

इंटरनेट

मानक

Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 2469 (1976): Glossary of terms relating to gypsum [CED
4: Building Limes and Gypsum Products]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

BLANK PAGE



IS : 2469 - 1976

Indian Standard
GLOSSARY OF TERMS RELATING TO GYPSUM
(*First Revision*)

UDC 666.91:001.4



© Copyright 1976

INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Gr '2

Price Rs. 5.00

June 1976

Indian Standard

GLOSSARY OF TERMS RELATING TO GYPSUM

(First Revision)

Gypsum Building Material Sectional Committee, BDC 21

Chairman

DR S. K. CHOPRA

Representing

Cement Research Institute of India, New Delhi

Members

ADDITIONAL DIRECTOR (ARCH), RESEARCH, DESIGNS AND STANDARDS ORGANIZATION, LUCKNOW	Ministry of Railways
JOINT DIRECTOR (ARCH) (Alternate) SHRI K. D. BHARGAVA	Directorate of Mines and Geology, Government of Rajasthan, Jaipur
MINING ENGINEER (Alternate) SHRI K. K. BHATIA	All India Pottery Manufacturers' Association, Calcutta
SHRI R. K. BHATNAGAR	Shri Ram Institute for Industrial Research, Delhi
SHRI C. P. SHARDA (Alternate)	
SHRI G. J. CHANDAK	Geological Survey of India, Calcutta
SHRI P. N. MEHTA (Alternate)	
SHRI J. S. FRANCISCO	Jamnagar Mineral Development Syndicate, Jamnagar
SHRI G. C. GUPTA	Delhi Development Authority, New Delhi
SHRI B. B. DUTT CHOUDHARY (Alternate)	
SHRI R. K. MALIK	Directorate General of Technical Development, New Delhi
SHRI HAZARI LAL MARWAH	Central Builders' Association (Regd), Delhi
SHRI AMARJIT SINGH (Alternate)	
SHRI R. D. MATHUR	Ministry of Defence
SHRI V. K. RAZDAN (Alternate)	
SHRI D. MOHTA	Raj Plasters Ltd, Bikaner
SHRI L. RAMIAH	Gypsum Industries Pvt Ltd, Tiruchirappalli
DR A. V. R. RAO	National Buildings Organization, New Delhi
SHRI G. T. BHIDE (Alternate)	
SHRI M. N. ROY	Rajasthan State Mines and Minerals Limited, Jaipur

(Continued on page 2)

© Copyright 1976

INDIAN STANDARDS INSTITUTION

This publication is protected under the *Indian Copyright Act* (XIV of 1957) and reproduction in whole or in part by any means except with written permission of the publisher shall be deemed to be an infringement of copyright under the said Act.

IS : 2469 - 1976

(Continued from page 1)

Members

SHRI K. K. SARIN
SHRI B. G. SHARMA (*Alternate*)
DR S. SEN

DR S. K. GUHA (*Alternate*)
SHRI SOHAN LAL SINGHANIA

SHRI K. L. PAI (*Alternate*)
SUPERINTENDING SURVEYOR OF
WORKS (NDZ)

SURVEYOR OF WORKS I
(NDZ) (*Alternate*)
DR C. A. TANEJA

DR IRSHAD MASOOD (*Alternate*)
SHRI H. C. VERMA

SHRI M. N. BALIGA (*Alternate*)
SHRI D. AJITHA SIMHA,
Director (Civ Engg)

Representing

Rajasthan Housing Board, Jaipur

Central Glass and Ceramic Research Institute
(CSIR), Calcutta

J. K. Cotton Spinning and Weaving Mills Co Ltd,
Kanpur

Central Public Works Department, New Delhi

Central Building Research Institute (CSIR),
Roorkee

Associated Instrument Manufacturers (India) Pvt
Ltd, New Delhi

Director General, ISI (*Ex-officio Member*)

Secretary

SHRI VINOD KUMAR
Deputy Director (Civ Engg), ISI

Indian Standard

GLOSSARY OF TERMS RELATING TO GYPSUM

(First Revision)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 20 February 1976, after the draft finalized by the Gypsum Building Materials Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 Gypsum is a well known building material and is extensively used as a building material in many countries, such as Australia, Canada, United Kingdom, United States of America, etc. It has the specific advantages of lightness and high fire resistance.

0.3 The various resources for gypsum in this country, when fully developed, will yield, in addition to high grade gypsum, large quantities of gypsum of purity 70 percent or less. The latter, according to present knowledge, have also prospects of economic use mainly as building materials, namely, in the form of gypsum plaster, gypsum plaster boards and gypsum blocks. The Gypsum Building Material Sectional Committee has prepared a series of Indian Standards on building gypsum covering specifications, methods of test and codes of practice, with a view to assisting the industry, which is in the initial stages of development. This glossary of terms relating to building gypsum has now been revised to include additional terms which are being used in connection with the subject.

