

Diagnosis

CZECHOSLOVAKIA

UDC 616.33:616.342)-002.44-005.1-089

LANGER, L.; FRIEDBERGER, V.; BOREK, Z.; HORAK, J.; 2nd Surgical Clinic, Faculty of General Medicine, Charles University (II. Chirurgická klinika Fakulty Všeobecného Lekarství KU), Prague, Head (Prednosta) Prof Dr J. LHOŤKA.

"Surgical Remarks on Acute Hemorrhage from Gastroduodenal Ulcer."

Prague, Casopis Lekarů Ceských, Vol 105, No 27-28, 4 Jul 66, pp 750 - 752

Abstract /Authors' English summary modified/: Diagnosis of acute gastroduodenal ulcer bleeding and diagnostic problems of esophageal varix bleeding are discussed. Acute bleeding during corticosteroid treatment and the difficulty of diagnosis of this bleeding are discussed. Hemorrhagic gastritis, like acute ulcers with profuse bleeding, usually results in an operation without a preliminary diagnosis of the actual condition of the patient. X-ray examination during bleeding is beneficial to the patient. 1 Table, no references. (Manuscript received Oct 65).

1/1

LANGER, Ladislav; LHOTKA, Jaroslav; HAJKOVA, Zdenka

Therapeutic results with sympathetic blocks and peri-arterial
sympathectomy in progressive polyarthritis. Cas.lek.cesk. 99
no.43:1368-1372 21 0 '60.

1. II. chirurgicka klinika KU v Praze, prednosta doc. dr. J.Lhotka,
Balneologicky ustav KU v Praze, prednosta prof. dr. Fr. Lench.
(ARTHRITIS RHEUMATOID ther)
(ANESTHESIA CONDUCTION)
(SYMPATHECTOMY)

SOMOGYI, Gyorgyi, dr. SEIMECI, Imre, dr.; LANGER, Lea, dr.; GAAL, Klara, dr.

Studies on a modified bentonite flocculation test. Orv.hetil.
102 no.5:212-213 29 Ja'61.

1. Peterfy Sandor u. Korhaz-Rendelo, "A" Belosztaly es Labora-
torium, O.R.F.I., "G" Osztaly.
(ARTHRITIS RHEUMATOID. diag)

LANGER, L.; DOSTAL, C.; HAJKOVA, Z.

Long-term therapeutic results with periarterial sympathectomy
in progressive polyarthrititis. Cas. lek. cesk. 104 no.23:634-636
11 Je'65.

I. II. chirurgicka klinika fakulty vseobecneho lekarstvi Karlovy
University v Praze (prednosta: prof. dr. J. Lhotka); Vyzkumny
ustav chorob revmatickych v Praze (reditel: prof. dr. F. Lench);
a Fyziatricky a balneologicky ustav fakulty vseobecneho lekarstvi
Karlovy University v Praze (prednosta: prof. dr. F. Lench).

LANGER, N. A.

Langer, N. A. "The chemical analysis of fluxes used in automatic welding", Study
po avtomat. svarke pod fluzo (in: elektrosvaril n. Patona), Collections 2,
1948, p. 60-68.

So: U-3261, 10 April 53, (Letopis 'Zhurnal 'nykh Statey, no. 12, 1949).

LANGER, N. A.

27
Rapid Determination of Silica in Fluxes. N. A. Langer.
(Arkhiv. Svyaz, 1951, 4, (3), [18], 56-58). (In Russian).
The use of gelatine for speeding up the precipitation of silicic
acid is proposed. The time required for the determination is
then one hour.--V. G.

4E2c

[Handwritten signature]
JMT

MEDOVAR, B. I., LANGER, N.

Corrosion and Anti-Corrosives

Resistance of welded joints of chromium-nickel stainless steel to boiling nitric acid.
Avtom. svar. 4, no. 4(19), 1951.

9. Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

MEDOVAR, B.I., LANGER, N.A.

Corrosion and anti-corrosives

Method of testing intercrystalline corrosion of welded joints of acid resistant steel
Avtom. svar., 4, No. 5, (20), 1951.

9. Monthly List of Russian Accessions, Library of Congress, _____ June _____ 1953, Uncl.
52

WORKER, N.A.

USSR/Metals - Steel, Welding

Jul 51

"Corrosion Resistance of Welded Joints of Chrome-Nickel Stainless Steel in Boiling Nitric Acid,"
B. I. Medovar, Cand Tech Sci, N. A. Langer, Sci Worker

"Avtomat Svarka" No 4 (19), pp 73-81

Investigates possibility of using Cr, Al, Si, Ti, V and W as addns for prevention of intercryst corrosion of welds instead of Cb which causes hot cracks in welds of 18-8 steel. All addns promote formation of ferrite in welds. Presence of 2-phase austenitic-ferritic structure results in chem endurance equal or even higher than that of welds with pure austenitic structure.

215T53

LANGER, N. A.

AID P - 867

Subject : USSR/Engineering

Card 1/1 Pub. 11 - 13/13

Author : Langer, N. A.

Title : ~~Corrosion tests of welded seams in a rapid sea water flow~~
Corrosion tests of welded seams in a rapid sea water flow

Periodical : Avtom. svar., #4, 93-95, J1-Ag 1954

Abstract : The causes of weld corrosion are discussed in general. A special installation is outlined for the corrosion tests of a welded disk rotating with high speed in sea water. Two drawings, one chart and 3 Russian references (1942-1947).

Institutions: Institute of Electric Welding im. E. O. Paton,
Academy of Sciences, Ukrainian SSR

Submitted : My 5, 1954

LANGER, N. A.

Methods of Evaluating the General Corrosion Stability of
 Stainless Steel Welded Joints in Boiling Nitric Acid. R. I.
 Sigovarov and N. A. Langer. (Zavodskaya Laboratoriya, 1955,
 21, (5), 941-945) (in Russian). Electrolytic etching in a
 10% oxalic acid solution has been used to reveal the micro-
 structure of stainless steel and stainless steel welded joints.
 For the former 12 V is applied for 5 min, the corresponding
 figures for joints being 6 V and 0.5 min. Details are given
 of the cell used. Microstructural results for various steels
 boiled for 200 h in 85% nitric acid and for electrolytically
 etched specimens with previous heating to 850° C in some
 cases are presented. Comparison of the photomicrographs
 with corrosion test results indicate that the electrolytic
 etching technique can give a preliminary evaluation of cor-
 rosion stability in boiling nitric acid. —S. E.

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SLOMYANSKAYA, F.B., kandidat tekhnicheskikh nauk; DYATLOVA, V.N.; AFANAS'YEV, P.S.; YEGOROV, A.P.; VITKOVSKIY, M.N.; MISHIN, I.A.; MEDOVAR, B.I.; LANGER, N.A.; PAL'CHUK, N.Yu., kandidat tekhnicheskikh nauk; FRID, Ya.L.; LEVIN, I.A., kandidat tekhnicheskikh nauk.

Methods of testing stainless steels for susceptibility to intergranular corrosion. Zav.lab.21 no.11:1314-1340 '55. (MIRA 9:2)

1.Vsesoyuznyy nauchno-issledovatel'skiy i konstruktorskiy institut khimicheskogo mashinostroyeniya (for Slomyanskaya, Dyatlova).2.Nachal'nik Tsentral'noy zavodskoy laboratorii (for Afanas'yev).3.Nachal'nik laboratorii eksperimental'nogo zavoda khimicheskogo mashinostroyeniya.4.Sumskoy mashinostroitel'nyy zavod imeni M.V.Frunze (for Vitkovskiy, Mishin).5.Institut elektrosvarki imeni Ye.O.Patona, Akademii nauk SSSR (for Medovar, Langer).6.Moskovskoye vyssheye tekhnicheskoye uchilishche imeni N.E.Baumana (for Pal'chuk).7.Zamestitel' nachal'nika Tsentral'noy zavodskoy laboratorii zavoda "Serp i Molot" (for Frid).

(Steel, Stainless--Corrosion)

LANGER, N. A.

USSR/ Analytical Chemistry. Analysis of Inorganic Substances. G-2

Abs Jour: Referat. Zhur.-Khimiya, No. 8, 1957, 27228.

Author : N. A. Langer, T. P. Novikova.

Title : Method of Fast Analysis of Fluxes of AN-348-A Type.

Orig Pub: Avtomat. svarka, 1956, No. 5, 80 - 83.

