ACC NR: AM5010318

SUB CODE: 13,09/ SUBM DATE: 16Nov64/ SOV REF: 079/ OTH REF: 005

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89494

S/182/60/000/012/004/010
A161/A030

10.9200

AUTHOR: Checheta, I.A.

TITLE: On Some Peculiarities of Plastic Bending of Bimetals

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, 1960, No.12, pp.11-13

TEXT: It had been stated previously that bimetal strips require a different bending effort to the usual kind, and that the spring action observed after removal of the deforming load (Fig.1) depends on the relation of the mechanical properties of the base and coating layer, on the thickness relation of layers, and from the position of the coating layer - in the elongated or in the compressed bend portion (Fig.2). The bimetal strip behaviour is mathematically analysed assuming that the stress-strain diagram with a large bend radius is linear and that the neutral layer is situated in the mid of the strip depth. The bending moment formula is derived (the index 1 is used for values relating to the coating layer, and 2 to the base):

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A161/A030

On Some Peculiarities of Plastic Bending of Bimetals

$$M = A_1 \varphi_1 \eta_1 W + A_2 \varphi_2 \eta_2 W, \qquad (4)$$

where $\varphi_1 = \frac{1.5}{2^{n_1} (n_1+2) r^{n_1}}$; $\varphi_2 = \frac{1.5}{2^{n_2} (n_2+2) r^{n_2}}$;

$\eta_1 = 1 - \left(\frac{h_2}{h} - \frac{h_1}{h}\right)^{n_1+2}$; $\eta_2 = 1 + \left(\frac{h_2}{h} - \frac{h_1}{h}\right)^{n_2+2}$;

$r = \frac{R}{h}$ is the relative bend angle; $W = \frac{bh^2}{6}$;

and the values of the factors φ, η_1 and η_2 are presented in diagrams (Fig.3 and 4).

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On Some Peculiarities of Plastic Bending of Bimetals

The spring action angle is determined by the formula

$$\Delta\alpha = \frac{(A_1\varphi_1\psi_1 + A_2\varphi_2\psi_2)R_{cp}}{E_1(k_1k_3+k_2)}\alpha \qquad (8)$$

where R_{cp} is R_{mean}, and the k_2 and k_3 factors values are found graphically (Fig.5). The angles calculated with formula (8) are compared with angles measured in experiments (Fig.6) - the results are close. For comparatively small bend radii ($r<5$), the spring action angle is determined with the formula

$$\Delta\alpha = \frac{M_\alpha}{E_1 b\left[k_1h_2(R_{2mean} - \rho) + h_1(R_{1mean} - \rho)\right]} \qquad (9)$$

where ρ is the curvature radius of the neutral layer; R_{1mean} - the curvature

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On Some Peculiarities of Plastic Bending of Bimetals

radius of the coating layer, and R_{2mean} of the base layer. If the coating layer is in the elongated zone of the bend,

$$\rho = \frac{k_1 h_2 + h_1}{k_1 \ln\frac{R_n}{R_B} + \ln\frac{R_H}{R_n}} \qquad (10a)$$

and it is in the compressed zone,

$$\rho = \frac{k_1 h_2 + h_1}{k_1 \ln\frac{R_H}{R_n} + \ln\frac{R_n}{R_B}} \qquad (10b)$$

where R_H, R_B - the outer and inner radii of bend, and R_n the boundary radius. The calculated difference has been verified in experiments.
There are 6 figures.

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On Some Peculiarities of Plastic Bending of Bimetals

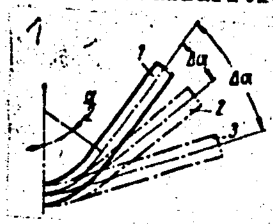

Fig. 1 - 1- Specimen under load at the end of deformation process; α- bend angle; 2 - Specimen after load removal, with the coating layer in the compressed bend zone; $\Delta\alpha$ - the spring action angle; 3 - Specimen after load removal, with the coating layer in the elongated zone.

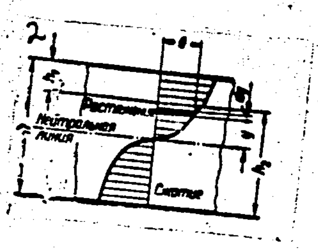

Fig. 2 - Normal stress epure: h_1 - coating layer; h_2 - base layer.

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S/182/60/000/012/004/010
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On Some Peculiarities of Plastic Bending of Bimetals

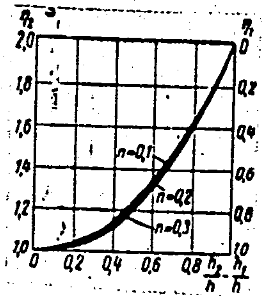

Fig. 3 - the η_1 and η_2 factors.

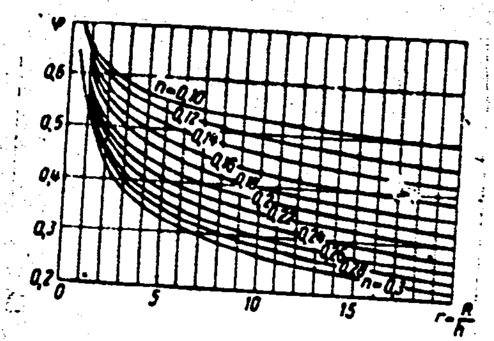

Fig. 4 - the φ factor.

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On Some Peculiarities of Plastic Bending of Bimetals

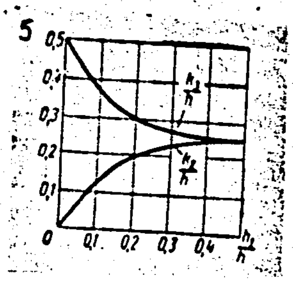

Fig.5 - The k factors

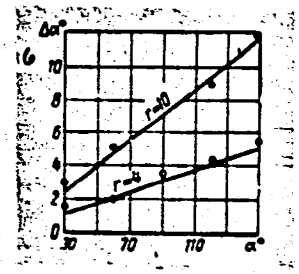

Fig. 6 - Variation of spring action angle with the bend angle: (Solid line indicates the theoretical data, the dots the experiment data).

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APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220019-6"

22987
S/182/61/000/007/006/006
D038/D112

1.1200

AUTHORS: Checheta, I.A., Martynov, V.P.

