

LITVIN, A.B.

1931. Use of deformable packing blocks in and lashings of ships. A. G. ANATOLIOVSKY and A. B. LITVIN. *Sudostroeni*, 1930, 25, No. 7, 1; *J. Brit. Marit. Res. Assn.*, 1937, 12, abs. 12527. In Russian. When preparing a ship for launching the strength of the hull must be specially reinforced to enable it to withstand the launching stress. This is particularly important in ships with the machinery placed aft, since with this weight distribution the way-out reactions may be especially high. The article describes a method of reducing the stresses by introducing an appreciable amount of deformability into the sliding ways. This is done by placing special flat blocks of rubber or similar materials between the packing timbers. To determine the suitability of the materials, the rate of deformation of the blocks for various rates of load increase can be determined by means of a hydraulic press.

File  
Dw

LITVIN, A.B., kand. tekhn. nauk

Construction of collapsible supports for the redistribution of the reactions of the building slip and the dock and the materials for their construction. Sudostroenie 30 no.7:43-47 J1 '64. (MIRA 18:9)

LITVIN, A.B., inzh.

Experimental investigation of slip reactions caused by ship  
launchings. Sudstroenie 24 no.10:3-8 O '58. (MIRA 11:12)  
(Ships--Launching)

SOV/32-24-10-27/7C

AUTHOR: Litvin, A. B.  
TITLE: Expansion Diagram of Steel Under Direct Stress (Diagramma rastyazheniya stali pri neposredstvennom nagruzhении)  
PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol 24, Nr 10, pp 1239-1242 (USSR)

ABSTRACT:

The usual machines are used in expansion tests where the expansion of the samples takes place with variable deformation velocity. These machines (as, for instance, the Garagi press) are in class I of the testing machines. In practice, however, a direct stress is frequent where the external forces increase independently of the deformation of the construction (as in bridges, rails, posts etc.). Machines with a direct stress where the expansion of the samples takes place at a constant rate of increasing stress are termed class II of the testing machines. In the present case a machine was constructed which develops a force of up to 3300 kg, and which can regulate the stress velocity from 0 to 800 kg/sec. This machine makes possible investigations of the effect of direct stress on the mechanical properties of some plastics. A scheme of the machine as well as a description of its operation are given. It is mentioned that resistance tensiometers with a recording instrument on the

Card 1/2

SOV/32-24-10-27/70

Expansion Diagram of Steel Under Direct Str ss

LD-2 apparatus (electronic measuring apparatus for deformation of the "Krasnyy izobretatel'" factory), as well as LII oscillographs are used. A table of the experimental results obtained from steels 35 and 50 by two different test methods is given, as well as the values of the mechanical properties at different rates of stress application. There are 4 figures, 2 tables, and 1 reference, which is Soviet.

ASSOCIATION: Nikolayevskiy korablestroitel'nyy institut im. admirala S. O. Makarova (Nikolayev Ship-Building Institute imeni Admiral S. O. Makarov)

Card 2/2

ACC NR: AP6036879

(N)

Monograph

UR/

Arkhangorodskiy, Aleksandr Grigor'yevich; Belen'kiy, Leonid Mikhaylovich; Litvin, Aleksandr Borisovich

Collapsible paddings in shipbuilding and ship repair (Sminayushchiesya prokladki v sudostroyenii i sudoremonte) Leningrad, Izd-vo "Sudostroyeniye", 1966. 130 p. illus., bibliog. 2700 copies printed.

TOPIC TAGS: collapsible padding, shipbuilding engineering, shock absorber

PURPOSE AND COVERAGE: This booklet is intended for engineering and technical staff engaged in the construction and repair of seagoing and river vessels, and in other fields of technology. It can be used by students of higher technical schools and institutes. Utilization of collapsible padding in shipbuilding and shiprepair plants is discussed, and the selection of materials, their mechanical properties, and the design and construction of collapsible paddings are described in detail. There are 52 references, 51 of which are Soviet.

TABLE OF CONTENTS [Abridged]

Foreword -- 3

Ch. 1. Field of collapsible padding application -- 5

Ch. 2. Materials used for manufacturing collapsible paddings and their mechanical properties -- 24

Card 1/2

UDC: 629.12.002.3

ACC NR: AP6036879

- Ch. 3. Engineering design of collapsible paddings -- 52
- Ch. 4. Special design features of structures with collapsible paddings -- 68
- Ch. 5. Testing full-scale structures with collapsible paddings -- 100

Appendix. Numerical values of  $H_1-H_5$  functions -- 127

Bibliography -- 129

SUB CODE: 13,11/

SUBM DATE: 08Apr66/

ORIG REF: 051/

OTH REF: 001/

Card 2/2

S/137/62/000/009/023/033  
A006/A101

AUTHORS: Stepurenko, V. T., Soshko, A. I., Litvin, A. K.

TITLE: A unit for technical bending tests of metals in liquid media

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 9, 1962, 104, abstract 9I669  
(In collection: "Mashiny i pribory dlya ispytaniya metallov",  
Kiyev, AN UkrSSR, 1961, 1:8 - 131)

TEXT: A description is presented of the design of a unit for bending tests of wire specimens under the effect of surface-active and corrosion media (with possible simultaneous application of the potential) in liquid metals and melts. Results are presented which had been obtained from bending tests of electro-polished "St.45" steel wire specimens, 0.85 mm in diameter. The tests were performed in a 26%  $H_2SO_4$  and 3% NaCl solution in distilled water at different  $D_c$  and bending speeds. It was established that with greater  $D_c$  the number of bends until the failure of the specimen decreases; the most intensive reduction of the steel ductility occurs at  $D_c < 2 \text{ amp/dm}^2$ ; the hydrogen brittleness increases with reduced bending speed. It is noted that the unit assures stable results of

Card 1/2



S/137/62/000/009/023/033  
A006/A101

A unit for technical bending tests of...

investigations in air, various media and during the application of an electrode potential. There are 9 references.

V. F.

[Abstracter's note: Complete translation]



Card 2/2

KARPENKO, G.V.; LITVIN, A.K.; BABEY, Yu.I.

Changes in the microhardness of structural components in steel  
during its pickling in nitric acid solutions. Vliian.rab.sred.  
na svois.stali no.1:80-83 '61. (MIRA 15:5)  
(Steel—Pickling) (Hardness)

STEPURENKO, V.T.; LITVIN, A.K.; SOSHKO, A.I.

Reverse bending test of wire specimens with simultaneous hydrogen  
absorption. Vliian.rab.sred.na svois.stali no.1:8/-87 '61. (MIRA 15:5)

(Wire--Testing) (Steel--Hydrogen content)

BABEY, u.I.; ARPENKO, G.V.; LITVIN, A.K.

Effect of cutting conditions on the surface hardening in machining  
steel 45 on lathes. Nauch.zap.IMA AN URSR. Ser.mashinoved. 7 no.7:  
59-64 '61. (MIRA 15:1)

(Steel) (Turning)

KARPENKO, G.V.; LITVIN, A.K.

Effect of hydrogen on the microhardness of structural components  
in low-carbon steel. Vliian.rab.sred.na svois.stali no.1:73-79  
'61. (MIRA 15:5)

(Steel---Hydrogen content) (Hardness)

STEPURENKO, V.T.; LITVIN, A.K.; KARPENKO, G.V.

Effect of an acid medium and a superposed potential on the  
alternating bending testing of steel. Nauch.zap. IMA AN URSR.  
Ser.mashinoved. 9:51-54 '62. (MIRA 15:12)  
(Steel--Testing)

KREPYAKOVICH, R.I.; BABEY, Yu.I.; LITVIN, A.K.; KACHMAR, B.F.

Effect of cyclic elastic-plastic deformation of steel on its tendency toward brittle failure in neutral electrolytes. Villian. rab. sred na svois. mat. no.3:23-27 '64. (MIRA 17:10)

KACHMAR, B.F.; KRIPYAKEVICH, R.I.; LITVIN, A.K.

