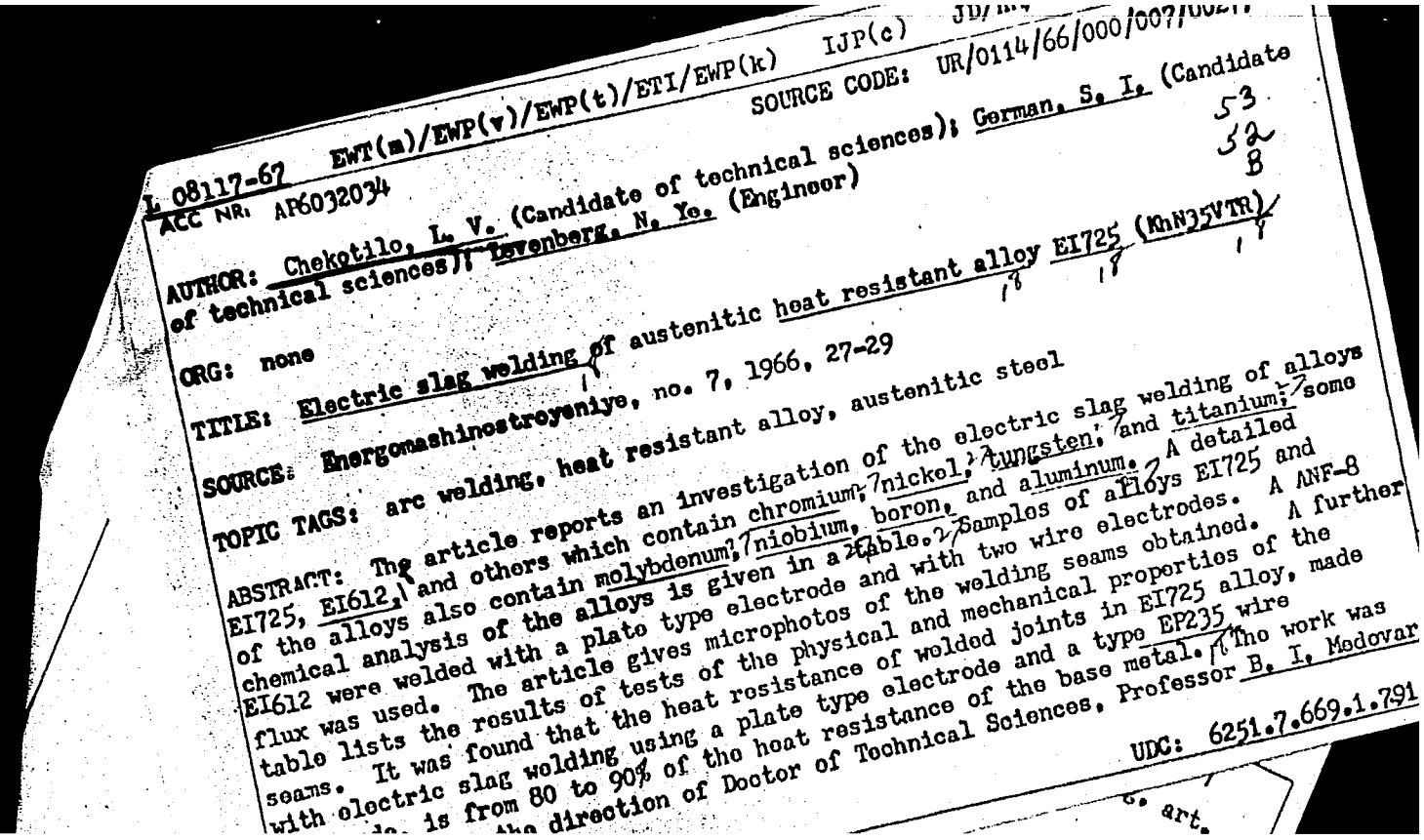
SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 12, 1966, 63

TOPIC TAGS: steel, welding, oxidation, resistant steel, welding electrode

ABSTRACT: This Author Certificate introduces an electrode for welding oxidation-resistant steels. The electrode coating contains 31% marble, 27% fluorspar, 6.5% manganese, 1.5% aluminum, and 14% ferrosilicon. To increase the weld resistance against carburization, hot cracking, and oxidation, 12% ferroboron and 8% dolomite are added to the coating composition. [ND]

