

L 14566-66

ACC NR: AP6003294

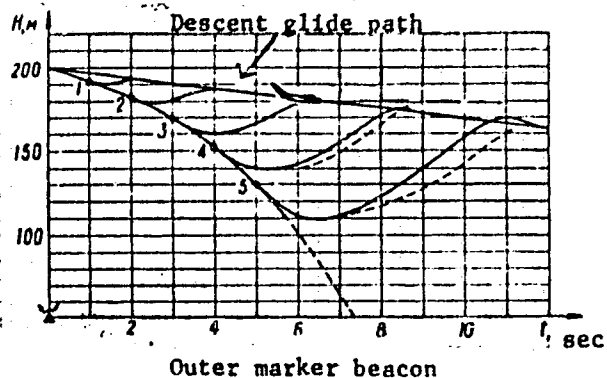


Fig. 2. Altitude loss during recovery in glide path

aircraft piloted by gyro horizon, variometer, glide path indicator, and command instrument while being pulled out of a dive. [VM]

SUB CODE: 01/ SUBM DATE: none/ ATD PRESS: 4190

PC  
Card 3/3

L 40374-66 ETI/EWP(t)/E.I(m) LJP(c) JH/JD/NB/IT

ACC NR: AP6025629

SOURCE CODE: UR/0413/66/000/013/0080/0080

INVENTOR: Al'tman, M. B.; Ambartsumyan, S. M.; Kolobnev, I. F.; Lotareva, O. B.; Loktionova, L. I.; Spiridonova, S. B.

ORG: none

TITLE: Cast aluminum-base alloy. Class 40, No. 183398

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 13, 1966, 80

TOPIC TAGS: aluminum alloy, cast alloy, zinc containing alloy, magnesium containing alloy, manganese containing alloy, titanium containing alloy, iron containing alloy, beryllium containing alloy, stress corrosion, corrosion resistant metal

ABSTRACT: An Author Certificate has been issued for a cast aluminum-base alloy containing zinc, magnesium, manganese and titanium. In order to reduce susceptibility to stress corrosion while retaining high mechanical properties, the content of alloying elements should be kept within the following limits in %: zinc 3.5—5.5, magnesium 1.2—2.2, manganese 0.2—0.7, titanium 0.05—0.25, chromium 0.1—0.6, iron 1.0—1.6, and beryllium 0.01—0.5. The alloy may also contain silver, niobium, cobalt, nickel, molybdenum, boron, tungsten, and rare-earth metals in an amount up to 1.5%. [DV]

SUP CODE: 11/ SUBM DATE: 12Jun64/ ATD PRESS: 5053

Card 1/1 MLP

UDC: 669.715'5'721'74

LOKTIONOVA, N.A.; CHUKHROV, M.V.

Light alloys. Priroda 46 no.5:39-48 My '57.

(MLRA 10:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut aviatsionnykh materialov.

(Aluminum alloys)

(Magnesium alloys)



S/683/61/000/000/017/030  
D205/D303

**AUTHORS:** Isayev, V.I., Ivankin, I.A., Kulakov, V.I., and Loktionov, N.A.

**TITLE:** Peculiarities of thermal treatment of massive drop-forged articles of the D1 (D1) alloy

**SOURCE:** Fridlyander, I.M., V.I. Dobatkin, and Ye.D. Zakharev, eds. Deformiruyemyye alyuminiyevyye splavy; sbornik statey, Moscow, 1961, 151 - 156

**TEXT:** This paper is concerned with some peculiarities of the thermal treatment of massive aluminum alloy (D1) articles and the influence of certain factors of the treatment on the values of the residual stresses and mechanical properties. The forgings were prepared by axial hammering of the casting. Test specimens were cut out from the forged articles in various directions with respect to the fiber. Large differences were revealed between the various specimens cut out from the same forging. The strength limit ranged from 31.8 to 41.8 kg/mm<sup>2</sup> and the relative elongation in samples cut out parallel to the  
Card 1/2

Peculiarities of thermal treatment of ...

S/685/51/000/000/117/030  
D205/D305

fiber was more than twice as much as those of the transverse samples. It was found that hardening from 490°C after 2 hours at that temperature reduced cracking defects down to 0.2%. Still better results were obtained by quenching in hot media (90°C water or 145 - 155°C salt melts in step hardening). It was shown that cracks develop because of residual thermal stresses which are formed during hardening and tend to concentrate at the passages from thin to thick sections of the articles. There are 2 figures, 3 tables and 1 Soviet-bloc reference. ✓

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S/689/61/000/000/018/030  
5205/D303

AUTHORS: Loktionova, N.A., Kozlovskaya, V.P., and Isayev, V.I.

TITLE: Reduction of warping of welded constructions from the D20 (D20) alloy during thermal treatment

SOURCE: Fridlyander, I.N., V.I. Dobatkin, and Ye.D. Zakharov, eds. Deformiruyemye alyuminiyevyye splavy; sbornik statey, Moscow, 1961, 137 - 143

TEXT: Although the highest mechanical properties (40 - 45 kg/mm<sup>2</sup> strength limit and 29 - 32 kg/mm<sup>2</sup> yield point) are obtained in the welded joints of D20 by using argon-arc welding, the warping induced by the hardening of the welded articles makes their subsequent adjustment by deformation necessary. In order to reduce the thermal stresses, the influence of quenching in boiling water and molten salts on the geometrical stability of the welded articles was investigated. The investigations were performed on sheets 6 mm thick. The specimens were heated at 535°C in saltpeter and cooled: 1 - in water at 20 and 100°C; 2 - according to a step regime - in salt baths at 150 -

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reduction of warping of welded ...

S/689/61/000/000/018/000  
D205/D303

200°C range (2 min) and then in water at 30°C; 3 - in salt baths at 160 - 180°C for 2 to 16 hours. In the first two cases, the specimens were aged after cooling at 165°C for 10 - 16 hours. All specimens, notwithstanding the differences in cooling conditions, had almost identical mechanical properties (about 40.5 Kg/mm<sup>2</sup> strength limit, 50.5 Kg/mm<sup>2</sup> yield point and 14 % relative elongation). This indicates that the D20 alloy which contains copper in amounts exceeding the solubility limits is not sensitive to the lowering of the cooling rate during hardening. X-ray analysis has shown that the increase of the cooling temperature by 100 - 200°C lowers the defectivity of the grains, but does not entirely remove the general stresses. Corrosion tests were performed using welded specimens in a 3 % solution of NaCl. The specimens fastened to a rotating wheel were periodically immersed during the 4.5 months. The specimens cooled in water at 20°C were destroyed after 14 - 16 days, while those cooled in boiling water, salt baths and by the step regime remained intact after 130 days. Warping was 2 - 4 times less in the specimens cooled at higher temperatures. It is concluded that the welding of D20 alloy sheets should be carried out in the hardened and not in the annealed state, because

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Reduction of warping of welded ...

S/600/81/000/001/018/0,  
D205/D303

in this case the partial hardening occurring during welding does not induce residual stresses near the joint. Various parameters of plasticity were measured for welded and non-welded specimens, the results indicating that the welded samples possess almost the same plasticity as the non-welded. The fatigue limit at cyclical loading ( $20 \times 10^6$  cycles) was, however, superior in the non-welded samples ( $12 \text{ kg/mm}^2$ ), as compared with the welded ( $5 \text{ kg/mm}^2$ ). Conclusions: To lower stresses and prevent warping, articles made of the D20 alloy should be quenched in a heated medium. In order to increase the strength of welded constructions they should be welded in hardened or hardened and aged state. There are 1 figure and 5 tables. ✓

Card 3/3

S/123/62/000/014/008/020  
A004/A101

AUTHORS: Isayev, V. I., Ivankin, I. A., Kulakov, V. I., Loktionova, N. A.