Equipment for the investigation of metal penetrability by hydrogen at  
high temperatures. Vliian. rab. sred na svois. mat. no.3:35-39 '64.  
(MIRA 17:10)



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UR/0369/65/001/003/0293/0298

ACCESSION NR: AP5019653

38  
B

AUTHOR: Litvin, A. K.; Starchak, V. G.

TITLE: Distribution of <sup>27</sup>hydrogen in the surface layers of steel during electrolytic saturation

SOURCE: Fiziko-khimicheskaya mekhanika materialov, v. 1, no. 3, 1965, 293-298

TOPIC TAGS: hydrogen distribution, surface layer, electrolytic saturation, hydrogen saturation, surface steel layer, saturation time, layer microhardness

ABSTRACT: The investigation of the process of diffusion and mechanism of penetration of hydrogen into metal during electrolytic saturation as well as the elucidation of certain features of the mechanism of brittle fracture of hydrogen-saturated steel require data on the nature of the qualitative and quantitative changes in the concentration of hydrogen in the specimen in the process of saturation. The hydrogen is known to concentrate chiefly in a thin surface layer of the metal. In this connection, the authors investigated specimens of 20 steel (0.18% C, 0.47% Mn, 0.17% Si) annealed at 860-870°C and saturated with hydrogen in a 26% H<sub>2</sub>SO<sub>4</sub> solution with cathode polarization. The hydrogen distribution in layers of the specimen in relation to saturation time (30-540 min) was investigated in a special setup for the anodic dissolution of the specimens, using an electrolyte composition of 150 g

Card 1/3

L 20981-66

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NaCl + 25 g  $\text{KNaC}_4\text{H}_4\text{O}_6$  per liter of  $\text{H}_2\text{O}$ , with an anode current density of 50 a/decimeter<sup>2</sup>. The concentration of hydrogen during the second stage of saturation (90-540 min) stabilizes in the 5-15  $\mu\text{m}$  deep layer, monotonically increases in the 15-105  $\mu\text{m}$  deep layers, and again stabilizes in the 105-480  $\mu\text{m}$  deep layers. In the layer between 480 and 700  $\mu\text{m}$  the hydrogen content remains virtually fixed and the same as that of the nonsaturated specimens. The mean unit content of hydrogen throughout the layer from 0 to 480  $\mu\text{m}$  during the second stage also somewhat decreases owing to the hydrogen losses in the 5  $\mu\text{m}$  surface layer. Thus, it was established that the maximum concentration of hydrogen in the 5  $\mu\text{m}$  thick surface layer of metal is achieved at the end of the first stage of saturation (60-50 min), whereupon it decreases somewhat with increasing saturation time; at the same time, however, it increases in some of the deeper layers. The nature of the change in hydrogen concentration in the 5  $\mu\text{m}$  thick surface layer corresponds to the change in the microhardness of this layer, within the limits of experimental conditions. Thus, the curve of variation in the microhardness of ferritic grains at the surface of annealed steel 20 reaches its peak at the end of the first stage of saturation with hydrogen, whereupon it decreases. Orig. art. has: 3 figures.

Card 2/3

L 20981-66

ACCESSION NR: AP5019653

ASSOCIATION: Fiziko-mekhanicheskiy institut AN UkrSSR, L'vov (Physicomechanical  
Institute, AN UkrSSR)

SUBMITTED: 24Feb65

ENCL: 00

SUB CODE: MM, GC

NR REF SOV: 006

OTHER: 002

Card 3/3

*M/S*

LYTVIN, Aleksandr Lukich [Lytvyn, O.L.]; RODIONOV, S.G. [Rodionov, S.H.],  
otv.red.

[Rare elements in nature and engineering] Riddkiani elementy v  
pryrodi i tekhnitsi. Kyiv, 1960. 39 p. (Tovarystvo dlia  
poshyrennia politychnykh i naukovykh znan' Ukraini'koi RSR.  
Ser.5, no.17) (MIRA 14:2)  
(Metals, Rare and minor)

LITVIN, A.L. [Lytvyn, O.L.]

Effect of isomorphous replacement on the nature of the Debye  
crystallogram of iron-lithium micas. Dop. AN URSR no.2:225-228  
'61. (MIRA 14:2)

1. Institut geologicheskikh nauk AN USSR.. Predstavleno akademikom  
AN USSR M.P.Semenenko.  
(Mica)

LITVIN, A.L. [Lytvyn, O.L.]

Green mica from pegmatites of the Korosten' pluton. Geol.zhur. 21  
no.3:52-56 '61. (MIRA 14:7)

1. Institut geologicheskikh nauk AN USSR.  
(Korosten' region--Pegmatites) (Korosten' region--Mica)

LITVIN, A.L.

Thermal characteristics of lithium-iron micas. Zap. Ukr. otd.  
Min. ob-va [no.1]:38-45 '62. (MIRA 16:8)

1. Institut geologicheskikh nauk AN UkrSSR, otdel mineralogiï,  
Kiyev.

POVARENNYKH Aleksandr Sergeevich; BURKSER, Ye.S., retsenzent;  
IVANTISHIN, M.N., doktor geol.-min. nauk, retsenzent;  
LITVIN, A.L., kand. geol.-min. nauk, otv. red.;  
GAVRUSEVICH, B.A., dots., red.; ZAVIRYUKHINA, V.N., red.;  
LISOVETS, A.M., tekhn. red.; REKES, M.A., tekhn. red.

[Hardness of minerals] Tverdost' mineralov. Kiev, Izd-vo  
AN USSR, 1963. 303 p. (MIRA 17:3)

1. Chlen-korrespondent AN Ukr. SSR (for Burkser).



LITVIN, A.L. [~~Lytvyn, O.L.~~]; KULICHENKO, V.G. [Kulichenko, V.H.]

Natural mineral pigments. [Pratsi] Inst. geol. nauk AN URSS,  
Ser. geol. rod. kor. kop. no.1:158-166 '63. (MIRA 18:6)

LITVIN, A.L.

Ferruginosity of the hornblendes of some granitoids and metamorphic rocks in the Kose', Gorany, and Gniloy Tikich basin.  
Min.sber. 18 no.1:82-86 '64. (MIRA 18:5)

1. Institut geologicheskikh nauk AN UkrSSR, Kiyev.

LITVIN, A.L. [Lytvyn, O.L.]

X-ray characteristics of potassic feldspar from granulites in  
the Gornyy Tikich Valley. Geol. zhur. 25 no.2:68-73 '65.  
(MIRA 18:6)

1. Institut geologicheskikh nauk AN UkrSSR.

LITVIN, A. M.

The principles of thermodynamics; a text-book. Izd. 2., perer. Moskva, Gos. energ. izd-vo, 1943. 151 p. (48-32882).

TJ265.L56 1943

LITVIN, A. M.

The theoretical principles of thermotechnics; thermodynamics, and the theory of heat transmission Moskva, Gos. energ. izd-vo, 1944. 366 p. (51-53733)

TJ265.L57 1944

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The principles of thermodynamics. Izd. 3., perer. i dop. Moskva, Gos. energ. izd-vo, 1946. 216 p. (48-17242).

TJ265.L56 1946

LITVIN, A. M.

"Technical Thermodynamics," Moscow, 1947.

LITVIN, A.M.

SHCHEGLYAYEV, A.V., professor; LITVIN, A.M., redaktor; FRIKIN, A.,  
tekhnicheskii redaktor.

[Some problems in the operation of steam turbines] Nekotorye  
voprosy eksploatatsii parovykh turbin. Moskva, Gos. energ. izd-vo,  
1947. 99 p. (MLRA 7:5)

(Steam turbines)



LITVIN, A.M.; VIKALOVICH, M.P., prof.; retsenzent; KVASNIKOV, A.V.,  
prof., retsenzent; RUBINSHTEYN, Ya.M., prof., red.; SEREBRYAN-  
NIKOV, M.I., tekhn.red.

