S/133/61/000/003/008/014
A054//A033

AUTHORS: Zabaluyev, I. P., Engineer, and Moshkevich, Ye. I., Engineer

TITLE: The causes of bulging of ingots and slabs

PERIODICAL: Stal', no. 3, 1961, 249 - 251

TEXT: Bulging, porosity, lamination and cavites are frequently found in several types of steel: 45Г17Ю3 (45G17Yu3), 80Г20Ю4 (80G20Yu4), ШХ 15 (Shkh15), etc. as well as in rimming and killed, carbon and alloyed steels, after both hot and cold settling. Slabs and billets made from the upper part of the casting show mostly these defects, while those cast from the lower part of the slab are free of them. No change is found in the chemical composition of steel displaying porosity or other defects, only aggregation of iron oxides, manganese and aluminum are to be observed in their macrostructure. As a rule, bulging and porosity only occur in the ingots, slabs, etc., when they are heated above the permissible temperature for this kind of steel and when the holding is longer than prescribed. In some steels the defects appear even at permissible temparatures, after extended holding times. V. M. Chirkin and F. A. Ksenzuk (Ref. 1: Stal'

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The causes of bulging of ingots and slabs

1960, No. 1) have put forward a theory according to which bulging is caused by gases precipitating from the metal itself. This theory, however, could not be substantiated. Neither hydrogen contained in rimming steel in amounts of 1 - 2 ml/100 g, nor nitrogen can be the cause of gas-formation and consequently, of bulging. Nor does this theory give an explanation why bulging is only found in the metal when superheated and held at this temperature for a long time, if other conditions (gas saturation, liquation) are identical. Bulging, porosity, black spots, etc. can better be explained by the following theory. A) When the ingots are put in the soaking pit with the inner part not yet solidified completely: 1. Furnace gases penetrate the liquid metal through shrinkage cavities and due to this, the oxygen, hydrogen and nitrogen content of the metal increases; 2. Superheating and over-extended holding times promote the adsorption of furnace gases in the metal, which fill up the cavities formed during crystallization of the metal; 3. When the ingots are discharged from the heating furnace or when the temperature of the latter drops, a skin is formed on the metal, the inner part of which solidifies and the pressure of gases separating in the hollow of the ingot results in bulging. B) The mechanism of bulging is somewhat different when the ingots are put into the soaking pit

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The causes of bulging of ingots and slabs

in cold condition or when their inner part has solidified completely:
1. When the ingots are superheated and the holding time extended at high temperatures the metal smelts in the axial parts of the ingot, containing various inclusions and having a relatively low smelting temperature;
2. Also in this case the furnace gases penetrate the metal through shrinkage cavities and fill up the hollows forming in the metal. When the ingot is heated up to the temperature prescribed for rolling or forging, these cavities fill up and the continuity of the macrostructure will be restored. When, however, the metal is overheated, the furnace gases captured in the metal oxidise the walls of the cavities and, after rolling, the macrostructure of the metal is porous. For the same reason, during deep pickling, the inner part of the template is pickled more intensely, resulting in the formation of black spots. As a rule, the higher the superheating and the longer the excessive holding time, the more porous the macrostructure of the ingot becomes during rolling. The formation of cavities is also promoted by the rapid heating of cold ingots, at the outset, when the metal is still in a plastic condition. In ingots, which have been charged in hot condition with a completely crystallized inner part, no bulging can be observed

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The causes of bulging of ingots and slabs during rolling. There are 3 figures and 3 Soviet references.

ASSOCIATION: Zavod "Dneprospetsstal'" (The Dneprospetsstal' Plant)

Card 4/4

KHITRIK, S.I., doktor tekhn. nauk; KADINOV, Ye.I., inzh.; BORODULIN, G.M., inzh.; TREGUBENKO, A.F., inzh.; YATSKEVICH, I.S., inzh.; DEMIDOV, P.V., inzh.; FRANTSOV, V.P., inzh.; SMOLYAKOV, V.F., inzh.; MALIKOV, G.P., inzh.; DOVGIY, M.M., inzh.; MOSHKEVICH, Ye.I., inzh.; RABINOVICH, A.V., inzh.

Reducing chromium losses in the manufacture of acid-resistant and stainless steels in electric arc furnaces. Met. i gornorud. prom. no.1:17-20 Ja-F '62. (MIRA 16:6)
(Steel, Stainless—Electrometallurgy)

CHUYKO, N.M., doktor tekhn.nauk; PEREVYAZKO, A.T.; MOSHKEVICH, Ye.I.; Prinimali uchastiye: RUTKOVSKIY, V.B.; KONISHCHEV, M.I.; FRANTSEV, V.P.; DEMIDOV, P.V.

Controlling the gaseous phase composition in an electric furnace by means of an air curtain. Met. i gornorud. prom. no.2:15-18 Mr-Ap '62. (MIRA 15:11)

1. Dnepropetrovskiy metallurgicheskiy institut (for Chuyko).
2. Dnepropetrovskiy staleplavil'nyy zavod vysokokachestvennykh i spetsial'nykh staley (for Perevyazko, Moshkevich).
(Electric furnaces) (Gases--Analysis)

MOSHKEVICH, Ye.I., inzh.

Addition of titanium metal to the ladle in the smelting of stainless steel. Met. i gornorud. prom. no.3:80-81 My-Je '62. (MIRA 15:9)

1. Dnepropetrovskiy staleplavil'nyy zavod vysokokachestvennykh i spetsial'nykh staley.
(Steel, Stainless—Metallurgy)

S/133/62/000/003/003/[illegible]
A054/A127

AUTHORS: Frantsov, V. P., Malikov, G. P., Ratner, E. M., Moshkevich, Ye. [illegible], Engineers

TITLE: Casting stainless steel with magnesium-alloy chips

PERIODICAL: Stal', no. 3, 1962, 238 - 239

TEXT: Magnesium has a high affinity to oxygen and nitrogen. When magnesium is added during pouring, it binds the oxygen and nitrogen of the ingot-mold atmosphere which has a favorable effect on the metal quality. Tests were carried out with bottom-cast 2.85-ton ingots of 1X18H9T (1Kh18N9T) stainless steel. Prior to casting, the ingot molds were cleaned, blown through with air, covered, but not coated. The amount of magnesium necessary to bind the oxygen of the ingot mold atmosphere is 65 g/ton of ingot, while an additional 10 g/ton is required for binding nitrogen. When МЛ (ML), МЛ1 (ML1), МЛ3 (ML3), [illegible] (ML5), МЛ7 (ML7) magnesium alloy chips are used, 80 g/ton is the required quantity. The magnesium must be introduced into the aerated dry molds either by a spoon or in paper packs. The temperature of the ingot mold can be raised considerably when magnesium chips are used in pouring. Prior to the inflammation of the chips

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Casting stainless steel with magnesium-alloy chips

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(5 - 7 sec. after pouring started), pouring must be slow. After inf[illegible], the chips flare up. The lower the metal level in the ingot mold, the smaller the part of the lower ingot surface which is affected by the splashing particles. After flaring up, pouring should be as quick as possible to maintain a thin film on the rising metal surface up to the end of casting. This method improves the ingot surface considerably. Only the lower part of the ingot (about 20% of the ingot height) has superficial defects; the other parts are completely clean. The steels cast with magnesium chips were tested according to [illegible] 5632 (GOST 5632) and GOST 5949-51. Their mechanical properties were better than those of conventional heats. Spectral analysis did not reveal any magnesium in the metal. No difference was found as to the corrosion-resistance of the test metal; the service life of the ingot molds used in this method is longer than that of conventional ones. The yield of flawless product was raised by an average of [illegible] for various kinds of rolled products. The ingots cast with magnesium chips were ground or roughened. As in general only the lower part of the ingot has to be finished, the output in this production sector rose from 0.7 - 1.2 ingot per man-shift to 2 - 3 ingots. In roughing the ingots two variants were applied: in the first, the ingot was machined only at 200 - 250 mm from the bottom (to 10 - 12 mm

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A054/A127

Casting stainless steel with magnesium-alloy chips

in one direction); in the second version the lower part was machined [illegible] first variant, but the other parts were also roughened to 2 - 4 mm. Roughing according to variant 1 decreased the metal losses from 6% to 1.0 - 1.5%, while the output was raised 1.5 - 2 times. As, on account of technological shortcomings, there may be surface defects on the upper part of the ingots, a combined finishing method is now applied: if there are scattered defects in the middle and the upper part of the ingots, not deeper than 2 mm, they are roughened according to variant 1. If defects appear in the lower part of the ingot, 4 mm deep, this part will also be roughened according to variant 1, while defects in the middle and upper part are being removed by grinding. If the middle and upper parts of the ingot show many defects, caused by faulty technology, the ingots have to be roughened according to variant 2. This combined finishing method greatly reduced metal losses, which usually occur in roughing. Similar results were obtained with 2.8-ton ingots of 35 [illegible] (35KhYuA) steel. To reduce defects in macrostructure, widened nozzles were applied and the amount of lunkerite filled in the riser was increased from 1.5 to 3 kg/ton. The flashing and spattering of magnesium is not dangerous for the workers.