Abstract: A fast (2 to 3 hours) method of determination of main components of fluxes (Si, Ca, F, Mn, Fe, Al and S) without their preliminary separation was developed. For the determination of silica, 1 g of the flux is fused with 10 g of water free Na_2CO_3 in a Pt crucible, dissolved in HCl (1 : 1), and heated to 80° ; 10 ml of 1% gelatin solution is added, stirred 5 min. and heated 10 min.

Card 1/4

USSR/ Analytical Chemistry. Analysis of Inorganic
Substances.

G-2

Abs Jour: Referat. Zhur.-Khimiya, No. 8, 1957, 27228.

The precipitate is filtered off, washed 3 to 4 times with hydrochloric acid (1 : 1) and 2 to 3 times with water, roasted at 1000 to 1100° and weighed in the form of SiO_2 . The accuracy is 2%. The determination of Ca in presence of Mn^{2+} and Fe^{3+} is carried out by precipitation with an excess of oxalic acid; the oxalate is titrated with permanganate (accuracy 2 to 3%). For the determination of F, 2 ml of 0.3% -ual solution of alizarin red is added and the mixture is titrated until the color changes from yellow to red. The determination of Mn is carried out by diluting 25 ml of the filtrate with 300 to 400 ml of water, adding suspended ZnO to the boiling solution, and titrating the hot solution with permanganate. For

Card 2/4

USSR/ Analytical Chemistry. Analysis of Inorganic
Substances.

G-2

Abs Jour: Referat. Zhur.-Khimiya, No. 8, 1957, 27228.

the determination of sesquioxides, 5 g of NH_4Cl and an excessive amount of ammonia (determined with methyl red) are added to 50 ml of the filtrate, the mixture is boiled 3 min., the precipitate is filtered off, dissolved in HCl (1 : 1), and precipitated again, the precipitate is washed with water and calcined at 1000 to 1100°. Fe is determined permanganometrically, and Al is determined by the difference. For the determination of P, the sesquioxides are precipitated with ammonia, filtered off and dissolved in HNO_3 . P is transferred into a phosphomolybdic complex, which is reduced with Sn dichloride and determined colorimetrically. The determination of sulfide sulphur is carried out by distilling H_2S off (treat-

Card 3/4

USSR/ Analytical Chemistry. Analysis of Inorganic
Substances.

G-2

Abs Jour: Referat. Zhur.-Khimiya, No. 8, 1957, 27228.

ment with hydrochloric acid) and its absorption
by acetic cadmium; the determination is finished
by the iodometrical method.

Card 4/4

LANGER, N.A.

MEDOVAR, B.I.; LANGER, N.A.; KURTEPOV, M.M.

Corrosion resistance properties of stainless steel welds in acid solutions. Avtom. svar. 10 no.2:57-60 Mr-Ap '57. (MLRA 10:6)

1. Ordena Trudovogo Krasnogo Znameni Institut elektrosvariki im. Ye.O. Patona Akademii nauk USSR i Institut fizicheskoy khimii Akademii nauk SSSR.

(Steel, Stainless--Corrosion)

LANGER, N. A.

126-1-36/40

AUTHORS: Medovar, B. I., Langer, N. A. and Latysh, Yu. V.

TITLE: A new type of corrosion of acid resistant austenitic steel and of weld joints. (Novyy vid korrozii kislotostoykoy austenitnoy stali i svarnykh shvov). (Transcrystalline corrosion of chromium-nickel-molybdenum-copper steel X23H23M3A3, caused by compression deformations). (Transkristallitnaya korroziya khromo-nikele-molibdeno-medistoy st. Kh23N23M3D3, vyzvannaya deformatsiyey szhatiya).

PERIODICAL: Fizika Metallov i Metallovedeniye, 1957, Vol.5, No.1, pp. 184-186 (USSR)

ABSTRACT: Stainless and acid resistant chromium-nickel austenitic steels which do not contain titanium or niobium or tantalum suffer intercrystallite corrosion as a result of separation along the boundaries of an excess phase which is rich in chromium and results in an impoverishment in chromium of the peripheral zones. In certain aggressive media containing ions of chlorine and other haloids, austenitic steels may be affected by stress corrosion (Refs.3 to 6); under the effect of the tensile stresses and the aggressive media transcrystallite cracking of the steel may occur. In some cases trans-

Card 1/4

126-1-36/40

A new type of corrosion of acid resistant austenitic steel and of weld joints.

crystallite fracture is combined with intercrystallite fracture. The causes of this type of corrosion have not been sufficiently studied. However, it can be considered an established fact that the presence of tensile stresses in the volume of the metal is a necessary condition of transcrystallite corrosion if the metal is in an aggressive medium. No transcrystallite corrosion has been observed in presence of compression stresses. The chromium-nickel steel mentioned in the title, which is also designated by ЖИ-533 is intended for manufacturing equipment in the sulphuric acid industry. It has a high chemical stability in sulphuric acid of various concentrations of up to 75 to 80% and has a fully satisfactory stability against intercrystallite corrosion in standard tests. Such steel also has no tendency to transcrystallite corrosion under stress. In investigating the weldability of ЖИ-533 steel the authors of this paper detected a new type of corrosion disruption of the basic metal and of the welded seam, namely, transcrystallite corrosion in

Card 2/4

126-1-36/40

A new type of corrosion of acid resistant austenitic steel and of weld joints.

sulphuric acid (boiling for 100 hours in acid of 35, 50 and 75% concentration) caused by compression deformations. Comparative corrosion tests were made on specimens of 20 x 70 mm and a width of 3.8 mm of a steel with the following chemical composition: 0.06% C, 0.89% Si, 0.33% Mn, 22.25% Cr, 23.38% Ni, 2.85% Cu, 2.80% Mo, 0.010% S and 0.01% P. A part of the specimens were tested in the as delivered state, i.e. after hot rolling and hardening to obtain austenite; the other part of the specimens were compressed by surface work hardening by means of a pneumatic chisel with a blunted end. The results are entered in a table, p.185. It was found that compression deformation causes transcrystallite corrosion and also intensifies corrosion generally. Since in making welded structures of austenitic steels it is not possible to avoid compression deformations and the resulting tendency to develop transcrystallite corrosion, the authors recommend, as a radical means of eliminating the influence of work hardening, the following heat treatment: hardening by heating for

Card 3/4

A new type of corrosion of acid resistant austenitic steel and of weld joints. 126-1-36/40

one hour at 1100°C followed by quenching in water or heating at 800°C for two hours followed by cooling in air. The latter form of heat treatment is preferable since it can be effected more easily under shop conditions.

There are 3 figures, 1 table and 8 references, 5 of which are Slavic.

SUBMITTED: June 28, 1956.

ASSOCIATION: Institute of Electric Welding imeni Ye. O. Paton,
Ukrainian Ac.Sc., Ukr.SSR.
(Institut Elektrosvarki imeni Ye. O. Patona AN USSR)

AVAILABLE: Library of Congress.

Card 4/4

LANGER, N.A.

MEDOVAR, B.I.; LANGER, N.A.; LATASH, Yu.V.

Transgranular corrosion by sulfuric acid of austenite stable
acid-resistant steels and welds under compressive stress.
Avtom. svar. 10 no.1:46-50 Ja-F '57. (MLRA 10:4)

1. Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im.
Ye.O. Patona AN USSR.

(Steel alloys--Corrosion) (Sulfuric acid)
(Strains and stresses)

LANGER, N.A.

125-58-4-2/15

AUTHORS: Podgayetskiy, V.V., and Langer, N.A., Candidates of Technical Sciences, Malevskiy, Yu.B., and Manzheley, G.P., Engineers

TITLE: A Study of Non-Metallic Inclusions in Seams Welded Under Flux (Issledovaniye nemetallicheskiikh vklyucheniy v shvakh vypolnennykh pod flyusom)

PERIODICAL: Avtomaticheskaya Svarka, 1958, Nr 4, pp 10-23 (USSR)

ABSTRACT: A brief review of different opinions on the subject is given [Ref. 1-12] to demonstrate that the influence of flux on non-metallic inclusions has been barely investigated, although the flux composition considerably affects the structure of weld metal and its mechanical properties. The experiment described in the article was carried out with the use of fluxes "AN-5", "AN-348-A", "AN-20", "AN-30" and an experimental low-silicon manganese flux, and standard electrode wire of grades "Sv-08", "Sv-08G", and "Sv-10GS". The compositions of the fluxes, wire, and the obtained weld metal are given (Tables 1-5). It was concluded that the content of non-metallic inclusions in weld metal, and the

Card 1/2

125-58-4-2/15

A Study of Non-Metallic Inclusions in Seams Welded Under Flux

general oxygen content therein, increase with increasing SiO_2 content in the flux. The composition of non-metallic inclusions is determined by the flux composition and is comparatively little - affected by the composition of the electrode wire. Non-metallic inclusions originate mainly from the flux and change their composition within the weld puddle. In the conditions of intensive mixing of metal and slag in the puddle, the intensiveness of the extraction of non-metallic inclusions apparently depends less on the difference between the density of the inclusions and the metal than on the inter-phase tension on the border between them. The flux composition seems to affect the initial weld-metal structure by affecting the composition and the thickness of intercrystalline layers, and not by affecting the distribution of the non-metallic inclusions. There are 8 figures, and 21 references, 18 of which are Soviet, 2 German, and 1 English.