TITLE: The special features of the heat treatment of solid dies from the  
D1 (D1) alloy

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 14, 1962, 28, abstract  
14B158 (In collection: "Deformiruyemye alyumin. splavy". Moscow,  
Oborongiz, 1961, 131 - 136)

TEXT: It was found that the main reasons for the origination of cracks in  
hardened solid dies made of the D1 aluminum alloy under large-scale production  
conditions are increased residual stresses arising during the hardening, particu-  
larly in those places where thin cross sections go over into thick ones, the in-  
crease of the hardening temperature, and the use of abrupt cooling aids (water  
of 20°C). A strict observation of the heat-treatment conditions, hardening at  
495 + 5°C, the use of hot water (80°C) for cooling or a gradual hardening with  
cooling in molten salts at 145 - 155°C made it possible to cut down die rejects  
because of cracks to 0.2%. There are 2 figures. ✓

[Abstracter's note: Complete translation] V. Stasevich

Card 1/1

S/137/62/000/006/161/163  
AC57/A1C1

AUTHORS: Loktionova, N. A., Kozlovskaya, V. P., Isayev, V. I.

TITLE: The decrease of warping of welded structures of  $\Delta$  20 (D20) alloy at thermal treatment

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 6, 1962, 13, abstract 6E80 (V sb. "Deformiruyemye alyumin. splavy", Moscow, Oborongiz, 1961. 137 - 143)

TEXT: Thermal stresses, which arise during quenching of welded articles of D20 alloy, lead to warping of these articles and they have to be straightened after quenching. In order to develop measures for reducing thermal stresses, the effect of quenching in boiling water and in salt melts upon the stability of geometric dimensions of the welded articles and mechanical properties of the D20 alloy was investigated. As a result of the investigation the following conclusions were drawn. To reduce thermal stresses and avoid warping of articles of D20 alloy, quenching in hot medium (boiling water, salt melt) is recommended. The D20 alloy is little sensitive to the cooling rate during quenching in the

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The decrease of warping of welded...

S/137/62/000/006/161/163  
A057/A101

temperature range 535 - 200°C. In spite of the reduced cooling rate in comparison to quenching in water of a temperature of 20°C, a supersaturated  $\alpha$ -solid solution is formed, which is able to strengthen during aging and isothermic soaking and in salt melt. In order to increase the strength of welded structures of D20 alloy, they must be welded from a material in quenched, or quenched and aged state.

V. Tarisova

[Abstracter's note: Complete translation]



Card 2/2

S/129/62/000/010/004/006  
E073/E335

AUTHORS: Loktionova, N.A., Candidate of Technical Sciences,  
Rastvorova, N.M. and Breslavtseva, O.P., Engineers

TITLE: New heat-treatment regime for AL19 (AL19) alloy  
castings

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov,  
no. 10, 1962, 53 - 57

TEXT: The mechanical properties were determined at 250 °C  
of 10-mm rods produced from 12-mm diameter specimens cast  
into earthen moulds. The composition of the melts was as  
follows: 4.5 - 5.3% Cu, 0.6-1% Mn, 0.25-0.40% Ti, ≤ 0.3% Si,  
≤ 0.3% Fe. Prior to quenching the specimens were heated to  
540 and 545 °C and held at that temperature for 6, 8, 10, 12, 16  
and 20 hours. In addition, the influence of repeated quenching  
was investigated. Ageing was carried out at 150, 175, 200 and  
225 °C with holding times of 3, 6, 12, 24 and 30 hours (after  
heating to 545 °C prior to quenching and holding at that  
temperature for 10-12 hours). The hardenability of massive  
castings was determined from tests with cubes of 100 mm side  
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New heat-treatment ....

S/129/62/000/010/004/006  
E073/E335

length, cast into earthen moulds. Quenching was in water at 45 and 50 °C and in boiling water. Conclusions: the optimum heat-treatment is single-stage heating to  $545 \pm 5$  °C, holding at that temperature for 10 - 12 hours, quenching, artificial ageing at  $175 \pm 5$  °C for 3-6 hours. Quenching in boiling water reduces appreciably the deformation caused by quenching, which greatly helps in eliminating changes in the geometry and obviating the necessity of straightening the parts after heat-treatment. There are 3 figures and 3 tables. ✓

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S/724/61/000/000/004/020

AUTHORS: Loktionova, N. A., Rastvorova, N. M., Bereslavitseva, O. P.,  
Larikova, M. I., Stroganov, G. B.

TITLE: A New heat-treatment procedure for the AL19 alloy to maintain  
dimensional stability of castings.

SOURCE: Liteynnye alyuminiyevyye splavy; svoystva, tekhnologiya plavki, lit'ya  
i termicheskoy obrabotki. Sbornik statey. Ed. by I. N. Fridlyander  
and M. B. Al'tman. Moscow, Oborongiz, 1961, 36-42.

TEXT: The paper describes the laboratory development and industrial testing  
of a new heat-treatment procedure for AL19 parts of complex configuration. The  
procedure maintains a good stability of the geometric dimensions of the part  
throughout the course of the heat treatment. The laboratory investigation consisted  
essentially of the quenching of AL19 castings in water at differing temperatures (T).  
The cast specimens had a variable-section annular shape. They were quenched in a  
horizontal attitude. Artificial (accelerated) aging was performed. The specimens  
were placed into a furnace at 300°C, whereupon the T was raised to 535 ± 5°. After  
9-hour soaking, the T was raised to 545 ± 5°, with additional 7-hr holding. After  
quenching in water at varying T up to 96°, some of the specimens were aged at 175°  
for 3 hrs. It was found that: (1) For cross-sectional thicknesses up to 75x60 mm,  
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A New heat-treatment procedure for the AL19....

S/724/61/000/000/004/020

the AL19 alloy is practically insensitive to a reduction in the rate of cooling upon quench. The mechanical properties of the castings in the freshly quenched state, tested at room T, were practically invariable with an increase in water T from 45 to 96°, whereas in aged specimens tensile strength and relative elongation were somewhat reduced thereby. The mechanical properties at 250°C (short-term tests) were practically invariable with an increase in quench-water T up to 96° and were also independent of the type of heat treatment; (2) the total corrosional stability of the AL19 alloy quenched in water is practically the same with quench-water T of 45 and 96°, both in the freshly quenched state and after artificially accelerated aging; (3) the quenching of odd-shaped large castings in boiling water produces so insignificant a warping of the castings, that virtually no straightening is required after heat treatment. The adoption of quenching in boiling water for large odd-shaped castings has provided a cardinal solution of the problem of warpage, has reduced the amount of labor required, and has increased the quality of parts made of AL19 alloy; (4) quenching in boiling water does not require any additional major equipment and does not alter in any way the procedural schedule of the production line. Quenching in boiling water can be done with the utilization of ordinary vats and requires only a simple addition of equipment in which the water is heated by means of live steam. There are 2 figures, 4 tables, and 1 Russian-language Soviet reference.

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S/724/61/000/000/012/020

AUTHORS: Kolobnev, I. F., Loktionova, N. A.

TITLE: The enhancement of the plastic properties of the alloy B300 (V300).

SOURCE: Liteynnye alyuminiyevyye splavy; svoystva, tekhnologiya plavki, lit'ya i termicheskoy obrabotki. Sbornik statey. Ed. by I. N. Fridlyander and M. B. Al'tman. Mosvow, Oborongiz, 1961, 94-98.

TEXT: The paper describes various experimental approaches toward the improvement of the plasticity of the alloy B300 (V300) which excels by its elevated stress-rupture strength ( $7 \text{ kg/mm}^2$  for 100 hrs at  $300^\circ\text{C}$  and  $4 \text{ kg/mm}^2$  for 100 hrs at  $350^\circ\text{C}$ ), and an elevated creep strength ( $5 \text{ kg/mm}^2$  for 100 hrs at  $200^\circ$  and  $2 \text{ kg/mm}^2$  for 100 hrs at  $350^\circ$ , with a residual strain of 0.2%, but which is severely limited in many applications by its low plasticity. The brittleness of the alloy is attributed to the presence in it of large particles of insoluble phases of the type of  $\text{Al}_6\text{Cu}_3\text{Ni}_3$ ,  $\text{Al}_3(\text{CuNi})_2$ , et al., containing Cr, Mn, and Fe. The present experimentation shows that a high plasticity can be attained in the V300 alloy with the following composition: 5% Cu, 3% Ni, no more than 1.2% Mg, no more than 0.3% Mn, and no more than 0.2% Cr. Such an alloy has a tensile strength and a stress-

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The enhancement of the plastic properties . . . .

