

FILM STUDY GROUP
SUBJECT INDEX AND REPORT

T.O.M. REEL NO. 87

Prepared by
SOCONY VACUUM OIL COMPANY

SOCONY-VACUUM LABORATORIES
(A Division of Socony-Vacuum Oil Co., Inc.)
Research and Development Laboratories
Paulsboro, N. J.

Review of Microfilm Reel #87
U. S. Government Technical Oil Mission

I. G. Farbenindustrie - Leuna

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Subject Index

Technical Oil Mission Microfilm Reel No. 87

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I. G. Farbenindustrie A. G., in Leuna
(cont'd from T.O.M. Reel #86)

Description of Individual Items (#111-124)

Bag #3979 Target #30/4.02

111 59p frames 1722-1779 9/1/39

Appendix to item #110

This item is a collection of tables, flow-diagrams, and curves summarizing the progress achieved in the development of hydrocarbon synthesis in Leuna during the first half-year of 1939. Much space is devoted to operational and economic considerations.

112 51p frames 1780-1830 various dates

Instrumentation

Collection of sketches and flowsheets referring to the regulating, control, and measuring instruments used in the Leuna plant is given. Part of the figures have already been commented upon in Item #1 of this bag. (Reel #84).

113 4p frames 1831-1835

Heating of Catalyst

Four graphs on the heating, heat-loss, and heat-conductivity of catalyst in spherical form. No comment is given.

114 10p frames 1836-1845 1/26/45

Report on the Damaging of High-Pressure Vessels by Bomb Fragments

Report and photographs of bomb damage and the possibilities of repair are presented.

115 9p frames 1846-1854 7/30/43

Resistance of Various Materials to Carbon Monoxide.

The object of the research discussed in this note was

to find substitutes for manganese-copper alloys used in the methanol and similar installations. Experiments carried out by letting 1:1 mixtures of carbon monoxide and hydrogen flow rapidly through converters under either 250 or 700 atm. and at temperatures ranging from 170° to 400°C, showed that the corrosion caused by the formation of iron carbonyl depends on the pressure and passes through a maximum at 260-300°C. For work under 250 atm. throughout the entire temperature range, V2A-alloy is the only suitable substitute; for temperatures above 350°C all the materials can be used; below 200°C all the investigated materials are suitable, except boiler-sheet-steel (plain or galvanized) and N5-alloy. For work under 700 atm., none of the investigated materials can be used as a substitute for manganese-copper alloys.

Tables, curves and photomicrographs illustrate the report. For details on the constitution of these alloys, see Item #124.

This item has been translated by one of the T.O.M. film study groups.

116-117	6p	frames 1855-1860	11/24/43
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Substitutes for Copper in Methanol and Isobutanol Installations

The notes refer to Item #115 and confirm its findings.

118	2p	frames 1861-1862	9/20/44
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Corrosion by Alkazine Solutions

Alkazine solutions are solutions of sodium thiosulfate or potassium thiocyanate, or both, and sodium silicate, in various concentrations. Aluminum is not appreciably attacked by alkazine solutions with a thiosulfate content below a value of 15-20 g. S₂O₃ = liter, and a thiocyanide content below a value of 30-50 g. CNS₃/liter, provided the concentration of silicate does not fall below a value of 150 mg. SiO₂/ltr. Iron becomes passive toward alkazine solutions by the addition of 7% of potassium acid phosphate.

119	11p	frames 1863-1873	5/8/44
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Survey of Defective Alloy Melts
(Report of the Class-Kallen Committee
on the Usability of Defective Melts of
the Current High-Pressure Steels).

Of 257 faulty melts, mostly N₁₀, N₉, and N₈A-steels,

230 were found by the committee to be still usable. Their condemnation had been based mostly on deviations from the average composition limits. The report contains recommendations for future deliveries of steel, particularly with respect to analysis, processing, marking and distribution. A table of tolerances for the determination of various components of steels is given.

120	1p	frame 1874	4/16/43
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Steels for Low-Temperature Operation

This item shows the upper content limits of addition elements, such as manganese, chromium and nickel in steels for installations operating at temperatures from -40° to -190°C .

121	4p	frames 1875-1878	5-12/1/41
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Steels for High-Pressure Piping

This item consists of four tables summarizing the specifications for steels used in the construction of various piping and joining elements of high-pressure equipment, for work under 325 and 700 atm. pressure. Table #4 has already been translated and published by the U. S. Bureau of Mines. (Data Sheet #69).

122	2p	frames 1879-1880	8/26/44
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Lubrication in the Buna-Rubber Plant

The compressors can be adequately lubricated by a mixture of used steam cylinder oil and machine oil, of specific gravity 0.928 at 20°C and a viscosity of 22-33 $^{\circ}$ E 50°C . Steam and gas engines can be satisfactorily lubricated with steam-engine oil emulsion, containing up to 50% water.

123 83p frames 1882-1964

Instructions for Storm- and Explosion-Proof
Electrical Equipment. (Handbook).

Handbook published by the German Association of
Electrical Engineers, containing instructions on the installation
and handling of specialized electrical equipment.

124 3p frames 1965-1967

Composition and Properties of German Steels

A table covering all steels used for chemical con-
struction in Germany is presented. It has been translated and
published by the U. S. Bureau of Mines as Engineering Data
Sheet #58.

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