



**PRODUCT MANUAL FOR
BRASS GLANDS FOR PVC CABLES
ACCORDING TO IS 12943: 1990**

**उत्पाद मैनुअल
पीवीसी केबलों के लिए पीतल ग्लैंड
आईएस / आईएसओ 12943: 1990 के अनुसार**

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.	मानक संख्या IS No.	:	IS 12943: 1990
	शीर्षक Title	:	Brass glands for PVC Cables
	संशोधनों की संख्या No. of amendments	:	Nil
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	Gland Body – As per Cl. 4.2.1 of IS 12943 Rubber ring – As per Cl. 4.2.2 of IS 12943
b)	समूहीकरण दिशानिर्देश Grouping Guidelines	:	Please refer ANNEX – A
c)	नमूने का परिमाण Sample Quantity	:	10 pcs
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer ANNEX – B
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and	:	Please refer ANNEX – C

	Testing		
5.	एक दिन में संभावित परीक्षण Possible tests in a day	:	1. Dimensions (Cl. 6.1) 2. Construction (Cl. 4.3) 3. Proof Torque Test (Cl. 5.2) 4. Tensile Test (Cl. 5.3) 5. Electrical Continuity Test (Cl. 5.4)
6.	लाइसेंस का दायरा /Scope of the Licence:		
“License is granted to use Standard Mark as per <i>IS 12943: 1990</i> with the following scope:			
Name of the product		Brass glands for PVC Cables	
Type designation		(See Cl. 7.1 for details)	
To be used with		Armoured / Unarmoured Cables	
Nickel plating		With / without nickel plating	

ANNEX -A

Grouping Guidelines

1. Brass glands for PVC Cables are classified based on the following:
 - a) Type Designation
 - b) To be used with Armoured / Unarmoured Cables
 - c) Nickel plating
2. For considering GoL/CSoL, the following grouping guidelines shall be followed:
 - i. Sample(s) of lowest type designation and highest type designation shall be tested to cover all the intermediate type designation including the type designation tested.
 - ii. If Brass glands to be used with armoured cables are tested, corresponding Brass glands to be used with unarmoured cables may also be covered.
 - iii. If nickel plated Brass glands are tested, corresponding uncoated brass glands of same type designation may also be covered
3. The Firm shall declare the varieties of Brass Glands for PVC Cables they intend to cover in the Licence. The Scope of Licence may be restricted based on the Manufacturing and testing capabilities of the manufacturer.
4. During operation of licence, BOs shall ensure that all the varieties of Brass Glands for PVC Cables covered in the licence are tested in rotation, to the extent possible.

Note: Firm shall submit the declaration with respect to application of Brass gland i.e. Brass gland to be fixed by means of check nuts or without check nuts as per Cl. 9 of IS 12943: 1990.

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

Sl. No.	Tests Used in With Clause Reference	Test Equipment
1	Earthing Tag (Cl. 4.1.1 and Annex A)	• Vernier caliper • Steel Rule
2	Materials (Cl. 4.2.1 & 4.2.2)	• Spectrometer • Shore Hardness Tester • Coating Thickness tester
3	Construction (Cl. 4.3.1)	• Thread Ring Gauges
4	Proof Torque Test (Cl. 5.2)	• Steel Block • Torque spanner
5	Tensile Test (Cl. 5.3)	• Weights • Mandrels • Clock/Timer • Setup as per Annex D
6	Electrical Continuity Test (Cl. 5.4)	• Steel Block • Torque spanner • Multimeter • Oven
7	Dimension (Cl. 6.1)	• Vernier caliper • Steel Rule

ANNEX C

Scheme of Inspection and Testing

1. QUALITY ASSURANCE PLAN

1.1 It is expected that manufacturers (licensees/applicants) will implement a Quality Control 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 Control system 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 2.5.

1.3 RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT:

1.3.1 For the guidance of manufacturers, the recommended definition of control unit is: *Brass Glands for PVC Cables of same type designation manufactured in a day under similar process condition from the same consignment of raw materials* shall constitute a control unit.

1.3.2 As mentioned above, recommended levels of control are given in **Table 1 for guidance only.**

1.3.3 The tests as indicated in Table 1 and at the levels of control in column 3 of Table 1 or the Quality Assurance Plan as submitted by the manufacturer to BIS may be carried out on the whole production of the factory which is covered by this plan and records maintained in accordance with para 2.5.

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 where test equipment is required in house i.e “R” or whether it can be subcontracted as “S”. Subcontracting is permitted to BIS recognized/empanelled laboratory or any other laboratory having valid accreditation as per IS/ISO/IEC 17025, test reports issued by the laboratories shall be available for inspection by BIS.

2.2 For MSME manufacturers, the requirement of maintaining a laboratory/in-house testing facility is 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/empaneled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

2.3 Large Scale manufacturers (including foreign manufacturers) shall maintain an in-house laboratory, 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. They shall also implement a calibration plan for the test equipment.

2.3.1 Alternatively, in lieu of an in-house laboratory, these manufacturers can also utilize the provisions of Sharing of testing facilities as per the Annexure-X (Relaxation in test facilities) of the guidelines for Grant of Licence available on BIS website www.bis.gov.in. (Under Conformity Assessment>Product Certification Process)

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 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 licence shall be incorporated legibly and indelibly on each packing provided always that the material so marked conforms to each requirement of the specification.

3.1 Packing and Marking shall be done as per Cl. 8 of IS 12943: 1990.

3.2 In addition, Control unit no. and / or date of manufacturing shall also be marked on each packing of Brass glands.

3.3 Additional Marking requirements: The following additional requirement shall also be marked on each packing of Brass glands for PVC cables:

- a) “For BIS certification details please visit www.bis.gov.in”

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

4. HYGIENIC CONDITIONS (if applicable) – NA.

5. 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.

TABLE-1

(1)					(2)	(3)		
Test Details					Test Equipment requirement R: Required (or) S: Sub-contracting permitted	Levels of Control		
Cl.	Requirement		Test Method			No. of Sample	Frequency	Remarks
			Clause	Reference				
4	Materials and Constructions							
4.1.1	Materials	Earthing Tag	4.1.1 Annex A	IS 12943	R	One	Each Consignment	No further testing is required is accompanied with test certificate
4.2		Gland Body	4.2.1		S			
		Rubber ring	4.2.2		S			
4.1	General		4.1.2	IS 12943	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		
4.3	Construction		4.3.1 4.3.2 4.3.3 4.3.4	IS 12943	R			
5	Tests							
5.2	Proof Torque Test		5.2	IS 12943	R	One	Each Control Unit	
5.3	Tensile Test		5.3.1 Table 2 Annex D	IS 12943	R			
5.4	Electrical Continuity Test		5.4.1 Annex E	IS 12943	R			Only applicable for Brass glands to be used with Armoured Cables
5.5	Seal Test			IS / IEC 60529	R			
6	Dimensions		Table 1	IS 12943	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		