

ZHADAN, A.M., Cand Agr Sci -- (diss) "Effect of
~~the shortness of~~ ^{Feeding up-} ~~foraging~~ ^{up-} on the digestibility,
metabolism, and fattening qualities of hogs." Kiev,
1958 (Min of Agr UkSSR. Ukrainian Acad of Agr)
100 copies (KL, 28-58, 108)

ZHADAN, A. V.

Cand Agr Sci - (diss) "Effect of fresh beer yeasts on the fatness of milk; the digestibility and metabolism under different feeding of cows." Leningrad, 1961. 16 pp; (Ministry of Agriculture RSFSR, Leningrad Agricultural Inst); 150 copies; price not given; (KL, 6-61 sup, 231)

ZHADAN, A. V

GULYY, M.F., akademik; PSHENICHNYI, P.D., akademik; VASILENKO, D.Ya.,
kand.sel'skokhozyaystvennykh nauk; ZHADAN, A.V.; CHIZHSKAYA, G.Ya.

Stimulating the formation of butterfat in cows by diversified
rations containing brewer's yeast. Zhivotnovodstvo 19 no.12:34-36
D '57. (MIRA 10:12)

1. Ukrainskaya akademiya sel'skokhozyaystvennykh nauk i Institut
biokhimii AN USSR.

(Cows--Feeding and feeding stuffs)
(Yeast)

BODROV, Vikentiy Alekseyevich; GRIGOR'YEV, Sergey Nikolayevich;
KOVAL', V.D., retsenzent; ZHADAN, G.M., retsenzent;
KUZ'MINA, V.S., red.; KISINA, Ye.I., tekhn. red.

[Processing of raw whale products on whale factory ships]
Pererabotka kitovogo syr'ia na kitobazakh. Moskva, Pi-
shchepromizdat, 1963. 362 p. (MIRA 16:12)
(Whalers) (Whale products)

2256 Zhadan, I.I.

Puti Pov'sheniya Produktivnosti Obshchestvennogo Zhivotnovo Dstva. Kiev. 1954.
30s. 20sm. (O-Vo Po Rasprostraneniyu Polit. I Nauch. Znaniy UKR. SSR.) 40.500
EKZ. 45k. - Na Ukr. Yaz.-
(54-55463)

636 (47.71)

ROMANENKO, I.N., prof.; CHAYKOVSKIY, A.F. [Chaikovs'kyi, A.F.], kand. ekon. nauk; MEL'NIK, O.K. [Mel'nyk, O.K.], st. nauchnyy sot.; USTINOVSKAYA, L.T. [Ustynovs'ka, L.T.], kand. sel'khoz. nauk; SERIDKO, A.M., kand. biol. nauk; ZHADAN, I.I., kand. sel'khoz. nauk; SEREDENKO, B.M., kand. tekhn. nauk; NIZHNIY, M.I., kand. ekon. nauk; OBZHEL'YANSKIY, S.Ya. [Obzhelians'kyi, S.IA.], kand. ekon. nauk; PUDENKO, G.I. [Pudenko, H.I.]; LYSYY, YU.B. [Lysyi, IU.B.], red.; POTOTSKAYA, L.A. [Pototska, L.A.], tekhn. red.

[Intensified specialization of farm production within a district as exemplified by Khorol District, Poltava Province] Ukrain's'kyi naukovo-doslidnyi instytut ekonomiky i organizatsii sil's'koho hospodarstva. Vnutriraionna pohlyblena spetsializatsiia sil's'kohospodars'koho vyrobnytstva; na prykladi Khorol's'koho raionu, Poltavs'koi oblasti. Kyiv, Vyd-vo UASHN, 1962. 222 p.

- (MIRA 16:5)
1. Kiev. Ukrain's'ka Akademiya sil'skohospodars'kykh nauk.
 2. Chlen-korrespondent Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk im. V.I.Lenina (for Romanenko). 3. Nachal'nik Khorol'skogo teritorial'nogo proizvodstvennogo kolkhoznosovkhoznogo upravleniya, Poltavskaya oblast' (for Pudenko). (Khorol District--Agriculture)

ZHADAN, Ivan Ivanovich.

[Horse breeding] Koniarstvo. Kyiv, Derzh.vyd-vo sil'sko-
hospodars'koi lit-ry Ukrain's'koi RSR, 1957. 213 p. (MIRA 11:1)
(Horse breeding)

ZHADAN, M. G.

36978. Tsitologiya Gonorroynogo Otdelyayemogo pri Sul'fo- i Penitsillinoterapii.
Uchen. Zapiski (L'vovsk. Nauch.-issled. Kozhno-venerol. In-t), t. II. 1949,
c. 54-58

SO: Letopis' Zhurnal'nykh Statey, Vol 50, Moskva, 1949

OMEL'CHENKO, S.I.; PRIZ, M.N.; SHAMRAYEV, G.M. [Shamrayev, H.M.]; ZHADAN, M.S.

Effect of cross-linking polymers on the characteristics of poly-
glycolmaleate bonding agents for glass plastics. Khim. prom. [Ukr.]
no.3:30-33 J1-S '64. (MIRA 17:12)

OMEL'CHENKO, S.I.; PRIZ, M.N.; SINITSA, V.I.; SHAMRAYEV, G.M.; USTINOVA, A.M.;
PANCHENKO, N.A.; ZHADAN, N.S.

Production of polyglycol maleate resins modified with cyclopentadiene
and their properties. Plast.massy no.12:14-16 '63. (MIRA 17:2)

L 21822-66 EWP(j)/EWT(m)/ETC(m)-6/T IJP(c) RM/WW/GS
ACC NR: AT6006253 (A) SOURCE CODE: UR/0000/65/000/000/0132/0135

AUTHOR: Omel'chenko, S. I.; Priz, M. N.; Shamrayev, G. M.; Zhadan, N. S.; Kovalenko, V. D.; Shantgay, T. G.

ORG: none

TITLE: Changes in physicomechanical properties of PNTs resins and glass textolites based on PNTs due to the influence of the atmosphere

SOURCE: AN UkrSSR. Modifikatsiya svoystv polimerov i polimernykh materialov (Modification of the properties of polymers and polymeric materials). Kiev, Naukova dumka, 1965, 132-136

TOPIC TAGS: glass textolite, polymer, solid mechanical property, synthetic material, structural plastic

ABSTRACT: The changes in physicomechanical properties of unsaturated polyester PNTs-2E-6- and PNTs-2ED-6 resins and glass textolites based on these resins were investigated during their aging in natural and artificial atmospheres. The PNTs-2E-6 resin is based on ethylene glycol and the PNTs-2ED-6 resin is a mixture of

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ACC NR: AT6006253

ethylene and diethylene glycol with maleic anhydride. The tests were conducted on samples composed of 100 parts of resin with 40 parts of styrene. They were set at room temperature from a mixture containing 3% isopropylbenzene hydroperoxide and 6% of 8% styrene solution of cobalt naphthenate. These samples were next held for 4 hours at 100°C. The aging tests were conducted by exposure to atmosphere from April to September 1964. The aged samples were then examined for Brinell hardness (GOST-4670-62), compression resistance (GOST 4651-63), twisting resistance (GOST-4648-63), and thermal stability according to Vik (GOST 9551-60). It was found that exposure to atmospheric conditions for 3.5 months resulted in very small changes in physico-mechanical properties. The most loss (28%) in twisting resistance incurred the PNTs-2E-6 resin. The glass textolites also suffered small losses in physicomachanical indices after six months exposure to atmospheric aging conditions. The artificial aging conditions had an effect on the resin properties similar to that of the natural atmospheric conditions. Orig. art. has: 3 tables.

SUB CODE: 11/

SUBM DATE: 06Oct65/

ORIG REF: 003/

OTH REF: 000

Card 2/2 nst

BOKOV, A.S., inzh.; ZHADAN, N.Ya., inzh.; PANKRATOV, G.M., inzh.; USHAKOV,
S.G., inzh.

Burning of Bashkirian coal in ejector burners with gas drying.
Elek. sta. 35 no.6:11-15 Je '64. (MIRA 18:1)

BOKOV, A.S., inzh.; ZHADAN, N.Ya.; inzh.; PANKRATOV, G.M., inzh.

Gas drying of fuel with high-moisture content using fan mills
in TP-170 boilers. Energetik 12 no.7:9-10 J1 '64.
(MIRA 17:9)

MARTYNOVSKIY, V.. professor; ZHADAN, S., aspirant.

Examining a freon ejector machine serving as a refrigerating
generator. Khol.tekh. 30 no.4:55-58 O-D '53. (MIRA 7:3)
(Refrigeration and refrigerating machinery)

ZHADAN, S.

MARTYNOVSKIY, V., professor; ZHADAN, S., inzhener.

Dependence of the coefficient of ejection of a freon ejection machine on the elements of the diffusor construction. Khok. tekhn. 31 no.3:66-67 J1-S '54. (MLRA 7:9)
(Refrigeration and refrigerating machinery)

MARTYNOVSKIY, V., professor; ZHADAN, S., inzhener.

Use of freon ejecting refrigerating machines in solar installations.
Khol.tekh. 31 no.4:56-57 O-D '54. (MIRA 8:1)
(Refrigeration and refrigerating machinery) (Solar engines)

SOV/66-59-2-29/31

14(1)

AUTHORS: Zhadan, S., Mel'tser, L.