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CHUYKO, N.M., doktor tekhn. nauk; PEREVYAZKO, A.T., inzh.; MOSHKEVICH, Ye.I., inzh.

Production of dense ingots of transformer steel. Met. i gornorud. prom. no.6:14-15 N-D '62. (MIRA 17:8)

1. Dnepropetrovskiy metallurgicheskiy institut (for Chuyko, Perevyazko). 2. Zavod "Dneprospetsstal'" (for Moshkevich).

S/133/62/000/009/004/009
A054/A127

AUTHORS: Frantsov, V.P., Moshkevich, Ye.I., Smolyakov, V.F.

TITLE: At the Elektrometallurgicheskiy zavod "Dneprospetsstal'" im. A.N. Kuz'mina (Electrometallurgical Plant "Dneprospetsstal'" im. A.N. Kuz'min)

PERIODICAL: Stal', no. 9, 1962, 812 - 813

TEXT: 1) Studies of industrial-scale heats of ЭИ962 (EI962) [10 Х 12 НВФМА (10Kh12NVFMA)] grades showed that the cracks in slabs depend on the chemical composition and mainly on the C-content. Heats containing 0.09 - 0.13% carbon could be given an index of 2.85 as to surface condition, but only 1.8 at a 0.13 - 0.18% C-content. The chemical composition affects the phase structure. If the C-content is increased beyond 0.13% the amount of ferrite phase decreases to 5 - 7% at rolling temperature. The metal then shows satisfactory ductility. Reducing the temperature in the ladle to 1,570 - 1,590°C and raising the temperature of slabs during placing them in the furnace have favorable effects. Blowing argon into the furnace did not change the metal ductility. The optimum C-content is 0.13 - 0.16%. 2) The use of single rotameters during the pouring of the ЭИ437Б (EI437B) grade alloy and the determination of the

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S/133/62/[illegible]
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At the Elektrometallurgicheskiy....

optimum time of argon blowing into the mold improved the surface of ingots and reduced the marginal defects on the fracture surface from 6.8 to 3.8%. 3) The application of precipitation reduction of the metal by means of the AMC (AMS) alloy (3.5 kg/ton) and 45-% ferrosilicon lumps (to obtain a 0.1% Si-content), and the addition of ferrochrome before the formation of the refining slag were studied. The slag was reduced by coke and ferrosilicon powder. Refining time was shortened by 30 minutes, the slag composition was improved and the service life of furnace lining was prolonged. The ductility of the metal improved slightly. The quality of the metal at the fracture surface of hardened samples and in samples studied for gradual machining was also better. There was no change in the amount of nonmetallic inclusions. 4) Lacquers with various degrees of viscosity and containing diverse amounts of volatile matter were tested with the addition of 5 - 15% lacquer oil and 5 - 15% resin separately and with the addition 5 - 10% of both lacquer oil and resin. The larger amount of volatile matter, when coating at 100°C, promoted the edge formation of the metal. The lacquer used for coating ingot molds for structural steels should contain 0.5 - - 1.0% volatile matter at 50°, 1.5 - 2.5% at 70°, 3 - 5% at 90° and 6 - 15% at 100°C; its viscosity should be 2.8 - 3.2°E at 70°C. 5) To improve the macro-structure of stainless steel ingots under the riser-head, dozzles with a widened

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bottom were used and the amount of "lunkerite" applied in sprinkling the riser--head was raised to 3 kg/ton. These measures increased the output of serviceable castings by 3%, raised the efficiency of the grinding shop and decreased the losses of stainless steel in chips. 6) To reduce porosity and nonmetallic inclusions in rolled steels of the roughing mill, three kinds of ingots (2.6 tons, with double conicity, 2 and 1 ton) were tested. No changes were found in the quality of 2.6- and 2-ton ingots, in the 1-ton ingots porosity was reduced by an index of 0.73, the oxide content by an index of 0.18, sulfide inclusions by an index of 0.31 and spheroidal inclusions by an index of 0.13. The serviceable product in 1-ton ingots, passing the first check for macrostructure amounted to 90% and for nonmetallic inclusions: 100%. 7) Carbon and ball-bearing steels are smelted as follows: lime (2.5 - 5 kg/t) and iron ores are fed into the furnace, then metal scrap and after closing the furnace, liquid iron (50% of the total charge) is poured in through a spout. Cast iron contains 4 - 4.4% C, 1.7 - 1.9% Mn, 0.7 - - 0.8% Si, 0.1 - 0.12% P and 0.03 - 0.035% S and is fed from a mixer into a special ladle. After 85 - 90% of the charge is smelted, oxygen is blown through a 37-mm diameter tuyere, under 7 - 8 atmospheres pressure at a 1,400 - 1,700 m^3/hour rate. During smelting the slag is flowing off by gravity, lime (2.5 - 3 kg/ton) and iron ore (1 - 1.5 kg/ton) are added, while oxygen blowing is being continued. The

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A054/A127

At the Elektrometallurgicheskiy....

average rate of decarburization for the ШХ15 (ShKh15) and Ст.3 (St.3) grades was 0.54 and 0.96% per hour. Upon obtaining the required C-content, the conventional technology was applied. When liquid charge is used the P-(0.015%) and S-content (0.009%) are lower than with solid charge. Moreover, the new technology requires less electric power (by 23.5%) and a shorter smelting time, it increases slightly the costs of the metal, however. 8) A new technology for casting stain ess steel has been developed in cooperation with the Dnepropetrovskiy metallurgicheskiy institut (Dnepropetrovsk Metallurgical Institute). The new method restricts the feed of oxygen to a minimum during the smelting period; slag is reduced in advance by coke and silicon powder, the basicity of slag is raised to 1.5 - 1.6 by adding 60 - 70 kg/ton lime. The metal is reduced by the precipitation process after the bath has been blown through by oxygen; mixed reducing agents are used to obtain 0.5% Mn, 0.3 - 0.35% Si and 0.15% Al. The slag is reduced after addition of ferrochrome by 45- and 75-% pulverous ferrosilicon. When casting 1Х18Н9Т (1Kh18N9T) steel the new method saves 20 - 25 kg/ton ferrochrome. 9) In smelting 1Kh18N9T stainless steel, ferrotitanium is replaced by titanium metal scraps, processed in the form of briquetted powder and chips. Prior to feeding titanium into the furnace, the slag has to be removed completely. After addition of fresh slag (lime + spar), it is reduced by 3 - 4 kg/ton aluminum powder. When titanium is

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added in the ladle, slag is refreshed and reduced by 2 - 3 kg/ton aluminum powder. The metal temperature prior to adding titanium is lowered by 20°C as compared to the conventional method. The absorption of titanium when added in the furnace amounts to about 45%, when added in the ladle in the form of briquettes or chips, however, utilization increased to 62 and 57%, respectively.

S/133/62/000/00[illegible]/00[illegible]/[illegible]
A054/A127

AUTHORS: Frantsov, V.P., Moshkevich, Ye.I., Smolyakov, V.F.

TITLE: At the Elektrometallurgicheskiy zavod "Dneprospetsstal'" im. A.N. Kuz'mina (Electrometallurgical Plant "Dneprospetsstal'" im. A.N. Kuz'min)

PERIODICAL: Stal', no. [illegible], 1962, 861

TEXT: 1) Tests of reducing the cropping at the top by 1% and at the bottom of ingots by 0.5% showed that for the 20 - 50 steels topping can be decreased to 1.5%, for the 12-20 ХН3А (12-20KhN3A), 12-20 Х2Н4А (12-20Kh2N4A) and 30 ХГСА (30KhGSA) grades to 16% and for the 18 ХНВА (18KhNVA) grade to 18%. Bottom cropping can be reduced for the "20-50" grades to 1%, for the 50 ХГСА (50KhGSA) grade, 9 ХС (9KhS), ШХ15 (ShKh15), 12-20Kh2N4A, 12-20KhN3A and 30KhGSA grades to 1.5%. 2) For better utilization of the heating elements the ShKh15 grade steel slabs are cut into pieces 5.8 m in length instead of 3.5 m; cutting to the standard size [ГОСТ 801-47 (GOST 801-47)] takes place before they become white hot. This measure increased the output of the heat treatment

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S/133/62/000/0[illegible]/[illegible]/[illegible]
A154/A127

At the Elektrometallurgicheskiy....

unit by 60 - 70%, and reduced that of the heating furnaces by 1[illegible] - 20%. The losses caused by cropping were reduced by 25%. 3) The possibility of reducing the normal amount of carbon in the decarburized layer of ШХ9 (ShKh9), ShKh15, ХВГ (KhVG), Р9 (R9), Р18 (R18), 60С2А (60S2A) and У12А (U12A) grades was studied during heating in a muffle furnace, while a protective atmosphere of dissociated ammonia and natural gas was produced. As the reduction of bars takes place non-uniformly, the consumption ratio between natural gas and protective medium must be kept at 1/7 - 1/8, to reduce only the decarburized parts and to avoid recarbonization. These values ensure an equilibrium between the carbon potential of the furnace atmosphere and the required carbon content of the [illegible]. Carbon reduction takes place during bright annealing while natural gas is [illegible]mittently fed into the furnace. Due to the reduction of their carbon content, decarburized layers must not be polished. 4) To obtain a higher notch toughness in large sections of 30 ХГСНА (30KhGSNA) steel a new annealing process has been developed: heating to 950 - 1,000°C, holding time 12 hours, cooling at a rate of 30°/hour to 700°C, followed by cooling in air. 5) The white spots in vacuum-remelted ShKh15 grade were examined by x-rays. The defective zones were found to have a lower (0.7 - 0.8%) carbon content, finer grains and an increased

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S/133/62/000/009/000/000
A054/A127

At the Elektrometallurgicheskiy....

parameter o the ferrite lattice. These changes are caused by the special conditions of crystallization of the external metal layers at the water-cooled ingot mold walls. Calcium fluoride was found in the skin of electro-remelted steel. The skin forms during the cooling of some parts of the molten metal due to CaF_2 particles being entrained while the metal passes through the slag layer. 6) The x-ray check of decarburization and carburization of steels has been considerably simplified by application of the ionizing effect. The new method uses УРС-55 (URS-55) type x-ray apparatus, a special camera, an МСТР-4 (MSTR-4) type counter, a БАМБУК (BAMBUK) type computer and an ЭПП-09 (EPP-09) type potentiometer.

