



उत्पाद मैनुअल
व्यावसायिक उपयोग के लिए आँख और चेहरे की सुरक्षा
भाग 1 सामान्य आवश्यकताएँ
IS 8521 (Part 1) : 2022 के अनुसार

PRODUCT MANUAL
FOR Eye and Face Protection for Occupational Use
Part 1 General Requirements
ACCORDING TO IS 8521 (Part 1) : 2022

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 8521 (Part 1) : 2022/ISO 16321-1 : 2021
	शीर्षक Title	:	Eye and Face Protection for Occupational Use Part 1 General Requirements
	संशोधनों की संख्या No. of amendments	:	NIL
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	No specific requirement
b)	समूहीकरण दिशानिर्देश Grouping Guidelines	:	Please refer Annex-A
c)	नमूने का आकार Sample Size	:	02 nos. (of each model)
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 a day		
	All tests		
6.	लाइसेंस का दायरा / Scope of the Licence:		
	“Licence is granted to use Standard Mark as per IS 8521 (Part 1) : 2022/ISO 16321-1 : 2021 with the following scope:		
	Name of product	Eye and Face Protectors for Occupational Use	
	Type of products	Flat automatic welding filters, Flat passive welding filters; Cover, or back plates for welding filters; eye shields; face shields; spectacles; Goggles etc.	
	Model Numbers/Identification (for each type of product) code letters/numbers combination for each model	e.g. Goggles of model no. G-1 (Code No.16321 XX U 2 D 3 CH), and Model No. G-2 (Code No. 16321 XX U 2 E 3 CH) <i>Please refer Annex-A for more details</i>	

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN,9, BAHADUR SHAH ZAFAR MARG,
NEW DELHI-110002

ANNEX-A

GROUPING GUIDELINES

1. The manufacturer shall declare the types of products being manufactured (flat automatic welding filters, flat passive welding filters, cover, or backing plates for welding filters, eye shields, face shields, spectacles, goggles) and the model numbers/identification of each of these products.

2. For each model number/identification, the manufacturer shall declare the following information, as applicable

- i. Without/with plano lenses (also whether mounted or unmounted and whether covering one or both eyes)
- ii. Without/with mounted prescription lenses
- iii. Type of lenses : curved or flat as applicable/ multifocal lenses, position-specific single-vision lenses or power-variation lenses or Single-vision ready-to-wear near-vision lenses (lenses with positive spherical power) as applicable
- iv. Without/with enhanced optical performance (optical requirement) (code number 1)
- v. Without/with UV filters (also UV filter code letters i.e. U and/or UL)
- vi. Without/with Infrared filters (also code letters R, RL, RR, RRL as applicable)
- vii. Without/with Sunglare filters
 - along with scale numbers G0,G1, G2, G3, G4 as applicable for occupational use;
 - scale numbers GL0, GL1, GL2, GL3, GL4 as applicable in case of sunglare filters suitable for road use and driving;
 - Without/with photochromic filters;
 - Without/with polarizing filters
 - solar blue light absorption of x% (x to be specified), if applicable
 - -solar blue light transmittance of less than x% (x to be specified), if applicable
 - solar UV absorption of x% (x to be specified), if applicable
 - solar UV transmittance of x% (x to be specified), if applicable
 - -solar UV-A absorption of x% (x to be specified), if applicable
 - solar UV-A transmittance of x% (x to be specified), if applicable
 - solar UV-B absorption of x% (x to be specified), if applicable
 - solar UV-B transmittance of x% (x to be specified), if applicable
- viii. Without/with filters designed for use in glass bowing applications (scale numbers i.e. SF1 etc)
- ix. Without/with lenses with deliberate filtering action
- x. Without/with welding filters
- xi. Without/with lenses of protectors which are claimed to provide protection against optical radiation
- xii. Without/with Anti-reflective coated lenses