TITLE: Compensation of springing by local uneven heating

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, no. 7, 1961, 36-37

TEXT: A simple method is suggested for the compensation of the so-called spring, or the effect of the angle of spring, in bending of sheet metal in bending presses. The method eliminates the need for expensive precision bending dies and the use of heavy presses for bending. The suggested method consists basically in heating the blank unevenly at the point of the bend, i.e. heating one side more than the other. The method was tested in the experiments with annealed B 95 (V95) aluminum alloy strips which were bent in a crank press. The blanks were heated to 400°C on one side and to 35°C from the other, as shown in the schematic. Current from 220-v network was fed through a step-down transformer (5) to a heating coil mounted in the press punch (4). The temperature of the punch was measured and regulated by a thermocouple (7) and a potentiometer (6). The springs (2) kept the specimen (3) in the die (1) in contact with the hot punch, until the metal was heated to the required temperature. After this operation the angle of spring in

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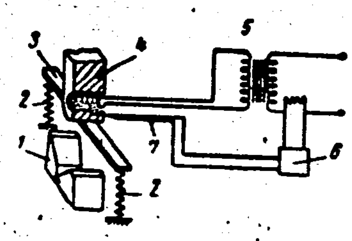
22987

Compensation of springing by local... S/182/61/000/007/006/006 D038/D112

V95 aluminum alloy was reduced from the usual 2°30' at cold bending to 0°24'. Experiments were also carried out with annealed "45" steel, and the local uneven heating decreased the angle of spring from 2°50' to 1°08' without any deleterious effect on the plasticity of the steel. There is 1 figure, and 1 table.



Schematic showing the method of compensating springing.

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24534

10.7200

S/147/61/000/002/013/015
E081/E135

AUTHOR: Checheta, I.A.

TITLE: Plastic bending of cladded metals without allowance for hardening

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Aviatsionnaya tekhnika, 1961, No.2, pp. 136-146

TEXT: Cladded metals (bimetals) are widely used in the aviation, petroleum, chemical, and other industries. When subjected to plastic bending, the neutral axis in them is displaced towards the side of the stronger material. Experiments show that in plastic bending, the spring of the bimetal depends on whether the plated layer is in compression or tension. The equation of plasticity is taken in the form $\sigma_1 = 1.15\sigma_s + \sigma_3$, where σ_1 and σ_3 are the tangential and radial stresses, and σ_s is the yield value. Using this equation, and the equilibrium equation, expressions are derived for the principal stresses in the external and internal zones, with the cladding layer in compression or tension. Expressions are also obtained for the bending moment and the radius of curvature ρ of the neutral axis. Values of ρ are

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calculated for a combination of steel СХЛ4 (SKhL4) and 1Х18Н9Т (1Kh18N9T), and show close agreement with the experimental values determined by B.N. Shevelkin and A.P. Golovanova (Ref.2: TsNIITMASh, Symposium, Issue 19, Moscow, 1956). The conclusions are as follows. 1) From the here given 3-dimensional analysis of purely plastic bending of the cladded metal the solution for the analogous bending of normal metallic beams is obtained as a particular case. 2) The position of the neutral stress axis depends on the ratio of the thicknesses of the base metal and the cladding layers, and on whether the cladding layer is in the tension or compression zone on bending to a given radius. 3) If the neutral axis coincides with the junction area and if the strength of the junction is inadequate, separation of the two metals may occur at the junction if the radial stresses exceed the strength of the contact area between the base metal and the cladding metal. 4) The bending moment under otherwise equal conditions will vary, depending on whether the plated layer is in the compression or the tension zone. The difference in the bending moments depends on the ratio of the yield values of the base metal and the cladding metal for a given bending radius.

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Plastic bending of cladded metals... S/147/61/000/002/013/015
E081/E135

There are 5 figures, 1 table and 3 Soviet references.

ASSOCIATION: Kafedra obshchey tekhnologii metallov i aviatsionnogo materialovedeniya, Khar'kovskiy aviatsionnyy institut
(Department of General Metal Technology and Science of Aircraft Materials, Khar'kov Aviation Institute)

SUBMITTED: November 24, 1960

X

Card 3/3

L 15747-63 EWT(1)/EWP(q)/EWT(m)/BDS AFFTC/ASD JD
ACCESSION NR: AR3002687 S/0124/63/000/005/V056/V056

SOURCE: Rzh. Mekhanika, Abs. 5V462 55 54

AUTHOR: Checheta, I.A.

TITLE: Elastic bending of plated metal, locally heated

CITED SOURCE: Tr. Khar'kovsk. aviats. in-ta, vyp. 21, 1961, 99-104

TOPIC TAGS: billet, heating, plating, elasticity, austenite, stainless, spring conductivity, induction, temperature distribution, plated strip

TRANSLATION: The advantage of local heating of plated billets by the induction method in comparison with furnace heating of the entire billet is proven. The question of the distribution of the temperature during the local induction heating of plated strips is considered. For simplicity it is assumed that during transmission of the stress or voltage, at the inductor, a distribution of temperature occurs only along the width of the bands and subsequently, only along their length. The equations of the theory of thermal conductivity are used (Lykov A.V., Thermal conductivity, M., 1952). For plated strips, the state of

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ACCESSION NR: AR3002687

steel of the ferrite class (basic layer 5 mm thick) and of the austenite class (plated layer 1 mm thick) is calculated and the distribution of temperature along the width in dependence on the temperatures (800, 900 and 1000 degrees), given the surface strip and the time in fractions of seconds, are graphically presented. Even in the second second, the temperature equalizes itself fully along the width of the strip being considered. If after the local heating, a local bending deformation occurs, then after the cooling of the product, the thermoelectric effect causes a variation in the angle of bending usually called "spring back." "Spring back" steel strips, usually called stainless steel, occurs to the side of the plating layer. A method of determining the effect of the thermobimetallic effect during local heating on the angle of bending is suggested. The "spring back" angle computed by this method is compared with experimental values for specific strips. G.M. Chuvikin

DATE ACQ: 14Jun63 SUB CODE: ML ENCL: 00

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L 18466-63 EWP(r)/EWT(d)/EWT(1)/EWT(m)/BDS AFFTC S/0124/63/000/008/V028/V028
ACCESSION NR: AR3006447

54

SOURCE: RZh. Mekhanika, Abs. 8V216

AUTHOR: Checheta, I. A.

TITLE: Plastic buckling of plated metal

CITED SOURCE: Tr. Khar'kovsk. aviats. in-ta, vy*p. 21, 1961, 77-97

TOPIC TAGS: plated beam, buckling, stress, deformation, radius of curvature, plasticity, normal stress

TRANSLATION: The plastic bending of a plated (bimetallic) beam is considered. The width of the beam for which the hypothesis of plane cross section is applicable and for which it does not undergo significant shape variation or variation of the transverse cross section, is assumed not less than three thicknesses. The purely plastic volume bending of the broad plated beam without reinforcement is considered in the case of the situation of the plated layer in the stretched or in the compressed zone. In the equilibrium equation of infinitely small elements, situated in the plated layer and in the stretched and compressed zone of the basic metal, the expression of normal stress is substituted for the

