Australian Standard™

Coal and coke—Analysis and testing

Part 14.3: Higher rank coal ash and coke ash—Major and minor elements—Wavelength dispersive X-ray fluorescence spectrometric method

This Australian Standard was prepared by Committee MN/1, Coal and Coke. It was approved on behalf of the Council of Standards Australia on 5 October 1999 and published on 5 November 1999.

The following interests are represented on Committee MN/1:

Australasian Institute of Mining and Metallurgy

Australian Coal Association

Australian Coal Preparation Society

Australian Institute of Energy

Bureau of Steel Manufacturers of Australia

Coalfield Geology Council of N.S.W.

CSIRO, Division of Energy Technology

Department of Mines & Energy, Qld

Electricity Supply Association of Australia

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This Standard was issued in draft form for comment as DR 99018.

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First published as AS 1038.14.3—1999

Published by Standards Australia International Ltd
PO Box 1055, Strathfield, NSW 2135, Australia

ISBN 0 7337 3008 6

PREFACE

This Standard was prepared by the Standards Australia Committee MN/1, Coal and Coke, as an additional method in the series of standard methods for the analysis and testing of coal and coke.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

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1 SCOPE This Standard sets out a wavelength dispersive X-ray fluorescence procedure for the determination of silicon, aluminium, iron, calcium, magnesium, sodium, potassium, titanium, manganese, phosphorus and sulfur.

The method is applicable to coal ashes, coke ashes and boiler ashes having components of concentration ranges specified in Table 1.

TABLE 1

RANGES OF APPLICATION OF THE METHOD

Oxide	Concentration range, %		
SiO_2	5	to	100
Al_2O_3		to	80
Fe_2O_3	0.1	to	25
CaO	0.05	to	25
MgO	0.05	to	25
Na_2O	0.05	to	5
K_2O	0.05	to	5
TiO_2	0.05	to	5
Mn_3O_4	0.005	to	5
P_2O_5	0.01	to	5
SO_3	0.05	to	10

NOTES:

1 Additional analytes may be included in the method provided appropriate validation using Certified Reference Materials (CRM) is carried out.

2 The precision statistics reported in Appendix D are only robust for the concentration ranges included in the test program. Outside of these ranges precision should be determined using suitable Certified Reference Materials.

3 The method has been tested for the following additional analytes; BaO (0.01 to 1%); SrO (0.01 to 1%) and ZnO (0.005 to 1%).