



**PRODUCT MANUAL FOR
WATER WELL SCREENS AND SLOTTED PIPES
ACCORDING TO IS 8110:2019**

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.

1.	Product	:	IS 8110:2019
	Title	:	Water Well Screens and Slotted Pipes
	No. of Amendments	:	Nil
2.	Sampling Guidelines:		
a)	Raw material	:	Materials– Clause. 5.1 & Clause 8.3.2 of IS 8110:2019. Cl 5.1 specifies the recommended materials for various types of well screens and slotted pipes.
b)	Grouping guidelines	:	Please refer ANNEX – A
c)	Sample Size	:	--
3.	List of Test Equipment	:	Please refer ANNEX – B
4.	Scheme of Inspection and Testing	:	Please refer ANNEX – C
5.	Possible tests in a day:		
	As the Licence is operated on factory testing basis, complete testing shall be done in factory. One day is required for complete testing except for Fibre Glass Reinforced Plastic (FRP) slotted Pipes as per Annex-A of IS 8110:2019 for which four days testing time is required.		
6.	Scope of the Licence	:	Please refer ANNEX – D

ANNEX A

Grouping Guidelines

1. The following parameters shall be considered for grouping of Well Screens and Slotted Pipes as per IS 8110:2019:
 - (a) **Type** - Type A, Type B, Type C, Type D and Type E
 - (b) **Specific design features** – As per Clause 8 of IS 8110:2019.
2. Considering above, guidelines given below shall be followed for GoL/CSoL:
 - a) **For Type A and Type C**- Sample of highest size (OD) from each type shall be tested for each depth of well to cover all sizes upto and including the tested size for that particular type and depth of well. Separate sample of each material shall be tested.
 - b) **For type D**- One sample each of lowest nominal size and highest nominal size from highest slot size shall be tested to cover all nominal sizes in that size range for slot sizes upto and including the size tested. Separate sample shall be tested for screens covered under Table 3, Table 4, Table 5 and Table 6.
 - c) **For Type B and Type E**- One sample each of lowest nominal size and highest nominal size from highest slot size shall be tested to cover all nominal sizes in that size range for slot sizes upto and including the size tested.
3. The Firm shall declare the varieties intended to be covered in the Licence. The Scope of Licence may be restricted based on the Manufacturing and Testing capabilities of the Manufacturer.
4. During the operation of the Licence, BO shall ensure that all the varieties covered in the Licence are tested in rotation, to the extent possible.

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

Sl. No.	Tests used in with Clause Reference	Test Equipment
1.	Dimensional Parameters & Thickness as per 8.2.1,8.2.2, 8.2.3, 8.3.3, 8.3.5, 8.4.2, Table 1, Table 2 Table 3, Table 4, Table 5, Table 6 , Fig 5A, Fig 5B	a. Vernier Calipers b. Feeler Gauge c. Micrometer d. Pistol Caliper e. Steel tape/Scale
2.	Strength parameter 8.3.4 8.3.6.2, 8.3.6.3, 8.3.6.4	a. Collapse Pressure Testing machine for collapse test CL 8.3.6.2(d) b. Universal Testing Machine for Tensile strength and Weld Strength CL 8.3.6.2(e) & (f)
3.	Axial Tensile Strength as per Annex-A.1.1	Universal Testing Machine
4.	Axial Compression Strength as per Annex-A.1.1	
5.	Internal Hydrostatic pressure Test as per A1.1.3	Hydrostatic Pressure Testing Machine with pressure gauge
6.	External Collapse Pressure Test as per A1.1.4	Collapse Pressure Testing machine
7.	Water Absorption and retention of strength as per A1.1.5	Water Bath

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

ANNEX C

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 8110: 2019.

4. CONTROL UNIT – Water Well Screens and Slotted Pipes of same designation manufactured from same batch of raw material in a day from same machine (under same setting conditions) 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

(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				
5	Materials	5	IS 8110	S	One	Each Consignment	#
7	Basic Requirements of Screens	7.1, 7.2, 7.3, 7.4	IS 8110	R		Each Screen	
8	SPECIFIC DESIGN FEATURE						
8.1	<i>Slotted Pipes</i>						
8.1.1	Low Carbon or Mild Steel Slotted Pipes	8.1.1, Table 2	IS 8110	R	Five	Each Control Unit	
8.1.2	Fiber glass Reinforced Plastic Pipes (FRP)	8.1.2 8.1.2.1, Table 1	IS 8110	R	Five	Each Control Unit	
	Material Requirements	8.1.2.2 Annex-A (except A-1.1.5)	IS 8110	R	One	Each Control Unit	
	Water Absorption and Retention of Strength	Annex-A (A-1.1.5)	IS 8110	R	One	Each 7 th Control Unit	

8.2	Mesh Wrapped Screens						
	Material	8.2.1,8.2.2, 8.2.3	IS 8110	S	One	Each Consignment	#
	Dimensions	8.2.1,8.2.2, 8.2.3, Table 2	IS 8110	R	Five	Each Control Unit	
8.3	Cage Type Wire Wound Screen						
8.3.1	General Requirements	8.3.1.1, 8.3.1.7, 8.3.1.8	IS 8110	R	Five	Each Control Unit	
8.3.2	Material of construction	8.3.2	IS 8110 IS 280 IS 6528	S	One	Each Consignment	#
8.3.3	Dimensional Parameters	8.3.3,8.3.5 Table 3 Table 4 Table 5 Table 6	IS 8110	R	Five	Each Control Unit	
8.3.4	Strength Parameters	8.3.6.2 8.3.6.3	IS 8110	R	One	Each Control Unit	For collapse strength and tensile strength
					Five	Each Control Unit	For Weld Joint Strength
8.4	Brass Screen						
	Material	8.4.1	IS 8110 IS 3168	S	One	Each Consignment	#
	Minimum thickness of Sheet	8.4.1	IS 8110	R	Ten	Each Control Unit	
	Dimensions	8.4.2, Fig 5A Fig 5B	IS 8110	R	Ten	Each Control Unit	
9	General Requirements	9.2	IS 8110	R	Each Screen		

Materials which are under mandatory BIS Certification shall be ISI Marked. For other materials, no further testing is required, if accompanied with test certificate or ISI marked

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.

ANNEX D

Scope of Licence

“Licence is granted to use Standard Mark as per IS 8110: 2019 with the following scope:	
Name of the product	Water well screens and slotted pipes
Type	
Material	
Nominal size and slot size	
Well depth	