L 32251-65 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(b) IJP(c) MJW/JD

ACCESSION NR: AP5005107 S/0129/65/000/002/0050/0052

AUTHOR: Khorev, A. I.; Glazunov, S. G.; Legkodukh, A. M.

TITLE: Strengthening VT15 alloy by heat treatment

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 2, 1965, 50-52

TOPIC TAGS: titanium alloy, alloy heat treatment, optimum heat treatment, alloy strength, alloy ductility, VT15 alloy

ABSTRACT: To determine the optimum heat treatment for VT15 titanium alloy (7.08% Mo, 11.19% Cr, 3.15% Al), alloy bars forged from 40-kg ingots were quenched from 800C (the β-region) or from 680C (the α + β region) and then aged at temperatures ranging from 350 to 600C for 25 hr. The alloy quenched from the α + β region reached a maximum strength of 160 kg/mm^2 with aging at 450C; the maximum tensile strength of the alloy quenched from the β-region, 153 kg/mm^2, was obtained with aging at 500C (see Fig. 1 of the Enclosure). The decomposition of the α + β alloy occurs at lower aging temperature because of the presence of the α-phase formed during pre-quench heating. At maximum strength the elongation of the alloy quenched from α + β region was 4 times higher than that of the β-alloy. This is explained by a more uniform aging. Aging at higher temperatures lowers the strength

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L 32251-65

ACCESSION NR: AP5005107

but does not raise the ductility. Thus, the best combination of mechanical properties of VT15 alloy is achieved by quenching from the temperature of the $\alpha + \beta$ region (680C) with subsequent aging at 450—500C. Orig. art. has: 2 figures. [MS]

ASSOCIATION: none

SUBMITTED: 00 ENCL: 01 SUB CODE: MM, IE

NO REF SOV: 000 OTHER: 000 ATD PRESS: 3203

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L 32251-65

ACCESSION NR: AP5005107

ENCLOSURE: 01

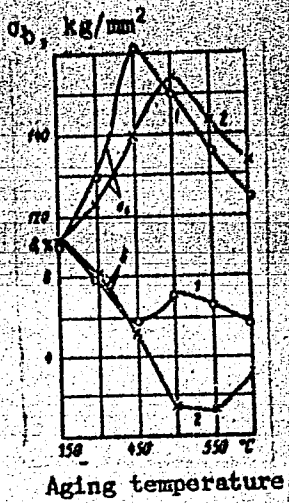

Fig. 1. Effect of the quenching and aging temperature on mechanical properties of VT15 alloy

1 - Quenching from 680C; 2 - quenching from 800C.

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L 55955-65 EWT(d)/EWP(w)/EWT(m)/EPA(s)-2/EWP(v)/EWA(d)/T/EWP(t)/EWP(b)/EWP(k)/EWP(z)/EWA(c)/EWA(h) Pf-4/Peb IJP(c) MJW/JD/HM/WW/EM

ACCESSION NR: AP5014206 UR/0122/65/000/005/0028/0030

621.642:546.821

AUTHOR: Khorev, A. I. (Engineer); Gruzdeva, L. A. (Engineer); Manuylov, N. N. (Engineer); Loskutov, V. M. (Engineer); Vikhrov, G. S.

TITLE: High-strength welded cylindrical shells of VT14 alloy

SOURCE: Vestnik mashinostroyeniya, no. 5, 1965, 28-30

TOPIC TAGS: VT14 alloy, titanium alloy, titanium alloy welding, titanium alloy heat treatment, titanium alloy property

ABSTRACT: The effect of heat treatment on the mechanical properties of welded joints in VT14 alloy sheets (4% Al, 3% Mo, 1% V, bal. Ti) has been studied. Test plates 2.5 mm thick were milled to a thickness of 1.5 mm, except for a narrow strip along the edges to be welded. The plates were welded, annealed at 870C for 15 min, aged for 16 hr either at 480 or 520C, and then h-f annealed at 750C or 850C for 5 min. Tensile and bend tests showed that welded joints in the as-aged condition (without h-f annealing) failed at a strength of 94.9—120.4 kg/mm^2 in either the weld (in a brittle manner) or the base metal. H-F annealed specimens always failed in the base metal at a strength of 107—125 kg/mm^2. The bend duc-

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L 55955-65

ACCESSION NR: AP5014206

tility of h-f annealed specimens was almost twice as high as that of as-aged specimens. The experience gained in these experiments was used in fabrication of shells 197 mm in diameter from sheet 2 or 2.5 mm thick. The sheets were rolled, welded, annealed at 850C for 15 min, and machined to 1.15 or 1.5 mm thickness (except for the weld and weld-adjoining area). Then the shells were aged at 480, 500, or 520C for 16 hr after which the weld and weld-adjoining zones were h-f annealed at 750C for 5 min. Shells aged at 480C had the highest burst strength, 138.5—154 kg/mm^2, compared to 130—141 kg/mm^2 for shells aged at 500 or 520C. However, all the shells failed in a ductile manner in the base metal far off the weld. Orig. art. has: 3 figures and 2 tables. [AZ]

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NO REF SOV: 000 OTHER: 000 ATD PRESS: 4035

Card 2/2

EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c) Pf-4

ACCESSION NR: AP5013159

UR/0129/65/000/005/0045/0048
669.295:620.18:539.37:621.70

AUTHOR: Glazunov, S. G.; Khorev, A. I.; Polyak, E. V.

30
B

TITLE: Thermomechanical treatment of VT15 alloy

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 5, 1965, 45-48, and insert facing p. 40

TOPIC TAGS: ausforming, thermomechanical treatment, metal mechanical property, metal deformation, titanium alloy

ABSTRACT: Attempts were made to increase the ductility of CT15*, while retaining its high strength. The area of primary interest was the thermomechanical history of the alloy, above and beyond ordinary quenching and aging. Among the treatments used was a combination of hot deformation (85%) in the single phase β-region at 1050°C and quenching in water with aging at 480°C for 25 hrs, and subsequent re-aging at 560°C for 15 min. This was combined with various annealing and aging treatments, all designed for maximizing strength and ductility. Metallographic studies using optical and electron microscopy indicate how dispersed α-phase precipitation affects aging and mechanical properties of VT15. In all cases the

*(probably VT15)

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L 58364-65
ACCESSION NR: AP5013159

microstructures show α-phase needles dispersed in a β-matrix. However, the length of the needles is noticeably different for each of the treatments. A systematized table summarizes the principal results. Ausforming based on hot working at 1050°C with quenching and subsequent aging at 480 and 560°C is the best treatment for improving mechanical properties. Cold working of the β-phase solution after some hot work results in an increased dispersion of precipitate upon aging.
Orig. art. has: 3 figures, 2 tables

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NO REF SOV: 000 OTHER: 000

Card 2/2

L 57508-65 EWT(m)/EWP(w)/EWA(d)/EPR/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c)
Pf-4/Ps-4 IJP(c) MJW/JD/HW

ACCESSION NR: AP5013160 UR/0129/65/000/005/0048/0050
669.295:621.78:539.37

AUTHOR: Khorev, A. I.; Geras'kova, L. V. 41 B

TITLE: Heat treatment of VT14, VT16, and VT15 alloys

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 5, 1965, 48-50

TOPIC TAGS: titanium alloy, metal mechanical property, heat treatment

ABSTRACT: The effect of heat treatment and cold deformation on the mechanical properties of Ti alloy sheets was studied. The alloys studied were: VT14 (4% Al, 3.3% Mo, 0.05% Zr), VT16 (2% Al, 7.5% Mo) and VT15 (3% Al, 7% Mo, 11% Cr). VT14 and VT16 alloys are made up of a two phase structure (α+β) with greater amounts of β, while VT15, after annealing and quenching is constituted wholly of a single phase (β-solid solution). After appropriate heat treatments, the samples were cold-rolled to a 0-50% reduction. The sheets were then annealed; each alloy following a separate treatment schedule. Mechanical properties of the treated sheets were determined, and the results plotted graphically. Strength and ductility were plotted against % deformation for isochronous conditions and varying temperatures. It was found that

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L 57508-65
ACCESSION NR: AP5013160

cold deformation of annealed and quenched VT14 and VT16 alloys increases strength slightly and reduces ductility. Deformation of annealed and quenched VT15 alloy increases its strength. Deformation of VT16 and VT15 alloys after heat treatment results in further strengthening. This method may be used for producing parts with high strength. Orig. art. has: 1 figure.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: MM, AS

NO REF SOV: 000 OTHER: 001

Card 2/2

L 54742-65 EWT(d)/EWT(m)/EWP(w)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c) Pf-4 IJP(c) MJW/JD/HW/HM/EM

ACCESSION NR: AP5015801 UR/0129/65/000/006/0036/0037
669.295:621.791.053:620.17

AUTHOR: Gruzdeva, L. A.; Khorev, A. I.

