PRODUCT MANUAL FOR
NEEDLES FOR SEWING MACHINES FOR INDUSTRIAL PURPOSE
ACCORDING TO IS 15169:2002

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 15169:2002
	Title	:	Needles for Sewing Machines for Industrial Purpose
	No. of Amendments	:	1
2.	**Sampling Guidelines:**		
a)	**Raw material**	:	High Carbon Steel Wire
b)	**Grouping guidelines**	:	Please refer ANNEX – A.
c)	**Sample Size**	:	50 no.s needles shall be drawn for all tests.
3.	**List of Test Equipments**	:	Please refer ANNEX – B.
4.	**Scheme of Inspection and Testing**	:	Please refer ANNEX – C.
5.	**Possible tests in a day :**		
	- Hardness (Cl. 6) - Surface Treatment (Cl.7) - Dimensions (Cl. 8) - Bending Distortion(Cl. 9) - Breaking Angle and Needle Eye test(Cl. 11) - Workmanship and Finish (Cl. 10)		
6.	**Scope of the Licence**	:	
	Product		Needles for Sewing Machines for Industrial Purpose
	Class of Needle		DA 1/ DB 1/ DP 5/ DC 1
	Needle Number (size)		7/8/9/10/11/12/13/14/15/16/1718/19/20/21/22/23/24/25

ANNEX – A

Grouping Guidelines

1. Needles covered under IS 15169:2002 can be classified into different varieties on the basis if following parameters:
   a) **Class**- DA 1/ DB 1/ DP 5/ DC 1
   b) **Needle number (Sizes)**: 7/8/9/10/11/12/13/14/15/16/1718/19/20/21/22/23/24/25 (22, 23, 24 & 25 size for Class DP 5 needle only)

2. Considering the above, following sampling guidelines shall be followed for Grant of Licence/ Change in Scope of Licence:
   a. Needles of each class shall be tested separately.
   b. Sample of Needles of any size of the particular class shall be tested to cover all sizes intended to be covered.

3. Manufacturer shall declare all varieties of needles intended to be covered in scope of licence. Scope of the licence shall be restricted based on the manufacturing and testing facilities available.

4. During the operation of the licence, samples of each variety covered in the scope of licence, shall be tested in rotation, to the extent possible.

ANNEX – B

LIST OF TEST EQUIPMENTS

Indicative list of major test equipment required to test as per the Indian Standard (For guidance only)

Sr. No.	Test Equipment	Tests used in with Clause Reference
1)	Vickers Hardness Tester	Hardness, Cl 6
2)	Measurement of Metal Coating Thickness by Microscopical Examination of a Cross Section Optical microscope with stage micrometer, with field of view 1.5 to 3X the coating thickness	Surface Treatment , Cl 7
3)	Micrometer, Dial gauge, Vernier calliper, Butt to eye length dial, RH meter, gauge No GO, gauge GO, Pin gauge, Temperature Indicator	Dimensions, Cl 8
4)	Eye Tester	Needle Eye Test, Cl 11.2.2
5)	Profile Projector, Break Angle tester(Manual or electronic) with Angle protractor, SHADOW GRAPH	Bending Distortion & Test for Breaking Angle, Cl 9 & 11.2.1
6)	Vapour phase inhibitor paper	Preservation and Packing, Cl 12
7)	Magnifying glass 10X	Marking, Cl 14

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

ANNEX – C

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. Batch 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** below.

1.3 **RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT**:

1.3.1 **Control Unit**: For the guidance of manufacturers, the recommended definition of Control Unit is quantity of Needles of same size designation manufactured continuously from same heat number under similar conditions of manufacturing in a day.

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 sub-contracted 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/empaneled 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. **PRESEERVATION, PACKING, LABELLING AND MARKING** – As per the requirement of IS 15169:2002. The Standard Mark, as given in the Schedule of the licence, shall be marked on each packet of needles provided always that the product thus marked conforms to all the requirement of the specification. In addition, the licence no. CM/L-__and details of BIS website shall be marked at an appropriate place on package as follows: "For details of BIS certification please visit www.bis.gov.in".

4. **REJECTION -** All the production which conforms to the Indian Standard and covered under scope of the licence shall be marked with 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)		
Test Details				**Test equipment requirement**	**Levels of Control**		
Cl.	Requirement	Test Methods			No. of Sample	Frequency	Remarks
		Clause	Reference				
5	Material	5	IS 15169	S	One	Each heat	No further testing is required in case material is received with test certificate or is ISI Marked
6	Hardness	6	IS 15169 IS 1501(Pt 1)	R	5	Each Control Unit	
7	Surface Treatment	7	IS 15169 IS 1986	S	5	Once in a month	
8	Dimensions	8 Table 2 to 4	IS 15169	R	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained.		
9	Bending Distortion	9.1.1	IS 15169	S	5	Once in a month	
11	Breaking angle and Needle Eye test	11.2.1 11.2.2	IS 15169	S	5	Once in a month	
10	Workmanship and finish	10.1 10.2	IS 15169	R	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained.		
13	Preservation and Packing	13	IS 15169	R	Each Packet		