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IS 11208 (1985): Guidelines for registration of plumbers  
[CED 24: Public Health Engineering.]



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“Knowledge is such a treasure which cannot be stolen”



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IS : 11208 - 1985

*Indian Standard*  
GUIDELINES FOR  
REGISTRATION OF PLUMBERS

UDC 696.1 : 691.74 : 35.078.169.81



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**INDIAN STANDARDS INSTITUTION**  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

# *Indian Standard*

## GUIDELINES FOR REGISTRATION OF PLUMBERS

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( Continued on page 2 )

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( Continued from page 1 )

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# *Indian Standard*

## GUIDELINES FOR REGISTRATION OF PLUMBERS

### 0. FOREWORD

**0.1** This Indian Standard was adopted by the Indian Standards Institution on 25 January 1985, after the draft finalized by the Water Supply and Sanitation Sectional Committee had been approved by the Civil Engineering Division Council.

**0.2** The regulations for the registration of plumbers has been laid down by the various municipalities and water supply authorities in the country. The regulations, however, differ from place to place and the need for laying down minimum requirements for registration of plumbers is now well recognized. This standard has been formulated with a view to bringing about uniformity in the bye-laws and regulations framed by different water supply authorities. Requirements for registration of plumbers were earlier given briefly in IS : 2065-1972\*. In the present standard these requirements have been covered in detail.

**0.3** In the formulation of this standard due weightage has been given to international coordination among the standards and practices prevailing in different countries in addition to relating it to the practices in the field in this country.

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### 1. SCOPE

**1.1** This standard sets out guidelines for registration of plumbers.

### 2. TERMINOLOGY

**2.1 Authority Having Jurisdiction** — The authority which has been created by a statute and which for the purpose of administering the Code/Part may authorize a committee or an official to act on its behalf, hereinafter called the 'Authority'.

**2.2 Licensed Plumber** — A person lincensed under the provision of this code.

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\*Code of practice for water supply in buildings ( *first revision* ).

**2.3 Plumbing** — The pipes, fixtures and other appurtenances inside the premises for bringing in the water supply and removing the liquid and water borne wastes; and the installation of the foregoing pipes, fixtures and other apparatus.

**2.4 Plumbing System** — The plumbing system shall include the water supply and distribution pipes; plumbing fittings and traps; soil, waste, vent pipe and anti-siphonage pipes; building drains and building sewers including their respective connections, devices and appurtenances within the property lines of the premises, and water-treating or water-using equipment.

### **3. LICENSING OF PLUMBING**

**3.1 Execution of Work** — The work which is required to be carried out under the provisions of this code, shall only be executed by a licensed plumber under the control of the Authority and shall be responsible to carry out all lawful directions given by the Authority. No individual shall engage in the business of plumbing unless so licensed under the provisions of this code.

**3.1.1** No individual, firm, partnership or corporation shall engage in the business of installing, repairing or altering plumbing unless the plumbing work performed in the course of such business is under the direct supervision of a licensed plumber.

**3.2 Examination and Certification** — The Authority shall establish standards and procedure for qualification, examination and licensing of plumbers and shall issue licences to such persons who meet the qualifications thereof and successfully pass the examination. The minimum standards for qualification for the grant of licences shall be as given in Appendix A.

**3.3 Duration of the Licence** — All licences issued by the Authority shall be valid for a period of minimum two years and shall expire on the date indicated on the licence, but may be renewed, upon payment of fees prescribed by the Authority, for further period of two years each, at a time. The expired licence not renewed within prescribed time of the expiry of the licence may be renewed upon payment of the penalty prescribed by the Authority.

**3.4 Revocation or Suspension of Licence** — The Authority may suspend or revoke any licence for non-compliance of the conditions under which the licence has been given, or breach of any regulations or bye-laws of the water supply undertaking. Before a licence may be suspended or revoked, the licensee shall have notice in writing, enumerating the charges against him, and be entitled to a hearing by a duly authorized board or officer of the Authority. The licensee shall be given an opportunity to present testimony, oral or written, and shall



have the right to cross-examination. A person whose licence has been revoked shall not be permitted to re-apply for a licence within two years from the date of revocation.

**3.5 Use of Licensee's Name by Another** — No person, who has obtained a plumber's licence, shall allow his name to be used by another person either for the purpose of obtaining permits, or for doing business or work under the licence. Every person licensed shall notify the Authority of the address of his place of business, and the name under which such business is carried on, and shall give immediate notice to the Authority of any change or either. All plumbers' licences shall be accompanied by a passport size photograph of the licensee.

**3.6 Listing of Licensed Plumbers** — The Authority shall exhibit from time to time the list of licensed plumbers, or make it available for perusal of the public at any of its Administrative Offices. The Authority shall also notify cases of revocation or suspension of licences.

