



उत्पाद मैनुअल
WHITE CEMENT BASED POLYMERIC PUTTY
IS 17545: 2021 के अनुसार

PRODUCT MANUAL
FOR WHITE CEMENT BASED POLYMERIC PUTTY
ACCORDING TO IS 17545: 2021

विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम, 2018 की योजना- I के तहत प्रमाणन के संचालन में अभ्यास और पारदर्शिता के संचालन में पारदर्शिता सुनिश्चित करने के लिए इस उत्पाद मैनुअल का उपयोग सभी क्षेत्रीय / शाखा कार्यालयों और लाइसेंसधारियों द्वारा संदर्भ सामग्री के रूप में किया जाएगा। दस्तावेज़ का उपयोग बीआईएस प्रमाणन लाइसेंस/प्रमाणपत्र प्राप्त करने के इच्छुक संभावित आवेदकों द्वारा भी किया जा सकता है।

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.

1.	उत्पाद Product	:	IS 17545: 2021
	शीर्षक Title	:	White Cement Based Polymeric Putty
	संशोधनों की संख्या No.of amendments	:	Nil
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	No specific requirement
b)	समूहीकरण दिशानिर्देश Grouping Guidelines	:	Not applicable. However, sample shall be tested for optional requirement (compressive strength) if it is intended to cover the optional requirement in the scope of licence
c)	नमूने का आकार Sample Size	:	20 kg
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer Annex-A
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	:	Please refer Annex-B

5.	एक दिन में संभावित परीक्षण Possible tests in a day	
	(i) Water Retentivity (ii) Setting time (iii) Polymer Content (iv) Degree of whiteness	
6.	लाइसेंस का दायरा /Scope of the Licence:	
	“Licence is granted to use Standard Mark as per IS 17545: 2021 with the following scope:	
	Name of the product	White Cement Based Polymeric Putty
	Optional requirement	With/Without optional requirement (compressive strength)

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN,9, BAHADUR SHAH ZAFAR MARG,
NEW DELHI-110002

ANNEX – A

LIST OF TEST EQUIPMENTS

Major test equipment required to test as per the Indian Standard

S. No.	Tests used in with Clause Reference	Test Equipment
1.	4.3 Consistency (IS 17545: 2021)	1. Gauging Plate M.S. 2. Tap Water 3. Measuring Cylinder 4. Mechanical Stirrer with RPM Controller 5. Mixing Pot
2.	4.4 Lead Restriction (ASTM D3335-85a 2014)	1. Atomic Absorption Spectrophotometer (AAS) consisting of an atomizer with single slot burner. Gas pressure regulating and metering devices for air and Acetylene. Lead source Lamp with a regulated constant current supply using UPS, a monochromator, and associated optics, a photosensitive detector connected to an electronic amplifier and a readout device. 2. Operating Manual of AAS 3. Muffle Furnace 4. Distillation Apparatus S.S. 5. Hot Air Oven 6. Weighing Balance 7. Porcelain Crucible 8. Hot Plate 8" Dia 9. Beakers (High Silica) 10. Volumetric Flasks 11. Dropping Bottle 12. Disposable Syringes 13. Graduated Pipettes 14. Ammonium Acetate 15. Lead Nitrate 16. Nitric Acid 17. Glass Rod 18. Spatula 19. Calculator 20. Funnel 21. Rubber Bulbs 22. Whatman Filter Paper No. 1
3.	4.5 Tensile adhesion strength (Annex B IS 17545: 2021)	1. Air Conditioner 2. Gauging Trowel 3. Humidity Chamber 4. Measuring Cylinders (100 and 500 ml) 5. Room Thermometer 6. Rubber Gloves 7. Stirrer Machine 8. Spatula 9. Mixing Pot 10. Steel Bowl 11. Hole Saw/Core Driller (54 mm diameter) 12. Putty Blade with Handle SS Metal 13. Hydraulic Digital Pull off Adhesion Tester 14. Adhesive (Epoxy + Hardener)

