

IVANOV, F.A.

Maximum Abelian subgroups of a group of formal-analytical transformations. Vest, LGU 20 no.19:32-37 '65.

(MIRA 18:10)

IVANOV, F.D., inzh.

New developments in research. Stal' 24 no.8:740 Ag '64.

New developments in research. Ibid.:745

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S/133/60/000/011/011/023
A054/A029

AUTHOR: Ivanov, F.D., Engineer

TITLE: Automatic Control of the Strip Thickness of Semi-Continuous Hot Rolling Mills

PERIODICAL: Stal', 1960, No. 11, pp.1008-1012

TEXT: In the hot rolling process during the time the strip is passing through the continuous train of the strip mill the temperature of the metal decreases. This increases the resistance of the strip against deformation on the successive stands and results in a thickening of the rear end of the strip. In the Novosibirskiy zavod im. A.N. Kuz'mina (Novosibirsk Plant imeni A.N. Kuz'min) with the aid of investigations carried out in connection with this problem on the 810 type strip mill it was established that the fluctuations in the longitudinal thickness of the strip depend on the uniform heating of the slabs, on the tension of the strip between the stands of the continuous train, on the dimensions of the finished product, on the steel type used, the rolling speed, etc. To date the following measures have been taken to prevent the thickening of the strip end on the 810 type mill: the strip end is heated additionally, so that it is about 40-60°C higher in temperature than the front

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part of the strip, the rolling speed is increased in the continuous train of the mill, the amount of water used for descaling the strip under high pressure is reduced for the strip end by switching off one or two of the water collectors. Upon introducing these measures, it was found that only 49% of the strips were within the limits of uniform thickness. In order to improve the present method applied, the author of the article and I.I. Barannik established a method in which the strip ends were automatically pressed down by the adjusting screws of the third stand in the continuous train. The automatic system consisted of the conventional elements: a limit switch, an electromagnetic coupling and a reducing gear which were connected to the worm shaft of the pressing device of the shaft with adjusting screws. This arrangement eliminated any thickening of the strip end but had the following drawback: when rolling steels of high deformation resistance, the load of the electric motor was increased to its limit value (5,200 amp) while during the pass of the central part of the strip the load was not higher than 4,000 amp. Moreover, there is an incongruity between the time required for the return of the screws to their initial position (3,8 sec) and the interval between two strips,

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amounting to 3 seconds at the maximum speed of the mill. These conditions decreased the output of rolling considerably. An automatic system was established to insure adequate tension of the strips between the stands, in order to eliminate these drawbacks and based on the facts that the tension of the strip between two stands depends on the relation of the rotation rates of the rollers on successive stands and that the increase in tension decreases the deformation resistance of the metal. This is obtained by progressively reducing the rotating rate of the rollers upon the approach of the strip end. The original rotating rate of the roller is automatically restored when the strip end has passed the stand in question (Fig. 3). By applying this automatic control system, consisting of current relay, auxiliary relay, and block contacts, the thickening of the strip end could be prevented in 98% of the strips. The lower the degree of extension of the strip between the stands, the more effective is the automatic control. The system was tested in rolling low carbon steel strips 1.25, 1.50, 1.75, 2.0 and 2.5 mm thick. As a result of the automatic control, the length of the strip with increased thickness could be shortened from 10-15 meters to 2-3 meters. A further improvement can be obtained by combining the automatic pressing of the strip ends (with adjust-
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Automatic Control of the Strip Thickness of Semi-Continuous Hot Rolling Mills
ing screws) and the extension method described. There are 5 figures.
ASSOCIATION: Novosibirskiy metallurgicheskiy zavod (Novosibirsk Metallurgical
Plant)

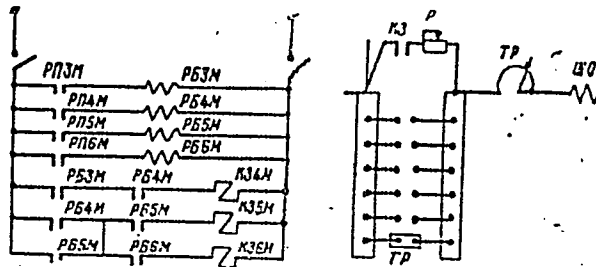
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Automatic Control of the Strip Thickness of Semi-Continuous Hot Rolling Mills

Fig. 3 - Diagram of the automatic control of the tension on the strip end (continuous stand 810)

P regulator of the degree of decreasing the revolutions;
TP and TP rough and fine regulation of the number of revolutions of the rolling motor; III excitation winding of the rolling motor;
K3 retarding contactor



S/133/61/000/001/010/016
A054 /A033

AUTHOR: Ivanov, F.D.

TITLE: News in Brief

PERIODICAL: Stal', 1961, No. 1, p 57

TEXT: 1) To improve the form and prevent the warping of thin, annealed sheets, the conditions of hot rolling on the "810" type semi-continuous mill were investigated at the Novosibirskiy metallurgicheskiy zavod (Novosibirsk Metallurgical Plant). The conditions studied included the degree and the non-uniformity of wear of the working rolls, their temperature conditions under hot calibration, the cooling of the coils, the various phases of cold rolling. The Y9 - Y9A = U9-U9A steel, from which the sheets were rolled, was annealed with delayed heating and cooling, with and without changing the annealing conditions and, in particular, by placing the metal between planed sheets. The main cause of the increase in warping of the hot-rolled strips is the non-uniform wear of the working rolls, depending on the quantity of rolled rimming steel. By controlling the cooling of the roll-barrels with water under a higher pressure the form of the strip can be improved. After annealing at 775 - 780°C and suitable decarbonisation the steel has the necessary hardness reserve before straightening. By employing hot cali-
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bration of the rolls on the finishing stand for the straightening strips and coils the warping of tool steel sheets decreased by 30 - 50% and attained the dimensions required by ГOCT 3680 - 57 (GOST 3680 - 57). 2) Increasing the temperature and the duration of heating of Cr.3kp (St.3kp) grade steel slabs and the reduction during the first two passes on the reversible doubleroll stand of the "810" type mill, promoted the removal of blisters. On the rolled products cinder, cracks, or flaking could not be observed, but non-metallic impurities were found in the metal. 3) Tests were carried out with cold-rolling 08kp (08kp) steel sheets (ГOCT -GOST 914-56) and it was found that, with regard to mechanical properties, it is useful to reduce drawing by 1.5 - 2.5% for all the widths of the steel sheets produced in the factory. 4) Investigating the effect of the chemical composition on the pickling of the scale of Cr .2 (St.2) low-carbon steel sheets of the MMK and the Chelyabinsk Plant was investigated, it was found that, under identical conditions of hot rolling, the formation of cinder on the ends and edges of the Magnitogorsk steel sheets, difficult to remove by pickling, is caused by its lower content of sulfur and phosphor impurities and also by the more pronounced sulfur liquation.

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S/028/61/000/005/003/004
D210/D306

AUTHORS: Ivanov, F.D. and Fridrikhsen, V.K.

TITLE: Remarks on the standard specifications for metal production

PERIODICAL: Standardizatsiya, no. 5, 1961, 33-36

TEXT: Components made of structural alloy steel are subjected to special types of heat treatment which are designed to take the utmost advantage afforded by the alloying elements. The authors wonder whether it is expedient in such a case to lay down a lower limit of UTS for the following annealed steel sheet: 65 G, 10 G2A, 12G2A, 25KhGSA and 30KhGSA, standard specifications GOST 1542-54 and GOST 2672-52. These specifications do not take into account the relationship between mechanical properties and thickness of sheet, annealed in bell furnaces. However, as it is known that the plasticity of cold-rolled and annealed steel sheet increases with a decrease in thickness, the heat treatment given must be appropriate

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Remarks on the standard...