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rupture strength which satisfy the requirements of the Engineering Specifications. The plasticity of the V300 alloy can also be increased by means of a novel heat-treatment procedure. The recommended procedure comprises a stepwise pre-quench heating, namely, heating to 500°C and 2-3-hr hold, an increase to 525-530° with a 2-3-hr hold. Quenching is then performed in saltpeter heated to 250-275°C, soaking at that temperature for 5 hrs, and avoidance of any artificially accelerated aging. This procedure affords a tensile strength in excess of 20 kg/mm<sup>2</sup> and a relative elongation of 1.2-2% with a stress-rupture strength that is still within the requirements of the Engineering Specifications. These conclusions are supported by a detailed description of the effect of the pre-quench heating temperature (full-page tabulation) and the effect of the temperature of the quenching medium (tabulation). There are 2 figures and 2 tables; no references. The participation of L. V. Shvyreva in the experimental work on the effect of the chemical composition, that of L. V. Shvyreva and T. V. Boytsova in the experimental work on the effect of the pre-quench temperature, and that of N. S. Pantyushkova and T. V. Privezentsev in the experimental work on the effect of the quenching medium are acknowledged.

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S/724/61/000/000/014/020

AUTHORS: Loktionova, N. A., Mangubi, N. M.

TITLE: The influence of anneal and cold treatment on the dimensional stability of die-cast Aluminum-alloy castings.

SOURCE: Liteynnye alyuminiyevyye splavy; svoystva, tekhnologiya plavki, lit'ya i termicheskoy obrabotki. Sbornik statey. Ed. by I. N. Fridlyander and M. B. Al'tman. Moscow, Oborongiz, 1961, 111-117.

TEXT: The paper describes an experimental investigation intended to determine under what circumstances cold treatment of Al castings contributes to the dimensional stability of the castings. More especially, the work described here was intended to verify the advisability of cold treatment under pressure of Al castings which are not subjected to a strengthening heat treatment and also to develop an optimal annealing regime for castings and parts made of the Al alloys AΛ2 (AL2), AΛ3 (AL3), and AΛ9 (AL9), a regime that would stabilize their dimensions after casting and machining. The method used for the measurement of the dimensional changes resulting from residual stresses consisted in the drawing of short straight lines on suitable portions of a part, and two transverse segments were drawn at a specified distance from one another, in a manner that permitted repeated verification

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The influence of anneal and cold treatment . . . .

S/724/61/000/000/014/020

of the distance between the two lines as the process progressed. The measurements between the control lines were made with an accuracy of  $\pm 0.01$  mm. Both castings and machined parts were tested in that fashion. Cold treatment consisted in soaking at  $-50^{\circ}\text{C}$  for 3, 6, 9, 12, 15, and 30 hrs. In the determinations of the effect of holding time at  $300^{\circ}$  on the dimensional stability of the castings, the specimens were heated in air-circulation furnaces for 0.5, 2, 4, 6, and 8 hrs. Three cyclic procedures were also employed, as follows: (a) Anneal at  $300 \pm 10^{\circ}\text{C}$  for 4 hrs; (b) anneal at  $300 \pm 10^{\circ}$  for 4 hrs, followed by cold treatment at  $-50^{\circ}\text{C}$  for 3 hrs; (c) cold treatment at  $-50^{\circ}$  for 3 hrs, followed by anneal at  $300 \pm 10^{\circ}$  for 4 hrs. The residual-stress investigation consisted of an anneal of the castings at  $300^{\circ}$  for 4 hrs, followed by machining according to the respective blueprints; the finished parts were again heated to  $300^{\circ}$ , and the various high- and low-temperature sequences outlined above were repeated. It was found that the second annealing of parts after machining is indispensable in the following cases: (a) When the part has a complex contour and, also, sharp variations in cross-section; (b) if the requirements for dimensional stability of a part are very stringent; (c) if the ratio of the machined surface to the unmachined surface is great. Following is the recommended heat treatment for a first-stage treatment for castings and for a second-stage treatment for some types of parts after machining to obtain the best possible dimensional stability: Anneal at  $300 \pm 10^{\circ}$ , holding for 2-4 hrs, and water cooling. Castings

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The influence of anneal and cold treatment ...

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and parts must not be subjected to any kind of external dynamic action, such as impact, shaking, compression, etc., either during or after anneal and also during transportation. Cold treatment at  $-50^{\circ}\text{C}$  of castings and parts made of AL2, AL3, and AL9 alloys, which have not been strengthened by heat treatment, have no effect on the magnitude of the deformations. There are 6 figures and 1 table; no references. The participation of L. U. Rodicheva, A. F. Chuvikova, and T. I. Suvorova in the investigation is acknowledged.

Card 3/3

LOKTIONOVA, N.A.

Size stability of AL9 alloy castings depending on the conditions of  
heat treatment. Lit. proizv. no.8:4-5 Ag '63. (MIRA 16:10)

LOKTIONOVA, N.A.; KULAKOV, V.I.; KRIVENKO, R.A.; TEYTEL', I.L.

Reducing residual stresses in aluminum alloy ingots. Metalloved.  
i term. obr. met. no.11:46-47 N '63. (MIRA 16:11)

LOKTIONOVA, N.A.; Primalni uchastiye: PANTYUSHKOVA, N.S.; POBOCHINA, T.V.;  
KRASNOVA, A.I.; FEL'DMAN, F.Z.; INOZHARSKAYA, L.A.; BOGUKHVALOVA,  
Z.V.; PRYTKOV, I.I.

Increasing the dimensional stability of Al9 alloy castings  
by heat treatment. Alum. splavy no.1:80-91 '63.  
(MIRA 16:11)



LOKTIONOVA, N.A.; RASTVOROVA, N.M.; BRESLAVTSEVA, O.P.

Searching for optima heat treating conditions of Al19 alloy  
castings. Alium. splavy no.1:99-113 '63. (MIRA 16:11)

PETRUNIN, A.M.; LOKTIONOVA, N.A.; AL'TMAN, M.B., rukovoditel' raboty;  
Prinimali uchastiye: LOZHICHEVSKIY, A.S.; SHKROB, V.A.; POSTNIKOV,  
A.S.; ARBUZOV, B.A.; PANTYUSHKOVA, N.S.; POBOCHINA, T.V.;  
PATRUSHEV, L.M.

Mastering the production of large Al8 alloy castings. Alum.  
splavy no.1:150-159 '63. (MIRA 16:11)

ACCESSION NR: AP4019810

S/0279/64/000/001/0085/0091

AUTHOR: Loktionova, N. A. (Moscow)

TITLE: Hardening of aluminum alloys in hot media

SOURCE: AN SSSR. Izv. Metallurgiya i gornoye delo, no. 1, 1964, 85-91

TOPIC TAGS: aluminum alloy, AK4-1 aluminum alloy, hardening, hot water hardening, salt bath thermal treatment, water hardening, cooling effect, cooling velocity, residual stress effect

ABSTRACT: The progress of the cooling process during the hardening of aluminum alloys in different media has been studied. The work included investigating the variation in metal properties and in residual stresses with respect to temperature of the cooling medium. The AK4-1 aluminum alloy samples were heated in a potassium nitrate bath to 535C, and were subsequently cooled in boiling water and in water at room temperature. Formation of the vapor film and of separate vapor bubbles was studied cinematographically with the "Debri" camera (120 frames/sec). It was learned that metal hardening in hot media resulted in the formation of oversaturated  $\alpha$ -solid solution capable of further hardening during aging. Average cooling rates

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ACCESSION NR: AP4019810

at 200°C were about equal for hardening in boiling water and in salt solutions. The optimal temperature for the graded and for isothermal hardenings was  $190 \pm 10^\circ\text{C}$ . Distribution of residual stresses in metal was independent of the alloy composition, of cooling regime during hardening, and of aging conditions. Residual stresses decreased with the variation in cooling rate. Hot water hardening secured dimensional stability in large and complicated details during heat treatment and during subsequent mechanical operations. Orig. art. has: 1 table and 5 figures.

