MINISTRY OF HEAVY INDUSTRIES

ORDER

New Delhi, the 28th August, 2024

S.O. 3649 (E).—In exercise of the powers conferred by section 16 read with section 17 of the Bureau of Indian Standards Act, 2016 (11 of 2016), the Central Government is of the opinion that it is necessary and expedient so to do, in the public interest and in consultation with the Bureau of Indian Standards, hereby makes the following Order, namely:—

1. **Short title, commencement and application.—**(1) This Order may be called as the Machinery and Electrical Equipment Safety (Omnibus Technical Regulation) Order, 2024.

(2) It shall come into force after one year from the date of its publication in the Official Gazette.

(3) This Order shall apply to machines and electrical equipment and their assemblies, sub-assemblies and components listed in the first Schedule annexed to this Order.

(4) Nothing in this Order shall apply to any machinery or electrical equipment and their assemblies, sub-assemblies or components covered under any other order made under section 16 of the Bureau of Indian Standards Act, 2016.

2. **Definitions.—**(1) In this Order, unless the context otherwise requires,—

(a)"Act" means the Bureau of Indian Standards Act, 2016 (11 of 2016);

(b)"Conformity Assessment Regulations" means the Bureau of Indian Standards (Conformity Assessment) Regulations, 2018;

(c)"machinery", "residual risk", "risk" and "risk assessment" shall have the same meanings as assigned to them in IS 16819:2018/ISO 12100:2010, respectively;

(d)"safety" shall have the same meaning assigned to it in ISO/TS 37151:2015(en);

(e)"Schedule" means a Schedule annexed to this Order.

(2) Words and expressions used herein but not defined in the Order shall have the meanings respectively assigned to them in the Act, rules or regulations made thereunder.

3.**Conformity to standards and essential requirements.—**(1) Each machine, or as the case may be, electrical equipment specified in the first Schedule shall conform to the corresponding Indian Standards, as applicable, as given below:-

(a) Type A standards as given below: IS 16819:2018/ISO 12100:2010 (Safety of Machinery General Principles for Design- Risk Assessment and Risk Reduction and,

(b) Type B Standards –as per the second schedule;

(c) Type C Standards – as per the third Schedule:

Provided that if a Type C standard deviates from one or more technical provisions dealt with by Type A or Type B standard, Type C standard takes precedence.

(2) Each machine, or as the case may be, electrical equipment, specified in the first Schedule shall conform to the labeling and marking requirements as provided in the Scheme X of the Conformity Assessment Regulations and also to be complied with the safety instructions or symbols, if any required to be labeled or marked on the machinery or electrical equipment, as the case may be.

(3) a. Requirement of technical file shall be complied with as provided in the Scheme X of the Conformity Assessment Regulations.

4. (a) **Compulsory certification.—**Each machine or electrical equipment, as the case may be, specified in the first Schedule shall bear the standard mark under a license from the Bureau; or issued with a certificate of conformity in case of machine, or as the case may be, electrical equipment, is not desired to be manufactured on a continuous basis as provided in the Scheme X of the Conformity Assessment Regulations.

(b) Prior to obtaining license or certificate of conformity under para4(a) of this order, manufacturer of each machinery or electrical equipment, as the case may be, specified in the first schedule shall register with the BIS

5. Certification and enforcement authority.— The Bureau shall be the certifying and enforcement authority in respect of the machines, or as the case may be, electrical equipment.

6. **Market surveillance.—**The market surveillance in respect of any machine or electrical equipment, as the case may be, under these rules, shall be governed by such guidelines as may be issued time to time.

7. **Penalty for contravention.—**Any person who contravenes the provisions of this Order shall be punishable under the relevant provisions of the Act.

8.**Date of effect of amendment or revision in Indian Standards.—**When any amendment or revision is made by the Bureau to any of the Indian Standards specified in the Schedules, such amendment or revision shall be applicable to this Order with effect from such date as may be notified by the Bureau in this behalf.

9.Provided that nothing in this Order shall apply to goods or articles manufactured domestically for export.

10.Provided that nothing in this Order shall apply for Construction Equipment's covered under CMVR Rule 1989 issued by MoRTH.