SUB CODE: 11, 07/SUBM DATE: 26May65/ATD PRESS: 5136

Card 1/1



L 08117-67 EWT(m)/EWP(v)/EWP(t)/ETI/EWP(k) IJP(c) JD/WW/007/0021
ACC NR: AP6032034 SOURCE CODE: UR/0114/66/000/007/0021/0021

AUTHOR: Chekotilo, L. V. (Candidate of technical sciences); German, S. I. (Candidate of technical sciences); Lavenberg, N. Ye. (Engineer)

ORG: none

TITLE: Electric slag welding of austenitic heat resistant alloy EI725 (KhN35VTR)

SOURCE: Energomashinostroyeniye, no. 7, 1966, 27-29

TOPIC TAGS: arc welding, heat resistant alloy, austenitic steel

ABSTRACT: The article reports an investigation of the electric slag welding of alloys EI725, EI612, and others which contain chromium, nickel, tungsten, and titanium; some of the alloys also contain molybdenum, niobium, boron, and aluminum. A detailed chemical analysis of the alloys is given in a table. Samples of alloys EI725 and EI612 were welded with a plate type electrode and with two wire electrodes. A detailed flux was used. The article gives microphotos of the welding seams obtained. A further table lists the results of tests of the physical and mechanical properties of the seams. It was found that the heat resistance of welded joints in EI725 alloy, made with electric slag welding using a plate type electrode and a type EP235 wire is from 80 to 90% of the heat resistance of the base metal. The work was [illegible] the direction of Doctor of Technical Sciences, Professor B. I. Medovar

UDC: 6251.7.669.1.791

ACC NR: AT6034448

Kh25N20S2, with amounts of boron from 0.3-0.7% is an effective means of increasing their strength and heat resistance, while retaining a high degree of long-term ductility; 2) these steels, alloys, and welded joints, thanks to their two-phase austenite-boride structure, have no tendency toward formation of hot cracking. Orig. art. has: 2 figures and 2 tables.

SUB CODE: 11/ SUBM DATE: 10Jun66/ ORIG REF: 002/ OTH REF: 002

Card 2/2

ACC NR: AP7001930 SOURCE CODE: UR/0125/66/000/0012/0052/0057

AUTHOR: Medovar, B. I.; [redacted] Chekotilo, L. V.; Pavliychuk, G. A.; Us, V. T.; Tabidze, A. I.

ORG: Electric Welding Institute im. Ye. O. Paton, AN UkrSSR (Institut elektrosvarki AN UkrSSR)

TITLE: Weldable boron-bearing austenitic steels and alloys

SOURCE: Avtomaticheskaya svarka, no. 12, 1966, 52-57

TOPIC TAGS: weldability, chromium nickel boron steel, austenitic steel, weldable austenitic steel, niobium containing steel, tungsten containing steel, titanium containing steel, Kh18N12B2R1 austenitic steel, Kh15N24V4T2R1 austenitic steel

ABSTRACT: Several new weldable chromium-nickel austenitic steels and alloys containing up to 0.70% boron have been developed in a joint effort by the Electric Welding Institute im. Ye. O. Paton, TsNIITMASh, TsNIIChM, the Moscow Experimental Welding Plant, and Orgenergostroy. Heat-resistant steels Kh18N12B2R1 or EP531 (0.10% max carbon, 17—19% chromium, 11—13% nickel, 1.8—2.3% niobium, and 0.40—0.70% boron) and Kh15N24V4T2R1, or EP467 (0.08% max carbon, 14.5—16.5% chromium, 23—25% nickel, 4—5% tungsten, 1.5—2.2% titanium, and 0.40—0.70% boron) are tube materials intended primarily for steam pipelines and superheaters.