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for the thickness of the sheet in order to ensure the properties required by the standard specification for a particular sheet steel. This often entails lengthy and complicated heat treatment operations. Often a sheet is produced which fulfils the requirements of the standard specification, but is found to be non-uniform in its properties in different directions. In order to make the standard specifications more realistic, only the maximum UTS and minimum percentage elongation should be laid down. If, however, the minimum UTS is also quoted, then the above specifications should be altered so as to take into account the dependence of the mechanical properties on the sheet thickness. Another point discussed by the authors is grain size specifications. The lower limit of grain size set out in GOST 914-56 for cold rolled sheet for deep drawing is point 9 on the grain size scale; for hot-rolled sheet of the same deep drawing group, point 10 grain size is permissible. However, it is evident that in the first case the recrystallization characteristics of still steel have not been taken into consideration. On the other hand, if a

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production process is well established, certain tests (e.g. exposure of pipe and rims of sheet by the Ericson test, bend testing of thin carbon-steel, etc.), laid down in the specifications, could be safely omitted as they tend to show up the best properties of manufactured goods. Works experience has shown that it is advisable to test only those standard probes which show up the worst, and not the best, properties of the metal. Such a reduction in control testing would reduce consumption of metal and labour to a considerable extent. There are 2 figures and 2 tables.

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S/133/61/000/007/012/017
A054/A129

AUTHORS: Belyakov, A. I., Ivanov, F. D.

TITLE: The effect of slab-heating conditions on the electro-magnetic properties of transformer steel sheets

PERIODICAL: Stal', no. 7, 1961, 634 - 637

TEXT: Tests were carried out to establish the effect of slab heating before rolling on the electro-magnetic properties of cold-rolled transformer steel sheets. The study of the statistical data of quality control of E330 (E330), E320 and E310 grade steel sheets (partly 135 x 620 x 0.50 mm and partly 135 x 500 x 0.35 mm in size) heated for various periods (1 1/2 - 3 hours) show that by raising the heating period the yield of high-grade E330 type, 0.35-mm thick sheets increases, while no increase in output is observed for sheets 0.50 mm thick. The tests to establish the effect of temperature and heating on electromagnetic properties were made with five heats produced in the Chelyabinskiy metallurgicheskiy zavod (Chelyabinsk Metallurgical Plant), having the following composition:

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The effect of slab-heating conditions on the...

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Heat	C	Mn	Si	P	S	Cr	Ni	Cu
28418	0.04	0.07	3.27	0.011	0.006	0.04	0.09	0.14
28438	0.045	0.07	3.04	0.008	0.005	0.04	0.10	0.14
28381	0.04	0.07	3.02	0.010	0.008	0.02	0.09	0.15
28421	0.035	0.08	3.29	0.012	0.006	0.03	0.08	0.13
28447	0.04	0.09	3.29	0.012	0.006	0.02	0.07	0.17

One part of the slabs was hot-rolled at a lower temperature than prescribed, the other part at a higher temperature. The average values obtained for the electro-magnetic properties of the test-sheets proved that at higher heating temperatures (1,240 - 1,260°C) and by increasing the heating time from 100 to 120 minutes, the finished sheets display lower specific losses and higher magnetic induction than sheets heat-treated at 1,160 - 1,180°C. The high heating temperature yielded also more high-grade E330 steel; for the 0.50-mm thick sheets by 4 - 28% and for the 0.35 mm thick sheets by 11 - 96%. The new heating conditions completely eliminate waste in sheets 0.35 mm thick. The better results for specific losses and magnetic induction observed in thinner sheets as compared with those 0.50 mm thick must be put down to the more intensive decarbonization of the former after extended heating and to their greater ratio surface : volume. There are 4 tables and

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The effect of slab-heating conditions on the...

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3 Soviet-bloc references.

ASSOCIATION: Novosibirskiy metallurgicheskiy zavod (Novosibirsk Metallurgical Plant)

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IVANOV, F.D.

Research carried out by plant laboratories in 1960. Stal '21 no.2:173
F '61. (MIRA 14:3)

(Novosibirks--Rolling(Metalwork))
(Metals--Heat treatment)

S/133/61/002/001/009/010
A054/A127

AUTHOR: Ivancov, F. D.

REF: News in brief - At the Novosibirskiy metallurgicheskii zavod im. A. N. Kuz'mina (Novosibirsk Metallurgical Plant im. A. N. Kuz'min)

PERIODICAL: Stal', no. 11, 1961, 1033 - 1034

REF: 1) Tests were carried out to determine the degree of liquation of C, S and Mn over the width of strip made of 08KП (08kp), 15KП (15kp), 08 ПС (08ps), 10 ПС (10sp), 25sp, 40, 50, Y 9 (Y9), Y9A (Y9A); У10А steels and the C and P li-
quation over the height of 08, 15 and 20kp, 08ps, 15sp, У7-09 steel ingots. In
rimmed steel the liquation of S, P and C develops from the sides towards the center
and the head of the ingot (up to 0.046% S, 0.022% P and 0.09% C). In killed steel
the liquation over the width of strip is insignificant, while in tool steel it is
almost non-existent. 2) In co-operation with TsNIIChM the quality of cold-rolled
strip from 08kp, 10kp, 08ps and 10ps steel slabs was tested, which were produced
on the continuous casting machine of the Novo-Tul'skiy metallurgicheskii zavod
(Novo-Tul'sk Metallurgical Plant). The technology of hot rolling to obtain a maxi-
mum yield (88 - 90%) of untrimmed sheets for deep drawing with a grade II surface

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According to GOCT 914-56 (GOST 914-56) was established. The yield of grade II products with blisters made of cast rimmed steel, was 2.16%. This is somewhat higher than the value for rolled slabs (1.7%). The grade II yield of O8 KN (O8kp) steel slabs poured into thin-walled molds was higher than that of slabs poured into thick-walled molds (3.1 and 0.7%). For 10kp steel slabs the advantages of using thick-walled molds were not so striking. (Second-grade products with blisters were 2.1 and 1.4%). When pouring semi-killed O8ps and 10ps steels with a protecting atmosphere, the output of grade II cold-rolled sheets (with blisters) was reduced to 1.2%, compared with 4.4% for the conventional pouring method. The mechanical and stamping properties, microstructure of sheets cold-rolled from cast slabs met the requirements of GOST 914-56. 3) The defects of chrome-nickel steel strips were studied. Pinhead blisters on the surface of thin strips were caused by the local precipitation of the alpha-phase, due to unilateral overheating of the slabs in continuous furnaces. Titanium nitride and nonmetallic inclusions contribute to blister formation, but they are not the main cause. A close relation between the ingot-surface quality and the Cr/Ni and Ti/C ratios could not be observed. In about half of the cases blisters were caused by deficiencies in the steel smelting technology of the producer plants. Secondary blister formation due to

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rolling could be reduced by lowering the temperature both of the furnace crown and of slab-heating, whereas the temperature of deformation should be kept high. The sheet quality was hardly affected by the degree of reduction in the duo and Edger stands, rolling speed in the finishing train of the mill and the difference in diameter of work rolls. A reduction of the heating temperature to 1,240 - 1,230°C and of the heating period to 3 1/2 hours lowered the blister formation by 17%, while the output of the 810 mill increased by 30%. 4) To increase their efficiency the operation of the ПСК-180 (FSK-180) cylindrical electric furnaces during the bright-annealing of cold-rolled coils from steel 08-50 was investigated, the furnaces being controlled by technological thermocouples at an existing rated power of 60 kw in the lower and 120 kw in the upper zone. In some cases thermocouples were applied in various zones, which were not set according to the weight of the charge, but for a given metal temperature of 640°C obtained in the zone where the thermocouples are mounted, with subsequent holding of at least 3 hours. The distribution of power between the zones was not effective. When one elastic thermocouple was used, the annealing time could be reduced by 17%. This was the most simple arrangement, while the most efficient method was to pre-determine a 750°C temperature in two zones, without power-redistribution between zones, using an additional temperature control at 640°C for 3 hours at the point of the sheet.