- xiii. Sizes (based on headform sizes as per IS 7524 (Part 4) : 2021/ISO 18526-4 : 2020): 1-C12, 1-S, 1-M, 1-L, 2-S, 2-M, 2-L
- xiv. Without/with protection against droplets or streams of liquids
- xv. Without/with protection against high speed particles (Impact level code letters C,D,E or CT, DT, ET as applicable)
- xvi. Without/with Harnesses and headbands
- xvii. Without/ with inserts to carry prescription lenses
- xviii. Without/with Protection at extremes of temperature
- xix. Without/with protection against high mass objects moving at moderate speeds (High mass impact, impact level code letter HM or HMT as applicable)
- xx. Without/with Resistance to surface damage due to flying fine particles (optional requirement) (code letter K)
- xxi. Without/with Resistance to fogging of lenses or filters (optional requirement) (code letter N)
- xxii. Without/with Protection against molten metals and hot solids (optional requirement) (code number 9)
- xxiii. Without/with Protection against droplets (optional requirement) (code number 3)
- xxiv. Without/with Protection against streams of liquids (Optional requirement) (code number 6)
- xxv. Without/with Protection against large dust particles (optional requirement) (code number 4)
- xxvi. Without/with Protection against gases and fine dust (optional requirement) (code number 5)
- xxvii. Without/with Protection against radiant heat (optional requirement) (code number 7)
- xxviii. Without/with Chemical resistance (optional requirement) (code letter CH) (chemicals to which resistance is claimed to be specified)
- xxix. Without/with Use in explosive atmospheres (optional requirement)
- xxx. Intended range of temperatures in which to be used

Note: Each unique combination of code letters/numbers for marking of protectors according to the standard corresponding to each model shall also be provided and shall be part of the scope of licence

3. Samples of each model shall be drawn and tested to cover that model in the scope of the licence.
4. Scope shall be restricted based on the manufacturing and testing facilities available.
5. During the operation of the licence, samples of each variety/model covered in the scope of the licence shall be tested in rotation, to the extent possible.

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/Chemical
1	Field of view, Cl. 5.1	Headforms, according to IS 7524 (Part 4)/ISO 18526-4 Goniometric device, to determine the rotation of the headform in the horizontal and vertical planes. CW-laser, emitting light in visible range, with beam diameter (2 ± 1) mm. Detector, placed at the corneal vertex of the headform
2	Spherical and cylindrical power, Cl. 5.2.1	Telescope set-up as per IS 7524 (Part 1):2021 incorporating telescope, Illuminated target and Filter (optional)
3	Spatial deviation, Cl. 5.2.2	Telescope set-up and Test grid for determination of spatial deviation as per IS 7524 (Part 1):2021
4	Prismatic power for unmounted plano lenses covering one eye, Cl. 5.2.3 and Prism imbalance of complete eye protectors or plano lenses covering both eyes, CL. 5.2.4	Telescope set-up and Apparatus for measurement of prism imbalance as per IS 7524 (Part 1):2021
5	Mounted prescription lenses, Cl. 5.3 -optical i.e. back vertex power, the direction of the cylinder axis, the addition power or the variation power, and the prism imbalance, Cl. 5.3.1 - Positioning, Cl. 5.3.2	Focimeter as per ISO 8598-1
6	Physical optical requirements for protectors, CL. 6 -Detection of signal lights, Cl. 6.1 - Luminous transmittance of lenses without deliberate filter action, Cl. 6.2 - Ultraviolet protective filters, Cl. 6.3.1 - Polarizing filters , Cl. 6.3.3.4.2 -Gradient-tinted sunglare	Test apparatus consisting of a light source and a photodetector as per IS 7524 (Part 2)/ISO 18526-2 CIE 2° standard observer (ISO/CIE 11664-1), CIE 1931 standard colorimetric observer (see ISO/CIE 11664-1) and CIE standard illuminant A and/or CIE standard illuminant D65 (ISO 11664-2) and CIE standard illuminant A (see ISO 11664-2) and/or a Planckian radiator of distribution temperature 1900 K