[Technical thermodynamics] Tekhnicheskaya termodinamika.  
Izd.2, perer. i dop. Moskva, Gos.energ.izd-vo, 1947. 388 p.  
(MIRA 13:3)

1. Moskovskiy energeticheskiy institut (for Vukalovich). 2. Mo-  
skovskiy aviatsionnyy institut (for Kvasnikov). 3. Vsesoyuznyy  
zaochnyy industrial'nyy institut (for Rubinshteyn).  
(Thermodynamics)

ZHIRITSKIY, G.S., prof., doktor tekhn.nauk; KVASNIKOV, A.V., prof.,  
retsensent; LITVIN, A.M., red.; CHAROV, A.D., tekhn.red.

[Gas turbines] Gazovye turbiny. Moskva, Gos.energ.izd-vo,  
1948. 504 p. (MIRA 12:6)  
(Gas turbines)

LITVIN, A. M.

"Fundamentals of Thermal Engineering (Manual for Training Working Cadres and Intermediate Engineering Personnel), Gosenergoizdat, Moscow and Leningrad, 4th edition revised and supplemented, 1949, 224 pp.

LITVIN, A. M.

Teoreticheskiye osnovy teplotekhniki. (3rd Edition Moscow, 1950.

355 p.

A study of power technical institutes, including technical thermodynamics and theory of heat transmission, reviewing various types of gas turbines, refrigerator installations, humid air, etc; published by Govt. Publishing House on Energetics.

GOKHSHEYN, D.P. doktor tekhnicheskikh nauk; LITVIN, A.M., redaktor;  
BABOCHKIN, S.N., tekhnicheskii redaktor.

[Entropy method of calculating energy losses] Entropiinyi metod  
rashcheta energeticheskikh poter'. Moskva, Gos.energ.izd-vo,  
1951. 109 p. (MLRA 8:11)  
(Heat engineering)

SEMENENKO, N.A., doktor tekhnicheskikh nauk; LIPVIN, A.M., redaktor;  
FRIDKIN, A.M., tekhnicheskii redaktor

[Secondary power resources in industry] Istoricheskie energeticheskie  
resursy promyshlennosti. Moskva, Gos. energ. izd-vo, 1951. 203 p.  
(MIRA 8:3)

1. Professor Moskovskogo energeticheskogo instituta imeni V.M.  
Molotova (for Semenenko)  
(Waste heat) (Power engineering)

IUNAYEVSKIY, N.I., doktor tekhnicheskikh nauk; LITVIN, A.M., redaktor;  
FRIDKIN, A.M., tekhnicheskiiy redaktor

[Engineering and economic aspects of central heating plant  
design] Tekhniko-ekonomicheskie osnovy teplofikatsii. Moskva,  
Gos. energ. izd-vo, 1952 255 p. [Microfilm] (MLRA 7:10)  
(Heating from central stations)

LITVIN, A. M.

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

<u>Name</u>	<u>Title of Work</u>	<u>Nominated by</u>
Rubinshteyn, Ya. M.	"General Thermal Engineering" (student manual, 2d edition)	Moscow Power Engineering Institute imeni V. I. Molotov
Blyudov, V. P.		
Vyhubov, D. N.		
Kornitskiy, S. Ya.		
<u>Litvin, A. M.</u>		
<u>Luknitskiy, V. V.</u>		
Morozov, N. G.		
Prokhorov, F. G.		
Yakub, B. M.		

SO: W-30604, 7 July 1954



LITVIN, A.M.

KOP'YEV, S.F., professor, doktor tekhnicheskikh nauk; SOKOLOV, Ye.Ya.,  
professor, doktor tekhnicheskikh nauk, retsenzent; LITVIN, A.M.,  
dotsent, kandidat tekhnicheskikh nauk, retsenzent.

[Heating] Teplosnabzhenie. Moskva, Gos. izd-vo lit-ry po stroitel'-  
stvu i arkhitekture, 1953. 495 p. (MLRA 7:5)

1. Kafedra teplotekhniki Kiyevskogo inzhenerno-stroitel'nogo instituta  
(for Sokolov). (Heating from central stations)

IDEL'CHIK, I.Ye.; LITVIN, A.M., redaktor.

[Hydraulic resistances; physical and mechanical principles]  
Gidravlicheskie soprotivleniia (fiziko-mekhanicheskie osnovy).  
Moskva, Gos. emerg. izd-vo, 1954, 315 p. (MLRA 7:7)  
(Hydrodynamics)

BELOKON', Nikolay Iovich; LITVIN, A.M., redaktor; FRIDKIN, I.M., tekhnicheskiy redaktor.

[Thermodynamics] Termodinamika. Moskva, Gos. energ. izd-vo, 1954.  
415 p. (MLRA 8:1)

(Thermodynamics)

LITVIN, Aleksandr Moiseyevich; RUBINSHTEYN, Ya.M., redaktor; SEVORTSOV,  
I.M., tekhnicheskii redaktor.

[Fundamentals of heat power engineering] Osnovy teploenergetiki.  
Izd. 5-e, perer. i dop. Moskva, Gos. energ. izd-vo, 1954. 344 p.  
(Heat engineering)(Electric power production) (MIRA 8:4)

Elementary textbook on theories of basic heat engineering. Gas turbines  
and jet engines mentioned.

VYSHNELESSKIY, Aleksandr Nikolayevich, professor; LITVIN, A.M., redaktor;  
LUCHKINA, N.N., relaktor; SUDAK, D.M., tekhnicheskij redaktor.

[Heating equipment of food-serving enterprises] Teplovce oborudovanie  
predpriiatii obshchestvennogo pitania. Izd.2-e, perer. Moskva, Gos.  
izd-vo torgovoi lit-ry, 1955, 460 p. (MLRA 8:12)  
(Kitchens)

LITVIN, Aleksandr Moiseyevich; GORDON, L.I., redaktor; SKVOHTSOV, I.M.,  
tekhnicheskii redaktor

[Engineering thermodynamics] Tekhnicheskaya termodynamika. Izd. 3-~~o~~.  
perer. i dop. Moskva, Gos. energ. izd-vo, 1956. 311 p. (MLBA 9:12)  
(Thermodynamics)

14(6)

PHASE I BOOK EXPLOITATION SOV/1284

Litvin, Aleksandr Moiseyevich

Osnovy teploenergetiki (Principles of Heat Engineering) 6th ed., rev. and enl. Moscow, Gosenergoizdat, 1958. 287 p. 20,950 copies printed.

Ed.: Shukher, S.M.; Tech. Ed.: Borunov, N.I.

**PURPOSE:** This monograph is intended as a textbook in the training of personnel and semiprofessional workers of electric power stations (brigade leaders, foremen), and of operators of industrial power plants. It can also be used in schools which include a brief course of heat engineering in their programs.

**COVERAGE:** This book presents the fundamentals of heat-power engineering based on Soviet practices. It includes thermodynamics and heat transfer problems. Much attention is given to power-plant equipment and operation, fuel combustion, and feed-water handling. The operation and economics of power plants are also

Card 1/5

## Principles of Heat Engineering

SOV/1284

discussed. This new edition is designed to suit the needs of the reader already familiar with the field. The author adds information on recent developments in Soviet power engineering. S.M. Shukher, Eng., edited the manuscript. There are 124 figures.

