# **IRISH STANDARD SPECIFICATION**

# HYDRATED LIME FOR BUILDING PURPOSES

I.S. 8:1973

Price 65p

INSTITUTE FOR INDUSTRIAL RESEARCH AND STANDARDS Ballymun Road, Dublin 9 Telegrams: Research, Dublin Telephone: 370101

# DECLARATION

OF

#### **SPECIFICATION**

#### ENTITLED

#### HYDRATED LIME FOR BUILDING PURPOSES

AS

## THE IRISH STANDARD SPECIFICATION FOR HYDRATED LIME FOR BUILDING PURPOSES

The Institute for Industrial Research and Standards in exercise of the power conferred by section 20 of the Industrial Research and Standards Act, 1961 (No. 20 of 1961), and with the consent of the Minister for Industry and Commerce hereby declares as follows:

1. This instrument may be cited as the Standard Specification (Hydrated Lime for Building Purposes) Declaration, 1973.

2. (1) The Specification set forth in the Schedule to this declaration is hereby declared to be the standard specification for Hydrated Lime for Building Purposes.

(2) The said standard specification may be cited as Irish Standard 8:1973 or as I.S. 8:1973.

3. (1) The Standard Specification (Hydrated Lime for Building Purposes), Order, 1949 (S.I. No. 286 of 1949) is hereby revoked.

(2) Reference in any other standard specification to the Order hereby revoked and to Irish Standard 8:1949, thereby prescribed, shall be construed, respectively, as references to this Instrument and to Irish Standard 8:1973.

#### SCHEDULE

## Hydrated Lime for Building Purposes

SCOPE

1. This specification covers requirements for hydrated lime for building purposes.

#### DESCRIPTION

2. Hydrated lime shall be in the form of a fine dry powder produced by treating quicklime with sufficient water in any suitable form so as to produce a dry, sound product. It shall be suitable for plastering finishing coat, coarse stuff\*, and building mortar.

The term HYDRATED LIME shall mean a dry hydrated lime in which the magnesium oxide does not exceed 8 per cent of the ignited sample (see Clause 6).

If the magnesium oxide exceeds 8 per cent of the ignited sample the lime shall be termed MAGNESIAN HYDRATED LIME and it shall always be so described by the vendor. Magnesian hydrated lime shall be suitable for use for plastering finishing coat, coarse stuff\*, and building mortar, after it has been mixed wet for a period of two weeks.

The quicklime employed in the production of hydrated lime shall consist essentially, either of calcium oxide, or of calcium oxide together with a smaller proportion of magnesium oxide (see Clause 7), as may have been agreed upon between purchaser and vendor, formed by burning a natural rock or other suitable material at such a temperature that it will slake when brought into contact with water.

SIZE OF SAMPLE AND METHOD OF SAMPLING

3. If tests are required, the hydrated lime shall be sampled at a place and time to be mutually agreed upon between the purchaser and vendor. The size of sample and the method of sampling shall be as described in Appendix A.

\*A wet mixture of lime and sand for use in undercoats; it may also contain hair.

#### CERTIFICATE OF TEST AND COST OF TESTS

4. The manufacturer shall satisfy himself by regular periodical tests that the material shall be capable of conforming to the requirements of this specification, and a certificate to this effect in the form set out in Appendix J shall be provided, free of charge, at the request of the purchaser.

When the purchaser requires tests to be carried out the cost of such tests shall be borne as follows:

(i) by the vendor in the event of the results indicating that the material does not comply with the specification;

(*ii*) by the purchaser in the event of the results indicating that the material does comply with the specification.

The test reports shall be reported in the form set out in Appendix K.

#### **GENERAL CONDITIONS OF TESTS**

5. Where references are made to test sieves, these shall be in accordance with I.S. 24:1973, 'Test Sieves'.

Deionised or distilled water of laboratory quality (of conductivity less than 2 microhms, or of total dissolved solids less than 1 mg/l) shall be used for tests (i) to (iv), Clause 6. Good quality public water supplies may be used for tests (v) and (vi), Clause 6.

#### **TESTS REQUIRED**

6. The hydrated lime shall be such that the specified requirements are complied with in respect of the following:

- (i) Content of calcium oxide (see Clause 7);
- (ii) Content of magnesium oxide (see Clause 7);
- (iii) Content of carbon dioxide (see Clause 8);
- (iv) Content of insoluble matter (see Clause 9);
- (v) Fineness (see Clause 10);
- (vi) Soundness (see Clause 11);

#### CONTENT OF CALCIUM AND MAGNESIUM OXIDES

7. The calcium and magnesium compounds present in the lime, and calculated as oxides, shall be not less than 80 per cent by weight of the ignited sample. The remainder shall be essentially composed of silica and alumina, which are soluble when treated in the manner described in Appendix C.

#### CONTENT OF CARBON DIOXIDE

8. The content of carbonate expressed as carbon dioxide shall not exceed 5 per cent by weight.

#### CONTENT OF INSOLUBLE MATTER

9. The insoluble matter shall not exceed 1 per cent by weight when determined in accordance with Appendix C.

#### FINENESS

10. The hydrated lime, when treated in the manner described in Appendix D, shall leave not more than 5 per cent by weight on a 180  $\mu$ m test sieve and, after passing this sieve, not more than 10 per cent by weight shall remain on a 90  $\mu$ m test sieve. Both calculations shall be based on the weight of the hydrated lime taken.

#### SOUNDNESS

11. When tested for soundness in accordance with Appendix G, the test pats prepared from the hydrated lime shall exhibit no disintegration, popping or pitting on their surface, and when tested for soundness in accordance with Appendix H none of the Le Chatelier moulds shall exhibit an expansion greater than 10 mm.

#### PACKING AND MARKING

12. Unless otherwise agreed between the purchaser and the vendor, the hydrated lime shall be delivered in paper bags of suitable type and quality containing 25 kg net with the weight and the manufacturer's name or brand clearly marked thereon.

#### STORAGE

13. The hydrated lime shall be stored in a suitable weather-tight building, and in such a manner as to permit access for the proper sampling and identification of each consignment.

## APPENDIX A

#### FACILITIES FOR SAMPLING AND IDENTIFICATION

The sample or samples required for the purposes of this specification shall be taken by the purchaser, or his representative, as he desires, either at the works of the manufacturer, at the stores of the vendor, or as soon as possible after the receipt of the consignment. The purchaser shall himself, or through his testing agent, notify the vendor of intention and location of sampling, so as to give the vendor reasonable opportunity of being represented at the sampling and, where necessary, to make arrangements for the sampling to be carried out. If the vendor be a merchant it shall be his duty to notify the manufacturer of the proposed tests, and the purchaser shall be entitled to understand that this has been done.

The vendor shall afford every facility for efficient sampling and for identifying the hydrated lime sampled.

The sampling shall be carried out as quickly as possible so that the material shall not deteriorate. The total time occupied in mixing (and, if necessary, quartering down) the composite sample, and the preparation (where necessary) of the final sample or samples from this, shall not

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