TITLE: Structure and properties of high-strength titanium-alloy welds

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 6, 1965, 36-37

TOPIC TAGS: welding, titanium alloy, titanium alloy welding, TIG welding, titanium alloy weld, weld planishing/VT14 alloy, VT15 alloy

ABSTRACT: The effect of hot rolling on the structure and properties of titanium-alloy welds has been investigated. Sheets 1.2, 2.1, and 3 mm thick of VT14 and VT15 titanium alloys were TIG welded and then hot rolled with 30% or 60% reduction, followed by heat treatment under various conditions. It was found that for VT14 welds, best results are achieved by hot rolling with 60% reduction followed by annealing at 870C, water quenching, and aging at 520C for 16 hr; welds attain a strength of 135 kg/mm^2 and satisfactory ductility (25° bend angle). For VT15 welds, the best combination of the strength with ductility is achieved by hot rolling with 60% reduction followed by annealing at 680C, water quenching, and aging at 480C for 15 hr and at 560C for 15 min; welds attain a strength of 140 kg/mm^2 and have a

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L 54742-65

ACCESSION NR: AP5015801

satisfactory ductility (15° bend angle). Specimens treated in this way fail outside the weld or heat affected zone. VT14 weld metal rolled with 60% reduction has a structure identical to that of the base metal. VT15 weld metal rolled with 60% reduction had a structure fairly similar to that of the base metal. Mechanical properties of welds of both alloys hot rolled with 30—60% reduction are close to that of the base metal. Orig. art. has: 1 figure. [ND]

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NO REF SOV: 000 OTHER: 000 ATD PRESS: 4030

Card 2/2

L 63540-65 EWT(m)/EWA(d)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c) Pf-4 IJP(c)
MJW/JD/HW

ACCESSION NR: AP5015867 UR/0136/65/000/006/0063/0065
669.295-122.4-462

38
37
B

AUTHOR: Khorev, A. I.; Yesaulov, A. T.; Vil'yams, O. S.; Prudkova, R. A.

TITLE: Hot tube forming of VT14 alloy at temperatures in the (α + β)-region

SOURCE: Tsvetnyye metally, no. 6, 1965, 63-65

TOPIC TAGS: titanium alloy, hot working, metal mechanical property, martensitic transformation, heat treatment, metallographic examination

ABSTRACT: Tubes of VT14 Ti alloy were hot formed on a piercing mill to a final diameter of 194 mm with a wall thickness of 14-16 mm. The alloy was first heated to 1080°C for 2.5-3 hrs, then formed into a case (wall thickness of 32 mm); next it was cooled on a roller type conveyor to 800-820°C, after which it entered the second piercing stand for final reduction. The purpose of cooling was to keep the alloy in the two-phase (α + β)-region, i.e. below α ⇄ β-transformation (920°C). Further thermomechanical treatment was done in order to even out the wall thickness, while some specimens were quenched in water from 820°C. Mechanical tests and metallographic studies were made on the processed tubes, both for these treatments and for different

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L 63540-65

ACCESSION NR: AP5015867

forms of heat treatment. Strength, ductility, and impact strength are plotted as functions of quench temperature. Two figures show the same data, except for additional aging, which was done after quenching. For air or water quenching, the properties show little change. However, after aging at temperatures ranging from 460 to 520°C, the water quenched samples have higher strengths with lower ductilities. For producing pierced tubes of satisfactory quality, it is necessary to cool the tubes to 760-820°C before the final draft, to avoid heating into the β-region. Specimens heated above 820°C tend toward brittle behavior. As a precautionary measure, it is recommended that the deformed zone be water cooled in administering the final draft. Orig. art. has: 3 figures.

ASSOCIATION: none

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

NO REF SOV: 001 OTHER: 001

Card 2/2

L 2121-66 EWT(m)/EWP(i)/EWA(d)/EWP(t)/EWP(z)/EWP(b) IJP(c) MJW/JD
ACCESSION NR: AP5022381 UR/0136/65/000/009/0075/0079
669.295:621.78

AUTHOR: Khorev, A. I.; Glazunov, S. G.; Zilova, T. K.; Novosil'tseva, N. I.; Geras'kova, L. V.

TITLE: Effect of heat treatment and cladding on the strength of VT14, VT15, and VT16 titanium alloys in biaxial tension

SOURCE: Tsvetnyye metally, no. 9, 1965, 75-79

TOPIC TAGS: titanium alloy, titanium clad alloy, alloy burst strength, alloy property, VT14 alloy, VT15 alloy, VT16 alloy

ABSTRACT: Specimens of variously heat treated VT14, VT15, and VT16 titanium alloys, some of them clad with VT1 titanium, were tested under conditions of biaxial tension. Sheet specimens 210 x 210 x 0.8 mm were fully annealed, formed into spherical segments 9—20 mm high, heat treated (annealed or annealed, water quenched, and aged), and subjected to burst tests. It was found that the burst strength of all the alloys tested is higher than the tensile strength. The highest burst strength, 180 kg/mm^2, was exhibited by titanium-clad VT15 alloy annealed at 800C,

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L 2121-66
ACCESSION NR: AP5022381

water quenched, and aged 25 hr at 480C and 15 min at 560C. Cladding had no effect on the strength of VT14 alloy, but increased the strength of VT15 and VT16 alloys. In all alloys, however, cladding greatly improved ductility. Orig. art. has: 2 figures and 2 tables. [AZ]

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: MM, MS

NO REF SOV: 001 OTHER: 000 ATD PRESS: 4117

Card 2/2

KHOREV, A.I.; MOISEYEV, V.N.

Investigation of alloys of the system titanium-aluminum-molybdenum-iron. TSvet. met. 38 no.1:84 Ja '65 (MIRA 18:2)

L 47744-65 EWT(m)/EWA(d)/EWP(t)/EWP(k)/EWP(b)/EWP(z)/EWA(c) Pf-4 IJP(c) MJW/
JD/HW

ACCESSION NR: AP5009743 UR/0136/65/000/004/0067/0069

35
34
B

AUTHOR: Khorev, A. I.

TITLE: Obtaining high-strength VT15 alloy tubes by means of thermomechanical treatment

SOURCE: Tsvetnyye metally, no. 4, 1965, 67-69

TOPIC TAGS: titanium, titanium alloy, titanium alloy tube, thermomechanical treatment, tube thermomechanical treatment, high temperature thermomechanical treatment, low temperature thermomechanical treatment, combined treatment/VT15 titanium alloy

ABSTRACT: The effect of thermomechanical treatment on the strength of VT15 titanium alloy containing 11% Cr, 7% Mo, and 3% Al has been studied. VT15 alloy tubes 110 mm in diameter with walls 10 mm thick were extruded with 85% reduction at 1100C and water quenched or air cooled (high-temperature thermomechanical treatment-HTTMT). They were then rolled with 50% reduction at room temperature (low-temperature thermomechanical treatment-LTTMT) and subjected to burst tests. A combination of HTTMT and LTTMT followed by aging at 480C for 10 hr and at 560C for 15 min produced the best results: a burst strength of 167 kg/mm^2. The fracture was ductile. The tensile strength and elongation of specimens cut from these tubes were 139.8 kg/mm^2 and

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L 47744-65

ACCESSION NR: AP5009743

8.3% respectively. The burst strength of tubes subjected only to LTTMT followed by aging at 480C for 25 hr was only 134 kg/mm^2. These tubes always failed in a brittle manner. Regardless of aging conditions, HTTMT usually produces better results than LTTMT, and its beneficial effect remains unaffected even by subsequent extensive cold deformation. Orig. art. has: 3 figures and 1 table. [ND]

ASSOCIATION: none

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

NO REF SOV: 001 OTHER: 000 ATD PRESS: 4004

Card 2/2

KHOREV, A.I.; YESAULOV, A.T.; VIL'YAMS, O.S.; PRUDKOVA, R.A.