ASSOCIATION:

SUBMITTED:

AVAILABLE:

Card 2/2

Institut elektrosvariki imeni Ye.O. Patona AN UkrSSR (Electric Welding Institute imeni Ye.O. Paton of the AS UkrSSR)
January 17, 1957
Library of Congress

SOV 125-58-3-5/15

AUTHORS: ~~Langer, N.A.,~~ Rozenberg, O.O., Vesker, L.Ye., and Yagupol'skaya, L.N.

TITLE: Corrosion Resistance of "22K"-Steel Weld Joints (Korrozionnaya stoykost' svarykh soyedineniy stali 22 K)

PERIODICAL: Avtomaticheskaya svarka, 1958, Nr 3, pp 33-41 (USSR)

ABSTRACT: Both Soviet and foreign scientists, such as G.V. Akimov, B.M. Parking, V.N. Noyev, N.D. Sobolev and L.A. Glikman, have been concerned with the problem of cracks in boilers for some time. The Electric Welding Institute imeni Paton carried out corrosion tests of electric-slag and multilayer welded "22K"-steel specimens, put into a solution of nitrate salts (45% Ca (NO₃)₂ and 35% NH₄NO₃ plus water), which was recommended by Zemon and had been successfully used by S.G. Vedenkin. The authors come to the conclusion that electric-slag welded joints have a higher resistance to caustic brittleness than multilayer welded joints. Seam cracks have a crystallite character and occur near the fusion line. Measurements of electrode potential of weld surfaces, showed that the potential is distributed uniformly in electric-slag welded joints, but drops sharply in the zone of thermal influence in joints made by automatic multilayer welding.

Card 1/2

Corrosion Resistance of "22K"-Steel Weld Joints

SOV 125-58-3-5/15

There are 2 figures, 3 tables, 2 graphs, 4 photos and 11 references, 8 of which are Soviet, 2 English and 1 German.

ASSOCIATION: Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki imeni Ye.O. Patona AN USSR (Electric Welding Institute imeni Ye.O. Paton AS UkrSSR, Bearer of the Labor Order of the Red Banner)

SUBMITTED: July 1, 1957

1. Welds--Corrosion 2. Welds--Test results

Card 2/2

Langer N. A.

125-58-6-1/11

AUTHORS: Yagupol'skaya, L.N., Langer, N.A., and Gurevich, S.I.,
Candidates of Technical Sciences

TITLE: Corrosion Resistance of Titanium Welds in Hydrochloric,
Sulfuric and Nitric Acids (Korroziionnaya stoykost' svarnykh
shvov titana v solyanoy, sernoy i azotnoy kislotakh)

PERIODICAL: Avtomaticheskaya Svarka, 1958, Nr 6, pp 42-50 (USSR)

ABSTRACT: Butt welds of technically pure "VT1" titanium of 3.0 mm
thickness, welded under "AN-T1" flux with 2.5 mm titanium
electrode rods, were tested in water solutions of sulfuric,
hydrochloric, and 60% and 99 % nitric acids. Tests in liquid
and gaseous 99% HNO₃ were carried out with unloaded and with
stressed specimens. Results are shown in tables and schematic
drawings. The following conclusions are made: 1) titanium
welds, tested under the aforementioned conditions, have the
same corrosion resistance as the base metal; 2) commercial
titanium and its weld joints are prone to corrosion cracks
under tension in gaseous 99% HNO₃. There are 6 tables, 3
photos, 2 graphs, 2 figures, and 16 references, 8 of which
are Soviet, 6 English, 1 French, and 1 German.

Card 1/2

125-58-6-4/14

Corrosion Resistance of Titanium Welds in Hydrochloric, Sulfuric and Nitric Acids

ASSOCIATION: Ordena Trudovogo Krasnogo Znameni Institut Elektrosvarok imeni Ye.O. Patona AN UkrSSR (Order of Labor "Red Banner" Institute of Electric Welding im. Ye. O. Paton, AS UkrSSR)

SUBMITTED: February 21, 1958.

AVAILABLE: Library of Congress

Card 2/2 1. Titanium-Welding Applications 2. Welds-Corrosion resistance 3. Acids-

SOV-125-58-9-10/14

AUTHORS: Medovar, B.I.; Langer, N.A.; Vesker, L.Ye.; Kotsev, K., and
Ganev, M.

TITLE: Corrosion Resistance of "1Kh18N9T"-Steel Weld Joints in
Nitric Acid Production (Korrozionnaya stoykost' svarnykh
soyedineniy iz stali 1Kh18N9T v usloviyakh proizvodstva
azotnoy kisloty)

PERIODICAL: Avtomaticheskaya svarka, 1958, Nr 9, pp 61-73 (USSR)

ABSTRACT: Application of "1Kh18N9T" steel for equipment used in the
production of nitric acid requires welding processes pro-
ducing joints that are resistant against corrosion and inter-
crystalline corrosion and which is similar to that of the
base metal. For this purpose, natural corrosion tests of
"1Kh18N9T" steel specimens welded with different electrodes
under flux were carried out at the Chemical Combine imeni
Stalin at Dimitrovgrad (Bulgaria). It was proved that seams
welded with chromo-nickel-vanadium-niobium rods (OKh18N9FBS -
EI649) and chromo-nickel-vanadium rods (OKh18N9F2S - EI606),
have high corrosion and intercrystalline corrosion resistance
under conditions of nitric acid production and that cold
hardening by stretching, as well as by compression, increases

Card 1/2

SOV-125-58-9-10/14

Corrosion Resistance of "1Kh18N9T"-Steel Weld Joints in Nitric Acid Production

corrosion resistance of weld joints.

There are 5 tables, 4 sets of microphotos, 2 sets of photos, 1 diagram, 2 graphs, and 3 references, 2 of which are Soviet and 1 German.

ASSOCIATIONS: Institut elektrosvarki imeni Ye.O. Patona AN USSR (Institute of Electric Welding imeni Ye.O. Paton, AS UkrSSR). Khimicheskyy kombinat imeni Stalina, Narodnoy Respubliki Bolgariya (Chemical Combine imeni Stalin, of the Bulgarian People's Republic)

SUBMITTED: June 5, 1958

1. Nitric acid--Production
2. Welded joints--Corrosion prevention
3. Welded joints--Test results
4. Electrodes--Applications

Card 2/2

LANGER, N.A.; ROZENBERG, O.O.; BESKER, L.Ye.; YAGUPOL'SKAYA, L.N.

Corrosion resistance of welded joints in 22K steel. Avtom.svar. 11
no.3:35-41 Mr '58. (MIRA 11:4)

1. Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye.O.
Patona AN USSR.
(Steel--Welding) (Corrosion and anticorrosives)

PODGAYITSKIY, V.V.; LANGER, N.A.; MALEVSKIY, Yu.B.; MANZHELNY, G.P.

Investigating nonmetallic inclusions in welds made under flux.
Avtom. svar. 11 no.4:10-23 Ap '58. (MIRA 11:6)

1. Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki
im. Ye.O. Patona AN USSE.
(Electric welding--Testing)

YAGUPOL'SKAYA, L.N.; LANGER, N.A.; GUREVICH, S. M.

Corrosion resistance of welded titanium joints in hydrochloric, sulfuric, and nitric acids. Avtom. svar. 11 no. 6:42-50 Je '58.
(MIRA 11:7)

1. Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye. O.Patona AN USSR.

(Titanium--Welding)
(Corrosion and anticorrosives)
(Acids, Inorganic)

AUTHORS: Langer, N.A., Medovar, B.I. SOV/125-58-11-7/16

TITLE: The Effect of Aeration on the Corrosion Resistance of "1Kh18N9T"
Steel Welds in Bubbling Sulfuric Acid (Vliyaniye aeratsii na korroziionnyu stoykost' svarykh soyedineniy stali 1Kh18N9T v kipyashchey sernoy kislote)

PERIODICAL: Avtomaticheskaya svarka, 1958, Nr 11, pp 48-51 (USSR)

ABSTRACT: G.V. Akimov proved that sulfuric acid causes strong corrosion of high-chromium steels. It is stated that aeration of sulfuric acid solutions, and a slight addition of nitric acid, considerably reduces the rate of corrosion of "1Kh18N9T" steel and its weld joints.
There are 3 tables, 1 diagram and 1 set of microphotos.