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ACCESSION NR: AR3006447

0

condition of plasticity. By integration of these equations the expressions for all three principal normal stresses were obtained, as well as the radius of curvature of the neutral layer and the bending moment. The distribution scheme of the principal stress along the height of the beam is given. In the analysis of the stress-deformation state for volume, purely plastic bending of a broad plated beam with reinforcement for a start the equation of plasticity and equilibrium of an infinitely small element of the beam being bent, is taken, assuming that the diagram of stress-deformation is described by a power law. In this case the expressions for the principal stress, the radius of curvature and the bending moment are significantly more complicated. For practical calculation, a simpler expression for the radius of curvature is recommended, giving significant deflection only for comparatively small relative radii of bending, as is evident from the results of the comparative calculations which were introduced. For the magnitude of the spring the magnitude of the elastic deformation of the beam is taken, expressed in the angular variation arising from the action of the inverse bending moment. The position of the neutral layer is determined from the condition of equality of the zero sum of all the forces acting normally to the transverse cross section, and the bending moment from the condition of equality of the external and the internal forces. From the expression for the moment is derived the angle of spring and the radius of curvature after springing. For the reinforced scheme of the stressed-

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ACCESSION NR: AR3006447

deformed state, which may be assumed for large radii of bending, the expression obtained for the bending moment and the angle of spring is linear and graphs are introduced for determination of the parameters entering into this expression. G. M. Chuvikin

DATE ACQ: 28Aug63 SUB CODE: AP, ML ENCL: 00

Card 3/3

S/182/62/000/004/002/006
D038/D113

AUTHOR: Chechota, I.A.

TITLE: On the choice of the minimum permissible bending radii for bimetals

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, no. 4, 1962, 3-4

TEXT: The results of calculating the minimum permissible bending radii (R_{min}) of Ст.3-1Х18Н9Т (St.3-1Kh18N9T) stainless clad sheet steel are included. Calculations were made for a bimetal cladding placed in the stretched zone and in the compressed zone of bend. The following R_{min} are recommended for the St.3-1Kh18N9T stainless clad sheet steel: (1) for cold bending - 1.5 h (thickness in mm) and 3.0 h with cladding in the stretched and compressed zones of bend respectively and (2) for bending at 900°C - 3.0 h and 1.5 h with cladding placed in the stretched and compressed zones respectively. The R_{min} should be used only when demanded by specific design requirements. It is concluded that the thickness ratio of the base and

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On the choice of the minimum permissible ... S/182/62/000/004/002/006
D038/D113

cladding of bimetals affects the magnitude of the R_{min} under other similar circumstances. There are 2 figures and 1 table.

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S/276/63/000/001/016/028
A006/A101

AUTHOR: Checheta, I. A.

TITLE: Plastic bending of clad metals

PERIODICAL: Referativnyy zhurnal, Tekhnologiya mashinostroyeniya, no. 1, 1963, 36 - 37, abstract 1V166 ("Tr. Khar'kovsk. aviats. in-ta", 1961, no. 21, 77 - 97)

TEXT: An analysis of plastic bending of clad sheet metal yielded the following results. 1. The distribution of main stresses over the height of the bent bar depends upon the correlation of thickness of the cladding and clad layers; the correlation of their mechanical properties and the bending radius. It changes abruptly depending on the location of the cladding layer, either in the compressed or extended bending zone. 2. The location of the neutral stress layer, the magnitude of the bending moment and the magnitude of the spring angle is influenced by the correlation of the thickness of the clad and cladding layer, the correlation of their mechanical properties, the bending radius and the bending variant (i. e. whether the cladding layer is in the compressed or the ex-

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panded bending zone). 3. The neutral stress layer is shifted towards the side of the cladding layer (if it is more resistant) and simultaneously to the side of the curvature center according to a decrease in the bending radius. 4. In the process of plastic bending of the clad metals cases may occur when the neutral layer coincides with the soldered boundary between the clad and cladding layers. When the radial stresses attain a magnitude at which at least one of the bar materials can flow in the tangential (and also the radial) direction and the strength in the soldered boundary is insufficient, lamination of the clad bar will occur. 5. The magnitude of the bending moment is in a range, limited on the one side by the magnitude of the bending moment for the bar made of the cladding layer material, and on the other end it is limited by the magnitude of the bending moment for a bar of the clad layer material under otherwise equal conditions. 6. The magnitude of the spring angle is in a range whose one boundary is the magnitude of the spring angle of the bar made of the cladding layer material and the other boundary is the spring angle of the bar made of the clad layer material under otherwise equal conditions. 7. The volumetric plain bending of a conventional bar can be considered as a particular case of the volumetric plain plastic bending of a same bar made of clad metal. There are 12 figures and 3 references.

[Abstracter's note: Complete translation]

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S/276/63/000/001/017/028
A006/A101

AUTHOR: Checheta, I. A.

TITLE: Plastic bending of clad metals with local heating

PERIODICAL: Referativnyy zhurnal, Tekhnologiya mashinostroyeniya, no. 1, 1963, 37, abstract 1V167 ("Tr. Khar'kovsk. aviats. in-ta", 1961, no. 21, 99 - 104)

TEXT: The author analyzes a variant of plastic bending with local heating of a clad metal strip. The advantage of local heating by the induction method of clad blanks over furnace heating of the whole blank is demonstrated. This advantage is connected with a simplified process of plastic bending, due to the use of a ductile hinge without using a punch-die bending instrument. Simultaneously production conditions and the quality of the part are improved. A method is proposed of determining the thermobimetallic effect during local heating upon the bending angle of the parts. There are 5 figures and 4 references.

[Abstracter's note: Complete translation]

Card 1/1

L 10387-63 EWP(r)/EWT(m)/BDS--AEDC
ACCESSION NR: AP3000081 S/0182/63/000/005/0027/0031 55 54

AUTHOR: Kononenko, V. G.; Kushnarenko, S. G.; Kotel'nikov, V. I.; Rayzman, D. A.; Checheta, I. A.

TITLE: New impact testing machines for high-rate mechanical testing of materials

SOURCE: Kuznechno-shtampovochnoye proizvodstvo, no. 5, 1963, 27-31

TOPIC TAGS: impact testing machines, explosion-actuated machines, high deformation rates, wide temperature range, subzero tests

ABSTRACT: The Khar'kovskiy aviatsionnyy institut (Khar'kov Aviation Institute) has built and tested two new explosion-actuated machines for high-rate tension tests of various materials over a wide temperature range. The first, a telescopic-type machine, is capable of testing at deformation rates of 15 to 300 m/sec and temperatures of -196 to +1200C. The second, a lever-type machine, was successfully tested in the same temperature range at deformation rates of 10 to 50 m/sec. At higher deformation rates the telescopic-type machine gives better results than the lever type. In both, loading is effected by detonating

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ACCESSION NR: AP3000081

a measured explosive charge. Strain 26 is measured by a wire strain gauge, registered on the screen of an oscillograph, and recorded photographically. In high-temperature tests the specimens are heated by a furnace which is quickly removed just before the explosive charge is detonated. In subzero testing the specimens are cooled in liquid nitrogen or a mixture of liquid nitrogen and benzene. Orig. art. has: 8 figures.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 17Jun63 ENCL: 00

SUB CODE: 00 NO REF SOV: 004 OTHER: 002

Card 2/2

AGNAYEV, B.S.; CHECHETENKO, P.P.; SEREDENKO, D.K.; NESTERENKO, A.N.