Hot rolling of VT14 alloy pipe at temperatures in the Alpha and Beta region. TSvet. met. 38 no.6:63-65 Je '65.
(MIRA 18:10)

KHOREV, A.I.; GLAZUNOV, S.G.; ZILOVA, T.K.; NOVOSIL'TSEVA, N.I.; GERAS'KOVA, L.V.

Effect of thermal treatment and cladding on the strength of VT14, VT15, and VT16 titanium alloys under biaxial tension. TSvet. met. 38 no.9:75 S '65. (MIRA 18:12)

KHOREV, A.I., inzh.; GRUZDEVA, L.A., inzh.; MANUYLOV, N.N., inzh.; LOSKUTOV, V.M., inzh.; VIKHROV, G.S.

High-strength welded cylindrical shells made of BTL4 alloy. Vest. mashinostr. 45 no.5:28-30 My '65. (MIRA 18:6)

KHOREV, A.I.; GLAZUNOV, S.G.; LEGKODUKH, A.M.

Hardening of the VT15 alloy by heat treating. Metalloved. i term. obr. met. no. 2:50-52 F '65. (MIRA 18:12)

L 40159-66 EWT(m)/EWP(w)/T/EWP(t)/ETI IJP(c) MM/JD/JG

ACC NR: AP6023619 (N) SOURCE CODE: UR/0136/66/000/007/0086/0088

AUTHOR: Khorev, A. I.; Glazunov, S. G.; Mukhina, L. G.

ORG: none

TITLE: Effect of modifying additions on properties of titanium alloy

SOURCE: Tsvetnyye metally, no. 7, 1966, 86-88

TOPIC TAGS: titanium, titanium alloy, aluminum containing alloy, molybdenum containing alloy, chromium containing alloy, zirconium containing alloy, rhenium containing alloy, alloy property, alloy weld, weld property/VT14 titanium alloy, VT15 titanium alloy, VT16 titanium alloy

ABSTRACT: The effect of small additions of rhenium (0.001—0.2%) or zirconium (0.01—1.0%) on the structure and properties of VT14, VT15, and VT16 titanium alloys was investigated with alloy sheet specimens 1.2 mm thick. It was found that for the VT14 alloy the optimal zirconium content is 0.02—0.1%. At this content the strength increased by 5—10 kg/mm^2, ductility remained unchanged and the weld ductility increased by 30—50%. The effect of rhenium was roughly the same as that of zirconium. In the VT16 alloy, 0.01—0.02% zirconium slightly increased ductility without affecting strength; 0.1% Zr considerably increased weld ductility (from 45° bend angle to 100°), but lowered the weld strength. At 0.05% zirconium the weld had a higher ductility than the base metal. 0.01 Re increased ductility but lowered the

Card 1/2 UDC: 669.295.018.298

L 40159-66

ACC NR: AP6023619

strength of the VT16 alloy from 92 to 88 kg/mm^2. Re at contents from 0.02 to 0.05% improved weld ductility, i.e., increased the bend angle from 45° to 65°. The weld ductility increased with the increase of rhenium content up to 0.1%. In the VT15 alloy, 0.5% zirconium increased ductility, especially of an aged alloy. At 0.5—1.0% zirconium, the VT15 alloy weld had the highest ductility, a bend angle of 100—120°. The addition of up to 0.2% Re had little or no effect on the properties of VT15 alloy, only elongation of the annealed alloy increased from 17 to 19.5% at 0.05% Re. Orig. art. has: 3 figures. [ND]

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 001/ ATD PRESS: 5049

L 38909-66 EWT(m)/T/EWP(t)/ETI/EWP(k) IJP(c) JD/EW

ACC NR: AP6019769 SOURCE CODE: UR/0370/66/000/003/0125/0129

AUTHOR: Kishkin, S. T. (Moscow); Glazunov, S. G. (Moscow); Khorev, A. I. (Moscow); Rubin, Yu. L. (Moscow); Shilina, E. M. (Moscow)

ORG: none

TITLE: The use of high-temperature thermomechanical treatment in the manufacture of extruded BT-15 titanium alloy tubes

SOURCE: AN SSSR. Izvestiya. Metally, no. 3, 1966, 125-129

TOPIC TAGS: titanium alloy, alloy tube, tube heat treatment, thermomechanical treatment, high temperature treatment, aluminum containing alloy, chromium containing alloy/VT15 alloy

ABSTRACT: Vacuum-arc melted ingots of VT15 titanium-base alloy (2.99—3.05% Al, 10.7—11.1% Cr) were conditioned by machining and extruded into bars 187 mm in diameter. The bars were cut into tube billets which were pierced, conditioned and extruded at 950—1150C into tubes with an outside diameter of 110 mm and a wall thickness of 10 mm. Part of the extruded tubes were air cooled and then subjected to conventional heat treatment (annealing at 800C followed by water quenching); another part was subjected to high temperature thermomechanical treatment (HTMT), i.e., were water quenched immediately after extrusion. Both tube lots were then

UDC: 669.295.5-157.9

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L 33909-66

ACC NR: AP6019769

double aged at 450C for 25 or 50 hr and at 560C for 15 min. The tubes which underwent HTMT had considerably better mechanical properties, tensile strength of 136—148 kg/mm^2, elongation of 6—12%, and reduction of area of 12—24% than the conventionally heat treated tubes, tensile strength of 116—132 kg/mm^2, elongation of 1—6% and reduction of area 2—12%. The beneficial effect of HTMT is believed to be associated with improved properties of grain boundaries, the rapid cooling immediately after extrusion prevents the diffusion of impurities to grain boundaries. Also the α-phase particles precipitated during aging in alloy subjected to HTMT are much finer and more uniformly distributed than those in conventionally heat treated alloy. Orig. art. has: 2 figures and 1 table. [DV]

SUB CODE: 13, 11/ SUBM DATE: none

Card 2/2

L 42820-66 EWT(m)/EWP(w)/T/EWP(t)/ETI/EWP(k) IJP(c) JD/HW

ACC NR: AP6028720 SOURCE CODE: UR/0122/66/000/008/0064/0065

AUTHOR: Khorev, A. I. (Candidate of technical sciences); Livanov, A. A. (Engineer)

ORG: none

TITLE: Increasing the strength of VT15 titanium alloy containers by low temperature thermomechanical treatment

SOURCE: Vestnik mashinostroyeniya, no. 8, 1966, 64-65

TOPIC TAGS: durability, cold rolling, metal tube, mechanical heat treatment, titanium alloy, aluminum containing alloy, molybdenum containing alloy, chromium containing alloy, titanium alloy tube/VT15 titanium alloy

ABSTRACT: The effect of low temperature thermomechanical treatment (LTMT) on the mechanical properties of VT15 titanium alloy (3.02% aluminum, 7.58% molybdenum, 10.8% chromium) has been investigated. Alloy billets were extruded into tubes 110 mm in diameter with 10 mm wall thickness, which were water quenched or air cooled, machined to a wall thickness of 1.8—4.0 mm, and subjected to LTMT, i.e., cross rolled at room temperature with 30—70% reduction to a wall thickness of 1.2 mm, and aged at 480C for 5 hr + 560C for 15 min. It was found that cold rolling alone (without aging) increased considerably the alloy strength. For instance, cold rolling with 60% reduction increased the respective strength of air-cooled and water-quenched specimens from 84 and 87 kg/mm^2 to 132 and 149 kg/mm^2, but at the same time lowered ductility

Card 1/2 UDC: 621.786.79:669.295

ACC NR: AP6028720

from 24 and 26% to 6.5 and 7%. Subsequent aging increased the strength of air-cooled tubes rolled with 60% reduction to 141 kg/mm^2 at an elongation of 4.0%. These tubes failed in hydrostatic tests in a partially brittle manner under a pressure of 380 atm, which corresponds to a burst strength of 165 kg/mm^2 compared to 115 for "as-air cooled" tubes. Optimal strength and ductility are obtained by cold rolling with 30—50% reduction followed by aging. This treatment yielded tubes which failed in a ductile manner at a burst strength of 147—158 kg/mm^2. Aging also eliminated the residual stresses. Strips cut from the aged tubes remained straight, while strips cut from unaged tubes were distorted to a considerable degree. Orig. art. has: 1 figure. [TD]

SUB CODE: 11, 13/ SUBM DATE: none/ATD PRESS: 5066

Card 2/2

L 44399-66 EWT(m)/T/EWP(t)/ETI IJP(c) JD/WB

ACC NR: AP6023642 SOURCE CODE: UR/0149/66/000/002/0142/0146

AUTHOR: Mal'tsev, M. V.; Morozov, L. N.; Moiseyev, V. N.; Yefremov, Yu. N.; Khorev, A. I.

