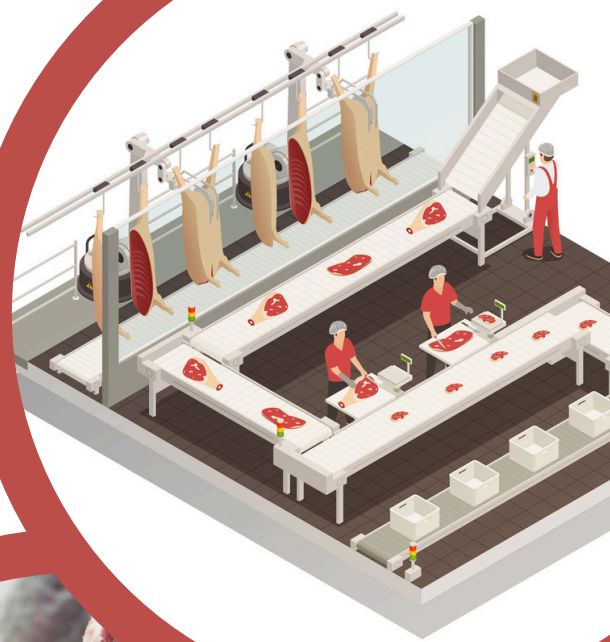


INDIAN STANDARDS FOR

# SLAUGHTERHOUSE DESIGN, EQUIPMENTS AND OPERATION



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## Introduction

Slaughterhouse is any establishment where specified animals are slaughtered and dressed for human consumption and that is approved, registered and/or listed by the official authority charged with the control of meat hygiene, including setting and enforcing regulatory meat hygiene requirements.

Though millions of animals like sheep, goats, pigs and cattle are slaughtered every year in the country, the conditions of slaughter houses where these animals are being slaughtered are far from satisfactory. A well designed and constructed structure and equipment is needed to systematically pursue slaughter of food animals, the dressing of carcasses and handling of by-products produced thereof.

This compendium aims at providing an overview of Indian Standards on slaughterhouse design, operation and various equipment required for its operation.

By compiling relevant standards on Slaughterhouse Design and Operation in a single document, this compendium serves as a ready reference for stakeholders involved in slaughterhouse designing, operation, management and regulation along with manufacturing of slaughterhouse equipment.

## **1. IS 4393: 2016 Basic requirement for an abattoir**

**Scope:** This standard covers the typical layout plan, hygiene, sanitary, basic requirements for an abattoir for carrying out slaughter of food animals.

### **Key Provisions:**

- a) Prescribes the mandatory criteria for site selection for establishing a slaughterhouse.
- b) Provides the list of essential facilities for a slaughterhouse under its layout plan. Further illustrates typical layout and flow diagram of operation for slaughtering various food animals.
- c) Provides detailed requirements of different units under slaughterhouse design; i.e. reception area/ reception ground, lairages, slaughter hall, ancillary accommodation, isolation block, chiller & freezer rooms etc.
- d) Provides other requirements such lighting and ventilation; water management; sanitation and cleaning; equipment designing and maintenance; plant waste water disposal etc.
- e) Also provides requirements to be met by meat workers/ handlers for carryout slaughterhouse activities.

## **2. IS 1982: 2015 Ante-Mortem and Post-Mortem inspection of meat animals - Code of practice**

**Scope:** This standard prescribes the code of practice for the ante-mortem and post-mortem inspection of meat producing animals.

### **Key Provisions:**

- a) Mandates ante-mortem inspection for all animals prior to slaughter. Further, provides procedural requirements for ante-mortem inspection also covering risk-based ante-mortem inspection programme, format for reporting ante-Mortem Inspection for meat animals, criteria for implementation of ante-mortem inspection, ante-mortem judgment categories.
- b) Prescribes Post-mortem inspection for all animals prior to slaughter. Further, provides procedural requirements for post-mortem inspection also covering risk-based post-mortem inspection programme, guidelines for post mortem inspection requirements for Heads, Viscera and Carcasses, implementation of Post-Mortem Inspection Procedures, judgement Categories for Edible Parts.
- c) Provides guidelines for Branding and Disposition of Meat; and utilisation of meat inspection findings.

## **3. IS 6559 : 2023 Ante-Mortem and Post-Mortem Inspection of Poultry — Code of Practice**

**Scope:** This standard prescribes the procedure for the ante-mortem and post-mortem inspection of poultry.

### **Key Provisions:**

- a) Prescribes general duties and instructions to meat inspectors along with duties of slaughtermen/butchers and packers for effectively carrying out the provisions given in the standard.