ASSOCIATION: Institut elektrosvarki imeni Ye.O. Patona AN USSR (Institute of Electric Welding imeni Ye.O. Paton, AS UkrSSR)

Card 1/1

MEDOVAR, B.I.; LANGER, N.A.; VESKER, L.ye.; KOTSEV, K.; GANEV, M.

Corrosion resistance of welded joints in LKh18N9T steel
during the production of nitrous acid. Avtom.svar. 11 no.9:61-73
S '58. (MIRA 11:11)

1. Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki imeni Ye.O. Patona AN USSR (for Medova, Langer, Vesker).
2. Khimicheskiy kombinat imeni Stalina, Narodnaya Respublika Bolgariya (for Kotsev, Ganev).
(Chromium-nickel steel--Corrosion) (Metallography)
(Nitrous acid)

18(7)
AUTHORS: Rabkin, D.M., Langer, N.A., Yagupol'skaya, L.N., and Pokhodenko, V.D. SOV/125-59-8-6/18

TITLE: On Methods of Corrosion Testing of Welded Joints of Aluminum in Nitric Acid

PERIODICAL: Avtomaticheskaya svarka, 1959, Nr 8, pp 49-56 (USSR)

ABSTRACT: The article deals with methods of testing corrosion resistance of welded joints of aluminum. The authors wish to ascertain the character of the action of nitric acid in relation to its concentration and temperature, and more precisely define the necessary preparation of surface of samples and other experimental conditions in order to work out the most acceptable accelerated method of testing welded joints of aluminum in nitric acid. The authors open with a review and critique of other work in this field, including that of V.P. Ba-trakov [Ref 1], V.A. Savchenko [Ref 7], and F.B. Slo-myanskaya and A.N. Krutikov [Ref 10], but they find a comparison difficult because the methods used varied. A method of testing welded joints of aluminum, worked

Card 1/4

On Methods of Corrosion Testing of Welded Joints of Aluminum in
Nitric Acid

SOV/125-59-8-6/18

out by NIIKhIMMASH - boiling test samples in concentrated nitric acid for a long period of time (100-200 hrs) - is criticized as having poor reproducibility of results. The experiments described in this article were performed on type Al aluminum of the following composition: 0.20% Fe, 0.20% Si, 0.01% Cu, the rest - aluminum. Sample dimensions were 70x30x4 mm; seam width was 12-14 mm. Nitric acid in concentrations of 10, 20, 30, 40, 50, 60, 70, 80% by wt. were used. Further particulars are contained in the text. The following conclusions were reached on the basis of the experiments: 1) the highest rate of corrosion was attained using 30% HNO_3 ; for accelerated corrosion testing it is recommended that boiling 50% HNO_3 be used; 2) corrosion speed in 50% HNO_3 was determined as a function of time (Fig 1); the curve of this function levels out 2 hours after the start of the test; 3) tests in 50% HNO_3 guarantee a higher reproducibility of results in comparison with tests in concentrated

Card 2/4

On Methods of Corrosion Testing of Welded Joints of Aluminum in
Nitric Acid

SOV/125-59-8-6/18

acid; in addition the character of the corrosion damage is preserved. The condition of the surface of the samples was found to have a comparatively small effect on the rate of corrosion (Fig 3). Further tests were carried out for comparative evaluation of the corrosion resistance of welded joints; a) boiling samples in 98% HNO_3 , for 100 hours, and b) by the accelerated method, i.e. two-hour boiling in 50% HNO_3 . Samples with three types of welds were used. Samples were compared by weight in arriving at a criterion for corrosion resistance. Results are tabulated (Table 3). Results of the 100-hour test in 98.3% HNO_3 support known data to the effect that identical samples in the same acid and under similar testing conditions give poorly corresponding results. However, good reproducibility of results was obtained in the 2-hour tests with 50% HNO_3 . In addition, structure and defects in the seam show up better after the two-hour test. Weight criterion of the corrosion resistance should be supple-

Card 3/4

On Methods of Corrosion Testing of Welded Joints of Aluminum in
Nitric Acid SOV/125-59-8-6/18

mented by visual inspection of the seam. There are
2 photographs, 3 graphs, 5 tables, and 13 references,
9 of which are Soviet, 2 English, 1 German, and 1
Czech.

ASSOCIATION: Ordena trudovogo krasnogo znameni - Institut elektro-
svarki imeni Ye.O. Patona AN USSR (Order of the Red
Banner of Labor - Institute of Electric Welding imeni
Ye.O. Paton, AS UkrSSR)

SUBMITTED: April 10, 1959

Card 4/4

20012

18.8300 also 2708

S/137/61/000/002/013/046
A006/A001

Translation from: Referativnyy zhurnal, Metallurgiya, 1961, No. 2, p. 9, # 2E66

AUTHORS: Medovar, B.I., Langer, N.A., Kurtepov, M.M.

TITLE: Intercrystalline Corrosion Concentrated Along the Fusion Line in
Weld Joints of Stabilized 18-18 Type Steels (Edge-Corrosion)PERIODICAL: V sb.: "Mezhkristallitn. korroziya i korroziya metallov v napryazh.
sostoyanii", Moscow, Mashgiz, 1960, pp. 59 - 70TEXT: The basic cause for the formation of edge corrosion in weld joints
of 1X18H9T (1Kh18N9T), 1X18H12M2T (1Kh18N12M2T) and X18H11B (Kh18N11B)
steels, is the dissolving of Ti or Nb-Ta carbides in the austenite, resulting from
the heating up of the base metal to $> 1,300^{\circ}\text{C}$ and the subsequent singling out of
Cr carbides along the austenitic grain boundaries. The singling out of carbides
and the impoverishment of boundary areas of Cr-austenite takes place either during
slow cooling or at repeated heating up to the seam-adjacent zone to $> 650^{\circ}\text{C}$. To

Card 1/2

20012

S/137/61/000/002/013/046
A006/A001

X

Intercrystalline Corrosion Concentrated Along the Fusion Line in Weld Joints of Stabilized 18-18 Type Steels (Edge-Corrosion)

prevent edge corrosion, it is necessary to raise the Ti content and the Nb+Ta content in stainless steel; to use low-carbon 18-18 type steels; not to arrange the seams close to each other, in order to prevent secondary heat effects on the seam-adjacent metal; to treat the welds by stabilizing annealing. There are 23 references.

Yu. S.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

18(7)

SOV/125-60-1-10/18

AUTHOR: Rabkin, D.M., Yagupol'skaya, L.N., Pokhodenko, V.D.,
Langer, N.A.

TITLE: On the Problems of Accelerated Corrosion Tests of Welded Aluminum Joints in Nitric Acid

PERIODICAL: Avtomaticheskaya svarka, 1960, Nr 1, pp 74-78 (USSR)

ABSTRACT: In their previous work [Ref 17] the authors showed that 50% nitric acid can be used for the accelerated testing of aluminum welds for corrosion resistance. Boiling for two hours in such an acid concentration ensures better results than tests with concentrated nitric acid. The optimum sizes of test samples are determined and the accelerated test method is explained. The size of the samples can considerably influence the results of the tests. Table 1 and graphs 1 and 2 show test results depending on the size of samples. The latter were tested for two hours in boiling 50% nitric acid. Figure 3 shows samples of different length after the tests. As the ratio of the area of the basic metal in the

Card 1/3

SOV/125-60-1-10/18

On the Problems of Accelerated Corrosion Tests of Welded Aluminum Joints in Nitric Acid

sample increases in relation to that of the weld, the mean rate of corrosive destruction gradually drops. To determine the influence of the size of the butt end surfaces on corrosion of the welded joint, different thicknesses of the latter were tested. The results of these tests are given in table 2. Experiments were made by putting samples straight into boiling acid, and by putting them into cold acid and then bringing it up to the boiling point. The average rate of corrosive destruction depending on these two conditions is shown in table 3. On the basis of investigations, the results of which are described in the previous work [Ref 1] and in this article, and after consideration of the results of tests conducted at plants, an industrial test method was developed. It includes instructions for the preparation of samples, the tests themselves and the methods of evaluating results. The method has been tried at a number of

Card 2/3

SOV/125-60-1-10/18

On the Problems of Accelerated Corrosion Tests of Welded Aluminum Joints in Nitric Acid

plants where it received approval. It can be used for testing the welded parts of chemical equipment for corrosion by nitric acid. The authors thank engineer Ivleva (Penzkhimmash), S.V. Shimanskaya, V.G. Laboskiy (zavod "Krasnyy Oktyabr'") ("Krasnyy Oktyabr'" Plant) and Kuramzhin (Uralkhimmash) for their aid in developing the method. There are 1 diagram, 2 graphs, 1 photograph, 3 tables, and 2 Soviet references.