	filters, Cl. 6.3.3.4.3 -Claimed transmittance properties, Cl. 6.3.3.5	Apparatus consisting of a pair of individually mounted split field polarizers cut to give planes of transmission at +3° and a -3° angle from the horizontal as specified in Cl. 15.1 of IS 7524 (Part 2)
7	Physical and mechanical requirements for protectors, Cl.7 -Area to be protected, Cl. 7.1 - Headbands and harnesses, Cl. 7.2 - Quality of material and surface of mounted and unmounted lenses, visors and filters, Cl. 7.3 -Basic impact level of complete protectors, Cl. 7.4 - Resistance to thermal exposure, Cl. 7.5 - Resistance to UV radiation, Cl. 7.6 - Resistance to corrosion, Cl. 6.9 - Penetration of vents and gaps , Cl. 7.9 - High-speed impact resistance, impact level C, D, E (optional requirement), Cl. 7.10 -High mass impact, impact level HM (optional requirement), Cl. 7.11 -Resistance to surface damage due to flying fine particles (optional requirement) , Cl. 7.12 -Resistance to fogging of lenses or filters (optional requirement), Cl. 7.13 -Protection against molten metals and hot solids (optional requirement), Cl. 7.14 -Protection against droplets (optional requirement) , Cl. 7.15 -Protection against streams of liquids (Optional requirement), CL. 7.16 - Protection against large dust particles (optional requirement) , Cl. 7.17	Headforms, according to IS 7524 (Part 4)/ISO 18526-4 Steel rod, 2 mm nominal diameter, (125 ± 25) mm long with a flat, untapered, end Apparatus for assessment of quality of material and surface. (Fig 1 of IS 7524 (Part 3)/ISO 18526-3) Drop ball test apparatus as per IS 7524 (Part 3)/ISO 18526-3 with steel ball with a diameter of (25.40 +0.05/0) mm, weighing (66.8+0.5/0) g and a drop height of (66.8+0.5/0) with Guide tube Oven capable of maintaining temperature of 55±2°C with temperature indicator Freezer capable of maintaining temperature of -5±2°C with temperature indicator Apparatus for ultraviolet resistance exposure with Fused-silica envelope high-pressure xenon lamp as per IS 7524 (Part 3)/ISO 18526-3 Hot plate and technical or higher grade NaCl (sodium chloride), deionised/distilled water. Rod, with a diameter DP of (1.5+0.02/0) mm and rounded tip of radius R (see Figure 13 of IS 7524 (Part 3)/ISO 18526-3). Steel ball with a diameter of (6 mm +0/-0.25 µm) and 0.86 g minimum mass Pointed steel projectile weighing 500 +50/0 g and a diameter of (25.40 +0.05/0) mm, having an angle of (30 ± 1)° between the sides of conical tip with a 3.0+0.3/0 mm spherical radius and arrangement for dropping the projectile from height of 1.27+0.03/0 m onto the outer surface of the sample Incandescent light source approximating CIE standard illuminant A or D65, and hazemeter or spectrophotometer as per 14.1 of IS 7524 (Part 2)/ISO 18526-2 Falling sand apparatus and Natural quartz sand with

	- Protection against gases and fine dust (optional requirement), Cl. 7.18 - Protection against radiant heat (optional requirement), Cl. 7.19 - Chemical resistance (optional requirement), Cl. 7.20 - Use in explosive atmospheres (optional requirement), Cl. 7.21	reference samples as per 7.4 of IS 7524 (Part 3)/ISO 18526-3 Test apparatus for resistance to fogging as per Fig 3 of IS 7524 (Part 3)/ISO 18526-3 Apparatus for testing protection against metals and solids incorporating ejection system, fixed stop platform, Metal seating ring, Metal cylindrical clamping ring, Ceramic crucible, Grey iron, Aluminium, Protective housing as per 7.6 of IS 7524 (Part 3)/ISO 18526-3 Hand operated atomiser, producing fine droplets (not mist), White non-fluorescent blotting paper, Thymol Blue sodium salt, ethanol, Absorbent cotton lint (surgical dressing), Spray solution as per 6.12 of IS 7524 (Part 3)/ISO 18526-3 along with standard laboratory apparatus/glassware for testing protection against droplets Reagents, materials and apparatus for testing of Protection against streams of liquids including water supply, Spray apparatus as per 6.13 of IS 7524 (Part 3)/ISO 18526-3 Material and apparatus for testing Protection against large dust particles including Dust-chamber, Test dust, Photoelectric reflectometer, White comparison sample, and Blotting paper as per 6.14 of IS 7524 (Part 3)/ISO 18526-3 Apparatus for testing Protection against gases and fine dust incorporating Enclosed gas-tight chamber, white blotting paper, Absorbent cotton lint (surgical dressing), supply of ammonia gas connected to the gas chamber as per Cl. 6.15 of IS 7524 (Part 3)/ISO 18526-3 Apparatus for testing Protection against radiant heat incorporating Radiometer, Heat source, Radiometer detectors, Closed insulated chamber as per 6.16 of IS 7524 (Part 3)/ISO 18526-3 Test chemicals: Sulfuric acid (purity 96 %), Sodium hydroxide (purity 99 %), p-xylene (purity 99 %), Butan-1-ol (purity 99 %), n-heptane (purity 99 %) and others as required
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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 and implement 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 incorporated legibly and indelibly on each eye or face protector and its packaging provided always that the material so marked conforms to each requirement of the specification.