**3.7 Security Deposits** — The Authority may prescribe security which shall be deposited by the plumber for the performance of his obligation to the Authority.

#### **4. CONTROL OF LICENSED PLUMBERS**

**4.1 Inspection** — The officer deputed by the Authority may inspect at any time without notice any work done by licensed plumber or place of business.

**4.2 Maintenance of Books of Accounts** — Every licensed plumber shall maintain the books of account in the manner as may be laid down by the Authority and shall produce the same with such other information if called upon to do so by the Authority.

**4.3 Payment of All Lawful Charges** — Every licensed plumber shall pay lawful demands made by the Authority for:

- a) Repairs to roads, drains, pipes, mains or any fittings or appliances connected therewith or any other property whatsoever whether belonging to the Authority or not;
- b) Losses made to any person or property by or through neglect or for want of sufficient care or precaution on the part of himself or his servants or workman; and
- c) Fees for licenses for the time being in force for carrying out trades.

**4.4 No Work Should be done Without Permission** — No licensed plumber shall make any water connection or any addition or alteration in fittings and appliances to carry out any other work in or with reference to public streets, pipes, sewers, drains without obtaining sanction of the Authority.

**4.5 Pipes and Fittings to be Approved** — In execution of any work, the pipes, fittings, appliances and material used shall conform to relevant Indian Standards or approved by the Authority.

**4.6 Authority Decision on Complaints** — All complaints received in respect of the quality of work, materials used, delay in the execution thereof and the charges claimed by the licensed plumbers from the owners or occupants of the premises at whose instance such work has been carried out shall be disposed of by the Authority.

**4.7 Presence of Licensed Plumber on Job During Execution** — Every licensed plumber shall remain present on his job during execution. The licensed plumbers who cannot do so shall employ fitters trained in plumbing work to represent them on their jobs during execution and shall exercise supervision over their work.

**4.7.1** Fitter shall be tested and approved by the Authority. Any employment or dismissal of such fitter shall forthwith be notified by the licensed plumber to the Authority.

## **5. OBLIGATIONS OF LICENSED PLUMBER**

**5.1** Every licensed plumber shall proceed with any work undertaken by him diligently and in a proper workman like manner and shall not cause any delay in the execution thereof without sufficient cause.

**5.2** Every licensed plumber shall report to the Authority defect noticed by him in any premises in connection with any water pipes, fittings or other appliances causing waste of water or in connection with any drains, water closets, privies, urinals or any fittings, appliances connection therewith rendering such drains privy or urinal insufficient or otherwise objectionable for sanitary reasons.

## **A P P E N D I X    A**

*( Clause 3.2 )*

### **GRANT OF PLUMBER'S LICENCE**

#### **A-1. CONDITIONS FOR GRANT OF PLUMBER'S LICENCE**

**A-1.1** A person may be permitted to sit for an examination provided, he satisfies the following conditions:

- a) He is a citizen of India.
- b) He is at least 21 years of age.

- c) Holds a diploma in civil engineering or an equivalent qualification as approved by the All India Council of Technical Education, a certificate of plumbing or in sanitary engineering recognized by the Institution of Engineers or by the All India Council of Technical Education or produces a certification to the effect that he has a minimum of 3 years experience under a licensed plumber and that he has practised plumbing under the supervision of a licensed plumber.

**A-1.2** The Authorities may grant a plumber's licence to an applicant without asking him to sit for an examination provided he is a graduate in Civil Engineering and satisfies all the conditions except as laid down in **A-1.1(c)** or he possesses a plumber's licence given by some other licencing authorities and which, in the opinion of the Authorities, maintain adequate standards in the issue of certificate. The Authority may consider exempting Diploma holder from appearing in the examination.

**A-1.3** The examination may consist of one written paper and a practical test. The candidate shall be examined in accordance with the syllabus given in **A-2**. A candidate, to qualify for the award of a licence, should obtain a minimum of 50 percent marks in the theoretical and practical tests considered separately.

**A-1.4** The Authorities, for the purpose of conducting the examinations for persons to qualify for plumber's licence, shall appoint a Board of examiners consisting of Health Officer, Sanitary Engineer and a Registered Plumber of high reputation.

**A-1.5** The Authorities shall make all necessary rules and regulations for conducting the examination of applicants. The Authorities shall also lay down the procedure and fix the time for filing applications to obtain the permission for sitting in the examinations. The time within which an applicant will be examined after his application has been filed shall also be notified.