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heating of the charge. In this way the annealing time was reduced by 30%. Optimum annealing conditions to ensure a rupture-free cold-rolling of 2000 (10) steel strips were determined. In both zones of the electric furnace the temperature should be 775°C, cooling should take place at a rate of 20°C per hour down to 680°C as indicated by the upper thermocouples. The fans must operate during the whole annealing process, except during the time of slow-cooling of the charge in the deaerated bell. 6) Conditions of decarburizing annealing of wider, cold-rolled transformer steel strips, 492 mm in width, in widened rectangular furnaces have been developed. Only the lower furnace zone was operating. The gas temperature was 875°C, annealing took place for 20 hours from the moment the furnace was switched on; cooling in the switched-off furnace took 4 hours, cooling in the muffle at least 6 hours. This technology ensures the same steel quality as annealed in cylindrical furnaces. The operation of one zone of the widened furnace increased the productivity to 0.92 ton/year.

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S/133/62/000/005/010/015
A054/A127

AUTHOR: Ivanov, F. D., Engineer

TITLE: At the Novosibirskiy metallurgicheskiy zavod im. A. N. Kuz'mina
(Novosibirsk Metallurgical Plant im. A. N. Kuz'min)

PERIODICAL: Stal', no. 6, 1962, 542

TEXT: 1) Tests were carried out to study the effect of increasing the strip thickness from 2.0 - 2.25 mm on the quality of 102 mm diameter tubes. Although the thicker strips are not of better quality than the conventional ones (there are longitudinal differences in thickness of up to 0.37 mm, waviness, etc.), they are suitable for tube welding: the yield of firstgrade product increased from 44 to 80%, rejects (based on hydraulic tests) decreased from 50 to 4.3%, saving up to 4,000 rubles per 100 tons of tubes. 2) The maximum rate of tube welding on the "20-102" stand (with a 650-kw welding transformer) was investigated in cooperation with UralNITI. The current frequency can be regulated between 50 and 140 cps. In 1961, with frequencies of 95 - 105 cps, welding rates of 32 - 52 m/min were obtained. The tests were aimed at obtaining maximum welding rates

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while increasing the frequency to 140 cps. 35 versions of welding 51 - 102 mm diameter tubes with wall-thicknesses of 1.75 - 3.5 mm were applied. The maximum welding rates (39 - 58 m/min) for the grade tested was obtained at frequencies of 130 - 135 cps. A further increase in the welding rate was limited by the mechanical strength of the machine parts. In welding 83 x 3.5 mm tubes the power of the mercury amplifier was utilized to 91%, while the welding transformer was loaded only to 86%. The power losses due to the rise in induction resistance when the current frequency was increased from 90 - 105 to 130 - 135 cps amounted to 7 - 10%. 3) The technology was established for making smooth, hot-rolled strips of multi-layer structural steel with internal localizer, and a thickness of 4.0 - 2.5 mm, and hot-rolled strips with alternating thickening of 25%, made from KMK-slabs. The time advantage in rolling at the delivery end of the 810-mm continuous roll train varies between 2.8 and 8.2% (in case there is no automatic control). The tests revealed changes in the load on the motors of the IV and V stands, in the thickness and width of strips longitudinally. The density of the weld of the layers in the finished product, the extent of thickening and the ratios between layer thicknesses in the longitudinal and transverse sections of the strips were studied. The conditions of rolling on fluted rolls were also investigated. Where the thickened parts of the strip contact the smooth sectors,

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AUTHOR: Ivanov, F. D., Engineer

TITLE: At the Novosibirskiy metallurgicheskiy zavod im. A. M. Kuz'mina
(Novosibirsk Metallurgical Plant im. A. N. Kuz'min)

PERIODICAL: Stal', no. 6, 1962, 556 - 557

TEXT: 1) Tests were carried out to study the production of transformer steel in electric furnaces with synthetic slag which yielded 40% flawless product as compared to the 70% output by the conventional method. Three heats, black-tempered at 875 - 850°C displayed a lower ductility during pickling and cold-rolling, but their electromagnetic properties corresponded to those of the 3 310-3 330 (E310-E330) grades. 2) The anisotropy of magnetic properties was examined in two groups of dynamo steels. In the first group, low-alloy 1.5% Si containing steel was rolled into 2.5 and 1.75 mm thick strips which, after decarburization, tempering and pickling, were reduced according to three different groove designs. After vacuum-tempering at various temperatures, the steel rolled with one pass (1.75 - 0.5 mm) displayed the same electromagnetic properties as

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that rolled with two passes (2.5 - 0.85 - 0.5 mm). Cold-rolled steels, with 2 passes (1.75 - 0.54 - 0.5 mm) as well as a final tempering at 1,150°C displayed an anisotropy (ΔB_{25}) of 130 ÷ 440 cps. The steels of the second group contained more alloying elements and about 3% Si. Strips 0.85 mm thick were investigated after intermittent tempering, and also 0.53 x 600 x 1,500 mm sheets after the second cold-rolling. After rolling to a thickness of 0.53 - 0.58 mm, the coils were tempered at 850°C and then rolled again to 0.5 mm with a reduction of 2 - 13%. The final rolling took place with a reduction of 0.5 - 6.0%. After vacuum-tempering at 1,100°C, the lowest anisotropy in magnetic properties was obtained after the third rolling on the finishing stand, but these sheets were badly warped. 3) The effect of the final annealing of cold-rolled transformer steel on the magnetic induction in weak and medium fields was examined with 0.35 x 240 x 1,500 mm sheets, applying vacuum tempering at 1,150°C, 30 hours' holding time and furnace cooling to 600, 550, 500 and 450°C. With cooling to 450°C (instead of 600°C as usual), the magnetic induction in weak and medium fields, permeability, residual induction, coercive force and ductility of the metal will be improved. 4) Increasing the tempering temperature and the carbon content makes pickling of the steel more difficult. By applying dense muffles

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with sand-packing and with a CO₂-to-CO ratio not above 0.6, the scale forming on the steel will be easily removed by pickling. 5) The quality of continuously cast rimming and semi-killed steel ingots was studied. 1.2% of cold-rolled 20 Kh (20kp) grade rimming steel sheets (with thicknesses of 2.5 and 3.0 mm) was re-jected owing to scale formation, and 3.8% of the 08 Kh (08ps) and 10 Kh (10ps) semi-killed steel sheets. 6) The mechanical properties of low-alloy 12 Kh (12Gs) grade hot-rolled longeron steel were studied from 42 strips. The variation of average values for σ_s amounted to 1 kg/mm², for σ_B 2.1 kg/mm². The variation of σ_s = 0.9%, σ_B = 0.9%. 7) The conditions for applying technical thermocouples in the PSK-425 (PSK-425) type electric furnaces and the specific electricity consumption of the tempering process were established. If technical thermocouples in the PSK-425 furnace, the metal charge will be heated more uniformly and the heating time can be reduced by 7 hours as compared with that when zonal thermocouples are used. 8) The output of the pickling process of CrMn and KVK steels differs in accordance with the nonuniform liquidation of sulfur in the ingots. Inconsiderable concentrations of chromium, nickel, titanium, aluminum and copper do not affect the pickling process.