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MOSHKEVICH, Ye.I.

Vacuum treatment of transformer steel. Metallurg 7 no.10: 6-7 O '62. (MIRA 15:9)
(Steel--Electric properties) (Vacuum metallurgy)

MES'KIN, V.S.; MOSHKEVICH, Ye.I.

Effect of hydrogen on the properties of transformer steel.
Fiz. met. i metalloved. 13 no.6:945 Je '62. (MIRA 15:7)
(Steel—Hydrogen content)

FRANTSOV, V.P.; MOSHKEVICH, Ye.I.; SMOLYAKOV, V.F.

At the A.N. Kuz'min "Dneprospetsstal'" Electrometallurgical Plant. Stal' 22 no.10:946 O'62. (MIRA 15:10)
(Zaporozhye--Electrometallurgy)

MOSHKEVICH, Yevgeniy Itskovich; MIKHAYLOVA, Ye.P., red.izd-va; ISLANT'YEVA, P.G., tekhn. red.

[Pouring of high-quality steel] Razlivka vysokokachestvennoi stali. Moskva, Metallurgizdat, 1963. 86 p. (MIRA 16:6)
(Steel ingots)

S/128/63/000/002/001/002
A054/A126

AUTHORS: Smolyakov, V. F., Moshkevich, Ye. I.

TITLE: Producing high quality 1Х18Н9Т (1Kh18N9T) steel castings

PERIODICAL: Liteynoye proizvodstvo, no. 2, 1963, 7 - 8

TEXT: Tests proved that a more stable titanium content of the 1Kh18N9T grade is ensured if, instead of adding titanium to the furnace, it is introduced as spongy titanium (5 - 30 mm in size) into each ladle 20 - 30 sec prior to its being filled with metal from the furnace. Adding titanium to the ladle, however, affected the density and surface quality of the castings which displayed flaws, scales, slag inclusions, etc. Therefore, if titanium is added to the ladle, its amount must be decreased to obtain the required liquidity of the metal and a dense casting. The optimum casting conditions are ensured by lowering the metal's Ti-content to 0.3 - 0.4% and, proportionally, its C-content to 0.06 - 0.07%. As the use of Ti in the ladle depends to a great extent on the temperature of the metal poured from the furnace, it must be carefully controlled before tapping with the aid of immersion-type platinum-platinorhodium thermocouples.

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Producing high quality...

S/128/63/000/002/001/002
A054/A126

The furnace generator is switched off while measuring the temperature. The optimum temperature for titanium adsorption and metal liquidity proved to be 1,550°C. There are 2 figures.

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MOSHKEVICH, YE. I.

AID P- 967-11 11 June

IMPROVING HOT DUCTILITY OF 23-18 STAINLESS STEELS (USSR)

Moshkevich, Ye. I., R. D. Mininzon, V. F. Smolyakov, and M. F. Sorokina.

Kuznechno-shtampovochnoye proizvodstvo, no. 4, Apr 1963, 18-19.

S/182/63/000/004/001/004

In an attempt to improve the hot ductility of 0Х23Н18 steel [0.10% C max, 1.0% Si max, 2% Mn max, 22-25% Cr, and 17-20% Ni] and of Х23Н18 steel [both AISI-310] several variants of deoxidizing and refining have been tested. The best results were obtained with addition of 0.5 kg/ton aluminum and 0.005% boron alloy introduced 5 to 10 min before tapping. One-ton ingots of steel so treated could be heated to 1220-1230°C (furnace temperature) and forged into billets 180 to 190 mm square without reheating. Ingots of conventional and other experimental heats which had been heated to temperatures over 1160°C (furnace temperature) cracked when forged. [ND]

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S/130/63/000/004/003/004
A006/A101

AUTHORS: Moshkevich, Ye. I., Porada, A. N., Akulov, V. P.

TITLE: Electromagnetic stirring in melting stainless steel in electric furnaces

PERIODICAL: Metallurg, no. 4, 1963, 22 - 24

TEXT: Experimental tests have been carried out from 1956 - 1960 with two stators for electromagnetic stirring in steelmelting. The use of these stators proved efficient by intensifying the melting process and improving the quality of the metal. Desulfurization and deoxidation processes were accelerated, slag removal time was reduced by 5 - 7 min, and the chemical composition of the metal produced, approached the theoretical values. The Cr content in the finished steel was corrected to amounts not over 17.5%; this secures considerable savings in ferro-chromium and nickel. As a result the refining time is reduced by 30 - 40 min, and metal rejects decrease by a factor of 2 - 3. The stator can be switched into two positions, namely, "stirring of the pool" and "removal of slag". It was found that the stator operated less efficient in the former position.

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S/130/63/000/004/003/004
A006/A101

Electromagnetic stirring in melting...

The highest speed of metal motion on the pool surface (0.3 - 0.5 m/sec) was observed at a frequency as high as 0.5 - 0.55 cycles and 1,900 - 2,000 amps current strength. There are 2 figures.

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CHUYKO, N.M.; PEREVYAZKO, A.T.; DANICHEK, R.Ye.; MOSHKEVICH, Ye.I.

Effect of the chemical composition of the metal and its content in nitrogen and oxygen on the electrical properties of E3 transformer steel. Nauch. trudy DMI no.51:3-16 '63. (MIRA 17:10)

BORODULIN, G.M., inzh.; SMOLYAKOV, V.F., inzh.; MOSHKEVICH, Ye.I., inzh.; SHAMIL', Yu.P., inzh.

Technology of the production of chromium-nickel stainless steel with a carbon content of not more than 0.03%. Stal' 23 no.1:27-29 Ja '63. (MIRA 16:2)

1. UkrNIISpetsstal' i Dnepropetrovskiy staleplavil'nyy zavod vysokokachestvennykh i spetsial'nykh staley.
(Chromium-nickel steel—Electrometallurgy)

MOSHKEVICH, Ye.I.

Gas segregation during the crystallization of low-carbon silicon steel. Stal' 23 no.1:34-37 Ja '63. (MIRA 16:2)

1. Dnepropetrovskiy staleplavil'nyy zavod vysokokachestvennykh i spetsial'nykh staley.
(Steel ingots) (Gases in metals)

ACCESSION NR: AP4019473 S/0133/64/000/003/0228/0228

AUTHORS: Frantsov, V. P. (Engineer); Moshkevich, Ye. I. (Candidate of technical sciences); Khitrik, A. I. (Engineer)

TITLE: /Osvoyeniye...stali EI711.../ Mastering the production of steel EI711 (Kh14G14N3T) for sheet metal (in collaboration with TsNIIChM)

SOURCE: Stal', no. 3, 1964, 228

TOPIC TAGS: steel, steel EI711 (Kh14G14N3T), steel production, sheet metal, melting temperature, rolling cracks, ferrite, austenite, steel Kh13G14N3(DI 6), steel composition

ABSTRACT: Melting was done by the method developed for steel Kh18N10T. The ladle temperature of the metal was about 1500-1530C. In rolling 12-ton ingots large cracks developed in the metal due to inclusions of ferrite and austenite. The present investigation led to the development of a new steel Kh13G14N3(DI-6). Its composition (in %) is:

C	Mn	Cr	Ni
0.10—0.14	13—15	12.5—14.0	2.5—3.5

Si	Ti	P	S
< 0.7	< 0.10	< 0.035	< 0.030

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ACCESSION NR: AP4019473

Because its structure was almost monophase (less than 5% of ferrite) the new steel was highly plastic and satisfied the demands of its users.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 27Mar64 ENCL: 00

SUB CODE: ML NO REF SOV: 000 OTHER: 000

Card 2/2

S/0133/64/000/003/0233/0233

ACCESSION NR: AP4019478

AUTHORS: Frantsov, V. P. (Engineer); Moshkevich, Ye. I. (Candidate of technical sciences); Khitrik, A. I. (Engineer)

TITLE: [Ustanovleniye optimal'noy velichiny*...] Determining the optimum amount of bottom trimming for ingots and reducing the carbide streaks in steel ShKh15V

SOURCE: Stal', no. 3, 1964, 233

TOPIC TAGS: ingots, bottom trimming, carbide streak, steel ShKh15V, remelted steel, scrap, steel homogenizing, decarbonized layer

ABSTRACT: It was learned in the course of removing the defect known as "spotty liquefaction" from remelted ShKh15V ingots that the amount of bottom trimming can be reduced from 20-25% to 6-7%. It was also learned that carbide streaking could be diminished by reducing the size of scrap. Forging and rolling had no influence of the development of carbide streaks. Homogenizing the ingots for 10 hours at 1160C lowered the latter defect by 0.5 point. The best results were obtained by homogenizing 100-mm squares, but the process necessitated the removal of the decarbonized layer. A scale for standardizing the estimates of carbide

Card 1/2

ACCESSION NR: AP4019478

streakiness has been worked out.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 27Mar64 ENCL: 00

SUB CODE: ML NO REF SOV: 000 OTHER: 000

Card 2/2

CHUYKO, N. M.; PEREVYAZKO, A. T.; MOSHKEVICH, Ye. I.; SMOLYAKOV, V. F.