Work practices of mines in the Krasnoarmeiskugol' Trust. Ugol' 38 no.8:26-28 Ag '63. (MIRA 17:11)

1. Trest Krasnoarmeyskugol'.

GOL'DFARB, I.V.; CHECHETINA, Ye.I.

Hemorraghes from the larynx in gushot wounds. Trudy.Izhev.gos.med. inst. 13:248-255 '51. (MIRA 13:2)

1. Iz kliniki bolezney ukha, nosa i gorla Izhevskogo meditsinskogo instituta.
(LARYNX--WOUNDS AND INJURIES) (HEMORRHAGE)

GOL'DFARB, I.V.; CHECHETINA, Ye.I.

Tracheotomy in laryngeal wounds. Trudy Izhev.gos.med.inst. 13:256-264 '51. (MIRA 13:2)

1. Iz otorinolaringologicheskoy kliniki Izhevskogo meditsinskogo instituta.
(TRACHEA--SURGERY) (LARYNX--WOUNDS AND INJURIES)

GOL'DFARB, I.V.; CHECHETINA, Ye.I.

X-ray diagnosis of laryngeal wounds. Trudy Izhev.gos.med.inst. 13:
265-270 '51. (MIRA 13:2)

1. Iz otorinoloaringologicheskoy kliniki Izhevskogo meditsinskogo
instituta.
(LARYNX--RADIOGRAPHY) (WOUNDS AND INJURIES)

CHECHETKIN, A.

Man is judged by the work he does. Rech. transp. 20 no.10: 49-51 O '61. (MIRA 14:9)
(Inland water transportation--Employees)

CHECHETKIN, A.

River workers' honor. Rech. transp. 22 no.3:5-6 Mr '63. (MIRA 16:4)
(Inland water transportation—Employees)

CHECHETKIN, A.V., aspirant.

Some problems regarding metabolism in the liver of hens of different types. Ptitsevodstvo 8 no.9:30-32 S '58. (MIRA 11:10)

1. Khar'kovskiy veterinarnyy institut.
(Liver) (Metabolism) (Hens)

CHECHETKIN, A. V.: Master Biol Sci (diss) -- "Aspects of the functional activity of the liver of hens with various directions of productivity". Khar'kov, 1959. 19 pp (Min Agric USSR, Khar'kov Vet Inst), 150 copies (KL, No 11, 1959, 118)

CHECHETKIN, A. V., KISELEV, G. I., SAVRON, Ye. S., (USSR)

"Metabolism in Hens in Ontogenesis and Heterosis."

Report presented at the 5th Int'l. Biochemistry Congress,
Moscow, 10-16 Aug 1961.

CHECHETKIN, A. V.

PA 52/49T34

USSR/Engineering — Jul 49
Heat Conduction

"Dauterm as a Heat Conductor," B. K. Kozlov, A. V. Chechetkin, Power Eng Inst imeni G. M. Krzhizhanovskiy, Acad Sci USSR, 11 pp

"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 7

Distinguishes four forms of dauterm: dauterm A, a eutectic mixture of diphenyloxide and diphenyl; dauterm B, a eutectic mixture of diphenyloxide and naphthalene; and dauterms C and D, mixtures of diphenyl polymers and of other benzene polymers. Discusses thermodynamic and physicochemical properties

52/49T34

USSR/Engineering (Contd) — Jul 49

of dauterm and heat transfer. Dauterm may find application in industrial power engineering under certain conditions. Submitted by Acad M. V. Kirpichev, 25 Jan 49

52/49T34

PHASE I BOOK EXPLOITATION 410

Chechetkin, Aleksandr Vasil'yevich

Vysokotemperaturnyye teplonositeli (High Temperature Heat Transfer Media) Moscow, Gosenergoizdat, 1957. 167 p. 6,000 copies printed.

Ed.: Voskresenskiy, K.D.; Tech. Ed.: Larionov, G.Ye.

PURPOSE: This book is written for engineers and mechanics working in the field of industrial power engineering, and can be of use to scientific workers and graduate students in the field of heat engineering.

COVERAGE: This book describes the thermodynamic, thermokinetic, and hydrodynamic properties of high-temperature heat carriers. Other characteristics, such as thermal stability and corrosiveness, are also discussed. Diagrams of heating units using high-temperature heat carriers are included in the text. Typical heat exchanges are described which use high-temperature heat carriers. The book

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includes calculations of heat transfer and resistance for a given heat exchanger. Research on the properties of heat carriers is quoted, including the contributions of the author. The experimental part of this research was completed with the cooperation of I.Ya. Sherstnev and Ye.P. Dudnikova, junior scientists at the ENIN AN SSSR, of Ye.I. Chebykina, junior scientist at the NIIKhIMMASh, and of N.N. Kharlamova, laboratory assistant. There are 283 references, 170 of which are Soviet, 25 German, and 84 English.

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High Temperature Heat Transfer Media 410

AVAILABLE: Library of Congress

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BK/ad
9-15-58

SOV/124-58-10-11341

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 10, p 93 (USSR)

AUTHOR: Chechetkin, A.V.

TITLE: On the Problem of the Heat Exchange and Aerodynamics of Seepage Flow (K voprosu o teploobmene i aerodinamike fil'truyushchegosya potoka)

PERIODICAL: Tr. Mosk. khim.-tekhnol. in-ta im. D.I. Mendeleyeva, 1957, Nr 24, pp 452-458

ABSTRACT: An examination of data compiled by a number of authors during experiments dealing with flow-resistance and heat-exchange conditions arising during the flow of a gas through a packed bed consisting of solid particles (coal, metal balls, limestone, porous ceramic materials, brick, etc.). The range of Reynolds numbers (based on equivalent diameter) is $1<R<7x10^3$. On the strength of identical processing of results of various experiments, the author proposes a number of empirical formulae expressing the Nusselt. number and the coefficient of flow resistance as functions of the R number and singles out three types of heat-exchange conditions, viz.,

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nonstationary, stationary, and conductive. Bibliography: 15 references.

V.P. Mugalev

10(6)

SOV/156-59-2-48/48

AUTHOR: Chechetkin, A. V.