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with sand-packing and with a CO_2 -to-CO ratio not above 0.6, the scale forming on the steel will be easily removed by pickling. 5) The quality of continuously cast rimming and semi-killed steel ingots was studied. 1.2% of cold-rolled 20 kH (20kp) grade rimming steel sheets (with thicknesses of 2.5 and 3.0 mm) was re-jected owing to scale formation, and 3.8% of the 08 nC (08ps) and 10 nC (10ps) semi-killed steel sheets. 6) The mechanical properties of low-alloy 12 nC (12GS) grade hot-rolled longeron steel were studied from 42 strips. The variation of average values for σ_s amounted to 1 kg/mm², for σ_B 2.1 kg/mm²; for $\delta_5 = 0.8\%$ and for $\delta_{10} = 0.9\%$. 7) The conditions for applying technical thermocouples in ПСК -425 (PSK-425) type electric furnaces and the specific electricity consumption of the tempering process were established. If technical thermocouples are used in the annealing of hot-rolled sheets in the PSK-425 furnace, the metal charge will be heated more uniformly and the heating time can be reduced by 7 hours as compared with that when zonal thermocouples are used. 8) The output of the pickling process of ChMZ and KMK steels differs in accordance with the nonuniform liquation of sulfur in the ingots. Inconsiderable concentrations of chromium, nickel, titanium, aluminum and copper do not affect the pickling process.

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IVANOV, F.D., inzh.

New developments in research. Stal' 24 no.7:638 J1 '64.

(MIRA 18:1)

SOURCE: Stal', no. 7, 1965, 647-649

TOPIC TAGS: structural steel, high strength steel, steel plate, steel sheet composite plate, composite steel, composite steel, strength, composite steel, capacity

... sheets of AK structural steel ...

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... sheets (4.10 mm thick) 3.06, 0.06, and 0.98 mm. Thus the reductions of the heavy and the light slabs were about the same, 99.2 and 91.1, respectively. The texture

to brittle fracture of composite structural steels was especially pronounced in static and dynamic low-temperature tests. For example, the σ_1/σ_2 ratio (where σ_1 is the tensile strength of specimens with an artificial sharp crack end and σ_2 is the tensile strength of specimens without a crack) is significantly lower than unity. The ratio σ_1/σ_2 is a measure of the resistance to brittle fracture of composite structural steels.

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GAVRILOV, V.I.; ALTAYSKIY, I.P.; KUMINSKIY, A.Ye.;
SUKACH, A.F.; VASIL'YEV, V.N.; OBOLENSKIY, K.P.;
SAVEL'YEV, V.A.; RUSAKOV, G.K.; IVANOV, F.G.; POLYAKOVA, N.,
red.; MUKHIN, Yu., tekhn.red. .

[Economics of agricultural enterprises] Ekonomika sel'sko-
khoziaistvennykh predpriyatii; uchebnoe posobie. Izd.2.,
dop. Moskva, Politizdat, 1963. 527 p. (MIRA 17:1)

1. Kommunisticheskaya partiya Sovetskogo Soyuza. Vysshaya
partiynaya shkola.

(Agriculture--Economic aspects)

SKOTNIKOV, V.M.; GUMBAR, A.L.; IVANOV, F.G.; TABAKOV, B.A.

Electrified recorder of currents. Trudy AANII 254:63-66 '67.
(MIRA 17:11)

MENDELEVICH, I.M.; IVANOV, F.I.; POSTERNYAK, Ye.F., inzh., red.; FREGER, D.P.,
tekh. red.

[Device for splicing the ends of texropes and flat belts of
rubberized material by means of hot vulcanization] Prispoblenie
dlia srashchivaniia kontsov teksropnykh i ploskikh remnei iz
prorezinnoi tkani metodom goriachei vulkanizatsii. Leningrad,
1955. 4 p. (Leningradskii dom nauchno-tekhnikheskoi propagandy.
Informatsionno-tekhnikheskii listok, no.8(676)) (MIRA 10:12)
(Rope) (Belts and belting)

IVANOV, F.I.

Significance of toponymy in studying the ancient waterways of the
upper Volga. Vop. geog. no.58:100-108 '62. (MIRA 15:9)
(Volga Valley—Names, Geographical)
(Volga Valley—Inland navigation)

IVANOV, F.I.

Psychic disorders in one family. Zhur.nevr.i psikh. 53 no.6:429-433 Je
'53. (MLRA 6:6)

1. Voenno-meditsinskaya akademiya imeni S.M.Kirova. (Psychoses)

IVANOV, F.I.

Treatment with small doses of aminazine for remote sequelae of cerebrocranial injuries. Zhur.nevr.i psikh. 60 no.5:547-550 '60.

(MIRA 13:9)

1. Kafedra psikhiatrii (nachal'nik - prof. A.S. Chistovich) Voenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova, Leningrad.
(BRAIN--WOUNDS AND INJURIES) (CHLORPROMAZINE)

IVANOV, F.I.; PEYMER, I.A.; KOROVIN, A.M.

Analysis of the pathophysiological mechanisms of hallucinations
occurring with closed eyes in encephalitis. Vop.psikh.i nevr.
no.7:367-373 '61. (MIRA 15:8)
(ENCEPHALITIS) (HALLUCINATIONS AND ILLUSIONS) (ELECTROENCEPHALOGRAPHY)

~~SECRET~~
BRAUN, M.F.; VINOKUR, B.B.; IVANOV, F.I.; SLASTNIKOVA, L.F.

Austenite transformation during continuous cooling of certain steels
used in making large cross-section machine parts. Sbor. nauch. rab,
Inst. metallofiz. AN USSR no.7:137-148 '56. (MIRA 11:1)
(Steel alloys--Metallography)

SUBJECT: USSR/Welding 135-8-9/19

AUTHORS: Ivanov, F.I., Engineer, and Akulinin, M.A., Engineer.

TITLE: Experience in Ultrasonic Inspection of Electric Slag-Welded Joints (Opyt ultrazvukovogo kontrolya svarnykh shvov, vypolnennykh elektroshlakovoy svarkoy).

PERIODICAL: "Svarochnoye Proizvodstvo", 1957, # 8, pp 25-27 (USSR)

ABSTRACT: The article describes in detail the inspection method using the defectoscope "УЗД-7Н", developed by TsNIITMASH in collaboration with the Novo-Kramatorsk Machinebuilding Plant which is now in use at this plant.

The "УЗД-7Н" ultrasonic defectoscope, working on 1.8 Mc/s, comprises prismatic detectors, by which the ultrasonic waves are sent through the metal at an angle to the surface. The measured length of a defect exceeds the actual extension, since the waves are diverging. The actual location and extension of a defect are determined by the depth meter and a scale on the instrument, with subsequent calculation by formulas (given in the article). The method is applicable for straight and circular seams. The precision is within 1-10% and is independent of the size or

Card 1/3

135-8-9/19

TITLE:

Experience in Ultrasonic Inspection of Electric Slag-Welded Joints (Opyt ultrazvukovogo kontrolya svarnykh shvov, vypolnennykh elektroshlakovoy svarkoy).

location of the defect, but is adjusted by the instrument setting prior to inspection.

The disadvantage of the method is the impossibility of three-dimensional measuring of defects and of measuring the size of single defects in case of defect accumulations.

Since cracks in electric slag welds are always located lengthwise and in the middle of the seam, all so located defects are assumed to be cracks. Defects at the border with base metal can only be non-fusion voids. Defects scattered all over the seam are slag inclusions or gas pores which cannot be distinguished from each other.

