



**PRODUCT MANUAL FOR
ENDLESS V- BELTS FOR INDUSTRIAL PURPOSES –
GENERAL PURPOSES
ACCORDING TO IS 2494 (PART 1):1994**

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.	Product	:	IS 2494 (Part 1) :1994
	Title	:	Endless V- Belts for Industrial Purposes – General Purposes
	No. of Amendments	:	1
2.	Sampling Guidelines:		
a)	Raw material	:	Material – Clause 4 of IS 2494 (Part 1)
b)	Grouping guidelines	:	Please refer ANNEX – A
c)	Sample Size	:	10 V-Belts.
3.	List of Test Equipment	:	Please refer ANNEX – B
4.	Scheme of Inspection and Testing	:	Please refer ANNEX – C
5.	Requirements which can be tested in a day :		
	(a) Dimensions		
	(b) Belt Pitch length		
6.	Scope of the Licence :		
	Licence is granted to use Standard Mark as per IS 2494 (Part 1) :1994 with the following scope:		
	Name of the product	General Purposes Endless V- Belts for Industrial Purposes	
	Type	Cross Section Symbol - Z,A,B,C,D, E Nominal Pitch Length -	

ANNEX A

Grouping Guidelines

1. Endless V- Belts for power transmission in general industrial applications as per IS 2494 (Part 1):1994 are classified based on the following:
 - Cross Section: Z, A, B, C, D, E
 - Standard Pitch Length: As per Table 3A and Table 3B
 - Belts with length other than given in Table 3A and Table 3B may be supplied as agreed to between the purchaser and the supplier. For such belts, the nominal pitch length shall be declared by the manufacturer.
2. For considering GoL/CSoL, Endless V- Belt of any size from each Cross Section shall be tested for all requirements to cover the complete range of sizes of the particular cross section tested.
3. The Firm shall declare the varieties of V- Belts intended to be covered in the Licence. The Scope of Licence may be restricted based on the Manufacturing and Testing capabilities of the Manufacturer.
4. During the operation of the licence, BOs shall ensure that all the varieties covered in the licence are 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
1.	Workmanship and Material as per Clause 4.2	a) Cord testing equipment b) Dial Gauge c) Glassware
2.	Cross Section Dimensions as per Clause 5	a) Vernier Caliper b) Angle Protractor c) Pulleys d) Force measuring device
3.	Belt pitch length and tolerances as per Clause 7	a) Test Bench b) Scale or measuring tape.
4.	Tensile Test per Clause 10	a) Conditioning chamber with hour meter, humidity controller and temperature controller. b) Tensile Testing Machine

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 equipment.

2. TEST RECORDS – The manufacturer shall maintain test records for the tests carried out to establish conformity.

3. LABELLING AND MARKING – As per the requirements of IS 2494 (Part 1): 1994.

4. CONTROL UNIT – V-Belts of same cross section manufactured from a batch of same cord, fiber and rubber mould in a 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 Standard 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	Levels of Control		
Cl.	Requirement	Test Methods		R: required (or) S: Sub-contracting permitted	No. of Sample	Frequency	Remarks
		Clause	Reference				
4	Material and Workmanship	4.1	IS 2494(Part 1)	R	Each V- belt		
		4.2	IS 2494(Part 1)	S	As agreed between the purchaser and manufacturer		
		4.3	IS 2494(Part 1)	S			
5	Cross Section Dimensions	5	IS 2494(Part 1)	R	Ten	Each Control Unit	
7	Belt Pitch length	7.1.1	IS 2494(Part 1)	R	Ten	Each Control Unit	In case of failure, all the Belts from that control unit shall be checked and those found passing only shall be marked.
	Matched belts	7.2.1	IS 2494(Part 1)	R			
10	Tensile Test	10	IS 2494(Part 1)	R	Three test pieces (Six pieces for D and E section belts)	Once in 3 months on each section or whenever there is a change in basic composition of the mould and quality of cord and fabric.	In case of failure, marking that particular cross section shall be stopped. The marking shall be resumed only if samples from two consecutive control units pass.

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.