ASSOCIATION: none

SUBMITTED: 20Mar63

DATE ACQ: 31Mar64

ENCL: 00

SUB CODE: ML

NO REF SOV: 008

OTHER: 003

Card 2/2

ACCESSION NR: AP4019810

at 200C were about equal for hardening in boiling water and in salt solutions. The optimal temperature for the graded and for isothermal hardenings was  $190 \pm 10C$ . Distribution of residual stresses in metal was independent of the alloy composition, of cooling regime during hardening, and of aging conditions. Residual stresses decreased with the variation in cooling rate. Hot water hardening secured dimensional stability in large and complicated details during heat treatment and during subsequent mechanical operations. Orig. art. has: 1 table and 5 figures.

ASSOCIATION: none

SUBMITTED: 20Mar63

DATE ACQ: 31Mar64

ENCL: 00

SUB CODE: ML

NO REF SOV: 008

OTHER: 003

Card 2/2

BR

ACCESSION NR: AT4037668

S/2981/64/000/003/0271/0284

AUTHOR: Loktionova, N. A.; Rastvorova, N. M.; Kovrizhny\*kh, V. G.; Komarova, N. K.;  
Telis, M. Ya.

TITLE: Ways to reduce warping of large parts made of alloy AK4-1

SOURCE: Alyuminyevy\*ye splavy\*, no. 3, 1964. Deformiruyemy\*ye splavy\* (Malleable  
alloys), 271-284

TOPIC TAGS: alloy AK4-1, extruded hollow cylinder, hollow cylinder warping, cooling stress,  
warping, alloy heat treatment, boiling water quenching, alloy mechanical property, aluminum  
alloy

ABSTRACT: The authors report on a study designed to eliminate residual cooling stresses,  
which result in a rejection rate of up to 50% due to warping in machining. Inversely extruded  
and pierced hollow cylinders (wall thickness 32.5-50.5 mm, outside diameter 591-855 mm,  
height 156-823 mm, weight 37 to 180 kg), manufactured in serial production from homogenized  
ingots of alloy AK4-1, were hardened (45 min. in a niter bath at  $528 \pm 5C$ , quenched 2 min.  
in lukewarm or 5 min. in boiling water) and aged 10 hrs. at  $190C$ , then tested to determine  
effects of quenching in boiling water on mechanical properties, microstructure and warping.  
Effects of aging temperature were evaluated in a separate series, where the latter was varied

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ACCESSION NR: AT4037668

from 180 to 210C. Results are tabulated and indicate that quenching in boiling water permits retention of properties adequate for technical requirements (tensile strength 39.3-41.6 kg/mm<sup>2</sup>, yield 29.3-34.3 kg/mm<sup>2</sup>, elongation 12.0-17.7%), but eliminates warping to a degree obviating the the need for straightening procedures. "The work was carried out under the guidance of V. I. Dobatkin; N. G. Vinokurov, Yu. N. Ponagaybo, I. N. Perety\*kina, G. F. Bulgakov, V. I. Pyatunia, S. M. Titkov, K. V. Kalmy\*kov, D. N. Braslavskiy, S. Ya. Veysman, N. N. Aper'yanova, N. S. Pantyushkova and T. V. Privezentseva also took part in the work." Orig. art. has: 4 tables and 3 graphs.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 04Jun64

ENCL: 00

SUB CODE: MM

NO REF SOV: 003

OTHER: 000

Card 2/2

RESIDUAL STAGES OF DEVELOPMENT OF THE ...



"APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R000930420019-3

APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R000930420019-3"

ACC NRI: AT6024928 (A,N) SOURCE CODE: UR/2981/66/000/004/0187/0191  
 JD/MM/EM/JH

AUTHOR: Loktionova, N. A.; Ovchinnikov, Yu. F.; Nikonorov, Ye. A.; Zamolodchikova,  
 V. N.; Lapina, L. V.; Perevozchikov, A. V.; Potapov, P. I.

ORG: none

TITLE: Residual stresses in weld joints of aluminum alloys

SOURCE: Aluminiyevyye splavy, no. 4, 1966. Zharoprochnyye i vysokoprochnyye splavy  
 (Heat resistant and high-strength alloys), 187-191

TOPIC TAGS: tensile stress, compressive stress, aluminum alloy property, weld evaluation

ABSTRACT: The residual stresses in various parts of a welded structure of ATsM alloy were determined by a mechanical method, and the influence of the artificial aging and tempering of the weld joints on the magnitude of these stresses was investigated. It was found that longitudinal residual stresses up to 10-11 kg/mm<sup>2</sup> and compressive residual stresses up to 11-12 kg/mm<sup>2</sup> in the transverse direction arise in the zone of the weld joints. Artificial aging of the weld joints of ATsM alloy for 100 hr at 90° does not change the magnitude and character of the residual stresses in the heat-affected zone as compared to the residual stresses in the naturally aged state. Tempering of the zone of the weld joint by induction heating to 240-250°C for 4-5 min followed by cooling of the heat-affected zone with water increases the magnitude of the

Card 1/2

L 46955-66

ACC NR: AT6024928

longitudinal tensile residual stresses by 1.5-2 kg/mm<sup>2</sup>, without changing the sign. At the same time, the transverse residual stresses change into compressive ones and reach 4 kg/mm<sup>2</sup>. Orig. art. has: 2 formulas.

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

Card 2/2 mt

14-00000-55 INT(R)/T/ENP(U)/MI IJP(c) JH/JD/AR

ACC NR: AT6024950

(A,N)

SOURCE CODE: UR/2981/66/000/004/0341/0349

AUTHOR: Loktionova, N. A.; Kulakov, V. I.; Isayev, V. I.

ORG: none

31  
30  
B+1

TITLE: <sup>16</sup> Heat treatment of products of <sup>16</sup> AK6 <sup>21</sup> aluminum alloy in hot media

SOURCE: Alyuminiyevyye splavy, no. 4, 1966. Zharoprochnyye i vysokoprochnyye splavy  
(Heat resistant and high-strength alloys), 341-349

TOPIC TAGS: metal heat treatment, aluminum alloy property

ABSTRACT: A study of the mechanical, corrosion and microstructural properties of pressed billets and stampings of AK6 alloy showed that in quenching in hot media, despite a marked decrease in cooling rate, as compared to ordinary quenching in water at 20°C, a supersaturated a solid solution appears which is capable of hardening during aging and isothermal holding in a salt melt at the temperature of artificial aging. Industrial tests showed that stepwise and isothermal quenching schedules can be used only for stampings with a cross-sectional thickness of no more than 15 mm. Quenching in hot water at 90°C can be used for stampings with a cross-sectional thickness up to 50 mm without any appreciable decrease in properties. The observed slight decrease in properties during quenching in hot media is due to the predominant breakdown of the solid solution along the grain boundaries. For this reason, articles with a finely granular structure and a well-developed substructure are more sensitive to changes in

Card 1/2

L 26775-85

ACC NR: AT6024950

the cooling rate than articles with a coarse-grained recrystallized structure. The general corrosion and stress corrosion after quenching in hot media are practically the same as after ordinary quenching followed by artificial aging. Orig. art. has: 4 figures and 1 table.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 004

*nr*  
Card 2/2

MAKOVICH, E.A.; OBIK, E.A.; DOKHONINA, E.A.

Aromatic hydrocarbons from the fraction boiling at 150-170°C  
obtained from the condensate of the Shabalinka gas field, 1955.  
C 857.ppt. 0.1454-56. Sect. 1.5. (MIRA 18:8)

YEGOROV, Yu.P.; LOKTIONOVA, R.A.