ASSOCIATION : Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im Ye.O. Patona AN USSR (Order of the Red Banner of Labor Institute of Electric Welding imeni Ye.O. Paton AS UkrSSR).

SUBMITTED: 1 July 1959

Card 3/3

S/125/60/000/012/011/014
A161/A030

AUTHORS: Kakhovskiy, N.I.; Langer, N.A.; Ponizovtsev, A.M.

TITLE: Electrode Wire for Welding Low-Alloy Steel Ship Hulls in Carbon Dioxide

PERIODICAL: Avtomaticheskaya svarka, 1960, No. 12, pp. 75 - 78

TEXT: Welds made in CX₅ (SKhL) type ship hull steel by YOHN-13/45A (UONI-13/45A) electrodes in manual welding, as well as by Cs-08F2C (Sv-08G2S) wire semi-automatically in CO₂ have a low corrosion resistance in sea water. The reason for this is a lower electro-chemical potential in weld metal than in base metal, i.e., the weld forms the anode in the couple. An addition of 0.7 - 1.0% chromium to weld metal raises the corrosion resistance. The Electric Welding Institute im. Ye O. Paton has developed a new electrode wire that is recommended for use and called Cs-08XFC (Sv-08Kh3S). Its chemical composition is: up to 0.10% C; 1.4 - 1.7% Mn; 0.60 - 0.85% Si; 0.8 - 1.1% Cr; maximum 0.3% Ni; and maximum 0.03% S and P (each). The experiments were carried out with powder wire of different compositions, made in a special machine by bending low-carbon steel tape into a pipe and filling the pipe simultaneously with powder. The filled pipe

Card 1/2

S/125/69/000/012/011/014
A161/AC30

Electrode Wire for Welding Low-Alloy Steel Ship Hulls in Carbon Dioxide

was pulled through a die to reduce diameter and compress the core. The composition of ship hull steel used in experiments, 10XCHA (10KPSND) is: 0.09% C; 0.61% Mn; 0.80% Si; 0.89% Cr; 0.55% Ni; 0.40% Cu; max. 0.03% S and P (each). The mechanical properties of welds produced with all of the tried wires were satisfactory. There are 2 figures, 2 tables and 2 Soviet references. ✓

ASSOCIATION: Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye.O. Patona AN USSR (Electric Welding Institute "Order of the Red Banner of Labor" imeni Ye.O. Paton of the AS UkrSSR)

SUBMITTED: June 29, 1960

Card 2/2

KAKHOVSKIY, N. I. ; LANGER, N. A. ; YUSHCHENKO, K. A.

Electrodes for welding SKhL-type steel plating for ship hulls.
Avtom. svar. 13 no.3:26-32 Ag '60. (MIRA 13:8)

1. Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki
im. Ye.O. Patona AN USSR.
(Ships--Welding) (Electrodes)

S/125/61/000/004/012/013
A161/A127

AUTHORS: Langer, N. A., Yagupol'skaya, L. N., Yushkevich, Z. V.

TITLE: On the method of investigating the tendency of welded joints to caustic embrittlement

PERIODICAL: Avtomaticheskaya svarka, no. 4, 1961, 86 - 87

TEXT: Brief information is given on a new method of caustic embrittlement tests requiring no special tension devices. Formerly, the Institut elektrosvarki im. Ye. O. Patona (Electric Welding Institute im. Ye. O. Paton) employed test specimens consisting of ribs welded to plates, and then the plates joined by butt welding, and later horseshoe-shaped specimens, or specimens loaded with a special device. Reference is made also to a recommendation of G. L. Shvarts and M. M. Kristal' to use a specimen 100 by 20 by δ (mm) in size, cut from welded plate with removed projections and loaded by the application of a bending or stretching force. The authors have used a method requiring no application of devices for the loading. Detailed information on the new technique will be published later in "Avtomaticheskaya svarka". The method consists in using welded plates 500 x 400 x δ (mm) in size and holding them in a boiling solution of 45% calcium nitrate and

Card 1/2

On the method of investigating the tendency of...

S/125/61/000/004/012/013
A161/A127

35% ammonium nitrate until the appearance of cracks. The solution is being conventionally used for testing the tendency of steel to caustic embrittlement. The article includes a photograph of a cracked specimen. Heat treatment had a high effect on the results of the tests, e.g. in one specimen that had not been heat-treated the crack appeared after 24 hours, in two others after 48 hours, and in a heat-treated specimen only after 240 hours. There is 1 figure..

SUBMITTED: January 16, 1960

Card 2/2

1962

S/125/62/000/005/005/010
D040/D113

1.2000

AUTHORS: Langer, N.A., Yagupol'skaya, L.N., Yushkevich, Z.V., Koryagin, Yu.A.
and Lebedev, B.F.

TITLE: Improving the corrosion resistance of low-carbon and low-alloy steel
welds in an alkaline medium

PERIODICAL: Avtomaticheskaya svarka, no. 5, 1962, 36-43

TEXT: Since equipment used in the aluminum industry has to be frequently re-
paired because of caustic embrittlement of low-carbon and low-alloy steel, and
since alternative steels cost too much, the effect of stress-relieving on the
resistance of low-alloy steel welds to caustic embrittlement was studied, using
a method described by T.W. Green and A.A. Holzbaur ("The Welding Journal", No. 3,
1946). The experimental equipment comprised a carriage with 4 gas burners pro-
ducing a 120 mm-wide flame, and a water-cooling device 150 mm behind the flame.
Five steel grades were tested. Calcium and ammonium nitrate solutions were
used for corrosion tests. The electrode potential in specimens was measured.
The experimental results show that the best ratio between Mn and C in the base

Card 1/3

Improving the corrosion resistance of low....

S/125/62/000/005/005/010
DO40/D113

metal was 1.7 : 3.0, and the highest potential was found in the 14Г2 (14G2) steel - 61 mv before heat treatment, and 30 mv after. The anode zone was always revealed directly at the welds and appears to be the result of stress concentration. It is presumed that caustic embrittlement of low-carbon steel in strong alkali solutions begins with the destruction of the protective surface film, and this process is most intensive in metal at welded joints, where the anode potential is highest, but weld defects such as pin holes, slag inclusions, or spills also cause stress concentration and anode potential. Conclusions: (1) Thermo-mechanical treatment considerably improved the resistance of low-carbon and low-alloy steels to caustic embrittlement; (2) welds in 19Г (19G), M 16С (M16S) and С7.3 (St.3) steels have better resistance to caustic embrittlement than M (M) and 14Г2 (14G2) steels; (3) the result of electrode potential measurements show that residual welding stresses intensify the anode processes in the weakness zone. There are 7 figures and 3 tables.

Card 2/3

Improving the corrosion resistance of low....

S/125/62/000/005/005/010
D040/D113

ASSOCIATION: Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im.
Ye.O. Patona AN USSR (Electric Welding Institute "Order of the
Red Banner of Labor" im. Ye.O. Paton, AS UkrSSR)

SUBMITTED: September 22, 1961

Card 3/3

LANGER, N.A.; YAGUPOL'SKAYA, L.N.

Electrochemical characteristics of welded joints in corrosive
media. Avtom. svar. 16 no.12:61-67 D '63. (MIRA 17:1)

1. Institut elektrosvariki imeni Patona AN UkrSSR.

LANGER, N.A.; YAGUPOL'SKAYA, L.N.; YUSHKEVICH, F.V.; KORYACIN, Yu.A.;
LEBDEV, B.F.

Effect of residual stresses on the corrosion resistance of welded
equipment operating in alkali media. Vliian.rab. sred na svois. mat.
no.2:87-96 '63. (MIRA 17:10)

L-23330-65 EWT(m)/EWA(d)/EWP(t)/EWP(b) JD/WB
ACCESSION NR: AP5001191

S/0125/64/000/012/0030/0037

AUTHOR: Kakhovskiy, N. I. (Candidate of technical sciences); Langer, N. A.
(Candidate of technical sciences); Yushchenko, K. A. (Engineer); Osipov, G. I. (Eng.)

