



**PRODUCT MANUAL**  
**FOR FERTILIZER AND CHEMICAL INJECTOR SYSTEM PART 3 FERTILIZER**  
**TANK**  
**ACCORDING TO IS 14483(Part 3) : 2018**

*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 14483 (Part 3) : 2018
	<b>Title</b>	:	Specifications for Fertilizer and Chemical Injector System Part 3 Fertilizer Tank
	<b>No. of Amendments</b>	:	Nil
2.	<b>Sampling Guidelines:</b>		
a)	<b>Raw material</b>	:	Material shall comply to Clause 5 of IS 14483 (Part 3).
b)	<b>Grouping guidelines</b>	:	Please refer ANNEX-A
c)	<b>Sample Size</b>	:	01 No. (Test specimens shall be selected as per clause 7.1 of IS 14483 (Part 3))
3.	<b>List of Test Equipment</b>	:	Please refer ANNEX – B
4.	<b>Scheme of Inspection and Testing</b>	:	Please refer ANNEX – C
5.	<b>Possible tests in a day:</b>		
	(i) Dimensions (Clause 6.1) (ii) General (Clause 6.2) (iii) Resistance of Fertilizer Tanks to Hydrostatic Pressure at Ambient Temperature. (Clause 8.1) (iv) Resistance to Hydrostatic Pressure at Elevated Temperature (Clause 8.2) (v) Calibration of rate of injection (Clause 8.3.2) (vi) Calibration of injection time (Clause 8.3.3) (vii) Calibration of rate of injection (Clause 8.3.5) (viii) Calibration of injection time (Clause 8.3.6)		
6.	<b>Scope of the Licence:</b>		
	“Licence is granted to use Standard Mark as per IS 14483 (Part 3) : 2018 with the following scope:		
	Name of the product	Fertilizer and Chemical Injector System Part 3 Fertilizer Tank	
	Type	i. Quantitative Model (Pmax, Pn, Pd, Qn for a given Tank volume) ii. Proportionate model with rubber/plastic bladder (Pmax, Pn, Pd, Qn for a given Tank volume)	
	Sizes	Based on the volume of the tank declared by the manufacturer.	

**ANNEX- A**

**TO PRODUCT MANUAL**

**FOR FERTILIZER AND CHEMICAL INJECTOR SYSTEM PART 3 FERTILIZER**

**TANK**

**ACCORDING TO IS 14483 (PART 3) : 2018**

**GROUPING GUIDELINES**

**1. Fertilizer Tank classified as below:**

**Type:**

Type -1: Fertilizer tank –Quantitative model

Type-2: Fertilizer tank —Proportionate model with rubber/plastic bladder.

**2. Volume of the tank:** 30, 60, 90, 120, 160, 180, 220 litres etc or any other volume declared by the manufacturer.

3. Declaration on Maximum Working Pressure (Pmax), Nominal Test Pressure (Pn), Nominal Differential Pressure (Pd) and Nominal Injection Rate (Qn) to be obtained from manufacturer for a given Tank volume.

4. Considering the type of fertilizer tank and volume of the tank, sample of both Types of fertilizer tank of any size (as per the type and volume of tank covered under the scope of licence) shall be tested for all the applicable requirements to cover the particular Type of fertilizer tank.

5. During the operation of the Licence, BO shall ensure that all the types and sizes of fertilizer tanks covered in the scope of Licence are tested in rotation to the extent possible.

ANNEX- B

TO PRODUCT MANUAL  
FOR FERTILIZER AND CHEMICAL INJECTOR SYSTEM PART 3 FERTILIZER  
TANK  
ACCORDING TO IS 14483 (PART 3) : 2018