Vacuum treatment of liquid steel in the ladle or while pouring. Izv. vys. ucheb. zav.; chern. met. 7 no.6:62-67 '64. (MIRA 17:7)

1. Dnepropetrovskiy metallurgicheskiy institut i zavod "Dneprospetsstal'".

BABAKOV, A.A.; FEDOROVA, V.I.; SOLOV'YEV, L.L.; IOLA, V.N.; DOLOKA, I.I.; CHERKASHINA, N.P.; SHAMIL', Yu.P.; SMOLYAKOV, V.F.; BABKOV, T.M.; KOSHKEVICH, Ye.I.; PARALA, A.N.; REPESHKO-KRAVCHENKO, S.I.; ALEKSEYENKO, M.F.; KOROBKO, N.I.; KOROBKO, I.M.; [illegible], L.M.; MATOV, A.A.; MIGUTSKIY, L.R.

Inventions. Met. i gornorud. prom. no.4:83 [illegible] 64. (MIRA 1[illegible])

[illegible] N., G.V., MOSHKEVICH, Ya.I.; NAUMENKO, Yu.N.; [illegible]

Operation of a large-capacity, coreless, [illegible]
Metallurg 9 no.12:23-25 D '64. [illegible]

1. Zavod "Dneprospetsstal'" i Zaporozhskiy mashinostroitel'nyy institut.

L 18588-65 EWT(m)/EWA(d)/EWP(t)/EWP(b) WJW/JD
ACCESSION NR: AP4045680 S/0130/64/000/009/0014/0015

AUTHOR: Geller, A. Ye., Yelinson, G. L., Moshkevich, Ye. I.

TITLE: Improvement of stainless steel casting

SOURCE: Metallurg, no. 9, 1964, 14-15

TOPIC TAGS: casting, ingot mold, surface defect, lining improvement, riser pad, firebrick, slag wool

ABSTRACT: P. I. Muki and A. Ye. Geller improved the casting conditions and reduced the amount of reject by 60% of stainless steel Kh18N10T ingots as a result of inserting a chamotte nozzle [illegible] and washing out the nozzle passage with an oxygen jet before the casting of the last ingot. This method secured a more uniform filling of the ingot mold and had [illegible] to 119-135 sec for an 11.8 ton ingot body. The number of reject due to surface defects was lowered to [illegible] as against the [illegible] The

Card 1/2

L 18586-65
ACCESSION NR: AP4045680

use of a 20 to 25 mm thick layer of slag wool for the riser pad lining near the frame and 40 mm thick fireclay brick instead of the regular 65 mm thick brick also proved highly beneficial. The heat loss through the riser pad wall was reduced and the service life of the lining increased to 30-40 teemings. Orig. art. has: 2 figures.

ASSOCIATION: Zavod "Dneprospetsstal" (Dneprospetsstal' Plant)

SUBMITTED: 00 ENCL: 00

SUB CODE: MM NO REF SOV: 000 OTHER: 000

Card 2/2

SMOLYAKOV, V.F.; MOSHKEVICH, Ye.I.

Economical use of ferroalloys in steel smelting in electric furnaces. Metallurg 10 no.8:15-17 Ag '64. (MIRA 17:11)

1. Zavod "Dneprospetsstal'".

MOSHKEVICH, Ye.I., inzh.; MININZON, [illegible], inzh.; [illegible],
SOROKINA, M.F., inzh.

Improving the plasticity of [illegible]18 and Kh23N18 steels.
Stal' 24 no.8:738-740 Ag '64.

L 48319-65 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c) Pf-4/
Pad IJP(c) MJW/JD/HW/JG S/0129/65/000/003/0057/0060
ACCESSION NR: AP5007011

AUTHOR: Moshkevich, Ye. I.; Gunaza, K. P.; Zlatkina, B. I.

TITLE: Study of the properties of Kh21N5T steel

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 3, 1965, 57-60

TOPIC TAGS: [illegible] ment

[illegible] The phase composition of ten industrial batches of cast [illegible] metal [illegible] at room and high temperatures, and the [illegible] these batches were [illegible] specimens were etched in a reagent made up of [illegible] the amount of the [illegible] was found that in the cast alloys the amount [illegible] observed [illegible] at room temperature, [illegible] a definite [illegible] [illegible] mm, no less than [illegible]

Card 1/3

L 48319-65
ACCESSION NR: AP5007011

6 4

[illegible] of 20 k.m/cm^2 and [illegible]

[illegible] the metal is [illegible] austenite [illegible]

[illegible] orig. art. has [illegible]

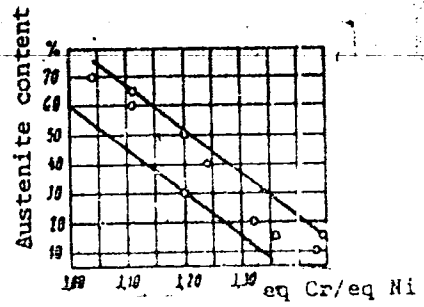
[illegible] Zavod "Dneprospetsstal" [illegible] Dneprospetsstal' Plant

Card 2/3

L 48319-65

ACCESSION NR: AP5007011

ENCLOSURE: 01



Phase composition of cast Kh21N5T steel versus chemical composition of the melt.

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L 63561-65 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c) MJW/JD/
ACCESSION NR: AP5013729 669.187.2

AUTHOR: Moshkevich, Ye. I.; Smolyakov, V. F.; Babkov, T. M.; Shamil', Yu. P.

TITLE: Production of DI-6 (Kh13G14N3) steel

SOURCE: Stal', no. 5, 1965, 420-422

TOPIC TAGS: stainless steel, steel sheet, chromium-manganese-nickel steel

ABSTRACT: A new low-nickel stainless steel, DI-6, to replace Kh18N10T steel in [illegible] operating in moderately [illegible] 1250°C, held for 2 hours and quenched. Basic mechanical properties, which meet [illegible] production improvements and increased demand for the product. Two methods, the new charge method and the remelt method, were used. Preference was given to the remelt method as it is more economical and requires less time. This method involves the use of stainless steel scrap, DI-6 scrap, carbon, silicon and ferrochrome scrap,

Card 1/2

ACCESSION NR: AP5013229

oxygen injection, and slag deoxidation. Alloying with manganese and adjustment of the metal with chromium and nickel was begun at a temperature of 1650-1680°C. From [illegible] view of slab defects, a ladle temperature between 1500 and 1510°C and [illegible] optimal. Slabs [illegible] means [illegible] characteristics with the introduction of [illegible] lower per [illegible] a good surface. The [illegible] figures, 4 tables [illegible] for Kh18N10T. Orig. art. has [illegible]

ASSOCIATION: Zavod "Dneprospetsstal'" (Dneprospetsstal' Plant)

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NO REF SOV: 001 OTHER: 000

Card 2/2

GALITSKIY, Yu.I., CHUYKO, N.M., [illegible], A.T., [illegible],
[illegible]INSON, V.I.

[illegible] ges in the nitrogen content of metal on [illegible] and
its effect on the properties of a transformer steel. Stal'
25 no.3:257-261 Mr '65. [illegible]

1. Leningradskiy metallurgicheskiy institut [illegible]
"Dneprospetsstal'".

ZHALYBIN, V.I.; SINEL'NIKOV, M.I.; MININZON, R.D.; MOSHKEVICH, Ye.I.; MURINA, K.N.; CHERNYAVSKAYA, S.G.; KHRISTOFOROVA, L.I.; POTAPOVA, V.P.

Nature of spiderlike pitting corrosion cracks of steel, and ways for their elimination. Stal' 25 no.10:941-944 O '65. (MIRA 18:11)

1. Institut "UkrNIISpetsstal'" i zavod "Dneprospetsstal'".

KAMARDIN, V.A.; LITVINOVA, T.I.; RAYCHENKO, T.F.; MOSHKEVICH, Ye.I.; PORADA, A.N.; YELINSON, G.L.

