



उत्पाद मैनुअल
PARTICLE FILTERS USED IN RESPIRATORY PROTECTIVE EQUIPMENT
IS 15322:2003 के अनुसार

PRODUCT MANUAL
FOR PARTICLE FILTERS USED IN RESPIRATORY PROTECTIVE EQUIPMENT
ACCORDING TO IS 15322:2003

विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम, 2018 की योजना- I के तहत प्रमाणन के संचालन में अभ्यास और पारदर्शिता के संचालन में पारदर्शिता सुनिश्चित करने 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 लाइसेंस/प्रमाणपत्र 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 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.	उत्पाद Product	:	IS 15322:2003
	शीर्षक Title	:	Particle Filters used in Respiratory Protective Equipment – Specification
	संशोधनों की संख्या No. of amendments	:	1
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	No specific requirement but the standard thread connector (if used) shall be as per IS 14138 (Part 1).
b)	समूहीकरण दिशानिर्देश Grouping Guidelines	:	Please refer Annex-A
c)	नमूने का आकार Sample Size	:	15 nos
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer Annex-B

4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	:	Please refer Annex-C
5.	एक दिन में संभावित परीक्षण Possible tests in aday		
	Since testing facility is not available in any BIS/BIS recognized lab, complete testing has to be carried out in the Factory for considering certification and during surveillance. 3 days required for complete testing		
6.	लाइसेंस का दायरा /Scope of the Licence:		
	"Licence is granted to use Standard Mark as per IS 15322:2003 with the following scope:		
	Name of the product	Particle Filters used in Respiratory Protective Equipment	
	Filter Class	P1/P2/P3	
	For use against:	Solid particles only /Solid and Liquid particles	
	Suitable for use in:	Industry/coal mines	

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ANNEX-A

GROUPING GUIDELINES

Following grouping guidelines shall apply while defining the scope of the licence in case of application for grant of licence or application for change in scope of licence:

1. If higher class particle filter is tested, lower class may be considered with same configuration. ie.,
 - a. If P3 sample is tested, P1 & P2 may also be covered.
 - b. If P2 sample is tested, P1 may also be covered.
2. If filter intended for use against both solid and liquid particles is tested, filter intended for use against only solid particles only may also be covered.
3. Separate samples shall be tested to cover filters meant for use in industry and in coal mines (Since as per Cl 5.6 of IS 15322 the clogging test with dolomite dust is for filters used in industry and the clogging test with coal dust is for filters used in the coal mines.)

However, it shall be ensured that the firm has the requisite manufacturing and testing facilities to produce the varieties intended to be covered in the scope of licence.

During operation of licence, samples of all varieties shall be drawn and tested by rotation.

ANNEX – B

LIST OF TEST EQUIPMENTS

Major test equipment required to test as per the Indian Standard

Sl. No.	Tests used in with Clause Reference	Test Equipment
1	General (Cl. 5.1)	• Weighing Scale • Thread gauges
2	Mechanical Strength (Cl. 5.3)	• Apparatus as per Fig. 1 • Measuring Scale • Weight block • Stop Watch
3	Breathing resistance (Cl. 5.4)	• Breathing Resistance Rig/machine with suitable adapter • Barometer/pressure indicator • Flow meter • Thermometer
4	Filtration Efficiency(Cl. 5.5)	• Sodium Chloride test (A-4.2) as per apparatus at Fig 2 & 3 • Paraffin Oil Test as per A-4.3, apparatus as per Fig 5, 6, 7, 8 & 10 • Drying oven $70 \pm 3^{\circ}\text{C}$ • Cooling chamber/freezer– $30 \pm 3^{\circ}\text{C}$
5	Clogging(Cl 5.6) i) CoalDust ii) Dolomite Dust	• Test Apparatus as per Fig11 • Test Apparatus as per Fig12 & 14 • Thermometer and hygrometer
6	Air Conditioner to maintain Temperature and humidity in lab	

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

ANNEX C

SCHEME OF INSPECTION AND TESTING

1. **LABORATORY-** A laboratory shall be maintained, 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.

1.1 The manufacturer shall prepare a calibration plan for the test equipment.

2. **TEST RECORD-** 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 indelibly marked on each particle filter and its package, provided always that the particle filter so marked conforms to every requirement of the specification.

3.2 Each particle filter shall be packed suitably to prevent damage in transit. Cartridges shall be packed to prevent damage to threads and sealing surfaces. All encapsulations of filters & all packages containing unencapsulated filters shall be marked with the following::

- (a) Type and Class (P1, P2 or P3);
- (b) Colour code (Silver or Light metal is regarded a neutral colour);
- (c) Batch No. or Serial No.;
- (d) Sub-assemblies and piece parts with considerable bearing on safety shall be marked so that they can be identified;
- (e) The name, trade-mark or other means of identification of the manufacturer;
- (f) All filters, including unencapsulated, which do not pass the paraffin oil test shall be clearly marked with : '**For use against solid aerosols only**' ;
- (g) The date (at least the year) of expiry of shelf life, when the filter does not meet the requirements after the temperature treatment;
- (h) The sentence 'See instructions for use';
- (i) BIS licence number and "For BIS certification details please visit www.bis.gov.in"

3.3 **Instructions for use** as given in **Clause 8** of IS 15322 shall accompany every smallest commercially available package

4. **CONTROL UNIT-** For the purpose of this scheme, all filters, of one class and variety produced in one day shall constitute one control unit.

5. **LEVELS OF CONTROL** :- The tests as indicate in Table 1 and at the levels of controls in column 3 of Table 1, shall be carried out on the whole production of the factory which is covered by this plan and records maintained in accordance with paragraph 2 above.

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

6. **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.

TABLE1
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			No. of Sample	Frequency	Remarks
		Clause	Reference				
5.1	General	5.1	IS 15322	R	All	Every Control Unit	
5.2	Materials	5.2	IS 15322	R	All	Every Control Unit	
5.3	Mechanical Strength	5.3	IS 15322	R	15 nos.	Every Control Unit (As Received)	
5.4	Breathing Resistance	5.4	IS 15322	R	3 nos.	Every Control Unit (After Mechanical Strength)	
5.5	Filtration Efficiency	5.5	IS 15322	R	3 nos. for each aerosol	Every Control Unit (After Mechanical Strength)	
5.6	Clogging	5.6	IS 15322	R	3 nos. for each aerosol	Every Control Unit (After Mechanical Strength)	
5.6.1	Clogging test with Coal Dust	5.6.1					
5.6.2	Clogging test with Dolomite Dust	5.6.2					
6, 7 &8	Packing, Marking & User Instructions	6, 7 &8	IS 15322	R	All	Every Control Unit	

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 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.