

NECTAR BUSINESS ADVISORS

Your Handholding Partner in Certification

GUIDANCE HANDBOOK

BIS Certification Guidance Handbook Hand-Held Motor-Operated Electric Drills and Impact Drills As per IS 4665 (Part 2 / Section 1):2023

as per IS 4665 (Part 2 / Section 3):2023

Technical Compliance | Testing | Certification Assistance

A-33, Third Floor, Mayapuri Industrial Area Phase-I
New Delhi – 110064

operations@nbadvisors.in | [+91-9999831520](tel:+91-9999831520) | www.nbadvisors.in

Version: June 202



About Nectar Business Advisors (NBA)

Nectar Business Advisors (NBA) provides professional consultancy services for BIS certification covering regulatory compliance, testing coordination, technical documentation, and inspection support for manufacturers and importers.

NBA offers complete end-to-end consultancy support to simplify the certification process while ensuring compliance with BIS requirements and applicable Indian Standards.

Introduction to BIS Certification

The Bureau of Indian Standards (BIS) is the National Standards Body of India responsible for Standardization, Product Certification, and Quality Assurance. Many Ministries and regulators in India use the BIS Act to notify mandatory compliance to Indian Standards for products under their respective domains.

Typical examples include:

- Electronics Goods under Ministry of Electronics and IT (MeitY)
- Solar Products under Ministry of New and Renewable Energy Sources (MNRE)
- Chemicals by Department of Chemicals and Petrochemicals
- Cotton Bales by Ministry of Textiles
- Electrical Appliances and Various Tools by Department for Promotion of Industry and Internal Trade

Scope of Indian Standard IS 4665 (Part 2/Sec 1):2023

Title: *Hand-Held Motor-Operated Electric Tools Safety – Part 2: Particular Requirements – Section 1: Drills and Impact Drills*

Products covered

Products covered under IS 4665 (Part 2 / Section 1):2023 may be classified based on drill type, appliance class, degree of protection, maximum chuck capacity, and functional characteristics..

Classification Basis	Variants
Drill Type	Drill Impact-Drill
Appliance Class	Class I Class II Class III
Degree of Protection	Various IP Ratings
Maximum Chuck Capacity	Various Sizes
Functional Characteristics	Various Configurations

Important Tests as per IS 4665 (Part 2/Sec 1):2023

S.No.	Test Name	Purpose
1	Marking and Instructions Test	Verification of product markings, warning labels, and user instructions for compliance with standard requirements.
2	Protection Against Access to Live Parts Test	Verification that users are adequately protected from accidental contact with hazardous live electrical parts.
3	Starting Test	Verification of safe and reliable starting performance under specified operating conditions.
4	Input and Current Test	Measurement of power input and current consumption to verify compliance with declared ratings.
5	Heating Test	Verification that temperature rise of components remains within permissible limits during operation.
6	Leakage Current Test	Assessment of insulation effectiveness and protection against electric shock hazards.
7	Moisture Resistance Test	Verification of safe operation and insulation integrity under humid environmental conditions.
8	Electric Strength Test	Verification of insulation strength and resistance to electrical breakdown under high voltage conditions.
9	Overload Protection Test	Verification of the effectiveness of protective devices and associated circuits under overload conditions.
10	Endurance Test	Evaluation of the durability and reliability of the tool during prolonged and repeated operation.
11	Abnormal Operation Test	Assessment of product safety when subjected to abnormal or fault operating conditions.
12	Mechanical Hazards Test	Inclined plane, Angle Finder, Push-pull gauge, Test probe similar to test probe B (as per Cl. 20.2), Steel scale, Spring Impact Hammer, vernier caliper, scratch tester, Torque screwdriver, Concrete floor
13	Mechanical Strength Test	
14	Construction Verification Test	Examination of design and construction features for compliance with safety requirements.
15	Internal Wiring Inspection	Verification of proper routing, protection, and adequacy of internal electrical wiring.
16	Supply Connection and Flexible Cord Test	Assessment of cord anchorage, durability, and protection against mechanical damage.
17	Terminals for External Conductors Test	Verification of the suitability and safety of electrical terminals and connections.
18	Earthing Continuity Test	Verification of effective protective earthing to prevent electric shock.
19	Screws and Connections Test	Assessment of the mechanical integrity and security of fasteners and electrical connections.