The temporary technical specifications for welded beds and cylinders of hydraulic presses reject welds containing cracks or non-fusion areas and require re-welding and re-inspecting of defective spots. Permissible defects are not more than 3 single slag inclusions in 1 meter of seams, spaced not less than 30 mm apart, and not exceeding 10 mm diameter.

Card 2/3

Subject inspection method was applied for welded bedplates,

IVANOV, Y.I.; AKULININ, M.A.

Measuring internal defects of metals by the ultrasonic method, Zav.
lab. 23 no.3:309-311 '57. (MLRA 10:6)

1. Novo-Kramatorskiy mashinostroitel'nyy zavod.
(Ultrasonic testing) (Metals--Testing)

IVANOV, I.

PHASE I BOOK EXPLOITATION: SOV/5511

Nauchno-tekhnicheskoye obshchestvo Mashinostroitel'noy promyshlennosti, Kiyevskoye oblastnoye pravleniye.

Metallovedeniye i termicheskaya obrabotka (Physical Metallurgy and Heat Treatment of Metals) Kosov, Mashgiz, 1951. 350 p. zhirata slip inserted. 5,000 copies printed.

Sponsoring Agency: Gosstatiztseny/ naučno-tekhnicheskyy komitet SSSR Ministrov Upravleniya Mashinostroitel'skoye obshchestvo Mashinostroitel'noy promyshlennosti, Kiyevskaya oblastnaya Pravitel'niye.

Editorial Board: M. P. Emun, Doctor of Technical Sciences, I. Ya. Doshvay, Doctor of Technical Sciences, D. A. Draygor, Doctor of Technical Sciences, I. S. Kamonichayve, Engineer, Ye. A. Markovskiy, Candidate of Technical Sciences, V. G. Peryakov, Doctor of Technical Sciences, and A. V. Chernovol, Candidate of Technical Sciences; Ed.: M. S. Soroka; Tech. Ed.: M. S. Gornataypol'skaya; Chief Ed.: Mashgiz (Southern Dept.); V. K. Serdyuk, Engineer.

Card 1/10

PURPOSE: This collection of articles is intended for scientific workers and technical personnel of research institutes, plants, and schools of higher technical education.

COVERAGE: The collection contains papers presented at a convention held in Kiyev on problems of physical metallurgy and methods of the heat treatment of metals applied in the machine industry. Phase transformations in metals and alloys are discussed, and results of investigations conducted to ascertain the effect of heat treatment on the quality of metal are analyzed. The possibility of obtaining steels with given mechanical properties is discussed, as are problems of steel brittleness. The collection includes papers dealing with kinetics of transformation, heat treatment, and properties of cast iron. No personalities are mentioned. Articles are accompanied by references, mostly Soviet.

TABLE OF CONTENTS:

Stregulin, A. I., Engineer, and L. A. Mel'nikov (Sverdlovsk). Transformation of Austenite Into Martensite Under High Pressure	12
Brusilovskiy, B. A., Engineer, and P. I. Ivanov (Kramatorsk). X-Ray Investigation of the Decomposition Kinetics of Martensite in Tempering at Low Temperature	19
Kocherzhinskiy, Yu. A., Candidate of Technical Sciences (Kiyev). Conditions of Formation of Metastable Austenite in Iron-Carbon Alloys	22
Mirovskiy, E. I., Engineer (Kiyev). The Nature of the Phase Transformation of Carbon Steel	34

Card 3/10

TOVPENETS, Ye.S., kand.tekhn.nauk; IVANOV, F.I., inzh.; GONTAR', M.A., inzh.

Effect of quenching conditions during the reduction [sic] of
steel on the amount of residual austenite. Metalloved. i term.
obr. met. no.5:8-12 My '62. (MIRA 15:5)

1. Donetskij politekhnicheskij institut.
(Steel--Quenching) (Annealing of metals)

S/148/62/000/008/003/009
E111/E435

AUTHORS: Braynin, I.Ye., Kharchenko, V.A., Ivanov, F.I.

TITLE: Kinetics of the decomposition of supercooled austenite in chromium-nickel-molybdenum steel in two-stage isothermal cooling

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, no.8, 1962, 100-107

TEXT: The kinetics of decomposition of supercooled austenite during two-stage isothermal cooling in relation to the temperature of the first stage was investigated for the steels type 34XH3M (34KhNZM) and 35XHM(35KhNM), which have the following composition

		C	Mn	Si	Cr	Ni	Mo	P	S
1	34XH3M	0,37	0,73	0,25	0,98	2,90	0,34	0,016	0,018
2	34XH3M	0,32	0,63	0,27	0,83	2,90	0,30	0,025	0,025
3	35XHM	0,36	0,62	0,21	0,99	1,36	0,24	0,023	0,022

After austenizing at 850 and 1200°C, a part of the specimens
Card 1/2

Kinetics of the decomposition ...

S/148/62/000/008/003/009
E111/E435

was subjected to single-stage cooling with different isothermal holding, a second part was cooled by the two-stage method with stage I holding at 350, 300, 250 and 200°C (as in the single-stage treatment) and stage II holding at 650°C. After all heat treatments, the specimens were water quenched and the quantity of untransformed austenite was determined by the martensite content in the final structure. Microstructure, hardness and micro-hardness were investigated and magnetic measurements were made. Conclusion: to accelerate decomposition of supercooled austenite in two-stage isothermal cooling of chromium-nickel-molybdenum steels, in stage I to 200-250°C (somewhat below the temperature of the start of the martensite transformation) cooling should be quicker. As a result of this, decomposition of untransformed austenite during heating to the stage II temperature and subsequent holding at 650°C is accelerated. In a number of cases, for instance in large forgings, this permits preventing flake formation. There are 2 figures and 3 tables.

ASSOCIATION: Donetskiy politekhnicheskiy institut (Donets Polytechnical Institute)

SUBMITTED: June 17, 1961
Card 2/2

S/148/63/000/001/015/019
E071/E151

AUTHORS: Braun, M.P., Vinokur, B.B., and Ivanov, F.I.

TITLE: Transformation of supercooled austenite in steels of different degree of alloying

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya, no.1, 1963, 128-135

TEXT: The effect of alloy composition on the transformation of supercooled austenite was studied using 14 stock alloy steels containing Mn (0.32-1.44%), Cr (0.28-1.88%), Ni (0.15-3.02%) and, in some cases, W (0.47-0.52%) or Mo (0.29-0.59%) in addition. Transformation diagrams are given for isothermal conditions and for continuous cooling, and also data on hardenability and mechanical properties. From the observed similarity in behaviour of steels in which nickel, chromium or manganese predominated, it was concluded that chromium or manganese could replace nickel, and that the transformation kinetics, hardenability and mechanical properties of chromium-manganese steel were not inferior to those of a corresponding nickel-chromium steel. Similar degrees of alloying gave similar mechanical properties, e.g. in groups of steels in Card 1/2

Transformation of supercooled...

S/148/63/000/001/015/019
E071/E151

which the total alloy additions (Mn, Cr, Ni, W and Mo) were about 3.5% and 5% respectively. From the transformation diagrams and the mechanical data it was considered possible to determine the dimensions of parts to give the necessary mechanical properties, and to produce steels containing low proportions of scarce (e.g. nickel) or expensive elements for parts such as forgings of various sizes, including very large ones. There are 1 figure and 4 tables.

ASSOCIATION: Ukrainskaya akademiya sel'skokhozyaystvennykh nauk
(Ukrainian Academy of Agricultural Sciences)

SUBMITTED: January 23, 1961

Card 2/2

BRUSILOVSKIY, B.A.; IVANOV, F.I.