## TABLE OF CONTENTS:

Preface to the Fifth Edition	3
Preface to the Sixth Edition	5
Introduction	8
Ch. I. Working Substances and the Laws of Thermodynamics	
1. Technical system of measures	22
2. Formula, relationship, table, graph	26
3. Energy and its forms, transformation of energy	30
Law of conservation and conversion of energy	30
Units of energy	30
Calculation of heat quantities	30

Card 2/5



Principles of Heat Engineering

SOV/1284

4.	The aggregate state of matter. Transition of substances from one aggregate state into another	35
5.	Properties of gaseous substances	39
	Measuring the pressure and temperature of gases	39
6.	Changes of the state of gases	48
7.	State-change processes in gases at constant volume and pressure	51
8.	Adiabatic and isothermic state-change processes in gases	57
9.	Water vapor. The is-diagramm for water vapor	61
10.	Humid air	74
	The is-diagramm for humid air	74
11.	The first law of thermodynamics	78
12.	The second law of thermodynamics	81
13.	The Carnot cycle	89
14.	Heat exchangers	92
15.	Heat propagation modes	96
16.	Basic cases of heat exchange	100

Card 3/5

Principles of Heat Engineering

SOV/1284

Ch. II. The Boiler Unit

17. Boiler fuel and its utilization	108
17. Fuel resources of the U.S.S.R.	108
18. Fuel combustion. Gaseous mixtures	119
19. Furnace equipment	127
20. Steam boilers	138
21. Feedwater for boilers and its treatment	154
22. Draft equipment, fittings, control and measuring instruments	161
23. Principles of the automatic control of a boiler unit	166

Ch. III. Heat Engines

24. Classification of engines by the working substance and principle. Internal combustion engines	177
25. Steam engines	193
26. Condensation equipment	211
27. Steam consumption of a condensation turbine	214
28. Heating-plant turbines. Principles of steam-turbine regulation	218
29. Gas turbines	223

Card 4/5

Principles of Heat Engineering'

SOV/1284

Ch. IV. Heat-power Electric Stations. Power Systems	
30. Diagram of a steam power plant	227
31. Economic characteristics of a steam power plant Heat balance, steam consumption, fuel consumption	232
32. Regenerative cycle. Secondary steam superheating	239
33. Heating installations	245
34. Standard plans of heat and electric power stations	250
35. Planning the heating component of steam-power electric stations	253
36. Power systems	264
37. Performance characteristics of electric power stations	268
Examples of solutions of problems	273
Appendix	285

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Card 5/5

LITVIN, Aleksandr Moiseyevich; SUSHKIN, I.N., inzh., retsenzent;  
RIVKIN, S.L., starshiy nauchnyy sotrudnik, red.; RUBINSHTEYN,  
Y.M., prof., red.; BOBUNOV, N.I., tekhn.red.

[Theoretical principles of thermal engineering; thermodynamics  
and theory of heat transfer] Teoreticheskie osnovy teplotekhniki;  
tekhnicheskaya termodinamika i teoriya teploperedachi. Izd.4.,  
perer., dop. Moskva, Gos.energ.izd-vo, 1960. 343 p.

(MIRA 13:12)

1. Vsesoyuznyy teplotekhnicheskiy institut (for Rivkin, Rubin-  
shteyn).

(Heat engineering)

RIVKIN, Solomon Lazarevich; LITVIN, A.M., red.; BORUNOV, N.I., tekhn.  
rel.

[Thermodynamic properties of air and of combustion products  
of fuels] Termodinamicheskie svoistva vozdukha i produktov  
sgorania topliv. Izd. 2., ispr. i dop. Moskva, Gosenergo-  
izdat, 1962. 102 p. diags. (MIRA 15:9)  
(Thermodynamics--Tables, calculations, etc.) (Air) (Gases)

LITVIN, Aleksandr Moiseyevich; KVASNIKOV, A.V., doktor tekhn. nauk,  
prof., retsenzent; RIVKIN, S.L., st. nauchnyy sotr., red.;  
BUL'DYAYEV, N.A., tekhn. red.

[Engineering thermodynamics] Tekhnicheskaya termodinamika.  
Izd.4. perer. i dop. Moskva, Gosenergoizdat, 1963. 311 p.  
(MIRA 16:4)

1. Moskovskiy aviatsionnyy institut (for Kvasnikov).
2. Vsesoyuznyy teplotekhnicheskii institut (for Rivkin).  
(Thermodynamics)

LITVIN, Aleksandr Nikolayevich; LITVINIKOVA, L.M., ed.

[Theoretical principles of heat engineering; engineering thermodynamics and the theory of heat transfer; teoreticheskie osnovy teplo tekhniki; tekhnicheskaya termodinamika i teoriya teploperedachi. Izd.5., perer. i dop. Moskva, Izd-vo "Energiya," 1974. 347 p. (MIRA 17:8)]

*ca* 18  
Ammonium nitrate A. N. Litvin, Russ. 11,241,  
Sept. 30, 1933. In the prepn. of  $NH_4NO_3$  from  $NH_3$  and  
 $HNO_3$ , the heat of neutralization is used in concentrating  
the final soln. of  $NH_4NO_3$ .

*LITVIN, A.N.*

LITVIN, A.N., inzhener; OVASAF'YAN, G.M., inzhener.

Improving the building technology of coke oven batteries. Biul.stroi.  
tekh. 10 no.17:1-3 D '53. (MLRA 7:1)

1. YuzhNII (for Litvin). 2. Yenakiyevtyazhstroy (for Ovasaf'yan).  
(Coke ovens)



Thin Walled Reinforced Concrete Plate Sheathings

28-58-7-5/31

the ducts (fig. 3). There are 5 photos and 2 Soviet references.

1. Reinforced concrete--Products 2. Reinforced concrete--Test methods 3. Reinforced concrete--Test results

Card 3/3

AUTHORS: Degtyar', V.A. and Litvin, A.N., Engineers

TITLE: The Protection of the Surface of Freshly Poured Concrete with Ethereal Varnish (Zashchita poverkhnosti svezhenalozhennogo betona etimolevym lakom)

PERIODICAL: Gidrotekhnicheskoye stroitel'stvo, 1959, Nr 6, pp 43 - 47 (USSR)

ABSTRACT: The collaborators of the former YuzhNIL and the central laboratory of the construction of the Donets-Donbass Canal, A.I. Raygorodskiy, A.N. Litvin, Engineers M.S. Dobrsh-tan, M.A. Akuraize and A.V. Babanin proposed and introduced the method of protecting freshly poured concrete by covering its surface with a layer of ethereal varnish (VT Nr 1267-54). Results were better than those obtained by watering and covering the concrete surface. Moreover, the use of varnish was much cheaper than other methods. There are 2 photos and 1 table.

1. Concrete--Preservation 2. Varnishes--Applications

Card 1/1

14(10)

337/33-53-2-14/12

AUTHOR:

Litvin, A.N., Engineer

TITLE:

The Accelerated Method of Evaluating the Water-Penetrability of Concrete in Structures (Uskorennyy metod otsenki vodopronitsaemosti betona v sooruzheniyakh)

PERIODICAL:

Gidrotekhnicheskoye stroitel'stvo, 1969, Nr 2, p 53-54 (USSR)

ABSTRACT:

The author and Engineer A.I. Raygorodskiy propose a simple portable device with which the water-penetrability of concrete can be determined in a few minutes. The device is based on the principle that there is a correlation between water and air permeability of concrete. A description of the above device and a method of evaluating penetrability of concrete is given. The device was

Card 1/2

14(10)

337/33-53-2-14/12

The Accelerated Method of Evaluating the Water-Penetrability of Concrete in Structures

tried out during the construction of the Severnyy Donets - Donbass canal. There is 1 photo.

Card 2/2

MEL'NIKOV, O.K.; LITVIN, B.N.

Hydrothermal synthesis of sodalite  $\text{Na}_8[\text{AlSi}_6\text{O}_{20}]_6\text{CH}_2 \cdot 2\text{H}_2\text{O}$  single  
crystals. Kristallografiia 10 no.2:266-267 Apr '65.  
(MIRA 18:7)

1. Institut kristallografi AN SSSR.

L 26749-66 EWT(m) JD/JG

ACC NR: AP6011479

SOURCE CODE: UR/0070/66/011/002/0334/0338

AUTHOR: Belyayev, L. M.; Litvin, B. N.; Dianova, I. M.; Mel'nikov, O. K.

