Australian Standard®

Test methods for limes and limestones

Method 5.1: Chemical composition—Quicklime and hydrated lime

1 SCOPE This Standard sets out the requirements for the determination, by proven chemical methods, of the SiO_2, Al_2O_3, Fe_2O_3, CaO, MgO, SO_3 and CO_2 content of lime.

2 APPLICATION The method of analysis shall be qualified by the procedure outlined in Clause 4.

3 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS	
2706	Numerical values—Rounding and interpretation of limiting values
2830	Good laboratory practice
2830.1	Part 1: Chemical analysis

4 QUALIFICATION OF CHOSEN TEST METHOD

4.1 Method The chemical composition of at least four internationally accredited lime standard reference materials (SRMs) shall be determined in duplicate portions using the chosen test method. The difference between duplicate values for each component and the deviation of the mean of the values from the certified value shall be compared with the variations given in Table 1. Where possible, the SRM shall be selected to cover the expected range of component percentages.

Where SRMs have been used for calibration, different SRMs shall be used for qualification.

The method of test for each of the two components shall be qualified individually as outlined in Clause 4.2 before use and after relocation or replacement of any instrument used.

4.2 Procedure The chosen test method shall be fully documented and proven using the following procedure:

(a) Using the chosen test method, analyse duplicate portions of the four SRMs for SiO_2, Al_2O_3, Fe_2O_3, CaO, MgO, SO_3 and CO_2. The duplicate portions shall be tested on different days.

(b) The difference between duplicate values for each constituent shall not exceed the maximum value given in Column 2 of Table 1 for at least three of the four SRMs and by twice the maximum value for the fourth.

(c) The arithmetic mean of duplicate determinations for SiO_2, Al_2O_3, Fe_2O_3, CaO, MgO, SO_3 and CO_2 shall not differ from the certified value by more than the maximum value shown in Column 3 of Table 1 for at least three or four SRMs and by twice the maximum value for the fourth.