- b) Mandates the poultry to be subjected to ante-mortem inspection prior to slaughter. The ante-mortem inspection shall be made prior to slaughter within 24 h. Further, provides the criteria to be noted during the inspection.
- c) Provides the guidelines for the order and the method of post-mortem inspection of randomly selected or suspected poultry carcasses.
- d) Prescribes the instructions Regarding the Action to be Taken in the Event of Various Diseases of Broilers; fowls; along with guidelines for disposal of Condemned Carcass and Parts; and procedure for the disinfection of the dressing plants.

#### **4. IS 7049 : 2023 Handling, Processing, Quality Evaluation and Storage of Poultry — Code of Practice**

**Scope:** This code lays down guidelines for efficient handling, processing, quality evaluation and cold storage of poultry.

##### **Key Provisions:**

- a) Mandates the requirements to be conformed with by the dressing plant and other facilities to ensure hygienic processing, proper inspection and preservation for the production of clean and wholesome poultry and poultry products.
- b) Specifies the units of the dressing plant for different operations and mandates clear separation between them. Further, prescribes requirements for water supply, ventilation and personal hygiene.
- c) Mandates ante-mortem and post-mortem inspection of poultry.
- d) Prescribes guidelines for different handling and processing operations, grading, quality evaluation, packing and storage.

#### **5. IS 8895 : 2015 Handling, Storage and Transport of Slaughterhouse By-Products — Guidelines**

**Scope:** This standard provides guidelines for proper handling, storage and transport of by-products of slaughterhouses and meat processing factories. This standard does not include the guidelines for the processing of pharmaceutical products like insulin and pancreatin.

##### **Key Provisions:**

- a) Categorizes the slaughterhouse by-products (Category-I : High Risk, category-II : Medium Risk, and Category- III: Low Risk)
- b) Provides requirements for handling, storage and transport of food slaughterhouse by-products including disposal and use of Slaughterhouse By-Products.

#### **6. IS 11533 : 2024 Sheep Dressing Hooks — Specification**

**Scope:** This standard specifies the material, dimensions and other requirements for sheep dressing hooks for use in semi-automatic abattoirs.

##### **Key Provisions:**

- a) Mandates construction from stainless steel of designation SS 304 (Austenitic X04Cr19Ni9) or SS 316 (Austenitic X04Cr17Ni12Mo2) conforming to IS 6911.
- b) Prescribes the tolerance for various dimensions to be  $\pm 5$  percent. Further prescribes other constructional requirements along with workmanship and finish.
- c) Provides the guidelines for sampling of sheep dressing hooks.

## **7. IS 11631 : 2024 Gambrels for Sheep and Goats — Specification**

**Scope:** This standard specifies the material, dimensions and other requirements for gambrels for sheep and goats used in semi-automatic abattoirs.

### **Key Provisions:**

- a) Mandates construction from stainless steel of designation SS 304 (Austenitic X04Cr19Ni9) or SS 316 (Austenitic X04Cr17Ni12Mo2) conforming to IS 6911 or mild steel as per IS 2062.
- b) Prescribes the tolerance for various dimensions to be  $\pm 5$  percent. Further prescribes other constructional requirements along with workmanship and finish.
- c) Provides the guidelines for sampling of gambrels for sheep and goats.

## **8. IS 6782 : 2023 Hog Gambrels — Specification**

**Scope:** This standard prescribes the material, dimensions and other requirements for hog gambrels. These hog gambrels are suitable for semi-automatic type of abattoirs.

### **Key Provisions:**

- a) Mandates construction of the hook rod and gambrel rod from mild steel conforming to IS 2062 or stainless steel of designation SS 304 (Austenitic X04Cr19Ni9) or SS 316 (Austenitic X04Cr17Ni12Mo2) conforming to IS 6911. Further, mandates the conformance of self-locking nut to IS 1364 (Part 3)/ ISO 4032 and IS 1364 (Part 6) as per respective size specifications.
- b) Prescribes the dimension requirements and construction requirements for various parts for guidance along with workmanship and finish.
- c) Provides the guidelines for sampling of hog gambrels.

## **9. IS 6628 : 2024 Slide Rails for Use in Abattoirs — Specification**

**Scope:** This standard specifies material, dimensions and other requirements for slide rails for use in abattoirs.

### **Key Provisions:**

- a) Mandates construction of the flat section and round section of the rails from mild steel conforming to IS 2062 or stainless steel of designation SS 304 (Austenitic X04Cr19Ni9) or SS 316 (Austenitic X04Cr17Ni12Mo2) conforming to IS 6911. Further, mandates the construction of the pipe section rails shall be of heavy-duty block pipe conforming to the requirements given in IS 1239 (Part 1).

- b) Prescribes the dimension requirements for various parts for guidance along with Suitability of Rails of various sections and dimensions for different Operations.
- c) Provides the guidelines for sampling of slide rails.

#### **10. IS 6950 : 2024 Pig Hook — Specification**

**Scope:** This standard specifies requirements in respect of material, dimensions, strength requirements of S-shaped pig hooks.

