

Foreword

The formulation of this national standard was initiated by the Agricultural Machinery Testing and Evaluation Center (AMTEC) under the project entitled “Enhancing the Implementation of the AFMA Through Improved Agricultural Engineering Standards” which was funded by the Bureau of Agricultural Research (BAR) of the Department of Agriculture (DA).

This standard has been technically prepared in accordance with PNS 01-4:1998 (ISO/IEC Directives Part 3:1997 – Rules for the Structure and Drafting of International Standards. It specifies the general requirements for the construction of poultry dressing plant.

The word “shall” is used to indicate requirements strictly to be followed in order to conform to the standard and from which no deviation is permitted.

The word “should” is used to indicate that among several possibilities one is recommended as particularly suitable, without mentioning or excluding others, or that a certain course of action is preferred but not necessarily required.

In the preparation of this standard, the following references were considered:

AO No. 07 Series of 2001. Code of Practice for Birds Dressing.

Environmental Sanitation Rules and Regulations. Environmental Health Service, Department of Health. Manila.

Establishment Design and Construction Guidebook, Virginia Department of Agriculture & Consumer Services, June 22, 2001.

Meat Manual of Procedures, Canadian Food Inspection Agency.

Birds Industry Processing Standard 5. Birds Industry Standards Council.

Agricultural Structures – Poultry Dressing Plant

1 Scope

This standard specifies the general requirements of poultry dressing plant. It includes general, structural and functional requirements.

2 Reference

The following normative document contains provisions which through reference in this text constitute provisions of this National Standard:

Meat Hygiene, Inspection and Preservation, National Meat Inspection Commission

National Structural Code of Building

Philippine Electrical Code 2000

National Plumbing Code of the Philippines

PAES 414-1:2002 Agricultural Structures – Waste Management Structures: Part 1 –
Agricultural Liquid Waste

PAES 414-2:2002 Agricultural Structures – Waste Management Structures: Part 2 –
Agricultural Solid Waste - Composting

3 Definitions

For the purpose of this standard, the following definitions shall apply:

3.1**carcass**

body of dressed birds

3.2**dressing**

process composed of bleeding, defeathering, eviscerating, and from which the head, shanks, crop, oil gland and other inedible parts are removed

3.3**offal**

by-products, organs, glands and tissue other than meat of the food animal

3.4

evisceration

process of removing the internal organs in the abdominal and thoracic cavities

3.5

shackling

process of restraining birds prior to slitting

3.6

trench drain

trough that collects the waste from a larger area and directs the flow to a drain opening

4 Location

4.1 The location of the dressing plant shall conform with the requirements of the National Meat Inspection Commission, Department of Environment and Natural Resources and with the land use plan.

4.2 The site shall have a continuous water supply to meet the required amount of water and shall be well-drained.

4.3 Adequate sources of electricity shall be available at the site.

4.4 The size of the site shall allow for all buildings, parking lots, access roads, and waste management.

4.5 The site shall be accessible year round.

5 Structural Requirements

5.1 Floors

5.1.1 Floor elevation shall be sufficient for effective drainage.

5.1.2 Floor shall be concrete and properly reinforced to prevent cracks.

5.1.3 Floors finishing shall be durable, easy to clean, and impervious to moisture such as floor tiles and rubberized paints.

5.1.4 The minimum floor slope shall be 2% - 4% and it shall slope uniformly from walls to the drain to avoid puddles or depressions.

5.1.5 Intersection with the walls shall be rounded with 50 mm - 60 mm radius.

5.2 Walls

5.2.1 The wall shall be concreted and properly painted. Internal surface of the walls should be painted with white, non-toxic oil or plastic paint.

5.2.2 At least 2 m of the wall above the floor level shall be tiled or covered with other impervious material. Joints between tiles shall be filled with solid mortar backing and cement.

5.2.3 All wall tops and ledges shall slope at 45° (Figure 1).

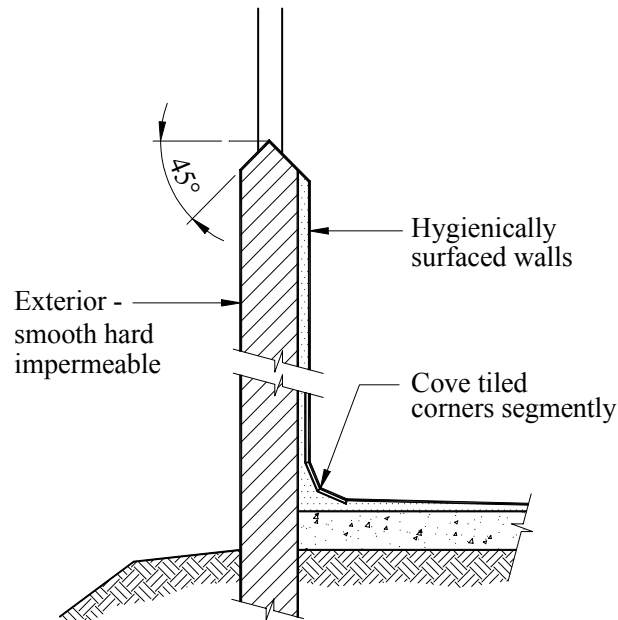


Figure 1 – Finishing of a dressing plant wall

5.2.4 It shall be coved to the floor-wall and at wall-to-wall junctions with a radius of 50 mm - 60 mm.

5.3 Roof

5.3.1 The roof structure shall be made of timber or steel with anti-rust paint.

5.3.2 Roofing materials shall be made of G.I. sheet and other durable roofing materials.

5.3.3 Skylights (i.e. plastic roofing sheets) at strategic locations for natural lighting are recommended.

5.3.4 Roof vents, when provided, shall be properly screened.

5.4 Ceilings

5.4.1 Ceilings shall be at least 2.4 m from the floor.

5.4.2 Ceilings shall be constructed to prevent the collection of dirt or dust that might sift through from the areas above or fall from overhead collecting surfaces onto equipment or exposed products.