ORG: Institute of Crystallography, AN SSSR (Institut kristallografi AN SSSR)

TITLE: Hydrothermal synthesis of crystal phosphors of the type  $\text{Na}_x\text{Zn}_y\text{Si}_p\text{O}_q$ 

SOURCE: Kristallografiya, v. 11, no. 2, 1966, 334-338

TOPIC TAGS: zinc compound optic material, crystal phosphor, synthetic material, luminescence, luminescence spectrum

ABSTRACT: This is a continuation of earlier research (Kristallografiya v. 9, no. 6, 943, 1964) on hydrothermal synthesis of sodium zinc silicates. The present article describes six different crystal phosphors synthesized by this method, with different relative compositions of the components ( $\text{Na}_2\text{O}-\text{ZnO}-\text{SiO}_2-\text{H}_2\text{O}$ ) and their crystal structures. To obtain luminescent zinc silicates of sodium, an activator in the form of MnO was introduced in the charge. Five out of the six crystals produced a luminescence in the green region of the spectrum under the influence of ultraviolet light, although the maxima were not the same for all crystals. One of the produced crystals was the previously produced willemite  $\text{Zn}_2\text{SiO}_4(\text{Mn})$  whose luminescent properties are well known. However, the maximum obtained for this crystal was somewhat different from the published data, and this difference is ascribed to the difference in the method of preparing the crystal. Orig. art. has: 6 figures.

SUB CODE: 20/ SUBM DATE: 09Feb65/ ORIG REF: 004/ OTH REF: 003

Card 1/1 fv

UDC: 548.52

LITVIN, E.Z.; OSIPOVA, O.A.; FROLOVA, M.V.

Possibility of using the geobotanical method in geological mapping  
and in surveys in the Angara-Ilim area. *Razved.i otn. podr* 29  
no.1:27-30 Ja '63. (MIA 16:2)

1. Irkutskoye geologicheskoye upravleniye.  
(Angara Valley—Phytogeography)

"APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000930210011-4

APPROVED FOR RELEASE: 03/13/2001

CIA-RDP86-00513R000930210011-4

LITVIN, D.F.  
USSR/ Crystals.

B-5

Abs Jour : Referat Khim - Khimiya, No 6, 1957, 18298

Author : P.L. Gruzin, D.F. Litvin.  
Title : To The Question of Diffusion Study by the Method of  
Radioactive Isotopes.

Orig Pub : Problemy metalloved. i fiz. metallov, sb. 4, 1955, 486-  
493.

Abstract : A variant of the absorption method of radiometric analysis was developed. At the measurement of the sample activity before and after the diffusion annealing, the ratio of the intensities of  $\beta$  - and  $\gamma$  - components of radiation in case of mixed radiators, or the ratio of the intensities of two  $\beta$  spectrum parts in case of pure  $\beta$ - radiators is determined by this method. The solution of the diffusion equations is modified in order to apply them to this method. The relative error of the determination of the diffusion factor is 25%. The experiments were successful

Card 1/2

- 64 -

USSR/Crystals.

B-5

Abs Jour : Referat Zhur - Khimiya, No 6, 1957, 18298

in reducing the error to from 10 to 15%.  
The sensitivity of this method is greater than that of other modifications of the absorption method. The use of this method in the region of low temperatures is the most rational. The diffusion factor of Co in Fe determined by this method agrees well with data obtained with other methods.

Card 2/2

- 65 -



LITVIN, D.F.

LYASHCHENKO, B.G.; LITVIN, D.F.; PUZEY, I.M.; ABOV, Yu.G.

Neutron diffraction examination of nickel-iron alloys of the  
permalloy group. Kristallografiia 2 no.1:64-73 '57. (MIRA 10:7)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy  
metallurgii.

(Permalloys) (Neutrons--Diffraction)

LITVIN, D. F.,

"Neutron Diffraction Study of Permalloy-type Iron-Nickel Alloys," with Lynshchenko, B. G.; Puzey, I. M., Cand. Phys. and Math. Sci.; and Abov, Yu. G., Cand. Phys. and Math. Sci., page 397.

In book Problems of Physical Metallurgy, Moscow, Metallurgizdat, 1958, 603p.  
(Its: Sbornik trudov, v. 5)

The articles in the book present results of investigations conducted by the issuing body, Inst. of Physical Metallurgy, a part of the Cent. Sci. Res. Inst. of Ferrous Metallurgy, located in Dnepropetrovsk. The investigations were concerned with phase transformations in alloys, strengthening and softening processes, diffusion processes (studied with the aid of radioactive isotopes), and certain other questions.

AUTHORS: Lyashchenko, B.G., Litvin, D.F., Puzey, I.M., Abov, Yu.G.  
and Golovkin, V.S. 70-3-2-3/26

TITLE: Investigation of the Defect Structure of Metallic Mono-  
crystals by a Neutron Diffraction Method (Izucheniye  
defektnoy struktury metallicheskih monokristallov  
neytronograficheskim metodom)

PERIODICAL: Kristallografiya, 1958, Vol.3, Nr 2, pp 148 - 154  
(USSR).

ABSTRACT: A neutronographic investigation of the fragmentary  
structure of single crystals of nickel alloys has been made  
and the effect of this structure on the character and intensity  
of the scattered neutron beams is demonstrated. A short  
review of work on the neutronographic investigation of the  
structures of synthetic single crystals is included.  
One of the consequences of the low absorption of neutrons in  
most materials is the importance of secondary extinction.  
Bacon has shown that, for X-ray formulae to apply, the dimensions  
of a single mosaic crystal should be proportional to the width  
of the Darwin curve (angular distribution of the mosaic blocks).  
For KBr with a Darwin width of less than 3' this limiting thick-  
ness is 1.5 - 2 mm. The effect of volume defects of dimensions  
greater than those of the mosaic blocks is of interest and

Card1/3

70-5-2-3/26

Investigation of the Defect Structure of Metallic Monocrystals by a  
Neutron Diffraction Method

leads to the break-up of diffraction spots into small patches. 14 specimens of monocrystals have been examined. They were alloys of Ni and Fe with different quantities of Mo, Cr and Cu. The spherical specimens were etched with a mixture of nitric and hydrochloric acids and vacuum annealed for 4 hours at 750 °C. The orientation of the crystals could be seen from the ~~etch~~ patterns. Finger orientation was achieved with a magnetic method to 1-2°. The spheres were finally polished so that the maximum differences in diameter were less than 1 μ in 7-12 mm. The axes were marked on the surface with gold spots electrolytically deposited. The composition was checked on sliced-up specimens. Investigations were carried out on the single-crystal neutron spectrometer of the Ac.Sc. USSR, the method being similar to that used by Lowde. The accuracy of the intensity measurements was about 1%. Most specimens showed anomalous reflection curves. Contour plots were made of various reflections. Diagrams for the 020 reflection of two Ni-Fe alloys are reproduced. For one specimen, there was a difference amounting to a factor of 2.5 between the intensities of reflections  $hkl$  and  $\bar{h}k\bar{l}$ . Investigating this effect, a small slit was scanned across the diffracted

Card 2/3

70-3-2-3/26

Investigation of the Defect Structure of Metallic Monocrystals by a Neutron Diffraction Method

beam. The effect was shown not to be due to multiple diffraction. x-ray investigation of the specimen disclosed appreciable boundary regions separating fragments disoriented by up to 20'. This caused the reflections  $\bar{2}22$ ,  $2\bar{2}2$ ,  $\bar{2}\bar{2}2$  and  $22\bar{2}$  to come only from one fragment and  $222$ ,  $\bar{2}22$ ,  $2\bar{2}2$  and  $22\bar{2}$  to come from the other.

There are 5 figures, 1 table and 13 references, 4 of which are Soviet, 9 English.