TITLE: An Approximate Aerodynamic Calculation of the Diphase-system Gas - Solid Body (Priblizhennyy aerodinamicheskiy raschet dvukhfaznoy sistemy gaz - tverdoye telo)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1959, Nr 2, pp 406-410 (USSR)

ABSTRACT: The following processes occur, one after the other, when gas is blown through a granular layer: Filtration of the gas through the static granular layer, swelling-up of the granular layer, pseudo-liquefaction and finally pneumatic transport of the granular material. For the entire range, of from the speed of the gaseous phase = 0 up to the flying-away of the grains, the author proposes the criterium w/w_f (w = linear gas velocity in m/sec, w_f = velocity at which the grains start to fly, in m/sec). The following steps of the process are discerned: $0 < w/w_f \leqslant w_q/w_f$ (w_q = gas velocity at which the granular layer starts to swell up), characteristic of the filtration of the gas through the motionless layer; $w_q/w_f \leqslant w/w_f \leqslant w_{crit}/w_f$

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(w_{crit} = gas velocity at which the pseudo-liquefaction begins), characteristic of the process of the swelling-up of the granular layer; $w_{crit}/w_f \leqslant w/w_f \leqslant w_i/w_f$ (w_i - velocity at which the maximal heat-exchange takes place), characteristic of the process of the pseudo-liquefaction; $w_i/w_f \leqslant w/w_f \leqslant w_{opt}/w_f$ (w_{opt} = optimal velocity of the pseudo-liquefaction), characteristic of the process of the intensive pseudo-liquefaction and $w_{opt}/w_f \leqslant w/w_f \leqslant 1$ for the beginning of the flying-away of the solid phase with the gas stream. To each of these processes corresponds a layer thickness h/h_o (h_o = height of the motionless granular layer). A diagram shows the results of the experiments together with the results obtained by I. P. Mukhlenov, D. G. Trauber and Ye. S. Rumyantseva (Ref 4). In the following, the values w_q, w_{crit}, w_i and w_{opt} are computed for the single processes, and for various grain sizes.

The author stresses that the specifications only hold for apparatus with a diameter of from 45 - 130 mm and a ratio of 7.5 - 126 apparatus-diameter : grain-diameter. There are 1 figure, 1 table, and 15 references, 10 of which are Soviet.

PRESENTED BY: Kafedra teplotekhniki Moskovskogo khimiko-tekhnologicheskogo instituta im. D. I. Mendeleyeva (Chair for Heat Technology Moscow Institute for Chemical Technology imeni D. I. Mendeleyev)

SUBMITTED: September 22, 1958

ZHITOV, B.N.; IVANOV, Ye.N.; MAKAROV, G.N.; OPECHETKIN, A.V.

Investigation of the process of the preliminary thermal preparation of coals by means of a gaseous heat carrier. Trudy MKHTI no.28: 17-27 '59. (MIRA 13:11)

(Coal preparation)

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S/184/61/000/001/003/014
A104/A029

11.3900

AUTHORS: Chechetkin, A.V., Candidate of Technical Sciences and
Kosterev, F.M., Engineer

TITLE: The Heat Emission of Liquid Ditolyl Methane at Transient and Turbulent Flows.

PERIODICAL: Khimicheskoye Mashinostroyeniye, 1961, No. 1, pp. 22-24

TEXT: The recently introduced use of diphenyl mixture and liquid ditolyl methane as high temperature heat carriers is discussed. Values of the thermophysical constant of liquid dito. .l methane obtained by experiments were expressed by the empirical formula derived by A.V. Chechetkin as: $\gamma = 997 - 0.73t$, $c_p = 0.358 + 0.00068t$, $\lambda = 0.00223T^{-\frac{1}{4}} c_p \gamma^{\frac{3}{4}}$, $\mu = 1.38 \cdot 10^{-7} e^{\frac{2425}{T}}$, in which γ = specific gravity in kg per m^3; c_p = specific heat in kcal per kg°C; t and T = temperature according to °C and °K, λ = heat conductivity in kcal per m hour degree and μ = dynamical viscosity in kgs·$\cdot m^2$. Similar thermophysical constants of liquid ditolyl methane and diphen-

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The Heat Emission of Liquid Ditolyl Methane at Transient and Turbulent Flows

yl mixtures indicate identical thermokinetic properties. For the purpose of obtaining further data the authors carried out experiments with regard to heat emission of liquid ditolyl methane in transient and turbulent motions. The design of the experimental installation is shown in Fig. 1. Ditolyl methane was electrically heated to desired temperatures and driven through the experimental section (5) by a МП-90 (MP-90) propeller pump. The electric heater consisted of 5 x 1 mm Nichrome tape wound on the experimental section. Constant temperature of ditolyl methane was maintained by a water cooler (3). The whole installation (except cooler) was asbestos insulated. The determination of specific thermal flows and wall temperatures was based on the principle of stationary heat conductivity of thick-walled cylinders (Refs. 3 and 4) according to Fourier's theorem. For this purpose six 1.3-mm diameter and 40-mm deep cylindric channels were drilled into each surface plane of the experimental section and Chromel-Alumel thermocouples were placed within. The mean arithmetic value of the temper-

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ature of ditolyl methane at entering and leaving the experimental section was assumed as mean temperature. All temperatures were measured by the potentiometric method and the velocity of ditolyl methane by the gravimetric method. About 26 experiments were carried out under the following conditions: specific variations of thermal flow were 92,250-329,000 kcal/m^2 per hour; thermal heads 27.8-156.7°C; Reynold's number 2,220-116,000. Correction $\varepsilon_1 = f\left(\frac{l}{d}\right)$ with respect to the effect of the initial pipe section was introduced into the treatment of the obtained experimental data. In the transition zone the values of these corrections were determined by interpolation. All experimental data were treated in the form of the following criteria dependence $K_o = a\,Re^n_{liq}$, in which

$$K_o = \frac{Nu_{liq}}{Pr_{liq}^{0.43}\left(\frac{Pr_{liq}}{Pr_w}\right)^{0.25}};\quad Nu_{liq} = \frac{\alpha d_e}{\lambda_{liq}} \text{ - Nusselt's number; } Re_{liq} = \frac{v d_e}{\nu_{liq}}$$

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Reynold's number and $Pr = 3,600 \frac{g \mu c_p}{\lambda}$ = Prandtl's number. [Abstracter's note: designations liq (liquid) and w (wall) are translations from the Russian ж (zhidkost') and ст (stenka)]. Fig. 2 shows the dependence K_o f (Re) of ditolyl methane in transient and turbulent flows in pipes with a length - diameter ratio of $\frac{l}{d} \geqslant 50$. Data with regard to ditolyl methane in turbulent flow correspond to the criteria dependence obtained by M.A. Mikheyev for Re $\geqslant$ 10,000 (Ref. 5). Experimental data with respect to liquid ditolyl methane in transient flow (2,220 < Re < 10,000) are expressed as $K_o = 0.00105\ Re_{liq}^{1.12}$, $Nu_{liq} = 0.00105\ Re_{liq}^{1.12}\ Pr_{liq}^{0.43} \left(\frac{Pr_{liq}}{Pr_w}\right)^{0.25}$,

$$\alpha = 0.00105\ \lambda_{liq}\ d_e^{0.12} \left(\frac{v}{v_{liq}}\right)^{1.12} Pr_{liq}^{0.43} \left(\frac{Pr_{liq}}{Pr_w}\right)^{0.25}$$

The reference value K_o recommended by M.A. Mikheyev for the transient zone of liquid is close to values calculated according to above formula at $Re_{liq} \geqslant 3,000$. There are 2 figures and 5 Soviet references.