ORG: none

TITLE: Comparative oxidizability of various types of titanium alloys upon heating in air

SOURCE: IVUZ. Tsvetnaya metallurgiya, no. 2, 1966, 142-146

TOPIC TAGS: titanium alloy, oxidation kinetics, phase composition, metallographic examination, temperature dependence, diffraction analysis, microhardening / VT14 titanium alloy, VT15 titanium alloy, VT16 titanium alloy

ABSTRACT: A study was made of the oxidizability of titanium alloys VT14, VT15 and VT16, containing various amounts of β-phase. Alloy VT14 contained 4.45% Al, 2.7% Mo and 0.91% V; alloy VT15--3.43% Al, 7.8% Mo and 10.16% Cr; alloy VT16--3.08% Al and 6.3% Mo. Samples (8 × 20 × 20 mm) were heated in air at temperatures ranging from 700 to 1100°C for 10 to 240 min. Oxidizability was determined by the increase in weight per unit surface. The weight curves followed a parabolic law. While the oxidation rate was low for all alloys up to 900°C, above 1000°C it became intense. In comparison with VT14 and VT16 (α+β-structure) the β-phase alloy VT15, beginning at 1000°C,

UDC: 620.193:669.295.5

Card 1/2

ACC NR: AP6023642

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oxidized twice as fast due to the presence of the denser Cr_2O_3, absent in VT14 and VT16. Electron diffraction was used to analyze the scales. Chemical compositions of the scale formed at 1100°C for 4 hrs are given. In all alloys, the basic oxide composition was rutile-type titanium dioxide, having a tetragonal lattice with the parameters a=4.58 Å and c=2.95 Å. All the oxides had a texture in which the [001] direction lay in the plane of the sample. A texture formed at 700°C in VT15, at 800°C in VT14 and at 900°C in VT16. Microhardnesses of the surface layers are given as functions of distance from the surface for all temperatures. Micrographs of the oxidized surfaces are shown. For all alloys, the microhardness dropped sharply up to about 0.02 mm from the surface where the slope became more gradual; this indicated the depth of gas diffusion at the surface. The single phased alloy VT15 had a large-grained structure and the gas diffusion was more selective, as was similarly observed in the other alloys upon heating in the β-region. This selective attack increased the crack sensitivity and a fine network of cracks was observed upon deforming VT15 at high temperatures. Below 900°C, VT14 and VT16 had two-phased α+β structures and the oxidation attack was more uniform. Orig. art. has: 3 figures, 2 tables.

SUB CODE: 11,07/ SUBM DATE: 20Oct64

Card 2/2

L 46770-66 EWT(m)/EWP(k)/T/EWP(t)/ETI IJP(c) JD/HW

ACC NR: AP6031730 SOURCE CODE: UR/0136/66/000/009/0092/0093

AUTHOR: Khorev, A. I.; Glazunov, S. G.; Gruzdeva, L. A.

ORG: none

TITLE: Effect of low-temperature thermomechanical treatment on the structure and properties of titanium alloys

SOURCE: Tsvetnyye metally, no. 9, 1966, 92-93

TOPIC TAGS: titanium alloy, alloy, thermomechanical treatment, low temperature thermomechanical treatment, alloy structure, ~~alloy~~ solid mechanical property/VT14 alloy, VT15 alloy

ABSTRACT: VT14 and VT15 titanium alloy sheets 1.5 and 2.0 mm thick were solution annealed at 680—880C, quenched, and cold rolled to a thickness of 1.2 mm with a reduction of 20 and 40%, respectively. All sheets were then aged at 420—560C. The dependence of the mechanical properties on low-temperature thermomechanical treatment (LTMO) of VT14 and VT15 alloys is shown in Fig. 1. The total strengthening of VT14 alloy was the combined result of strain hardening and phase transformation. Straining VT14 alloy prior to aging also decreased the alloy grain size. A 20% reduction before aging did not change the VT15 alloy grain shape, but 40% reduction almost obliterated the grain boundaries. By applying LTMO, high-strength sheets, wire or cold-drawn and cold-rolled tubes, as well as finished articles can readily

Card 1/2 UDC: 669.293:620.1

ACC NR: AP7003006 (A,N) SOURCE CODE: UR/0413/66/000/024/0154/0154

INVENTOR: Poplavko-Mikhaylov, M.V.; Khorev, A.I.; Glazunov, S.G.; Gruzdeva, L.A.; Moiseyev, V.N.

ORG: none

TITLE: Titanium-base filler material for welding martensite-type heat-treatable titanium alloys. Class 21, No. 152372

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 24, 1966, 154

TOPIC TAGS: titanium alloy, ~~heat treatable alloy~~ alloy welding, filler ~~material~~, titanium base alloy, martensite, weld heat treatment

ABSTRACT:

This Author Certificate introduces a titanium-base filler metal for welding martensite-type heat-treatable titanium alloys. To increase the weld metal strength and ductility in the heat-treated condition, 2—3.5% Al is introduced into the filler metal. [MS]

SUB CODE: 11, 13/ SUBM DATE: 160ct61/ ATD PRESS: 5114

Card 1/1 UDC: none

SKRDOBOVA, M.; KHOREV, B.

Conference on the study of small and medium-size cities of the Central Economic Region. Izv. AN SSSR Ser. geog. no.4: 165-166 '64 (MIRA 17:8)

ROSTOVTSEV, M.; KHOREV, B.

Conference of geographers and economists in Tallinn, November 26-30, 1963. Izv. AN SSSR. Ser. geog. no. 2:169-171 Mr-Ap '64. (MIRA 17:5)

KHOREV, B.S.; VARLAMOV, V.S.

In the central Angara Valley. Geog.v shkole 19 no.6:7-18 N-D '56.
(MLRA 10:1)

(Angara Valley--Description and travel)

KHOREV, B.S.

Some remarks on L.L. Trube's book "Our cities." Reviewed by B.S. Khorev. Vop.geog. no.38:265-266 '56. (MLRA 9:9)

(Gor'kiy Province--Cities and towns) (Trube, L.L.)

KHOREV, B.S.

KHOREV, B.S.

In the Commission on the Geography of Population and Cities of the Moscow branch of the Goegraphical Society of the U.S.S.R. Izv. Vses.geog.ob-va 89 no.4:384-386 Jl-Ag '57. (MIRA 10:10)
(Population) (Cities and towns)

KHOREV, B. S., and MINTS, A. A.

"Questions Concerning Economic-Geographical Typology of Socialist Cities Exemplified by Central Industrial Regions of the European Part of the USSR."

paper presented at the 4th Conference of Young Scientists of the Institute of Geography of the USSR Academy of Sciences, 1957 (Izv. AN SSSR, Ser Geog, 1958, No. 2, p 151-53, GORBUNOVA, M. N.)

KHOREV, B.S.

3(

SOV/10-59-4-25/29

AUTHORS: Velichko, A.A., and Mints, A.A.

