



उत्पाद मैनुअल
पानी, गैस और मलजल के लिए अपकेंद्रित ढले (स्पन) तन्य लोहा के दाब पाइप-विशिष्ट
IS 8329: 2000 के अनुसार

**Product Manual for
Centrifugally Cast (Spun) Ductile Iron Pressure Pipes for Water, Gas and Sewage
According to IS 8329: 2000**

विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम, 2018 की योजना- I के तहत प्रमाणन के संचालन में एकरूपता और पारदर्शिता 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 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 uniformity 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.

1.	भारतीय मानक संख्या IS No.	:	IS 8329:2000
	शीर्षक Title	:	Centrifugally Cast (Spun) Ductile Iron Pressure Pipes for Water, Gas and Sewage
	संशोधनों की संख्या No. of amendments	:	06
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	Please refer Annex-A Note: This section indicates the requirements for raw material (if specified in the IS) for which compliance is to be established during Grant of Licence/Change in Scope of Licence/Factory Surveillance.
b)	समूहीकरण दिशानिर्देश Grouping Guidelines	:	Please refer Annex-B
c)	नमूने का परिमाण Sample Quantity	:	Mechanical Test: Prepared samples Hydrostatic Test, Dimension & other tests: 01 Pipe full length

		Note: This section indicates the quantity of the sample of the product and/or the raw material (if applicable), required to be sent to the laboratory for testing, for the purpose of Grant of Licence/Change in Scope of Licence/ Factory Surveillance (in case of market surveillance, effort may be made to procure the required quantity of product sample, as far as possible since raw material sample may not be available in market)
d)	परीक्षण अनुरोध में घोषित किए जाने वाले पैरामीटर Parameters to be Declared in Test Request	Class designation, Pressure Rating, Nominal Size (DN), Type of Pipe. : Note: Apart from the above, any other requirements/parameters may also be declared as per the standard, as applicable.
3.	परीक्षण उपकरणों की सूची List of Test Equipment	: Please refer to Annex- C
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	: Please refer to Annex- D
5.	एक दिन में संभावित परीक्षण Possible tests in a day	
	All Tests can be carried out in a day Note: This section is for the guidance of BIS Certification Officers/Technical Auditors of BIS Authorized Outside Surveillance Agencies (OSAs) during factory inspection to provide ready reference regarding the tests which can be witnessed during the inspection in the factory by the officer/auditor.	
6.	लाइसेंस का दायरा /Scope of the Licence:	
	IS 8329:2000 के अनुसार मानक मुहर का उपयोग करने के लिए लाइसेंस निम्नलिखित कार्यक्षेत्र के लिए प्रदान किया जाता है □Licence is granted to use Standard Mark as per IS 8329:2000 with the following scope:	
7.	उत्पाद का नाम Name of the product	Centrifugally Cast (Spun) Ductile Iron Pressure Pipes for Water, Gas and Sewage
	Class designation & Pressure Rating	K7, K8, K9, K10, K11, K12..etc./PN 10, PN 16, PN 25 etc.
	Type of pipe	e.g. Socket and spigot pipes and/or flanged pipes etc.
	Nominal Size DN (in mm)	80, 100, 125, 150.....etc.

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

Annex-A
To Product Manual for
Centrifugally Cast (Spun) Ductile Iron Pressure Pipes for Water, Gas and Sewage
According to IS 8329:2000

Raw Material

1) There are two types of manufacturing units producing centrifugally cast (spun) ductile iron pressure pipes for water, gas and sewage according to IS 8329:2000 (DI Pipes):

i. **Pipe casting units** i.e. those units which have in house facility for centrifugal casting to produce DI pipes as per the standard.

ii. **Flanging Units** i.e. those units which do not have in house facility for centrifugal casting of DI pipes, and procure DI pipes from the pipe casting units on which they then carry out flanging operation to produce flanged DI pipes.

2) **For pipe casting units**, the raw material shall be Ductile Iron or Spheroidal Graphite Iron of good quality, commensurate with the mechanical requirements laid down in Clause 10 and 11 of the standard IS 8329. Compliance shall be ensured as per GOL guidelines.

3) **However, flanging units shall be required to procure only BIS Standard Marked (ISI marked) DI pipes from manufacturing unit(s) holding valid BIS licence as per IS 8329:2000. These flanging units shall also maintain appropriate records of purchase and consumption of ISI marked DI Pipes.**

4) In addition, rubber gaskets used with joints of DI pipes as per IS 8329:2000 shall conform to Cl. 8 of IS 8329:2000 and their conformity shall be established as per GoL guidelines.

