



**PRODUCT MANUAL FOR  
FLEXIBLE PVC PIPES OR POLYMER REINFORCED  
THERMOPLASTIC HOSES FOR SUCTION AND  
DELIVERY LINES OF AGRICULTURE PUMPS  
ACCORDING TO IS 15265 : 2003**

*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.	<b>Product</b>	:	IS 15265 : 2003
	<b>Title</b>	:	Flexible PVC Pipes or Polymer Reinforced Thermoplastic Hoses for Suction and Delivery Lines of Agriculture Pumps
	<b>No. of Amendments</b>	:	1
2.	<b>Sampling Guidelines:</b>		
a)	<b>Raw material</b>	:	NA
b)	<b>Grouping guidelines</b>	:	One sample hose of maximum nominal bore shall be tested to cover hoses of all sizes upto and including the size of the sample tested.
c)	<b>Sample Size</b>	:	Qty - 30 m
3.	<b>List of Test Equipment</b>	:	Please refer ANNEX – A
4.	<b>Scheme of Inspection and Testing</b>	:	Please refer ANNEX – B
5.	<b>Possible tests in a day ::</b>		
	i)	Dimensions and tolerances (Clause 5)	
	ii)	Hydrostatic test at standard atmospheric condition (Clause 6.1)	
	iii)	Hydrostatic test at $55 \pm 2^{\circ}\text{C}$ (Clause 6.2)	
6.	<b>Scope of the Licence:</b>		
	“Licence is granted to use Standard Mark as per IS 15265: 2003 with the following scope:		
	Name of the product	Flexible PVC Pipes or Polymer Reinforced Thermoplastic Hoses for Suction and Delivery Lines of Agriculture Pumps	
	Nominal Bore		

**ANNEX A****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	Dimensions and Tolerances (Clause 5)	<ul style="list-style-type: none"> <li>i) Vernier calliper</li> <li>ii) Measuring tape/Steel tape</li> <li>iii) Steel scale</li> </ul>
2	Hydrostatic Test at Standard Atmospheric Condition (Clause 6.1)	<ul style="list-style-type: none"> <li>i) Temperature and Humidity controlled cabinet to maintain temperature of <math>27 \pm 2</math> °C and <math>65 \pm 5</math> % Rh</li> <li>ii) Hydrostatic pressure testing machine with pressure gauge/pressure transducers and timer</li> <li>iii) End plugs of appropriate size for pipes</li> <li>iv) Steel scale</li> </ul>
3	Hydrostatic Test at $55 \pm 2$ °C (Clause 6.2)	<ul style="list-style-type: none"> <li>v) Stop watch</li> <li>vi) Hygrometer</li> <li>vii) Dry and wet bulb thermometer</li> <li>viii) Thermometer</li> <li>ix) Thermostatically controlled Water bath with digital temperature indicator and stirrer</li> </ul>
4	Pressure Impulse Test (Clause 6.3)	<ul style="list-style-type: none"> <li>i) Pressure impulse test set up with pressure gauge and timer as per clause B-1 and Fig. 2 of IS 15265 : 2003</li> <li>ii) End plugs of appropriate size for pipes</li> <li>iii) Water with suitable dye</li> <li>iv) Steel scale</li> <li>v) Temperature and Humidity controlled cabinet to maintain temperature of <math>27 \pm 2</math> °C and <math>65 \pm 5</math> % Rh</li> <li>vi) Hygrometer</li> </ul>
5	Vacuum Test (Clause 6.4)	<ul style="list-style-type: none"> <li>i) Vacuum pressure test set up with pressure gauge to meet requirements of clause C-1 of IS 15265 : 2003</li> <li>ii) End plugs of appropriate size for pipes</li> <li>iii) Thermostatically controlled Water bath with digital temperature indicator and stirrer</li> <li>iv) Steel scale</li> <li>v) Air conditioner</li> <li>vi) Stop watch</li> <li>vii) Dry and wet bulb Thermometer</li> <li>viii) Thermometer</li> </ul>