Card 1/2 UDC: 621.791.011:669.15-194

ACC NR: AP7001930

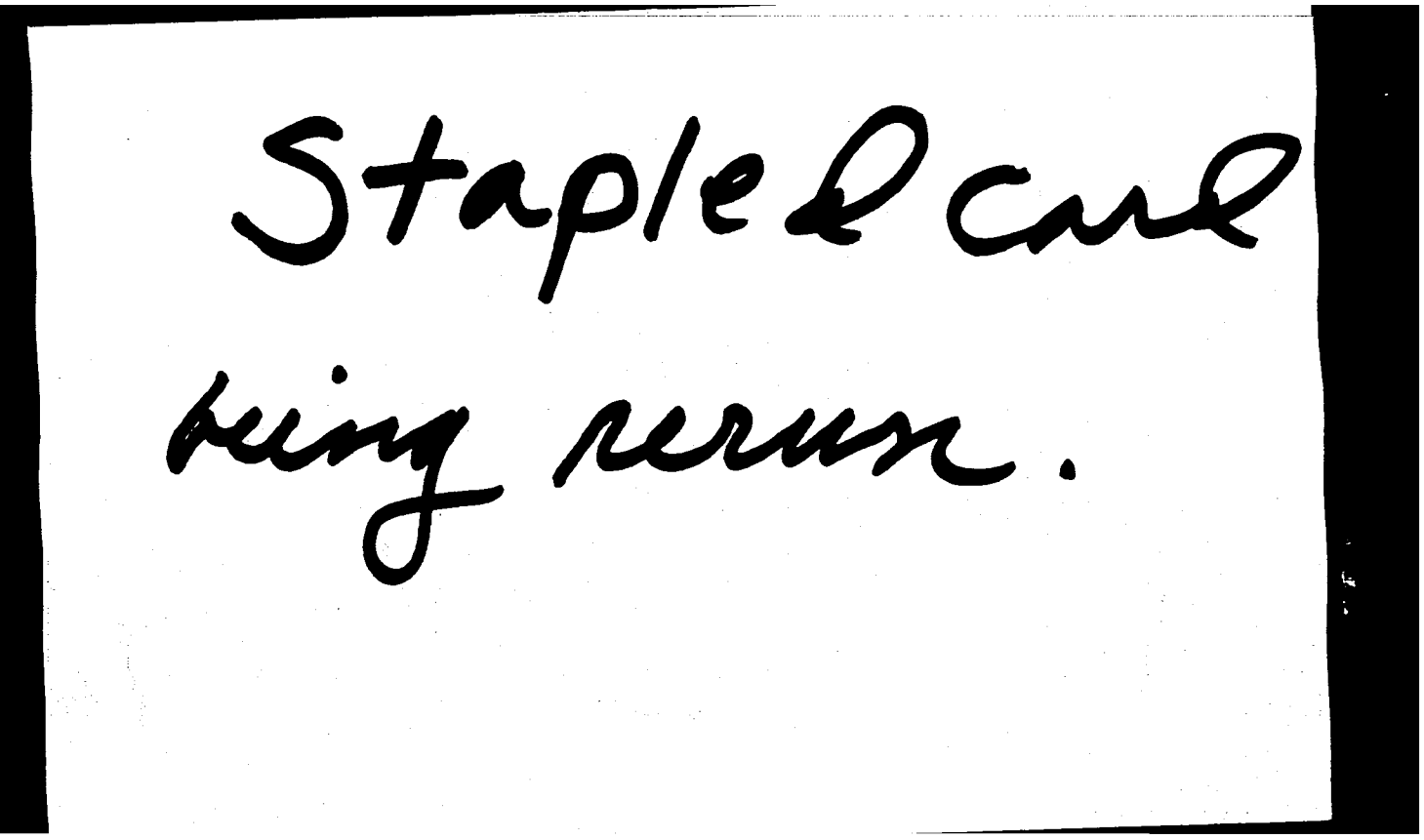
Both steels have satisfactory heat resistance (EP467 steel in stress-rapture tests at 650C under a stress of 28 kg/mm^2 failed after 5909 hr at an elongation of 14.0% and a reduction of area of 19.9%), satisfactory weldability, and low susceptibility to local fractures in the weld-adjacent zone. Boron-bearing nickel-base alloys were developed as cast alloys for parts operating at temperatures up to 800C. Cast Kh20N77T3YR alloy containing 0.70% boron had at 800C a tensile strength of 64.5 kg/mm^2, a yield strength of 64.1 kg/mm^2, an elongation of 1.76%, a reduction of area of 3.0%, and a notch toughness of 1 mkg/cm^2 compared to 46.0 kg/mm^2, 39.4 kg/mm^2, 8.2%, 16.0%, and 20.6 mkg/cm^2 for the same alloy but without boron. In stress-rupture tests at 800C under a stress of 29 kg/mm^2, the alloy with 0.70% boron failed after 26 hr compared to 3 hr for alloy without boron. Boron improved significantly the weldability of oxidation-resistant steels Kh25N20S2 and Kh18N35S3 without affecting the oxidation resistance at temperatures up to 1000C. Kh18N10BR(EP381) and Kh13G30NR1(EP537) steels, intended for operation in chloride solutions, are highly resistant to stress corrosion. Specimens of these steels were removed and amassed after 4150—4300 hr test in a boiling 42% solution of magnesium chloride under a stress of 27.3—27.6 kg/mm^2 (90% of yield strength), while the specimens of standard Kh18N10T and Kh18N10B steels failed after 8—24 and 2—18 hr, respectively. Orig. art. has: 10 figures and 8 tables.