ANNEX-B
TO PRODUCT MANUAL FOR
Centrifugally Cast (Spun) Ductile Iron Pressure Pipes for Water, Gas and Sewage
According to IS 8329:2000

GROUPING GUIDELINES

For the purpose of grant of licence as well as inclusion of additional sizes in the existing licence, the following groups having sizes as mentioned below shall be considered and one sample from each group for each type, class and pressure rating shall be tested for all the requirements of the specification to cover all sizes of pipes of that type, class and pressure rating.

Group	Sizes
1	80 mm to 250 mm
2	300 mm to 600 mm
3	700 mm to 1000 mm
4	1100 mm to 1400 mm
5	1500 mm to 2000 mm

While considering grant of licence/ inclusion of additional sizes, BO to ensure that the applicant/ licensee has got the complete manufacturing and testing facilities for all the varieties to be covered in the licence.

During operation of the licence, BO shall ensure that pipes of all varieties covered in the licence are tested in the factory and drawn for independent testing on rotation.

LIST OF TEST EQUIPMENTS
(INDICATIVE LIST, FOR GUIDANCE ONLY)

Major test equipment required to test as per requirements of Indian Standard.

Sl. No.	Test Equipment/Chemicals and Identification Numbers (Where applicable)	Tests Used in with Clause Reference
1.	Universal Testing Machine (UTM), Class-1 accuracy or better as per IS 1608 (Part 1)	Mechanical test, Cl 10
2.	Brinell hardness Testing Machine as per IS 1500 (Part-1)	Brinell hardness test, Cl 10.2
3.	Hydrostatic Test arrangement	Hydrostatic test, Cl 11
4.	Dimensions and size 1) Ultrasonic Thickness gauge (UTG) 2) Tape 3) Go and no go gauge 4) Circumferential tape 5) Thread & nut arrangement with Vernier caliper 6) Micrometer with least count 0.01 mm having Spherical anvil and a flat spindle measuring faces.	Dimension and Size, Cl 12, 13
5.	Coating 1) Visual/Coat meter/mylar film 2) Visual/Coat meter/ Pin & Vernier 3) Go gauge/ inside caliper	Coating, Cl 16

Note: The above is an indicative list for the purpose of guidance only

ANNEX- D SCHEME OF INSPECTION AND TESTING

1. QUALITY ASSURANCE PLAN

1.1 It is expected that manufacturers (licensees/applicants) will implement a Quality Assurance Plan i.e. a plan of regular testing and in-process controls, designed to ensure that the product bearing the Standard Mark conforms to all requirements of the Indian Standard.

1.2 The manufacturers shall define a Quality Assurance Plan defining the control unit (i.e. lot/batch etc.) and the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and submit the same to BIS Branch Office for information. The manufacturer shall comply with the same and maintain test records in accordance with para 2.4.

1.3 RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT:

1.3.1 For the guidance of manufacturers, the recommended definition of control unit is: the total quantity of pipes of the same type, class, pressure rating and nominal size manufactured under similar conditions from the same cast of metal (in case of pipe casting units) or made from the same consignment of ISI Marked DI pipes (in case of flanging units) and having the same type of internal and external coating/lining shall constitute one control unit*.

*(However, the total size (number of pipes) of the control unit shall not exceed the maximum batch size for that particular size of pipes mentioned in Cl 9.2 of IS 8329:2000)

1.3.2 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in **Table 1**.

1.3.3 The manufacturer shall ensure inspection and testing as per the Quality Assurance Plan submitted by them on the whole production of the factory which is covered by this plan. Alternatively, the manufacturer has the option of adherence to the quality plan as per levels of control recommended in column 3 of Table 1.

1.4 However, all manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard.

2. ENSURING COMPLIANCE THROUGH TESTING- It is expected that manufacturers (licensees/applicants) will establish a suitably equipped and staffed in house laboratory (In house testing facility) for testing at least those parameters of the Indian Standard which require routine testing for ensuring quality of the product. This includes in-process controls as may be defined and put in place by the manufacturer and testing parameters/requirements which can only be performed in the factory.

2.1 For the guidance of manufacturers, Table 1 giving the recommended levels of control is given below. Column 2 of Table 1 indicates routine tests where test equipment is required in house as “R” or other tests which can be subcontracted as “S”. Subcontracting is permitted to

BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

2.2 For MSME manufacturers, the requirement of maintaining a laboratory/in-house testing facility for routine tests (indicated as “R” in Column 2 of Table 1) is also optional.

2.2.1 MSME manufacturers may utilize common cluster based facilities as per guidelines for the utilization of cluster based test facilities by MSMEs or the provisions of Sharing of testing facilities or get testing done from BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

2.3 Large Scale manufacturers shall maintain an in-house laboratory equipped at least with test facilities for routine tests (indicated as “R” in Column 2 of Table 1), where different tests given in the specification shall be carried out in accordance with the method given in the specification. They shall also implement a calibration plan for the in-house test equipment.