Using the method of weld transmitters for the determination of residual stresses in a hardened layer of large specimens. Zav.lab. 29 no.7:821-823 '63. (MIRA 16:8)

1. Novo-Kramatorskiy mashinostroitel'nyy zavod.
(Steel--Testing) (Strains and stresses)

IVANOV, F.I., inzh.; GONTAR', M.A.

Investigation of thermokinetic austenite transformation in steels.
Sbor.Novo-Kram,mashinostroi.zav. no.5:120-127 '59. (MIRA 16:12)

BRUSILOVSKIY, B.A., inzh.; IVANOV, F.I.

X-ray examination of the kinetics of martensite disintegration
at low-temperature tempering in rolls used in cold rolling. Sbor.
Novo-Kram.mashinostroi.zav. no.5:96-99 '59. (MIRA 16:12)

Kinetics of the relieving and redistribution of residual stresses
in rolls used in cold rolling at low-temperature tempering. 100-107

REVUNOV, A.F.; IVANOV, F.I.

Diagnosis and treatment of diseases developing due to renal
dystopy. Trudy Vor. med. inst. 52:65-71 '63.
(MIRA 18:3)

REVUNOV, A.F.; IVANOV, F.I.

Polyps of the duodenum. Trudy Vor. med. inst. 52:151-153 1963.
(MIRA 18:3)

VITSHAS, M.P.; IVANOV, F.I.

Diagnosis and treatment of chronic recurring cholecystitis.
Trudy Vor. med. inst. 52:175 176 '63.

(MIRA 18:3)

IVANOV, F.I.

Method of intravenous cholangiocholangiography. Trudy Vor. med.
inst. 52:177-179 '63. (MIPA 18:3)

BRUSILOVSKIY, B.A.; IVANOV, F.I.

X-ray investigation of low-temperature quenching of rolls for
cold rolling. Fiz. met. i metalloved. 9 no.1:147-150 Ja '65.
(MIRA 18:4)

1. Novo-Kramatorskiy mashinostroitel'ny zavod.

TOVPENETS, Ye.S., kand. tekhn. nauk; IVASHCHENKO, V.M., inzh.; STYCHINSKIY, L.P., inzh.; ZHUKOV, A.I., inzh.; MERSHCHIY, N.P., inzh.; KORENEV, K.I., inzh.; SHUMEYKO, R.I., inzh.; IVANOV, F.I., inzh.

Mechanical properties of reinforcement rods after heat treatment from the rolling process temperature. Stal' 25 no.2:157-160
F '65. (MIRA 18:3)

1. Donetskij politekhnicheskij institut; Makeyevskiy metallurgicheskij zavod; Nauchno-issledovatel'skiy institut "Donpromstroy" i Novo-Kramatorskiy zavod tyazhelogo mashinostroyeniya.

GEORGIYEVSKAYA, G.L.; RAKHLIN, A.V.; IVANOV, F.I.

Use of Lipetsk mineral water in the treatment of chronic
cholecystitis. Vop. kur., fizioter. i lech. fiz. kul't. 30
no.4:366-367 J1-Ag '65. (MIRA 18:9)

1. Fakul'tetskaya terapevticheskaya klinika (sav.- prof.
Yu.M. Bala) Voronezhskogo meditsinskogo instituta.

IVANOV, F.K., kand.med.nauk

Blood transfusion in compound therapy for Botkin's disease. Vrach.
delo no.6:131-132 Je '61. (MIRA 15:1)

1. Klinika infektsionnykh bolezney (zaveduyushchiy - prof. L.K.
Korovitskiy) Odesskogo meditsinskogo instituta.
(HEPATITIS, INFECTIOUS) (BLOOD__TRANSFUSION)

BUDANOV, P.V.; IVANOV, F.M.

Universal drop hammer for highway laboratories. Avt. dor.
22 no.5:23-24 My '59. (MIRA 12:8)
(Testing machines) (Highway research)

IVANOV, F.M.

Importance of the reaction of complement fixation in the diagnosis of dysentery. Zdrav. Turk. 8 no.1:27-29 Ja '64. (MIRA 17:5)

1. Iz kafedry mikrobiologii (zaveduyushchiy - prof. S.I. Boryu) Kuybyshevskogo meditsinskogo instituta.

PROCESSES AND PROPERTIES INDEX

71

Relation of underground coal-mine fires to underground gasification of coal. F. M. Ivanov. *Podzemnyye Geri-Akatsiya Uglei* 1934; No. 1, 36-8.--An investigation of causes of coal-mine fires and chem. analysis of gases produced in the combustion of coal under these conditions have an important bearing on the problem of underground gasification of coal. S. L. Madorsky

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

5TH AND 6TH ORDERS

7TH AND 8TH ORDERS

9TH AND 10TH ORDERS

11TH AND 12TH ORDERS

13TH AND 14TH ORDERS

15TH AND 16TH ORDERS

17TH AND 18TH ORDERS

19TH AND 20TH ORDERS

21ST AND 22ND ORDERS

23RD AND 24TH ORDERS

25TH AND 26TH ORDERS

27TH AND 28TH ORDERS

29TH AND 30TH ORDERS

31ST AND 32ND ORDERS

33RD AND 34TH ORDERS

35TH AND 36TH ORDERS

37TH AND 38TH ORDERS

39TH AND 40TH ORDERS

41ST AND 42ND ORDERS

43RD AND 44TH ORDERS

45TH AND 46TH ORDERS

47TH AND 48TH ORDERS

49TH AND 50TH ORDERS

51ST AND 52ND ORDERS

53RD AND 54TH ORDERS

55TH AND 56TH ORDERS

57TH AND 58TH ORDERS

59TH AND 60TH ORDERS

61ST AND 62ND ORDERS

63RD AND 64TH ORDERS

65TH AND 66TH ORDERS

67TH AND 68TH ORDERS

69TH AND 70TH ORDERS

71ST AND 72ND ORDERS

73RD AND 74TH ORDERS

75TH AND 76TH ORDERS

77TH AND 78TH ORDERS

79TH AND 80TH ORDERS

81ST AND 82ND ORDERS

83RD AND 84TH ORDERS

85TH AND 86TH ORDERS

87TH AND 88TH ORDERS

89TH AND 90TH ORDERS

91ST AND 92ND ORDERS

93RD AND 94TH ORDERS

95TH AND 96TH ORDERS

97TH AND 98TH ORDERS

99TH AND 100TH ORDERS

M

46

A Study of the Corrosion of Galvanized Iron Roofing in Contact with Moist Building Materials, Earth, Clay, and Sand. V. M. Ivanov (*Zhur. Priklad. Khim.*, 1930, 23, (8), 898).—(In Russian). Criticism of a paper by Solov'ev (see preceding abstract). The figures given for 11 of the 18 materials examined do not correspond with behaviour in practice, because of the incorrect experimental conditions employed. The crushing of brick, mortar, etc., would result in excessive contact with moisture and air; the periodic moistening (once every 24 hr.) would result in different testing conditions for different materials, owing to the variation in drying rate. Moistening must have changed the clay into a paste. The results for Portland cement sand mortar are not in agreement with experience concerning reinforced concrete.

G. V. E. T.

May 1957

CA

7

Corrosion of galvanized iron roofs in contact with damp structural materials, soil, clay, and sand. F. M. Ivanov. *J. Applied Chem. U.S.S.R.* 23, 940(1950)(Engl. translation).—The study made with different materials (foamed glass, xylolith, fibrolite, asbestos cement, clay, brick, cement slurry, gypsum, silicate brick, peat blocks) does not give an accurate picture of their behavior in actual practice as the author believes the tests were made under conditions not characteristic for the corrosion of galvanized Fe. The figures given, therefore, do not possess any practical value. M. Hartenheim

IVANOV, F. M.