TITLE: The Sixth Conference of Young Scientific Workers of the Institut Geografii AN USSR (Institute of Geography AS USSR)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geograficheskaya, 1959, Nr 4, pp 152-154 (USSR)

ABSTRACT: The article covers the Sixth Conference of Young Scientific Workers of the Institute of Geography AS USSR which took place in mid-March, 1958. 35 reports were read by the following scientific workers. I.S.Gluch reported on "Some Genetic Regularities in the Distribution of Atmospheric Precipitation". V.M. Kotlyakov and S.A. Yevteyev commented on structural methods in snow and ice research in the Antarctic region; L.P. Tunitsyn spoke on the connection between the relief and hydrographical network and the latest tectonic movements in the Northern

Card 1/5

Trans-Ural Area. S.P. Ovchinnikova evaluated the evaporation according to the water balance method from the African continent; N.Ya. Mironova discussed evaporation problems in the gulf of Kara-Bogaz-Gol; I.M. Lebedeva and Ye.N. Minayeva reported on the impact of solar radiation on snow during its melting in the Trans-Volga region; A.V. Yachina spoke on snow radiation near the Elbrus Weather Station; Ye.Ye. Gurtovaya lectured on snow conditions in the mountains of Central Caucasus; N.N. Orlov reported on his new method to measure the amount of snow carried by winds, whereby snow-flakes are recorded by a photoelectric device; Yu.L. Rauner, Yu.L. Karpova, and N.I. Rudnev spoke on the heat balance observations they compiled at the Zagorskaya Scientific Station near Moscow; S.V. Bass lectured on spring water discharge and soil washout also studied there; N.N. Dreyer and I.N.Stezhenskaya lectured on how to

Card 2/5

calculate the maximal spring water discharge in the Yenisey and Lena rivers according to the method of M.V. Sribnyy; R.V. Nikolayeva lectured on sea levels of the Caspian sea during the V-XII centuries and Z.I. Martynova on the lake levels in the Turgay depression during 1849-1958; L.I. Mukhina reported on the rivers and lakes of the Vitim plateau; N.V. Ryabkov discussed Pliocene forms of relief in the river valleys of the Kama basin; A.A. Velichko elucidated on loess deposits in the central areas of the Russian plain; D.A. Liliyenberg lectured on "Torrent-Like Phenomena in Daghestan" and A.Ye. Yermakov on "Classification of Torrents in Central Caucasus"; A.G. Chikishev gave a geobotanic survey of the Central Urals; N.N. Stupina lectured on the division of the Trans-Ural wood-and-steppe area into single relief types;

Card 3/5

SOV/10-59-4-25/29

The Sixth Conference of Young Scientific Workers of the Institut Geografii AN USSR (Institute of Geography AS USSR)

M.Ye. Gorodetskaya explained how the hollows on the left bank of the Irtysh river near Pavlodar originated; N.K. Fritskaya gave a short physical and geographical survey on the Trans-Angara area; M.Ya. Vensher reported on her work experience in the analysis of a map of morphogenetic ground forms made by aerial photography in the Buryatskaya ASSR. D.A. Timofeyev discussed relief origin in the southern part of the Amur and Zeya rivers area; V.P. Chichagov compared morphological and morphometric methods to measure roll coefficients; O.N. Shubnikova and Yu.V. Morozov gave a zoogeographical survey on birds in the central part of the Yakutskaya ASSR; Ye.S. Shatsilo reported on the development of the Karaganda Industrial area; A.V. Tikhonov discussed data on the distribution and specific features in the fishing economy of the Evenkiyskiy natsional'nyy okrug (Evenki National Area); V.L. Goronny and [illegible] reported on the lumber industry in the Arkhangel'skaya oblast' and Gor'kovskiy ekonomicheskiy rayon (Gor'kiy Economic District) respectively; M.P. Shtutser and G.L. Mel'nikova lectured on the physical traits, population, and economy of the Land Baden-Wuerttenberg, West Germany. The conference was also attended by representatives of the Moskovskiy gosudarstvennyy universitet (Moscow State University), Tsentral'nyy institut prognozov (Central Institute of Prognoses), Institut merzlotovedeniya AN SSSR (Institute of Permafrost Research AS USSR), and other organizations. The following senior workers of the Institute of Geography AS USSR took part in the discussions: A.P. Gal'tsov, B.L. Dzerdzeyevskiy, L.D. Dolgushin, A.G. Doskach, N.B. Dumitrashko, M.I. L'vovich, S.N. Ryazantsev, M.F. Sribnyy, B.A. Fedorovich, and others.

Card 4/5

Card 5/5

34

KHOREV, B.S.

South-Siberian Railroad. Geog. v shkole 21 no. 1:60-62 Ja-F '58.
(MIRA 11:7)

(Siberia--Railroads)

KHOREV, B.S.

Survey of the work of the Committee on the Geography of Population and Cities of the Moscow Branch of the Geographic Society of the U.S.S.R., 1945-1957 '59. (MIRA 12:5)
(Bibliography--Cities and towns)
(Bibliography--Land settlement)

MINTS, A.A.; KHOREV, B.S.

— Attempt at an economic and geographic typology of Soviet cities; based on data for the central industrial district. (MIRA 12:5)
Vop.geog. no.45:72-88 '59.
(Cities and towns)

VARLAMOV, V.; KHOREV, B.S, SHATSILO, Ye.

Geographical conference devoted to satellite towns. Izv. AN SSSR.Ser.geog. no.3:162-164 My-Je '60. (MIRA 13:6)

(City planning--Congresses)

KHOREV, B.S.

The Gorkiy production-territorial complex and its development in the seven-year plan. Izv. AN SSSR. Ser. geog. no.6:46-54 N-D '60. (MIRA 13:10)

1. Institut geografii AN SSSR.
(Gorkiy Province--Economic policy)

KHOREV, B. S., Cand. Geogr. Sci. (diss), "Gor'kiy Oblast' (Economic-Geographical Surveys)," Moscow 1961, 21 pp. (Moscow State Pedagog. Instit.) 200 copies (KL Supp 12-61, 258).

MATVEYEV, Gennadiy Petrovich, nauchnyy sotr.; PRIVALOVSKAYA, Genriyeta Aleksandrovna, nauchnyy sotr.; KHOREV, Boris Sergeyevich, nauchnyy sotr.; Prinimali uchastiye: BUSHMELEV, G.A.(g.Kirov); VODOVOZOV, S.A. (g.Moskva); LEN'KOV, G.Ya.; FEDOTOV, Ye.P.; RYAZANTSEV, S.N.. otv. red.; LYALIKOV, N.I., red. [deceased]; POKSHISHEVSKIY, V.V., prof., red.; ABRAMOV, L.S., red.; KONOVALYUK, I.K., mladshiy red.; KISELEVA, Z.A., red.kart; BURLAKA, N.P., tekhn. red.

[The Volga-Vyatka Region; economic and geographical features] Volgo-Viatskii raion; ekonomiko-geograficheskaia kharakteristika. Moskva, Gos. izd-vo geogr. lit-ry, 1961. 533 p. (MIRA 15:2)

1. Otdel geografii SSSR Instituta geografii Akademii nauk SSSR (for Matveyev, Privalovskaya, Khorev). 2. Zaveduyushchiy Otdelom geografii SSSR Instituta geografii Akademii nauk SSSR (for Pokshishevskiy).

(Volga Valley--Economic geography)
(Vyatka Valley--Economic geography)

DAVIDOVICH, V.G., otv.red.; KHOREV, B.S., otv.red.; RODOMAN, B.B., red.; KONOVALYUK, I.K., mladshiy red.; MAL'CHEVSKIY, G.N., red.kart; GLEYKH, D.A., tekhn.red.

[Satellite cities] Goroda - sputniki; sbornik statei. Moskva, Gos.izd-vo geogr.lit-ry, 1961. 193 p.

(MIRA 15:2)

(Cities and towns)

KHOREV, B.S.

Some characteristics of rural distribution of population in Gorkiy Province. Vest. Mosk. un. Ser. 5: Geog. 16 no. 3:31-37 My-Je '61. (MIRA 14:5)

1. Institut geografii AN SSSR.
(Gorkiy Province--Sociology, Rural)

KHOREV, B.S.

"Distribution of population in industrial centers" by V.G.Davidovich. Reviewed by B.S.Khorev. Vest. Mosk. un. Ser. 5: geog. 16 no.6:75-77 N-D '61. (MIRA 14:11)
(Regional planning) (Davidovich, V.G.)