Spectroscopic study of the mutual influence of atoms in aromatic derivatives of elements of group IV. Teoret. i eksper. khim. 1 no.2:160-170 Mr-Ap '65. (MIRA 18:7)

1. Institut khimii vysokomolekulyarnykh soyedineniy AN UkrSSR, Kiyev.

L 42974-66 EWT(m)/EPF(n)-2/EWP(j)/T/EWA(h)/EWA(1) GG/RM/GS  
ACC NR: AT6006242 (A) SOURCE CODE: UR/0000/65/000/000/0037/0042

AUTHOR: Dubrova, L. N.; Kachan, A. A.; Loktionova, R. A.; Chervyatsova, L. L.;  
Kornev, K. A. (Doctor of chemical sciences)

ORG: Institute of Chemistry of High Molecular Compounds, AN UkrSSR, Kiev, (Institut  
khimii vysokomolekulyarnykh soyedineniy AN UkrSSR)

TITLE: Radiochemical polymerization of allyl esters of certain N-methylol deriva-  
tives of acid amides

SOURCE: AN UkrSSR. Modifikatsiya svoystv polimerov i polimernykh materialov (Modi-  
fication of the properties of polymers and polymeric materials). Kiev, Naukova  
dumka, 1965, 37-42

TOPIC TAGS: radiation polymerization, organic amide, IR spectrum

ABSTRACT: Allyl esters of N-methylol derivatives of acetamide, chloroacetamide, and  
benzamide were polymerized both in the pure state and in benzene and methanol solu-  
tions by irradiation with Co<sup>60</sup> gamma rays. Formation of the polymer was determined  
visually and also by means of viscosity and IR spectral measurements. In benzene

2



L 42974-66

ACC NR: AT6006242

and methanol, the effectiveness of the irradiation was one order of magnitude greater than in the bulk. IR spectra showed that even when doses of 1500 Mrad are used, no appreciable degradation of the allyl monomers takes place. The dependence of the content of allyl groups on the irradiation dose was determined. The decrease in the content of allyl groups observed indicates that the polymerization takes place at the double bonds. Orig. art. has: 2 figures, 3 tables.

SUB CODE: 07/ SUBM DATE: 06Oct65/ ORIG REF: 003/ OTH REF: 001

Card 2/2 MLP

ZHERDEVA, L.G.; MIKHAYLOV, I.A.; KROL', B.B.; CHERCHENKO, N.V.;  
LOKTIKOVA, Y.L.

Testing new silica alumina gel adsorbents for the adsorption  
stripping of oils. Trudy VNII NP no.7:155-166 '58.

(MIRA 12:10)

(Petroleum products) (Adsorbents--Testing)

MIKHAYLOV, I.A.; POLYAKOVA, A.A.; KHMEL'NITSKIY, R.A.; LOKTIONOVA, Ye.L.; MEDVEDEV, F.A.

Hydrocarbon composition of dearomatized liquid paraffins. Khim. i tekhn. topl. i masel 10 no.8:8-12 Ag '65. (MIRA 18:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefi i gazov i polucheniya iskusstvennogo zhidkogo topliva.

MIKHAYLOV, I.A.; LOKTIONOVA, Ye.L.

Adsorption properties of molecular sieves during liquid phase sorption of hydrocarbons. Khim.i tekhn.topl.i masel 3 no.11: 4-10 N '63. (MIRA 16:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti i gazov i polucheniye iskusstvennogo zhidkogo topliva.

L 25272-66 EWT(m)/T WE

ACC NR: AP6017744

SOURCE CODE: UR/0065/65/000/008/0008/0012

AUTHOR: Mikhaylov, I. A.; Polyakova, A. A.; Khmel'nitskiy, R. A.; Loktionova, Ye. L.; Medvedev, F. A.

ORG: VNII NP

TITLE: Hydrocarbon composition of dearomatized liquid paraffins

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 8, 1965, 8-12

TOPIC TAGS: hydrocarbon, aromatic hydrocarbon, petroleum refining, petrochemistry

ABSTRACT: The hydrocarbon composition of highly dearomatized liquid paraffins of different fractional compositions was investigated. It was shown that they consist of paraffin hydrocarbons of normal and branched structure, monocyclic naphthenes, and aromatic hydrocarbons. In marketed samples of paraffins of the Moscow Petroleum Refinery the content of normal paraffin hydrocarbons was 95%, paraffin hydrocarbons of branched structure 3-4%, naphthene hydrocarbons up to 1%, and aromatic hydrocarbons not more than 0.5%. Normal paraffin hydrocarbons were represented by compounds with from 14 to 22 carbon atoms per molecule, isoparaffin hydrocarbons — from 17 to 24, and naphthene — from 14 to 16 carbon atoms. Marketed paraffins of the Groznyy Petroleum-Oil Plant are characterized by a reduced content of normal-structure paraffin hydrocarbons (90% and lower) and a high content of isoparaffin hydrocarbons (from 8 to 17%). Distribution of normal-structure paraffin hydrocarbons in terms of number of carbon atoms in the molecule was the same as in paraffins from sulfur-containing petroleum stocks, but in a different quantitative ratio. Orig. art. has: 3 figures and 3 tables. [JPRS]

SUB CODE: 11, 07 / SUEN DATE: none

Card 1/1

B.L.G.

UDC: 665.41:553.98

L 17191-63

ENP(q)/ENT(m)/EDS AFFTC JD

S/0081/63/000/009/0423/0423

ACCESSION NR: AR3004189

SOURCE: RZh. Khimiya, Abs. 9L67

57

AUTHOR: Talanov, N.D.; Mikhaylin, A.D.; Yezhova, A.M.; Livshits, S.I.;  
Loktyukhina, T.A.

TITLE: Production of high-purity phosphorus 21

CITED SOURCE: Tr. po khimii i khim. tekhnol., (Gor'kiy), vy\*p. 1, 1962, 159-164

TOPIC TAGS: red phosphorus, yellow phosphorus, purity, vacuum distillation,  
phosphorus

TRANSLATION: The process of purification of technical commercial red phosphorus from impurities of mineral acids in small concentrations was studied. The non-equivalent action of 3 and 5% HNO<sub>3</sub>, H<sub>2</sub>SO<sub>4</sub>, and HCl or their mixtures, taken in equal amounts, was demonstrated at 70-95°. Two treatments of red phosphorus with acid for periods of 12 hours, followed by washing with distilled water and drying, successfully purify phosphorus from a total content of the impurities to be determined up to 2·10<sup>-2</sup>-5·10<sup>-3</sup>%. The process of vacuum distillation of

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L 17191-63

ACCESSION NR: AR3004189

0

technical yellow phosphorus, preliminarily purified of acid, in glass apparatus at a residual pressure of  $1 \cdot 10^{-2}$ - $1 \cdot 10^{-4}$  mm of mercury, followed by its polymerization to the red modification was studied. Phosphorus containing a sum of the impurities to be determined equal to  $5 \cdot 10^{-4}\%$  and lower is obtained by the method of two to three distillations. Spectrally pure phosphorus is obtained by the method of four distillations. No influence of the depth of the vacuum in the range  $1 \cdot 10^{-2}$ - $1 \cdot 10^{-4}$  mm of mercury or of the variety of glass on the quality of the final product was noted. From the authors' summary.

DATE ACQ: 19Jun63

SUB CODE: CH, EL

ENCL: 00

Card 2/2

LOKTYUKHOV, M.; IVANOV, V.

Widespread precast construction. Stroitel' no.6:3-8 Je '61.  
(MIRA 14:7)

1. Upravlyayushchiy trestom Mosstroy No.3 (for Loktyukhov).
2. Sekretar' partorganizatsii tresta Mosstroy No.3 (for Ivanov).  
(Moscow—Construction industry)



LOKTYUKHOV, M. G.