3.2 Packing and Marking shall be done as per the requirements of the Indian Standard. In addition, the following shall be marked on each package:

- a) Model No./Identification (as declared to BIS)
- b) BIS licence number and "For BIS certification details please visit www.bis.gov.in"

3.3 Information as prescribed in the Indian Standard shall be supplied by the manufacturer.

5. **CONTROL UNIT-** For the purpose of this scheme, entire quantity of eye/face protectors of the same type and model manufactured from the same materials in a week shall be taken as one control unit.

6. **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.

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

7. **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
LEVELS OF CONTROL

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or)S: Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Test Methods Clause Reference			No. of Sample	Frequency	Remarks
4	General requirements for protectors						
4.2	Physiological compatibility	4.2	IS 8521 (Part 1) : 2022	R		Firm to have adequate in-process controls in place to ensure conformity to the requirements and maintain records thereof	
4.3	Construction and adjustment	6.1	IS 7524 (Part 3)/ISO 18526-3	R		Firm to have adequate in-process controls in place to ensure conformity to the requirements and maintain records thereof	
4.4	Cleaning and/or disinfection	4.4	IS 8521 (Part 1) : 2022	R		Firm to have adequate in-process controls in place to ensure conformity to the requirements and maintain records thereof	
5	Geometrical optical requirements for protectors						

5.1	Field of view	6.2	IS 7524 (Part 3)/ISO 18526-3	R	2	Each control unit	
5.2	Refractive power and prismatic power for plano lenses						
5.2.1	Spherical and cylindrical power	6.1	IS 7524 (Part 1)/ISO 18526-1	R	2	Each control unit	
5.2.2	Spatial deviation	6.1	IS 7524 (Part 1)/ISO 18526-1	R	2	Each control unit	
5.2.3	Prismatic power for unmounted plano lenses covering one eye	6.1	IS 7524 (Part 1)/ISO 18526-1	R	2	Each control unit	
5.2.4	Prism imbalance of complete eye protectors or plano lenses covering both eyes	6.2	IS 7524 (Part 1)/ISO 18526-1	R	2	Each control unit	
5.3	Mounted prescription lenses						
5.3.1	Optical (back vertex power, the direction of the cylinder axis, the addition power or the variation power, and the prism imbalance)	5.3	ISO 21987:2017	R	2	Each control unit	
5.3.2	Positioning	5.5	ISO 21987:2017	R	2	Each control unit	

5.4	Single-vision ready-to-wear near-vision lenses (lenses with positive spherical power) (optical power range, the optical power, the design reference points and prismatic power)	4.2, 4.3, and 4.4.	ISO 16034:2002	R	2	Each control unit	
5.5	Enhanced optical performance (optional requirement)	5.5	IS 8521 (Part 1) : 2022	S	2	Each month	Each model for which requirement is claimed to be tested
6	Physical optical requirements for protectors						
6.1	Detection of signal lights	11	IS 7524 (Part 2)/ISO 18526-2	R	2	Each control unit	
6.2	Luminous transmittance of lenses without deliberate filter action	7.1 or 7.3	IS 7524 (Part 2)/ISO 18526-2	R	2	Each control unit	
6.3	Specific requirements for different types of filter						
6.3.1	Ultraviolet protective filters						
6.3.1.1	General	6, 7.1, 7.3 and 8	IS 7524 (Part 2)/ISO 18526-2	R	2	Each control unit	