Effect of surface-active admixtures on the reaction between cement and water. S. V. Shestoporov, T. Yu. Lyubimova and F. M. Ivanov. Doklady Akad. Nauk. S.S.S.R. 70, 1045-8(1950).- Isotherms of adsorption of sulfite-ac. spent wash, contg. mostly sulfolignates, on cements of different mineralogical compns. were constructed from surface tension data. Deviations from ordinary adsorption rules were noted: there was no invariant for isotherms of various solid/liquid ratios and increase in adsorption was not proportional to increase of specific surface. These phenomena are probably due to inconstancy of physicochem. properties and the dispersion of the adsorbent. Extent of reaction between adsorbent and solvent (water) varied with changes in solid/liquid ratios. The sorption capacities of cements of different mineralogical compns: differed greatly. Adsorption was most energetic on high-aluminate cements and least on nonaluminate alite cements. Analogous results were obtained for adsorption of saponin. Both hydration and hydrolysis of cements were hindered by the addn. of sulfolignates; binding of gypsum by the cement was impeded during the first days but, with time, this effect decreased, the rate of decrease being dependent upon the concn. of sulfolignates, compn. of cement, and conditions of storage of samples.

B.Z.K.

IVANOV, F.M.; STANKEVICH, L.A., redaktor; GALAKTIONOVA, Ye.N., tekhnicheskiiy redaktor

[Concrete] TSementnyi beton. Moskva, Izd-vo dorozhno-tekhn. lit-ry, Gushosdora MVD SSSR, 1952. 47 p. [Microfilm] (MIRA 7:10)
(Concrete)

~~Shestopero~~ Ivanov, F.M.

SHSTOPEROV, S.V., kandidat tekhnicheskikh nauk; IVANOV, F.M., kandidat tekhnicheskikh nauk; ZASHCHEPIN, A.N., kandidat tekhnicheskikh nauk; LYUBIMOVA, T.Yu., kandidat khimicheskikh nauk; GRADISHCHEV, N.Ye., redaktor; KOVALIKHINA, N.F., tekhnicheskii redaktor

[Concrete with plasticiser agents] TSementnyi beton s plastifitsiruiushchimi dobavkami. Moskva, Izd-vo dorozhno-tekhn.lit-ry Gushosdora MVD SSSR, 1952. 105 p. [Microfilm] (MIRA 9:3)
(Concrete)

MOSKVIN, V. M., IVANOV, F. M.

Concrete - Standards

Standards of hydrotechnical concrete. Gidr. stroi. 21 no. 2:18-19 F '52.

Monthly List of Russian Accessions, Library of Congress, July 1952. Unclassified.

IVANOV, F.M.

IVANOV, F.M., kandidat tekhnicheskikh nauk; BYALOBZHESKIY, G.V.; MEZENTSEV,
V. A. redaktor; GAVRILOV, S.S., tekhnicheskiy redaktor.

[Artificial stone] Iskusstvennye kamni. Moskva, Gos. izd-vo tekhniko-
teoreticheskoi lit-ry, 1954. 47 p. (Nauchno-populiarnaya biblioteka
no.75] (MLRA 8:9)

(Stone, Artificial)

IVANOV, Feder Mikhaylovich; ZASHCHEPIN, A.N., redaktor; KOGAN, P.L.,
tekhnicheskiy redaktor.

[Cement economy in road construction] Ekonomiya tsementa pri
stroitel'stve dorog. Moskva, Nauchno-tekhn.izd-vo avtotransp.
lit-ry, 1954. 91 p. (MLRA 9:6)
(Road construction)

IVANOV, F.M.
BUDNIKOV, P.P., redaktor; ~~IVANOV, F.M.~~ redaktor; GRAKOVA, Ye.D., tekhnicheskii redaktor

[Corrosion of concrete and ways to control it; transaction of the 1953 conference] Korroziiia betona i mery bor'by s nei; trudy konferentsii 1953 g. Moskva, Izd-vo Akademii nauk SSSR, 1954. (MLRA 8:4)
255 p.

1. Konferentsiya po korrozii betona, Moscow, 1953. 2. Chlen-korrespondent Akademii nauk SSSR (for Budnikov).
(Concrete--Corrosion)

"APPROVED FOR RELEASE: 08/10/2001

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ing of concrete cast at 20° F. (6.7° C.) at 22° F. to
-20° for up to 28 days and the change in (level) showing
for up to 22 hrs.

IVANOV, F. M.

3335 IVANOV, F. M. AND BYALOBZHESKIY, G. V.

Iskusstvennyye kamni, M., Gostekhizdat, 1954. 48s. s ill. 20 sm
(Nauch-Popul. 6-Ka Vyp. 75) 100,000 ekz. 75 k - (54-57585) P

SHESTOPBROV, Sergey Vladimirovich; IVANOV, F.M., redaktor; MAL'KOVA,
N.V., tekhnicheskiiy redaktor.

[Durability of concrete] Dolgovechnost' betona. Moskva, Nauchno-
tekhn.izd-vo avtotransportnoi lit-ry, 1955. 478 p. (MLRA 9:1)
(Concrete)

BOLDUSHEV, F.I., inzhener; IVANOV, F.M., inzhener.

Experience in building cement concrete pavements under cold weather
conditions. Avt.dor. 18 no.1:11-13 Ja-F '55. (MIRA 8:4)
(Roads, Concrete--Cold weather conditions)

IVANOV, F.M., inzhener; BELOBORODOV, F.N., inzhener

Use of vinsol resins for protecting freshly laid concrete.
Avt. dor. 18 no.2:17-18 Mr-Apr '55. (MLRA 8:6)
(Roads, Concrete) (Resins, Synthetic)

IVANOV, F. M.

AID P - 1753

Subject : USSR/Hydraulic Engineering Construction

Card 1/2 Pub. 35 - 12/21

Author : Shestoperov, S. V. and Ivanov, F. M.

Title : On causes of deterioration of concrete in the upstream slope of a reinforced concrete dam

Periodical : Gidr. stroi., v.2⁴, no.2, 37-38, 1955

Abstract : The appearance of horizontal parallel cracks in the top section of the piers and upstream slope due to severe frosts (-40°C) on a dam built during the war is discussed. Causes for this unusual type of weathering of concrete made of slag portland cement are believed to be: saturation of concrete with water under pressure, aided by the solid ice cover which prevents the drying of the surface, capillary water penetration and the squeezing out of the air. Research and study of possible methods of curing and protecting concrete in cold weather are recommended.

Gidr. stroi., v.24, no.2, 37-38, 1955

AID P - 1753

Card 2/2 Pub. 35 - 12/21

Institution: None

Submitted : No date

IVANOV, Fedor Mikhaylovich; OVCHAROV, Valentin Ivanovich; IVANOV, S.S.,
redaktor; GALAKTIONOVA, Ye.N., tekhnicheskly redaktor

[Highway concrete with an admixture of chlorite] Dorozhnyi beton
s dobavkami khloristykh soli. Moskva, Nauchno-tekhn. izd-vo
avtotransp.lit-ry, 1956. 59 p. (MLRA 9:8)
(Roads, Concrete) (Chlorites)

IVANOV, F.M., inzhener; MANANOV, N.G., inzhener.