Service of arc furnace bottoms in the smelting of stainless steel with the use of oxygen. Ogneupory 30 no.1:23-28 '65. (MIRA 18:3)

1. Ukrainskiy nauchno-issledovatel'skiy institut spetsial'nykh staley, splavov i ferrosplavov (for Kamardin, Litvinova, Raychenko). 2. Dnepropetrovskiy staleplavil'nyy zavod vysokokachestvennykh i spetsial'nykh staley (for Moshkevich, Porada, Yelinson).

L 42922-66 EWT(m)/EWP(t)/ETI IJP(c) JD/JI

ACC NR: AP6029056 SOURCE CODE: UR/0413/66/000/014/0082/0082

INVENTOR: Averchenko, P. A.; Alekseyenko, M. F.; Babakov, A. A.; Babitskaya, A. N.; Batrakov, V. P.; Bondarenko, A. L.; Gabuyev, G. Kh.; Yel'tsov, K. S.; Kulygin, G. V.; Loia, V. N.; Orekhov, G. N.; Pridantsev, M. V.; Sklyarov, P. I.; Smolyakov, V. F.; Soroko, L. N.; Solov'yev, L. L.; Frantsov, V. P.; Shamil', Yu. P.; Moshkevich, Ye. I.; Natanov, B. S.

ORG: none

TITLE: Stainless steel. Class 40, No. 183947.

SOURCE: Izobret prom obraz tov zn, no. 14, 1966, 82

TOPIC TAGS: stainless steel, chromium titanium steel, molybdenum containing steel, nitrogen containing steel, titanium containing steel

ABSTRACT: This Author Certificate introduces a stainless steel containing chromium, molybdenum, and nitrogen. In order to improve weldability, the steel has the following composition: 0.08% C, up to 0.8% Mn, up to 0.8% Si, 15—18% Cr, 0.2—0.6% Mo, 0.04—0.15 N, 0.4—1.2% Ti, up to 0.035 S, and up to 0.030 P. [WW]

SUB CODE: 11/ SUBM DATE: 30Jan65/ATD PRESS: 5018

Card 1/1 UDC: 669.14.018.8: 669.15'26-194

L 10453-67 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6022506 SOURCE CODE: UR/0133/66/000/004/0323/0326

AUTHORS: Moshkevich, Ye. I. (Candidate of technical sciences); Gabuyev, G. Kh.; Smolyakov, V. F.; Frantsov, V. P.; Grayfer, Ye. Z.; Spektor, Ya. I.; Lavrent'yev, M. I. (Engineer); Yelinson, G. L. (Engineer)

ORG: none

TITLE: Manufacture of high-alloy steels with normalized phase composition

SOURCE: Stal', no. 4, 1966, 323-326

TOPIC TAGS: alloy steel, chromium steel alloy, high alloy steel / Kh16N9M2 alloy steel, OKh18N10 alloy steel, Kh18N9 alloy steel, 04Kh17N10M2 alloy steel

ABSTRACT: The possibility of obtaining stainless steels and intermediate type steels having a normalized phase composition (1 - 5% ferrite) under industrial conditions was studied. The experiments were carried out in electrical furnaces of 5—50 tons capacity, on charges consisting of fresh steel and scrap metal respectively. The α-phase content in the steels was maintained by chromium, nickel, and carbon additions. The phase composition was determined after the method of S. A. Iodkovskiy and N. N. Sashchin (Trudy TsNIITMASha No. 13 (Vyplavka stali i proizvodstvo stal'nykh otlivok), ONTI TsNIITMASh, 1960). The experimental results are presented in graphs and tables (see Fig. 1). It was found that alloying with

UDC: 669.187.2

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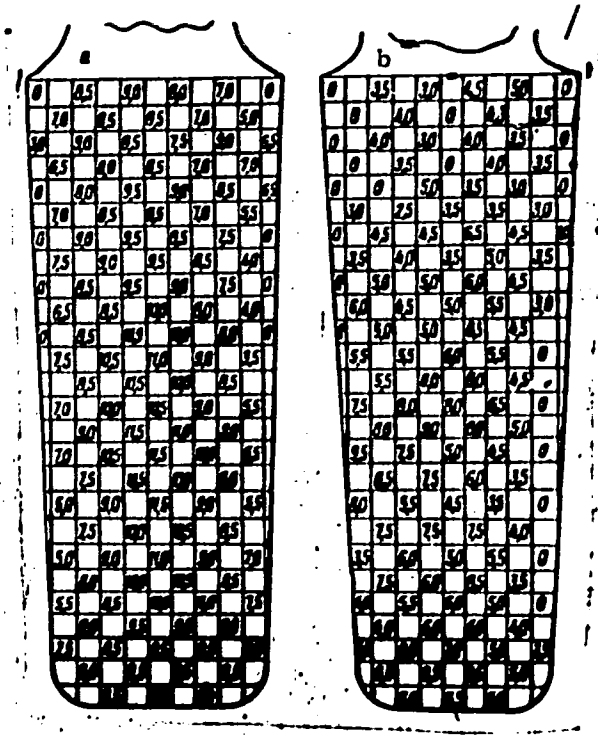
ACC NR: AP6022506

Fig. 1. Distribution of ferrite (9•) in 2.8-ton ingots a and b of steel OKh16N9M2. Initial composition of ingot (a) and (b) respectively: C - 0.06, 0.07%; Mn - 1.0, 1.24%; Si - 0.40, 0.18%; Cr - 15.46, 15.60%; Ni - 9.0, 9.04%



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L 10453-67

ACC NR: AP6022506

6

Al-Ni as recommended by P. I. Melikhov, A. N. Boyarinova, i dr. (Stal', 1964, No. 4) was unnecessary. All specimens smelted had satisfactory mechanical and technological properties. N. N. Sashchin, V. S. Dub, P. M. Grashchenkov, I. A. Barmotin, and others took part in the experiments. Orig. art. has: 2 tables and 1 graph.

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

Card 3/3

ACC NR: AP6032554 SOURCE CODE: UR/0125/66/000/009/0032/0034

AUTHOR: Nikitin, B. M.; Koval', A. Ye., Zabaluyev, Yu. I.; Kaganovskiy, G. P.; Moshkevich, Ye. I.; Medovar, B. I.; Latash, Yu. V.

ORG: [Nikitin, Koval'] UKRNIISPETsSTAL'; [Zabaluyev, Kaganovskiy, Moshkevich] Dneprospetsstal' Plant (Zavod "Dneprospetsstal'"); [Medovar, Latash] Electric Welding Institute im. Ye. O. Paton AN USSR (Institut elektrosvarki AN USSR)

TITLE: The behavior of aluminum during electroslag melting of silicon steel

SOURCE: Avtomaticheskaya svarka, no. 9, 1966, 32-34

TOPIC TAGS: aluminum, electroslag melting, silicon steel, mechanical property

ABSTRACT: The authors study the behavior of aluminum during electroslag melting of silicon steel. E3, 30KhGSNA and 25Kh2GNTA steel were melted using AN-291 slag for studying the effect of chemical composition of steel on the recovery of aluminum from slag. The test specimens were cut into oblong templates for studying the chemical heterogeneity of the metal. Variation of average aluminum concentration with respect to ingot height in given. Industrial data shows that the quantity of aluminum recovered from slag increases by 0.01-0.06% as silicon content in the metal is increased from 1.16 to 3.22%. Data on silicon and aluminum content in 30KhGSNASh steel, processed by correlation analysis, show that silicon is responsible for aluminum recovery

UDC: 669.187.6

ACC NR: AP6032554

from slag. It should be pointed out that the recovery of aluminum during melting is not steady. Aluminum content in the metal increases during the first part of silicon steel melting and decreases subsequently. The decrease in aluminum recovery is explained by the accumulation of silica and a decreasing alumina content in the slag. This brings about a higher silicon concentration and thus decreases aluminum concentration. The use of slag materials which ensure stable aluminum concentration with respect to ingot height make it possible to obtain metal with uniform mechanical and other properties. Orig. art. has: 3 figures, 1 table, 1 formula.

SUB CODE: 11/ SUBM DATE: 19Aug65/ ORIG REF: 002

Card 2/2

ACCESSION NR: AP4043489 S/0133/64/000/008/0738/0740

AUTHOR: Moshkevich, Ye. I. (Engineer); Mininzon, R. D. (Engineer); Smolyakov, V. F. (Engineer); Sorokina, M. F. (Engineer)

TITLE: Improving ductility of OKh23N18 and Kh23N18 steels

SOURCE: Stal', no. 8, 1964, 738-740

TOPIC TAGS: oxidation resistant steel, OKh23N18 steel, Kh23N18 steel, OKh23N18 steel ductility, boron, boron modified steel, boron modified Kh23N18 steel

ABSTRACT: The hot ductility of oxidation-resistant OKh23N18 and Kh23N18 steels can be improved by the addition of boron (0.005%) in the arc furnace shortly before tapping, followed by the addition of aluminum. The positive effect of boron is based on its ability to promote the precipitation of carbides in the form of coagulated particles on grain boundaries, instead of a continuous network. The improved ductility made it possible to forge ingots without reheating, which increased the efficiency of forging facilities by 40% and raised the yield by 1.75—4%. The forged billets had a clean surface without cracks. Orig. art. has: 1 figure.