The First Schedule

[See rules 1(3), 3(1), 3(2), 4 and 8]

List of Machinery and Electrical Equipment covered under this Order:

S No	Description of Machinery and Electrical Equipment	HS Code
	1	2
1	All types of Pumps for handling liquids, liquid elevators and **(or)**their assemblies /sub-assemblies /components	841340, 841350, 841360, 841370, 841381, 841382 841391 and 841392.
2	All types of compressors and**(or)**their assemblies /sub-assemblies /components.	841430, 841440, 84148011, 84148090, 84149011,84149019, 84149040 and 84149090.
3	All types of machinery for treatment of material by a process involving a change of temperature and**(or)**their assemblies /sub-assemblies /components	841932, 841939,841940, 841950, 841960,841981, 841989 and 84199090.
4	All types of centrifuges, filtering or purifying machinery for liquid and gas and**(or)**their assemblies /sub-assemblies /components	842111, 842112, 842119, 84212110, 84212190, 842122, 842129, 842131, 842139, 842191 and 842199.
5	All types of machinery for filling, closing, sealing, labelling bottles, packing or wrapping and**(or)**their assemblies/sub-assemblies /components	842220, 842230, 842240 and 842290.
6	All types of cranes and **(or)** their assemblies /sub-assemblies/components	842611, 842612,842619, 842620, 842630,842641, 842649, 842691 and 84269990,
7	All types of machinery for construction, earthmoving, Mining and **(or)**their assemblies /sub-assemblies/components	8429, 843010, 843020, 843031, 843039, 843041, 843049, 843050, 843141, 843142, 843143 and 843149.
8	All types of weaving machines (looms) and **(or)**their assemblies/ sub-assemblies / components.	8446, 844811, 844819, 844842 and 844849,
9	All types of machinery for making embroidery and**(or)**their assemblies /sub-assemblies /components.	84479020 and 844859.
10	All types of metal cutting machines tools covered under the heading 8456 to 8461 and**(or)**their assemblies	8456, 8457, 8458, 8459, 8460, 8461 and846693

	/sub-assemblies/components.	
11	All types of machine tools for working stone, ceramics, concrete, asbestos cement or like mineral glass and **(or)**their assemblies /sub-assemblies /components.	8464 and 84669100
12	All types of machinery for working rubber and plastics and**(or**) their assemblies /sub-assemblies /components	8477
13	All types of Machines including the machines for public works & building and the machinery & mechanical appliances having individual functions, not specified Or included elsewhere in Chapter 84 and**(or)**their assemblies/sub-assemblies /components	84791000, 84798999 and 84799090
14	All types of gears and gearing, toothed wheels, chain sprocket, transmission elements ball or roller screws, gear boxes and speed changers, including torque converters And **(or)**their assemblies /sub-assemblies /components.	84834000 and 84839000
15	All types of Rotary electrical machines such as Generator, etc. and **(or)** their assemblies /sub-assemblies /components.	8501 and 8503
16	All types of Diesel Generator and **(or)**their assemblies /sub-assemblies /components.	8502 and 8503
17	All types of Transformers and **(or)**their assemblies /sub-assemblies /components.	850421, 850422,850423, 850431, 850432,850433, 850434 and 850490.
18	All types of Power Semiconductor Converter and **(or)**their assemblies /sub-assemblies /components.	850440
19	All types of switch gear and control gear equipment operating at voltages not exceeding 1000 volts***(vi)**and **(or)**their assemblies /sub-assemblies /components.	8536, 8537 and 8538
20	All types of switch gear and control gear equipment operating at voltages exceeding 1000 volts and **(or)** their assemblies /sub-assemblies /components.	**8535**, 8537 and 8538

The Second Schedule

[See rule 3(1) (b)]

TYPE B (Generic Safety Standards dealing with one safety aspect or more than one type of safeguard that can be used across a wide range of machinery)

Sl. No.	**IS Number**	**Title**
1	**2**	**3**
1.	*IS 16504 (Part 1):2019 / IEC 60204-1:2016*	Safety of Machinery Electrical Equipment of Machines Part 1 General Requirements
2.	*IS 16504 (Part 11) : 2020 /IEC 60204-11 : 2018*	Safety of Machinery - Electrical Equipment of Machines Part 11 Requirements for Equipment for Voltages above 1 000 V AC or 1 500 V DC and not Exceeding 36 kV
3.	IS/IEC 61508 (Part 1): 2010	Functional Safety of Electrical-Electronic-Programmable Electronic Safety-related Systems Part 1- General Requirements
4.	IS/IEC 60529: 2001	Degree of Protection Provided by Enclosures (IP Code)

