



Transport
Roads & Maritime
Services

Test method T1026

Determination of the degree of oxidation
of coal (Field method)

NOVEMBER 2012



Revision Summary

Ed/Rev Number	Clause Number	Description of Revision	Authorisation	Date
		Reformatted and Revision Summary Added	D. Dash	Jun 2001
Ed 2/ Rev 0	All	Reformatted RMS template	J Friedrich	November 2012

Note that Roads and Maritime Services is hereafter referred to as 'RMS'.

The most recent revision to Test method T1026 (other than minor editorial changes) are indicated by a vertical line in the margin as shown here.

Test method T1026

Determination of the degree of oxidation of coal (Field method)

1. Scope

This test method sets out the procedure for determination of the degree of oxidation of coal. It is intended as a field procedure and is less accurate than a laboratory determination.

The procedure is the same as that used by the Joint Coal Board. Total sampling, preparation and testing time is about 30 minutes.

2. Apparatus

- (a) Sample dividers (eg riffles boxes) of appropriate openings.
- (b) Dishes of suitable size.
- (c) Scoop.
- (d) Mortar and pestle, both steel.
- (e) 4.75 mm Australian Standard Sieve.
- (f) Test tubes, Rubber Stoppers.
- (g) Balance of at least 2 kg capacity.
- (h) Measuring cylinder.
- (i) Sodium hydroxide solution, 10% by weight. Cautiously dissolve 50 g of sodium hydroxide pellets in 100 mL of distilled water. Allow to cool. Dilute to 500 mL and store in a plastic bottle.

SAFETY NOTE: Sodium hydroxide is extremely alkaline and corrosive to eyes, skin and clothing. Avoid direct contact. It generates much heat when mixed with water. Improper mixing may cause local boiling and the spitting of hot alkali droplets.

NOTE The recommended safe procedure is to add the alkali in small amounts to the water with stirring. The wearing of safety goggles or the equivalent is always necessary.

3. Preparation of Sample

- (a) Obtain by quartering or riffing a sample of approximately 1 kg of coal from the area to be tested.
- (b) Crush the sample so that it can be passed through a 4.75 mm sieve.
- (c) Mix the material thoroughly and sub-divide by riffing to obtain a sub-sample of approximately 100 g.
- (d) Crush the sub-sample as finely as possible, using the mortar and pestle.

4. Procedure

- (a) Obtain approximately 1 g of the finely crushed coal.
- (b) Transfer the material to a test tube and add 10 mL of the sodium hydroxide solution.
- (c) Stopper and shake the test tube and allow the contents to settle.
- (d) Estimate the colour of the solution. (Unoxidised bituminous coal gives a straw colour, oxidised coal gives a black colour.)

5. Reporting

Report the result of the test as either "oxidised" or "unoxidised".