SUB CODE: 11/ SUBM DATE: 23May66/ ORIG REF: 006/ OTH REF: 001/ ATD PRESS: 5111

Card 2/2

CHEKOV, I.M.

Machine for grinding and polishing strips, bands and sheets. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch. i tekh. inform. 16 no.10:43-45 '63. (MIRA 16:11)



L 08117-67 EWT(m)/EWP(v)/EWP(t)/ETI/EWP(k) IJP(c) JD/HM/JG

ACC NR: AP6032034 SOURCE CODE: UR/0114/66/000/007/0027/0029

AUTHOR: Chekotilo, L. V. (Candidate of technical sciences); German, S. I. (Candidate of technical sciences); Tsvenberg, N. Ye. (Engineer)

ORG: none

TITLE: Electric slag welding of austenitic heat resistant alloy EI725 (KhN35VTR)

SOURCE: Energomashinostroyeniye, no. 7, 1966, 27-29

TOPIC TAGS: arc welding, heat resistant alloy, austenitic steel

ABSTRACT: The article reports an investigation of the electric slag welding of alloys EI725, EI612, and others which contain chromium, nickel, tungsten, and titanium; some of the alloys also contain molybdenum, niobium, boron, and aluminum. A detailed chemical analysis of the alloys is given in a table. Samples of alloys EI725 and EI612 were welded with a plate type electrode and with two wire electrodes. A ANF-8 flux was used. The article gives microphotos of the welding seams obtained. A further table lists the results of tests of the physical and mechanical properties of the seams. It was found that the heat resistance of welded joints in EI725 alloy, made with electric slag welding using a plate type electrode and a type EP235 wire electrode, is from 80 to 90% of the heat resistance of the base metal. The work was performed under the direction of Doctor of Technical Sciences, Professor B. I. Medovar.

Card 1/2

UDC: 6251.2.669.1.09

L 08117-67

ACC NR: AP6032034

Candidate of Technical Sciences A. N. Safonnikov took part in the work. Orig. art. has: 4 figures and 5 tables.

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

2/2 nst

CHEKOV, M. A.

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CHEKOV, Milan

Introducing the tex system for the indication of the gauge number of yarns. Ratsionalizatsiia 11 no.10:29-31 '61.

CHEKOVA, G. V. (Moscow)

"Experimental Translations from French into Russian,"

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CHEKOVA, Margarita Dmitriyevna; KOZYREVA, O.A., red.; RODIONOVA, Z.A., red.

[Assignment cards on mechanical drawing. The ninth grade; a teachers' manual] Kartochki-zadaniia po chercheniiu. IX klass; posobie dlia uchitelei. Moskva, Izd-vo "Prosveshchenie," 1964. 301 p. (MIRA 17:7)

CHEKOVA, V.D.

USSR/Chemistry - Chemical engineering; Instruments FD-3013

Card 1/1 Pub. 50-14/17

Authors : Ikhlov, I. A., Mordkovich, B. I., Chekova, V. D.

Title : Pressure indicator of the EMID-1 type.

Periodical : Khim. prom. No 6, 366-368, Sep 1955

Abstract : Describe the EMID-1 circuit which can be activated by a diaphragm measuring element or a piesoelectric element to which changes in pressure are transmitted by a stream of inert gas. Modifications of instruments using this circuit comprise indicators, recorders, and controllers as well as multipurpose appliances (e. g. EMID-1-37, which is a combined indicator, recorder, and controller and is used for the control of the volume and concentration of hot sulfuric acid in continuous production of superphosphate). One figure, 2 diagrams.

Institution : Experimental Design Office of Automatic Appliances [Avtomatika], Ministry of Chemical Industry USSR

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Use of ammonium bisulfite to improve the quality of oak tanning extracts. Kozh.-obuv.prom. 6 no.11:25 N '64.
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Hydropurification of thermal cracking reflux. Trudy Bash NIINP no.5: 69-77 '62. (MIRA 17:10)

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