BRATCHIK, Yefim Isaakovich; VASYUTOVICH, Vasiliy Vasil'yevich; ARSKIY, F.N., retsenzent; KHOREV, B.S., retsenzent; PREOBRAZHENSKIY, V.I., red.; USENKO, L.A., tekhn. red.

[Moscow-Brest; railroad guide] Moskva - Brest; zheleznodorozhnyi putevoditel'. Moskva, Transzheldorizdat, 1962. 134 p. (MIRA 15:7)
(Railroads--Handbooks, manuals, etc.)

DAVIDOVICH, V.G.; KOVALEV, S.A.; MINTS, A.A.; NAZAREVSKIY, O.R.;
POKSHISHEVSKIY, V.V.; POMUS, I.M.; RYAZANTSEV, S.N.;
FREYKIN, V.G.; KHOREV, B.S.

Nikolai Ivanovich Lialikov; obituray. Izv. AN SSSR. Ser. geog
no.1:166-167 Ja-F '62. (MIRA 15:2)
(Lialikov, Nikolai Ivanovich, 1900-1961)

KHOREV, B.S.

Place of the geography of population and populated points in the system of geographical sciences. Vop. geog. no.56:178-181 '62.
(MIRA 15:7)

(Demography) (Geography)

KHOREV, B.S.

Work survey of the Committee on the Geography of Population and Cities of the Moscow Branch of the Geographic Society of the U.S.S.R. for three years, 1958-1960. Vop. geog. no.56:182-191 '62. (MIRA 15:7)
(Demography—Congresses)

ALEKSEYEV, V.V.; DOBRONRAVOVA, A.O.; AZAROV, A.Ya.; MASLENNIKOV, I.Ya.; RUDNEV, L.M., retsenzent; KHOREV, B.S., retsenzent; KRISHTAL', L.I., red.; USENKO, L.A., tekhn. red.

[Moscow - Chop; railroad guide]Moskva - Chop; zheleznodorozhnyi putevoditel'. Moskva, Transzheldorizdat, 1962. 150 p. (MIRA 15:12)

(Railroads—Guides)

KHOREV, B.S.

Ways of developing the industrial complex of the Volga-Vyatka heavy industry economic region. Izv. AN SSSR. Ser. geog. no.4: 52-61 Jl-Ag '62. (MIRA 16:5)

1. Institut geografii AN SSSR.
(Volga-Vyatka region--Industries)

KHOREV, B.S.

Studies on the geography of population and populated points of Gor'kiy Province. Vop. geog. no.56:110-140 '62. (MIRA 15:7)
(Gor'kiy Province--Population)

MINTS, A.A.; RYAZANTSEV, S.N.; KHOREV, B.S.

Ways to develop the regions of central Russia. Vop. geog. no.57:194-214 '62. (MIRA 15:10)
(Economic zoning) (Russia—Industries)

DOLGOPOLOV, G.V.; KAZANSKIY, N.N.; KRYUCHKOV, V.G.; MAYERGOYZ, I.M.; MINTS, A.A.; NAZAREVSKIY, O.R.; PETRYAYEVA, D.A.; POKSHISHEVSKIY, V.V.; PRIVALOVSKAYA, G.A.; PULYARKIN, V.A.; RYAZANTSEV, S.N.; FREYKIN, Z.G.; KHOREV, B.S.

Gennadii Petrovich Matveev; obituary. Izv. AN SSSR. Ser.geog. no.6:144-145 N-D '62. (MIRA 15:12)
(Matveev, Gennadii Petrovich, 1926-1962)

KHOREV, B.S.

N.P.Ogarev's role in the history of Russian regionalization studies; in connection with the 150th anniversary of his birth. Izv.AN SSSR.Ser.geog. no.2:99-109 Mr-Ap '63. (MIRA 16:4)

1. Institut geografii AN SSSR.
(Ogarev, Nikolai Platonovich, 1813-1877)
(Economic zoning)

PRIVALOVSKAYA, G.A.; KHOREV, B.S.

Conference on the geography of the Volga-Vyatka Region. Izv. AN SSSR. Ser. geog. no.4:157-158 Jl-Ag '63. (MIRA 16:8)
(Volga-Vyatka Economic Region--Geography--Congresses)

KHOREV, B.S.

Geography of transportation and the interregional relations of Gorkiy Province. Vop. geog. no.61:46-60 '63.
(MIRA 16:6)
(Gorkiy Province—Transportation)
(Gorkiy Province—Freight and freightage)

FADEYEVA, N.V.; KHOREV, B.S.

The Second Scientific Conference of the Geographers of Siberia and the Far East. Izv. AN SSSR. Ser.geog. no.1:148-153 Ja-F '63. (MIRA 16:2)

(Siberia—Geography—Congresses)
(Soviet Far East—Geography—Congresses)

KHOREV, B.S.

New cities of the Soviet Union. Geog. v shkole 26 no.6: 5-10 N-D '63. (MIRA 17:1)

1. Institut geografii AN SSSR.

GRONEV, P.S.

Study of the functional structure of urban settlements in connection with their economic and geographical types. Vop. geog. no.66:34-58 '65. (MIRA 18:6)

KHOREV, G., inzh.

New equipment for the automatic control of conveyers. Izv. vys. ucheb. zav.; gor. zhur. no. 11:200 '60. (MIRA 13:12)
(Conveying machinery) (Automatic control)

KHOREV, Grigoriy Grigor'yevich, kand. ekon. nauk; BRASLAVSKIY, L.G., retsenzent; KOROBOV, G.A., retsenzent

[Work organization in the producing section of a mine] Organizatsiia raboty na ekspluatatsionnom uchastke shakhty. Moskva, Nedra, 1965. 183 p. (MIRA 18:12)

AKKERMAN, G.L.; KHOREV, G.N.

X-ray diagnosis of acute pancreatitis. Sov. med. 28 no.10: 86-89 O '65. (MIRA 18:11)

1. Kafedra gospital'noy khirurgii (zav.- doktor med. nauk G.N. Zakharova) lechebnogo fakul'teta Saratovskogo meditsinskogo instituta i rentgenologicheskoye otdeleniye (zav. M.Ya. Yampol'skaya) klinicheskoy bol'nitsy No.1, Saratov.

USSR/Cultivated Plants - Medicinal. Essential Oils. Toxins. M-7

Abs Jour : Ref Zhur - Biol., No 20, 1958, 91860

Author : Khorev, I.
Inst :
Title : The Achievements of Poppy Growers in Priissykbul're.

Orig Pub : S. khi Kirgisii, 1957, No 10, 29.

Abstract : This article enumerates the measures which permitted poppy growers of Priissykbul're to fulfill the plan for raw-opium deliveries to the extent of 160.5% in the face of unfavorable weather conditions in the spring and summer of 1957. For the first time in Priissykbul're the poppy sowings were irrigated through furrows on a large scale. Three side-dressings with organic mineral fertilizers were made. Prior to stem formation the fields were tilled twice mechanically. The poppies were sown on high ground along a narrow space of 45-60 cm(between the rows compased to the former 69-70 cm). The sowing of seeds of the quick

Card 1/2

KHOREV, M. I., Zootekhnik

Swine

Kalikino breed of hogs. Sov. zootekh. 7, No. 8, 1952
Dobrovskiy Gosudarstvennyy Plemennoy Rassadnik

SO: Monthly List of Russian Accessions, Library of Congress, September 1952 [redacted], Uncl.

KHOREV, M. I., Cand of Agric Sci -- (diss) "Ways and Means of Improving the Kalikinsk Breed of Swine," Moscow, 1959, 18 pp (Moscow Agric Acad im K. A. Timiryazev) (KL, 1-60, 124)

KHOREV, N.A.

USSR/ Geology - Tectonics

Card 1/1 Pub. 46 - 7/21

Authors : Khorev, N. A.

Title : Peculiarities of the pre-Upper-Proterozoic folding of the earth's crust

Periodical : Izv. AN SSSR. Ser. geol. 20/2, 72 - 81, Mar-Apr 1955

Abstract : A discussion is presented of the earth's folds with traces of material discributed in them in layers _flow folds. The conclusion is reached that they are basically inherent in the pre-Upper-Proterozoic deposits, seldom in the Paleozoic and never met with in the Mesozoic. The difference in the degree of stratified distribution of materials reflects the degree of viscosity of the rocks during the folding period. Sixteen references: 2 Indian and 14 Soviet (1932-1952). Illustrations; diagrams; table.