5.	IS 16806 (Part 1) : 2018/ ISO 29042-1 : 2008	Safety of machinery - Evaluation of the emission of airborne hazardous substances - Part 1: Selection of test methods
6.	IS 16806 (Part 2) : 2018/ ISO 29042-2 : 2009	Safety of Machinery Evaluation of the Emission of Airborne Hazardous Substances Part 2 Tracer Gas Method for the Measurement of the Emission Rate of a Given Pollutant
7.	IS 16806 (Part 3) : 2018/ ISO 29042-3 : 2009	Safety of machinery - Evaluation of the emission of airborne hazardous substances - Part 3: Test bench method for the measurement of the emission rate of a given pollutant
8.	IS 16806 (Part 4) : 2018/ ISO 29042-4 : 2009	Safety of machinery - Evaluation of the emission of airborne hazardous substances -- Part 4: Tracer method for the measurement of the capture efficiency of an exhaust system
9.	IS 16806 (Part 5) : 2018/ ISO 29042-5 : 2010	Safety of machinery - Evaluation of the emission of airborne hazardous substances - Part 5: Test bench method for the measurement of the separation efficiency by mass of air cleaning systems with unducted outlet
10.	IS 16806 (Part 6) : 2018/ ISO 29042-6 : 2010	Safety of machinery - Evaluation of the emission of airborne hazardous substances - Part 6: Test bench method for the measurement of the separation efficiency by mass of air cleaning systems with ducted outlet
11.	IS 16806 (Part 7) : 2018/ ISO 29042-7 : 2010	Safety of machinery - Evaluation of the emission of airborne hazardous substances - Part 7: Test bench method for the measurement of the pollutant concentration parameter
12.	IS 16806 (Part 8) : 2018/ ISO 29042-8 : 2011	Safety of machinery - Evaluation of the emission of airborne hazardous substances - Part 8: Room method for the measurement of the pollutant concentration parameter
13.	IS 16806 (Part 9) : 2018/ ISO 29042-9 : 2011	Safety of machinery - Evaluation of the emission of airborne hazardous substances - Part 9: Decontamination index
14.	IS 10481:2020/ ISO 4413:2010	Hydraulic Fluid Power- General Rules and Safety Requirements for Systems and their Components
15.	***IS 12725:2021/ ISO 4414:2010***	Pneumatic Fluid Power- General Rules and Safety Requirements for Systems and their Components
16.	IS/ISO 3457 : 2003	Earth Moving Machinery - Guards - Definitions and Requirements
17.	IS 16501 : 2017/ IEC 62061 : 2005	Safety of Machinery-Functional Safety of Safety-Related Electrical Electronic and Programmable Electronic Control Systems
18.	IS 16502 (Part 2) : 2017/ IEC 61496-2 : 2013	Safety of Machinery - Electro-Sensitive Protective Equipment Part 2 Particular Requirements for Equipment Using Active Opto-Electronic Protective Devices AOPDs
19.	IS 16503 (Part 3) : 2017/ IEC 61310-3 : 2007	Safety of Machinery- Indication Marking and Actuation Part 3 Requirements for the Location and Operation of Actuators
20.	IS 16504 (Part 32) : 2017/IEC 60204-32 : 2008	Safety of Machinery-Electrical Equipment of Machines Part 32 Requirements for Hoisting Machines
21.	IS 16503 (Part 1) : 2017/ IEC 61310-1 : 2007	Safety of Machinery- Indication Marking and Actuation Part 1 Requirements for Visual Acoustic and Tactile Signals
22.	IS 16594 (Part 1) : 2017/ IEC 61496-1 : 2012	Safety of Machinery - Electro-Sensitive Protective Equipment Part 1 General Requirements and Tests
23.	IS 16936 : 2018/ IEC TR 62513 : 2008	Safety of Machinery Guidelines for the Use of Communication Systems in Safety Related Applications
24.	IS 16503 (Part 2) : 2017/ IEC 61310-2 : 2007	Safety of Machinery - Indication Marking and Actuation Part 2 Requirements for Marking
25.	***IS 16807 : 2020/***	Safety of Machinery Fire Prevention and Fire Protection