TITLE: Adjustment of Capacity and Cold Production of a Compressor (Regulirovaniye moshchnosti i kholodoproizvoditel'nosti kompressora)

PERIODICAL: Kholodil'naya tekhnika, 1959, Nr 2, pp 76-78 (USSR)

ABSTRACT: The article refers to 2 foreign proposals: one aims at maintaining constant capacity of the compressor at variable temperature of condensation (William L. McGrath), "Electrical Demand in AC Equipment", "Refrigerating Engineering", 1957, Nr 2). In accordance with the other proposal it appears to be possible to maintain constant either the cold-producing capacity of the installation, or the power which it consumes at a variable temperature of evaporation ("Refrigeration Capacity", "Modern Refrigeration", 1957, Nr 8, p 342). There are 2 graphs and 1 schematic diagram.

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ZHADAN, S.Z., kand.tekhn.nauk, dotsent

Thermodynamic analysis of the possibility of the disposal of
waste heat for the compression of gases. Trudy OTIP 1 KHP 8
no.1:33-36 '57. (MIRA 12:8)

1. Kafedra kholodil'nykh mashin Odesskogo tekhnologicheskogo
instituta pishchevoy i kholodil'noy promyshlennosti.
(Compressed air) (Waste heat)

ZHADAN, S. Z.

ZHADAN, S. Z.- "Use of Low-potential Heat to Produce Cooling in a Freon Ejector Machine."
Min of Higher Education USSR, Moscow Power Inst imeni V. M. Molotov, Moscow, 1954
(Dissertations For Degree of Candidate of Technical Sciences)

SO: Knizhnaya Letopis' No. 26, June 1955, Moscow

S/202/63/000/001/001/006
E202/E192

AUTHORS: Davletov, A., Zhadan, S.Z., Taganov, K., and
Tsybul'skiy, O.T. (deceased)

TITLE: Freon ejector of low output

PERIODICAL: Akademiya nauk Turkmenskoy SSR. Izvestiya. Seriya
fiziko-tekhnicheskikh, khimicheskikh i geologicheskikh
nauk. no.1, 1963, 6-14

TEXT: A detailed analysis of the performance of a recently
built solar refrigerator working on the ejector principle has been
carried out. A special installation was built which permitted
measuring three specific coefficients of ejection u , as functions
of pressure in front of the nozzle P_p , pressure of the ejected
vapor P_0 , and the counter pressure P_k . The experimental
installation consisted of a gas circuit with a relatively high
pressure in front of the ejector nozzle generated by a compressor
2ФВ-6.5 (2FV-6.5). A buffer capacity was arranged between the
compressor and the ejector in order to reduce pulsation. In the
first series of experiments, in which two characteristics were
measured, viz. $u = u(P_0)$ and $u = u(P_k)$, the manometric fluid
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Freon ejector of low output

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used was mercury. Since it was impossible to differentiate between the various velocity losses in the ejector due to their complex character, the total losses were expressed by means of an auxiliary coefficient determined from the expression

$$u = \varphi^1 \sqrt{\frac{u}{u_k} \frac{P}{u_k}} - 1.$$

The heat loss was calculated from the temperature entropy diagram using a specially large scale to improve the accuracy. In the second part of the experiments, when mercury was replaced by an aqueous solution of calcium chloride, in addition to the above relations, the relation between u and $u(P_p)$ was studied. It was found that after reaching the limiting value u decreased. On analyzing all the three characteristic relations - $u = u(P_0)$; $u = u(P_k)$ and $u = u(P_p)$ it was noticed that the first one, after achieving sonic conditions, continued to increase but at a slower rate; the second remained constant while the third decreased. The velocity loss coefficients behaved in a similar way.

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Freon ejector of low output

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All the experimental data are tabulated and the ejector characteristics for varying pressures and counter-pressures plotted. Conclusion. The 1000 kcal/hour cold output solar Freon ejector refrigerator with a 1.6 mm critical cross-section of the nozzle designed for the Physicotechnical Institute AS Turkmen.SSR by the Odesskiy tekhnologicheskii institut pishchevoy i kholodil'noy promyshlennosti (Odessa Technological Institute of Food and Refrigerating Industry) is suitable in every respect for mass production without any further modifications. There are 7 figures and 6 tables.

ASSOCIATION: Fiziko-tekhnicheskii institut AN Turkmenskoy SSR
(Physicotechnical Institute AS Turkmen.SSR)

SUBMITTED: May 16, 1962

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IL'CHENKO, S.G., otv. red.; CHUKLIN, S.G., zam. otv. red.; RYZHENKO, L.P., red.; BADYL'KES, I.S., red.; ALEKSEYEV, V.P., red.; VEYNBERG, B.S., red.; GOGOLIN, A.A., red.; MEL'TSER, L.Z., red.; ZHADAN, S.Z., red.; NAYER, V.A., red.; MINKUS, B.A., red.; BARENBOYM, A.B., red.; NIKUL'SHINA, D.G., red.

[Transactions of the Conference on the Outlook for the Development and Introduction of Refrigerating Equipment into the National Economy of the U.S.S.R.] Trudy Konferentsii po perspektivam razvitiia i vnedreniia kholodil'noi tekhniki v narodnoe khoziaistvo SSSR. Moskva, Gostorgizdat, 1963. 262 p.
(MIRA 18:3)

1. Konferentsiya po perspektivam razvitiya i vnedreniya kholodil'noy tekhniki v narodnoye khozyaystvo SSSR. Odessa, 1962.
2. Odesskiy tekhnologicheskiy institut pishchevoy i kholodnoy promyshlennosti (for Minkus, Barenboym, Chuklin, Nikul'shina, Zhadan).
3. Vsesoyuznyy nauchno-issledovatel'skiy institut kholodil'noy promyshlennosti (for Gogolin, Badyl'kes).

ZHADAN, T.A.

133-6-24/33

AUTHORS: Babakov, A.A., Zhadan, T.A., Danilin, V.A., Bakuma, S.F., Antipov, K.I., Kul'kova, M.N. and Kupryakhina, S.Z.

TITLE: An improvement in the technology of production of high-chromium plates. (Uлучsheniye tekhnologii proizvodstva vysokokhromistogo tolstogo lista).

PERIODICAL: "Stal'" (Steel), 1957, No.6, pp.555-559 (USSR).

ABSTRACT: Optimum conditions of rolling and subsequent heat treatment of plates from steels X25T, X28 and X28 with nitrogen, under which the metal would attain mechanical properties satisfying TY5227-55 and good quality cutting and straightening properties in cold state, were investigated. The following participated in the work: Engineers B.Z.Kononov, V.V.Turitsyn, P.N.Sporyshkov, A.P.Okenko ("Krasnyy Oktyabr") and technician V.I.Shashina (TsNIICHM). It was found that in order to obtain steel plates of required properties slabs should be rolled in a temperature range from 980 to 1000 C - 720 to 800 C with cooling of plates in air. Thermal treatment: a preliminary annealing at 760-780 C for 12-16 hours followed by hardening of each plate (individually) in water after heating the metal to the same temperature (soaking time 3 min per 1 mm thickness of the plate). Chemical composition of steel from the heats

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An improvement in the technology of production of high-chromium plates. (Cont.) 133-6-24/33

investigated is given in Table 1, mechanical properties of plates tested in Tables 2 to 6 and some examples of microstructure obtained under various conditions of processing in Figs. 2 to 4.

There are 6 tables and 4 figures.

ASSOCIATION: TsNIChM and "Krasnyy Oktyabr'" Works. (TsNIChM i zavod "Krasnyy Oktyabr'").

AVAILABLE: Library of Congress
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S/184/60/000/004/001/021
A109/A029

AUTHORS: Babakov, A.A., Candidate of Technical Sciences; Zhadan, T.A.,
Graduate Engineer

TITLE: Use of Non-Deficient High-Chromium Stainless Steels

PERIODICAL: Khimicheskoye Mashinostroyeniye, 1960, No. 4, pp. 2 - 4

TEXT: The authors discuss the increased demand for high-alloyed 1X18H9T (1Kh18N9T) and 1X18H12M2T (1Kh18N12M2T) stainless steels and the necessity of obtaining full-value substitutes containing little or no deficient nickel. In this connection high-chromium X17T (Kh17T), X25T (Kh25T) and X28 (Kh28) ferrite steels are of particular interest. The production of 5 - 10 mm sheets of the aforementioned stainless steels presented difficulties, therefore their fatigue strength and plasticity were subjected to detailed examination described in this article. As there is a close connection between brittle fracture of thick steel sheets and their grain coarseness, the possibility of slowing-down the recrystallization during hot rolling was considered. The mechanical properties of these steels were investigated at varying temperatures. A relatively rapid decrease of stress resistance was noted. Their tensile strength limit at 900°C was similar to that

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Use of Non-Deficient High-Chromium Stainless Steels