6.3.1.2	Luminous and spectral transmittance and scale numbers	6.3.1.2	IS 8521 (Part 1) : 2022	R	2	Each control unit	
6.3.1.3	Marking of UV filters	6.3.1.3	IS 8521 (Part 1) : 2022	R	Firm to have adequate in-process controls in place to ensure conformity to the requirements and maintain records thereof		
6.3.2	Infrared protective filters						
6.3.2.1	General	6, 7.1, 7.3 and 10	IS 7524 (Part 2)/ISO 18526-2	R	2	Each control unit	
6.3.2.2	Luminous and spectral transmittance and scale numbers	6.3.2.2	IS 8521 (Part 1) : 2022	R	2	Each control unit	
6.3.2.3	Enhanced infrared reflection (optional requirement)	12.2.1 Or 12.2.2	IS 7524 (Part 2)/ISO 18526-2	S	2	Each month	Each model for which requirement is claimed to be tested
6.3.2.4	Marking of IR filters	6.3.2.4	IS 8521 (Part 1) : 2022	R	Firm to have adequate in-process controls in place to ensure conformity to the requirements and maintain records thereof		
6.3.3	Sunglare filters for occupational use						
6.3.3.1	General	6, 7 and 8.	IS 7524 (Part 2)/ISO 18526-2	R	2	Each control unit	
6.3.3.2	Luminous and spectral transmittance and scale numbers	6.3.3.2	IS 8521 (Part 1) : 2022	R	2	Each control unit	

6.3.3.3	Marking of sunglare filters	6.3.3.3	IS 8521 (Part 1) : 2022	R	Firm to have adequate in-process controls in place to ensure conformity to the requirements and maintain records thereof		
6.3.3.4	Additional transmittance requirement						
6.3.3.4.1	Photochromic filters	16.3.2 and 16.3.3	IS 7524 (Part 2)/ISO 18526-2	R	2	Each control unit	
6.3.3.4.2	Polarizing filters	15.1 15.2	IS 7524 (Part 2)/ISO 18526-2	R	2	Each control unit	
6.3.3.4.3	Gradient-tinted sunglare filters	6.3.3.4.3	IS 8521 (Part 1) : 2022	R	2	Each control unit	
6.3.3.5	Claimed transmittance properties						
6.3.3.5.2	Solar blue-light absorption/transmittance	9.1	IS 7524 (Part 2)/ISO 18526-2	R	2	Each control unit	
6.3.3.5.3	Solar UV absorption/transmittance	8.3 8.4 8.5	IS 7524 (Part 2)/ISO 18526-2	R	2	Each control unit	
6.3.4	Filters for use in glass blowing	6	IS 7524 (Part 2)/ISO 18526-2	R	2	Each control unit	

6.4	Uniformity of luminous transmittance and transmittance matching	7.4 7.5	IS 7524 (Part 2)/ISO 18526-2	R	2	Each control unit	
6.5	Scattered light	14.1	IS 7524 (Part 2)/ISO 18526-2	R	2	Each control unit	
6.6	Frame transmittance	6, 7.1, 7.3 and 8 to 10	IS 7524 (Part 2)/ISO 18526-2	R	2	Each control unit	
6.7	Anti-reflective coated lenses (optional requirement)	5.1 to 5.4	ISO 8980–4:2006	S	2	Each month	Each model for which requirement is claimed to be tested
7	Physical and mechanical requirements for protectors						
7.1	Area to be protected	7.1.1 to 7.1.4	IS 8521 (Part 1) : 2022	R	2	Each control unit	
7.2	Headbands and harnesses	6.5	IS 7524 (Part 3)/ISO 18526-3	R	2	Each control unit	
7.3	Quality of material and surface of mounted and unmounted lenses, visors and filters	6.6	IS 7524 (Part 3)/ISO 18526-3	R	2	Each control unit	
7.4	Basic impact level of complete protectors	7.4.1 to 7.4.3	IS 8521 (Part 1) : 2022	R	2	Each control unit	
7.5	Resistance to thermal exposure	6.7	IS 7524 (Part 3)/ISO 18526-3	R	2	Each control unit	