2.3.1 Alternatively, in lieu of an in-house laboratory, large scale manufacturers can also utilize the provisions of Sharing of testing facilities as per the Guidelines for Grant of Licence available on BIS website www.bis.gov.in. (Under Conformity Assessment>Product Certification Process). Even for subcontracted tests, provisions for sharing of testing facilities can be utilized.

2.4 TEST RECORDS- The manufacturers maintaining an in-house laboratory or utilizing common cluster based facilities or shared test facilities shall maintain test records for the tests carried out to establish conformity. For the tests being subcontracted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025, test reports issued by the laboratories shall be available for inspection by BIS.

3. PACKING AND MARKING - The Standard Mark as given in the Schedule of the license and Licence Number (i.e. CM/L) shall be cast, stamped or legibly and indelibly painted/stencilled on each Pipe length, provided that the material so marked conforms to the requirement of the specification.

3.1 Packing and Marking shall be done as per the Indian Standard.

3.2 **Additional Marking requirements:** The pipes shall also be marked with the following additional requirement:

- a) “For BIS certification details please visit www.bis.gov.in”
- b) Any other requirement not specified in the Indian Standard

4. TEST CERTIFICATE –For each consignment of BIS Certified material conforming to IS 8329:2000 there shall be a test certificate which shall contain the Standard Mark, the Batch/Control Unit number and the corresponding test results (as given in Annexure-I enclosed).

5. REJECTION - All the production which conforms to the Indian Standard and covered under the scope of this licence shall be marked with the Standard Mark. 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
(ONLY FOR GUIDANCE PURPOSE)

(1)				(2)	(3)		(4)
TEST DETAILS					LEVELS OF CONTROL		REMARKS
Clause	Requirements	Test Method		Test equipment requirement R: required (or) S:Sub-contracting permitted	No. of Samples	Frequency	
		Clause	Reference				
6	Joints	6	IS 8329	R	Each pipe	—	—
7	Manufacture	7	-do-	R	Each pipe	—	See Note 1
8	Rubber Gasket	8	-do-	S	One	Each consignment	See Note 2
10	Mechanical Test						
10.1	Tensile Test		IS 1608 (Part 1)	R	One	Each control unit	—
10.2	Brinell Hardness Test		IS 1500 (Part 1)	R	One	Each control unit	—
11	Hydrostatic Test	11	IS 8329	R	Each pipe	—	—
12, 13, 15	Sizes, dimensions and tolerances	12, 13, 15 Table 2 to 13	-do-	R	Each pipe	—	—
16	Coating	16	-do-	R	One	Each control unit	—

Note-1: For DI pipe casting units, compliance to Cl 7.1 of IS 8329 shall be established by testing the pipe as per Cl . 10 & 11 of IS 8329 as per the levels of control specified for those tests. For flanging units, they shall procure only BIS Standard Marked (ISI marked) DI pipes from BIS licensed manufacturer for making flanged pipes, which will establish compliance to Cl 7.1. However, compliance to 7.2 which calls for visual inspections of defects, shall be conducted for each pipe.

Note-2: Conformity of each consignment of Rubber gaskets to the requirement of the standard may be established through supplier's test certificate or test report issued by laboratory recognized by the Bureau or Government laboratories empaneled by the Bureau. In case the rubber gaskets are ISI marked no testing is required.

PM/8329/2
November 2025

Annexure-I
(Para 4 of the Scheme of Inspection and Testing)
XYZ IRON AND STEEL COMPANY
(Registered office Address and works address)

ISI Mark
With IS No.
and CM/L
no.

Test Certificate for Centrifugally Cast (Spun) Ductile Iron Pressure Pipes for Water, Gas and Sewage According to IS 8329:2000
TEST CERTIFICATE NO. _____

To M/s _____

Dated _____

We certified that the material described below fully conforms to IS 8329:2000. Mechanical properties of the product as tested in accordance with the Scheme of Inspection and Testing contained in the BIS Certification Marks Licence No. CM/L _____ are as indicated below against each order No.

(PLEASE REFER TO IS 8329:2000 FOR DETAILS OF SPECIFICATION REQUIREMENTS)

TEST RESULTS

Order No. & Date	Control Unit No./Batch Number	Class and pressure rating	Type and size of pipe	Qty. (In tonnes)	Mechanical Properties			Size/ dimension	Coating	Remarks
					Tensile strength	Brinell Hardness	Hydrostatic Test			

Remarks
Wagon No.
Truck No.

FOR XYZ IRON AND STEEL COMPANY

(It is suggested that size A4 paper be used for this test Certificate)