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The Heat Emission of Liquid Ditolyl Methane at Transient and Turbulent Flows

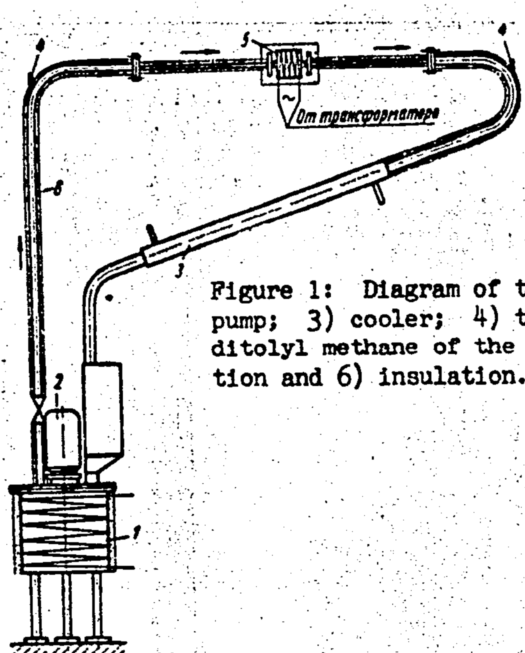

Figure 1: Diagram of the experimental installation. 1) Tank; 2) pump; 3) cooler; 4) thermocouples at the entering and leaving of ditolyl methane of the experimental section; 5) experimental section and 6) insulation.

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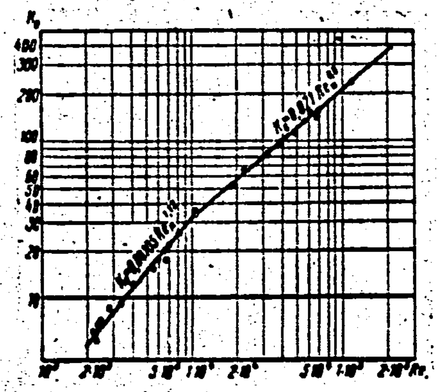
The Heat Emission of Liquid Ditolyl Methane at Transient and Turbulent Flows

Figure 2



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APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308220019-6"

CHECHETKIN, A.V.

Comparative investigation of methods for heating coal by a gas carrier. Koks i khim. no.2:16-21 '61. (MIRA 14:2)

1. Institut goryuchikh iskopayemykh AN SSSR.
(Coal preparation)

CHECHETKIN, A.V.

Aerodynamic resistance of a pseudoliquified layer [with summary in English]. Inzh.-fiz. zhur. 4 no.9:17-23 S '61. (MIRA 14:8)

1. Khimiko-tekhnologicheskiy institut, g. Moskva.
(Aerodynamics)

CHECHETKIN, Aleksandr Vasil'yevich; SKVORTSOV, S.A., kand. tekhn. nauk, retsenzent; SHERSTNEV, I.Ya., red.; FRIDKIN, L.M., tekhn. red.

[High-temperature heat-transfer agents]Vysokotemperaturnye teplonositeli. Izd.2., perer. i dop. Moskva, Gosenergoizdat, 1962. 423 p. (MIRA 15:12)

(Heat--Transmission)

NAZAROV, M.S.; OVSYANNIKOV, N.G.; SOYUZOV, A.A.; MITAISHVILI, A.A.; YUDIN, P.G.; SOLOV'YEV, I.F.; SVIRIDOV, A.A.; RUMYANTSEV, S.M.; KOLICHENKO, K.N.; NIKULIN, M.R.; ORLOV, D.A.; MAYORSKIY, G.I.; SEMENOV, I.Ya.; SUTYRIN, M.A.; KOVALEV, A.I.; VLASOV, A.A.; LEVIN, Ya.L.; KLIMOVITSKIY, A.Z.; METAL'NIKOV, G.F.; PANUSHKIN, G.P.; CHECHETKIN, A.V.; MIKHEYEV, V.D.; KOLOKOL'NIKOV, K.A.; MOISEYEVA, A.I.; TIRON, G.I.; KRYLOVA, V.F.; GOFMAN, Ya.M.; BUDCHANOV, B.F.

K.I. Korshunova; an obituary. Rech. transp. 20 no.12;[illegible] D '61. (MIRA 14:12)

(Korshunova, Kseniia Ivanovna, 1910-1961)

PHASE I BOOK EXPLOITATION SOV/6262

Chechetkin, Aleksandr Vasil'yevich

Vysokotemperaturnyye teplonositeli (High-Temperature Heat-Transfer Agents) 2d ed., rev. and enl. Moscow, Gosenergoizdat, 1962. 427 p. Errata slip inserted. 6500 copies printed.

Ed.: I. Ya. Sherstnev; Tech. Ed.: L. M. Fridkin.

PURPOSE: This book is intended for engineers and technicians in the heat-power industry. It may also be useful to scientific workers and students.

COVERAGE: The thermodynamic, thermokinetic, and hydrodynamic properties of high-temperature heat-transfer agents are described, as well as their thermal stability, toxicity, and corrosive effect on basic constructional materials. The data necessary for thermal and aero- and hydrodynamic calculations of heating and cooling by means of high-temperature heat-transfer agents, and the basic design and construction of heating systems, are presented; some

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recommendations for their operation are also given. Fields are indicated in which individual high-temperature heating media and heat-transfer agents can be employed. The author thanks S. A. Skvortsov, Candidate of Technical Sciences, and I. Ya. Sherstnev for their assistance. There are 290 references: 178 Soviet (including 12 translations), 95 English, 13 German, and 4 unidentified.

TABLE OF CONTENTS:

CHECHETKIN, A.V. [Chechotkin, O.V.]

Chemical composition of the tissues of hybrid chickens and chickens of the parent breeds of various ages. Ukr. biokhim. zhur. 34 no.2:262-269 '62. (MIRA 16:11)

1. Department of Biochemistry of Kharkov Zooveterinary Institute.

*

CHECHETKIN, D.A.

Eliminating endogenic fires. Bezop. truda v prom. 8 no.12:
39-40 D '64. (MIRA 18:3)

1. Komandir 5-go voyenizirovannego gornospasatel'nogo otryada
na Degtyarskom rudnike.

BEZNOSOV, V.I.; NAUKIN, A.F., inzh.-ekonomist; TARMAKHANOV, Ye.Ye., kand. ist. nauk; CHECHETKIN, P.V.; NAGORNOVA, A.Ya., red.; BATOTSYRENOVA, D.B., tekhn. red.

[The giant of the Buryat A.S.S.R.; historic and economic essay on the Order of Lenin Locomotive and Car Plant in Ulan-Ude] Gigant Buriatii; istoriko-ekonomicheskii ocherk Ulan-Udenskogo ordena Lenina parovozo-vagonnogo zavoda. By V.Beznosov i dr. Ulan-Ude, Buriatskoe knizhnoe izd-vo, 1960. 152 p. (MIRA 15:2)

1. Master kotel'nogo tsekha Ulan-Udenskogo ordena Lenina parovozo-vagonnogo zavoda (for Chechetkin). 2. Planovoy otdel Ulan-Udenskogo ordena Lenina parovozo-vagonnogo zavoda (for Naukin). 3. Nachal'nik otdela truda i zarabotnoy platy Ulan-Udenskogo ordena Lenina parovozo-vagonnogo zavoda (for Beznosov).