ASSOCIATION: Institut metallofiziki (Institute of Metal Physics)

SUBMITTED: June 3, 1957  
Card 3/3

SOV/137-58-9-19764

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 236 (USSR)

AUTHORS: Lyashchenko, B.G., Litvin, D.F., Puzey, I.M., Abov, Yu.G.

TITLE: Neutron-diffraction Study of Iron-nickel Alloys of the Permalloy Class (Neytronograficheskoye issledovaniye zhelezoniki-levykh splavov permalloynogo klassa)

PERIODICAL: Sb. tr. In-t metalloved. i fiz. metallov Tsent. n.-i. in-ta chernoy metallurgii, 1958, Vol 5, pp 397-418

ABSTRACT: Bibliographic entry. Ref. RZhMet, 1958, Nr 4, abstract 8080

1. Iron-nickel alloys--Electron diffraction analysis

Card 1/1

24.7100,24.7200

75934  
SOV/70-4-5-6/36

AUTHOR: Litvin, D. F.

TITLE: Making a Crystalline Monochromatizer of Lead for Neutron Diffraction Structure Studies

PERIODICAL: Kristallografiya, 1959, Vol 4, Nr 5, pp 663-667 (USSR)

ABSTRACT: The growing of large lead crystals of molten metal, and cutting them into plates by an electrospark metal-cutting device developed by the author, are described. A set for crystal growth (Fig. 1) consists of a shaft furnace (1) with a graphite crucible (2) for lead (3) melting, pin-shaped seed (4), 15-20 mm in diameter, fastened by clamp (5), steel cable (6) for pulling the pin, drum (7), reducer (8), motor (9), automatic transformers (10 and 11), stabilizer (12) for temperature control, ammeter (13), thermocouple (14), and potentiometer (15). Keeping the temperature 2-3° C above the melting point, the pin is pulled with a speed of about 20 mm/hr. This method produced lead crystals up to 220 mm long and 60 to 80 mm in diameter.

Card 1/5

Making a Crystalline Monochromatizer of Lead for Neutron Diffraction Structure Studies

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SOV/70-4-5-6/36

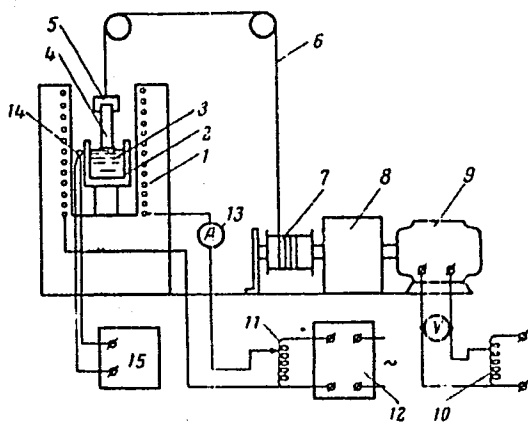


Fig. 1.

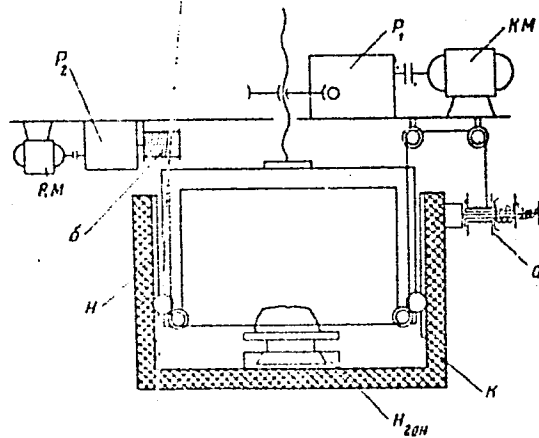


Fig. 4.

Card 2/5



Making a Crystalline Monochromatizer of  
Lead for Neutron Diffraction Structure  
Studies

75984  
SOV/4-5-6/36

Then the crystals are cut into 157 x 55 x 10 mm plates by an electrospark metal-cutting device (Fig. 4). This consists of a plexiglas box (K) with a removable front wall. The goniometric adjuster ( $H_{gon}$ ) at the bottom of the box permits vertical and horizontal rotation, and back-and-forth motion of the crystal set on a brass plate atop the goniometer. The box also contains a photographic plate for taking reciprocal-lattice diffraction patterns. A plate above the box carries a mechanism that provides vertical and horizontal motion of the cutting copper wire, 0.3 mm. The wire cuts the crystal because of electrosparks from the crystal (positive pole) to the wire (negative pole). The latter's vertical motion is provided by motor (KM), reducer ( $P_1$ ), and the screw (to the left of  $P_1$ ) that moves an n-shaped frame up and down along guide (H) and consequently moves the wire on rollers fixed to the legs of the frame. The horizontal motion is provided by

Card 3/5

Making a Crystalline Monochromatizer of  
Lead for Neutron Diffraction Structure  
Studies

75984  
SOV/70-4-5-6/36

motor (RM), reducer ( $P_2$ ) and reel  $\delta$  whose rotation pulls the wire through rollers from reel a. Using the X-ray diffraction patterns on the photographic plate and the goniometric adjuster, one brings the (111) plane of the crystal into a vertical position coplanar with the wire, then inclines it by  $6^\circ$ , fills the plexi-glas box with transformer oil, and cuts one crystal plate after another moving the crystal after each cut along the sledge of the goniometric adjuster without disturbing its angular adjustment. Tests proved satisfactory quality of the crystal plates for use in neutron diffraction cameras. Acknowledgment is made to Lyashchenko, B. G., Abov, Yu. G., Zhukov, E. M., and Zhivanovich, M. D., for assistance. There are 7 figures; and 5 references, 3 U.S., 1 U.K., 1 Soviet. The U. K. and U.S. references are: G. E. Bacon, "Neutron Diffraction", 1955; S. Pasternack, etc., Phys. Rev., 81, 326, 1951; R. G. Weiss, etc., Phys. Rev., 83, 863, 1951; R. Medin, etc., Rev. Scient. Instrum., 21, 10, 1950.

Card 4/5

Making a Crystalline Monochromatizer of  
Lead for Neutron Diffraction Structure  
Studies

75984  
SOV/70-4-5-6/36

ASSOCIATION: Central Scientific Research Institute of Ferrous Metal-  
lurgy (Tsentral'nyy nauchno-issledovatel'skiy institut  
chernoy metallurgii)

SUBMITTED: May 26, 1959

Card 5/5

ABOV, Yu.G.; LITVIN, D.F.

Experimental neutron diffraction methods (survey). Prib. i tekhn.  
eksp. no.3:3-15 M<sub>r</sub>-Je '60. (MIRA 1410)

1. Institut teoreticheskoy i eksperimental'noy fiziki AN SSSR.  
(Neutrons--Diffraction)

LYASHCHENKO, B.G.; LITVIN, D.F.; ABOV, Yu.G.

Neutron diffraction study of iron-cobalt alloys. Kristallografiia  
6 no.4:553-559 JI-Ag '61. (MIRA 14:8)

1. Institut metallovedeniya i fiziki metallov.  
(Neutron diffraction crystallography) (Iron-cobalt alloys)

GOMAN'KOV, V.I.; LITVIN, D.F.; LOSHMANOV, A.A.; LYASHCHENKO, B.G.; PUZEY, I.M.

Neutron diffraction determination of the temperature dependence of the arrangement of atoms in a FeCo alloy. Kristallografiia 7 no.5:788-790 S-0 '62. (MIRA 15:12)

1. Institut pretsizionnykh splavov Tsentral'nogo nauchno-issledovatel'skogo instituta chernoy metallurgii imeni Bardina.  
(Iron-cobalt alloy) (Neutron diffraction crystallography)

GOMAN'KOV, V.I.; LITVIN, D.F.; LOSHMANOV, A.A.; LYASHCHENKO, B.G.

