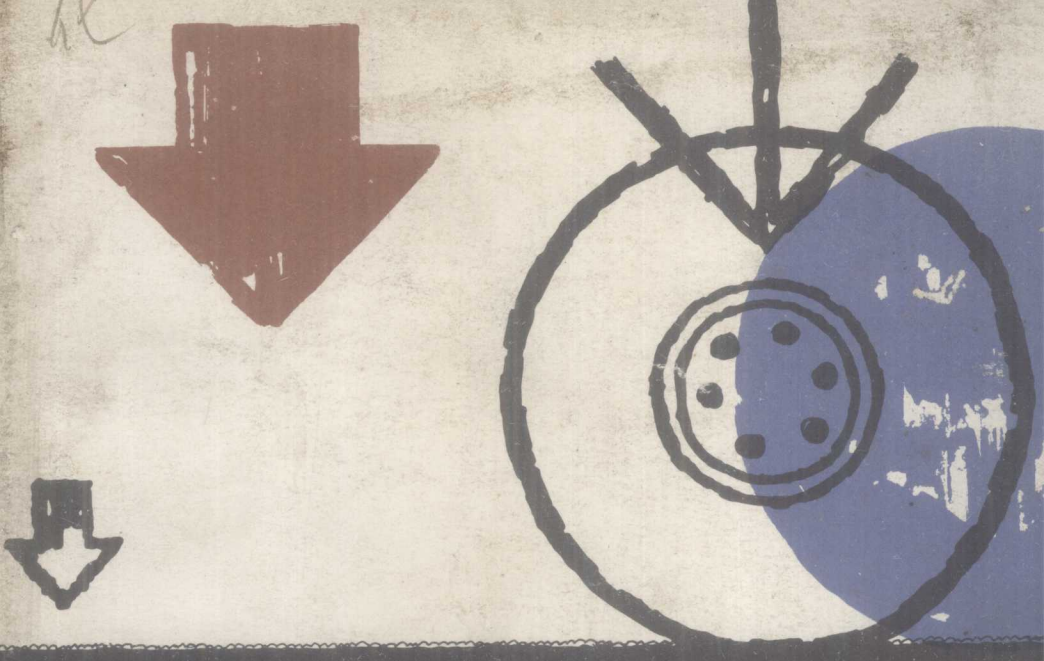

BITUMINOUS MATERIALS

in road construction

ROAD RESEARCH LABORATORY, DSIR

DEPARTMENT OF
SCIENTIFIC AND INDUSTRIAL RESEARCH

ROAD RESEARCH LABORATORY

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FOREWORD

Lecture courses on materials and methods of construction are a regular feature of the work of the Road Research Laboratory. The lectures provide the basis for three textbooks of general reference. The first volume 'Soil mechanics for road engineers' was published in 1952 and the second volume 'Concrete roads—design and construction' was published in 1955. The present book is the third and final volume of the series.

The greater part of the book is based on the research work carried out by the Laboratory and embodies the results of both laboratory and full-scale road experiments. This has been supplemented from the experience of highway engineers and members of the road materials industry. The emphasis in the book is on the types of material, and the conditions of weather and traffic, encountered in the United Kingdom, but the principles involved have wide application.

The book includes a chapter on materials for white line road markings.

The book has been prepared mainly by members of the Bituminous Materials Section of the Laboratory under the guidance of Dr. A. R. Lee and Mr. J. H. Nicholas (Head of the Section). A list of those contributing is given on p. iv. The editorial work has been undertaken by Miss M. G. Greysmith.

Every effort has been made to include the latest available information. Suggestions and criticisms from readers will be welcomed and will be carefully considered in relation to any revision.

W. H. GLANVILLE
Director of Road Research

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August, 1962

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The Laboratory is under a debt of gratitude to a number of engineers and scientists who have in the past contributed to the lecture courses on bituminous materials. Acknowledgement is also due to those who have given helpful comments and advice on individual chapters.

METRIC EQUIVALENTS OF BRITISH UNITS

1 in.	= 25·4 mm
1 ft	= 30·48 cm
1 yd	= 0·914 m
1 in./mile	= 15·8 mm/km
1 sq. in.	= 6·45 cm^2
1 sq. yd	= 0·836 m^2
1 cu. ft	= 28300 cm^2
1 cu. yd	= 0·764 m^3
1 gallon	= 4·54 litres
1 oz	= 28·35 g
1 lb	= 0·454 kg
1 cwt	= 50·8 kg
1 ton	= 1016 kg
1 lb/sq. in.	= 0·0703 kg/cm^2
1 lb/sq. in./in.	= 0·0277 $kg/cm^2/cm$
1 lb/sq. ft	= 4·88 kg/m^2
1 lb/sq. yd	= 0·54 kg/m^2
1 lb/cu. ft	= 16·02 kg/m^3
1 lb/cu. yd	= 0·593 kg/m^3

If $t°F \equiv T°C$ then $T \equiv \frac{5}{9}(t-32)$

BRITISH EQUIVALENTS OF METRIC UNITS

1 mm	= 0·0394 in.
1 cm	= 0·3937 in.
1 g	= 0·0353 oz
1 kg	= 2·20 lb

If $T°C \equiv t°F$ then $t \equiv \frac{9}{5}T+32$

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