6	Reinforcement Fracture Test (Clause 6.5)	<ul style="list-style-type: none"> <li>i) Temperature and Humidity controlled cabinet to maintain temperature of <math>27 \pm 2</math> °C and <math>65 \pm 5</math> % Rh</li> <li>ii) Reinforcement Fracture Test Apparatus with extension pieces of hardwood or metal of appropriate size</li> <li>ii) Magnifying glass</li> </ul>
7	Reinforcement Fracture Test (Clause 6.6)	<ul style="list-style-type: none"> <li>i) Bend radius test apparatus as per clause E-1 and Fig 4 of IS 15265 : 2003</li> <li>ii) Stop watch</li> </ul>
8	Cold Bend Radius (Clause 6.7)	<ul style="list-style-type: none"> <li>iii) Deep Freezer with digital temperature indicator</li> </ul>
9	Loss in Mass on Heating (Clause 6.8)	<ul style="list-style-type: none"> <li>i) Weighing balance</li> <li>ii) Micrometer</li> <li>iii) Thermostatically controlled water bath or air oven to operate within range of <math>50</math> to <math>150 \pm 2</math> °C temperature</li> <li>iv) Containers as per Clause E- 1.3 of IS 15265 : 2003</li> <li>iv) Cylindrical Metal Cages as per Clause E- 1.3 of IS 15265 : 2003</li> <li>v) Activated Carbon of 4 to 6mm size</li> </ul>
10	Effect of Sunlight (Clause 6.9)	<ul style="list-style-type: none"> <li>i) Thick paper</li> <li>ii) Steel scale</li> <li>iii) Timer</li> <li>iv) Arrangement to keep sample exposed to sun light for exposure not less than 1600 h at ambient temperature of not less than 20°C.</li> </ul>

*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 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 15265: 2003.

**4. CONTROL UNIT** – All hoses/pipes of same size manufactured from same raw material and from similar machinery up to a maximum period of eight hours duration in a day under similar conditions of manufacture 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 Method			No. of Sample	Frequency	Remarks
		Clause	Reference				
4	Materials and Construction	4	IS 15265	R	-	Each hose	-
5	Dimensions and Tolerances	5.1, 5.1.1 and 5.2	IS 15265 IS 12235 (Part1)	R	Five	Each control unit	-
6	<b>Performance requirements of hoses:</b>						
6.1	Hydrostatic test at standard atmospheric condition	6.1, Annex A and Table 3	IS 15265	R	Two	Each control unit	-
6.2	Hydrostatic test at $55 \pm 2^\circ\text{C}$	6.2, Annex A and Table 4	IS 15265	R	Two	Once in a week	-
6.3	Pressure impulse test	6.3 and Annex B	IS 15265	S	Three	Once in three year	This is type approval test. This test shall be also be carried out whenever there is change in design or new variety is to be included in the licence.
6.4	Vacuum test requirement	6.4, Table 5 and Annex C	IS 15265	S	Two	Once in a month	-

6.5	<b>Reinforcement Fracture test requirement</b>						This test shall also be carried out whenever there is change in design of hose/pipe.
	Control Test for 336h	6.5, Table 6 and Annex D	IS 15265	S	Three	Once in three months	
	Type Test for 4months	6.5, Table 6 and Annex D	IS 15265	S	Three	Once in a year	
6.6	Minimum bend radius requirement	6.6 and Annex E	IS 15265	R	Two	Once in a week	-
6.7	Cold bend radius requirement	6.7 and Annex E	IS 15265	R	Two	Once in a week	-
6.8	Loss of mass on heating	6.8 and Annex F	IS 15265	R	Two	Once in a week	-
6.9	Effect of sunlight	6.9	IS 15265	S	Two	Once in a year	This test shall be also be carried out whenever there is change in design of hose/pipe.

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