AS 4180.2—2008
Reconfirmed 2018

AS 4180.2—2008

Australian Standard®

Measurement of drift loss from cooling towers

Part 2: Lost chloride method

This Australian Standard® was prepared by Committee ME-062, Mechanical Ventilation and Airconditioning. It was approved on behalf of the Council of Standards Australia on 14 August 2008.
This Standard was published on 14 November 2008.

The following are represented on Committee ME-062:

- Airconditioning and Refrigeration Equipment Manufacturers Association of Australia
- Australian Building Codes Board
- Australian Medical Association
- Chartered Institution of Building Services Engineers
- Plastics and Chemicals Industries Association Incorporated

This Standard was issued in draft form for comment as DR 07123.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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STANDARDS AUSTRALIA

RECONFIRMATION

OF
AS 4180.2–2008
Measurement of drift loss from cooling towers
Part 2: Lost chloride method

RECONFIRMATION NOTICE

Technical Committee ME-062 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.

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Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 20 April 2018.

The following are represented on Technical Committee ME-062:

Air Conditioning & Mechanical Contractors Association
Australasian Fire and Emergency Service Authorities Council
Australian Building Codes Board
Australian Industry Group
Australian Institute of Refrigeration Air Conditioning and Heating (Inc)
Chartered Institution of Building Services Engineers
Climate Control Companies Association
Consumer Electronics Suppliers Association
Engineers Australia
Facility Management Association of Australia
Institute of Refrigeration Heating & AirConditioning Engineers of New Zealand
NATSPEC
The Thermal Insulation Contractors Association of Australia inc NSW
Victorian Building Authority

NOTES

Australian Standard®

Measurement of drift loss from cooling towers

Part 2: Lost chloride method

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PREFACE

This Standard was prepared by the Standards Australia Committee ME-062, Mechanical Ventilation and Airconditioning.

This Standard provides standardized testing methods that manufacturers may use for product development and to substantiate drift loss performance claims.

Work on the Standard started in 2006 following industry feedback on the need for an alternative to the chloride balance method for determining drift loss from cooling towers.

This Standard is the second of two parts dealing with cooling tower drift loss measurement as follows:

AS	
4180	Measurement of drift loss from cooling towers
4180.1	Part 1: Chloride balance method
4180.2	Part 2: Lost chloride method (this Standard)

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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FOREWORD

Part 1 of this Standard describes the chloride balance method (CBM) of measuring drift loss, which is judged to be suitable only for controlled laboratory investigations of componentry.

Part 2 (this Part) describes a similar approach known as the lost chloride method (LCM). This method has been shown to be suitable for field applications and is offered as an alternative to the CBM method. It involves indirectly measuring chloride loss over a period of time while also measuring direct usage of water from an operating system without heat load applied. The method is therefore suitable for testing complete cooling water systems in the field or for assessing drift elimination components within an operating system.

As with all measurements of drift loss, a high degree of accuracy in quantification is needed.

When this method is used in the field, care needs to be taken to ensure that the make-up water is of such quality that the potentially corrosive effects of adding salt are acceptable for the system being tested and that environmental effects (e.g. waste discharges) are minimal.

It is clear that the reduction of drift emitted from heat rejection devices plays a key role in reducing public health risk. For drift eliminators to function effectively, however, in the way they are designed to function, it is essential that they be correctly operated and maintained at all times.

STANDARDS AUSTRALIA

Australian Standard
Measurement of drift loss from cooling towers

Part 2: Lost chloride method

1 SCOPE

This Standard sets out the requirements for measuring the drift of circulating water into the atmosphere by observing the mass of chloride ions missing from the water circuit under controlled conditions.

2 APPLICATION

The test applies to water circuits in direct contact with the atmosphere. The method measures the sum of all drift and any leakage losses.

3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS
2093 Salt for use in the manufacture of dairy products

2360 Measurement of fluid flow in closed conduits
2360.1.1 Part 1.1: Pressure differential methods—Measurement using orifice plates, nozzles or Venturi tubes—Conduits with diameters from 50 mm to 1200 mm
2360.1.2 Part 1.2: Pressure differential methods—Measurement using orifice plates or nozzles—Conduits with diameters less than 50 mm
2360.1.3 Part 1.3: Pressure differential methods—Measurement using orifice plates, nozzles or Venturi tubes—Guide to the use of methods specified in Parts 1.1 and 1.2
2360.1.4 Part 1.4: Pressure differential methods—Measurement using orifice plates, nozzles or Venturi tubes—Guide to the effect of departure from the conditions specified in Part 1.1

4180 Measurement of drift loss from cooling towers
4180.1 Part 1: Chloride balance method

AS/NZS
2031 Selection of containers and preservation of water samples for microbiological analysis

ISO
6227 Chemical products for industrial use—General method for determination of chloride ions—Potentiometric method

4 DEFINITIONS

For the purpose of this Standard, the definitions given in AS 4180.1 apply.