S.No.	Test Name	Purpose
20	Creepage Distance and Clearance Verification	Verification of minimum insulation distances to prevent flashover and electrical tracking.
21	Resistance to Heat, Fire and Tracking Test	Evaluation of insulating materials for resistance to heat, fire, and tracking under specified test conditions.
22	Resistance to Rusting Test	Verification of corrosion resistance of metallic components exposed to environmental conditions.
23	Radiation, Toxicity and Similar Hazards Assessment	Verification that the product does not create harmful hazards during normal use.

Process of BIS Certification

Certification is a process through which BIS verifies that a product complies with the applicable Indian Standard. Depending upon the Certification Scheme, it may involve product testing and factory assessment. Post-certification, surveillance may be required for both factory manufacturing processes and product testing.

Registration (CRS Mark Registration)

Registration is a process through which BIS grants approval based on successful product testing and the manufacturer's declaration of conformity. It is generally simpler than certification and is applicable to products covered under the Compulsory Registration Scheme (CRS).

BIS Certification Schemes

Scheme	Certification Type	Applicable Mark	Options	Key Features
Scheme-I (Licensing) ISI Mark – Domestic	Third-Party Certification (Type 5): Product testing, factory assessment & surveillance	ISI Mark	Option 1	New products; centralised at BIS HQ. Application → Factory Inspection → Sample sealing → Testing at designated labs → ISI Mark
			Option 2	Regular products; decentralised at BIS Branch level. Apply with test report from recognised lab → Licence granted → Factory Inspection
FMCS ISI Mark – Foreign Manufacturers	Third-Party Certification for Foreign Manufacturers (Type 5)	ISI Mark	Option 1 only	Certification of foreign units; only Option 1 of Scheme-I is available
Scheme-II (CRS) Foreign & Domestic	Registration based on Self-Declaration	CRS Mark	No Options	Testing at BIS recognised labs + self-declaration of conformity → Registration

Testing and Certification

Applicable Certification Scheme

Hand-Held Motor-Operated Electric Tools Safety under IS 4665 (P-2/Section-1) fall under the Licensing Scheme of BIS. Scheme 1 Option 2 is available to Indian manufacturers, whereas overseas manufacturers must avail Option 1 only of Scheme – I

Sample Selection – Number of Samples and Series Guidelines

Manufacturers applying for BIS certification under IS 4665 (Part 2 / Section 1):2023 are required to submit product samples for testing in accordance with the applicable BIS guidelines. The link to access the product manual from the BIS Website is as follows:

https://www.services.bis.gov.in/php/BIS_2.0/bisconnect/ManageProductManuals/ManageManuals

BIS Recognised Test Laboratories

Manufacturers applying for BIS certification under IS 4665 (Part-2/Section-1) are required to get testing done at BIS recognised labs. The link to access BIS recognised labs is as follows:

https://lms.bis.gov.in/home/search_is_number/

Factory Assessment

Quality System Requirements

Manufacturers are required to maintain proper quality control systems in their premises and carryout routine monitoring to ensure consistent product quality. Manufacturers should maintain:

- Incoming, In-Process, and Finished Goods Quality Control
- In-house testing facilities with calibrated equipment
- Quality Control Records
- Records of Routine Testing
- A Designated Quality Control In-charge/Manager

Testing Equipment Required at Manufacturing Facility

Major test equipment required to ensure quality of product is detailed below:

S.No.	Tests	Test Equipment / Chemicals
1	Marking and instructions	Cotton Cloth, Petroleum Spirit, stopwatch
2	Protection against access to live parts	Test fingers, Probe, Pin, Voltmeter, Ammeter, Force gauges
3	Starting	Power source and voltage regulator
4	Input and current	Voltmeter, Ammeter, Wattmeter,
5	Heating	Variable voltage source, Temperature Recorder, Fine wire thermocouples, Test corners, Winding resistance measurement system, Loading as required, Tachometer
6	Leakage current	Leakage current meter (Ammeter), Isolation transformer

S.No.	Tests	Test Equipment / Chemicals
7	Moisture resistance	Humidity Chamber (Temperature Indicator, Temperature Controller, Thermo hygrometer, Hour Meter), Test set up for degree of protection
8	Electrical strength	HV test equipment, stop watch
9	Overload protection of transformers and associated circuits	Variable Power Supply or Transformer Test Setup, Short-Circuit Simulation Setup, Multi-channel temperature data logger, Digital thermometer, Adjustable load bank, Insulation Monitoring Tools, Timer
10	Endurance	Endurance Test Apparatus (Voltmeter, Ammeter, Wattmeter, Energy Meter, Counter Meter, Timer)
11	Abnormal operation	Wattmeter, Variable voltage supply, Digital temp data logger, HV tester, Metal Foil, Fine wire thermocouple, Stopwatch, Surge test generator, tachometer
12	Mechanical hazards	Inclined plane, Angle Finder, Push-pull gauge, Test probe similar to test probe B (as per Cl. 20.2), Steel scale, Spring Impact Hammer, vernier caliper, scratch tester, Torque screwdriver, Concrete floor
13	Mechanical Strength	
14	Construction	Test rig for torque on pin supported appliance, Force gauge, steel ball 6 mm
15	Internal wiring	Flexing Test Apparatus, HV tester, Metal Foil, Stopwatch
16	Supply connection and external flexible cords	Cord Grip Test Apparatus, Measuring Tape, Micro-ohmmeter
17	Terminals for external conductors	Torque Screwdriver
18	Provision for earthing	Earth continuity tester
19	Screws and connections	Torque gauge
20	Creepage distances, clearances and distance through insulation	Filler Gauge, Vernier Calliper, Micrometer
21	Resistance to heat fire and tracking	Ball Pressure Test Apparatus, Glow Wire Test 22Apparatus, Proof Tracking Test Apparatus
22	Resistance to rusting	Degreasing Agent, 10% Ammonium Chloride, Heating Cabinet

Application Process

BIS has automated its process for manufacturers to apply for BIS Certification Marks licence. The certification process generally includes the following steps:

- BIS Application filing (through Manakonline for Domestic Manufacturers / Foreign Manufacturers)
- Appointment of Authorised Indian Representative (only for overseas manufacturers)
- Submission of Charges (including travel, stay, and BIS fee)
- Factory Inspection
- Sample transportation to test labs
- Product testing at designated labs (For domestic, compliance of product against a standard is to be established first before applying for licence)

- Grant of Licence based on payment of Licence Fee, signing of Agreement, and deposit of Bank Guarantee
- Marking fees and Annual Report filing with BIS on production data
- Follow-up activities including Surveillance and Market Surveillance

Major list of documents Required for BIS Certification

S.No.	Document Name
1	Factory Registration / Business Licence
2	Manufacturing Flow Chart
3	List of Manufacturing Machinery
4	List of Testing Equipment
5	Calibration Certification of Testing Equipment
6	Raw Material Details
7	Product Specification Details
8	Quality Control Documents
9	In-house Test Reports
10	Layout Plan of Manufacturing Unit
11	Details of Technical and Quality Control Personnel
12	Product Marking Details
13	Packaging Details
14	BIS Application Form
15	Test Reports from BIS Recognised Laboratory