**Key Provisions:**

- a) Mandates construction from stainless steel of designation SS 304 (Austenitic X04Cr19Ni9) or SS 316 (Austenitic X04Cr17Ni12Mo2) conforming to IS 6911.
- b) Prescribes the dimension requirements for various parts for guidance along with construction requirement of the hook and workmanship, finish.
- c) Provides the guidelines for sampling of pig hooks.

#### **11. IS 7891 : 2024 Inedible Offals Trolley — Specification**

**Scope:** This standard specifies material, dimensions and other requirements for a trolley for transport of inedible offals in a meat processing unit or an abattoir.

**Key Provisions:**

- a) Mandates construction of body and cover from Galvanized plain steel sheets (see IS 277) of a minimum thickness of 1.60 mm, or mild steel sheets (see IS 2062) of a minimum thickness of 1.60 mm. Further, mandates Chassis and Rest to be constructed from mild steel as per IS 2062.
- b) Prescribes the dimension requirements for various parts for guidance along with construction requirement of the trolley and workmanship, finish.
- c) Provides the guidelines for handling and operation of the inedible offals trolley.

#### **12. IS 7909: 2023 Slaughter House Equipment — Electrical Stunning Tongs for Pigs — Specification**

**Scope:** This standard specifies material, dimensions and other requirements for electrical stunning tongs for pigs.

**Key Provisions:**

- a) Mandates construction from stainless steel of designation SS 304 (Austenitic X04Cr19Ni9) or SS 316 (Austenitic X04Cr17Ni12Mo2) conforming to IS 6911.
- b) Prescribes the dimension requirements for various parts for guidance along with construction requirement of the trolley and workmanship, finish.
- c) Mandates working of the tongs in the range of 90 volts to 150 volts.



### **13. IS 12189: 2023 Sheep Spreaders — Specification**

**Scope:** This standard specifies material, dimensions and other requirements for sheep spreaders.

**Key Provisions:**

- a) Mandates construction from stainless steel of designation SS 304 (Austenitic X04Cr19Ni9) or SS 316 (Austenitic X04Cr17Ni12Mo2) conforming to IS 6911 or mild steel conforming to IS 2062 (only allowed for flat section).
- b) Prescribes the tolerance for various dimensions to be  $\pm 5$  percent. Further prescribes other constructional requirements along with workmanship and finish.
- c) Provides the guidelines for sampling of sheep spreaders.

### **14. IS 12190 : 2024 Sheep Bleeding Shackles — Specification**

**Scope:** This standard prescribes the material, dimensions and other requirements for sheep bleeding shackles. These sheep bleeding shackles are suitable for semi-automatic type of abattoirs.

**Key Provisions:**

- a) Mandates construction from mild steel as per IS 2062 or stainless steel of designation SS 304 (Austenitic X04Cr19Ni9) or SS 316 (Austenitic X04Cr17Ni12Mo2) conforming to IS 6911.
- b) Prescribes the tolerance for various dimensions to be  $\pm 5$  percent. Further prescribes other constructional requirements along with workmanship and finish.
- c) Provides the guidelines for sampling of sheep bleeding shackles.

### **15. IS 12486 : 2023 Meat Inspection Table — Specification**

**Scope:** This standard specifies material, dimensions, constructional and other requirements of meat inspection table.

**Key Provisions:**

- a) Mandates construction of the table top from mild steel as per IS 2062 or stainless steel of designation SS 304 (Austenitic X04Cr19Ni9) or SS 316 (Austenitic X04Cr17Ni12Mo2) conforming to IS 6911.
- b) Prescribes dimension requirement for guidance. Further provides the constructional requirements along with workmanship and finish.

### **16. IS 12487 : 2023 Offal Handling Table for Small Animals — Specification**

**Scope:** This standard specifies material, dimensions, constructional and other requirements of offal handling table for small animals.

**Key Provisions:**

- a) Mandates construction of the table top from mild steel as per IS 2062 or stainless steel of designation SS 304 (Austenitic X04Cr19Ni9) or SS 316 (Austenitic X04Cr17Ni12Mo2) conforming to IS 6911.



- b) Prescribes dimension requirement for guidance. Further provides the constructional requirements along with workmanship and finish.

### **17. IS 19272 : 2025 Rotary Animal Restrainer — Specification**

**Scope:** This standard specifies requirements in respect of material, design and dimensions and other requirements of rotary animal restrainer.

**Key Provisions:**

- a) Mandates construction from stainless steel of designation SS 304 (Austenitic X04Cr19Ni9) conforming to IS 6911.
- b) Prescribes design and dimension requirement of essential parts of rotary animal restrainer for guidance.
- c) Prescribes performance as well as hygiene requirements to ensure effective usage of the equipment.