27701

Shire vnedryat' peredovye metody zhilishchnogo stroitel'stva.  
(iz opyta stroitel'stva mnogoetazhnykh zdaniy v moskve).  
Arkhitektura i stroit-vo, 1949, No. 7, s. 3-6.

SO: Knizhnaya Letopis, Vol. 1, 1955

LOKTYUKHOV, M.; RAZINKOV, P., redaktor; IGNAT'YEVA, A., tekhnicheskii  
redaktor.

[At Moscow construction sites; a builder's notes] Na stroikakh  
Moskvy; zapiski stroitelia. [Moskva] Moskovskii rabochii, 1953.  
141 p. [Microfilm] (MLRA 8:9)  
(Moscow--Building)

LOKTYUKHOV, M.G.

~~SECRET~~  
The building projects in the southwestern district of the capital.  
Gor.khoz. Mosk. 29 no.12:11-15 D '55. (MLRA 9:3)

1. Upravlyayushchiy trestom "Moszhilgorstroy" Obshchestvoitel'nogo  
territotial'nogo upravleniya No. 1 Glavmosstroya.  
(Moscow--Building)

LOPTYUKHOV, M.G.

Work of the control center of a building trust. Gor. khoz. Mosk.  
32 no.2:14-15 P '58. (MIRA 11: 1)

1. Upravlyayushchiy trestom "Mosstroy" no.3.  
(Moscow--Construction industry--Management)

LOKTYUSHINA, L. A.

Loktyushina, L. A.

"The Concept of Mass in the Physics Course at the Intermediate School."  
Moscow State Pedagogical Inst imeni V. I. Lenin. Moscow, 1955. (Dissertation for the Degree of Candidate in Pedagogical Science)

So: Knizhnaya letopis', No. 27, 2 July 1955

DERA, J.; SZCZEBLEWSKI, B.; LOKUCIJEWSKI, B.

Radioactive contamination of sea water in the North European region. Acta geophys pol 10 no.2:173-182 '62.

Effect of the ... on the viscosity of ... nitrate  
 ... K. Lokutnevskaya, S. A. Fedina, E. S. ...  
 ... 1964, No. 16, 116-118 (1964). The apparent viscosity  $\eta_{sp}/c$   
 of 2% solutions of cellulose nitrate (B) (11.5% N) in DMSO  
 calculated assuming Poiseuille's law decreased from 0.17 to  
 0.12 poises when  $\eta_{sp}/c$  increased from 1.4 to 1.8, the  
 20% being the velocity gradient. When the ...  
 the OH groups of I ... was ...  
 ... but ...  
 ... of LiCl ...  
 ... OH groups ...  
 ... Thus, to eliminate structural vis-  
 com, each ONO<sub>2</sub> group must be blocked by one LiCl.  
 The effect of LiCl on 1% soln. of I in RCOH + EtOH  
 was similar, while 0.2% soln. of I in RCOH + EtOH  
 (viscosity) were not affected by LiCl. The ...  
 of I used was 43.0% independently of the amount of LiCl  
 added, thus, the dependence of  $\eta$  by LiCl was not due to  
 polymerization.

ЛЕКУЧИЕВСКАЯ, Л.Р.

USSR.

✓ Effect of electrolytes on the viscosity of cellulose nitrate solutions. E. V. Kozlov, A. A. Fridman, B. B. Gavalahteln and L. K. LEKUCHIEVSKAYA. *Colloid J. U.S.S.R.* 16, 125-8 (1954) (Engl. translation).—See *C.A.* 48, 8827f. H. L. H.



S/058/63/000/002/030/070  
A062/A101

AUTHOR: Varshavskaya, N. B., Levenberg, T. M., Lokutsiyevskaya, L. K.

TITLE: On the requirements regarding the exposure conditions in motion-  
-picture photography on multilayer materials in the case of  
utilizing intermediate contratyping

PERIODICAL: Referativnyy zhurnal, Fizika, no. 2, 1963, 99 - 100, abstract 2D644  
("Uspekhi nauchn. fotogr.", 1962, v. 8, 172 - 178)

TEXT: It is shown that in the direct negative-positive process and in the  
process with contratyping by the reversal method, the exposure reserve in photo-  
graphing is on the average the same. For films ДС-2 (DS-2) and ЛН-3 (LN-3), ex-  
posed according to the technical conditions, it is about 1.4 - 1.5 when photo-  
graphing objects of an average contrast. For original color positives, the de-  
terioration noted in the quality of the colored image as compared to the optimum,  
when changing the exposure, is as a rule gradual. But with positives obtained from  
contratyping, the quality of the color image, remaining nearly the same within  
a wide range of exposures, sharply decreases behind that range. In negatives cor-  
responding to original positives, still satisfactory as to their quality of color.

Card 1/2

S/058/63/000/002/030/070

On the requirements regarding the exposure conditions in..A062/A101

reproduction, and to positives from contratyping, use is almost always made of the curvilinear portions of the characteristic curves of the negative material. Positives quite unsatisfactory as to the quality of reproduction are usually obtained when in one or in two layers of the negative film the straight-line portions of the characteristic curves are but little utilized, while the initial or terminal portions thereof are utilized almost completely. The convenience control of negatives for contratyping can be carried out on the color-light passport of the original negative. Changes of exposure in photography within rather wide limits have little effect on the quality of color reproduction in both the direct negative-positive process and in the process with intermediate contratyping on the reversed film.

[Abstracter's note: Complete translation]

Card 2/2

S/058/63/000/003/048/104  
A062/A101

AUTHORS: Balabukha, D. K., Levenberg, T. M., Lokutsiyevskaya, L. K.,  
Khristinina, G. N.

TITLE: Sensitometric test for controlling color reproduction. I. Construc-  
tion principles of the test

PERIODICAL: Referativnyy zhurnal, Fizika, no. 3, 1963, 87, abstract 3D589  
("Tr. Leningr. in-ta kinoinzhererov", 1961, no. 6, 91 - 98)

TEXT: This is a report on elaborated construction principles of a test  
for investigating and controlling color reproduction in color photography proces-  
ses. The application of such a test permits to replace the physiological colo-  
rimetric evaluation of the color reproduction by a physical evaluation, based on  
the measurement of the dye concentrations. The investigation, by this test, of  
all the stages of a color photography process (color separation, synthetic and  
gradation stages) in their mutual relationship permits to describe the color re-  
production as an objective process property characterized by the configuration  
of the color reproduction bands. The test provides the possibility to judge on

Card 1/2

Sensitometric test for controlling...

3/058/63/000/003/048/104  
A062/A101

the intermediate images, obtained at the different technological stages, about the color separation and gradation characteristics of these stages. Thus, with the aid of the test, it is possible to determine the part of different technological factors in the formation of the quality of a color image. It is shown that by the test it is possible to compare objectively different color photography processes and different technological variations of the same process.

[Abstracter's note: Complete translation]

Card 2/2

S/058/63/000/003/049/104  
A062/A101

AUTHORS: Balabukha, D. K., Levenberg, T. M., Lokitsiyevskaya, L. K.,  
Khristinina, G. N.

TITLE: Sensitometric test for controlling color reproduction. II. Techno-  
logy of preparing the test for the motion-picture industry

PERIODICAL: Referativnyy zhurnal, Fizika, no. 3, 1963, 87, abstract 3D590  
("Tr. Leningr. in-ta kinoinzhenerov", 1961, no. 6, 99 - 105)

TEXT: This is a report on the elaborated technology of preparing tests  
for color reproduction control in multilayer and hydrotype color photography  
processes, and on the experimental samples of these tests. For Part I see ab-  
stract 3D589.

[Abstracter's note: Complete translation]

Card 1/1

BALABUKHA, D.K.; LOKUTSIYEVSKAYA, L.K.; KHERSONSKAYA, L.I.

Color reproduction bands in the reversal color process.

Zhur. nauch. i prikl. fot. i kin. 8 no.6:405-409 N-D '63.  
(MIRA 17:1)

1. Leningradskiy institut kinoinzhenerov (LIKI).

VARSHAVSKAYA, N.B.; LEVENBERG, T.M.; LOKUTSIYEVSKAYA, L.K.

