



**उत्पाद मैनुअल आई एस 13990:1994 के अनुसार
पूर्वनिर्मित प्रबलित कंक्रीट प्लांक और छत और फर्श
के लिए जोड़के लिए**

दस्तावेज संख्या - पी एम/आई एस 13990/1/फ़रवरी 2023

भारतीय मानक ब्यूरो की स्कीम-I (अनुरूपता मूल्यांकन) विनियम, 2018 के तहत यह उत्पाद मैनुअल प्रमाणीकरण के प्रचालन में रीति और पारिश्रिता की सुसंगतता सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों और लाइसेंसों द्वारा संदर्भ सामग्री के रूप में उपयोग किया जाएगा। बीआईएस प्रमाणीकरण लाइसेंस/प्रमाणपत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज का उपयोग किया जा सकता है।

**PRODUCT MANUAL FOR
PRECAST REINFORCED CONCRETE PLANKS AND
JOISTS FOR ROOFING AND FLOORING ACCORDING TO
IS 13990:1994**

Document No.- PM/ IS 13990/1/Feb 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
BUREAU OF INDIAN STANDARDS
मानक भवन, ९, बहादुर शाह ज़फ़र मार्ग
Manak Bhawan, 9, Bahadur Shah Zafar Marg
नई दिल्ली- ११०००२
New Delhi – 110002



**PRODUCT MANUAL FOR
PRECAST REINFORCED CONCRETE PLANKS AND
JOISTS FOR ROOFING AND FLOORING ACCORDING TO
IS 13990:1994**

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.	Product	:	IS 13990: 1994
	Title	:	Precast Reinforced Concrete Planks and Joists For Roofing And Flooring
	No. of Amendments	:	NIL
2.	Sampling Guidelines:		
a)	Raw material	:	Please refer ANNEX - A
b)	Grouping guidelines	:	Each type shall be tested for all requirements to cover that type in licence scope.
c)	Sample Size	:	5 Nos
3.	List of Test Equipment	:	Please refer ANNEX – C
4.	Scheme of Inspection and Testing	:	Please refer ANNEX – D
5.	Possible tests in a day:		
	Nil (The precast reinforced concrete planks shall be tested at an age of 28 days after in-situ concrete has been laid in the haunch portion)		
6.	Scope of the Licence:		
	“Licence is granted to use Standard Mark as per IS 13990: 1994 with the followingscope:		
	Name of the product	Precast Reinforced Concrete Planks and Joists For Roofing And Flooring	
	Type	Precast Reinforced Concrete Planks / Partially Precast Joists	

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

ANNEX A

Raw Material

1. Concrete - Cl 3.1 of IS 13990
2. Reinforcement – Cl 3.2 of IS 13990

ANNEX C**List of Test Equipment***Major test equipment required to test as per the Indian Standard*

S. No.	Tests used in with Clause Reference	Test Equipment
1	Dimensions(Clause 4)	a) Steel scale b) Vernier caliper c) Sieves- 20mm, 10mm
2	DEFLECTION RECOVERY TEST (Cl A-3)	a) Test facilities as per Annex-A3 of IS 13990
3	FAILURE LOAD TEST (Cl A-4)	a) Test facilities as per Annex-A4 of IS 13990
4	Compression Test on Concrete cubes	b) Compressive Strength Test Machine fitted with Load Gauge c) Cube Moulds d) Tamping rod/ vibrator for compaction e) Humidity chamber f) Hygrometer g) Curing tank inside lab h) Air Conditioner

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

ANNEX D

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 equipments.

2. TEST RECORDS – The manufacturer shall maintain test records for the tests carried out to establish conformity.

3. LABELLING AND MARKING – As per the requirement of IS 13990: 1994.

4. CONTROL UNIT – All planks/joists manufactured from same mix of raw material under similar conditions of manufacture in one 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 Standards 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

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or) S: Sub- contracting permitted	Levels of Control		
Cl.	Requirement	Test Methods			No. of Sample	Frequency	Remarks
		Clause	Reference				
3.1	Concrete	3.1	IS 13990	R	One	Once in a month	Whenever there is any change in raw material source or proportions of raw materials of concrete, additional tests have to be carried out.
3.2	Reinforcement	3.2	IS 13990	S	One	Each consignment	Cement received shall be ISI marked and accompanied with test certificate.
4	Dimensions	4	IS 13990	R	Firm to have adequate in-process controls to check compliance of this parameter as per the tolerances given in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity		
5	Design	5	IS 13990	R			
A-3	Deflection recovery test	A-3	IS 13990	R	One	Each control unit	-
A-4	Failure load test	A-4	IS 13990	R	One	Once in a month	This is a type test. Type test is intended to prove the suitability and performance of a new design and size of a component. Failure load test be applied at the time of design of a component of a parti cular size or at

							the time of any change in the design/size.
--	--	--	--	--	--	--	--

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