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# Australian Standard 2418, Part 6—1982

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**GLOSSARY OF TERMS RELATING TO  
SOLID MINERAL FUELS**

**Part 6—TERMS RELATING TO  
COAL UTILIZATION  
AND COKE**



**STANDARDS ASSOCIATION OF AUSTRALIA**  
*Incorporated by Royal Charter*



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The following interests were represented on the committee responsible for 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 N.S.W. and Queensland
- Confederation of Australian Industry
- CSIRO, Division of Fossil Fuels
- Department of Minerals and Energy, Victoria
- 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
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AUSTRALIAN STANDARD

**GLOSSARY OF TERMS RELATING TO  
SOLID MINERAL FUELS**

**Part 6  
TERMS RELATING TO COAL  
UTILIZATION AND COKE**

**AS 2418, Part 6—1982**

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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 part revision of AS K149—1966. The revision was undertaken to increase uniformity in the terms used in the coal industry without necessarily implying precise scientific meaning.

Terms which are deprecated are indicated or have been removed completely during the revision.

This standard refers mainly to terms used in coking and carbonization but has been expanded to include terms relating to other forms of coal utilization, e.g. liquefaction, hydrogenation.

Other parts of AS 2418 are as follows:

Part 1—Terms Relating to Coal Preparation

Part 2—Terms Relating to Coal Mining and Geology

Part 3—Terms Relating to Brown Coal

Part 4—Terms Relating to Sampling, Sample Preparation, Analysis, Testing and Statistics

Part 5—Terms Relating to the Petrographic Analysis of Bituminous Coal and Anthracite (Hard Coal)

Part 7—Terms Relating to Coal Classification

This standard requires reference to the following standards:

AS 1038 Methods for the Analysis and Testing of Coal and Coke

Part 20—Determination of Hardgrove Grindability Index of Hard Coal

BS 2742C Ringelmann Chart

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## STANDARDS ASSOCIATION OF AUSTRALIA

## Australian Standard

## GLOSSARY OF TERMS RELATING TO SOLID MINERAL FUELS

## PART 6—TERMS RELATING TO COAL UTILIZATION AND COKE

Term	Explanation
ammoniacal liquor	A weak aqueous solution of ammonia, salts, phenols and other materials recovered from raw coal gas.
apparent relative density	The ratio of the mass of a volume of coal or coke to the mass of an equal volume of water (at a specified temperature), inclusive of any voids within the lumps subjected to the test.
ash (industrial)	The residue, of predominantly inorganic matter, after the combustion of coal or coke.
ash fusibility	The partial or complete melting of ash constituents, possibly leading to the formation of clinker or fireside deposits.
ASTM tumbler test	An American test for coke strength. A 10 kg sample of coke between 50 mm and 75 mm in size is tumbled in a specified drum for 1400 revolutions at 24 r/min. Results are obtained in the form of a <i>stability factor</i> (mass percent remaining over 25 mm in size) and a <i>hardness factor</i> (mass percent remaining over 6.3 mm in size).
ball mill	See tumbling mill.
beehive coke oven non-recovery oven	A coke oven in which a mass of coal is carbonized by heat produced by combustion of the coal volatiles above the upper surface of the mass. Since volatile materials are burnt, no by-products are obtained.
'bird-nesting'	The formation of partly fused, loosely bonded deposits of sintered fly ash on the heating surfaces of boiler furnaces and auxiliaries.
black end	An incompletely carbonized part of a charge or piece of coke.
blast furnace	A vertical furnace for the reduction of iron ore to iron. The burden of ore, coke and limestone is introduced from the top while hot air and subsidiary fuel are blown in from the bottom where molten iron and slag are drawn off periodically.
blast furnace coke	Coke specially prepared for use in blast furnaces; usually large strong coke of a narrow size range.
blocky coke	Approximately cubical-shaped pieces of coke.
boiler	A device for producing steam by heating water. The main types are water-tube, especially for large applications, and shell or fire-tube boilers.
boiler auxiliaries boiler ancillaries	The economizer or boiler feed water heater and the combustion air-heater and some other parts of a boiler.
bonded deposits	Deposits formed on the heating surfaces of boiler furnaces and superheaters by the compact bonding of fly ash with fusible materials produced from burning fuel.
bottom ash	The ash deposited in the bottom of a furnace as distinct from the fly ash which is carried out with the products of combustion.
briquette	An agglomerate formed by compacting a particulate material in a briquetting press, with or without an added binder material.
bulk density	The mass per unit volume of a collection of coal or coke particles.
bunkering	The temporary storage of coal or coke in bunkers, bins or hoppers for feeding either to transport facilities or directly to plant for use.
by-product coke oven slot oven	A coke oven in which a mass of coal is carbonized by heat conducted through the oven walls from adjacent flue chambers in which a fuel gas is burnt. The ovens are arranged in a battery of alternating oven chambers and flue chambers. Volatile materials are collected and recovered as gaseous and liquid by-products.
carbonization	The process of decomposing coal by heating in a mainly reducing atmosphere to produce the following: (a) A carbon enriched solid (e.g. coke or char). (b) Liquid or gaseous products (e.g. coal gas, tars).
carbonization temperature	The maximum temperature attained by the coal charge in a carbonization oven or retort.
cauliflower end	The cauliflower-like portion of the coke formed adjacent to the heating wall of an oven.
char	A carbonized or partly carbonized product formed by pyrolysis of coals which do not fuse under the conditions used.
classifier	A device for separating material on the basis of shape, particle size or density.
clinker	The agglomerated, semi-vitrified, and mainly inorganic residue resulting from slag formation in the combustion or gasification of solid fuel in a bed.