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of austenitic steel at 1,200°C, whereas contraction and expansion characteristics were higher. As a result of these tests ferrite steel slabs are now rolled at 1,000°C which slows down the crystallization process. In spite of lower temperatures, stress resistance remains unchanged and the rolling-mill engine load does not exceed the permissible limits. Recently obtained heat processing conditions to Kh17T and Kh25T thick steel sheets are: preheating 780 - 820°C, heating time 3 min/mm and water cooling. By improved methods fine-grained, high-plastic steel sheets were produced which can be cold cut, drawn and rolled. Cast Kh28 high-chromium steel without titanium has a pronounced macrostructure. Low-temperature rolling and subsequent double thermal processing at 780°C for 10 - 15 h improved its plastic properties though its resilience remained low. This type of processing can be applied to other ferritic metals or more than 10 mm thickness. The microstructure of ferrite steels after rolling and heat processing is shown in Figure 3. A table shows the chemical composition and mechanical properties of ferrite chromium steels after thermal processing. Wider assimilation of these steels depends on improved production methods and on the development of reliable welding methods. Most favorable welding methods obtained by tests carried out by NIKhIMMASH and GIAP are mentioned in Reference 3. High-chromium steels are suited for the production of welded chemical equipment oper-

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Use of Non-Deficient High-Chromium Stainless Steels

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ating at static loads in acetic, phosphoric and nitric acids, alkalies, etc. They are already successfully used in various plants: Rustavskiy azotnotukovyy zavod (Rustavi Nitrate Fertilizer Plant), Uralkhimmash, Alchevskiy koksokhimi-cheskiy zavod (Alchevsk Coke Chemical Plant), Moskovskiy avtofrizheratornyy zavod (Moscow Refrigerator Car Plant), Moscow "Ideal" Plant, Bolshevskiy mashino-stroitel'nyy zavod (Bolshevo Machine Building Plant) and others. It is pointed out that ferrite steels, particularly the Kh17T and Kh25T grades will be widely used in chemical machine building. There are 3 figures, 1 table and 3 Soviet references.

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Use of Non-Deficient High-Chromium Stainless Steels

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Figure 3. Microstructure of Steels in the State of Delivery (X 100): a - Kh17T; b - Kh25T; c - Kh28



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Use of Non-Deficient High-Chromium Stainless Steels

Chemical Composition and Mechanical Properties of Kh17T, Kh25T and Kh28 Steels
in the State of Delivery After Thermal Treatment

| Steel Grade | Number of Smelting | Content of Elements in % | | | | | Thickness of Sheet in mm |
|-------------|--------------------|--------------------------|------|------|------|------|--------------------------|
| | | C | Mn | Si | Cr | Ti | |
| Kh17T | 1835 | 0.07 | 0.34 | 0.56 | 16.5 | 0.54 | 6 8 10 |
| | 2890 | 0.07 | 0.50 | 0.54 | 16.8 | 0.50 | 6 5 |
| Kh25T | 1880 | 0.09 | 0.37 | 0.65 | 16.8 | 0.50 | 6 |
| | 1888 | 0.08 | 0.34 | 0.58 | 24.1 | 0.58 | 6 |
| | 1283 | 0.07 | 0.50 | 0.65 | 24.5 | 0.65 | 10 |
| | 2991 | 0.08 | 0.31 | 0.75 | 24.1 | 0.39 | 10 |
| Kh28 | 1887 | 0.05 | 0.31 | 0.64 | 27.4 | - | 5 5 |
| | 1606 | 0.09 | 0.37 | 0.48 | 27.0 | - | 10 |

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Use of Non-Deficient High-Chromium Stainless Steels

| Steel Grade | Mechanical Properties | | | | | | Magnitude of the Grain |
|-------------|----------------------------------|----------------------------------|---------------|----------------|-----------------------------|---------------------------|------------------------|
| | σ_b in kg/mm ² | σ_s in kg/mm ² | δ in % | φ in % | a_k in kg/cm ² | | |
| | | | | | in transverse direction | in longitudinal direction | |
| Kh17T | 50.5 | 37.0 | 27.0 | 47.0 | 8.9 | 13.1 | 5 |
| | 51.0 | 36.0 | 22.0 | 48.0 | 11.2 | 13.6 | 5 |
| | 50.5 | 36.0 | 28.0 | 50.0 | 5.5 | 14.8 | 5 |
| Kh25T | 51.5 | 36.0 | 29.5 | 59.5 | - | 8.0 | 4 - 5 |
| | 50.0 | 33.7 | 24.4 | - | - | 11.5 | 5 - 6 |
| | 50.5 | 30.7 | 25.5 | - | - | 11.7 | 5 |
| | 61.0 | - | 22.0 | - | 9.7 | 10.8 | 4 - 5 |
| | 50.0 | - | 28.0 | - | 6.0 | 13.3 | 4 |
| | 53.0 | - | 22.0 | - | 6.8 | 10.1 | 5 |
| Kh28 | 55.0 | - | 26.0 | - | 0.5 | 1.0 | 3 - 4 |
| | 55.0 | - | 30.0 | - | 0.8 | 0.6 | 3 - 4 |
| | 52.0 | - | 23.5 | - | 0.6 | 0.7 | 3 - 4 |

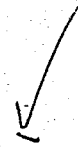
Note: In Kh28 steel of both smeltings cracks are formed at cold bending to

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Use of Non-Deficient High-Chromium Stainless Steels

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180°C (until contacting of the sides); in the remaining steels of all smeltings cracks were not detected.



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BABAKOV, A.A., kand.tekhn.nauk; ZHADAN, T.A., inzh.

Ways of increasing the plasticity Kh28 steel. Sbor. trud. TSHIICHM
no.17:163-183 '60. (MIRA 13:10)
(Chromium steel--Metallurgy)

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S/133/61/000/003/014/014
A054/A033

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AUTHORS: Babakov, A. A., Candidate of Technical Sciences;
Zhadan, T. A., Engineer

TITLE: The effect of austenite-forming elements on the properties
of X28 (Kh28) grade steel.

PERIODICAL: Stal', no. 3, 1961, 276 - 279

TEXT: High-chrome (28.5%) Kh28 grade steel (without titanium) shows a clearly defined, coarse-grained crystal structure in a cast condition, which results in a reduced ductility. High-chrome and titanium-containing ferrite type X17T, X25T (Kh17T, Kh25T) grade steels are also brittle in the welding zone (σ_k is below 1 kgm/cm²), due to the formation of a coarse structure during welding. In order to improve the ductility of these steels, tests were carried out with Kh28 type steel, adding small amounts of austenite-forming elements, (Ni, Mn, N₂) and studying its mechanical and corrosive properties under conditions simulating the temperature and holding times of welding. Smelting was carried out in a 30-kg high-frequency furnace, cleaned, 15-kg ingots were forged into rods and slabs,

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The effect of austenite-forming

the latter were rolled into sheets 4 mm thick. Both processes took place at 1500 - 1100°C. The sheets were heat-treated at 900°C, water-cooled, then rolled to 2 mm thickness. The mechanical properties and tendency to intercrystalline corrosion were tested on specimens heated to 800 - 1000°C (welding) temperature, for two minutes per 1 mm thickness, as well as at 1100 - 1300°C, for 1 min per 1 mm thickness. A change in the mechanical properties and structure could only be observed with an increased nickel-content, when austenite develops at the border of grains, over the entire volume of the metal, increasing its strength and toughness. Upon studying the temperature effect, it was found that steels alloyed with 2 - 6 % nickel do not change in strength and ductility to any great extent, when the temperature was raised from 800 to 1200°C. The highest values for toughness in X28H6 (Kh28N6), X28H3A (Kh28N3A) and X28H4 (Kh28N4) type steels were observed after heating to 900 - 1000°C. Steels containing max. 3% nickel had a toughness below 1 kgm/cm² irrespective of the heating temperature. Upon increasing the cooling rate (in water), the toughness of the Kh28N4 steel increased by about 10 kgm/cm². Most probably during rapid cooling various intermetallic phases cannot separate from the solid solution, so that the grain borders remain clean and the intercrystalline adhesive forces increase. Increasing the holding time to more than 5 minutes did not

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A054/A033

The effect of austenite-forming

change the toughness, as; evidently this time is sufficient for the concentration of the solid solution to attain an equilibrium. Repeated heating to high temperatures with subsequent cooling in air only reduced the toughness. The tendency of the steels to intercrystalline corrosion was tested on sheets after various heat treatments (ГОСТ = GOST 6032-51). The maximum resistance against intercrystalline corrosion was found in Kh28 grade steel, irrespective of heat treatment, when adding 4 - 6 % nickel. Kh28N3A nickel steel also showed sufficient resistance against intercrystalline corrosion and higher toughness. However, when adding 0.23 % N, gaseous blisters form in the ingot. The welding properties of Kh28N4 grade steel of the following chemical composition: C: 0.11 %; Mn: 0.28%; Si: 0.50%; Cr: 28.8 % Ni: 4.1%, were tested. After heat treatment at 900°C and water-cooling the following characteristics were recorded: σ_B , kg/sq mm 70.6; $\sigma_{0.2}$, kg/sq mm; δ_5 , % 17.6; ψ , % 34.1; a_k , kgm/sq cm 10.5. Based on the tests it was found advisable to use electrodes made of the X25H13 (Kh25N13) austenite-ferrite type or X27H4A (Kh27N4A) and X25H1E (Kh25NGB) ferrite-austenite grade steel for the Kh25T, Kh28AN and Kh28N4 steels, with a special coating. Figure 6 shows that the toughness of 6 mm thick Kh28N4 steel sheet decrease-