	ISO 19353 : 2019	
26.	IS 16808 : 2018/ ISO 14159 : 2002	Safety of Machinery Hygiene Requirements for the Design of Machinery
27.	IS 16809 (Part 1) : 2018/ ISO 14122-1 : 2016	Safety of Machinery Permanent Means of Access to Machinery Part 1 Choice of Fixed Means and General Requirements of Access
28.	IS 16809 (Part 2) : 2018/ ISO 14122-2 : 2016	Safety of Machinery Permanent Means of Access to Machinery Part 2 Working Platforms and Walkways
29.	IS 16809 (Part 3) : 2018/ ISO 14122-3 : 2016	Safety of Machinery Permanent Means of Access to Machinery Part 3 Stairs Stepladders and Guard-Rails
30.	IS 16809 (Part 4) : 2018/ ISO 14122-4 : 2016	Safety of Machinery Permanent Means of Access to Machinery Part 4 Fixed Ladders
31.	IS 16810 (Part 1) : 2018/ ISO 13849-1 : 2015	Safety of Machinery Safety Related Parts of Control Systems Part 1 General Principles for Design
32.	IS 16810 (Part 2) : 2018/ ISO 13849-2 : 2012	Safety of Machinery Safety Related Parts of Control Systems Part 2 Validation
33.	***IS 16811 : 2018/*** ***14120 : 2015***	Safety of Machinery Guards General Requirements for the Design and Construction of Fixed and Movable Guards
34.	IS 16812 : 2018/ ISO 14119 : 2013	Safety of Machinery Interlocking Devices Associated with Guards Principles for Design and Selection
35.	IS 16813 : 2019/ ISO 14118 : 2017	Safety of Machinery Prevention of Unexpected Start-Up
36.	***IS 16814 : 2021/*** ***ISO 13857 : 2019***	Safety of Machinery Safety Distances to Prevent Hazard Zones Being Reached by Upper and Lower Limbs
37.	IS 16815 : 2019/ ISO 13855 : 2010	Safety of Machinery Positioning of Safeguards with Respect to the Approach Speeds of Parts of the Human Body
38.	IS 16816 : 2019/ ISO 13854 : 2017	Safety of Machinery Minimum Gaps to Avoid Crushing of Parts of the Human Body
39.	***IS 16817 : 2020/*** ***ISO 13851 : 2019***	***Safety of Machinery Two-Hand Control Devices*** ***Principles for Design and Selection***
40.	IS 16818 : 2018/ ISO 13850 : 2015	Safety of Machinery Emergency Stop Function Principles for Design
41.	IS 16912 : 2018/ ISO 21469 : 2006	Safety of Machinery Lubricants with Incidental Product -- Contact Hygiene Requirements
42.	IS 16834 (Part 1) : 2018/ ISO 14123-1 : 2015	Safety of machinery - Reduction of risks to health resulting from hazardous substances emitted by machinery - Part 1: Principles and specifications for machinery manufacturers

43.	IS 16834 (Part 2) : 2018/ ISO 14123-2 : 2015	Safety of machinery - Reduction of risks to health resulting from hazardous substances emitted by machinery - Part 2: Methodology leading to verification procedures
44.	IS 16835 (Part 1) : 2018/ ISO 13856-1 : 2013	Safety of machinery - Pressure-sensitive protective devices - Part 1: General principles for design and testing of pressure- sensitive mats and pressure-sensitive floors
45.	IS 16835 (Part 2) : 2018/ ISO 13856-2 : 2013	Safety of machinery - Pressure-sensitive protective devices - Part 2: General principles for design and testing of pressure- sensitive edges and pressure-sensitive bars
46.	IS 16835 (Part 3) : 2018/ ISO 13856-3 : 2013	Safety of machinery - Pressure-sensitive protective devices - Part 3: General principles for design and testing of pressure-sensitive bumpers, plates, wires and similar devices.
47.	IS 16569: 2018/ ISO 11429:1996	Ergonomics- System of Auditory and Visual Danger and Information Signals
48.	IS 16563 (Part 2) : 2017/ ISO 9355-2:1999	Ergonomic Requirements for the Design of Displays and Control Actuators Part 2 Displays
49.	IS 16563 (Part 3) 2017 / ISO 9355-3:2006	Ergonomic Requirements for the Design of Displays and Control Actuators Part 3 Control Actuators
50.	IS 16572 : 2017/ ISO 14738 : 2002	Safety of Machinery - Anthropometric Requirements for the Design of Workstations at Machinery
51.	IS 16562 (Part 1) : 2017/ ISO 15536-1 : 2005	Ergonomics - Computer Manikins and Body Templates Part 1 General Requirements
52.	IS 16569:2018/ ISO 11429: 1996	Ergonomics - System of auditory and visual danger and information signals
53.	IS 15296 : 2017/ ISO 11161 : 2007	Industrial Automation Systems - Safety of Integrated Manufacturing Systems - Basic Requirements

