



उत्पाद मानुयल
आई एस 12679 : 2021 के अनुसार
प्लास्टर, ब्लॉक और बोर्ड में प्रयोग के लिये जिप्सम
उप उत्पाद-के लिए

दस्तावेज संख्या- पी एम/आई एस 12679/1/जुलाई 2023

भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम की स्कीम-I के तहत यह उत्पाद मानुयल प्रमाणीकरण के प्रचलन में रीति और पारदर्शिता के सुसंगतता सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों एवं लाइसेन्स धारियों द्वारा संदर्भ सामग्री के रूप में उपयोग किया जाएगा। बीआईएस लाइसेन्स/प्रमाण पत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज का उपयोग किया जा सकता है।

PRODUCT MANUAL FOR
BY-PRODUCT GYPSUM FOR USE IN PLASTER BLOCKS AND
BOARDS ACCORDING TO IS 12679:2021

Document No.- PM/IS 12679/1/July 2023

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate

भारतीय मानक ब्यूरो
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 New Delhi – 110002



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1.	Product	:	IS 12679:2021
	Title	:	By-Product Gypsum for Use in Plaster Blocks and Boards
	No. of Amendments	:	Nil
2.	Sampling Guidelines:		
a)	Raw material	:	No specific requirement
b)	Grouping guidelines	:	Each type of by-product gypsum shall be tested for all requirements in order to include that particular by-product gypsum in the scope of the licence.
c)	Sample Size	:	2 kg
3.	List of Test Equipment	:	Please refer ANNEX – A
4.	Scheme of Inspection and Testing	:	Please refer ANNEX – B
5.	Possible tests in a day	:	All tests except 'F'
6.	Scope of the Licence :		
	Licence is granted to use Standard Mark as per IS 12679 : 2021 with the following scope:		
	Name of the product	:	By-Product Gypsum for Use in Plaster Blocks and Boards
	Type	:	- Phospho-gypsum, - Fluoro-gypsum, - Marine-gypsum, and - Sulpho-gypsum (FGD gypsum)

BUREAU OF INDIAN STANDARDS
Manak Bhawan, 9, Bahadur Shah Zafar Marg,
New Delhi – 110002

ANNEX A

List of Test Equipment

Major test equipment required to test as per the Indian Standard

Sl No.	Test Used in with Clause Reference	Test equipment
1	P ₂ O ₅ , Clause 4 and Table 1	1. Method Based On The Reduction with Stannous Chloride : - Ammonium Molybdate Solution - Stannous Chloride Solution - Standard Phosphate Solution - Ether - Hydrochloric Acid - pH Meter - Nessler Cylinders - Separating Funnels 2. Instrumental Method : - Spectrophotometer - Filter Photometer - pH Meter - Isobutanol - Nitric Acid - Sulphuric Acid - Ammonium Acetate - Ferric Sulphate - Ferrous Ammonium Sulphate - Ammonium Molybdate - Washing Solution - Stannous Chloride - Standard Phosphorus - Burette - Separating Funnel
2	F, Clause 4 and Table 1	- Acetic Acid - Hydrofluoric Acid - Sulphuric Acid - Hydrochloric Acid - Hydrogen Sulphide - Ammonium Hydroxide - Ammonium Sulphide - Ammonium Oxalate - Potassium Permanganate
3	Na ₂ O and K ₂ O, Clause 4 and Table 1	- Flame Photometer - Hydrochloric Acid - Nitric Acid - Hydrofluoric Acid - Potassium Chloride - Sodium Chloride
5	Organic matter, Clause 4 and Table 1	1. Method Based On Organic Carbon Content Of Soil: - Oven - Desiccator - Sieves - 10mm IS Sieve and 425 micron IS Sieve - Potassium Dichromate

		e. Ferrous Sulphate f. Sulphuric Acid g. Orthophosphoric Acid h. Indicator Solution- Sodium diphenylamine-sulphonate i. Wash Bottle j. Glass Weighing Bottle k. Chemical Balance l. Volumetric Flask m. Burettes n. Pipettes o. Conical Flasks p. Graduated Measuring Cylinders 2. Determination of Organic Matter (Alternative Method) By The Chromic Oxidation Equivalent Of Soil Organic Matter: a. Electric Hot Plate b. Orthophosphoric Acid c. Ferrous Ammonium Sulphate d. Chromic Acid e. Orthophenonthroline Indicator f. 212 micron IS Sieve g. Beakers - 250-ml and 400-ml h. Heat Resistant Glass Test Tube - 30 X 200 mm i. Heat Resistant Glass Beaker (Bath) j. Thermometer k. One-Litre Shallow Heat Resistant Glas. Tray (Bath) l. Torsion Balance m. Capillary Tube, Stirrer and Compressed Air Supply n. Stirring Rod o. Volumetric Pipette p. Burette - 50-ml
6	CaSO ₄ .2H ₂ O, Clause 4 and Table 1	1. Digital balance 2. Muffle Furnance 3. Hydrochloric acid 4. Nitric acid 5. Barium chloride
7	Cl as NaCl, Clause 4 and Table 1	1. Silver Nitrate 2. Sodium chloride 3. Nitric Acid 4. Digital balance 5. Volumetric flask 6. Pipettes-10 ml 7. Nessler Cylinder
8	pH of 10 percent aqueous suspension of gypsum, Clause 4 and Table 1	1. pH Meter 2. Digital Balance 3. Potassium hydrogen phthalate 4. Sodium tetraborate (Borax) 5. Mortar with Rubber Covered Pestle 6. Volumetric Flask. 7. Beakers
9	Moisture (free water), Clause 4 and Table 1	1. Oven 2. 250 micron IS Sieve 3. Digital balance

The above list is indicative only and may not be treated as exhaustive.