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S/133/61/000/003/014/014

A054/A033

The effect of austenite-forming ...

ed to 4 kgm/cm^2 in the welding zone under repeated high temperatures, while it increased when moving away from the seam. Thus, the steel with 4 % nickel content proved to be fairly ductile (a_k about $4 - 6 \text{ kgm/cm}^2$). Therefore the Kh28N4 steel can be used as substitute for Kh23N12 and Kh23N18 austenite steels for products subjected to high temperatures, without considerable mechanical load, and for chemical equipment exposed to aggressive media. There are 6 figures, 2 tables and 2 Soviet references. ✓

ASSOCIATION: TsNIICM

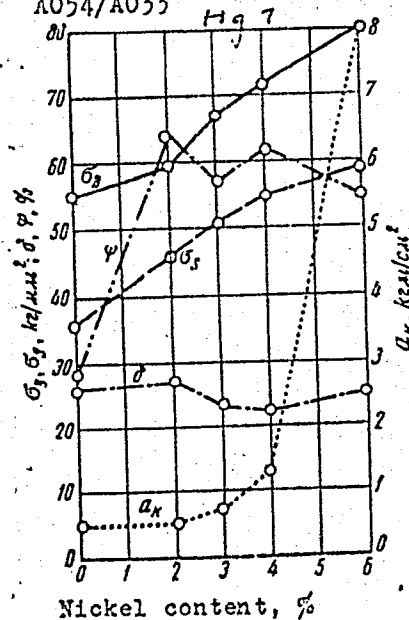
Card 4/7

89975

S/133/61/000/003/014/014
A054/A033

The effect of austenite-forming ...

Figure 1: Effect of nickel-content on the mechanical properties of Kh28 steel.

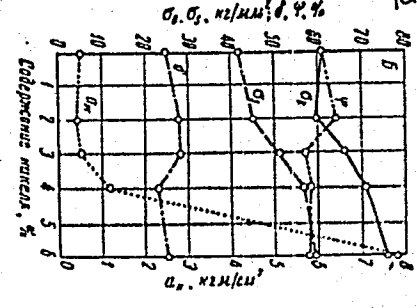
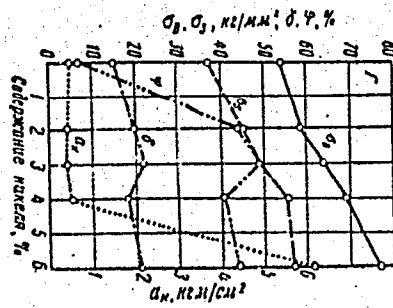
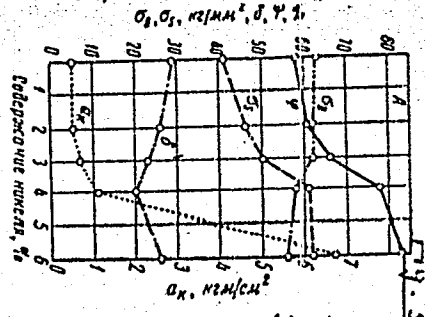
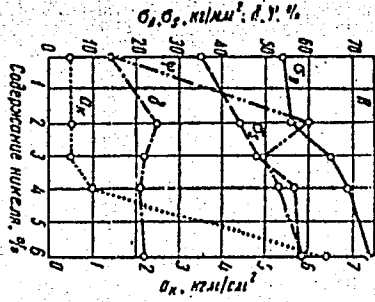
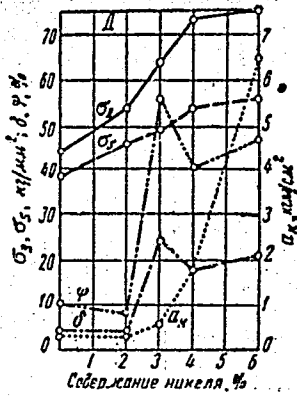


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89975

S/133/61/000/003/014/014
A054/A033

The effect of austenite-forming ...



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89975

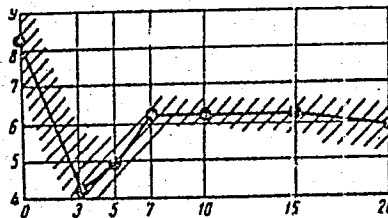
S/133/61/000/003/014/014
A054/A033

The effect of austenite-forming ...

Figure 3: Effect of nickel-content on the mechanical properties of Kh20 steel, depending on the heat-treatment temperature 1 - 800°C; 2 - 1000°C, 3 - 1100°C, 4 - 1200°C, 5 - 1300°C. All horizontal legends: nickel content, %.

Figure 6: Change in toughness of Kh28N4 steel at various distances from the axis of the welding seam.

toughness kgm/cm²



distance from the axis of the welding seam, mm;

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MESHCHERINOVA, O.N., kand.tekhn.nauk; TRIFONOVA, T.N., inzh.; TORPANOVA,
G.A., kand.tekhn.nauk; SMIRNOV, Ye.V., inzh.; BABAKOV, A.A.,
kand.tekhn.nauk; KAREVA, Ye.N., inzh.; ZHADAN, T.A., inzh.;
TALOV, N.P., inzh.; TSYPKINA, Ye.D., kand.tekhn.nauk; DOMONIN,
V.M., inzh.; DAVYDOVA, L.N., inzh.; PRIDANTSEV, M.V., prof.,
doktor tekhn.nauk, red.; LIVSHITS, G.L., kand.tekhn.nauk, rel.;
BERLIN, Ye.N., red.izd-va; MIKHAYLOVA, V.V., tekhn.red.

[Steels with low nickel content; a handbook] Stali s ponizhen-
nym soderzhaniem nikela; spravochnik. Pod red. M.V.Pridantseva
i G.L.Livshitsa. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po
cherno i tsvetnoi metallurgii, 1961. 200 p.

(MIRA 14:12)

1. Direktor instituta kachestvennykh staley Tsentral'noy
nauchno-issledovatel'skogo instituta chernoy metallurgii im.
I.P.Bardina (for Pridantsev).
(Nickel steel)

S/776/62/000/027/003/004

AUTHORS: Babakov, A. A., Zotova, Ye. V., Zhadan, T. A.

TITLE: A search for steels that are corrosion-resistant in extractive phosphoric acid.

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii. Sbornik trudov. no. 27. Moscow, 1962. Spetsial'nyye stali i splavy. pp. 74-84.

TEXT: The paper reports the results of an experimental investigation of steels that would be suitable for the making of double superphosphate from mineral fluorapatite (asparagus-stone), in which the reaction vessels must resist the aggressiveness of the sulfuric acid used to produce phosphoric acid containing 10-25% P_2O_5 , hydrofluosilicic acid with a fluor concentration of 0.6-1.4%, and various compounds (SO_3 , Fe_2O_3 , Al_2O_3). Various deformable and nondeformable alloys on a Fe base, containing Cr, Ni, Mo, Cu, Si, and other elements in two- and multi-component systems, were tested. The compositions of the steels are tabulated in detail. Tests were performed in (1) phosphoric acid containing 32% P_2O_5 , 1.8% F, and 2.2% SO_3 , at 90°C; and (2) in phosphoric acid containing 55% P_2O_5 , 0.8% F, and 4.5% SO_3 , at 105-110°, both in the liquid and the vapor phase; the total dura-

Card 1/3

A search for steels that are corrosion-resistant.... S/776/62/000/027/003/004

tion of the test was 100 hrs. The structure and the mechanical properties of the deformable steels are summarized in a full-page table; the structure and hardness of the cast non-deformable steels is shown in another full-page table. The results of the corrosion tests of the Fe-Ni alloys, summarized in yet another full-page table, show the favorable effect of the Ni on the corrosion resistance of the steel in phosphoric acid, more especially in the vapor phase thereof. Fe-Ni alloys are essentially little corrosion-resistant and nonresistant materials. The tabulated results of the corrosion-resistance tests of various deformable steels in phosphoric acid show that the corrosion resistance of Cr steels increases with increasing Cr content, whereas Ni-Si steels are not sufficiently corrosion-resistant. The highest corrosion resistance is exhibited by Cr-Ni steels, especially with Mo additions, and by Cr-Ni-Mo-Cu steels. Sormite steels appeared to be unstable. In summary, it is recommended that industrial production tests be made with austenitic steels of the types X18H12M2T [Kh18N12M2T] (ЭМ448 [EI448]), X23H28M2T [Kh23N28M2T] (ЭМ228 [EI228]), and X23H28M3Д3Т [Kh23N28M3D3T] (ЭМ629 [EI629]) in equipment that is used in the production of double superphosphate and requires corrosion resistance of the steel and alloys in extractive phosphoric acid, both weak and evaporated. Production tests of the various steels were performed on a number of equipment parts and subassemblies in the experimental factory of the Moscow Scientific Research Institute of Fertilizers, Insecticides, and Fungicides imeni Ya, V.