LIST OF TEST EQUIPMENT

*Major test equipment required to test as per the Indian Standard*

Sl. No.	Test Equipment	Tests used in with Clause Reference
(i)	Coat gauge, Thermometer (-10 to 110 <sup>0</sup> C, LC-1 <sup>0</sup> C), UV tester.	Material Cl 5
(i)	Digital Vernier/ball or micrometer LC 0.01 mm, Steel Scale, coat gauge	Dimensions (Clause 6.1)
(ii)	Set up to induce pressure with pressure gauge LC 0.01 kg/cm <sup>2</sup> , Thermometer LC 1 <sup>0</sup> C (for lab and water temperature), Stop watch (graduated in divisions of 0.1 s)	Resistance of Fertilizer Tanks to Hydrostatic Pressure at Ambient Temperature. (Clause 8.1) & A-1 of Annex A, IS 14483 (Part 3).
(iii)	Thermostatic hot water bath/ Annealing tank or any other arrangement to carry out test as per clause 8.2, remaining test equipments are same as in sl. No (ii) above.	Resistance to Hydrostatic Pressure at Elevated Temperature (Clause 8.2) & A-2 of Annex A, IS 14483 (Part 3)
(iv)	Set up to induce pressure with Pressure gauge LC 0.01 kg/cm <sup>2</sup> , Pressure reducing device or throttle valve, Rotameter/Flow meter, Stop watch, Thermometer LC 1 <sup>0</sup> C (for lab and water temperature),	Calibration of rate of injection (Clause 8.3.2) & A-3 of Annex A, IS 14483 (Part 3)
(v)	Set up to induce pressure with Pressure gauge LC 0.01 kg/cm <sup>2</sup> , Pressure reducing device or throttle valve, Stop watch, Thermometer LC 1 <sup>0</sup> C, Measuring cylinder, acidic solution with pH up to 4, pH meter or litmus paper.	Calibration of injection time (Clause 8.3.3) & A-4 of Annex A, IS 14483 (Part 3)
(vi)	Set up to induce pressure with Pressure gauge LC 0.01 kg/cm <sup>2</sup> , Pressure reducing device or	Calibration of rate of injection (Clause 8.3.5) & A-5 of Annex A, IS

	throttle valve Rotameter/Flow meter, Stop watch, Thermometer LC 1 <sup>0</sup> C.	14483 (Part 3)
(vii)	Set up to induce pressure with Pressure gauge LC 0.01 kg/cm <sup>2</sup> , Pressure reducing device or throttle valve, Stop watch, Thermometer LC 1 <sup>0</sup> C, Measuring cylinder, acidic solution with pH up to 4, pH meter or litmus paper.	Calibration of injection time (Clause 8.3.6) & A-6 of Annex A, IS 14483 (Part 3)

**The list above is indicative only and may not be taken as exhaustive**

ANNEX - C

**SCHEME OF INSPECTION AND TESTING**

**FOR FERTILIZER AND CHEMICAL INJECTOR SYSTEM PART 3 FERTILIZER  
TANK ACCORDING TO IS 14483 (PART 3) : 2018**

**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. PACKING AND MARKING** – The Standard Mark, as given in the Schedule of the licence, shall be stamped on the body of the fertilizer tank, provided always that the fertilizer tank to which this mark is thus applied, conform to every requirement of the specification.

**3.1** Packing and marking shall be done as per the provision of the Indian Standard. In addition, the following details shall be mentioned on each container legibly and indelibly:

a) BIS Licence No. CM/L .

b) BIS website details i.e –“For details of BIS certification please visit [www.bis.gov.in](http://www.bis.gov.in)”.

**3.2** Manufacturer shall supply guidelines for proper operation and maintenance of fertilizer tank along with safety instructions. The manufacturer shall make available together with the fertilizer tank and fittings, catalogues or information sheets as per clause 12 of IS 14483 (Part 3).

**4. CONTROL UNIT** – For the purpose of this scheme, all Fertilizer Tanks of same Type and size manufactured in one day 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**  
**LEVELS OF CONTROL**

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or) S: Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Test Method Cl. Ref.	Test Method IS		No. of Sample	Frequency	Remarks
5	Material	5.1.1 & 5.1.2	IS 14483 (Part 3)	S	One	Consignment of same variety.	Alternatively, T.C /Test report of the raw material supplier or TC issued by NABL accredited lab or in-house test report of manufacturer may be considered
6	Dimensions	6.1	IS 14483 (Part 3)	R	Two	-do-	-
6	General	6.2	IS 14483 (Part 3)	R	All	-do-	
8.1	Resistance of Fertilizer Tanks to Hydrostatic Pressure at Ambient Temperature	8.1 A-1	IS 14483 (Part 3)	R	One	-do-	
8.2	Resistance to Hydrostatic Pressure at Elevated Temperature	8.2 A-2	IS 14483 (Part 3)	R	-do-	-do-	
8.3.2	Calibration of rate of injection	8.3.2 A-3	IS 14483 (Part 3)	R	-do-	-do-	
8.3.3	Calibration of injection time	8.3.3 A-4	IS 14483 (Part 3)	R	-do-	-do-	
8.3.5	Calibration of rate of injection	8.3.5 A-5	IS 14483 (Part 3)	R	-do-	-do-	
8.3.6	Calibration of injection time	8.3.6 A-6	IS 14483 (Part 3)	R	-do-	-do-	

Note-1: Whether test equipment is required or sub-contracting is permitted in column 2 shall be decided by the Bureau and shall be mandatory. 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.