0.4 In the formulation of this standard due weightage has been given to international coordination among the standards and practices prevailing in different countries in addition to relating it to the practices in the field in this country. This has been met by deriving assistance from the following publications:

A-82.29-1950 Specification for standard definitions of terms relating to gypsum. Canadian Standards Association.

BS: 1191: Part I: 1973 Specification for gypsum building plaster: Part I Excluding premixed lightweight plasters. British Standards Institution.

ASTM Designation C-11-70 Standard definitions of terms relating to gypsum. American Society for Testing and Materials.

1. SCOPE

1.1 This standard defines the terms relating to gypsum and gypsum products.

2. TERMINOLOGY

A

Accelerator — In the case of stucco, plaster, mortar, concrete, etc, a substance which hastens the set.

Aggregate — Any inert material used as a filler in stucco, plaster, mortar, concrete, etc, without regard to its function as a binding material.

Anhydrite — The mineral consisting primarily of anhydrous calcium sulphate (CaSO_4).

Anhydrous Gypsum Plaster — A material consisting essentially of anhydrous calcium sulphate (CaSO_4) produced by the dehydration of gypsum, the set of which has been suitably accelerated.

B

Base Coat — The first layer of layers of plaster applied over a lath or other substrate. The first application is normally called a scratch coat and the second application is referred to as a brown coat.

Binder — In the case of plaster, stucco, etc, a fibrous material, which will increase their cohesiveness, while they are in a plastic state.

Bond Plaster — A calcined gypsum plaster specially formulated for application over rough monolithic concrete as a bonding coat for a subsequent gypsum plaster layer.

Brown Coat — The second coat in three-coat gypsum plaster application.

Browning Plaster — It is a form of retarded hemihydrate plaster and is used as undercoat plaster after mixing with sand.

C

Calcined Gypsum — Gypsum partially dehydrated by means of heat, having the approximate chemical formula $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$ (*see also* 'Hemihydrate').

Cement — A material or a mixture of materials (without aggregate) which, when in a plastic state, possesses adhesive and cohesive properties, and which will harden in place.

NOTE — The word 'cement' is used without regard to the composition of the material.

Combined Water — The water chemically held, as water of crystallization, by the calcium sulphate dehydrate or hemihydrate crystal.

Consistency — A property of a material determined by the complete flow-force relation.

Core (of Gypsum Board) — The portion within the paper covering of gypsum board.

Crushed Gypsum — Gypsum subjected to a primary crushing operation.

F

Finish Coat — The final layer of plaster applied over a base coat or other substrate.

Free Water — All water contained by gypsum board or plaster in excess of that chemically held as water of crystallization.

G

Gauging Plaster — A calcined gypsum plaster used with lime for a finish coat.

Gypsum — Calcium sulphate combined with two molecules of water, in crystalline form, having the approximate chemical formula $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$.

Gypsum Backing Board — A sheet or a slab having an incombustible core, essential of gypsum, surfaced with paper on both sides and designed to be used as a base layer or a backing material in multilayer construction.

Gypsum Board — The generic name for a family of noncombustible sheet products consisting of a core primarily of gypsum and a paper surfacing.

Gypsum Concrete — A combination of aggregate or aggregates with calcined gypsum as a binding medium, which after mixing with water, sets into a conglomerate mass.

Gypsum Fibre Concrete — Gypsum concrete in which the aggregate consists of shaving fibre, or chips of wood.

Gypsum Formboard — A sheet or a slab having an incombustible core, essentially of gypsum, surfaced on the exposed side with a fungus-resistant paper and on the reverse side with paper suitable to receive poured-in-place gypsum concrete.

Gypsum Lath — A gypsum board used as the base for application of gypsum plaster.

- a) *Insulating Gypsum Lath* — The same as plain gypsum lath except that in addition, the back surface is covered with a continuous sheet of pure bright finished aluminium foil.

- b) *Perforated Gypsum Lath* — A gypsum lath having perforations to provide mechanical keying of the base coat plaster.
- c) *Plain Gypsum Lath* — A gypsum lath without perforations.
- d) *Type-X Lath* — A gypsum lath specially manufactured to provide specific fire retardant characteristics.

Gypsum Moulding Plaster — A material consisting essentially of calcined gypsum for use in making interior embellishments and cornices as gauging plaster.

Gypsum Neat Plaster — A calcined gypsum plaster without aggregate, common usage is for gypsum plaster used for base coats.

Gypsum Partition Block (or Tile) — A gypsum building unit in the form of block (or tile) for use in non-load bearing construction in the interior of buildings and for the protection of columns, elevator shafts, etc, against fire.

Gypsum Sheathing Board — A sheet or a slab having an incombustible core essentially of gypsum, surfaced with water-repellent paper.

Gypsum (Wall Board) Plaster Board — A sheet or a slab having an incombustible core, essentially of gypsum, surfaced with paper suitable to receive decoration.

H

Hemihydrate — An intermediate phase in the dehydration of gypsum by heat, wherein the amount of combined water corresponds approximately to the formula $2\text{CaSO}_4 \cdot \text{H}_2\text{O}$, calcium sulphate hemihydrate. The formula is often written as $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$, hence the designation 'hemihydrate'.