Card 2/3

A search for steels that are corrosion-resistant. . . . S/776/62/000/027/003/004

Samoylov. Cross-sections of mixer paddles and of distribution disks of a drum-type vacuum filter tested are shown in full-page-size figures. The results of the corrosion tests show the low corrosion resistance of Cr and Cr-Ni steels and the improved corrosion resistance of steels more highly alloyed with Cr, Ni, and Mo. The beneficial effects of heat treatment on welded parts after welding are noted. It is concluded that in the making of welded equipment it is important that steels with a low C content (not more than 0.06% and Ti additions (0.5-0.8%) be employed; such steels, of the types OX23H28M2T [OKh23N28M2T] and OX23H28M3D3T [OKh23N28M3D3T] (ЭИ943 [EI943]), which exhibit good resistance to general and intercrystalline corrosion, are highly corrosion-resistant against the action of extractive phosphoric acid containing F compounds. There are 3 figures and 9 tables; no references.

Card 3/3

ACCESSION NR: AR4027946

S/0137/64/000/002/1011/1071

SOURCE: RZh. Metallurgiya, Abs. 2I419

AUTHOR: Babakov, A. A.; Gulyayev, A. P.; Zhadan, T. A.; Tufanov, D. G.

TITLE: Effect of carbon on the properties of Kh16N15M3B stainless steel

CITED SOURCE: Sb. tr. Tsentr. n.-i. in-t ochernoy metallurgii, vy*p. 35, 1963, 63-66

TOPIC TAGS: carbon, stainless steel corrosion, intercrystalline corrosion

TRANSLATION: A study was made of the effect of C content (0.04-0.2%) at a constant ratio Nb:C (≥ 10) on the mechanical properties and tendency toward intercrystalline corrosion (TIC) of Kh16N15M3B steel. In the hardened state, an increase in the C content causes a rise in σ_b and σ_s and a drop in δ , ψ , and a_k at 20 and 350°. This is due to an increase in the amount of carbides present in the steel (which was quenched from 1050°). Soaking at 500° leads to the precipitation of carbides along the grain boundaries and to a drop in a_k . The rate of decrease in a_k is the same for all the steels studied as the duration of soaking increases. Heating at 550° caused TIC in all the steels, despite the fact that the content of Nb was 10 times greater than that of C. At a C content of 0.04 to 0.07%, TIC appeared after

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ACCESSION NR: AR4027946

soaking 1500 hr, whereas it did so after 500 hr in steel with 0.12 to 0.20% C. For the maximum possible prevention of TIC, the C content should be lowered to 0.02-0.3% and the steel should be stabilized with titanium or Nb. N. Kalinkina

DATE ACQ: 19Mar64

SUB CODE: ML

EXCL: 00

Card 2/2

Card 1/2

L 59277-60

ACCESSION NR: AT5016060

ed for steels having greater amounts of ferrite phase. By adding 2

Card 2/2

GULYAYEV, A.P.; ZHADAN, T.A.

Possibility of replacing nickel by manganese in two-phase stainless steels. Sbor. teud. TSNIICHM no.39:109-111 '65. (MIRA 18:7)

BABAKOV, A.A.; GULYAYEV, A.P.; ZHADAN, T.A.; TUFANOV, D.G.

Properties of austenitic chromium-nickel stainless steels. Sbor.
trud. TSNIICHHM no.39:73-80 '65. (MIFA 13:7)

L-0187-67 EWT(m)/EWP(w)/T/EWP(t)/ETI LJP(c) 30

ACC NR: AT6026547

SOURCE CODE: UR/2776/66/000/046/0037/0040

AUTHOR: Gulyayev, A. P.; Zhadan, T. A.; Mal'tseva, V. S.

58
56
B+1

ORG: none

TITLE: The effect of titanium on the phase composition of ferritic-austenitic stainless steels

14

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii. Sbornik trudov, no. 46, 1966. Spetsial'nyye stali i splavy (Special steels and alloys), 37-40

TOPIC TAGS: stainless steel, titanium, ferrite, austenite, carbide phase, phase composition, impact strength, hardness, saturation magnetization, quenching, tempering, temperature dependence / OKh18G8N2T stainless steel, OKh18G8N2 steel

ABSTRACT: ¹⁶The effect of 0.4% Ti on the phase composition and mechanical properties of OKh18G8N2T stainless steel was studied. Steel samples were quenched from 1200°C and aged to temperatures up to 900°C. Impact strength, hardness and saturation magnetization were given as functions of tempering temperature. The addition of titanium did not change these properties. In the 600-700°C range a sharp drop in impact strength, an increase in hardness and a lowering of saturation magnetization occurred. Electrolytic etching and x-ray analysis showed that TiC formed in the titanium containing

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L 04187-67

ACC NR: AT6026547

2

steel. In the steel without titanium, $Me_{23}C_6$ and σ -phase formed after prolonged tempering. The TiC , $Me_{23}C_6$ and σ -phase compositions of the two steels were compared after different heat treatments. The presence of titanium caused a sharp decrease in $Me_{23}C_6$, but increased the amount of σ -phase in some cases. Titanium tied up the carbon necessary to form $Me_{23}C_6$ and left a greater amount of chromium in solid solution, as required for σ -phase formation. Changes in the quantities of TiC and $Me_{23}C_6$ were given as functions of time. The precipitation of TiC proceeded faster than that of $Me_{23}C_6$. For OKh18G8N2 steel with titanium the rate of carbide precipitation became constant after about 10 hrs, whereas the amount of $Me_{23}C_6$ continuously increased in the steel without titanium. Orig. art. has: 2 figures, 2 tables.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 002

Card 2/2 *ZC*

L 04188-67 EWT(m)/EWP(w)/T/EWP(t)/EII IJP(c) JD
ACC NR: AT6026546 SOURCE CODE: UR/2776/66/000/046/0030/0036

AUTHOR: Zhadan, T. A.

ORG: none

TITLE: Industrial testing of KO-3 steel and its structural characteristics

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut Chernoy metallurgii. Sbornik trudov, no. 46, 1966. Spetsial'nyye stali i splavy (Special steels and alloys), 30-36

TOPIC TAGS: stainless steel, chromium, manganese, hot rolling, ^{ductility,} mechanical property, phase composition, microprobe analysis, microhardness, heat treatment, metallographic examination / OKh18G8N2T steel

ABSTRACT: Industrial testing of the two-phase ¹⁶OKh18G8N2T steel was done at the Krasnyy Oktyabr' plant. A trial heat of KO-3 (industrial designation) had the following composition: 0.07% C, 18.3% Cr, 8.0% Mn, 2.5% Ni and 0.31% Ti. Strength, ductility and impact resistance were given for different initial hot rolling temperature ranges of 1170-1180, 1140-1170 and 1120-1130°C. For all temperature ranges the room temperature properties were the same: $\sigma_u = 80 \text{ kg/mm}^2$, $\sigma_{0.2} = 38-42 \text{ kg/mm}^2$, $\delta = 30-35\%$ and impact resistance = 22-28 kg·m/cm². In high temperature tests the ductility (δ) increased

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B+1

L 04188-67

ACC NR: AT6026546

4

steadily with temperature while σ_u decreased accordingly. The α/γ phase ratio increased as a function of temperature; in the 800 to 1300°C range the amount of α -phase increased from 45 to 85%. Microprobe measurements of Cr, Mn and Ni contents of the two phases showed insignificant changes as functions of α - and γ -phase contents in ferrite containing 22% Cr, 8% Mn and 1% Ni. The microhardness of ferrite and austenite also remained constant. Mechanical property changes were given as functions of tempering temperature after quenching from 1000 and 1200°C, for aging times of 1 and 100 hrs. A sharp drop in ductility occurred after tempering at 700°C for 100 hrs. The most sensitive indicators of the structural changes in the 600-700°C range were impact resistance, hardness and saturation magnetization. Accompanying the drop in ductility at 600-700°C were a sharp drop in impact resistance, increase in hardness and a lowering of saturation magnetization. A metallographic examination and x-ray analysis showed that the brittleness was associated with σ -phase formation. The ductile state was restored by retempering above 900°C. The tendency of KO-3 steel toward cold brittleness was measured for different heat treatments. Ductility was given as a function of test temperature ranging from 200°C down to -200°C. The most ductile state was the as-quenched condition; however, samples quenched from 1000°C were more ductile than those quenched from 1200°C. Aging cut down the ductility and raised the transition temperature--the most embrittling treatment being a quench from 1200°C and tempering at 700°C for 100 hrs. Orig. art. has: 10 figures, 1 table.

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

Card 2/2 LC

ZHADAN, V., kand.tekhn.nauk

Simplified method for the design of evaporative condensers. Khol.
tekhn. 37 no.5:29-33 S-0 '60. (MIRA 13:10)

1. Odesskiy tekhnologicheskii institut pishchevoy i kholodil'noy
promyshlennosti.

(Condensers (Vapors and gases))

SHEVELOEV, V., inzh.; ZHADAN, V., kand.tekhn.nauk

Automatic tester of the airtightness of filled food cans.
Mas.ind.SSSR 30 no.6:16-17 '59. (MIRA 13:4)
(Canning industry--^Equipment and supplies)

ZHADAN, V., kand.tekhn.nauk

Calculation of heat transmission through the surface of a pipe
partially filled with a coolant. Mas.ind.SSSR 33 no.5:52-54 '62.

(MJRA 15:12)

1. Odesskiy nauchno-issledovatel'skiy institut pishchevoy i kholodil'-
noy promyshlennosti.

(Refrigeration and refrigerating machinery)

ZHADIN, V.I.

