

Bureau of Indian Standards

Southern Regional Office Laboratory

Ref: IS 1727, IS 4032, IS 3312

Date: 15 Feb 2021

This is with reference to test methods for testing of the following products :

- a. Pulverised fuel ash ( IS 3812 Part-1:2013)
- b. Artificial lightweight aggregate for concrete part 2 sintered fly ash coarse aggregate ( IS 9142 : part 2 : 2018)
- c. Specification for Building Limes ( IS 712)
- d. steel shelving cabinets (adjustable type),IS 3312

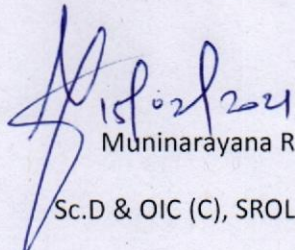
For testing of combined Iron Oxide & Aluminium Oxide and Magnesia, in Pulverised fuel ash and Artificial lightweight aggregate for concrete part 2 sintered fly ash coarse aggregate ( for deleterious substances,cl.6.1), IS 1727 is referred as for which Ammonium Nitrate is required. Also, for testing of Building Limes for calcium magnesium oxide ( on ignited basis) and magnesium oxide (on ignited basis) Ammonium Nitrate is required. Ammonium Nitrate being a raw material for explosives, its open sale is banned because of which it is not available in the market.

It is, therefore, suggested that for testing of these products for the above indicated parameters IS 4032 may be referred and rapid methods such as atomic absorption spectrophotometer method (IS 12813-1989 ) or X-ray fluorescence spectrometer method ( IS 12803-1989 ), or calorimetric analysis ( IS 12423-1988 ) may be permitted as in case of IS 4032,if feasible.

For testing of performance requirements of finish (cl.9 of IS 3312), IS 101:1964 is referred which has been withdrawn. CED may consider issue of suitable amendment/revision of IS 3312 accordingly.

It is also requested to kindly consider the comments submitted by SROL vide attached note (Annexure-A)

Creation/completion of test facilities is in process for which the proposed incorporations/ changes would be required please.

  
15/02/2021  
Muninarayana R  
Sc.D & OIC (C), SROL

HSROL 30/15/02/2021  
HCED

Cpy to :  
Sc.G & DDG(Labs)



BUREAU OF INDIAN STANDARDS  
SOUTHERN REGIONAL OFFICE LABORATORY

Date: 07-11-2018

Ref: IS 4032

This is with reference to testing of Alkali content & Magnesia content in hydraulic cement as per IS 4032:1985.

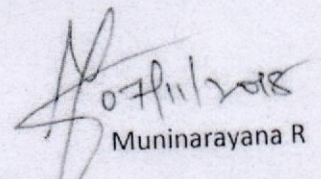
With reference to testing of hydraulic cement the following observations have been made:-

1. for Alkali content, addition of Calcium chloride as per table 1 under clause 4.11.1.2(c) of IS 4032:1985 affects accuracy of the results.

2. for magnesia content by EDTA method as per clause 4.8.2 of IS 4032:1985, the colour change from blue to clear pink shall be taken as an end point. However, most of the time the end point i.e. colour change from blue to clear pink is not observed and that pink violet or light violet colour is observed.

The above observations were made at SROL as well as at NCCBM, Hyderabad. The reply from NCCBM regarding the observations is attached as ANNEX- 1

Therefore, it is requested that the concerned technical committee may consider the above observations for issue of amendment to IS 4032:1985, if required.

  
07/11/2018  
Muninarayana R  
Sc.C &OIC ( Chem),SROL

Head, SROL

Head, CED

3/11/18  
07/11/2018



➤ Observation 1:

Lab is carrying out test for clinker in cement & clinker [IS 269, IS 1489 (P1&2) etc.] using an internally validated method.

Reply:

Our laboratory is estimating alkali in cement using NCB validated method instead of IS 4032. NCB validated method also follows the same procedure as given in IS 4032, except addition of calcium chloride stock solution. We found that addition of calcium chloride solution affecting the accuracy of results. Therefore NCB validated an internal method in which addition of Calcium Chloride Solution is avoided.

For validating internal method, NCB carried out tests with different standard samples and the results were found satisfactory. One SRM sample was also tested during BIS audit and the results were found to be within acceptable range.

The results obtained for SRM Sample, tested during BIS audit, using NCB validated method are given below.

	Na <sub>2</sub> O (%)	K <sub>2</sub> O (%)
CRM 1015F2A Cert. Value	0.11	0.49
Result Obtained	0.10	0.49

➤ Observation 2:

As per Cl. 4.8.2 (EDTA method) of IS 4032:1985 for magnesia test in cement and clinker [IS 269, IS 1489 (P1&2)], the end point i.e. colour change from blue to clear pink was not observed.

Reply:

For estimation of Magnesia in cement samples, we are following the exact procedure as given in IS 4032:1985. We observed that the color change from blue to clear pink depends primarily on amount of indicator added and also to some extent on the amount of MgO in the sample. Most of the time the color changes from blue to pink violet and occasionally to very light violet color was observed. The test was also carried out in presence of BIS auditor and color change from blue to light pink was demonstrated.