Institution : .....

Submitted : April 19, 1954

15-57-4-4346

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 4, p 45 (USSR)

AUTHOR: Khorev, N. A.

TITLE: Flow Folds in Metamorphic Strata of Southwestern Pamir (O skladkakh techeniya v metamorficheskikh tolshchakh Yugo-Zapadnogo Pamira)

PERIODICAL: Materiely Vses. n.-i. geol. in-ta, 1956, Nr 8, pp 311-321

ABSTRACT: Some small drag folds and isoclinal folds are examined in this work. The author thinks that these folds which occur in definite horizons and which are characterized by marked increase of strata thickness at their crests are flow folds. In spite of the presence of folded formations of this type, the regional folding remains simple. The eastern part of the Shakhdarinskiy range represents a flat

Card 1/3

Flow Folds in Metamorphic Strata (Cont.)

anticline 35 km to 45 km in width, with limbs dipping at 10° to 15° (up to 30°) and with almost horizontal areas located along the crest. It has been noted by Klunnikov [Klunnikov, S. I., Popov, A. I., Metamorficheskiye Tolshchi Yugo-Zapdnego Pamira, Leningrad, Izd-vo TPE, 1936 (Klunnikov, S. I., Popov, A. I., Metamorphic Strata of the Southwestern Pamir. Leningrad, Tadzhikstan-Pamir Expedition Publication, 1936)] that the rotary dislocation of one limb of this anticline is actually related to the limb of a smaller drag fold. The nonconformity between the complex flow folds and the simple regional structure is explained by the dissipation of pressures mainly in the process of developing plastic deformations in separate strata or horizons. Thus, too, is explained the absence in the metamorphic series in the southwestern Pamir of any appreciable number of large faults. The latter appear as characteristic tectonic elements associated with simple folding only in the Paleozoic and Mesozoic of the more northerly parts of the Pamir. The cause of such structural variations between the southwestern and the northern

15-57-4-4346

Flow Folds in Metamorphic Strata (Cont.)

Pamir lies, according to the author, in the difference of depth of the zones subjected to folding, and, possibly, in the different ages of the compressed layers, which are, in his opinion, considerably older in the southwest.

A. I. S.

Card 3/3

KHOREV, N.A.

Discovery of upper Triassic shales and post-Triassic granites in the southwestern Pamirs. Mat.VSEGEI no.8:322-325 '56. (MLRA 10:2)

(Pamir--Geology, Stratigraphic)

KHOREV, N.A.

Pre-Cambrian folds of the Pamirs. Geotektonika no.6:79-90 N-D '65. (MIRA 19:1)

SHKOL'NIKOV, M.B.; inzh.; ZUBAREV, N.A., inzh.; KHOREV, P.P., inzh.

Fatigue testing of motortruck wheel disks. Vest.mash. 41 no.1:42-46 Ja '61. (MIRA 14:3)
(Motortrucks--Wheel--Testing)

ERDR [illegible]

[illegible]ering of mallard in the nonfreezing bodies of water of southern Leningrad Province. Fenitologiia no.7:495-496 '65.

(MIRA 18:10)

KHOREV, V.A., gornyy inzhener

Efficiency of using various industrial explosives in horizontal workings. Gor.zhur. no.2:43-46 F '64. (MIRA 17:4)

1. TSentral'nyy nauchno-issledovatel'skiy gornorazvedochnyy institut tsvetnykh, redkikh i blagorodnykh metallov, Moskva.

PAVLOVSKIY, L.G., inzh.; KHOREV, V.A., inzh.

Concerning the article by S.A. Petrov. and V.G. Zil'bershmidt. Shakht. stroi. 8 no.8:29 Ag '64. (MIRA 17:9)

1. TSentral'nyy nauchno-issledovatel'skiy gornorazvedochnyy institut tsvetnykh, redkikh i blagorodnykh metallov.

KHOREV, V.N.; BARANOVA, N.A.; GORLACH, I.A.; KVASOV, Ye.I.; KRAMARENKO, I.S.; MIRONOV, L.V.; PRIVALOV, S.S.; LYASKO, M.V.; DUBROV, N.F.; MIRONOV, L.V.; KOKSHAROVA, I.K.; MIKHALEV, M.S.; LAZAREV, E.M.; KUZNETSOVA, I.R.; LAPKIN, N.I.; KRASIL'NIKOV, N.A.; GOL'DSHTEYN, M.I.; GUTERMAN, S.G.; ODINOKOV, Yu.I.; SKRYABIN, N.P.; KORSHCHIKOV, V.D.

Research by the Ural Ferrous Metal Research Institute. Stal' 22 no.7:621,623,638-639,670 Jl '62. (MIRA 15:7)
(Metallurgical research)

TORCHIYEV, A.V., prof., doktor tekhn.nauk; KHORIN, V.N., doktor tekhn.nauk

Main objectives in the area of creating equipment for the overall mechanization and automation of stoping operations. Ugol' 40 no.5:12-18 My '65. (MIRA 18:6)

KHOREV, B. YA.

176 Geologo-Petrograficheskiy Analiz Yugo-vostochnoy Chasty Irtyshskoy Zony Smyatiya. M., Gosgeoltekhizdat, 1954. 100 S. S Ill. I Kart. 23SM. (Materialy Usesuz. Nauch.--Issled. Geol. In-ta Vsegel M-Va Geologii I Okhrany Nedr Sssr. Novaya Seria Vyp. 1. Petrologiya). 1.000 EKZ. 3 P. 25K.--Bibliogr: V Kontse Knigi.--(54-150862H)
55.04 + 552) (57-12) + (016.3)

SO: Knizhnaya, Letopis, Vol. 1, 1955

KHOREVA, B.Ya.; KUREK, N.N., redaktor; STEPANOVA, L.S., redaktor; POPOV, N.D., tekhnicheskiy redaktor.

[Geological and petrological analysis of the southeastern section of the Irtysh zone of contortion] Geologo-petrologicheskii analiz iugo-vostochnoi chasti Irtyshskoi zony smiatiia. (Leningrad. Vsesoiuznyi geologicheskii institut. Materialy). Moscow. no.1, 1954. 96 p. (MIRA 9:4)
(Irtysh Valley--Folds (Geology)) (Irtysh Valley--Petrology)

KHOREVA, B.Ya.

New data on the geological structure of the Irtysh zone of warping in the Osinovka-Malo-Krasnoyarka sector. Inform. sbor. VSEGEI no.1:41-45 '55. (MLRA 9:12)

(Irtysh Valley--Geology, Structural)

KHOREVA, B.Ya.