Requirements of exposure conditions in copying motion-picture  
films on multilayer materials by the duplication method. Usp.  
nauch. fot. 8:172-178 '62. (MIRA 17:7)

LEVENBERG, T.M.; LOKUTISYEVSKAYA, L.K.

Determining the macrograininess of monochromatic color fields by means  
of the photographic projection method. Usp.nauch.fot. 10:195-201 '64.  
(MIRA 17:10)





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"APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R000930420019-3

APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R000930420019-3"

"Open Reflections of one-Dimensional Compacts on Cubes of Arbitrary Dimensions,"  
Usp. Mat. Nauk Vol. 6 No. 4 (44), pp 193-220, 1951.

U-1635, 16 Jan 52

LOKUTSIYEVSKIY, O. V.

LOKUTSIYEVSKIY, O. V. -- "Certain Problems in the Theory of Continuous Representations (Reflections) of Closed Sets." Sub 20 Feb 52, Sci Res Inst of Mechanics and Mathematics, Moscow Order of Lenin State U imeni M. V. Lomonosov. (Dissertation for the Degree of Candidate in Physicomathematical Sciences).

SO: Vechernaya Moskva January-December 1952

*Lokutsiyevskiy, O.V.*

SALVADORI, Mario, G.; LOKUTSIYEVSKIY, O.V. [translator]; SEMENDYAYEV,  
K.A., redaktor; AGRANOVICH, M.S., redaktor; SHAPOVALOV, V.I.,  
tekhnicheskij redaktor.

[Numerical methods in engineering. Translated from the English]  
Chislennyye metody v tekhnike. Perevod s angliiskogo O.V. Loku-  
tsievskogo. Pod red. K.A. Semendiaeva. Moskva, Izd-vo inostran-  
noi lit-ry, 1955. 247 p. (MLRA 9:4)  
(Numerical calculations) (Engineering--Tables, calculations, etc.)

ЛОКУТСИЙСКИЙ, О.В.  
LOKUTSIYEVSKIY, O.V.

One theorem of a fixed point. Usp.mat.nauk 12 no.3:171-172 My-Je '57.  
(MIRA 10:10)  
(Topology)

LOKUTSIYEVSKIY, O.V.

A problem of P.S.Uryson. Dokl. AN SSSR 151 no.4:775-777 Ag  
'63. (MIRA 16:3)

1. Predstavleno akademikom P.S.Aleksandrovym.  
(Topology)



LOKUTSIYEVSKIY, O.V.

Space of relative topology. Dokl. AN SSSR 157 no.5:1035-  
1038 Ag '64. (MIRA 17:9)

1. Predstavleno akademikom P.S. Aleksandrovym.

SECRETARY, D.C.

Technology of ... (MIRA 18:10)

(MIRA 18:10)

1. Submitted March 23, 1964.

1. Laboratory temperature is 20°C  
2. The sample is a solid  
3. The sample is a solid

LOKVENC, Jaroslav, inz.

Continuous flow of overburden in open mines of the north  
Bohemian lignite basin. Uhli 5 no.6:208-209 Je '63.

1. Dul Antonin Zapotocky, Uzin.

LOKVENC, Jaroslav, inz.

New types of heavy machinery for lignite mines. Uhli 3 no.12:402-405  
D '61.

1. Dul Antonin Zapotocky, Uzin.

(Lignite) (Mining machinery)

LOKVENC, Jaroslav, inz.

New types of heavy mining machinery for large lignite mines.  
Uhli 4 no.1:27 Ja '62.

LOKVENC, Jaroslav, inz.

A method of complete extraction of lignite seams and the most economical use of lignite. Uhli 4 no.7:238-241 J1 '62.

1. Dul Antonin Zapotocky, Uzin.

LOKVENC, Jaroslav, inz.

Winter stripping operations in lignite quarries of the  
North Bohemian lignite basin. Uhl 5 no.9:319-321 S'63.

1. Dul Antonin Zapotocky, Uzin.



LORENS, T.

Specimens of trees, foreign to the area of Krkonose (Riesengebirge). p. 183  
(Ochrana Prirody Vol. 11, no. 6, July 1956 Praha)

SO: Monthly List of East European Accession (DEAL) IC, Vol. 6, no. 7, July 1957. Incl.

JENIK, Jan; LOKVENC, Theodor

The Alpine forest line in the Krkonose Mountains. Rozpravy mat  
CSAV 72 no.1:1-65 '62.

LOKVENC, V.

Proper heights of the crest of a dam at diverging and navigable lateral canals. p. 124. VODNI HOSPODARSTVI. (Ustredni sprava vodniho gospodarstvi) Praha. No. 5, 1954.

SOURCE: East European Accessions List, (EFAL).  
Library of Congress. Vol. 5 no. 12,  
December 1956.

LOKVENS, V.

LOKVENS, V. Notes on determination of the coefficient of filtration  
in sandy soils. p. 497.

Vol. 3, No. 6, 1955  
SOVETS'KA VEDA: VODNI STAVITELSTVI.  
TECHNOLOGY  
Praha, Czechoslovakia

So: East European Accessions, Vol. 5, No. 5, May 1956

The proper vertical location of the crest in diverging and lateral navigable canals. p. 37. VODNI HOZPVEDA SVI. (Ustredni apove vodnih gospodarstvi) Praha. Vol. no. 2, Feb. 1956.

SOURCE: East European Accessions List, Vol. 5, no. 9, September 1956

BRIDGE

Bridge made unnecessary in the inundation area at the mouth of the Vah River;  
an example of saving. p. 227

VOJENSKO POMOĆ (Ustredni sprava vojenske pomoći)  
No. 9, Sept. 1956

Praha, Czechoslovakia

SOURCE: East European List (EAL) Library of  
Congress, Vol. 6, No. 1, January 1957

LOKVENC, V.

Notes on the problem of calculating hydroelectric plants using water storage.

p. 233 (Vodohospodarsky Casopis. Vol. 5, no. 3, 1957. Bratislava, Czechoslovakia)

Monthly Index of East European Accessions (EEA) LC. Vol. 7, no. 2,  
February 1958

LOKY, Karoly

An account of the 18th International meeting and a scientific session  
arranged by the Hungarian Geographical Society. Held in Nyirseg.  
Foldr kozl 12 no. 11:310-350 '64.



MYSHKO, D., redaktor; ASEYEV, Yu.; BEVZO, A.; VIKTOROV, A.; GRISHKO, N.;  
DOROSHENKO, Ye.; YEVTUSHENKO, A.; IGNATKIN, I.; KOZYRENKO, M.;  
LOLA, A.; LYSENKO, A.; LYSENKO, N.; PANKEYEV, V.; POLUPANOVA, I.;  
~~TELEGIN~~, D.; CHUDNOVSKAYA, I.; DEREVIANKO, G., tekhnicheskij  
redaktor.

[Kiev; a guidebook] Kiev; spravochnik-putevoditel'. Kiev, Gos.  
izd-vo polit, lit-ry USSR, 1954. 284 p. [Microfilm] (MLRA 8:2)  
(Kiev--Guidebooks)

LOLA, A.T.

Some criteria of the activity of the tubercular process in  
pulmonary tuberculomas. Vrach.delo no.3:135-136 Mr '63.  
(MIRA 16:4)

1. Kliniko-dispansernyy otdel (zav. - prof. V.P.Rudin)  
Ukrainskogo nauchno-issledovatel'skogo instituta tuberkuleza i  
grudnoy khirurgii.

(LUNGS--TUMORS)

LOLA, M. (g.Vil'nyus)

Using the workday to measure labor productivity on collective farms.  
Vop.ekon.no.7:121-131 J1 '56. (MLRA 9:9)  
(Collective farms) (Labor productivity)

*Lola, V. N.*

133-10-14/26

AUTHOR: Filonov, V. A., Ksenzuk, F. A., Lola, V. N., and Khudas, A. L. Engineers.