Effect of pollution on changes in the bottom fauna of the Oka River during the last 35 years. Vop. ekol. 5:61-62 '62. (MIRA 16:6)

1. Zoologicheskii institut AN SSSR, Leningrad.
(Oka River--Freshwater fauna)
(Oka River--Water--Pollution)

ZHADIN, V.I.

Forecasting and reality; realization of the forecasts of the
hydrobiological conditions in Kuybyshev Reservoir. Zool. zhur.
42 no.5:641-651 '63. (MIRA 16:7)

1. Zoological Institute, Academy of Sciences of the U.S.S.R.,
Leningrad.

(Kuybyshev Reservoir—Hydrobiology)

ZHADAN, V.M., starshiy nauchnyy sotrudnik

Study of heat exchange in a mine working behind a focus of fire
on an aerothermodynamic model. Trudy Sem.po gor.teplotekh.
no.4:39-41 '62. (MIRA 15:8)

1. Tsentral'naya nauchno-issledovatel'skaya laboratoriya po
gornospasatel'nomu delu.
(Mine fires) (Heat--Transmission)

ZHADAN, V.S., kand. tekhn. nauk; KLYCHNIKOVA, L.V., inzh.; BORTSOVA,
L.A., inzh.

Development of the parameters of industrial air conditioning.
Khol. tekhn. i tekhn. no.1:111-115 '65. (MIRA 18:9)

ZHADANOV, V. M. 18
 L 43088-65 EWT(m)/ EPA(w)-2/EWA(m)-2 Pab-10/Pt-7 IJP(c) JI/GS
 ACCESSION NR: AT5007918 6/0000/64/000/000/0197/0201 58
 54

AUTHOR: Vladimirovskiy, V. V.; Gol'din, L. L.; Koshkarov, D. G.; Tarasov, Ye. K.;
Yakovlev, B. M.; Gustov, G. K.; Komar, Ye. G.; Kulikov, V. V.; Malyshev, I. F.;
Monozon, N. A.; Popkovich, A. V.; Stolov, A. M.; Strel'tsov, N. S.; Titov, V. A.;
Vodop'yanov, F. A.; Kuz'min, A. A.; Kuz'min, V. F.; Mints, A. L.; Rubchinakiy,
S. M.; Uvarov, V. A.; Zhadanov, V. M.; Filaretov, S. G.; Shirayev, F. Z.

TITLE: 60-70 Gev Proton Synchrotron 19

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963. Trudy. Moscow, Atomizdat, 1964, 197-201

TOPIC TAGS: high energy accelerator, synchrotron

ABSTRACT: A 60-70 Gev proton synchrotron with strong focusing is being constructed not far from Serpukhov, as has been reported earlier (e.g. "Research Institute for Electro-Physical Equipment, Leningrad," in Proceedings of the International Conference on High Energy Accelerators and Instrumentation (CERN, 1959), p. 373). The present report describes parameter changes and improvements in precision structural characteristics of the accelerator, and the present state of construction in mid-1963. The parameters of the magnet are presented in a table. A small change in the original plans permitted an increase in the length of a part of the free
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L 43098-65

ACCESSION NR: AT5007918

sections, some of which are utilized for input and exit of beams. The super-period design is described. The lengthened sections were obtained as a consequence of shortening the focusing and defocusing blocks by 112 cm. The focusing properties of the magnetic channel were diminished consequently, but very little; and the limiting energy was lowered by 2-3 Gev. The construction of the magnet is described. Each of the magnetic blocks is divided lengthwise into 5 sub-blocks which are enveloped by the common winding. These sub-blocks consist of laminar two-millimeter silicon steel. These steel sheets were stamped out without subsequent mechanical working, and were subjected to sorting and intermixing in order to smooth out their magnetic characteristics. The sub-blocks are constricted by lateral welded plates without adhesion. Provision was made for windings on the poles in order to correct for pole nonlinearity and for variations in the drop reading. These windings make it possible to introduce artificial quadratic (square) nonlinearity that changes the dependence of the frequency of transverse oscillations during a pulse. In order to correct for straying of the residual field, provision has been made for windings on the yoke in series with the main winding. The sub-blocks must undergo calibration on a magnet stand in order to make correcting systems more precise and to determine the most convenient disposition of the sub-blocks along the ring. The winding of the electromagnet is made of aluminum busbars with hollow cores for cooling water. The length of the busbar is so selected that there would be no

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ACCESSION NR: AT5007918

2
welded joints inside the coils. The winding consists of 4 sections, two of which are disposed on the upper pole and two on the lower. The most important characteristics of the electromagnet and power supply system are described in a table. Also described are the vacuum chamber and accelerating field (obtained by 53 paired resonators with ferrite rings, which operate at the 30-th harmonic of revolution and give accelerating potential of 350 kilovolts). The ring tunnel and the general arrangement of the accelerator are shown in figures and described. The building for the injector and portions of the ring tunnel from the injector to the experimental room have been completed in the main and are ready for installation of equipment. This room, in the form of a single-aisle building without internal supports, permits one to work on beams brought into the inner and outer sides. A 90-meter arch covers this room, whose overall length is 150 meters. Provisions have been made for a second experimental room at the southwest part of the ring. Orig. has 4 figures, 2 tables.

ASSOCIATION: Institute teoreticheskoy i eksperimental'noy fiziki GKAE SSSR (Institute of Theoretical and Experimental Physics, GKAE SSSR). (2) Nauchno-issledovatel'skiy institut elektrofizicheskoy apparatury imeni D. V. Yefremova GKAE SSSR (Scientific Research Institute of Electrophysical Apparatus, GKAE SSSR).

Card 3/4

L 43038-65

ACCESSION NR: AT5007918

2

(3) Radiotekhnicheskiy institut AN SSSR (Radio Engineering Institute, Academy of Sciences SSSR). (4) Gosudarstvennyy proyektnyy institut GKAE SSSR (State Planning Institute, GKAE SSSR).

SUBMITTED: 26May64

ENCL: 00

SUB ODS: EE, NP

NO REF SOV: 002

OTHER: 001

am
Card 4/4

ZHADAN, V. T. -

ZHADAN, V. T. - "Investigation of the deformation of metals in flange gauges".
Moscow, 1955. Min Higher Education USSR, Moscow Order of Labor Red Banner Inst of
Steel imeni I. V. Stalin (Dissertation for the Degree of Candidate of
Technical Sciences).

SO: Knizhnaya Letopis' No. 46, 12 November 1955. Moscow

ZHADAN, V. T.

137-58-4-7068

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 110 (USSR)

AUTHORS: Polukhin, P. I., Zhadan, V. T.

TITLE: An Investigation of the Deformation of Metal in Flanging Passes
(Issledovaniye deformatsii metalla vo flantseyvkh kalibrakh)

PERIODICAL: Sb. Mosk. in-t stali, 1957, Vol 36, pp 196-227

ABSTRACT: An investigation of the filling of slitting grooved rolls in the rolling of flanged shapes in accordance with changes in the angle of the slitting collar, the degree of reduction, the spread (S), and the condition of the surface of the pass, has been made. The effect of these factors on the power consumption and the pressure of the metal on the rolls is clarified. The investigation was conducted in the rolling (R) of a beam 100 mm high on a 360 mm mill in four slitting passes, in which the collar angles (CA) were 80, 70, 60 and 45°. R came to 43-59 percent reduction depending on the height of the initial billet. The effect of S was investigated in specimens of various initial width. The pressure of the metal on the rolls was measured by hydraulic capsules with carbon elements. The area of the horizontal projection of the contact surface was determined by graphic and analytic methods. The temperature

Card 1/2

137-58-4-7068

An Investigation of the Deformation of Metal in Flanging Passes

at the start of R was 1200°C. It follows from the results obtained that CA is increased from 45 to 70°, the height of the open and closed flanges (F) diminishes. As CA increases, reduction in cross section with height undergoes a smaller increase than does the mean reduction factor. In R without S, as CA rises from 45 to 70°, there is an increasing asymmetry of deformation, which is a consequence of the more intensive reduction in the height of the closed F. When R is accompanied by S, this relationship is less significant. As relative reduction on the collar increases from 43 to 59 percent, the height of open and closed F increases, and the zone of enforced S of the midsection of the cross section of the strip also increases, resulting in an increase in lateral pressure and friction. In R in the absence of S conditions are more favorable for open F and less favorable for closed F. Variation in S changes the force requirement, and this makes for different degrees of filling of the open and closed F. As S increases, the asymmetry of deformation of the metal diminishes. As CA increases, unit pressure diminishes, but to an insignificant degree, while unit power consumption increases considerably. When reduction on the collar is increased to 43-56 percent, unit pressure increases by 8-10.5 kg/mm², and unit power consumption from 0.7 to 1.8 kwh/t. An increase in S results in a decrease in unit pressure.

Card 2/2

Yu. F.

- 1. Rolling mills --Test results
- 2. Metals--Deformation--Test methods
- 3. Metals--Deformation

ZHADAN, V. T.

137-1958-3-5030

Translations from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 82 (USSR)

AUTHORS: Polukhin, P. I., Zhadan, V. T.