Paragenetic analysis of mineral associations of a lazurite deposit. Mat. VSEGEI. Petr. min. sol:154-175 '55. (MLRA 8:6)
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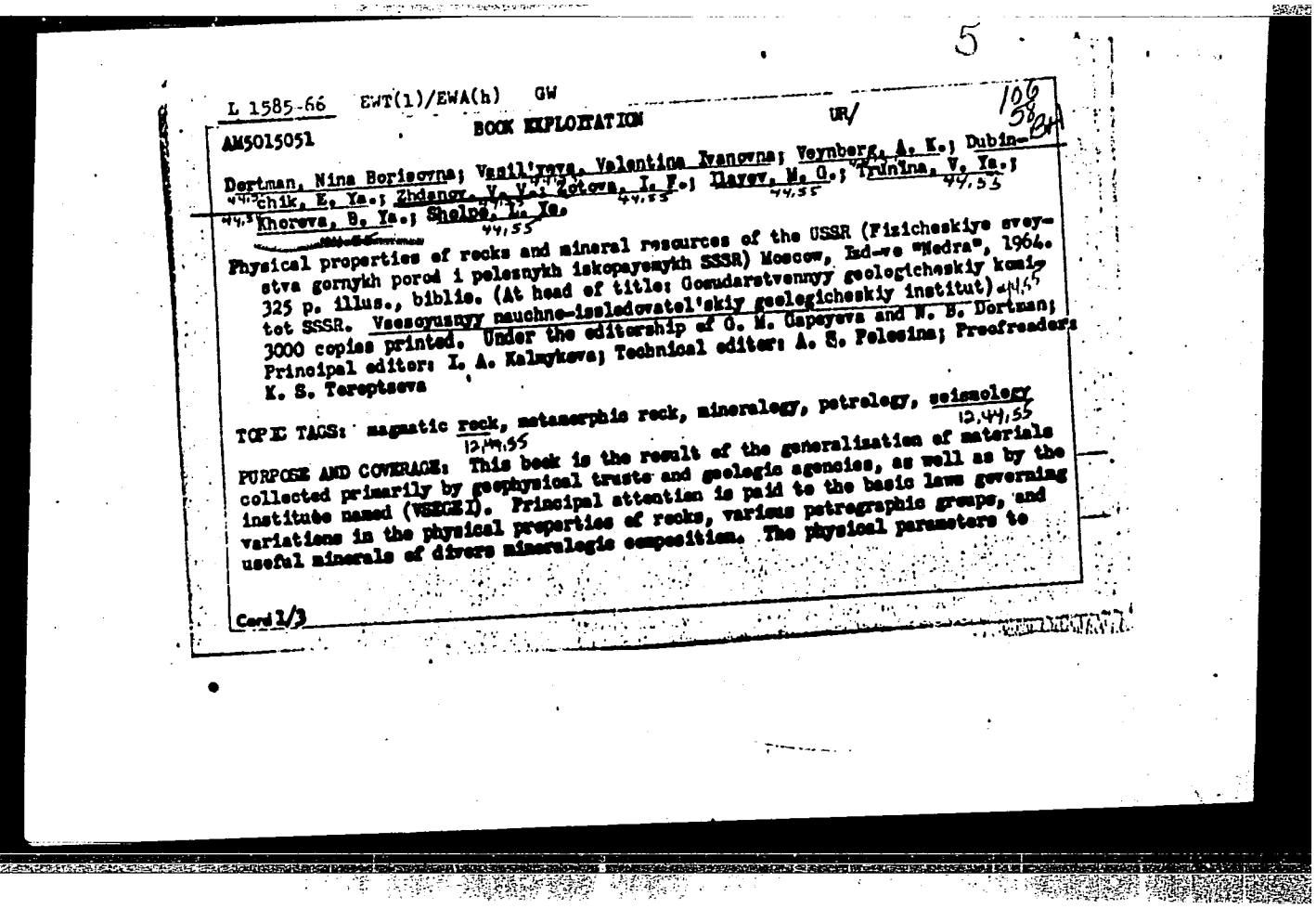

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Physical properties of rocks and mineral resources of the USSR (Fizicheskiye svoystva gornykh porod i poleznykh iskopayemykh SSSR) Moscow, Izd-ve "Nedra", 1964. 325 p. illus., biblio. (At head of title: Gosudarstvennyy geologicheskiy komitet SSSR. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut) 3000 copies printed. Under the editorship of O. M. Dapeyeva and N. B. Dortman; Principal editor: I. A. Kalmykova; Technical editor: A. S. Polesina; Proofreaders: K. S. Tereptseva

TOPIC TAGS: magmatic rock, metamorphic rock, mineralogy, petrology, seismology

PURPOSE AND COVERAGE: This book is the result of the generalization of materials collected primarily by geophysical trusts and geologic agencies, as well as by the institutes named (VSEGEI). Principal attention is paid to the basic laws governing variations in the physical properties of rocks, various petrographic groups, and useful minerals of divers mineralogic compositions. The physical parameters to

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which special attention is given include the density, the magnetic susceptibility, the specific electrical resistance, and the rate of propagation of longitudinal and transverse waves. The compilers of the book are colleagues of the Laboratoriya fizicheskikh svoystv gornykh porod and the Otdel petrografii of VSEGEI. They express their gratitude to B. A. Andreyev, A. A. Logachev, G. L. Martynova, S. V. Moskvaleva, A. S. Semenov, T. N. Simonenko, K. O. Bogdanova, Ye. A. Butakova, V. F. Dybkov, B. K. L'vov, V. I. Moskvaleva, L. A. Petrova, Yu. Ye. Rytsk, Ye. K. Shanskevich, A. T. Solov'yev, and A. D. Shcheglov.

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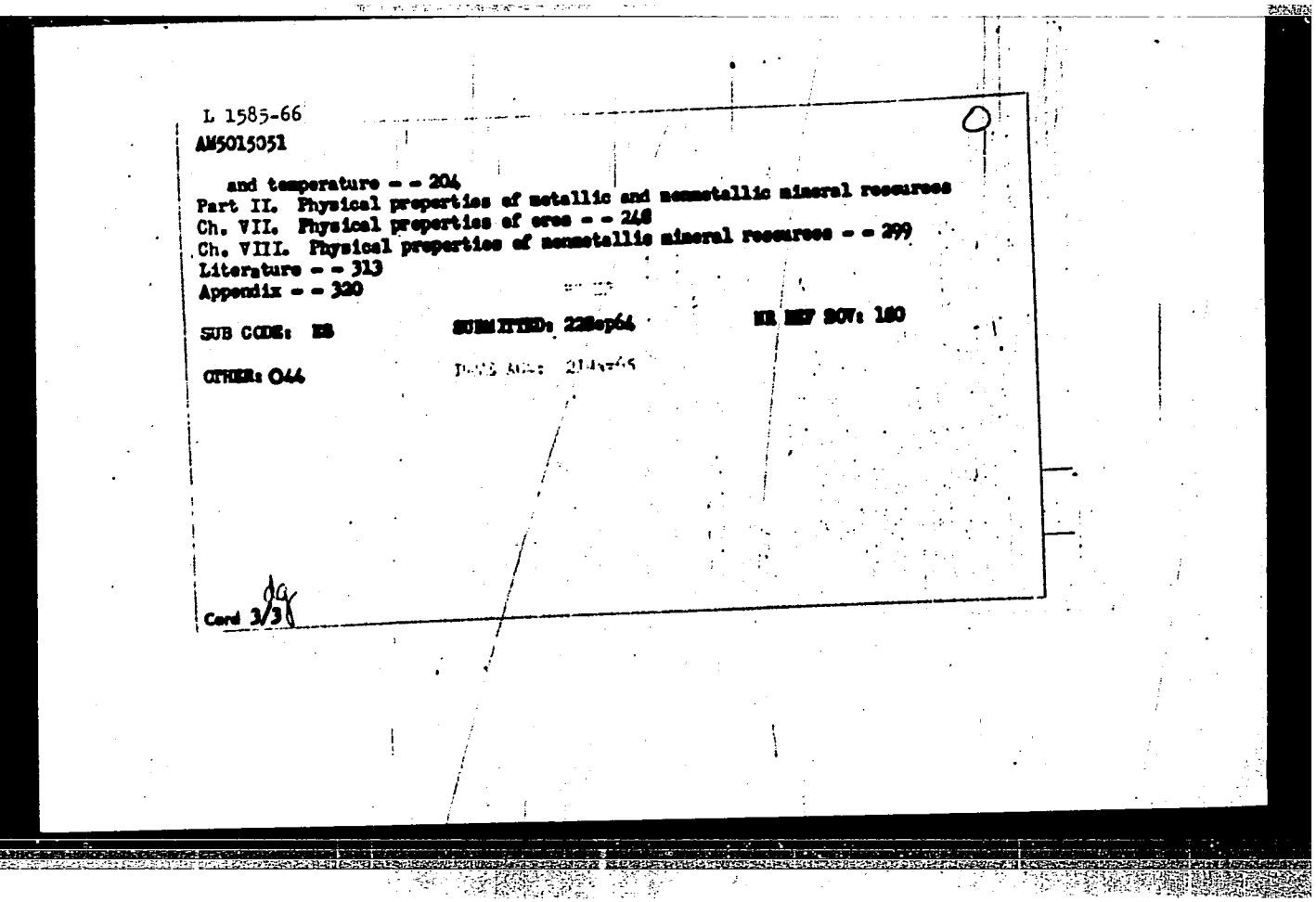

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