



**PRODUCT MANUAL FOR
EXPLODERS
ACCORDING TO IS 9836:1981**

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.

1.	Product	:	IS 9836:1981
	Title	:	EXPLODERS
	No. of Amendments	:	Nil
2.	Sampling Guidelines:		
a)	Raw material	:	-
b)	Grouping guidelines	:	Each variety to be tested for the purpose of GoL/ CSoL
c)	Sample Size	:	1 no.
3.	List of Test Equipment	:	Please refer ANNEX – A
4.	Scheme of Inspection and Testing	:	Please refer ANNEX – B
5.	Possible tests in a day :		
	(i) Construction and general requirements		
	(ii) Dielectric Strength Test		
	(iii) Drop Test		
	(iv) Impact Test		
	(v) Carrying straps		
6.	Scope of the Licence :		
	“Licence is granted to use Standard Mark as per IS 9836:1981 with the following scope:		
	Name of the product	Exploders	
	Type	Permitted Type or Non-Permitted (General)	
	Capacity of Exploder (No. of Shots)		
	Any other aspect required as per the Standard (if applicable)	Capacitance type/ Battery type/ with circuit testing device etc.	

ANNEX A**List of Test Equipment***Major test equipment required to test as per the Indian Standard*

Sl. No.	Test Equipment	Tests used in with Clause Reference
1	Humidity Chamber	Insulation Resistance test 8.1
2	Insulation Tester	Insulation Resistance test 8.1
3	High Voltage Tester, Stop watch	Dielectric Strength Test 8.2
4	Endurance Tester	Mechanical Endurance Test 8.3
5	(25mm diameter) hardened steel hemisphere of weight 1kg, Polyamide (Nylon 6.6) Rockwell hardness R 100	Impact Test 8.5
6	Measuring tape Weights	Drop Test 8.4, Impact Test 8.5 Carrying strap 4.2

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

ANNEX B

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 requirements of IS 9836:1981.

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.

4.1 All the production which conforms to the Indian Standard and covered by the licence should be marked with Standard Mark.

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

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or) S: Sub-contracting permitted	Levels of control		
Clause	Requirements	Test Methods			No. of samples	Frequency	Remarks
		Clause	Reference				
4.3, 4.4, 4.6, 4.7, 4.8, 4.11, 4.12	Construction and general requirements	4.3, 4.4, 4.6, 4.7, 4.8, 4.11 and 4.12	IS 9836	R	Each Exploder		--
4.2	Carrying straps	4.2	IS 9836	R	Each Exploder		--
8.2	Dielectric strength test	8.2	IS 9836	R	Each Exploder		--
4.13 and 8.4	Drop test	4.13 and 8.4	IS 9836	R	One	Once in a month for each rating and design	In case of failure, marking shall be stopped and it shall be resumed only after passing of two exploders of improved design.
4.5	Insulation resistance test	8.1	IS 9836	R	One		
8.3	Mechanical endurance test	8.3	IS 9836	S	One		
4.10 and 6	Performance requirements	6	IS 9836	S	One		
8.5	Impact test	8.5	IS 9836	S	One		
4.1	Degree of protection (Splash-proofness and dust-tightness)	IS/IEC 60529		S	One	Once in a year for each rating and design.	
4.9	Test for Circuit continuity/ resistance testing device (if applicable)	Appendix A		S	One	Once in a month for each rating and design.	The circuit of the continuity tester shall be intrinsically safe conforming to IS/IEC 60079-11.

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.