TITLE: An Investigation of the Cross-sectional Distribution of the Deformation of Metal in a Strip Rolled in a Sectional Caliber
(Issledovaniye raspredeleniya deformatsii metalla po secheniyu polosy, prokatamoy v razreznom kalibre)

PERIODICAL: Sb. Mosk. in-t stali, 1957, Vol 36, pp 228-245

ABSTRACT: Investigations were carried out in order to establish how the cross-sectional distribution of the deformation (D) in a metal strip rolled in a sectional caliber is affected by the crest (C) angle and by the extent of the reduction and expansion (E), as well as to determine the consumption of energy and establish the pressures exerted by the metal against the rolls. The distribution of D was determined from changes in the thread pitch of screws which were screwed into the metal. The value of the crest angle varied between 80° and 45°. Rolling operations were performed on a 360 rolling mill, at a temperature of 1200°. Templets cut from the rolled strips were ground, polished and etched in a solution of HNO₃. The data obtained describe the depthwise

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137-1958-3-5030

An Investigation of the Cross-sectional Distribution of the Deformation (cont.)

distribution of D in regions of low and of high degree of reduction. Regions adjacent to the crest experience the greatest D. The minimum D is observed approximately at the midpoint of the height of the neck. Maximal transverse D is observed in regions adjacent to the C, while minimum D is found in the central portion of the neck. Measurements of the transverse D and constrained E determine the boundaries of regions of constrained E and constrained constriction, as well as the D pattern and the pattern of the internal stress conditions; the same measurements also make it possible to trace the flow of metal in the calibers. The central region of the templet constitutes an area of constrained E, whereas constrained constriction in the transverse and vertical directions is observed on the edges. From the data of the transverse, longitudinal, and vertical distribution of D it may be deduced that the D of metal, forced through a sectional caliber, is symmetrical with respect to the vertical axis and unsymmetrical with respect to the horizontal axis.

Card 2/2

Yu. F.

ZHADAN, V. T.

137-58-4-6993

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 98 (USSR)

AUTHORS: Polukhin, P. I., Zhadan, V. T.

TITLE: An Investigation of Forward Slip and Speed Factors in Roll-forming in a Sectional Pass (Issledovaniye operezheniya i skostnykh usloviy prokatki v razreznom kalibre)

PERIODICAL: Sb. Mosk. in-t stali, 1957, Vol 36, pp 246-258

ABSTRACT: Experiments in rolling samples of 95.5x75 mm cross section of Nr 20 grade steel at $\leq 1230^{\circ}$ in a slit pass (P) on a 360 mm mill are presented. To determine the speed of the rolls (R), the readings of the track pick-up, a toothed disk fastened to the R wabblers, which closed and opened an electric circuit with the aid of brushes, were recorded on photographic film. A 50-cycle AC current sine wave was used as a time marker. The speed of the strip at the outlet was determined with the aid of a carriage moving along guide racks. Along a portion of its track, 100 mm in length, the carriage closed the circuit of an outside power source, and this identified its speed of motion within a given contact time. Templets were cut from the rolled samples, and by superimposing these on the drawing of the P. the length of the line of contact of

Card 1/2

An Investigation of Forward Slip (cont.)

137-58-4-6993

the R was found segment by segment, and the working diameters of the R at the point of start and finish of each segment were determined. The number of revolutions of the R and the working diameters were employed to find the peripheral velocity at these points and the forward slip relative to the true speed of the strip. These data were employed to plot a chart of forward slip, the area of which, after division by the length of the line of contact, yielded the mean forward slip in the P. This latter was considerably less than the forward slip along the neck. The mean velocity of the R in the P was determined by the average working diameter by plotting a diagram in which the length of the line of contact was laid off along the axis of the abscissae and the working diameters at the points indicated graphically by plotting a similar diagram in which speeds were determined by the ordinates. The results of the calculations by the two different methods were in good agreement. The speed of the strip determined experimentally differed by 1.5-3 percent from the calculated speed, and this is testimony to the applicability of this method of determining the speed with which a strip emerges from the pass.

- 1. Rolling mills--Operation
- 2. Rolling mills--Rolls--Speed factors

P.G.

Card 2/2

ZHADAN, V. T.

AUTHOR: Bakhtinov, B.P. and Zhadan, V.T., Candidates of Technical Sciences 133-58-3-17/29

TITLE: Review of P.I. Polukhin's book: Prokatka i kalibrovka dvutavrovyykh balok (I-Beam Rolling and Groove Design)

PERIODICAL: Stal', 1958, Nr 3, pp 242 - 243 (USSR)

ABSTRACT: Review of subject book which was published by Metallurgizdat in 1956.

AVAILABLE: Library of Congress

Card 1/1

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

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

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

LITOVCHENKO, N.V.; DIOMIDOV, B.B.; ZHADAN, V.T.

Expansion in H- and channel-beam grooves. Izv. vys. ucheb.
zav.; Chern. met. 7 no.9:113-117 '64. (MIRA 17:6)

1. Magnitogorskiy gorno-metallurgicheskiy institut i Moskovskiy
vecherniy metallurgicheskiy institut.

GRINBERG, Boris Grigor'yevich; ZHADAN, Vasiliy Timofeyevich;
MIKHALEVSKAYA, V.I., red.

[Technology of metals and welding; program, methodological
guide and control assignments for students of structural
engineering in correspondence schools of higher education]
Tekhnologiya metallov i svarka; programma, metodicheskie
ukazaniia i kontrol'nye zadaniia dlia studentov inzhenerno-
stroitel'nykh spetsial'nostei zaochnykh vysshikh uchebnykh
zavedenii, fakul'tetov, otdelenii. Moskva, Vysshiaia shkola,
1964. 81 p. (MIRA 17:9)

1. Russia (1923- U.S.S.R.) Ministerstvo vysshego i srednego
spetsial'nogo obrazovaniya. Uchebno-metodicheskoye upravle-
niye po vuzam.

ACC NR: AP6036403

SOURCE CODE: UR/0148/66/000/011/0093/0096

AUTHOR: Zhadan, V. T.

ORG: Moscow Institute of Steel and Alloys (Moskovskiy institut stali i splavov)

TITLE: Effect of ultrasound in cold upsetting of hard-to-deform steels

SOURCE: IVUZ. Chernaya metallurgiya, no. 11, 1966, 93-96

TOPIC TAGS: ultrasonic vibration, ~~ultrasonic~~ metal deformation, COLD
working/Kh23N28M3D3T steel, EI943 STEEL

ABSTRACT: Specimens of Kh23N28M3D3T-EI943 steel (0.06% C, 0.8% Si, 0.8% Mn, 22 to 25% Cr, 26—29% Ni, 2.5—3% Mo, 2.5—3.5% Cu, 0.5—0.9% Ti) 6.2 mm in diameter and 7.67 mm high annealed at 1150C and water quenched were upset at room temperature with simultaneous application of ultrasound at a frequency of 21 kc and an amplitude of 0.012 mm. The experiments showed that ultrasound reduced the average pressure required for upsetting with 25, 40 and 50% reduction from 3200, 4800 and 6750 kg without ultrasound to 3000, 4300 and 6000 kg with ultrasound. Orig: art: has: 2 figures and 1 table.

SUB CODE: 13/ SUBM DATE: 16Jul66/ ORIG REF: 003/

Card 1/1

UDC: 669.018.25-13:621.034

SUKHAREVSKIY, V.M.; KHOROL'SKIY, V.T.; ZHADAN, V.M.; NIKOLAYEV, V.F.,
otv.red.; VINOGRADOVA, G.V., red,izd-va; SHKLYAR, S.Ya., tekhn.
red.

[Fire prevention in mines] Protivopozharnaya zashchita shakht.
Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1959.
95 p. (MIRA 13:3)

1. Tsentral'naya nauchno-issledovatel'skaya laboratoriya po gorno-
spasatel'nomu delu.
(Coal mines and mining--Fires and fire prevention)

LIST AND AND EXPERS PROCESSES AND PROPERTIES INDEX

12

CA
ZHADAN, V. Z.

Heat capacities of food products. V. Z. Zhadan
Konservnaya i Plodoovoshchnaya Prom. 1939, No. 1, 27-30.
 --Various formulas are examud, and the following is suggested for calcg. the heat capacity of food products: $C = (100 - 0.08w_f + 0.03w_a - 0.00w_s)/100$ where C is the heat capacity, w_a is percentage of dry substance, w_s is percentage of albumin and w_f is the percentage of fat in the product. Calcms. are given. B. Z. Kamich

METALLURGICAL LITERATURE CLASSIFICATION

OPEN
ORIGINALS INDEX

ASB-554

SECTION 41 SECTION 41 SECTION 41

SECTION 41 SECTION 41 SECTION 41

ZHADAN, V. Z.

USSR/Processes and Equipment for Chemical Industries - Control and Measuring Devices..
Automatic Regulation, K-2

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 64002

Author: Zhadan, V. Z.

Institution: None.

Title: Thermohygrometric Method of Determining the Humidity of the Air

Original Periodical: Tr. Odessk. tekhnol. in-ta pishch. i kholodil'n. prom-sti, 1955, 6,
167-173

Abstract: The method consists in measuring the rate of heating or cooling within the air (A) under study of a reservoir with humidified walls; intensity of heat-exchange between the damp wall and the A depends on the humidity of the A. The instrument is so designed that the reservoir (R) containing the liquid utilized (diameter 25 mm, height 75 mm) constitutes at the same time the bulb of a special thermometer (with capillary 1.9 mm in diameter, 520 mm long). Three modifications of the method are being differentiated: (1) in a condensation

Card 1/2

Card 2/

ZHADAN, V.

