

326-75-A-755
B-75-114-15

PA.09-46

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NJ.01 OH.26
NY.50 OH.01
WI.05 OH.33
MA.10
PA.09
NY.03
MO.02

ABSTRACTS OF MISCELLANEOUS REPORTS

December
April 1941 to Sept. 1944

CP-36 April 17, 1942 - Princeton University

The specific heat of Tu_3O_8 was determined accurately. The reaction of tuballoy with six ceramic materials at specified high temperatures is indicated.

CP-92 May 23, 1942 - New York University

The specific heat and thermal conductivity of tuballoy at room temperature are given.

CP-92 May 23, 1942 - Princeton University

Thermal conductivity measurements of graphite, BeO , Tu_3O_8 , and TuO_2 were made.

CP-124 June 13, 1942 - Princeton University

Young's modulus, Shear modulus, Poisson's ratio, compressibility, and elastic limit for work hardened and annealed tuballoy were obtained. The electrical and thermal conductivity of the metal, and thermal conductivity and density of black dioxide and sintered carbide were measured.

CT-192 No date - Princeton University

The determination of a number of physical constants, primarily those connected with the heat transfer in an atomic power plant, were carried out. The thermal conductivity of a number of tuballoy-containing materials was investigated and the electrical conductivity of the metal was measured. The thermal conductivities of graphite, beryllia, and lampblack were determined. Experiments on thermal transfer coefficients between a variety of different materials were conducted. The thermal coefficient of expansion, elastic constants and ultimate strength of tuballoy were measured and the conditions for rupture under differential thermal expansion determined. Several other properties such as hardness, density, and machineability are discussed.

326-75-A-255
Box 45 Folder 5

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CT-456 No date - T. A. Butler

Experiments were conducted to determine the efficiency with which tuballoy metal can be heated and recast in air.

CT-2149(M) Sept. 12, 1944 - University of Wisconsin

WI.05

The emissivity of vacuum heated tuballoy between 1180° and 1370° K was determined. A sudden change in emissivity between the temperatures 1321° and 1323° K, suggesting a third crystal structure change, was noted.

CC 2624 Dec 1, 1944 Carnegie

PA.09

The changes in the breaking strength of tuballoy produced by irradiation are summarized.

CC 2656 Carnegie Jan 5 to Dec 1, 1944

The breaking properties of artificial graphite were determined.

CCA-7 April 1, 1941 - N.R.C. - Stedman and Brown

The preparation of tuballoy by the reduction of $TuCl_4$ by calcium is described.

CCA-562 March 12, 1943 Columbia University

NY.03

Corrosion studies on stainless steel, cast iron, and mild carbon steels were performed.

CCA-721 May 28, 1943 Columbia University

The corrosion of aluminum in the presence of fluorides was investigated.

A 753 x CC - July 1, 1943 - Columbia
A detailed report on the physical and thermodynamic properties of tuballoy tetrafluoride with bibliography

A-1034 (CT) February 19, 1944 - Mallinckrodt Chem. Works MO.02

The ignition temperature of a green salt-magnesium mixture was measured, and factors which may affect it investigated.

A-1035 (CT) April 27, 1944 Mallinckrodt Chem. Works

Factors affecting biscuit operation in 4-inch graphite crucibles were quantitatively investigated.

A 1045 (CC) Manhattan District July 31, 1944.

This monthly information report contains information and recommendations on the production of black oxide, glass and brown oxides and green salt, classification tests on C-2 slag, production of crude and finished metal, and processing of ore, and analytical reports.

A-1053 August 14, 1944 - duPont - Chambers' Works

An investigation was undertaken to develop some control method for predicting magnesium performance in the reduction reaction.

A 1054 (CC) Manhattan August 31, 1944

These topics covered in this monthly information report are: the production of brown oxide, green salt, crude and finished metal; casting in metal molds; density determinations of tuballoy; improvements in casting furnace; processing of ores; and analytical reports.

A 1061 (CC-An) Nov. 17, 1944 - Princeton

Studies on the quantitative reduction of Tu by saturated mercury-zinc liquid amalgam ~~and on the~~ ~~data~~ are discussed. A method of determining Tu_2O_8 in high and low grade ores using this reduction method is described.

A 1228X (CC-G) Columbia Aug 29, 1944

The heats of formation, free energies, and entropies of tetravalent fluorides are calculated.

A 1235 II (CC-G) Aug. 28, 1944 Columbia

Methods of electroplating thin films of ~~uranium~~ tetravalent oxide on platinum for use in the counting method of isotopic analysis of uranium were developed.

Beta CD 471 (CC-G) Oct 10, 1944 Clinton Eng. Works

TN.06

A process for converting tetravalent trioxide to anhydrous tetravalent tetrafluoride is described.

CD 477 (CC-G) Clinton Eng. Wks. Nov 9, 1944

TN.06

The preparation and properties of various tetravalent halides used is described.

N-43 (CT) April 10, 1943 - Westinghouse

The Westinghouse vacuum casting apparatus is described.

N-75 (CT) June 28, 1943 W. E. Kirst

OH.26 The impressions gained during visits to B. and T. Metals Company and Battelle Institute at Columbus to witness and discuss extrusion, and to the Copperweld Steel Corporation of Warren, Ohio, to cover degassing and straightening, are summarized. OH.07 OH.33

N-294 (CT) November 29, 1943 - Frary

The anodizing of aluminum tanks meant to contain distilled water is discussed.

N-934 (CT) April 4, 1944 - L. C. Evans

The influence of heat (300°) on weight of aluminum is reported.

N-1032 (CC) January 25, 1944 - duPont - Jackson Laboratory

The recovery of tuballoy values from by-product scrap material is described in detail.

N-1322 (CT) National Research Corporation. MA.10

Monthly reports for May, June, July, August, and September, 1944, cover the progress made in the preparation of tuballoy castings by the "lost wax" technique for making molds coupled with centrifugal casting, carried out in vacuum.

N-1396 KK (CT) ~~The~~ Project-wide Coatings Research Oct. 20, 1943 to July 26, 1944
A collection of weekly progress reports from all Project sites in which coating work was being carried on.

N 1661 (CC-6) Sept 7, 1944 Du Pont

The preparation of the nitrides of titanium, zirconium, and silicon is described.

N-1742 (CP-6) June 21, 1944 Du Pont

The effects of various temperature factors on the properties of X-ray film are explained.

N 1761 (CT-C) Dec 9, 1944 R. B. Briggs

The effects of radiation and corrosive conditions on iron slugs with a special ~~leaded~~ sodium-aluminum silicate coating leaded on were determined.