Card 1/2

S/133/62/000/009/002/009
A054/A127

AUTHORS: Frantsov, F.P., Moshkevich, Ye.M., Smolyakov, V.F.

TITLE: At the Elektrometallurgicheskiy zavod "Dneprospetsstal'" im. A.N. Kuz'mina (Electrometallurgical Plant "Dneprospetsstal'" imeni A.N. Kuz'min)

PERIODICAL: Stal', no. 9, 1962, 808

TEXT: Two versions of the smelting technology for stainless maximum 0.03% carbon-containing steel have been developed: a) by smelting soft iron (0.03% C) or vacuum-treated soft iron (0.01% C) with special highly refined ferrochrome and nickel in an acid 8-ton induction furnace; b) in a medium-capacity basic arc furnace on pure carbon charge with the application of oxygen. In the second version the metal is oxidized by oxygen in 25 - 35 minutes, until a 0.02% carbon content is obtained; the slag is then tapped, the metal is reduced by the sedimenting process with the addition of 0.35% Si, 0.5% Mn and 0.10% Al and 0.2% calcium silicate is added to the slag. Then highly refined ferrochrome and an increased amount of slag (4 - 5%) are added. Titanium metal is fed into

Card 1/2

At the Elektrometallurgicheskiy zavod S/133/62/000/009/002/009
A054/A127

the ladle. Pouring takes place with the addition of magnesium alloy chips; the riser head is sprinkled with white slag. During processing the metal displays sufficient ductility and other properties, only its strength is lower than in the 1Х18Н9Т (1Kh18N9T) grade. The tests were carried out in cooperation with the Dnepropetrovskiy metallurgicheskiy institut (Dnepropetrovsk Metallurgical Institute).

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L 18651-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JD/JG

ACCESSION NR: AP3004789 S/0129/63/000/008/0055/0059 68

AUTHOR: Bobkov, T. M.; Moshkevich, Ye. M.; Gunaza, K. P.; Zlatkina, V. I. 62

TITLE: Effect of additions of rare-earth metals and their oxides on properties of some stainless steels

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 8, 1963, 55-59

TOPIC TAGS: stainless steel, Kh18N10T steel, AISI 321 steel, Kh23N18 steel, AISI 310 steel, Kh17N13M2T steel, AISI 316T steel, misch metal effect, ferrocerium effect, lanthanum effect, cerium dioxide effect, lanthanum oxide effect, praseodymium oxide effect, steel hot ductility, steel structure, nonmetallic-inclusion content, cast structure, ingot structure

ABSTRACT: The effect of addition of 0.05—0.35% misch metal [50% Ce, 25% La, and 25% various rare-earth metals] or 0.05—0.4% ferrocerium, lanthanum, cerium dioxide, lanthanum oxide, and praseodymium oxide on structure, phase composition, amount of nonmetallic inclusions, room-temperature mechanical properties, and hot ductility of Kh18N10T [AISI 321], Kh23N18 [AISI 310], and Kh17N13M2T [AISI 316] stainless steels has been investigated. None of

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L 18651-63
ACCESSION NR: AP5004789

6

the additions was found to have a significant effect on the crystal structure of ingots of any steel tested. The forged metal had a fine-grained structure with a low content of oxide and sulfide inclusions. A 0.15—0.25% addition of misch metal reduced the amount of carbonitride inclusions in all steels tested. Kh18N10T steel containing 0.1% misch metal had improved hot ductility. 18 In the Kh23N18 steel addition of 0.3 and 0.05% misch metal improved the ductility at 1100—1250 and 1000C, respectively. Addition of 0.05—0.15% misch metal or 0.15—0.30% La improved ductility of Kh17N13M2T steel at 1000C. Addition of ferrocerium, lanthanum 27 cerium 12 dioxide, lanthanum or praseodymium 27 oxides brought about no improvement in hot ductility 16 or room-temperature mechanical properties of Kh17N13M2T steel. Orig. art. has: 4 figures and 1 table.

ASSOCIATION: Zavod Dneprospetsstal' (Dneprospetsstal' Plant)

SUBMITTED: 00 DATE ACQ: 06Sep63 ENCL: 00

SUB CODE: ML NO REF SOV: 000 OTHER: 000

Card 2/2

MOSHKIN, A.M.

MOSHKIN, A.M. O kompleksnom razvitii Urala. (Geografiia v shkole, 1950, no. 2, p. 8-18.)
DLC: Unclas.

SO: LC, Soviet Geography, Part I, 1951, Uncl.

MOSHKIN, A.M.

[National economy of the Ural mountain region in the fifth five-year plan] Narodnoe khoziaistvo Urala v piatoi piatiletke. Moskva, Znanie, 1953. 31 p. (MLRA 6:10)

(Ural mountain region--Economic conditions)

MOSHKIN, A.M.

National economy of the Urals in the seven-year plan. Geog. v shkole 23 no. 6:16-26 N-D '60. (MIRA 13:11)
(Ural Mountain region--Economic policy)

MOSHKIN, A.M., dotsent; BYSTROV, S.G., zhurnalist; ADAMOV, V.V., dotsent, kand. istor. nauk, retsenzent; KOLOSNITSYN, V., red.; PAL'MINA, N., tekhn. red.

[Alapayevsk] Alapaevsk. Sverdlovsk, Sverdlovskoe knizhnoe izd-vo, 1961. 125 p. (MIRA 15:4)

1. Sverdlovskiy pedagogicheskiy institut (for Moshkin). 2. Ural'skiy gosudarstvennyy universitet (for Adamov).
(Alapayevsk--Economic conditions) (Alpayevsk--History)

MOSHKIN, A.M.

Distribution of population in Sverdlovsk Province according to the census of Jan. 15, 1959. Zap.Ural. fil.Geog. ob-va SSSR no.4:141-151 '61. (MIRA 18:12)

MOSHKIN, A.M.

What is a territorial production complex? Izv. AN SSSR. Ser. geog. no.4:88-92 Jl-Ag '62. (MIRA 16:5)
(Economic zoning)

MOSHKIN, Aleksandr Mikhaylovich; OLENEV, A.; SHUVALOV, Ye.

[Sverdlovsk Province] Sverdlovskaia oblast'. Sverdlovsk, Sverdlovskoe knizhnoe izd-vo, 1962. 210 p.
(MIRA 18:4)

MOSHKIN, A.M., dots.; OLENEV, A.M., dots.; SHUVALOV, Ye.L., dots.; PEKAREVICH, V.M., retsenzent; DAVYDOVA, I., red.

[Sverdlovsk Province] Sverdlovskaia oblast'. Sverdlovsk, Sredne-Ural'skoe knizhnoe izd-vo, 1964. 225 p. (MIRA 17:11)

ZELENKOV, B.; ANDRYUSHANOV, B.; MOSHKIN, A.S., red.; BARANOV, I.A., tekhn. red.

[Echelons are moving to Cherepovets] Eshelony idut v Cherepovets. Murmansk, Murmanskoe knizhnoe izd-vo, 1960. 23 p. (MIRA 17:2)

L 3149-66 EWT(1)

ACCESSION NR: AP5016052 UR/0368/65/002/005/0470/0472

535.337

AUTHORS: Dubrovskaya, O. N.; Sineglazov, V. M.; Moshkin, B. Ye.

TITLE: Determination of the temperature from the hydrogen spectrum

SOURCE: Zhurnal prikladnoy spektroskopii, v. 2, no. 5, 1965, 470-472

TOPIC TAGS: hydrogen line, line broadening, Balmer series, temperature measurement, Stark effect

ABSTRACT: The authors point out first that the accuracy with which the temperature of an arc discharge is determined from the relative intensity of the Balmer lines of hydrogen broadened by the Stark effect, is much higher if the temperature is determined from the maximum line intensity than when integral intensity is used. They then derive a relation between the total intensity and the intensity at the maximum, and report results of measurements made on arcs under different conditions. The coefficient relating the integral and maximum values of the intensity of the lines H_α, H_β, H_γ, and H_δ are presented

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L 3149-66

ACCESSION NR: AP5016052

for the temperature interval from 5000 to 20,000K and for the electron density range from 10^{15} to 10^{18} cm^{-3}. The calculations agree with the experiments within 5 per cent. Orig. art. has: 1 figure, 4 formulas, and 1 table.

ASSOCIATION: None

SUBMITTED: 13Jul64 ENCL: 00 SUB CODE: OP

NR REF SOV: 001 OTHER: 001

Card 2/2

BARABANOV, A., brigadir; AREF'YEV, B.; MOSHKIN, G.; CHISTYAKOV, V.; PETRUSHIN, V.; VLADIMIROV, L.; BYKOV, A.; PETROV, M.; OGANESYAN, S.

