



SNS COLLEGE OF TECHNOLOGY



(An Autonomous Institution)



**FUNCTIONAL REQUIREMENTS AND
SPECIFICATIONS OF ELECTRIC
PLANTS, EQUIPMENTS FOR
HAZARDOUS LOCATIONS**



FUNCTIONAL REQUIREMENTS AND SPECIFICATIONS OF ELECTRIC PLANTS, EQUIPMENTS FOR HAZARDOUS LOCATIONS



- Normal Electrical equipments and plants are not suitable for hazardous locations (mines, chemical industries, fertilizer plants, gas and petroleum installations, etc.) as the sparks, flashovers, discharges inherent in normal switching operations and other causes result in explosion within and outside the electrical equipment.
- Special flameproof (explosion proof) equipment and installation are essential and mandatory for hazardous zones.
- The requirements of electrical equipment or hazardous areas are specified in Indian Standards



REFERENCE LIST OF STANDARDS FOR HAZARDOUS AREAS



IS 1577-1970

Guidelines for selection of electrical equipment or hazardous areas. Hazardous areas are classified in three classes Zone-0, Zone-1, Zone-2, depending on degree of hazard. The specifications of equipment for each type of hazardous zone are recommended.



IS: 2147-1962-Enclosures of low voltage switchgear and Control gear, degree of protection provided.

IS: 4691-1968-Enclosures for rotating electrical machinery, degree of protection provided.

IS: 7889-1974-Enclosures, pressured, of electrical equipment for use in hazardous areas.

IS: 4591-1968-Enclosures, Code of practice for installation and maintenance of

IS: 3682-1966 -Flame proof AC Motors for use in mines.

IS: 2206- -Flame proof Electric Lighting Fittings,

(Part I) 1962 Part I-Well glass and bulk head types

IS: 2206 (Part II) 1976 - Part II-Fittings using Glass tubes.



REFERENCE LIST OF STANDARDS FOR HAZARDOUS AREAS



IS: 2148-1968-Flameproof enclosures of electrical apparatus.

IS:5833-1970 Switchgear, Flameproof air break, electrically operated.

IS:5572(Part I) 1978-Hazardous areas (other than mines) for electrical installations, classification of Areas having flammable gases and vapours.

IS:5780-1970-Safe, intrinsically, electrical apparatus and circuits

IS:8607 (Part II)1978 IS: 8607(Part V) 1983 - Electrical equipment protection against explosion hazardous.

IS:10406-1983 Transformers: Intrinsically safe.

IS 6881-1972 (IEC 79-7)- Type enclosures for hazardous areas.





REFERENCE LIST OF STANDARDS FOR HAZARDOUS AREAS



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Table 19.4. Reference list of standards for hazardous areas

IS Spec. No.	Description and Coverage
IS : 1577—1970	Guidelines for selection of electrical equipment or hazardous areas. Hazardous areas are classified in three classes Zone-0, Zone-1, Zone-2, depending on degree of hazard. The specifications of equipment for each type of hazardous zone are recommended.
IS : 2147—1962	Enclosures of low voltage switchgear and Controlgear, degree of protection provided.
IS : 4691—1968	Enclosures for rotating electrical machinery, degree of protection provided.
IS : 7889—1974	Enclosures, pressured, of electrical equipment for use in hazardous areas.
IS : 4591—1968	Enclosures, Code of practice for installation and maintenance of
IS : 3682—1966	Flame proof AC Motors for use in mines.
IS : 2206 (Part I) 1962	Flame proof Electric Lighting Fittings : Part I—Well glass and bulk head types
IS : 2206 (Part II) 1976	Part II—Fittings using Glass tubes.
IS : 2148—1968	Flameproof enclosures of electrical apparatus.
IS : 5833—1970	Switchgear, Flameproof air break, electrically operated.
IS : 5572 (Part I) 1978	Hazardous areas (other than mines) for electrical installations, classification of : Areas having flammable gases and vapours.
IS : 5780—1970	Safe, intrinsically, electrical apparatus and circuits.
IS : 8607 (Part II) 1978	Electrical equipment protection against explosion hazardous.
IS : 8607 (Part V) 1983	



THANK YOU