On the antiferromagnetic structure of chromium. Kristallografiia 7.  
no.5:790-792 S-O '62. (MIRA 15:12)

1. Institut metallofiziki Tsentral'nogo nauchno-issledovatel'skogo  
instituta chernoy metallurgii imeni Bardina.  
(Ferromagnetism) (Neutron diffraction crystallography)  
(Chromium)

24.6300  
24.6500

39751  
S/126/62/014/001/003/018  
E032/E414

AUTHORS: Goman'kov, V.I., Litvin, D.F., Loshmanov, A.A.,  
Lyashchenko, B.G.

TITLE: Neutron diffraction studies of Ni-Cr alloys

PERIODICAL: Fizika metallov i metallovedeniye, v.14, no.1, 1962,  
26-29

TEXT: The authors report the design of a neutron diffractometer which can be used both with single crystals and polycrystalline materials. The neutron beam is collimated by a multi-slit collimator and has a divergence of about 24' at an intensity of  $10^8$  to  $10^9$  neutron/cm<sup>2</sup> sec. The beam is made monochromatic by reflection from the (111) plane of a lead single-crystal. The monochromatic beam is extracted through a special extraction channel in the boron-paraffin shield. The trolley carrying the specimen can be traversed across the beam so that wavelengths between 1.5 Å and "white" radiation can be covered. BF<sub>3</sub> filled counters enriched with B<sup>10</sup> are used as detectors. The spectrometer incorporates various attachments such as a crystal calibrator, goniometer for large specimens, electromagnet, cryostat, high-Card 1/2



Neutron diffraction ...

S/126/62/014/001/003/018  
E032/E414

temperature chamber, high-pressure multiplier, etc. In the present work the diffractometer was used to determine the magnetic moments of Ni and Cr in binary alloys containing 5.98 and 8.26 at.% Cr. The experiments were carried out at 77°K. The diffusely scattered background due to the specimen under investigation was determined with and without the magnetic field so as to separate out the magnetic component of the diffuse scattering. The preliminary conclusion is that the addition of Cr to the alloys gives rise to a reduction in the magnetic moment of Ni atoms. It is probable that the Cr moments are anti-parallel to the magnetic moments of the Ni atoms. It is stated that work on the Ni-Cr system is being continued. Academician G.V.Kurdyumov is thanked for his assistance. There are 3 figures and 1 table. f

ASSOCIATION: Institut metallovedeniya i fiziki metallov TsNIICHM  
(Institute of Science of Metals and Physics of Metals  
TsNIICHM)

SUBMITTED: November 28, 1961  
Card 2/2

S/126/62/014/002/015/018  
E073/E192

AUTHORS: Goman'kov, V.I., Litvin, D.F., Loshmanov, A.A., and  
Lyashchenko, B.G.

TITLE: Ordering in Ni-Cr alloys

PERIODICAL: Fizika metallov i metallovedeniye, v.14, no.2, 1962,  
305-307

TEXT: Ni-Cr alloys were investigated in the region of a  
Ni<sub>2</sub>Cr super-lattice formation, using neutron diffraction and  
polycrystalline (20 to 35 at.% Cr) and single crystal (with nearly  
stoichiometric composition, 32.9 at.% Cr) specimens. The crystal  
was in the form of a sphere 8 mm in diameter. All the specimens  
were subjected to an equal heat treatment so as to obtain maximum  
ordering: quenching from 1200 °C in water and annealing at 500 °C  
for 1036 hours. No super-lattice lines were detected in neutron  
diffraction patterns of polycrystalline specimens. The [110]  
zone of the single crystal showed reflections which are character-  
istic for the super-lattice Ni<sub>2</sub>Cr. The dimensions of the anti-  
phase domains were evaluated as being at least 1200 Å. Neutron  
Card 1/2

Ordering in Ni-Cr alloys

S/126/62/014/002/015/018  
E073/E192

diffraction studies of the temperature dependence of the degree of distant ordering. S can show whether there exists a real two-phase state with a degree of distant order in the new phase  $S = 1$  or whether the single phase solid solution is retained with  $S = 0.8$ . The absence of any super-lattice reflections in the neutron diffraction photographs is explained by the authors by the low sensitivity of the powder method used in their experiments. There are 2 figures.

ASSOCIATION: Institut metallovedeniya i fiziki metallov  
TsNIChM  
(Institute of the Science of Metals and the Physics  
of Metals, TsNIChM)

SUBMITTED: March 3, 1962

Card 2/2

GOMAN'KOV, V.I.; LITVIN, D.F.; LOSHMANOV, A.A.; LYASHCHENKO, B.G.; PUZEY, I.M.

Neutron diffraction examination for determining the temperature dependence of the atomic order in the FeCo alloy. Ukr. fiz. zhur. 8 no.2:268-270 F 163. (MIRA 16:2)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii i Institut metallovedeniya i fiziki metallov, Moskva.  
(Neutron diffraction crystallography) (Iron-cobalt alloys)

ACCESSION NR: AP4033104

S/0120/64/000/002/0043/0046

AUTHOR: Abesalze, P. D.; Doydzhashvili, G. I.; Litvin, D. F.;  
Lyashchenko, B. G.; Protopopov, N. N.; Chikobava, V. S.

TITLE: Universal device for neutron-diffraction structure analysis

SOURCE: Priboyn\* i tekhnika eksperimenta<sup>9</sup> no. 2, 1964, 43-46

INDEXING TAGS: neutron diffraction, structural analysis, neutron diffraction analysis,  
diffractometer, neutron collimator, neutron monochromator

ABSTRACT: A new device combining the features of those described by Borst and Sailor (Rev. Scient. Instrum., 1953, 24, 141) and Wollan and Kochler (Phys. Rev., 1955, 100, 545) consists of three mechanically independent components: a neutron collimator 1 (see Enclosure 1), a crystal monochromator 2, and a diffractometer. The collimator is formed by N50 -alloy 0.1-mm sheets with 2-mm gaps. The monochromator includes a Pb 10x80x200-mm plate cut from a

Card 1/3

ACCESSION NR: AP4033104

single crystal and fastened to a goniometer. The diffractometer can be adjusted to any wavelength from 1.5 Å to the "white" radiation. Proportional counters filled with  $BF_3$  at 400 torr with up to 86%  $B^{10}$  are used for neutron detection. Three neutron-diffraction curves are shown; design details are supplied. "The assembling and testing of the first laboratory model of the device were carried out by V. I. Goman'kov, N. V. Grin'kin, S. A. Vyazemskiy, D. F. Litvin, A. A. Loshmanov, and B. G. Lyashchenko." Orig. art. has: 4 figures.

ASSOCIATION: Institut metallovedeniya i fiziki metallov TsNICHM (Institute of Metal Science and Physics of Metals, TsNICHM); Institut fiziki AN GruzSSR (Institute of Physics, AN GruzSSR)

SUBMITTED: 30 May 63

ATD PRESS: - 3046

ENCL: 01

SUB CODE: NP

NO REF SOV: 001

OTHER: 003

Card 1 2/3

ACCESSION NR: AP4033104

ENCLOSURE: 01

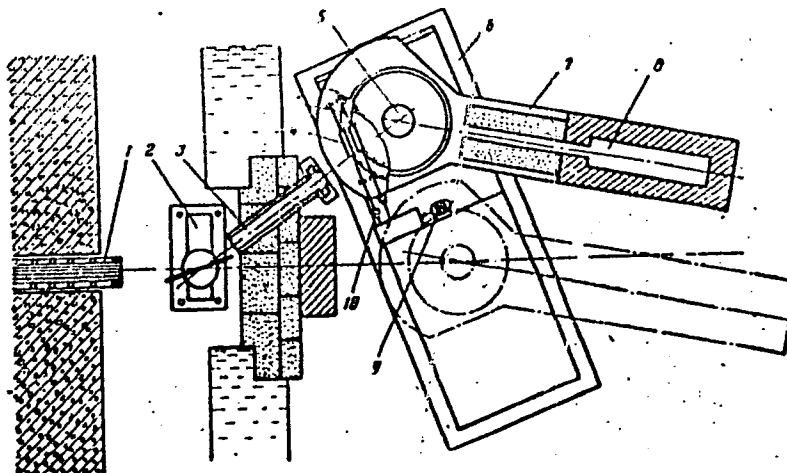


Fig. 1. Universal device for neutron-diffraction studies  
1 - Collimator; 2 - crystal monochromator; 3 - channel;  
4 - wormgear; 5 - stage; 6 - support plate; 7 - console;  
8 - detector; 9 - electric motor; 10 - electromagnetic clutch.

