STANDARDS AUSTRALIA

RECONFIRMATION

OF
AS 1141.37–2007
Methods for sampling and testing aggregates
Method 37: Iron unsoundness

RECONFIRMATION NOTICE

Technical Committee CE-012 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

Certain documents referenced in the publication may have been amended since the original date of publication. Users are advised to ensure that they are using the latest versions of such documents as appropriate, unless advised otherwise in this Reconfirmation Notice.

Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 29 March 2018.

The following are represented on Technical Committee CE-012:

ARRB (Australian Road Research Board)
Ash Development Association of Australia
Australasian (iron & steel) Slag Association
Australasian Procurement and Construction Council
Australian Asphalt Pavement Association Limited
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Engineering & Construction Laboratories Association
National Association of Testing Authorities Australia
Rail Industry Safety and Standards Board

NOTES

AS 1141.37—2007
Reconfirmed 2018

Australian Standard®

Methods for sampling and testing aggregates

Method 37: Iron unsoundness

1 SCOPE

This Standard sets out the method for determining the susceptibility of slag aggregate to iron unsoundness.

2 DESCRIPTION

Iron unsoundness is a term derived from the fact that nearly all iron blast-furnace slags containing more than 3% ferrous oxide (FeO) will disintegrate on immersion in water when the sulfur (S) content of the slag is 1% or more. It has not been observed in slags containing less than 1.5% FeO and 0.5% S. Disintegration is attributed to iron and manganese sulfide when in contact with water forming hydroxides and expanding the lumps.

Slag liable to iron unsoundness can be distinguished by its reddish surface or, at higher iron contents, by its very dark appearance and magnetic properties.

NOTE: See Appendix A for information on uncertainty of measurement.

3 NORMATIVE REFERENCES

The following referenced documents are indispensable for the application of this document.

AS	
1141	Methods for sampling and testing aggregates
1141.1	Method 1: Definitions

4 TERMS AND DEFINITIONS

For the purpose of this document, the terms and definitions given in AS 1141.1 and the ones below apply.

4.1 Checking

Craze cracking at the surface of the aggregate.

4.2 Cracking

The development of a visible crack.

4.3 Disintegration

Physical breakdown of aggregate particle.

4.4 Shaling

The development of fretting or cleavage of the aggregate particle such as develops in weathered shale.