Efficient quality control of concrete mortar put into practice in
a concrete plant. Avt. dor. 19 no.6:8-9 Je '56. (MLRA 9:9)

(Concrete plants--Quality control)

I. V. Ivanov, F. M.

USSR/Chemical Technology. Chemical Products and Their Application -- Silicates.
Glass. Ceramics. Binders, I-9

Abst Journal: Referat Zhur - Khimiya, No 2, 1957; 5294

Author: Shestoporov, S. V., Ivanov, F. M.

Institution: None

Title: Increasing the Sulfate-Stability of Portland Cement

Original
Publication: Tsement, 1956, No 3, 20-22

Abstract: It has been ascertained, experimentally, that it is possible to increase substantially the sulfate-stability of Portland cement mortars by preparing them from finely ground cement with increased additions of gypsum. The binder was prepared from clinkers of different mineralogical composition, containing (in %): C_3S 33-58, C_2S 33-19, C_3A 11-5, C_4AF 19-16. Fineness of ground clinker 3,000, 4,500 and 7,000 cm^2/g (determined with the Giprotsement apparatus). Addition of gypsum amounted to 5-20%. Samples of plastic mortar prepared from finely ground sulfate-unstable clinker, containing 11% C_3A .

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IVANOV, F.M.

Organizing control over the quality of construction. Avt.dor. 19
no.11:23-25 N '56. (MIRA 10:10)
(Road materials--Testing)

USSR/Chemical Technology. Chemical Products and Their Application -- Silicates.
Glass. Ceramics. Binders, I-9

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 5334

Author: Ivanov, F. M., Masanov, N. G.

Institution: None

Title: Effective Control of Quality of Concrete Mix Is Attained at the
Concrete Plant

Original
Publication: Avtomob. dorogl, 1956, No 6, 8-9

Abstract: Results of endurance tests of control samples of concrete have shown
that there are no substantial differences between strength of samples
produced at the concrete plant and those made at the site of placing.
It is recommended to effect the control of quality of concrete mix
only at the concrete plant and directly in the cement concrete coat-
ing. [sic]

MEDVEDEV, Vladimir Mikhaylovich, kandidat tekhnicheskikh nauk; IVANOV, F.M.,
redaktor; LARIONOV, G.Ye., tekhnicheskiiy redaktor

[Organization of quality control of concrete work for large hydraulic
structures; based on the construction experience of the Volga-Don
waterway] Organizatsiia kontrolya kachestva betonnykh robot na krup-
nykh gidrotekhnicheskikh stroikakh; po opytu stroitel'stva Volga-
Donskogo vodnogo puti. Moskva, Gos. energ. izd-vo, 1956. 135 p.
(MIRA 10:3)

(Concrete construction--Quality control)
(Volga-Don Canal)

IVANOV, F.M., kandidat tekhnicheskikh nauk; DERYUGIN, V.M., inzhener.

Operation of cement-grinding vibration mills. Mekh.stroi. 13 no.10:
6-9 0 '56. (MLRA 9:11)

(Milling machinery)

IVANOV, F.M., kandidat tekhnicheskikh nauk.

Increasing the activity of cement in production conditions. Avt.dor.
20 no.1:8-10 Ja '57. (MLRA 10:3)
(Cement)

IVANOV, F.M.
MASLENNIKOV, Ivan Nikolayevich; IVANOV, F.M., redaktor; MAL'KOVA, N.V.,
tekhnicheskii redaktor

[Construction of concrete roads] Postroika tsementobetonnykh dorog.
Moskva, Nauchno-tekhn.izd-vo avtotransp.lit-ry, 1957. 60 p.
(Roads, Concrete) (MIRA 10:7)

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TIMASHOV, V.V.; IVANOV, F.M.

Use of radioactive isotopes in studying the uniformity of soil
and binder mixtures. Avt. dor. 20 no.4:8-9 Ap '57. (MLRA 10:6)
(Radioisotopes--Industrial applications)
(Binding materials)

IVANOV, F.M., kandidat tekhnicheskikh nauk.

Utilizing the swelling capacity of concretes. Bot. i zhel.-bet.
no.4:147-148 Ap '57. (MLMA 10:6)

(Concrete)

Ivanov, F.M.

USSR/Chemical Technology - Chemical Products and Their
Application. Ceramics. Glass. Binders. Concrete.

H-7

Abs Jour : Referat Zhur - Khimiya, No 1, 1958, 2094

Author : Ivanov F.M.

Inst : -

Title : Utilization of the Effect of Swelling of Concrete

Orig Pub : Beton i zhelezobeton, 1957, No 4, 147-148

Abstract : Prior to tightening the reinforcement, after the structures have hardened under humid conditions, it is recommended to age them in the air to permit completion of the setting of the concrete. If a heat-and-moisture treatment is used, the steaming conditions must be such that the articles undergo drying after they have acquired the rated strength. Swelling of concrete on moistening must be taken into account in calculations of stressed reinforced structures.

Card 1/1

IVANOV, Fedor Mikhaylovich; LYUBIMOV, A.P., prof., red.; KATRENKO, D.A., red.;
KOLMSNIKOVA, A.P., tekhn. red.

[Vacuum] Vakuum. Pod red. A.P. Liubimova. Moskva, Gos. izd-vo
tekhniko-teoret. lit-ry, 1958. 55 p. (MIRA 11:8)
(Vacuum)

YEVKO, A.V., inzh.-khimik; KUZ'MISHCHEV, P.F., inzh.; MIKHALEVICH, P.A.,
inzh.; IVANOV, F.M., kand.tekhn.nauk, red.; VOENIN, K.P., tekhn.red.

[Hydrochemical investigations of concrete structures of upper
Volga hydroelectric power stations] Opyt gidrokhimicheskogo
issledovaniia betonnykh sooruzhenii verkhnevolzhskikh gidrouzlov.
Moskva, Gos. energ. izd-vo, 1958. 84 p. (MIRA 12:1)
(Hydraulic engineering)

SOROKER, Vitaliy Il'ich, doktor tekhn.nauk; DOVZHUK, Viktor Grigor'yevich,
inzh.; IVANOV, F.M., nauchnyy red.; KRUGLOV, S.A., red.izd-va;
MEDVEDEV, L.Ya., tekhn.red.

[Using stiff concrete mixes in producing precast reinforced concrete]
Zhestkie betonnye smesi v proizvodatve sbornogo zhelezobetona.
Moskva, Gos.izd-ve lit-ry po stroit. i stroit.materialam,
1958. 205 p. (MIRA 12:3)
(Concrete) (Precast concrete)

SOV/97/58/2/8/16

AUTHOR: Ivanov, F.M., Candidate of Technical Sciences

TITLE: The Effect of the Fineness of Cement Grinding and Additives on the Frost Resistance of the Cement Mix.
(Vliyanie tonkosti pomola tsementa i dobavok na morozostoykost' tsementnogo rastvora).

PERIODICAL: Beton i Zhelezobeton, 1958 Nr 2, pp 70-71.

ABSTRACT: The above problem is discussed by S.V. Shestoporov in an article entitled "Durability of Concrete", published in 'Avtotransizdat' in 1955, and by G.K. Dement'yev in an article entitled "Conditions of Durability of Concrete, Reinforced Concrete and Insulating Covering and Hydro-technical Constructions" published in compendium "Corrosion of Concrete and its Prevention". The effect of the addition of gypsum on frost resistance of concrete with finely ground cement was described by S.V. Shestoporov based on investigations carried out in the years 1951/54. Tests were carried out in SoyuzdornII by Engineers Ye. F. Nefedov and Ye. P. Zharov defining frost resisting cement mixes with cements ground to various degrees of fineness with different additives. The results obtained could be

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