TITLE: Electrochemical properties of the weld compounds of ferritic-austenitic chromium-nickel steel of 21-5 type

SOURCE: Avtomaticeskaya svarka, no. 12, 1964, 30-37

TOPIC TAGS: welding compound, ferritic austenitic steel, chromium nickel steel, electrochemical property, steel, macrocell, steel welding

ABSTRACT: The electrochemical properties of the weld-compounds in steels were investigated, and it was found that they depend on the chemical composition of the welded seam, the grain size, and the steel properties resulting from the welding temperature, aggressiveness of the medium, and some other factors. In the boiling solution of 40% nitric acid, macrocells consisting of the base metal-seam and base metal-zone of thermal influence may be formed. If the joint differs little from the base metal, the corrosion resistance is determined by the

Card 1/2

L 23390-65
ACCESSION NR: AF5001191

corrosion current in the macrocell base metal-zone of thermal influence. It was experimentally confirmed that the difference of the chemical composition and surfaces of ferritic and austenitic phases in the metal affects its structurally selective corrosion in nitric acid of higher concentration and temperature. Orig. art. has: 5 figures and 5 tables

ASSOCIATION: Institut elektrosvarke im. Ye. O. Patona AN UKrSSR (Institute of Electric Welding AN UKrSSR)

SUBMITTED: 02Mar64

ENCL: 00

SUB CODE: MM, GC

NR REF SOV: 011

OTHER: 001

Card 2/2

L 33544-65 EST(B)/EWA(D)/EWP(T)/WP(B) MW/JD/NB S/0125/64/000/011/0093/0094
 ACCESSION NR: AP5009176
 AUTHOR: Medovar, B. I.; Langer, N. A.; Yushkevich, Z. V.; Iatsyuk-Khudin, V. A.; Gasik, M. I.
 TITLE: Corrosion resistance of weld joints of low-carbon steel type 00Kh25N20
 SOURCE: Avtomaticheskaya svarka, no. 11, 1964, 93-94
 TOPIC TAGS: corrosion resistance, metal welding, nitric acid, steel, weld heat treatment, corrosion resistant, austenitic steel
 ABSTRACT: Chromium-nickel austenitic steel type 1Kh18N9T and aluminum type A00 are used in equipment designed for the manufacture of concentrated nitric acid.
 By following the optimum welding technology and techniques for joining type 1Kh18N9T steel the welds are stable to nitric acid at concentrations of up to 80% and temperatures of 70°C. At higher acid concentrations or higher temperatures the steel loses its corrosion resistance and weld joints frequently undergo extensive crack-type corrosion.
 Attempts were made to use type KI654 steel for work under the indicated

Card 1/63

L 33544-65

ACCESSION NR: AP5009176

conditions. However, weld joints of the steel tend to pitting, which reaches a depth of 3 mm/year. 4

Low-carbon austenitic steels type 00Kh25N20 can be used for work with oxidizing media. The maximum decrease in the carbon of the steel must provide the necessary corrosion resistance for the steel and its weld joints under the indicated conditions.

Four samples of extremely low-carbon vacuum-thermal ferrochromium steel were prepared in induction furnaces at the Yuzhnotrubby Metallurgical Plant and the Dnepropetrestal' Plant. The chemical content of the steels is shown in Table 1.

After the steel was poured into ingots it was rolled into sheet⁶ billets. Welding was done by argon arc with a tungsten electrode. The welds were tested for corrosion resistance in a 65% solution of HNO₃ for 144 hours (solution replaced after 48 hours) and for 100 hours in a 98% solution of boiling HNO₃. The results of the tests are shown in Table 2. For purposes of comparison, results are shown in the table of tests made on weld joints of type B1417 steel (0.11% C, 23.3% Cr, 20.4% Ni, 0.22% Si, 0.67% Mn, 0.013% S, 0.037% P). (The samples were compared under the same conditions as the test steels.)

The tested weld samples M, P, and Sh did not change in external appearance, but the surfaces of P-steel samples exhibited extensive corrosion.

Card 2/6

L 33544-65

ACCESSION NR: AP5009176

Welds of E1417 steel samples exhibited the greatest corrosion attack. The high carbon content invited extreme corrosion. It is interesting to note that the stability of type E1417 steel to an oxidizing medium such as a 65% solution of HNO_3 increased considerably after cold working. The unaffected portions of the steel deformed during stamping were distinctly evident.

Microstudy of the samples after corrosion tests revealed that welds of M, R, and Sh steels do not tend to crack or intercrystalline corrosion. Weld joints of E1417 steel typically exhibit intercrystalline corrosion.

A decrease in the carbon content of the test steels, along with increasing their corrosion resistance to oxidizing media should also increase their corrosion resistance under stress. Our experiments confirmed this assumption. The sample steels Sh and P were tested for tendencies to stress corrosion in boiling 42% magnesium chloride. The tests were conducted on samples specially stressed to 90% of the yield strength. The results of these investigations are shown in Table 3.

Orig. art. has: 3 figures, 3 tables.

Card 3/6

L 33544-65

ACCESSION NR: AP5109175

ENCLOSURE: 01

Symbol of Heats	Table 1 Content %						
	C	Mn	Si	P	S	Cr	Ni
H	0.018	0.60	0.60	0.020	0.007	25.14	21.00
R	0.030	1.60	0.41	0.005	0.008	24.90	18.90
Sh	0.045	1.54	0.60	0.008	0.016	23.95	19.94
P	0.055	1.50	0.91	0.011	0.006	24.90	16.65

TABLE 3

Designation of Samples	Time Before Appearance of Cracks
Sh	after 475 hours no cracks were found
P	after 475 hours no cracks were found
EI 17	62 - 86

Card 4/6

33-44-65

ACCESSION NR: AP5099176

ENCLOSURE: 02

Table 2

Symbol of Steels	Heat treatment of weld	Corrosion rate (mm/year) in HNO ₃	
		65% sol.	98% sol.
M	none	0.77	0.83
	650°C, 2 hrs.	1.40	1.21
R	none	0.53	0.47
	650°C, 2 hrs.	1.11	1.18
Sh	none	0.61	0.55
	650°C, 2 hrs.	1.32	1.47
P	none	0.35	1.19
	650°C, 2 hrs.	5.81	15.65
X1417	none	2.53	3.27
	650°C, 2 hrs.	38.85	28.00

Card 5/6

KAKHOVSKIY, N.I.; LAUGER, N.A.; YUSHCHENKO, N.A.; CHALYOK, G.I.

Electrochemical properties of welded joints of Ti-5 Ferrite-austenite chromium-nickel steel. Avtom. svar. 17 no.12:30-37 D '64 (MIRA 18:2)

1. Institut elektrosvarki im. Ye.O. Patona AN URSR.

L 56003-65 EWT(m)/EPF(c)/EWA(d)/EWP(t)/EWP(z)/EWP(b) MJH/JD/WB
ACCESSION NR: AP5016022 UR/0125/65/000/006/0077/0077
672.3:620.191/.193.001.4

30
8

AUTHOR: Medovar, E. I. (Doctor of technical sciences); Langer, N. A. (Candidate of technical sciences); Yushkevich, Z. V. (Engineer); Kikut, V. A. (Engineer)

TITLE: Corrosion tests of welded joints of OOKh25N20 steel in nitric acid

SOURCE: Avtomaticheskaya svarka, no. 6, 1965, 77

TOPIC TAGS: stainless steel, austenitic stainless steel, intercrystalline corrosion susceptibility, knife corrosion susceptibility, low carbon stainless steel/OOKh25N20 steel, 1Kh18N9T steel

ABSTRACT: Heat-treated (650C for 2 hr) and untreated TIG-welded joints of OOKh25N20 steel containing 0.018, 0.030, 0.045, or 0.055% C were tested for corrosion in nitric acid. Some specimens were completely submerged in 54-56% nitric acid at 100-105C for 2445 hr. Other specimens were placed in the vapor of 64-65% nitric acid at 120-125C for 3154 hr. For comparison, welds of 1Kh18N9T [AISI 321] steel were tested under identical conditions. The submerged 25-20 type steel did not change its appearance and exhibited no susceptibility to intercrystalline or knife corrosion. The corrosion rate varied from 0.01 to 0.04 g/m².hr and was prac-