7.6	Resistance to UV radiation	6.8.3	IS 7524 (Part 3)/ISO 18526-3	R	2	Each control unit	
7.7	Resistance to corrosion	6.9	IS 7524 (Part 3)/ISO 18526-3	R	2	Each control unit	
7.8	Resistance to ignition	6.10	IS 7524 (Part 3)/ISO 18526-3	R	2	Each control unit	
7.9	Penetration of vents and gaps	7.5	IS 7524 (Part 3)/ISO 18526-3	R	2	Each control unit	
7.10	High-speed impact resistance, impact level C, D, E (optional requirement)						
7.10.1	Protection at normal ambient temperatures	7.3.2.1	IS 7524 (Part 3)/ISO 18526-3	R	2	Each control unit	
7.10.2	Protection at extremes of temperature	7.3.2.2	IS 7524 (Part 3)/ISO 18526-3	R	2	Each control unit	
7.11	High mass impact, impact level HM (optional requirement)						
7.11.1	Protection at normal ambient temperatures	6.1 7.3.3.1	IS 7524 (Part 3)/ISO 18526-3	S	2	Each month	

7.11.2	Protection at extremes of temperature	6.1 7.3.3.2	IS 7524 (Part 3)/ISO 18526-3	S	2	Each month	Each model for which requirement is claimed to be tested
7.12	Resistance to surface damage due to flying fine particles (optional requirement)	14.1	IS 7524 (Part 2)/ISO 18526-2	S	2	Each month	Each model for which requirement is claimed to be tested
		7.4	IS 7524 (Part 3)/ISO 18526-3				
7.13	Resistance to fogging of lenses or filters (optional requirement)	6.11	IS 7524 (Part 3)/ISO 18526-3	S	2	Each month	Each model for which requirement is claimed to be tested
7.14	Protection against molten metals and hot solids (optional requirement)	7.6.1	IS 7524 (Part 3)/ISO 18526-3	S	2	Each month	Each model for which requirement is claimed to be tested
		7.6.2					
7.15	Protection against droplets (optional requirement)	6.12	IS 7524 (Part 3)/ISO 18526-3	S	2	Each month	Each model for which requirement is claimed to be tested
7.16	Protection against streams of liquids (Optional requirement)	6.13	IS 7524 (Part 3)/ISO 18526-3	S	2	Each month	Each model for which requirement is claimed to be tested
7.17	Protection against large dust particles (optional requirement)	6.14	IS 7524 (Part 3)/ISO 18526-3	S	2	Each month	Each model for which requirement is claimed to be tested
7.18	Protection against gases and fine dust (optional requirement)	6.15	IS 7524 (Part 3)/ISO 18526-3	S	2	Each month	Each model for which requirement is claimed to be tested

7.19	Protection against radiant heat (optional requirement)	6.16	IS 7524 (Part 3)/ISO 18526-3	S	2	Each month	Each model for which requirement is claimed to be tested
7.20	Chemical resistance (optional requirement)	6.17	IS 7524 (Part 3)/ISO 18526-3	S	2	Each month	Each model for which requirement is claimed to be tested
7.21	Use in explosive atmospheres (optional requirement)	Annex D	ISO 80079-36:2016	S	2	Each month	Each model for which requirement is claimed to be tested
8	Marking of protectors	8.1 to 8.6	IS 8521 (Part 1) : 2022	R	Firm to have adequate in-process controls in place to ensure conformity to the requirements and maintain records thereof		
9	Information to be supplied by the manufacturer	9	IS 8521 (Part 1) : 2022	R	Firm to have adequate in-process controls in place to ensure conformity to the requirements and maintain records thereof		

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.