

THE BRITISH COAL UTILISATION RESEARCH ASSOCIATION

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Report on the G.I.* Two-Stage Gas Producer

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SUMMARY

Two-stage gasification plants at Linz and Radenthein in Austria were investigated by the author in September, 1951. These plants, designed and manufactured by the Industriebedarf-Gesellschaft, m.b.H. of Innsbruck, employ a predistillation retort which completely carbonises the coal at a low temperature before it is fed to the generator proper.

The gasification reactions take place with a deep bed of low-temperature coke and a blast saturation temperature that is unusually low giving fuel bed conditions suitable for producing high-quality gas. Because of the low carbonisation temperature in the retort, the tar is not cracked, and the retort gas, after mixing with tar-free gas from the generator, can be conveyed through fairly long steelworks mains without depositing more than a small quantity of fluid tar. The Linz Steelworks main had been in use for two years without burning out, and the open-hearth furnace flame looked unusually luminous. The plants were studied in detail and samples brought back to England for analysis.

(1) Introduction

In September, 1951, the author visited Austria and studied in some detail the design and operation of G.I.* 2-stage producers at the United Austrian Steelworks in Linz and the Austro-American Magnesite Company's works in Radenthein. The object was to make an unbiased assessment of this new type of gas producer on behalf of B.C.U.R.A., and full facilities were provided by the plant manufacturers, the Industriebedarf-Gesellschaft, m.b.H. of Innsbruck, and by the managements of the two Austrian works.

Apart from collecting data and carrying out certain tests on the plants, extensive discussions were held with the Austrian staff at the works and at the makers' headquarters. Samples of gas, coal and tar were brought back for analysis.

* Gas Integral