ANNEX B

Scheme of Inspection And Testing

- 1. LABORATORY** - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.
 - 1.1** The manufacturer shall prepare a calibration plan for the test equipment.
- 2. TEST RECORDS** – The manufacturer shall maintain test records for the tests carried out to establish conformity.
- 3. LABELLING AND MARKING** – As per the requirements of IS 12679:2021.
 - 3.1** The Standard Mark, as given in the Schedule of the license shall be legibly and indelibly marked on each bag or container and on the label applied to the bag or container; provided always that the material in each bag or container on which this Mark is thus applied conforms to all the requirements of the specification.
 - 3.2 PACKING:** If material is supplied in Bulk/Wagon containers, container ships etc. the Standard Mark as given in Schedule of the licence and Licence Number (i.e. CM/L) shall be incorporated on a test certificate to be provided along with each Bulk/Wagon containers, container ships etc as per the format at Appendix-1, provided always that the product thus marked conforms to all the requirement of the specification. Packing shall be done as per Cl 6 of IS 12679:2021 and the marking details as per Cl 7.1 of IS 12679 : 2021 shall also be indicated on the test certificate.
 - 3.3** In addition, the licence no. CM/L-_____and details of BIS website shall be marked on each bag, container and/or on the Test Certificate, as follows: “For details of BIS certification please visit www.bis.gov.in”.
- 4. CONTROL UNIT** – All by-product gypsum of same type manufactured from identical raw material and under similar conditions of manufacturing in a day shall constitute a control unit.
- 5. LEVELS OF CONTROL** - The tests as indicated in column 1 of [Table 1](#) and the levels of control in column 3 of [Table 1](#), shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.
 - 5.1** All the production which conforms to the Indian Standard and covered by the licence should be marked with Standard Mark.
- 6. REJECTIONS** – Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016.

TABLE 1

TEST DETAILS				Test equipment requirement R: required (or) S: Subcontracting permitted	LEVELS OF CONTROL		REMARKS
Clause	Requirements	Test Method			No. of Samples	Frequency	
		Clause	Reference				
4	P ₂ O ₅	-	IS 6361	R	1	Each control Unit	-----
4	F	-	IS 2411	R	1	Each control Unit	-----
4	Na ₂ O	-	IS 9497	R	1	Each control Unit	-----
4	K ₂ O	-	IS 9497	R	1	Each control Unit	-----
4	Organic matter	-	IS 2720 (Part 22)	R	1	Each control Unit	-----
4	CaSO ₄ .2H ₂ O	-	IS 1288	R	1	Each control Unit	-----
4	Cl as NaCl	-	IS 1288	R	1	Each control Unit	-----
4	pH of 10 percent aqueous suspension of gypsum,	-	IS 2720 (Part 26)	R	1	Each control Unit	-----
4	Moisture (free water)	-	IS 1288	R	1	Each control Unit	-----

Note-1: Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled by the Bureau.

Note-2: Levels of control given in column 3 are only recommendatory in nature. The manufacturer may define the control unit/batch/lot and submit his own levels of control in column 3 with proper justification for approval by BO Head.

APPENDIX- I
XYZ Company
 (Registered office Address and works address)

BIS
STANDARD
MARK

**TEST CERTIFICATE FOR BY-PRODUCT GYPSUM FOR USE IN PLASTER BLOCKS AND
 BOARDS – SPECIFICATION PURPOSES AS PER IS 12679 : 2021**

TEST CERTIFICATE No. _____

DATE _____

Supplied To M/s _____ (Name and Address of Consignee)

It is certified that the material described below fully conforms to IS 12679 : 2021. The properties of the product, as tested in accordance with the Scheme of Inspection and Testing contained in the BIS Certification Marks License No. CM/L _____ are as indicated below against each order no. etc.

(PLEASE REFER TO IS 12679 : 2021 FOR DETAILS OF SPECIFICATION REQUIREMENTS)

TEST RESULTS

Order No. & Date	Quantity	ControlUnit/ Batch No.	Date of Manufacture	Type	Test	Requirement	Observed Value	Remarks
					P ₂ O ₅			
					F			
					Na ₂ O			
					K ₂ O			

					Organic matter			
					CaSO ₄ .2H ₂ O			
					Cl as NaCl			
					pH of 10 percent aqueous suspension of gypsum,			
					Moisture (free water)			

The material supplied conforms to specified requirements of IS 12679 : 2021

REMARKS

Bulk/Wagon containers / Container ships etc

(Signature)

FOR XYZ COMPANY

(For details of BIS certification please visit www.bis.gov.in)