TITLE: Production of Hot Rolled Plates from the Kh18N25S2 Steel. (Proizvodstvo Goryachekatanogo Lista Iz Stali X18H25C2).

PERIODICAL: Stal', 1957, No.10, pp. 917-918 (USSR).

ABSTRACT: Heating of 10.5 t. ingots from X18H25C2 steel and their rolling into slabs, as well as subsequent heating of slabs and their rolling into plates was investigated in order to determine the most suitable practice. According to GOCT-5632-51, the above steel should have the following composition: 0.30-0.40% C;  $\leq 1.5\%$  Mn; 2.0-3.0% Si;  $\leq 0.035\%$  P;  $\leq 0.025\%$  S;  $\leq 17.0-20.0\%$  Cr; 23.0-26.0% Ni. The following heating practice was adopted; temperature of the pit during charging  $950^{\circ}\text{C}$ ; rate of heating until soaking period  $80-100^{\circ}\text{C/hr}$ , the temperature of walls during soaking  $1200-1220^{\circ}\text{C}$ ; duration of soaking 2 hours 45 min.; total heating time 6 hours 10 min. Two ingots were rolled into slabs (115 x 1050 mm) from one heating in 39 and 35 passes respectively. One ingot was rolled with intermediate heating after 16 passes (thickness 400 mm) for 1 hour 20 min. at  $1220^{\circ}\text{C}$  and subsequent finishing in 23 passes. The maximum value of absolute reduction per pass did not exceed 10-15 mm.

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The surface quality of all ingots was approximately the

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Production of Hot Rolled Plates from the Kh18N25S2 Steel.

same (the depth of cracks reached up to 10 mm). Crop ends of the head part of ingots amounted to 18.5 - 20% and of bottom part 4.2 - 4.8%. Cooled slabs were straightened and machined, the loss of metal in machining reached up to 25% (Table 1). Slabs were heated for 3 hours 15 min. at a temperature of 1260°C (Table 2) and rolled on a ten stand continuous hot rolling mill into plates of a cross-section 4 x 1030 mm (rolling conditions - Table 3). Retention of slabs on the mill causes a sharp cooling of their surface making further rolling impossible. Rolling should be carried out at maximum permitted temperatures, therefore water cooling of rolls should be discontinued. Due to discontinuation of cooling, rolling of slabs from the above steel on a continuous mill can be carried out only in small lots. There are 3 tables and 1 Slavic reference.

ASSOCIATION: Zaporozhstal' Works. (Zavod Zaporozhstal').

AVAILABLE: Library of Congress

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*Lola, V.M.*

133-2-19/19

AUTHORS: Filonov, V.A., Podgorodetskiy, A.A., Ksenzuk, F.A. and  
Lola, V.M. (Engineers)

TITLE: From Experience in Production of Two Layer (Clad) Ingots  
and Slabs (Opyt proizvodstva dvusloynnykh slitkov i slabov)

PERIODICAL: Stal', 1958, Nr 2, pp.188-191 (USSR)

ABSTRACT: The technology of production of clad ingots and slabs  
from steels 20K and X18H12M27 developed on the Zaporozhstal'  
Works is described. The method consists of teeming steel  
20K into an ingot mould into which a plate from stainless  
steel was fixed (Figs.1, 2). The preparation of stainless  
plate, heating (Table 2) and rolling clad ingots, dimensions  
of clad slabs (Table 2) and mechanical properties of clad  
plate produced (Table 3) are given. There are 3 tables and  
4 figures.

ASSOCIATION: Zaporozhstal' Works (Zavod "Zaporozhstal'")

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Lola, V. N.

Distri: 4E1j/4E2c

Making clad ingots and slabs. V. A. Filonov, A. A. Podgorodetski, F. A. Kravchik, and V. N. Lola. Sp. 18  
 183-0111001. A cleaned slab of stainless steel coated with  $NH_4Cl$  was placed at one of the sides of an ingot mold, which was then filled with molten steel. The solidified duplex ingot was rolled into a slab. J. D. Coy

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6  
2

*[Handwritten signature]*

KSENZUK, F.A., inzh.; LOLA, V.N., inzh.; PAL'CHIK, N.V., inzh.

Investigating the heating and rolling of electrical  
steel slabs. Stal' 20 no.8:738-739 Ag '60.  
(MIRA 13:7)

1. Zavod "Zaporozh'stal'."  
(Rolling(Metalwork))



CHERKASHINA, N.P., inzh.; LOLA, V.N., inzh.

Relation of the properties of St. 3kp steel to its composition and temperature of coliling. Stal' 20 no.9:851-855 S '60. (MIRA 13:9)

1. Zavod "Zaporozhstal'."  
(Sheet steel) (Rolling (Metalwork))

FILONOV, V.A., inzh. [deceased]; YUDIN, M.I., inzh.; LOLA, V.N., inzh.;  
MOYSHOVICH, V.S., inzh.; AVRAMENKO, I.N., inzh.; PAVLISHCHEV, V.B., inzh.

New technology for the production of wide-strip stainless steel with  
a thickness of less than 1,5 mm. Stal' 23 no.1:60-61 Ja '63.  
(MIRA 16:2)

11 Zavod "Zaporozhstal'".

(Rolling (Metalwork))

S/133/63/000/001/009/011  
A054/A126

AUTHORS: Filonov, V. A. (Deceased), Lola, V. N., Pavlishchev, V. B.,  
Petrenko, I. S., Engineers

TITLE: Flame cleaning of stainless steel ingots and preparing slabs for  
rolling

PERIODICAL: Stal', no. 1, 1963, 73 - 75

TEXT: The surface defects of 12-ton stainless steel ingots (maximum  
cross section: 640 x 1,100 mm, height: 2,200 mm) produced at the zavod "Dne-  
prospetsstal'" ("Dneprospetsstal'" Plant) and rolled at the zavod "Zaporozh-  
stal'" (Zaporozhstal'" Plant) could not be removed by conventional planing and  
grinding methods. In 1961, tests were carried out (in co-operation with L. N.  
Soroko, F. M. Dolmatov, M. Ye. Kugayenko, V. G. Antipenko, F. A. Yevtushenko,  
V. K. Barziy, N. V. Pal'chik, N. P. Cherkashina, V. I. Kalabukhov, V. I. Kise-  
lev, A. V. Sysoyev, Yu. V. Zagorul'ko, B. M. Tsirlin, V. D. Klipinitser, Engi-  
neers, et al.) to remove the surface defects of the ingots by flame-cleaning.  
Based on the construction of the PP -53 (RR-53) type flame cutter a special

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Flame cleaning of stainless steel ingots and...

S/133/63/000/001/009/011  
A054/A126

apparatus was designed, in which the burning substance ejected from the head of the apparatus consisted of crushed calcium silicate and the so-called ПAM-4 (PAM-4) powder (50% aluminum and 50% magnesium) in a volume ratio of 2 : 1. The heat developed by the burning mixture is sufficient for both carbon and stainless steels. Calcium silicate in the mixture has a fluxing effect on the high-smelting components, it makes the slag layer fluid and promotes its removal. The powder mixture is ejected through a jet of oxygen of 99.0% purity under a pressure of 10 atm. The cutter head is also supplied with natural gas (caloric value: 8,340 cal/stand m<sup>3</sup>) under a pressure of 3 atm. One run of the flame cleaner cleans the ingot surface to a depth of 3 - 7 mm and over a width of 150 - 200 mm. Then follows the secondary cleaning, which removes the remaining deeper defects to a depth of 20 - 30 mm. After flame cleaning, the metal surface is slightly corrugated with ridges not higher than 3 mm. The metal loss in flame cleaning is 10 - 30 kg/ton of flawless metal, whereas in the planing process: up to 51 kg/ton. However, as flame cleaning alone did not produce the required flawless ingot surface and as it requires much labour, tests were carried out to combine it with other finishing processes, i.e. I. flame cleaning + local removal of single defects by grinding, II. flame cleaning + continuous

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