



उत्पाद मैनुअल
व्यक्तिगत फॉल एरेस्ट प्रणाली - विशिष्टि
भाग 5 स्वतःबंद एवं स्वतःलॉक होने वाले जोड़ यंत्र
3521 (Part 5) : 2021 के अनुसार

PRODUCT MANUAL FOR
PERSONAL FALL ARREST SYSTEMS- SPECIFICATION
PART 5 CONNECTORS WITH SELF-CLOSING AND SELF-LOCKING GATES
ACCORDING TO IS 3521 (PART 5) : 2021

भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम 2018 की स्कीम-I के तहत यह उत्पाद मैनुअल प्रमाणीकरण की संचालन रीति में सुसंगतता और पारदर्शिता सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों एवं लाइसेंस धारियों द्वारा संदर्भ सामग्री के रूप में उपयोग किया जाएगा। बीआईएस लाइसेंस/प्रमाण पत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज़ का उपयोग 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 3521 (Part 5) : 2021
	शीर्षक Title	:	व्यक्तिगत फॉल एरेस्ट प्रणाली - विशिष्टि भाग 5 स्वतःबंद एवं स्वतःलॉक होने वाले जोड़ यंत्र Personal Fall Arrest Systems - Specification Part 5 Connectors with Self-closing and Self-locking Gates
	संशोधनों की संख्या No. of Amendments	:	0 Nil
2.	नमूनाकरण दिशा निर्देश Sampling Guidelines:		
a)	कच्चा माल Raw material	:	As per Clause 4.1.1 of IS 3521 (Part 5) : 2021

b)	समूहीकरण दिशा निर्देश Grouping guidelines	:	कृपया Annex-A देखें Please see Annex – A
c)	नमूने का परिमाण Sample Size	:	03 Nos.
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	कृपया Annex-B देखें Please see Annex – B
4.	निरीक्षण व परीक्षण स्कीम Scheme of Inspection and Testing	:	कृपया Annex-C देखें Please see Annex – C
5.	एक दिन में संभावित परीक्षण Possible tests in a day :		
	All tests, except Static Strength and Corrosion Resistance test, can be carried out in a day. However, since testing facility is not available in any BIS/BIS recognized lab, complete testing has to be carried out in the Factory for certification and during surveillance. 03 days inspection required for complete testing.		
6.	लाइसेन्स का कार्यक्षेत्र/Scope of the Licence:		
	आई एस 3521 (Part 5) : 2021 के अनुसार मानक मुहर का उपयोग करने के लिए लाइसेन्स निम्नलिखित कार्यक्षेत्रके लिए प्रदान किया जाता है Licence is granted to use Standard Mark as per IS 3521 (Part 5) : 2021 with the following scope:		
	उत्पाद का नाम Name of the product		व्यक्तिगत फॉल एरेस्ट प्रणाली - भाग 5 स्वतःबंद एवं स्वतःलॉक होने वाले जोड़ यंत्र Personal Fall Arrest Systems - Part 5 Connectors with Self-closing and Self-locking Gates
	प्रकार Type		Having Higher Minimum Static Strength --- kN (Applicable in case of Declared by the Manufacturer)

ANNEX – A
GROUPING GUIDELINES
TO THE PRODUCT MANUAL FOR PERSONAL FALL ARREST SYSTEMS
PART 5 CONNECTORS WITH SELF-CLOSING AND SELF-LOCKING GATES
ACCORDING TO IS 3521 (PART 5) : 2021

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 the Manufacturer declares the Higher Minimum Static Strength (Greater than 20kN), then Connectors having Minimum Static Strength lower than the declared one may also be covered.

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
TO THE PRODUCT MANUAL FOR PERSONAL FALL ARREST SYSTEMS
PART 5 CONNECTORS WITH SELF-CLOSING AND SELF-LOCKING GATES
ACCORDING TO IS 3521 (PART 5) : 2021

Major test equipments required to test as per the Indian Standard

Sr. No.	Tests used in with Clause Reference	Test equipment
1.	Gate- Face Resistance Test, Clause 4.2.1	• Tensile Test Machine with Appropriate Fixtures • Stop Watch, 3 mm Dia Pin for Measurement of Gate Separation, Vernier Caliper • Rigid Bar as per Fig 3 of IS 3521 Part 5
2.	Gate-Side load Resistance Test Clause 4.2.2	• Tensile Test Machine with Appropriate Fixtures • Stop Watch, 3 mm Dia Pin for Measurement of Gate Separation, Vernier Caliper • Rigid Bar as per Fig 3 of IS 3521 Part 5
3.	Static Strength Test Clause 4.3	• Tensile test Machine • Two pins of 12 mm diameter or Appropriate Fixture • Molybdenum based grease • Stop Watch
4.	Corrosion Resistance Test Clause 4.4	• Salt Spray Test Chamber as per ISO 9227 • Ph Meter, • Sodium Chloride • Distilled or deionized water • Stop Watch • Weighing Scale,

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

ANNEX C
SCHEME OF INSPECTION AND TESTING
TO THE PRODUCT MANUAL FOR PERSONAL FALL ARREST SYSTEMS
PART 5 CONNECTORS WITH SELF-CLOSING AND SELF-LOCKING GATES
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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 and implement 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 clearly and indelibly marked on each Connector provided always that material to which this mark is thus applied, conform to every requirement of the specification.

3.1 Marking – Each Connector and their Packing shall be clearly and indelibly marked to give the information as per clause 6.2 of IS 3521 (Part5). In addition, the following details shall be marked legibly and indelibly:

a) The BIS licence number

b) BIS website details i.e. – “For details of BIS certification please visit www.bis.gov.in” (in case of space constraints, may be marked only on the package).

3.2. Packing - The material shall be packed as per Cl. 6.3 of IS 3521 (Part 5).

3.3 Instructions for general use, marking, packaging and maintenance shall also be provided as per the provisions of the Indian Standard.

4. CONTROL UNIT –For the purpose of this scheme, Connectors of the same Type/Design manufactured from the same consignment of raw material in a day shall constitute one 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)
(Para 5 of Scheme of Inspection and Testing)

(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				
4.1	General						
4.1.1	Material, Workmanship and finish	4.1.1	IS 3521 (Part 5)	R	All	Each Control Unit	Visual
4.1.2	Involuntary opening	4.1.2	IS 3521 (Part 5)	R	All	Each Control Unit	
4.1.3	Self-Closing & Self Locking	4.1.3	IS 3521 (Part 5)	R	All	Each Control Unit	
4.2	Gate Resistance						
4.2.1	Gate-face Resistance	5.1.1 & 4.1.3	IS 3521 (Part 5)	R	01 Sample	Each Control Unit	
4.2.2	Gate side-load resistance	5.1.2 & 4.1.3	IS 3521 (Part 5)	R	01 Sample	Each Control Unit	
4.3	Static Strength	5.2 & 5.3	IS 3521 (Part 5)	R	01 Sample	Each Control Unit	
4.4	Corrosion Resistance	5.3 & 4.1.3	IS 3521 (Part 5) & ISO 9227	R	01 Sample	Each 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.