Card 1/2

L 56003-65
ACCESSION NR: AP5016022

tically twice as high for heat-treated specimens (0.02—0.10 g/m² hr). The welds of 1Kh18N9T steel were susceptible to knife corrosion. After testing in the gas phase, the steels containing less than 0.03% C preserved their appearance, but the surface of all other steel was corroded, particularly steel with 0.055% C and 1Kh18N9T steel. In tests in the vapor phase, the corrosion rate varied from 0.06 to 0.10 g/m² hr: 2.37 g/m² hr for steel containing 0.055% C and 1.12 g/m² hr for 1Kh18N9T steel. Thus, the test under industrial conditions showed that welds of low-carbon austenitic steels of the 00Kh25N20-type containing less than 0.03% C are impervious to intercrystalline and knife corrosion in reactive and 65% nitric acid. Orig. art. has: 1 table. [M:]

ASSOCIATION: none

SUBMITTED: CO

NO REF SOV: 001

ENCL: 00

OTHER: 000

SUB CODE: MM

ATD PRESS: 4034

Card *BR*
2/2

L 35871-66 EWT(m)/EWP(t)/ETI IJP(c) JH/JD/WH/JG/WB

ACC NR: AP6021486

SOURCE CODE: UR/0413/66/000/011/0128/0128

INVENTOR: Rabkin, D. M.; Yagupol'skaya, L. N.; Langer, N. A.; Dovbishchenko, I. V.; Nikitina, A. V.; Zotova, L. M.; Martynova, N. A.; Yelagin, V. I.; Ishchenko, A. Ya.; Bondar', V. V.

ORG: none

TITLE: Filler-wire for argon-shielded arc welding of aluminum.²⁷ Class 49, No. 182487 [announced by the Electric Welding Institute im. Ye. O. Paton (Institut elektrosvarki)

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 11, 1966, 128

TOPIC TAGS: welding, aluminum ~~welding~~, arc welding, argon, ~~shielded arc welding~~, welding wire, aluminum wire, ~~chromium-containing wire~~, ~~zirconium-containing wire~~, ~~corrosion resistance~~, ~~chromium containing alloy~~, ~~zirconium containing alloy~~

ABSTRACT: This Author Certificate introduces a filler-wire for argon-shielded arc welding of aluminum. To improve the weld corrosion resistance, the wire contains 0.8-1.2% chromium and 0.7-1.2% zirconium.¹⁶ [ND]

SUB CODE: 11, 13/²⁷ SUBM DATE: 25Dec63/⁷ ATD PRESS: 5036

Card 1/1 *11/1*

UDC: 621.791.753.93.042

L 04666-67 ENT(m)/EWP(*)/ETI IJP(c) JD/HW/WB

ACC NR: AP6007107

SOURCE CODE: UR/0129/66/000/002/0029/0032

AUTHORS: Langer, N. A.; Yagupol'skaya, L. N.; Kakhovskiy, N. I.; Yushchenko, K. A.; Fartushnyy, V. G.; Chalyuk, G. I.ORG: Institute of Electro-Welding im. Ye. O. Paton, AN UkrSSR (Institut elektrosvarki AN UkrSSR)TITLE: Corrosion resistance of steel with low nickel content in aggressive media 65SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 2, 1966, 29-32 63

TOPIC TAGS: corrosion resistant alloy, stainless steel, chromium steel alloy, nickel containing alloy, molybdenum containing alloy B

ABSTRACT: The effect of the chemical composition of stainless steel with low Ni content upon its corrosion resistance has been studied. The investigated steels were: OKh21N3T, OKh21N5T, OKh21N6M2T (I), Kh14G14N3T, and Kh17AG14. Corrosive media selected were: 0.5N iron chloride solution, 3% solution of sodium chloride, 20% nitric acid, and sea water. Steel I, which contains 21% Cr, 6% Ni, and 2% Mo, was found to be most resistant to pitting under the described conditions. In general, it was established that resistance of heterogeneous ferrite-austenitic stainless steel to pitting is secured by an increase in Cr content and the presence of Mo.

Card 1/2

UDC: 669.14.018.84:621.785

I 04666-67

ACC NR: AP6007107

Thus, it is possible to substitute for the chrome-nickel steels of Kh18N10T type ¹⁶ ¹⁶ ²
by steels with a low Ni content in a variety of listed corrosive media. Orig.
art. has: 3 tables and 3 figures.

SUB CODE: '11,07' SUBM DATE: none/

ORIG REF: 005/

OTH REF: 004

kh

Cord 2/2

LANGER, O. (Varnsdorf); VACLAV, R. (Varnsdorf)

Method for mathematical interpretation of experimental curves.
Chem prum L, no.8:406-408 Ag '64.

LANGER, P.

Problem of shock in burns; review of Soviet literature. Bratisl. lek.
listy 33 no.3:207-218 1953. (CML 25:1)

1. Of the Clinic of Plastic Surgery.

LANGER, P.

Certain new aspects of homotransplantation or tissue and organs.
Bratisl. lek. listy 34 no.2:202-208 F '54.

1. Z Kliniky pre plasticku chirurgiu LFSU, prednosta doc. dr.
S. Demjen.

(TRANSPLANTATION,
*homotranspl.)

LANGER, P.

Present state of intra-arterial blood transfusion. Bratisl. lek.
listy 34 no.8:939-943 Aug 54.

1. X Kliniky plastickej chirurgie LFSU, prednosta doc. dr. S.Demjen.
(BLOOD TRANSFUSION,
intra-arterial)

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Contribution to the conditions of saturation of vitamins B₁, B₂, and C among the population of certain Slovak regions. Bratisl. lek. listy 35 no.10:601-611 31 May 55.

1. Z Endokrinologickeho ustavu SAV v Bratislave, riaditel' dr. J. Podoba.

(VITAMIN B₁
saturation cond. in Slovakia)

(VITAMIN B₂
saturation cond. in Slovakia)

(VITAMIN C
saturation cond. in Slovakia)

L. LANGER, P.
EXCERPTA MEDICA Sec. 17 Vol. 3/6 Public Health June 57

1985. LANGER P., KORTUS J., JESENÁK V., MENKYNOVÁ E. and MICHAJ-
LOVSKIJ N. Endokrinol. Úst. SAV., Bratislava. *Niekol'ko pohľadov na
problém saturácie vitamínu C na Slovensku. Considerations on
vitamin C saturation in Slovenia LÉK. OBZOR 1956, 5/4 (193-
201) Graphs 3 Tables 2

2100 saturation tests were performed in various population groups in 1950-54.
Saturation is lowest during February - May, and reaches a high level in the sum-
mer months, to decrease again in October. The hyposaturation of early spring is
more marked and lasts longer in the northern mountainous regions than in the
southern plains. Exceptions were seen in some places where potatoes and veg-
ables were abundant even in winter.

LANGER, P.

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34. Detection of iodine-containing substances on paper chromatograms. L. Dragúnová and P. Langer (Slovak Acad. Sci., Bratislava, Czechoslovakia) *Nesvr.* 1950, 178, 537-538. -- By adding ferric to the ceric sulphate-arsenous acid reagent (*Anal. Abstr.*, 1955, 2, 735) (final concn: 0.01 to 0.005 M), red spots on a blue background are obtained. The colour is stable for ~ 49 hr.

N.E.

CZECHOSLOVAKIA/Human and Animal Physiology - Endocrine Glands.

T-9

Abs Jour : Ref Zhur - Biol., No 7, 1958, 31967

Author : Langer, P.

Inst

Title : Relation of Thyroid Hormones With Albumins of Serum.

Orig Pub : Bratisl. lekar. listy. 1957, 2, No 2, 91-97.

Abstract : Use of different methods of fractionization, as well as paper electrophoresis showed that the I hormone is localized in fractions of albumin and α -globulin. With the addition of thyriodine to the serum in vitro, it is localized in these fractions.

Card 1/1

LANGER, P. (Bratislava, ul. Obrancov mieru 1/a)

Calcium saturation of Czechoslovakians & its relation to the incidence of endemic goiter. Cesk. gastroenter. 11 no.5:318-324 5 Sept 57.

