

METHANE CRACKING BY  
PARTIAL COMBUSTION WITH  
OXYGEN OR AIR IN  
GERMANY

SUPPLEMENTAL TARGET

THE UNITED STATES NAVAL TECHNICAL MISSION IN EUROPE HAS PREPARED A TECHNICAL REPORT ENTITLED "METHANE CRACKING BY PARTIAL COMBUSTION WITH OXYGEN OR AIR IN GERMANY".

TO ELABORATE THE SUBJECT MATTER OF THIS REPORT, THE FOLLOWING SELECTED DOCUMENTS WERE FORWARDED TO THE BUREAU OF SHIPS BY THE NAVAL TECHNICAL MISSION IN EUROPE.

THE DOCUMENTS ARE FILMED IN THE ORDER SHOWN ON THE INDEX.

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GERMAN DOCUMENTS ON METHANE CRACKING BY PARTIAL  
COMBUSTION

1. I. G. Farbindustrie AG-Ludwigshafen Drawing Op 631 N-Sch 1 dated 17 April 1942 is a flow-sheet for production of synthesis gas by partial combustion of the methane in a coke oven gas mixture.
2. Report dated March 1942 by E. Kapp of Lurgi Gesellschaft Fur Warmetechnik entitled "Druckspaltung Methanhaltiger Gase der Druckvergasung" covers a series of experiments carried out at the Bohlen plant by the Lurgi Company in 1941 and 1942 on the cracking of coke oven gas.
3. Report of March 17, 1943 entitled "Spaltung von Reingas mit Schwefelbestimmungen", covering additional experiments performed to investigate the behavior of the sulfur compounds in the combustion.
4. Drawing number Op 648 titled "Acetylenbrenner" showing a special burner used to get the best possible mixing of the feed gas and oxygen and combust the gas rapidly with water quenching, to yield acetylene.
5. Cost Estimate by the I. G. Farbindustrie "Kostenschätzung für die Gewinnung von 70% igem Acetylen and Synthesegas aus Kohlenwasserstoffen" which contains estimated operating costs, estimated construction costs, analyses, heat and material balances, and flow sheets.
6. Simplified flow sheet "UMformungsanlage" or reforming plant covering the thermal cracking of coke oven gas by the Koppers Process for the production of synthesis gas.
7. Report dated July 13, 1942, by E. Kapp entitled "Berechnung von Regeneration für die Druckspaltung".

8. Report dated July 1, 1931 by Dr. Eckhard entitled "Diegraphische Darstellung der aus Sauerstoff, Dampf und Kohlenstoff gewinnbaren Mischgase" which presents data on equilibrium of synthesis gas production reactions, including production from methane.
9. Brief report dated January 10, 1936 from the Oppau Plant to Mitsubishi interests on "Methan-Krackanlage und Winkler Wassergas Generator" giving analyses of gase and utilities demand.
10. Drawing from Treibstoffwerk Rheinpreussen showing flowsheet and capacity of synthesis gas production by cracking coke oven gas in a generator.
11. Drawing from Treibstoffwerk Rheinpreussen showing flowsheet of gas cracking plant with analyses and capacities.
12. Report dated April 17, 1940 from Bohlen entitled "Methan-Spaltung" which contains theory and data on thermal cracking of methane.