

भारतीय मानक ब्यूरो
(केंद्रीय मुहर विभाग III)

हमारा संदर्भ : सी एम डी - III/16 : IS 14494

15 March 2019

विषय : आई एस IS 14494:2019 के अनुपालन हेतु एस आई टी

सभी क्षेत्रीय और शाखा कार्यालयों से अनुरोध है की एस आई टी DOC:SIT/IS 14494/ 1/ March 2019 का अनुपालन सुनिश्चित करें।

अलिस्मिता खाग
वैज्ञानिक बी (सी एम डी-III)

प्रमुख (सी एम डी-III)

सभी क्षेत्रीय /शाखा कार्यालय
प्रतिलिपि : आई टी एस विभाग - बी आई एस इंटरनेट पर डालने हेतू

CENTRAL MARKS DEPARTMENT III

Our Ref: CMD III/16: IS 14494

15 March 2019

Subject: SIT for implementation of IS 14494:2019

All ROs/BOs are requested to ensure implementation of the SIT DOC: SIT/IS 14494/ 1/ March 2019.

Alismita Khag
Sc B(CMD III)

Head (CMD III)

Circulated to: All ROs/BOs

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**SCHEME OF INSPECTION AND TESTING FOR CERTIFICATION OF
ELASTOMER INSULATED FLEXIBLE CABLES FOR USE IN MINES
ACCORDING TO IS 14494:2019**

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 14494 : 2019.

4. 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. 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		Levels of Control					
Cl.	Requirement	Requirements		Test Methods		R: required (or) S: Sub-contracting permitted	No. of Sample	Frequency	Remarks			
		Cl.	Ref.	Part	Ref.							
Test on Conductor												
Table 33 (a)	Annealing Test	IS 8130		1	IS 10810	R	Each continuous length of cable produced		—			
	Conductor Resistance Test	IS 8130		5	IS 10810	R						
Dimensions												
Table 33 (b)	Thickness of Insulation	16.2, 16.3 & resp. Table	IS 14494	6	IS 10810	R	Cable of each size & type manufactured in a day					
	Thickness of Inner Sheath	22.2 & resp. Table	IS 14494	6	IS 10810	R						
	Thickness of outer sheath	24.2 & resp. Table	IS 14494	6	IS 10810	R						
	Diameter of armour wire	resp. Table IS 3975	IS 14494	36	IS 10810	S	One from coil of each size or part thereof received No further testing is required if accompanied with Test Certificate or ISI marked					
Tests for Armour Wires												
Table 33 (c)	Tensile strength & elongation at break	11.2	IS 14494	37	IS 10810	S						
	Torsion Test	11.2	IS 14494	38	IS 10810	S						
	Uniformity of zinc coating	11.2	IS 14494	40	IS 10810	S						
	Mass of zinc coating	11.2	IS 14494	41	IS 10810	S						
	Resistivity of steel wire	IS 3975		42	IS 10810	S						

TABLE 1

(1)					(2)	(3)				
Test Details					Test equipment requirement R: required (or) S: Sub-contracting permitted	Levels of Control				
Cl.	Requirement	Requirements		Test Methods		No. of Sample	Frequency	Remarks		
		Cl.	Ref.	Part					Ref.	
Physical Tests on Insulation										
Table 33 (d)	Tensile strength & elongation at break	IS 6380		7	IS 10810	R	Cable of each size & type manufactured in a fortnight	—		
	Ageing in air oven			11		R				
	Ageing in air bomb			56		R				
	Hot Set Test			30		R				
	Ozone Resistance Test			13		R				
Physical Tests on Sheath										
Table 33 (e)	Tensile strength & elongation at break	IS 6380		7	IS 10810	R			Cable of each size and type manufactured in a week	
	Ageing in air bomb			56		R				
	Hot Set Test			30		R				
	Oil Resistance Test			31		R				
	Tear Resistance Test			17		R				
Table 33 (f)	Insulation resistance Test			43		R				
26.5(b), 27.2	Partial Discharge Test (Routine Test)	27.2	IS 14494	46		R	Each drum length			
26.5(c), 27.7.2	High Voltage Test (Routine Test)	27.7.2	IS 14494	45		R				

(1)						(2)	(3)		
Test Details						Test equipment requirement R: required (or) S: Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Requirements		Test Methods			No. of Sample	Frequency	Remarks
		Cl.	Ref.	Part	Ref.				
Table 33 (g) & 26.2(a)	Bending Test followed by Partial Discharge Test	27.3	IS 14494	50	IS 10810	R	Cable of each size and type manufactured in a week	—	
Table 33 (h)	Partial Discharge Test (Type Test)	27.2		46		R			
Table 33 (j) & 26.2(b)	Dielectric Power Factor (as a function of temperature)	27.4		48		R			
Table 33 (k) & 26.2(c)	Heating Cycle Test followed by Partial Discharge Test	27.5		49		R			
Table 33(m) & 26.2 (d)	Impulse Voltage Test	27.6		47		R			
Table 33(n) & 26.2(e)	High Voltage Test for 4h	27.7		45		R			
Table 33(p)	Water Absorption	27.9	IS 14494	28	IS 10810	R	Once in a fortnight		
		IS 6380							
Table 33(q)	Flammability Test	27.8	IS 14494	53	IS 10810	R			
Table 33(r)	Electrical Test on semi-conducting screen	Annex E	IS 14494	Annex E	IS 14494	R	Each continuous length of cable produced		

Note- 1: 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.

Note- 2: Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empaneled by the Bureau.