The party's program is a banner for a nation-wide effort in building communism. Rech. transp. 20 no.8:3-4 Ag '61. (MIRA 14:10)

1. Brigada kommunisticheskogo truda Moskovskogo sudostroitel'nogo i sudoremonstnogo zavoda (for Barabanov). 2. Rektor Leningradskogo instituta vodnogo transporta (for Aref'yev). 3. Kapitan volzhskogo teplokhoda "Tallin" (for Moshkin). 4. Master stanochnogo uchastka derevoobdelochnogo tsekha Moskovskogo sudostroitel'nogo i sudoremontnogo zavoda (for Chistyakov). 5. Master mekhanicheskikh masterskikh moskovskogo Zapadnogo porta (for Petrushin). 6. Vedushchiy konstruktor TSentral'nogo proyektno-konstruktorskogo byuro Ministerstva rechnogo flota (for Vladimirov). 7. Nachal'nik Stalingradskogo porta (for Bykov). 8. Nachal'nik tekhnicheskogo otdela moskovskogo Yuzhnogo porta (for Petrov). 9. Kapitan teplokhoda "Zaraysk" Moskovskogo rechnogo parokhodstva (for Oganesyan).
(Communism) (Inland water transportation)

MOSHKIN, I.; POPKOV, M., nauchnyy sotrudnik

Mechanization of the pressing of large-size toys. Prom. koop. 14 no.5:26 My '60. (MIRA 13:12)

1. Zaveduyushchiy laboratoriyey Nauchno-issledovatel'skogo insituta igrushki (for Moshkin). 2. Nauchno-issledovatel'skiy institut igrushki (for Popkov).
(Toy industry) (Hydraulic presses)

MOSHKIN, I.G.

Progressive brigade of assemblers. Transp. stroi. 9 no.11:6-7 N '59 (MIRA 13:3)

1. Zamestitel' nachal'nika tresta Mosdonbasstransstroy.
(Construction workers)

KRAVCHENKO, A.F.; MOSHKIN, L.N.

Unit for measuring the lifetime of minority charge carriers in semiconductors. Zav. lab. 31 no.1: 26-127 '65.

(MIRA 18:3)

1. Novosibirskiy elektrotekhnicheskiy institut.

CHERKAYEV, V.G.; FILYAND, A.I., SEVERTSEV, V.A., BALASHOV, V.M.; KURICHEV, V.A., MOSHKIN, M.I.

Process of the liquid phase selective hydrogenation of geraniol in a flow system. Trudy VNIISNDV no.6:128-141 '63. (MIRA 17:4)

MOSHKIN, M. V.

"The Metabolism of Patients Suffering From Diffused Kidney Diseases." Cand Med Sci, Voronezh State Medical Inst, Voronezh, 1954. (RZhBiolKhim, No 2, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

CHERKASSKIY, M.A., prof.; MOSHKIN, M.V., assistent

Graphic registration of the motoractivity of the esophagus in peptic ulcer and gastritis patients. Report No.2. Sbor. trud. Kursk. gos. med. inst. no.13:373-378 '58. (MIRA 14:3)

1. Iz kliniki propedevtiki vnutrennikh bolezney (zav. - prof. M.A.Cherkasskiy) Kurskogo gosudarstvennogo meditsinskogo instituta.
(ESOPHAGUS) (STOMACH--DISEASES)

ACCESSION NR: AR4041612 S/0137/64/000/005/I052/I052

SOURCE: Ref. zh. Metallurgiya, Abs. 5I307

AUTHOR: Moshkin, N. A.; Kuznetsov, A. P.

TITLE: Creep of sheet duralumin D16AT with constant and cyclical loads

CITED SOURCE: Sb. Polzuchest' i dlitel'n. prochnost'. Novosibirsk, Sib. otd. AN SSSR, 1963, 175-177

TOPIC TAGS: sheet duralumin, creep, constant load, cyclical load/D16AT sheet duralumin

TRANSLATION: Creep of sheet duralumin D16AT in conditions of constant and step cyclical load at 200° and 250° was investigated; duration of cycle of load was modified from 1.5 to 30 min. Total duration of tests amounted to 5 hours; with this transient creep was observed. Samples had working part 100 mm in length, 10 mm in width, 2 mm thick and were cut from sheet in direction of rolling. Obtained curves of creep with constant loads are described by hypothesis of work hardening

Card 1/2

ACCESSION NR: AR4041612

$pp^a = A\sigma^n$, which at σ = const gives $p = a\sigma^{n/m}$, where p is deformation of creep, and p = dp/dt, m, a, n are constants. With cyclical loads, with the exception of one case (load conducted according to regime: 10 kg/mm^2+2 kg/mm^2 at 250°), the hypothesis of hardening gives on the whole satisfactory correspondence of theory with experiment.

SUB CODE: MM, AS ENCL: 00

Card 2/2

MOSHKIN, N.I., veterinarnyy vrach

Treatment and prophylaxis of foot rot in sheep on a farm. Veterinariia no.12:40 D '63. (MIRA 17:2)

1. Opytnoye khozyaystvo Altayskogo nauchno-issledovatel'skogo instituta sel'skogo khozyaystva.

CA

10

Separating acids. P. A. Mashkin and A. B. Davankov. Russ. 30,430, May 31, 1934. Acids obtained in the oxidation of hydrocarbons are sepd. into sol. and insol. acids by treating their mixt. in gasoline or a similar solvent, in the cold with SO_2, NO_2, Cl_2 or HCl. The hydroxy acids are sepd.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Manufacture of calcium carbide from peat coke. Kh
I. Mishkin and P. A. Mishkin. *Za Tekhnicheskoe Pod*
1937, No. 3, 18-21. Peat coke, using moisture 4.8
ash 4.78, volatile substances 12.18, S 0.2, and P 0.12
cave CaC_2 in better yield and quality than did gas coke
A. A. Podgorny

Separating organic acids from the black liquors of the sulfate cellulose process. P. A. Moshkin. Russ. 52,539, Jan. 31, 1938. The acids are ppted. by treatment at ordinary temp. with alk. earth hydroxides or salts.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Plasticizer

USSR 66,452, May 31, 1945

M. Hosch

METALLURGICAL LITERATURE CLASSIFICATION

USSR

Phenols from primary tars of subbituminous ("Humic") coals. P. A. Moshkin. *Trudy Vsesoyuz. Nauch.-Issledovatel. Inst. Iskusst. Zhidkogo Topliva i Gaza (VNIGI)* 1, 104-23(1948).—Cherenkhov coals and Moscow boghead coal were carbonized in an experimental internally heated shaft furnace, and were tested for com. production of phenols and their sepn. into technically pure phenol, cresols, and xylenols. For the identification of the various lower phenols, Raman spectrum analysis was used. *m*- and *p*-Cresols were sepd. by a modified Livingstone and Stevens method (*C.A.* 37, 4060[8]) by alkylation with isobutylene in the presence of H_2SO_4 as a catalyst. *m*-Cresol, *p*-cresol, and 1,4,2-xylenol were sepd. and identified from the 200-15° fraction.

W. M. Sternberg

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001135320004-2"

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001135320004-2"

AUTHORS: Moshkin, P.A., Velizar'yeva, N.I., Rapoport, I.B., Klapishevskaya, Z.B., Makhnenko, G.Kh., and Soskin, M.A.

TITLE: Paraffins from sulphurous crude oils as a raw material for the production of synthetic fatty acids. (Parafiny serinstykh neftey kak syr'ye dlya proizvodstva sintetichesk-ikh zhirnykh kislot). 65-6-7/13

PERIODICAL: "Khimiya i Tekhnologiya Topliva i Masel" (Chemistry and Technology of Fuels and Lubricants) 1957, No.6, pp.41-47 (USSR).

ABSTRACT: This investigation was carried out under the direction of Prof. L.G.Zherdeva and Candidates of Chem.Sc., E.V.Voznesenskaya and A.A. Karaseva. The object of the work was to investigate the possibility of producing fatty acids suitable for soap making by the oxidation of paraffin obtained from sulphurous crude oils (1.5-1.6% of sulphur). Data on the raw materials used are given in table 1. The experiments were carried out on a VNII-NP pilot plant (a column 3000 mm high and 280 mm in diameter, the weight of the charge about 30 kg) which was used for the oxidation of paraffin from Drogobych crude. Samples of fresh paraffin and its mixtures with so called 1st and IInd non-saponified products were oxidised. The process consisted of: low temperature oxidation (108-110 C) in the presence of potassium

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Paraffins from sulphurous crude oils as a raw material for the production of synthetic fatty acids. (Cont.) 65-6-7/13

permanganate as a catalyst (0.2-0.3%) by air (120 l/kg/hr); washing of the oxidation products with water, saponification with NaOH; separation of unsaponified product I (unsaponified in an autoclave at 180-185 C and 9 atm), separation of unsaponified product II (thermal treatment at a high or low pressure: t = 320-350 C, p = 120-130 atm, or t = 360-375 C; p = 3-5 atm) the decomposition of soaps with sulphuric acid, washing with water and distillation. Results of oxidation of paraffin from a distillate (370-500 C) from a mixture of sulphurous crudes are given in table 2, characteristics of fatty acids produced - table 3; yield of oxidation products - table 4, results of oxidation of paraffin at a higher temperature (125-107 C) - table 5. It was established that purified paraffin (containing up to 2% of oil and up to 0.1% of sulphur) produced from a distillate boiling at 370-500 C from a mixture of sulphurous crude oils is suitable for oxidation into synthetic fatty acids which can be used in soap making. Technical fatty acids produced leave up to 43-45% of residue on distillation which is about 24% of the starting material as against 15.5% for corresponding fatty acids from the Drogobych paraffin. The yield of the

Card 2/3

Paraffins from sulphurous crude oils as a raw material for the production of synthetic fatty acids. (Cont.) 65-6-7/13

fraction of fatty acids suitable for soap making, i.e., $C_{10} - C_{20}$, was 25-28% of the paraffin reacted as against 33.3% for the corresponding Drogobych paraffin. In order to increase the yield of the above acids the use of paraffin similar in composition to that obtained from Groznyy crude oil is recommended. The oxidation should be carried out at 106-108 C as under these conditions the formation of oxyacids is negligible (up to 1%). The temperature of distilling off unsaponified product II in an evaporator should be 360-375°. On oxidation of paraffin containing above 2% of oil, oxyacids are also formed, the yield of which increases with increasing oil content.