Estimated Certification Timeline

Applicant Type	Estimated Timeline
Domestic Applicants	Approximately 30 – 90 working days (subject to successful completion of testing, inspection, and compliance requirements)
Overseas Applicants	Approximately 90 – 180 working days (subject to successful completion of testing, inspection, and compliance requirements)

Marking and Labelling Requirements

BIS Certification Marking (ISI Mark Scheme)

Certified Hand-Held Motor-Operated Electric Tools Safety shall bear the Standard Mark (ISI Mark) under a valid BIS licence. The Standard Mark shall be marked legibly and indelibly on each Hand-Held Motor-Operated Electric Tools Safety,

- ISI Mark (Standard Mark)
- Applicable Indian Standard Number
- BIS Licence Number (CML Number)

Product Labelling

Manufacturers shall ensure that appropriate labels are provided on the **Hand-Held Motor-Operated Electric Tools Safety**, its packaging, and accompanying user documentation. Labels may include the following:

- Manufacturer's name, brand name or trademark
- Model identification
- Rated voltage
- Rated input power
- Frequency
- Appliance class (where applicable)
- Batch/Serial number
- Year of manufacture
- Country of origin (where applicable)
- Safety warnings and operating instructions

Post Licensing

Ongoing Compliance

After the grant of a BIS licence, the license is required to continuously comply with the requirements of IS 4665 (Part-2/Section-1), the Scheme of Inspection and Testing (SIT), and the conditions of licence. The manufacturer shall maintain production and quality control systems to ensure that all products bearing the Standard Mark continue to conform to the applicable Indian Standard.

Surveillance

Post-certification surveillance includes periodic factory visits and market surveillance by BIS to verify continued compliance with IS 4665 (part-2/Section-1) and applicable marking requirements.

Renewal of Licence

BIS licences are granted for a specified validity period and must be renewed before expiry. For renewal, the manufacturer is required to:

- Submit the renewal application within the prescribed timeline
- Demonstrate continued compliance with IS 4665 (Part-2/Section-1) requirements
- Maintain satisfactory surveillance records and test results
- Pay the applicable renewal fees

Upon successful review of the renewal application and compliance status, BIS renew the licence for the applicable period as per the prevailing certification guidelines.

How NBA Can Assist You

Nectar Business Advisors (NBA) provides end-to-end support throughout the BIS certification journey for IS 4665 (Part-2/Section-1) **Hand-Held Motor-Operated Electric Tools Safety**, helping manufacturers achieve compliance efficiently and minimise certification timelines.

Pre-Application Process

- Arranging for Authorised Indian Representative (AIR) for overseas manufacturers
- Identifying applicable Indian Standard
- Identifying the optimum BIS Certification Scheme
- Organising the list of documents required for certification application

Certification Planning

- Defining the certification scope and product coverage
- Helping with grouping guidelines for preparation of samples
- Organising applicable standards, guidelines, and regulatory requirements

Documentation Support

- Review of application documents
- Verification of technical documentation
- Assistance in listing mandatory records and declarations

Sample Planning and Testing

- Sample handling in India
- Coordination with Customs, Clearing Agencies, and BIS-recognised laboratories
- Submission for testing and coordination of documentation requirements
- Support in interpretation of test requirements and reports

Factory Assessment Preparation

- Gap assessment of manufacturing and testing facilities
- Review of quality control processes and records
- Readiness support for BIS factory inspections

Application Management

- Assistance in application filing
- Follow-up with BIS during the certification process
- Response support for technical queries and observations

Post-Licensing Support

- Guidance on marking and labelling requirements
- Support for surveillance compliance
- Assistance with licence maintenance and renewal activities
- Updates on regulatory changes and BIS requirements

Contact Us

Nectar Business Advisors

Your Handholding Partner in Certification

**A-33, Third Floor, Mayapuri Industrial Area Phase-I
New Delhi – 110064, India**

Email: operations@nbadvisors.in

Website: www.nbadvisors.in

Contact: +91-9999831520