1. Endokrinologický ústav SAV v Bratislave, riaditeľ MUDr Julian Podoba.
(CALCIUM, in urine
relation to endemic goiter in Czech. (Cz))
(GOITER, epidemiol.
endemic in Czech., relation to urinary calcium (Cz))

EXCERPTA MEDICA Sec 17 Vol 5/3 Public Health Mar 59

867. THE POSSIBLE ROLE OF STRUMIGENIC ALIMENTARY FACTORS IN THE AETIOLOGY OF ENDEMIC GOITRE IN SLOVAKIA - Studio sul possibile ruole di fattori strumigeni alimentari nella eziologia del gozzo endemico in Slovacchia - Langer P., Sedláč J., Michajlovskii N., Stukovsky R. and Podoba J. Ist. di Endocrinol., Acad. Slovacca delle Sci., Bratislava - ARCH.SCI.MED. 1958, 105/3 (257-266) Tables 5

A review is given of the various studies which have been made on the subject; it is demonstrated that some goitrogenic foodstuffs, especially those belonging to the family of the Brassicaceae, contain a considerable quantity of thiocyanates, so that the concentration of thiocyanates in the serum and the urine may be taken, to a certain extent, as an index of the amount of these foodstuffs ingested. These examinations are suitable for application to large groups of the population. Experimental studies in animals have revealed the goitrogenic properties of some local foods (vegetables, milk), which constitute a substantial part of the diet of the population. The results have shown that the goitrogenic potency of some vegetable foods depends on the presence of several sulphurated substances; their goitrogenic activities may therefore change with the content of these substances, which in its turn depends on the sulphur uptake.

(VI, 17, 19)

SEDLAK, Jozef; LANGER, Pavel; LICKO, Vojtech

Effect of the increased intake of sulfate on the goitrogenous activity of winter cabbage: correlation between plant goitrogenicity and sulfur utilization. II. Biologia 15 no.3:183-192 '60. (EEAI 9:8)

1. Endokrinologický ústav Slovenskej akadémie vied, Bratislava.
(SULFATES) (CABBAGE) (GOITER) (SULFUR)

LANGER, P.; SEDLAK, J.; MICHAJLOVSKIJ, N.

On strumigenic substances in food from the viewpoint of our experimental studies. Bratisl. lek. listy 42 no.6:330-334 '62.

1. Z Endokrinologickeho ustavu SAV v Bratislave, riaditel MUDr. J. Podoba, C. Sc.

(GOITER etiol) (VEGETABLES chem)
(THIOCYANATES toxicol)

LANGER, P.

Regional and seasonal changes in the level of thiocyanates of the blood serum in inhabitants of Slovakia and their relation to the intake of goitrogenic foods. Bratisl. lek. listy 42 no.7:393-401 '62.

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riaditel MUDr. J. Podoba, C.Sc.
(CLIMATE) (THIOCYANATES blood)
(VEGETABLES chem) (GOITER etiol)

LANGER, Pavel

Natural strumigens and the function of the thyroid gland.
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STOLC, V.; LANGER, P.

Biosynthesis of thyroid hormone following cabbage feeding
in guinea pigs. *Physiol. bohemoslov.* 12 no.3:251-257 '63.

1. Institute of Endocrinology, Slovak Academy of Sciences,
Bratislava.

(PLANTS, EDIBLE) (THYROID HORMONES)
(METABOLISM) (IODINE ISOTOPES) (IODINE)
(STATISTICS) (TYROSINE) (DIIODOTYROSINE)

STOLC, V.; MACHO, L.; LANGER, P.; KUTKA, M.; STUKOVSKY, R.; KNOPP, J.

Secretion of hormonal iodine by the thyroid, the amount of iodine in the organism and other parameters of iodine metabolism in rats after different amounts of fat and iodine. *Physiol. Bohemoslov.* 13 no.4:341-350 '64.

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Relationship between thyroidal iodide transport, biogenesis of the thyroide hormones and different fat and iodine intakes in rats. *Physiol. Bohemoslov.* 13 no.4:351-357 '64.

1 Institute of Endocrinology of the Slovak Academy of Sciences, Czechoslovak Academy of Sciences, Bratislava.

LANGER, P.; STOLC, V.

Re-evaluation of the goitrogenic effect of cabbage in rats. *Physiol. Bohemoslov.* 13 no.4:362-369 '64.

1. Institute of Endocrinology of the Slovak Academy of Sciences,
Czechoslovak Academy of Sciences, Bratislava.

LANGER, P.; DROBNICA, L.; AUGUSTIN, J.

On the possible mechanism of the antithyroidal action of some natural mustard oils. *Physiol. Bohemosl.* 13 no.5:450-456 '64.

1. Institute of Endocrinology of the Slovak Academy of Sciences, Czechoslovak Academy of Sciences, Bratislava and Institute of Technical Microbiology, Chemical Faculty, Slovak Technical High School, Bratislava.

LANZER, P.

Study of chemical representatives of the microflora applied
of raw cabbage. *Physiol. Botanica*. 1960. 34:12-57. 141

1. Institute of Microbiology, Slovak Academy of Sciences,
Bratislava.

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LANGER P.

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SEMLAK, J; LANGER, P; MICHAJLOVSKIJ, N

Institute of Endocrinology, Slovak Academy of Sciences
(Endokrinologický ústav Slovenskej akadémie), Bratislava
(for all)

Bratislava, Bratislavská lekárske listy, No 1, January 1966,
pp 9-16

"Cabbage goitrogens and the possibilities of reducing their
level by intervention during the vegetation period."

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SEDLAK, J; LANGER, P; MICHAJLOVSKIJ, N

Institute of Endocrinology, Slovak Academy of Sciences
(Endokrinologicky ustav Slovenskej akademie), Bratislava
(for all)

Bratislava, Bratislavske lekarske listy, No 1, January 1966,
pp 9-16

"Cabbage goitrogens and the possibilities of reducing their
level by intervention: during the vegetation period."

CIHULA, J.; JECHOVA, D.; LANGER, St.

Hypertensive encephalopathy during acute glomerulonephritis;
clinical, psychological and electroencephalographical aspects.
Cesk. pediat. 11 no.12:905-913 Dec 56.

1. Katedra detskeho lekarstvi VLA (prof. Dr. J. Blecha), katedra
Neurologie VLA prof. Dr. M. Sercl), detska psychiatrie KUNZ v
Hradci Kralove.

(GLOMERULONEPHRITIS, in inf. & child
acute, with hypertensive encephalopathy (Cz))
(ENCEPHALOPATHY, HYPERTENSIVE, in inf. & child
with acute glomerulonephritis (Cz))

CZECHOSLOVAKIA

LANGER, S., of the Children's Psychiatric Department (Detske psychi-
atricke oddeleni) of the Kraj Institute of National Health (Kraj-
sky Ustav Narodniho Zdravi) and Institute of Pedagogy (Pedagogicky
Institut) in Hradec Kralove.

"Some Peculiarities of Mental Development in Mongoloid Children"

Prague, Casopis Lekarů Českých, Vol 102, No 4, 25 Jan 63, pp 100-105.

Abstract [Author's English summary]: The author deals with two problems
of the so-called mongolism (Down's disease): 1. The degree of weak-minded-
ness which occurs most frequently, 2. The specificity of the mental con-
dition. Results in 70 children, aged from 4 to 18 years, showed that
mongolism calls forth mostly a medium, and only in a lesser proportion
severe or slight weak-mindedness. The author compared further 48 mngo-
loid children with the same number of weak-minded non-mongoloid (with
the use of pair method) and he found that the mongoloids show a stati-
stically significant difference in disturbances of pronunciation and in
social adaptability. Psychological examination methods were used. The
results were statistically verified. [15 references, about half Eastern].

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LANGER, Stanislav (Hradec Kralove II, Sadovska 598)

Sexual differences in mongoloid children & infants. Cas. lek. cesk.
97 no.41:1290-1294 10 Oct 58.

1. Detske psychiatricke oddeleni krajskeho ustavu narodniho zdravi v
Hradci Kralov.

(MONGOLISM

sex differences in child. & inf. (Cz))

(SEX CHARACTERISTICS

sex differences in mongoloid child. & inf. (Cz))

LANGER, S.

CZECHOSLOVAKIA

LANGER, S., PHD; NOVAK, M., MD.

Regional Youth Ordinance KUNZ (Krajska dorostova ordinace
KUNZ), Hradec Kralove (for all)

Prague, Prakticky lekar, No 3, 1963, pp 100-104

"Importance of the Application of Psychological
Anamnesis and Exploration in the Selection of
Vocation in Retarded Youth."

LANGER, S. /

CZECHOSLOVAKIA

NOVAK, M., MD; LANGER, S., PhD.

Youth Ward KUNZ (Dorostove oddeleni KUNZ), Hradec Kralove
(for all)

Prague, Prakticky lekar, No 4, 1963, pp 148-149

"Appraising Abilities of Youth for Vocation."

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Unclassified.

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For faster introduction of Hammer's method. p. 382.

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Czechoslovakia

Source: EAST EUROPEAN LISTS Vol. 5, no. 7 July 1956