

THE BRITISH COAL UTILISATION RESEARCH ASSOCIATION

Information Circular No. 81

Report of Tests on Gas-Producer Tars

by S. A. Burke

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SUMMARY

Samples of tar from producers operating with different gas offtake temperatures have been compared. Big differences in the pitch-content were found, and the results show that the percentage of pitch increases as the gas offtake temperature rises; above 500°C the pitch-content increases rapidly, and above 600°C the tar appears to be completely cracked.

The implications of these findings are discussed in relation to the comparative freedom from deposits in the Linz Steelworks gas mains, using G.I. 2-stage producers, as compared with normal British hot-raw-gas installations. Some effects on the performance of cold-clean-gas plants are also mentioned. Conclusions are drawn about plant design and operation, and the development of an improved experimental electrofilter is reported for use in further tests.

(1) Introduction

The remarkable freedom from deposits of heavy tar in the Linz Steelworks mains, achieved by the use of G.I. 2-stage gas producers and reported in Information Circular No. 82, suggested that the nature of producer tar could be considerably changed by lowering the temperature of the gas stream in which the tar was distilled.

Of the plants seen in Austria, however, only one, at the Austro-American Magnesite Co.'s works at Radenthein, was provided with tar separation equipment; the tar samples brought back from this plant did not provide reliable information on the nature of low-temperature producer tars, since the producers at this works are fed with a mixture of brown coal and bituminous coal. The evaluation by B.C.U.R.A. of the G.I. Process could not be completed until more information was obtained on this question.

The problem of minimising the nuisance of tar deposits in the gas mains of British steelworks, while still using existing producers,