Co'd 3/3

ACCESSION NR: AP4035813

S/0020/64/156/001/0069/0071

AUTHOR: Litvin, D. F.; Pomyatovskiy, Ye. G.

TITLE: The effect of pressure on the temperature of antiferromagnetic chrome transformation

SOURCE: AN SSSR. Doklady\*, v. 156, no. 1, 1964, 69-71

TOPIC TAGS: pressure, antiferromagnetism, chrome transformation, structure analysis, Cr, Fe, Ni, Co., Cu, impurity, electric resistivity

ABSTRACT: With a view to amplifying earlier studies carried out by Western investigators, the authors employed neutron structure analysis as the most effective method of observing the effect of pressure on the magnetic structure of chrome. The total amount of impurities in the specimens did not exceed 0.02% and the Fe, Ni, Co and Cu content was limited to 0.001 to 0.003%. The authors also studied the effect of pressure on Neel temperature by plotting a diagram for Cr resistivity versus temperature and pressure. All results stood in good agreement with literary data. Hydrostatic pressure was found to lower the temperature of transformation of Cr into the antiferromagnetic state. The mean inclination of

Card 1/2



ACCESSION NR: AP4035813

the Neel temperature - pressure dependence curve amounted to  $-6 \times 10^{-3}$  degrees/atm within the investigated range. Orig. art. has: 8 figures.

ASSOCIATION: Institut metallovedeniya i fiziki metallov Tsentral'nogo nauchno-issledovatel'skogo instituta chernoy metallurgii imeni I. P. Bardina (Institute of Metallography and Physics of Metals of the Central Research Institute of Ferrous Metallurgy)

SUBMITTED: 13Dec63

DATE ACQ: 26May64

ENCL: 00

SUB CODE: MM

NO REF SOV: 001

OTHER: 007

Card 2/2

L 20669-66 EWP(e)/EWT(m)/EWP(w)/EPP(n)-2/T/EWP(t)/EWP(k)/ETC(r)-6 IJP(a) JD/TG/  
 ACC NR: AP6001473 (A) SOURCE CODE: UR/0226/65/000/012/0045/0047  
 WW/HW/JG/EM

AUTHOR: Shchegoleva, R. P.; Golubeva, L. S.; Litvin, D. F.; Ponyatov-  
skiy, Ye. G.; Zhirkin, Yu. N. 77B

ORG: Central Scientific Research Institute of Ferrous Metallurgy  
(Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii)

TITLE: The Zr-Ti-O-Fe deformable alloy for high-pressure chambers

SOURCE: Poroshkovaya metallurgiya no. 12, 1965, 45-47

TOPIC TAGS: deformable body, high strength alloy, high alloy steel,  
 coherent scattering, neutron scattering, high pressure chamber, metal  
 forging, ultimate strength

ABSTRACT: <sup>21</sup> Sintered <sup>21</sup> Zr-Ti-O-Fe <sup>26</sup> deformable alloy designed for high-  
 pressure chambers was developed by the authors during neutronographic  
 investigations of materials. The alloy has a composition corresponding  
 to the zero amplitude of coherent scattering for neutrons (53% Zr,  
 44.95-43.8% Ti, 0.25-0.40% O, and 1.0-2.0% Fe) and to the structure  
 of an unordered solid solution. The ultimate strength of forgings is  
 130-150 dan/mm<sup>2</sup>. [Based on author's abstract] [NT]

SUB CODE: 11/ SUBM DATE: 04Jun65/ ORIG REF: 005/ JTH REF: 001

Card 1/1 PK 2

LITVIN, D.M.

1405\* Machine Tool for Pressure Casting Model 515. Mas-  
hina dlia litia pod davleniem, model' 515. (Russian.) D. M.  
Litvin. Liteinoe proizvedenie, 1953, no. 10, Oct., p. 13-17. HG  
Construction details of a machine for casting non-ferrous metals  
and their alloys under pressure, including production data.  
Tables, diagrams. 4 ref.

Df

LITVIN, D.M.; MOROZOV, N.N.

~~\_\_\_\_\_~~  
The automatic ball casting machine. Lit.proizv.no.1:14-16 '57.  
(MLRA 10:3)  
(Foundry machinery and supplies)



LITVIN, D.M.

Model 516 semiautomatic machine for pressure casting of nonferrous alloy machine parts. Lit. proizv. no.1:10-14 Ja '58. (MIRA 11:2)  
(Die casting) (Foundry machinery and supplies)

LITVIN, D.M.; PETROV, G.A.

New 180-type electric discharge separators used for regenerating  
burnt molding sands. Biul.tekh.-ekon.inform. no.12:19-20 '58.  
(MIRA 11:12)

(Separators (Machines))

25(1), 28(1)

SOV/128-59-8-9/29

AUTHOR:

Litvin, D.M., and Morozov, N.N., Engineers

TITLE:

Automatic Rotary Five-Position Core-Blowing Machine

PERIODICAL:

Liteynoye proizvodstvo, 1959, Nr 8, pp 18 - 23 (USSR)

ABSTRACT:

The automatic rotary five-position core-blowing machine model 95 287 (Fig 1) was designed by NILLITMASH (Scientific Research Institute for Machinery Casting) and was constructed by the plant "Krasnaya Presnya". The rotary five-positions table enables five identical or different cores to be blown. The five positions include the following production steps: blowing cores; covering the form with the drying plate; turning the mould 180°, drawing out the core, returning the empty mould to its former position and pushing the core on to the conveyor; blowing out the empty mould with pressed air and spraying it with kerosene. The machine which weighs 10 tons is placed on a concrete base and is 5 meters long, 3.7 m wide and 2.35 m high. The automatic core-blowing machine is controlled by an electro-pneumatic apparatus KEP-12U and has an output of 250 cores per hour.

Card 1/2



SOV/128-59-8-9/29

Automatic Rotary Five-Position Core-Blowing Machine

The maximum weight of the core can be 20 kg and its maximum measurements should not be over 750 mm long, 350 mm wide and 200 mm high. The air pressure is 6 - 7 atmospheres and the pressure on the core plate increases through the multiplier to 17 tons. The electric motor for the rotation of the table has a strength of 1.7 kW and does 930 rpm. The second motor for the mixing apparatus is of 2.8 kW and does 1460 rpm. There are safety devices in the machine which switch off the electric current and stop the influx of pressed air when a disturbance in the producing process takes place. There are 1 photograph and 6 drawings.

Card 2/2

LITVIN, D.M.; MOROZOV, N.N.

The 95287 automatic rotating sand-blast coremaking machine.  
Bul. tekhn. ekon. inform. no.9:20-23 '59. (MIRA 13:3)  
(Coremaking)

LITVIN, D.M.; MART'YANOV, E.I.

Device for determining the strength of molding mixtures. Lit.  
proizv. no.10:45-46 O '60. (MIRA 13:10)  
(Sand, Foundry--Testing)

LITVIN, D.M.; MOROZOV, N.N.

The 552 and 553 centrifugal machines for moldings bushings of  
ocpper alloys. Biul.tekh.-ekon. inform. no.3:17-19 '61.  
(MIRA 14:3)

(Machine molding (Founding))