**A-1.6** The Authorities may grant a licence to a company or a corporation engaged in the business of plumbing provided a person or persons connected with such companies or corporations in responsible charge of such plumbing work is or are in possession of a plumber's licence. It will, however, be the responsibility of the said person or persons holding the licence to notify the Authorities when he severs his connections with the said companies or corporations. The Authorities may in such event revoke the licence of the company or the corporation unless the company or the corporation can satisfy the authorities by having on the staff another person or persons in responsible charge of such plumbing work is or are in possession of a plumber's licence.

## A-2. SYLLABUS FOR THE EXAMINATION

**A-2.1 Written Paper** — Following syllabus shall be followed for the examination for the grant of plumber's licence with regard to written paper:

- a) Time 3 hours
- b) Maximum marks: 100
- c) *Section I Water Supply*
  - 1) Local bye-laws governing supply of water; knowledge of procedure to obtain water connections in new premises.
  - 2) A sound knowledge of codes of practice and specifications published by the Indian Standards Institution on water supply and water supply fittings.
  - 3) *Hydraulics* — Discharge through orifice, flow in open channel, flow in pipes, hydraulic gradient, design of distribution system for colonies and housing estates.
  - 4) *Pipes* — Materials, common sizes, pipe flow equations, incrustations, pipe jointing, laying of pipes, selection of size.
  - 5) *Fixtures* — Specials, appurtenances, etc.
  - 6) Tapping of mains, ferrules, corporation cocks, meters, etc.
  - 7) *Small size pumps* — Different types as may be required for pumping of water to storage reservoirs, merits and demerits, selection of a type.
  - 8) *Storage reservoirs* — Underground, surface, overhead as may be needed for maintaining satisfactory supply of water within the premises, capacity, constructional features, precautions to avoid contamination of water.
  - 9) Public health hazards of faulty plumbing, cross-connections, back-siphonage, etc, and remedies.
  - 10) *Disinfection of pipes* — Chemicals to be used, mode of disinfection.
  - 11) Significance of routine chemical and bacteriological report on water samples.
- d) *Section II Drainage*
  - 1) Local bye-laws governing drainage of building.
  - 2) A sound knowledge of codes of practice and specifications published by the Indian Standards Institution on building drainage, septic tanks and sanitary appliances and fittings.
  - 3) *Sewer materials* — Kinds, merits and demerits, factors governing choice.

- 4) Different types of sanitary latrines.
- 5) *Hydraulics of flow in sewers* — Common formulations, use of pipe flow charts, hydraulic element charts, design of small sewerage system as may be required for housing estates and colonies.
- 6) Manholes, drop manholes, catch pits, gully pits, grease traps and other types of traps.
- 7) Ventilation of sewers.
- 8) Sewer laying and jointing — stoneware, concrete, brick.
- 9) Classification of house plumbing system — two-pipe, one-pipe single stack ( partially ventilated ) and single stack systems: their merits and demerits.
- 10) Testing of traps and fixtures — hydraulic testing and smoke testing of house drainage system.
- 11) Maintenance of house drainage, cleaning and testing.
- 12) Septic tanks for household design, construction, disposal of effluent, design of soil absorption system.
- 13) Public health hazards of faulty plumbing for drainage, etc, and remedies.

**A-2.2 Practical Examination** — Maximum marks 100. Examination shall consist of a practical test relating to plumbing operation. Field testing may be laid out as may be considered suitable by the examiners. The candidate shall also appear for a *viva voce* before the examiners which may cover all aspects of plumbing science as detailed in the syllabus for written paper ( *see A-2.1* ).

# INTERNATIONAL SYSTEM OF UNITS ( SI UNITS )

## Base Units

QUANTITY	UNIT	SYMBOL
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

## Supplementary Units

QUANTITY	UNIT	SYMBOL
Plane angle	radian	rad
Solid angle	steradian	sr

## Derived Units

QUANTITY	UNIT	SYMBOL	DEFINITION
Force	newton	N	$1 \text{ N} = 1 \text{ kg.m/s}^2$
Energy	joule	J	$1 \text{ J} = 1 \text{ N.m}$
Power	watt	W	$1 \text{ W} = 1 \text{ J/s}$
Flux	weber	Wb	$1 \text{ Wb} = 1 \text{ V.s}$
Flux density	tesla	T	$1 \text{ T} = 1 \text{ Wb/m}^2$
Frequency	hertz	Hz	$1 \text{ Hz} = 1 \text{ c/s (s}^{-1}\text{)}$
Electric conductance	siemens	S	$1 \text{ S} = 1 \text{ A/V}$
Electromotive force	volt	V	$1 \text{ V} = 1 \text{ W/A}$
Pressure, stress	pascal	Pa	$1 \text{ Pa} = 1 \text{ N/m}^2$