IS : 5409 (Part 2) - 1985
(Reaffirmed 1999)

Indian Standard

SPECIFICATION FOR AGRICULTURAL LIMING MATERIALS AS SOIL AMENDMENTS

PART 2 LIMESTONE AND DOLOMITE

(First Revision)

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SPECIFICATION FOR AGRICULTURAL LIMING MATERIALS AS SOIL AMENDMENTS

PART 2 LIMESTONE AND DOLOMITE

(First Revision)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 30 August 1985, after the draft finalized by the Soil Amendments and Reclamation of Problem Soils Sectional Committee had been approved by the Agricultural and Food Products Division Council.

0.2 Limestone and dolomite apart from being used in cement, steel, foundry, chemical and glass industries, are also used as soil amendments for correcting soil acidity.

0.3 This standard was first published in 1969 and included liming materials such as limestone, dolomite, basic slag, sea-shells, press mud, by-product calcium carbonate and by-product hydrated lime. Since the neutralizing value and other physical characteristics of liming materials vary to a great extent, it was considered desirable to prepare separate specifications for different liming materials used as soil amendments. Hydrated lime and burnt lime have been covered under Part 1.

0.4 The requirements for limestone for chemical industries, foundries and for limestone and dolomite for glass industries have been covered in IS : 3204-1978*, IS : 4140-1978†, and IS : 997-1973‡ respectively.

0.5 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960§. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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*Specification for limestone for chemical industry (*first revision*).
†Specification for limestone for use in foundries (*first revision*).
‡Specification for limestone and dolomite for glass industry (*first revision*).
§Rules for rounding off numerical values (*revised*).

1. SCOPE

1.1 This standard prescribes requirements and the methods of sampling and test for limestone and dolomite to be used as soil amendments.

2. TERMINOLOGY

2.1 For the purpose of this standard the definitions given in IS : 5409 (Part 1)-1985* shall apply.

3. REQUIREMENTS

3.1 Fineness — When tested by the method prescribed in **A-7** of IS : 997-1973†, 90 percent by mass of the material shall pass through 2-mm sieve and 50 percent by mass of the material shall pass through 250 μm sieve.

3.2 The material shall also comply with the requirements specified in Table 1.

TABLE 1 REQUIREMENTS FOR LIMESTONE AND DOLOMITE AS SOIL AMENDMENTS

Sl No.	Characteristic	Requirement	Method of Test, Ref to
(1)	(2)	(3)	(4)
i)	Neutralizing value expressed as Calcium Carbonate Equivalent (CCE) percent, *Min*	70	A of IS : 5409 (Part 1)-1985*
ii)	Total lime and magnesia (as CaO + MgO), percent by mass, *Min*	50	A-5 of IS : 997-1973†
iii)	Moisture content, percent by mass, *Max*	5·0	A-6 of IS : 997-1973†

*Specification for agricultural liming materials as soil amendments: Part 1 Hydrated lime and burnt lime (*first revision*).

†Specification for limestone and dolomite for glass industry (*first revision*).

4. PACKING AND MARKING

4.1 Packing — The material shall be supplied in bulk or in packages as agreed to between the purchaser and the supplier.

*Specification for agricultural liming materials as soil amendments: Part 1 Hydrated lime and burnt lime (*first revision*).

†Specification for limestone and dolomite for glass industry (*first revision*).

4.2 Marking — When supplied in packages, each package shall be securely closed and marked with the following information:

a) Name of the material;

b) Mass of the material in the package;

c) Neutralizing value of the material;

d) Supplier's name and recognized trade-mark, if any; and

e) Lot number to enable the consignment to be traced back to the record.

4.2.1 When supplied in bulk, a good sized metallic label bearing the above information shall be conspicuously displayed on the bulk carrier and also placed inside.

4.2.2 The material may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

5. SAMPLING

5.1 The procedure for drawing representative samples of the material and the criteria for finding out the conformity of the material to the requirements of this specification shall be in accordance with IS : 2109-1982*.

6. TESTS

6.1 Tests shall be carried out in accordance with the procedures as mentioned in **3.1** and col 4 of Table 1.

6.2 Quality of Reagents — Unless specified otherwise, pure chemicals and distilled water (*see* IS : 1070-1977†) shall be used in the tests.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the results of analysis.

*Methods of sampling dolomite, limestone and other allied materials (*first revision*).
†Specification for water for general laboratory use (*second revision*).

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

Quantity	Unit	Symbol
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

Quantity	Unit	Symbol
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

Quantity	Unit	Symbol	Definition
Force	newton	N	1 N = 1 kg.m/s^2
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m^2
Frequency	hertz	Hz	1 Hz = 1 c/s (s^{-1})
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Pa	1 Pa = 1 N/m^2

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(*Page* 5, *clause* **6.2**) — Substitute '(*see* IS 1070 : 1992†)' *for* '(*see* IS : 1070 - 1977†)'.

(*Page* 5, *foot-note marked* '†') — Substitute 'Reagent grade water (*third revision*)' for the existing title.

(FAD 27)

Reprography Unit, BIS, New Delhi, India