The third Schedule

[See Rule 3(1) (C)]

TYPE C (Machine Safety Standards dealing with detailed safety requirements for a particular machine or group of machines)

S. No.	Description of Machinery and Electrical Equipment	HS Code	Indian Standard/Specific Clause of Indian Standard	Title of Indian Standard
1	2	3	4	5
1	All types of Pumps for handling liquids, liquid elevators	841340, 841350, 841360, 841370, 841381, 841382, 841391 and 841392	-	-
2	All types of compressors	841430, 841440, 84148011, 84148090, 84149011, 84149019, 84149040 and 84149090.	Clause 16 of IS 17093:2019	Technical supply conditions for reciprocating air compressors for general purpose and industrial applications
			Clause 6.6 of IS 12258:1987	Technical supply condition for air screw compressors (Oil Flooded) for general purpose and industrial applications
3	All types of machinery for Treatment of material by a process involving a Change of temperature	841932, 841939, 841940, 841950, 841960, 841981, 841989 and 84199090.	-	-
	All types of centrifuges, filtering	842111, 842112, 842119, 84212110, 84212190,		

4	or purifying machinery for liquid and gas	842122, 842129, 842131, 842139, 842191 and 842199.	-	-
5	All types of machinery for filling, closing, sealing, labelling bottles, packing or wrapping	842220, 842230, 842240 and 842290.	-	-
6	All types of cranes	842611, 842612, 842619, 842620, 842630, 842641, 842649, 842691 and 84269990,	Clause 66.1, 66.1.1, 66.1.2, 66.1.3, 66.2, 66.3, 66.5 of IS 3177:2020	Electric Overhead Travelling Crane and Gantry Crane for all Applications Code of Practice
			Clause 8.1, 8.2, 8.3 & 45 of IS 4573:2020	Power Driven Mobile Cranes Specification
			IS/ISO 15442:2012	Cranes - Safety requirements for loader cranes
7	All types of machinery for construction	8429, 843010, 843020, 843031, 843039, 843041,	IS 17055 (Part 7): 2020	Earth-Moving Machinery Safety Part 7 Requirements for Scrapers
			IS 17055 (Part 8): 2020	Earth-Moving Machinery Safety Part 8 Requirements For Graders
			IS 17055 (Part	Earth-Moving Machinery Safety Part 12

	, earthmoving, mining	843049, 843050, 843141, 843142, 843143 and 843149.	12): 2020	Requirements for Cable Excavators
8	All types of weaving machines (looms)	8446, 844811, 844819, 844842 and 844849,	IS 17361 (Part 6): 2020 / ISO 11111 (Part 6) : 2005	Textile Machinery Safety Requirements Part 6 Fabric Manufacturing Machinery
9	All types of machinery for making embroidery.	84479020 and 844859.	IS 17361 (Part 1): 2020 / ISO 11111 (Part 1) : 2016	Textile Machiner Safety Requirements Part 1 Common Requirements
10	All types of metal cutting machines	8456, 8457, 8458, 8459, 8460, 8461 and 846693	IS 17277 (Part 1): 2019 ISO 16092-1 : 2017	Machine Tools Safety Presse s Part 1 General Safety Requirements
			IS 17259: 2020 ISO 28881 : 2013	Machine Tools Safety Electro-Discharge Machines
			IS 17258: 2019 ISO 23125 : 2015	Machine Tools Safety Turning Machines
			IS 17254:2019 ISO 16093 : 2017	Machine Tools Safety Sawing Machines for Cold Metal
			IS 17253 (Part 1): 2019 ISO 16090-1 : 2017	Machine Tools Safety Machining Centres, Milling Machines, Transfer Machines Part 1 Safety Requirements
	All types of machine for working stone, ceramics, concrete,			

11	asbestos cement or like mineral glass	8464 and 84669100	-	-
12	All types of machinery for working rubber and plastics	8477	IS/ISO 20430: 2020	Plastics and Rubber Machines-Injection Moulding Machines-Safety Requirements
13	All types ofmachines including the machines for public works & Building and the machinery & mechanical appliances having individual functions, not specified or included elsewhere in Chapter 84	84791000, 84798999 and 84799090	-	-
14	All types of gears and gearing, toothed wheels, chain sprocket, transmission elements ball or roller screws, gear boxes and speed changers, including torque converters	84834000 and 84839000	-	-
15	All types of Rotary electrical machines such as Generator, etc. Building and the machinery & mechanical appliances having individual functions, not specified or included elsewhere	8501 and 8503	***Clause 4.7, 4.8 and 4.12 of section 2, clause 7.4 of Section 3, clause 8.6 of Section 4, Clause 9.4 of section 5 of IS 5422:1996***	**Turbine type generation**
			Clause 11, 21, 22, 23, 25 and 26 of IS 13364 (Part 1): 1992	Ac generators driven by reciprocating internal combustion engines - Specification: Part 1 alternators rated up to 20 kVa
			Clause 11, 21, 22, 23, 25 and 26 of IS 13364 (Part 2): 1992	Ac generators driven by reciprocating internal combustion engines - Specification: Part 2 alternators rated above 20 kVa and up to 1250 kVa