(Ulan-Ude--Railroads--Rolling stock)

OVNATANOV, G.T.; CHECHETKIN, S.I.

Oil fields of the Mangyshlak Peninsula. Nefteprom. delo no.10: 15-19 '64. (MIRA 17:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy neftyanoy institut, Moskva.

CHECHETKIN, V.A.

Surface-grinding machines. Standartizatsiia 27 no.4:43-45 Ap '63. (MIRA 16:4)

(Grinding machines—Standards)

14. Thermal preparation of glass batches.—V. V. Konovalov, V. I. Chechetkin, D. V. Zaliznyak, and M. Ya. Firer (*Glass and Ceramics*, Moscow, 14, No. 7, 1, 1957). In Russian. Experiments were made on " batch fritting " in which the batch is charged into the tank as hot briquettes (at 800°–900°). Melting-time should be considerably reduced, since some of the silicate-forming reactions take place not in the tank but on special " agglomeration conveyors ". Previous experiments on these lines in Russia and Germany did not lead to any practical results, e.g. attempts to carry out " fritting " in rotary kilns failed because at the relatively low temperatures (500°–700°) the material adhered to the kiln walls and the inner layers did not receive much heat. The present method is based on a catalytic (flameless) combustion of gas within the batch, through which the gas is drawn; this permits control of both the temperature and the atmosphere in the batch layer. (10 figs., 2 tables.)

AUTHORS: Konovalov, V. V., Chechetkin, V. I., Zaliznyak, D. V., Firer, M. Ya. SOV/72-58-7-5/19

TITLE: Semi-Industrial Investigations of the Thermal Preparation of Glass Layers (Polupromyshlennyye issledovaniya termicheskoy podgotovki stekol'nykh shikht)

PERIODICAL: Steklo i keramika, 1958, Nr 7, pp. 17 - 24 (USSR)

ABSTRACT: Such a sintering device is shown in figures 1 and 2 and is described afterwards. The tests were carried out with two types of layers: the test-and the working layer, the compositions of which are given in table 1. The curves of the rise in temperature during the sintering of the two layers under the same conditions, are given in figure 3. The curves of the dependence of the Na_2SO_4-content in finished agglomerates on the relation of gas and air in the induction mixture for 2 sulfate-soda layers are given in figure 4, and are described in full details. The temperature curves obtained with the sintering of the test layer are given in figure 5. Further the authors report on the filling weight of the agglomerated glass layers, as well as also on the productiveness of the agglomerates. The most advantageous height

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of layer during sintering, as well as the optimum velocities of this process are given in table 2. The duration of the heat treatment, as well as the curves of vacuum-changes for different types of layers and heights are given (Figures 6,7 and 8). The heat-treatment lasts 9 to 1o minutes. Then, the consumption of loosening- and foundation material, as well as the gas consumption for the heat treatment of the layer are given. The dependence of the specific gas consumption on the excessive air supply for various layers is shown (Fig 9). The recommended gas processes for some glass-layers are given in table 3. The dependence of the gas consumption on the duration of the heat treatment and the sintering speed are illustrated by means of curves (Figs 1o and 11). Such a device has been developed for a tank furnace of the Gomel' Glass-Works on the basis of the semi-industrial tests carried out. A test series of the glass melting of heat-treated layers was carried out by which the technical and economic efficiency of their industrial use was proved. There are 11 figures, 3 tables, and 2 Soviet references.

Semi-Industrial Investigations of the Thermal Preparation of Glass Layers SOV/72-58-7-5/19

1. Glass--Processing 2. Glass--Sintering 3. Glass--Temperature factors

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15(2)

SOV/72-59-1o-6/14

AUTHORS: Zaliznyak, D. V., Firer, M. Ya., Konovalov, V. V., Chechetkin, V. I., Dunayev, V. G.

TITLE: The Influence of Thermal Preparation of the Charge on Glass Frits

PERIODICAL: Steklo i keramika, 1959, Nr 1o, pp 21 - 27 (USSR)

ABSTRACT: In the years 1952-1954, the Moskovskiy gornyy institut (Moscow Mining Institute) together with the Gomel' Glassworks carried out investigations of the thermal preparation of glass charges (Footnote 1). Experiments on the melting of the sintered charge in continuous glass-melting furnaces were carried out at the Gomel' Glassworks, and experiments of comparative melting concerning the initial and the sintered charge were carried out at the laboratory of the first Kafedra silikatov i stekla Belorusskogo politekhnicheskogo instituta (Chair for Silicates and Glass of the Belorussian Polytechnic Institute), at the Laboratory for Glass-Melting, as well as at the test plant of the institut stekla (Glass Institute) (Footnote 2). It was established that the melting time of the sintered charge depends on its content of free Na_2SO_4 (Fig 1), as well as on the temper-

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The Influence of Thermal Preparation of the Charge on Glass Frits SOV/72-59-10-6/14

ature of the sintered charge (Fig 2). It may be seen from figures 3,4,5, and 6 that vitrification is considerably accelerated during the melting of the sintered charge. The melting time of the initial and the sintered charges is shown in table 1. As may be seen from figure 7, the maximum furnace temperature was 1350°. The chemical analyses of the glasses from the sintered and initial charge are shown in table 2. Experiments showed that at furnace temperatures of from 1350 to 1450°, the entire melting and the refining of glasses from the sintered charge afford better results as compared with the initial charge. Moreover, at equal charge weight, 20% more glass is obtained from the sintered charges than from the initial charge. The chemical analyses of two experimental batches of sintered charges are shown in table 3. By using a cold sintered charge, the furnace output can be increased by 25-30%, and by using a hot charge (at 800-900°), it can be increased by 35-40%, and the time of vitrification and refining can also be considerably reduced. According to indications of Professor N. V. Solomin (Footnote 3), the furnace campaign can be considerably lengthened by using a sintered charge. According

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to indications of Professor M. G. Stepanenko (Footnote 4), the efficiency of such a glass-melting plant can also be considerably increased. Conclusions: As shown by the experiments, the thermal preparation of glass charges is of great interest for the glass industry. To utilize all the advantages of this process, its economic viewpoint should also be considered. There are 7 figures, 3 tables, and 5 references, 3 of which are Soviet.

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PETRENKO, B.G., prof.; ANDREYEV, Ye.V., kand.veterin.nauk; ROTOV, V.I., kand.veterin.nauk; TOLSTYAK, I.Ye., kand.veterin.nauk; KONOZENKO, P.A., mladshiy nauchnyy sotrudnik; OMELAYENKO, A.A., mladshiy nauchnyy sotrudnik; BAKUMENKO, M.D., mladshiy nauchnyy sotrudnik; CHECHETKINA, N.P., starshiy laborant

Crystal violet blood vaccine against foot-and-mouth disease. Veterinariia 40 no.7:9-10 Jl '63. (MIRA 16:8)

1. Ukrainskiy nauchno-issledovatel'skiy institut eksperimental'noy veterinarii.
(Ukraine--Foot-and-mouth disease--Preventive inoculation)

STROKOVA, I.; VASIL'YEVA, T.; KAREV, M.; CHECHETKINA, S.

