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Methods of testing portland, blended and masonry cements

Method 7: Determination of temperature rise during hydration of portland and blended cements

1 SCOPE

This Standard sets out the method for determining temperature rise during the hydration of portland and blended cements, under precisely defined conditions.

NOTES:

1 The testing procedure herein may involve the use of materials or equipment that require safety measures to be observed.

2 This Standard does not purport to address all of the safety concerns, if any, associated with its use.

3 The user of this Standard should establish appropriate safety and health practices, and determine the applicability of regulatory limitations prior to use.

4 A procedure for calculating the heat of hydration of portland and blended cements is given in AFNOR NF 15-436.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS
2350 Methods of testing portland, blended and masonry cements
2350.12 Method 12: Preparation of a standard mortar and moulding of specimens

AS/NZS
2350 Methods of testing portland, blended and masonry cements
2350.1 Method 1: Sampling

IEC
751 Industrial platinum resistance thermometer sensors

AFNOR
NF 15-436 Measuring the hydration heat of cements by means of semi-adiabatic calorimetry (Langavant method)

3 PRINCIPLE

A fixed quantity of plastic cement mortar prepared in accordance with AS 2350.12 is introduced into a calorimeter, and the subsequent rise in temperature over a period of time is recorded.