		15. Dolly (50 mm diameter) 16. Substrate (Concrete Block) Mould 17. Curing Tank 18. Cloth 19. Vernier Calliper 20. OPC 43 Grade 21. Screened Natural Sand 22. Stop Watch 23. Weighing Balance
4.	4.5 Determination of Water Retentivity (Annex C IS 17545: 2021)	1. Air Conditioner 2. Gauging Plate M.S. 3. Gauging Trowel 4. Humidity Chamber 5. Measuring Cylinder 6. Measuring Cylinder 7. Room Thermometer 8. 2 Moulds of Ring Shape 9. Weighing Balance 10. Rubber Gloves 11. Mechanical Stirrer with RPM Controller 12. Spatula 13. Mixing Pot 14. Steel Bowl 15. Putty Blade with Handle SS Metal 16. Tamping Rod 17. Vernier Calliper 18. Two rigid non-porous Glass plate 19. Standard weight 20. Whatman Filter Paper (No-4 Thin) 21. Disc of White Filter Papers (No-1 Thick) 22. Stop Watch 23. Weighing Balance
5.	4.5 Setting Time (Annex D IS 17545: 2021)	1. Air Conditioner 2. Gauging Plate M.S. 3. Gauging Trowel 4. 2 Humidity Chambers 5. Measuring Cylinders 6. Room Thermometer 7. Rubber Gloves 8. Mechanical Stirrer with RPM Controller 9. Spatula 10. Mixing Pot 11. Steel Bowl 12. Putty Blade with Handle SS Metal 13. Tamping Rod 14. Vernier Calliper 15. Setting Time Moulds 16. Stop Watch 17. Weighing Balance 18. Paraffin Oil 19. Grease 20. Thermo Hygrometer 21. Vicat Apparatus with 22. Vicat Plunger 23. Vicat (Split) Mould with ring

		24. Base Plate (Non-Porous) 25. Needle (Initial Setting Time) 26. Needle (Final Setting Time)
6.	4.5 Polymer content (based on loss on ignition) (Annex E IS 17545: 2021)	1. Calcium Chloride (Fused) 2. Calculator 3. Hot Plate 8" Dia 4. Muffle Furnace 5. Hot Air Oven 6. Desiccator with Base Plate 7. Room Thermometer 8. Thermo Hygrometer 9. Silica Crucible with Cover 10. Nickel Crucible with Cover 11. Silica Gel 12. Small Spatula 13. Stop Watch 14. Weighing Balance
7.	4.5 Degree of whiteness (Annex B IS 8042: 2015)	1. 2 Mould supplied with reflectivity measuring equipment 2. Standard Magnesium Oxide Block 3. Glass Plates 4. Suitable apparatus for measuring reflectivity such as a Reflectometer or Reflectance Spectrometer
8.	4.5 Cement Content (Annex B IS 5410 : 2013)	1. Air Conditioner 2. Ammonia Solution 3. Ammonium Acetate 4. Ammonium Phosphate 5. Ammonium Hydroxide 6. Ammonium Chloride 7. Agate Mortar Pestle 8. Ammonium Oxalate 9. Beakers 10. Bromine Water 11. Brush 12. Bunsen Burner 13. Burettes 14. Burette Stand with Clamp 15. Butter Paper 16. Calcium Carbonate 17. Calcium Chloride (Fused) 18. Calcium Oxalate 19. Calcium Oxide 20. Erlenmeyer Flasks with stopper 21. Cork Different Sizes 22. Cupric Sulphate Anhydrous 23. Delivery Tube 24. Desiccator with Base Plate 25. Distillation Apparatus S.S. 26. Dropper 27. Ethyl Alcohol 28. Filtering Flask with stopper 29. Flask Long Neck with stopper 30. Funnel 31. Glass Beads 32. Glass Rod 33. Glycerine

		34. Gooch Crucible 35. Hot Plate (70 to 200 °C) 36. Hydrochloric Acid 37. Iodine Flask 38. LPG Cylinder with Regulator 39. Measuring Cylinders 40. Measuring pipette fitted with a glass stopcock 41. Methyl Orange 42. Muffle Furnace Electric 43. Oxalic Acid 44. Phenolphthalein 45. Platinum Crucible/Silica Crucible 46. Soda Lime 47. Potassium Chromate 48. Potassium Nitrate 49. Potassium Hydroxide 50. Potassium Permanganate 51. Rectified Spirit 52. Reflux Condenser 53. Silver Nitrate 54. Spatula 55. Stop Watch 56. Suction Pump 57. Sulphuric Acid 58. U Tube 59. Volumetric Flasks with stopper 60. Volumetric Pipettes 61. Wash Bottle Glass 62. Wash Bottle Plastic 63. Watch Glass 64. Water Bath 65. Water Condenser 66. Weighing Balance 67. Whatman Filter Paper No.1 68. Whatman Filter Paper No.41 69. Wire Gauge (Asbestos Sheet) 70. Carbon Dioxide Absorption Train
9.	4.6 Compressive Strength (IS 4031 Part 6)	1. Standard sand- conforming to IS 650 2. Air Conditioner, 3. Humidity Chamber 4. Vibration Machine - Conforming to IS 10080 5. Poking Rod- Conforming to IS 10080 6. 70.6 mm Cube mould- Conforming to IS 10080 7. Gaging Trowel 8. Balance 9. Graduated Glass cylinders of 150-200 ml capacity 10. Distilled Water 11. Non-Porous Plate (MS Plate) 1000x1000x12 12. Stop watch 13. Petroleum Jelly 14. Compression Testing Machine 15. Curing Tank