Improve the leadership of production meetings. Sov.profsoiuzy 7 no.15:33-36 Ag '59. (MIRA 12:12)
(Works councils)

CHECHETKINA, Zh.A.

S/133/61/000/012/006/006
A054/A127

AUTHORS: Ladyzhenskaya, F.M.; Ryabchikova, O.A.; Pudim, L.I.; Chechetkina, Zh.A.; Lapshin, L.Ya.

TITLE Preliminary parkerizing of wires prior to drawing on production lines

(2)

PERIODICAL: Stal', no. 12, 1961, 1,129 - 1,132

TEXT: Parkerizing contributes towards higher drawing speeds, reduces rejects and raises the service life of the wire. As only clean wire can be parkerized, tests were made with pickling and washing the wire prior to parkerizing. Scale can be quickly removed when pickling in a hot 18-% concentration of hydrochloric acid at 65 - 70°C, adding velosite as foaming agent (0.5 kg/m^2) and pickling for 15 sec. When this pickling bath is used and the wire is washed thoroughly afterwards, no abrasion of the wire is necessary. Another effective bath composition is a 20-% solution of H_2SO_4 at 75 - 80°C for 20 sec. After this treatment, however, abrasion of the wire can not be omitted. When preparing the monophosphate-zinc solution for the process, care must be taken to obtain a solution which has a sufficient acidity, without, however, having an ex-

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cess amount of free acidity, which would deteriorate the quality of coating. The best results were obtained by adding zinc nitrate (20 g/1) to the phosphate solution. This increases the general acidity of the solution from 13.8 to 25 and accelerates the process particularly for low concentrations and results in a phosphate coating three times thicker than the standard coating. When applying zinc phosphate with a concentration of 4 or 6% and adding zinc oxide and zinc nitrate, parkerizing is effected rapidly at 70 - 80°C, keeping the wire in the bath for 20 sec. The weight of coating will be about 3.5 g/m². The addition of 100 g/1 sodium nitrate also accelerates the process. Zinc oxide and zinc nitrate should be used in combination: the former to decrease the free acidity of the solution somewhat, while the latter is applied to raise the general acidity of the bath. In the continuous wire drawing process parkerizing is carried out after pickling in 18 - 20-% sulfuric acid with maximum 5% $FeSO_4$ at 70 - 80°C and washing in water. The phosphate bath should have an acidity of 35 - 60 and a free acidity of 3 - 6, a temperature of 70 - 80°C. A zinc-phosphate concentrate (heated to 70°C) containing $NaNO_3$ has to be added to the bath. The entire process is completed by washing in running water and dipping in a 2 - 3% soapy solution (at 50 - 60°C) or by liming. The last phase of the process is drying at 150 - 200°C. The wire prepared in this way is then fed

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Preliminary parkerizing of wires prior to S/133/61/000/012/006/006 A054/A127

into the drawing stand. It was found in practice that drawing rates of 900 m//min can be obtained by passing the wire twice through the phosphate bath (40 sec instead of 20). In the tests for wires 1.3 - 1.7 mm in diameter 4 kg/ton phosphoric acid and 0.83 kg/ton zinc were used. There are 4 figures, 3 tables and 9 references: 5 Soviet-bloc and 4 non-Soviet-bloc. The references to the English-language publications read as follows: H.A. Holden, S.I. Scouse, Wire Industry, 1949, v. 16, no. 192; V.D. Smith, Wire and Wire Products, 1945, p.II, no. 2.

ASSOCIATIONS: NIIMETIZ i Magnitogorskiy kalibrovochnyy zavod (Magnitogorsk Grooving Plant)

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KOMAREVSKAYA, V.P.; CHECHETKO, L.I.

Field crop cultivation in Irkutsk Province. Trudy Vost.-Sib. fil. AN SSSR no.29:55-65 '59. (MIRA 13:9)
(Irkutsk Province--Field crops)

CHECHETKO, L. I.

Some results in the work with corn in Irkutsk Province. Trudy Vost.-Sib. fil. AN SSSR no.29:72-77 '59. (MIRA 13:9)
(Irkutsk Province--Corn (Maize))

SOV/124-58-8-9301

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 8, p 133 (USSR)

AUTHOR: Chechetov, A.V.

TITLE: Methods for Investigating the Frame of an All-metal Railroad Passenger Car in the Elastic-plastic Range (Metodika issledovaniya ramy tsel'nometallicheskogo passazhirskogo vagona v uprugo-plasticheskoy stadii)

PERIODICAL: Tr. Bryanskogo in-ta transp. mashinostr., 1957, Nr 17, pp 169-175

ABSTRACT: Bibliographic entry

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CHECHETOV, A.V., kand. tekhn. nauk

Approximate design of a frameless tank. Izv. vys. ucheb. zav.; mashinostr. no.11/12:112-119 '58. (MIRA 13:3)

1.Bryanskiy institut transportnogo mashinostroyeniya.
(Tanks)

CHECHETOV, A.V., dotsent, kand.tekhn.nauk

Determining temperature stresses in car structures. Trudy BITM no.21:34-41 '64. (MIRA 18:8)

BELOV, L.M.; DZHELEPOV, B.S.; IVANOV, R.B.; KRIVOKHATSKIY, A.S.; NEDOVESOV, V.G.; CHECHEV, V.P.

α-Decay of Cm^{245} and Cm^{246}. Radiokhimiia 5 no.3:394-395 '63. (MIRA 16:10)

(Curium isotopes—Decay)

ROGACHEV, I.M.; CHECHEV, V.P.; KATYKHIN, G.S.

β_0-Transition in Pb^{210} decay. Vest. LGU 18 no.22:92-96 '63.
(MIRA 17:1)

DZHELEPOV, B.S.; IVANOV, R.B.; NEDOVESOV, V.G.; CHECHEV, V.P.

α-Decay of curium isotopes. Zhur. eksp. i teor. fiz. 45 no.5:1360-1371 N '63. (MIRA 17:1)

CHECHEVITSA, M.G. [Chechevytsia, M.H.]

We take into account former experience and scientific data. Nauka i zhyttia 6 no.9:22-24 S '56. (MIRA 13:5)

1. Predsedatel' arteli "Shlyakh do kommunizum" Kulikovskogo rayona, Chernigovskoy oblasti.
(Kulikovka District--Swine--Feeding and feeds)

CHECHEVITSKIY, V. YE.

CHECHEVITSKIY, V.Ye.; VOLOSHIN, A.M.; VYDRIN, P.G., inzhener, retsenzent; DUNAYEV, P.F., inzhener, redaktor.

[Work on coordinated boring machines] Rabota na koordinatno-rastochnykh stankakh. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. i sudostroit. lit-ry, 1954. 142p. (MIRA 7:7)
(Drilling and boring machinery)

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