There are 5 tables.

ASSOCIATION: NNII NP.

AVAILABLE:

Card 3/3

MOSHKIN, P.A.; VELIZAR'YEVA, N.I.

Obtaining synthetic fatty acids by oxidation of paraffin.
Khim. i tekh.topl. i masel no.8:20-23 Ag '57. (MIRA 10:10)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti i gaza i polucheniyu iskusstvennogo zhidkogo topliva.
(Acids, Fatty) (Paraffins) (Oxidation)

MOSHKIN, P.A.; LAVYEHI[illegible]V, [illegible], kandidat khimicheskikh nauk.

Synthetic fatty acids. Nefti da 46 no.7:37-42 Jl '57. (MLR 10:8)

1. Chlen-korrespondent Akademii nauk SSSR (for Moshkin).
2. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti i gaza i polucheniyu iskusstvennogo zhidkogo topliva (Moskva)
(Acids, Fatty)

TURSKIY, Yu.I.; MOSHKIN, P.A.; BARABASH, L.A.; VASINA, N.F.

Production of the antioxidant additive 2,6-Di-tert-butyl-p-cresol.
Trudy VNII NP no.7:289-297 '58. (MIRA 12:10)
(Lubrication and lubricants--Additives)
(Cresol)

VELIZAR'YEVA, N.I.; MOSHKIN, P.A.; PAPOPORT, I.B.; KLAPISHEVSKAYA, Z.B.

Comparative data for obtaining synthetic fatty acids from paraffins of different fractional composition from sulfur-bearing crudes. Trudy VNII NP no.7:344-352 '58. (MIRA 12:10)

(Paraffins) (Acids, Fatty)

25(1),5(3),5(1)

AUTHORS: Moshkin, P. A., Preobrazhenskaya, Ye. A., Pertsov, L. D.

SOV/64-58-7-2/18

TITLE: The Hydrogenation of Adiponitrile to Hexamethylene Diamine on the Cobalt Skeleton Catalyst (Gidrirovaniye adiponitrila v geksametilendiamin na kobal'tovom skeletnom katalizatore)

PERIODICAL: Khimicheskaya promyshlennost', 1958, Nr 7, pp 399-401 (USSR)

ABSTRACT: In industries the hydrogenation of adiponitrile is carried out according to continuous and discontinuous methods. The cobalt catalysts proved to be the most efficient (Refs 6, 7), and methanol, ethanol and butanol as well as dioxan and tetrahydrofuran were used as solvents (Refs 10, 14, 16, 18, 19). In the present case it was attempted to increase the yield of hexamethylene diamine and to improve the technology of the hydrogenation process. A continuous and a discontinuous method were devised. Skeleton nickel in methanol saturated with dry ammonia gas was used as a catalyst. In the periodic process a pressure of 100-150 atmospheres absolute pressure and in the continuous process one of 200 atmospheres absolute pressure were employed, in either case at temperatures of 80-90°.

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The Hydrogenation of Adiponitrile to Hexamethylene Diamine on the Cobalt Skeleton Catalyst SOV/64-58-7-2/18

The discontinuous hydrogenation process was carried out in a 1 l autoclave (with stirrer). 3-4 hydrogenations were carried out with one catalyst sample as in the fifth hydrogenation a sharp drop of the yield was observed. The consumption of the catalyst thus was 2-3% of the weight of the adiponitrile used. The maximum yield of hexamethylene diamine is given to be 80-85%. The continuous hydrogenations were carried out in an arrangement (diagram) with a reactor of a diameter of 23 mm, a height of 900 mm and a volume of 500 ml. The maximum hexamethylene diamine yield of 90-95% was in this case obtained with a mixture of 20.4% adiponitrile, 64.1% methanol and 15.5% ammonia. The catalyst operated under optimum conditions for 600 hours. There are 1 figure, 3 tables, and 21 references, 4 of which are Soviet.

Card 2/2

L Moshkin

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Okislenie uglevodorodov v zhidkoy faze; sbornik statey (Oxidation of Hydrocarbons in the Liquid Phase; Collection of Articles) Moscow, Izd-vo AN SSSR, 1959. 334 p. Errata slip inserted. 2,200 copies printed.

Ed.: N. M. Emanuel', Corresponding Member, Academy of Sciences USSR; Ed. of Publishing House: E. M. Krymova; Tech. Ed.: I. P. Kus'min.

PURPOSE: This collection of articles is intended for chemists interested in hydrocarbon oxidation reactions, particularly for those specializing in petroleum fuels.

COVERAGE: This collection of 33 articles represents the results of investigations over a period of several years on problems of hydrocarbon oxidation. The authors present their own theoretical and experimental data and also draw from current literature. No personalities are mentioned. References accompany most of the articles.

Sergeyev, P.G. (Deceased), B.V. Kiryan, and B.I. Golovanenko [Scientific Research Institute of Synthetic Alcohols and Organic Products]. Kinetics of the Thermal Decomposition of Certain Aliphatic-Aromatic Hydrogen Peroxides 207

The kinetics of the thermal decomposition of the hydroperoxides of isopropylbenzene and of s-butylbenzene, with and without solvents, is investigated at 100-130°C. It is shown that the thermal decomposition reactions of s-butylbenzene and isopropylbenzene hydroperoxides differ greatly.

Ruzhar, E.V., A.I. Turbanko, and M.A. Kryukova [L'vovskiy gosudarstvennyy universitet imeni Ivana Franko (Lvov State University imeni Ivan Franko)]. Oxidation of Tertiary Hydrocarbons in Emulsions by Molecular Oxygen 212

The rate of hydrogen peroxide accumulation during the oxidation of isopropylbenzene by gaseous oxygen in alkaline emulsions of hydrocarbons was investigated. The presence of emulsifiers increases the rate of oxidation as a result of increased oxygen, hydrocarbon and hydrogen peroxide solubility in the aqueous phase. Solid bentonite emulsifiers were used. Isopropylbenzene is more easily oxidized than 1,1-diphenylethane.

Ryabinina, M.N. [Moscow State University imeni M.V. Lomonosov]. Oxidation of Aromatic Hydrocarbons by Oxygen 220

The author explains the link between the structure of aromatic and naphthenic hydrocarbons and their stability with respect to oxygen at high temperatures (175-205°).

Turbanko, T.I., E.G. Grigor'yeva, N.V. Aref'yev, and M.R. Vilenskaya [L'vovskiy politekhnicheskiy institut (L'vov Polytechnical Institute)]. Chromatographic Synthesis of Alkylated Hydrogen Peroxides of the 1, 1-Diphenylethane Series 227

Mitkevich, N.I., and P.S. Kryukova [Institut khimii AN BSSR (Institute of Chemistry, Academy of Sciences BSSR)]. Conjugate Decarboxylization in the Autooxidation of Resin Acids 230

The authors have shown that this phenomenon is characteristic of the oxidation process of all resin acids. The results obtained are particularly important for understanding the chemistry of resin acid transformations.

Shrayver, V.V. [Moscow State University imeni M.V. Lomonosov]. Kinetics of the Reaction of Organic Peroxides With the Iodine Ion 235

The author concludes from the kinetics of the separation of iodine by a given peroxide that it is possible to determine the peroxide qualitatively and quantitatively and to identify its class.

Grekhova, L.K. [Institute of Chemical Physics, Academy of Sciences USSR]. Quantitative Methods of Determining Fatty Acids of Normal Structure 239

The author has used paper chromatography to separate mixtures of hydrosoluble acids up to C^4 and their derivatives, and the distillation method to separate methyl esters of acids above C5 with a carrier.

Rubkin, P.A. [Corresponding Member, Academy of Sciences USSR] [Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke neftyanykh gazov i poluchaemykh iskusstvennogo shidkogo topliva (All-Union Scientific Research Institute of Petroleum and Gas Refining and of Synthetic Liquid Fuel Production)]. Oxidation of Solid Hydrocarbons to Obtain Synthetic Fatty Acids 255

The author discusses the composition of mixtures of synthetic fatty acids, data on neutral oxygen-containing compounds of "secondary nonsaponifiables" of the paraffin oxidation product, and research material on the synthesis of fats in [illegible] media.

5.3400

AUTHOR:

TITLE:

PERIODICAL:

ABSTRACT:

ASSOCIATION:

SUBMITTED:

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