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

ANNEX B

SCHEME OF INSPECTION AND TESTING

1. **LABORATORY**- A laboratory shall be maintained, which shall be suitably equipped (as given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the method given in the specification.

1.1 The manufacturer shall prepare a calibration plan for the test equipment.

2. **TEST RECORD**- The manufacturer shall maintain test records for the tests carried out to establish conformity.

3. **PACKING AND MARKING** - The Standard Mark as given in the Schedule of the licence shall be incorporated legibly and indelibly on each package of the material provided always that the material so marked conforms to each requirement of the specification.

3.2 The material shall be suitably packed as agreed to between the purchaser and the supplier. Packing should be such that material shall not absorb any moisture. The package shall also be marked with the following:

- a) Name of the material
- b) Manufacturer's Name or Trade Mark
- c) The batch or control unit number
- d) Month and year of manufacture
- e) Weight of the material (in kg)
- f) Lead content, Max – as per latest test results carried out in accordance with Table 1 below
- g) A cautionary note as below
 - 1) Keep out of reach of children.
 - 2) Dried film of this putty may be harmful if eaten or chewed.
 - 3) This product may be harmful if swallowed or inhaled.
- h) BIS licence number and “For BIS certification details please visit www.bis.gov.in”

5. **CONTROL UNIT**- For the purpose of this scheme the total quantity of the material produced from using same batch/lot/consignment of Raw Materials, during one day and on one production unit (Mixer) shall constitute a Control Unit..

6. **LEVELS OF CONTROL**:- The tests as indicate in Table 1 and at the levels of controls in column 3 of Table 1, shall be carried out on the whole production of the factory which is covered by this plan and records maintained in accordance with paragraph 2 above.

6.1 All the production which conforms to the Indian Standard and covered under the scope of this licence shall be marked with the Standard Mark.

7. **REJECTION** - 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.

TABLE1
LEVELS OF
CONTROL

(1)				(2)	(3)		
Cl.	Requirement	Test Methods		Test equipment requirement R: required (or) S: Sub-contracting permitted	Levels of Control		
		Clause	Reference		No. of Sample	Frequency	Remarks
4.1	Form and Condition	4.1	IS 17545	R	One sample	Each control unit	-
4.3	Consistency	4.3	IS 17545	R	One sample	Each control unit	-
4.3.1.		4.3.1	IS 17545	R	One sample	Each control unit	
4.4	Lead Restriction	-	ASTM D3335-85a	S	One sample	Every 30 th Control Unit or Once in a month (Whichever is earlier)	-
4.5 Table 1	Tensile adhesion strength	Annex-B	IS 17545	R	Three samples	Every 90 th Control Unit or Once in three months(Whichever is earlier)	-
	Water retentivity	Annex-C	IS 17545	R	One sample	Each control unit	-
	Setting time	Annex-D	IS 17545	R	One sample	Every 15 th control unit or once in 15 days(Whichever is earlier)	-

	Polymer content	Annex-E	IS 17545	R	One sample	Each control unit	-
	Degree of whiteness	Annex-B	IS 8042	R	Two samples	Each control unit	-
	Cement content	Annex-B	IS 5410	S	One sample	Every 30 th Control Unit or Once in a month(Whichever is earlier)	-
Optional Requirement							
4.6 Table 2	Compressive Strength	-	IS 4031 (Part6)	S	One sample	Every 30 th Control Unit or Once in a month (Whichever is earlier)	-

Note-1: Whether test equipment is required or sub-contracting is permitted in column 2 shall be decided by the Bureau and shall be mandatory. 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.