

IS : 6932 (Part 11) - 1983

Indian Standard

**METHODS OF TESTS FOR
BUILDING LIMES**

**PART 11 DETERMINATION OF SETTING TIME OF
HYDRATED LIME**

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*Indian Standard*METHODS OF TESTS FOR
BUILDING LIMESPART 11 DETERMINATION OF SETTING TIME OF
HYDRATED LIME

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Indian Standard

METHODS OF TESTS FOR BUILDING LIMES

PART 11 DETERMINATION OF SETTING TIME OF HYDRATED LIME

0. FOREWORD

0.1 This Indian Standard (Part 11) was adopted by the Indian Standards Institution on 30 December 1983, after the draft finalized by the Building Limes Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 Hitherto, method of test for determination of initial and final setting times of hydrated lime was included in IS : 4031-1968*. With a view to including all the tests concerning building limes in one standard, this test is being published separately as an additional part to IS : 6932 (Parts 1 to 10).

0.3 In reporting the results of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS : 2-1960†.

1. SCOPE

1.1 This standard (Part 11) covers the method of test for determination of setting time of hydrated lime.

2. APPARATUS

2.1 The Vicat apparatus conforming to IS : 5513-1976‡ shall be used.

3. PROCEDURE

3.1 Preparation of Test Sample — The sample shall be in the form of putty and shall be prepared in accordance with **3.2.4** of IS : 6932 (Part 8)-1973§.

*Methods of physical tests for hydraulic cement.

†Rules for rounding off numerical values (revised).

‡Specification for Vicat apparatus (first revision).

§Methods of tests for building limes : Part 8 Determination of workability.

3.1.1 Fill the vicat mould *E* with this paste, the mould resting upon a non-porous plate. After completely filling the mould, smooth off the surface of the paste, making it level with the top of the mould. The mould shall be slightly shaken to expel the entrapped air.

3.1.2 Clean appliances shall be used for gauging and the temperature of lime, water and that of the test room at the time when above operations are performed shall be $27 \pm 2^{\circ}\text{C}$ and in an atmosphere of at least 90 percent relative humidity and away from draughts.

3.2 Determination of Initial Setting Time — Place the test block prepared in accordance with 3.1 under the rod bearing the needle (*C*); lower the needle gently in contact with the surface of the test block and quickly release, allowing it to penetrate into the test block. In the beginning, the needle will completely pierce the test block. Repeat this procedure until the needle, when brought in contact with the test block and released as described above, fails to pierce the block by 5 ± 0.5 mm measured from the bottom of the mould. The period elapsing between the time when water is added to the lime and the time at which the needle fails to pierce the test block by 5 ± 0.5 mm shall be the initial setting time.

3.3 Determination of Final Setting Time — Replace the needle (*C*) of the Vicat apparatus by the needle with an annular attachment (*F*). The lime shall be considered as finally set when, upon applying the needle gently to the surface of test block, the needle makes an impression on the surface of test block while the attachment fails to do so shall be the final setting time. In the event of a scum forming on the surface of the test block, use the underside of the block for the determination.

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