	in Chapter 84			
16	All types of Diesel Generator	8502 and 8503	***Clause 5,6,7,8, 9 & 10 of IS/ISO 8528 (Part 2) : 2018***	***Reciprocating Internal Combustion Engine Driven Alternating Current Generating Sets : Part 2 Engines***
			Clause 6 & 10 of IS/ISO 8528 (Part	Reciprocating internal combustion engine driven alternating current generating sets: Part 3 alternating current generators for generating sets
			Clause 4, 5.5, 7.3.5, 7.3.7 & 7.4 of IS/ISO 8528 (Part 4): 2005	Reciprocating internal combustion engine driven alternating current generating sets: Part 4 control gear and switchgear
			Clause 12, 13, 14, 15 of IS/ISO 8528-5 : 2018	***Reciprocating Internal Combustion Engine Driven Alternating Current Generating Sets Part 5 Generating Sets***
			Clause 6.4 of IS/ISO 8528 (Part 8): 2016	Reciprocating internal comb ustion engine driven alternating current generating sets: Part 8
			Clause 9.1 of IS/ISO 8528 (Part 12): 1997	Reciprocating internal comb ustion engine driven alternating current generating sets: Part 12 emergency power supply to safety services
17	All types of Transformer	850421, 850422, 850423, 850431, 850432, 850433, 850434 and 850490.	IS/IEC 61558-2-4 : 2009	Safety of Transformers, Reactors, Power Supply Units and Similar Product for Supply Voltages up to 1 100 V Part 2- 4: Particular Requirements and Tests for Isolating Transf ormers and Power Supply Units Incorporating Isolating Transformers
			IS/IEC 61558-2-6 : 1997	Safety of power transformers, power supply units and similar: Part 2 particular requirement: Sec 6 safety isolating transformers for general use
			IS/IEC 61558-2-7 : 2007	Safety of power transformers, power supplies reactors and similar products: Part 2 - 7 particular requirements and tests for transformers and power supplies for toys
			Clause 5.6 & Cl 10 of IS 2026 (Part 1): 2011	Power transformers: Part 1 general
			Clause 7.5, 7.6,	Power transformers: Part 6 reactors

			8.5, 8.6, 8.7, 9.5, 9.6, 9.7, 9.8, 10.5, 10.6, 10.7, 11.5, 11.6, 12.5 & 12.6 of IS 2026 (Part 6): 2017/60076-6: 2007	
			Clause 5.7, 5.11, 7.4.4, 7.4.5 and 7.4.6 of IS 2026 (Part 16): 2018/ 60076-16:2011	***Power transformers: Part 16 transformers for wind turbine applications***
			Clause 8, 11, 12 and 13 of IS 2026 (Part 11): 2021/IEC 60076-11 : 2018	***Power Transformer*** ***Part 11 Dry-Type Transformer***
			Clause 10 of IS 13956: 1994	***Testing transformers - Specification***
18	All types of Power Semiconductor Converter	850440	Clause 7 of IS 16539-1-1:2017/ ***IEC 60146-1-1: 2009***	***Semicounductor Converters*** ***Part 1 General Requirements and Line Commutated Converters*** ***Section 1 Specification of basic requirements***
19	All types of switch gear and control gear equipment operating at voltages not exceeding 1000 volts	8536, 8537 and 8538	Clause 8 of IS/IEC 61439 (Part 3): 2012	Low - Voltage switchgear and control gear assemblies: Part 3 distribution boards intended to be operated by ordinary persons (DBO)
20	All types of switch gear and control gear equipment operating at voltages exceeding 1000 volts	8535, 8537 and 8538		–

[1]Additions to this Schedule shall be made from time to time by the Ministry of Heavy Industries.

[F. No. 9/28/2019-HE&MT]

VIJAY MITTAL, Jt. Secy.

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