ZHADAN, V., kandidat tekhnicheskikh nauk.

The control of hermetic sealing of cans. *Mias.ind.SSSR* 26 no.4:
48-52 '55. (MIRA 8:10)

1. Odesskiy tekhnologicheskii institut pishchevoy i kholodil'noy
promyshlennosti
(Canning industry)

AUTHOR: Zhadan, V. Z.

66-2-14/22

TITLE: On calculating the condensation temperature during recooling of water. (O raschete temperatury kondensatsii pri obratnom okhlazhdenii vody).

PERIODICAL: "Kholodil'naya Tekhnika" (Refrigeration Engineering) 1957, No.2, pp. 65--66. (USSR).

ABSTRACT: In absence of natural water reservoirs the cooling water is usually recirculated and cooled in water coolers mainly as a result of evaporation of a part of the water. In the cooling of the water the condensation temperature depends on a number of factors of which the air temperature, (measured with a wet thermometer), the air speed, the ratio of the water to air flow rates, are important factors. First, the author evaluates the effectiveness of the water cooling in spray type open water coolers, applying for this purpose the "cooling coefficient". Then, the "effectiveness coefficient" is calculated and it is stated that the calculated values are in most cases in good agreement with experimentally determined values. Furthermore, the condensation temperature is calculated and it is shown that addition of up to 10% of fresh water has practically no influence on the condensation temperature if the temperature of the added

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On calculating the condensation temperature during
recooling of water. (Cont.)

66-2-14/22

water is 2 to 4% higher than the temperature of a thermo-
meter in the wet state. The derived formulae are applicable
for designing refrigeration units with recooling of the
cooling water.

There is one table, and two Slavic references.

AVAILABLE:

Card 2/2

ZHADAN, V.Z., kand.tekhn.nauk, dotsent

Evaluating the effectiveness of atmospheric cooling towers.
Trudy OTIP i KHP 8 no.1:43-50 '57. (MIRA 12:8)

1. Kafedra kholodil'nykh mashin Odesskogo tekhnologicheskogo
instituta pishchevoy i kholodil'noy promyshlennosti.
(Cooling towers)

Z
ZHADAN, V., kand. tekhn. nauk

Optimum conditions for the operation of condensers of refrigeration plants [with summary in English]. Khol.tekh. 35 no.6:12-14 N-D '58. (MIRA 12:1)

1. Odesskiy tekhnologicheskiy institut pishchevoy i kholodil'noy promyshlennosti.
(Refrigeration and refrigerating machinery)

14(1)

SCV/66-59-3-10/31

AUTHOR: Zhadan, V., ²Candidate of Technical Sciences

TITLE: ¹Optimum Working Conditions of Refrigerating Plants With Return Cooling of Condenser Water

PERIODICAL: Kholodil'naya tekhnika, 1959, Nr 3, pp 41 - 44 (USSR)

ABSTRACT: For the more efficient operation of refrigerating plants with return cooling of condenser water greater attention should be paid to the calculation of the rates at which water cools in the cooling tower; to the drop of temperature in the condenser; and to the consumption of circulation water. The article gives several formulae and equations calculated by the author, with the aid of which it is possible to determine the following values: the optimum temperature of condensation; the temperature of water leaving the condenser; the temperature of water entering the condenser; the extent to which water is heated in the condenser; the consumption of circulating water; the average logarithmic drop of temperature in the condenser; and the required surface of heat exchange in the condenser. The above-mentioned values will be optimal provided the temperature of condensation (t_k) and the temperature of the water leaving the condenser ($t_{k,2}$) are based on the equations 7 and

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SOV/66-59-3-10/31

Optimum Working Conditions of Refrigerating Plants With Return Cooling of Condenser Water

8. The method of working out the optimum coordinated working conditions for the water cooler and condenser of a refrigeration installation guarantees the lowest possible operational costs. In connection with the development of certain formulae the article mentions the names of L D. Berman and A.A. Gogolin, in reference to the efficiency coefficient of a water cooler. Approximate calculations show for example that the temperature difference between ammonia and water in condensers should not be 5°, as is usually accepted, but 2.3 to 2.4°C. This can be seen from the table. There are: 2 tables and 5 Soviet references.

ASSOCIATION: Odesskiy tekhnologicheskii institut pishchevoy i kholodil'noy promyshlennosti (Odessa Technological Institute of the Food and Refrigeration Industries)

Card 2/2

ZHADAN, V.Z.; KHELEMSKIY, M.Z.

Experimental investigation of the speed of sugar beet freezing.
Sakh.prom. 38 no.2:20-25 F '64. (MIRA 17:3)

1. Odesskiy tekhnologicheskii institut pishchevoy i kholodil'noy
promyshlennosti (for Zhadan). 2. Vsesoyuznyy nauchno-issledovatel'-
skiy institut sveklovichnogo polevodstva (for Khelemskiy).

ZHADAN, V. Z.; MOVCHAN, A. A.

Heat capacity of fruit and vegetables. Izv. vys. ucheb. zav.;
pishch. tekhn. no. 2:121 '64. (MIRA 17:5)

1. Odesskiy tekhnologicheskiy institut pishchevoy i kholodil'noy promyshlennosti.

ZHADAN, V.Z.; KHELEMSKIY, M.Z.

Heat content of sugar beets and the amount of cold needed for their freezing. Sakh.prom. 38 no.1:20-21 Ja. '64. (MIRA 17:2)

1. Odesskiy institut pishchevoy i kholodil'noy promyshlennosti (for Zhadan). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut sakharnoy promyshlennosti (for Khelemskiy).

ZHADAN, V.Z.; KHELEMSKIY, M.Z.

Experimental determining of the quantity of the water freezing out
from sugar beets and sugar beet juices. Sakh.prom. 37 no.9:26-30
S '63. (MIRA 16:9)

1. Odesskiy tekhnologicheskii institut pishchevoy i khlodil'noy
promyshlennosti (for Zhadan). 2 Tsentral'nyy nauchno-issledovatel'skiy
institut sakharnoy promyshlennosti (for Khelemskiy).
(Sugar beets--Storage)
(Refrigeration and refrigerating machinery)

KHELEMSKIY, M.Z., prof.; ZHADAN, V.Z., kand. tekhn. nauk

Use of artificial air cooling in sugar beet storage. Khol.
tekh. 39 no.5:19-21 S-0 '62. (MIRA 16:7)

1. Tsentral'nyy nauchno-issledovatel'skiy institut sakharnoy
promyshlennosti (for Khelemskiy). 2. Odesskiy tekhnologi-
cheskiy institut pishchevoy i kholodil'noy promyshlennosti
(for Zhadan).

(Sugar beets--Storage) (Air conditioning)

ZHADAN, V.Z., kand. tekhn. nauk

Heat withdrawal along the shaft from thrust bearings. Sudostroenie 28 no.1:35 Ja '62. (MIRA 16:7)

(Marine engineering)

KHELEMSKIY, M.Z.; ZHADAN, V.Z.

Effect of the concentration of dry substances in the beet juice
on its thermophysical characteristics. Sakh.prom. 37 no.6:23-27
Je '63. (MIRA 16:5)

1. Tsentral'nyy nauchno-issledovatel'skiy institut sakharnoy
promyshlennosti (for Khelemskiy). 2. Odesskiy gosudarstvennyy
universitet im. Mechnikova (for Zhadan).
(Sugar manufacture)

ZHADAN, V.Z.; KHELEMSKIY, M.Z.

Thermophysical indices of sugar beets. Sakh. prom. 37 no.3:
54-56 Mr '63. (MIRA 16:4)

1. Odesskiy tekhnologicheskii institut pishchevoy i kholodil'noy
promyshlennosti (for Zhadan). 2. Tsentral'nyy nauchno-issledo-
vatel'skiy institut sakharnoy promyshlennosti (for Khelemskiy).
(Sugar beets--Thermal properties)

ZHADAN, V. Z.; KHELEMSKIY, M. Z.

Effect of the temperature of sugar beet storage on sugar losses
due to respiration. Sakh. prom. 36 no.10:55-58 0 '62.
(MIRA 15:10)

1. Tsentral'nyy nauchno-issledovatel'skiy institut sakharnoy
promyshlennosti.

(Sugar beets--Storage)

ZAYTSEV, Vikentiy Petrovich, kand. tekhn. nauk; ZHADAN, V.Z., kand.
tekhn. nauk, retsenzent; KAN, A.V., inzh., retsenzent;
MASLOVA, Ye.F., red.; EL'KINA, E.M., tekhn. red.

[Refrigeration engineering]Kholodil'naia tekhnika. Lenin-
grad, Gos.izd-vo torg. lit-ry, 1962. 343 p. (MIRA 15:10)
(Refrigeration and refrigerating machinery)

ZHADAN, V.Z.; ORLOVSKIY, M.A.

Methods of laboratory inspection of the airtightness of
food-filled cans. Kons.i ov.prom. 17 no.2:22-24 F '62.
(MIRA 15:5)

1. Odesskiy tekhnologicheskii institut pishchevoy i
kholodil'noy promyshlennosti.

(Food, Canned--Containers)
(Laboratory testing)