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# Australian Standard 1038, Part 18—1981

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**METHODS FOR THE ANALYSIS  
AND TESTING OF COAL AND COKE**

## **Part 18—SIZE ANALYSIS OF COKE**

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**STANDARDS ASSOCIATION OF AUSTRALIA**

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THE FOLLOWING SCIENTIFIC, INDUSTRIAL AND GOVERNMENTAL organizations and departments were officially represented on the committee entrusted with the preparation of this standard:

Australian Coal Association  
Australian Institute of Energy  
Australasian Institute of Mining and Metallurgy  
Bureau of Steel Manufacturers of Australia  
Coal Preparation Societies of New South Wales and Queensland  
Confederation of Australian Industry  
Department of Minerals and Energy, Vic.  
Department of Mineral Resources, N.S.W.  
Department of National Development and Energy  
Electricity Supply Association of Australia  
Institution of Engineers, Australia  
Joint Coal Board  
Queensland Coal Board  
Royal Australian Chemical Institute  
Universities

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**AUSTRALIAN STANDARD**

**METHODS FOR THE  
ANALYSIS AND TESTING  
OF COAL AND COKE**

**Part 18  
SIZE ANALYSIS OF COKE**

**AS 1038, Part 18—1981**

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## PREFACE

This standard was prepared by the Association's Committee on Coal and Coke under the direction of the Minerals Standards Committee as a further part of AS 1038, Methods for the Analysis and Testing of Coal and Coke. A knowledge of the size analysis of coke is important in blast furnace, foundry and other metal smelting processes. Certain standard coke testing procedures require a preliminary size analysis of the coke.

During the preparation of this standard, the following Australian and international standards were considered:

AS 1152	Test Sieves
AS 1898	Methods for the Sampling of Coke
AS 2418	Glossary of Terms Relating to Solid Mineral Fuels
ISO 565	Test Sieves—Woven Metal Wire Cloth and Perforated Plate—Nominal Sizes of Apertures
ISO 728	Coke—Size Analysis (Nominal Top Size Greater than 20 mm)
ISO 2325	Size Analysis of Small Coke (Nominal Top Size 20 mm or Less)

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# STANDARDS ASSOCIATION OF AUSTRALIA

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## Australian Standard

# METHODS FOR THE ANALYSIS AND TESTING OF COAL AND COKE

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## PART 18—SIZE ANALYSIS OF COKE

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**1 SCOPE.** This standard sets out methods for determining the particle size distribution of coke using square hole screens. Separate methods are described—

- (a) for coke with a nominal top size greater than 16.0 mm; and
- (b) for small coke with a nominal top size 16.0 mm or less.

**2 DEFINITIONS.** For the purpose of this standard, the definitions contained in AS 2418, as well as the following definitions, apply:

**2.1 Hand-placing**—the operation in which the sieve remains stationary and each particle of coke is handled; if a particle will, in some position and without forcing, pass through the sieve aperture, it is considered as undersize. Hand-placing, after a preliminary period of hand-shaking, is applied to sieves of all aperture sizes down to and including 45.0 mm.

**2.2 Hand-shaking**—the operation in which a sieve is held in the hands, or is freely suspended, and is given a horizontal oscillatory motion with a throw of about 75 mm. The coke which passes the sieve after fifty horizontal oscillations (each consisting of one movement to and fro) in a period of about 30 s is considered as undersize. Hand-shaking only is applied to sieves of aperture sizes less than 45.0 mm.

**2.3 Mechanical sieving**—the operation in which a set of sieves is oscillated by mechanical means.

**2.4 Nominal lower size**—the largest sieve size such that not more than 5 percent of the coke would be undersize.

**2.5 Nominal top size**—the smallest sieve size such that not more than 5 percent of the coke would be oversize.

**2.6 Size range**—the range between the nominal top size and the nominal lower size of the coke.

**2.7 Mean size**—the arithmetic mean size of the coke derived from the sieve analysis using an empirical formula (see Clause 8).