J

Joint Reinforcing Tape — A type of paper, metal, fabric, glass mesh or other material, commonly used with a cementitious compound to reinforce the joints between adjacent gypsum boards.

Joint Reinforcing Metal — Strips of expanded metal, woven, or welded wire mesh used to reinforce corners and other areas of plaster and lath.

K

Keene's or Parian Cement — Anhydrous calcined gypsum plasters which are characterized by being more easily brought to a smooth and true finish in a continuous plastered surface, this property being associated as well with a slow and gradual set.

NOTE — Keene's cement contains alum or aluminium sulphate, whereas Parian cement contains borax.

M

Metal Lathing Plaster — It is a form of retarded hemihydrate plaster and is used as undercoat plaster after mixing with sand. It is different from browning plaster in that it contains free lime also.

Mortar — A material used in a plastic state, which may be trowelled, and becomes hard in place, to bond units of masonry structures.

NOTE — The word 'mortar' is used without regard to the composition of the material, and is defined only with reference to its use as a bonding material as contrasted with the words 'stucco' and 'plaster'.

N

Normal Consistency — The number of millilitres of water per 100 g of gypsum plaster or gypsum concrete required to produce a mortar or slurry of specified fluidity.

P

Plaster — See Gauging Plaster and Gypsum Neat Plaster.

Plaster of Paris — A form of hemihydrate without any added retarder of set.

NOTE — It is manufactured in several grades for various industrial uses.

Plasticity — A complex property of a material, involving a combination of the properties of mobility and of yield value.

NOTE — A plastic material is distinct from a solid material in that it possesses mobility. It is distinct from fluid material in that it requires a measurable force (yield value) to start flow.

R

Ready-Mixed Plaster — A calcined gypsum plaster with aggregate added during manufacture.

Retarder — In the case of stucco, plaster, mortar, concrete, etc, a substance which retards the set.

Retarded Hemihydrate — A form of hemihydrate which contains an addition of a retarder of set.

S

Set — The hardening and hydration of a gypsum plaster (*see* Setting Time).

Setting Time — The elapsed time required for a gypsum plaster to attain a specified hardness and strength after mixing with water.

Sized Gypsum — Crushed gypsum of prescribed size of individual particles.

Stucco — A material used in a plastic state, which may be trowelled to form, when set, a hard covering for the exterior walls or other exterior surfaces of any building or structure.

NOTE — The word 'stucco' is used without regard to the composition of the material, and is defined only with reference to its use and location as contrasted with the words 'plaster' and 'mortar'.

T

Tapered Edge — An edge formation of gypsum board which provides a shallow depression at the paper-bound edge to receive joint reinforcement.

V

Veneer Plaster Base — A gypsum board used as the base for application of a gypsum veneer plaster.

Veneer Plaster — A calcined gypsum plaster specially manufactured to provide high strength, hardness and abrasion resistance when applied in thin coats over a veneer plaster base.

W

Wood Fibre — A material produced by grinding or shredding wood.

Wood Fibred Plaster — A calcined gypsum plaster containing shredded or ground wood fibre added during manufacture.

INDIAN STANDARDS ON GYPSUM BUILDING MATERIALS

IS:

- 2095-1964 Gypsum plaster boards
- 2469-1976 Glossary of terms relating to gypsum (*first revision*)
- 2542 (Part I)-1964 Method of test for gypsum plaster, concrete and products: Part I
Plaster and concrete
- 2542 (Part II)-1964 Method of test for gypsum plaster, concrete and products: Part II
Gypsum products
- 2547 (Part I)-1976 Gypsum building plaster: Part I Excluding premixed lightweight
plasters (*first revision*)
- 2849-1964 Non-load bearing gypsum partition blocks (solid and hollow type)

INDIAN STANDARDS INSTITUTION

Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002

Telephone : 27 01 31 (20 lines)

Telegrams : Manaksanstha

Regional Offices:

		Telephone
Western : Novelty Chambers, Grant Road	BOMBAY 400007	37 97 29
Eastern : 5 Chowringhee Approach	CALCUTTA 700072	23-08 02
Southern : C.I.T. Campus, Adyar	MADRAS 600020	41 24 42

Branch Offices:

'Pushpak', Nurmohamed Shaikh Marg, Khanpur	AHMADABAD 380001	2 03 91
'F' Block, Unity Bldg, Narasimharaja Square	BANGALORE 560002	2 76 49
Ahimsa Bldg, SCO 82-83, Sector 17C	CHANDIGARH 160017	2 83 20
5-8-56/57 Nampally Station Road	HYDERABAD 500001	4 57 11
117/418B Sarvodaya Nagar	KANPUR 208005	82 72
B.C.I. Bldg (3rd Floor), Gandhi Maidan East	PATNA 800004	5 36 55
Hantex Bldg (2nd Floor), Rly Station Road	TRIVANDRUM 695001	32 27