5.4.3 Ceilings and overhead structures shall be maintained free of scaling paint or plaster, dust, condensate, leaks, and other materials or defects.

5.5 Windows

5.5.1 All windows shall be properly installed with 16-mesh screen.

5.5.2 Window ledges shall be sloped about 45° to prevent the accumulation of dirt, water, or debris (Refer to Figure 1).

5.5.3 Windowsill shall be at least 1 m from the finish floor line.

5.6 Doors

5.6.1 External door

External doors shall be fitted with screens, air flaps or provided with air curtain. The width shall be at least 1.8 m.

5.6.2 Internal door

Internal doors shall be fitted with self-closing and snug fitting double action doors with a glass (reinforced) panel at eye level or provided with plastic flaps. It shall be at least 1.5 m wide.

5.7 Columns

Columns or other structural members located in areas where product contact may occur shall be constructed from, or sheathed in, durable, non-porous, easily washable material.

5.8 All other matters concerning structural design of the building not provided in this Standard shall conform with the provisions of the National Structural Code of Building.

6 Functional Requirements

6.1 Holding area for live birds and shackling area

6.1.1 Holding area shall be provided for the unloading of live birds and storage of bird's crates.

6.1.2 It shall be provided with proper ventilation and protection from adverse weather condition.

6.2 Conditioning and slitting

6.2.1 An area for slitting and bleeding shall be provided with a slitting rack designed to lessen stress to the birds and reduce the physical effort of the personnel.

6.2.2 There shall be provision for the containment of the blood in this area.

6.3 Scalding and defeathering

6.3.1 The scalding tank shall be adequately vented, equipped with a thermometer and provided with an overflow discharge into a drain.

6.3.2 Defeathering machines shall be situated near the scalding tank.

6.4 Evisceration area

6.4.1 The evisceration table shall be arranged to facilitate efficient sanitary operations.

6.4.2 The table shall be provided with plumbing for adequate supply of water.

6.4.3 Separate table shall be provided for processing of edible offals.

6.5 Refrigeration (Optional)

If all carcasses are not removed within six hours after dressing, adequate chilling and cold storage facilities shall be provided. Cold storage facilities shall have adequate capacity to maintain a temperature of 4°C or less.

NOTE The type of refrigerants shall be environment friendly.

6.6 Dry storage

The dry storage area shall be protected from vermins.

6.7 Holding area for dressed birds

A holding area shall be provided to load dressed birds and to accommodate crates. The area shall be protected from vermins.

6.8 Facilities and equipment

6.8.1 Equipment shall be easy to clean and shall be made of materials impervious to liquids, non-toxic and corrosion-resistant such as stainless steel and galvanized metal.

6.8.2 There shall be sufficient number of water proof containers with tight fitting metal cover for holding trimmings, refuse and inedible parts.

6.8.3 There shall be sufficient working tables with a tabletop made of stainless steel. Table height shall be 0.8 m. the table footing should be designed to prevent the accumulation of dirt.

6.8.4 Lighting

6.8.4.1 Artificial lighting shall be provided at all places where natural light is unavailable or insufficient.

6.8.4.2 Light fixtures in rooms where exposed meat or birds is handled shall be flushed in ceiling and provided with diffuser.

6.8.4.3 Lighting intensity in each station is shown in Table 1.

Table 1 – Minimum lighting intensity for dressing plant

Area	Lighting intensity* lux (Lumen/m²)
Holding area	100
Operating area	
General	200
Working table	500

* Refer to Annex B

6.8.5 Convenience outlet shall be waterproof type and it shall be installed 1 m - 1.5 m high.

6.8.6 All electrical installation shall meet the requirement of Philippine Electrical Code.

6.8.7 Water supply and Plumbing facilities

6.8.7.1 The water supply shall be ample, clean, and potable with adequate pressure.

6.8.7.2 There shall be provision for at least one hose connection per area.

6.8.7.3 Drainage lines shall be located so that if clogging occurs, it will not affect product or equipment.

6.8.7.4 One 150 mm - 200 mm drainage inlet shall be provided for each 37 m² of floor space. If the area has high water discharged, the number of drain and their size shall be increased. Each inlet shall be provided with spherical or dome shape screen.

6.8.7.5 Open canal provided with adequate cover and clean out is recommended for the ease of maintenance.

6.8.7.6 In areas where there is a high volume of water usage, the water in trench drains shall flow in the opposite direction of the product flow.

6.8.7.7 Floor drains shall not be located under permanently installed equipment.

6.8.7.8 Drainage and plumbing system for the dressing plant shall be in accordance with the National Plumbing Code.

6.9 Ventilation

6.9.1 Screens shall be used to prevent product contamination from dust and insects.

6.9.2 Mechanical ventilation shall be used to provide fresh air to areas where natural ventilation is inadequate.

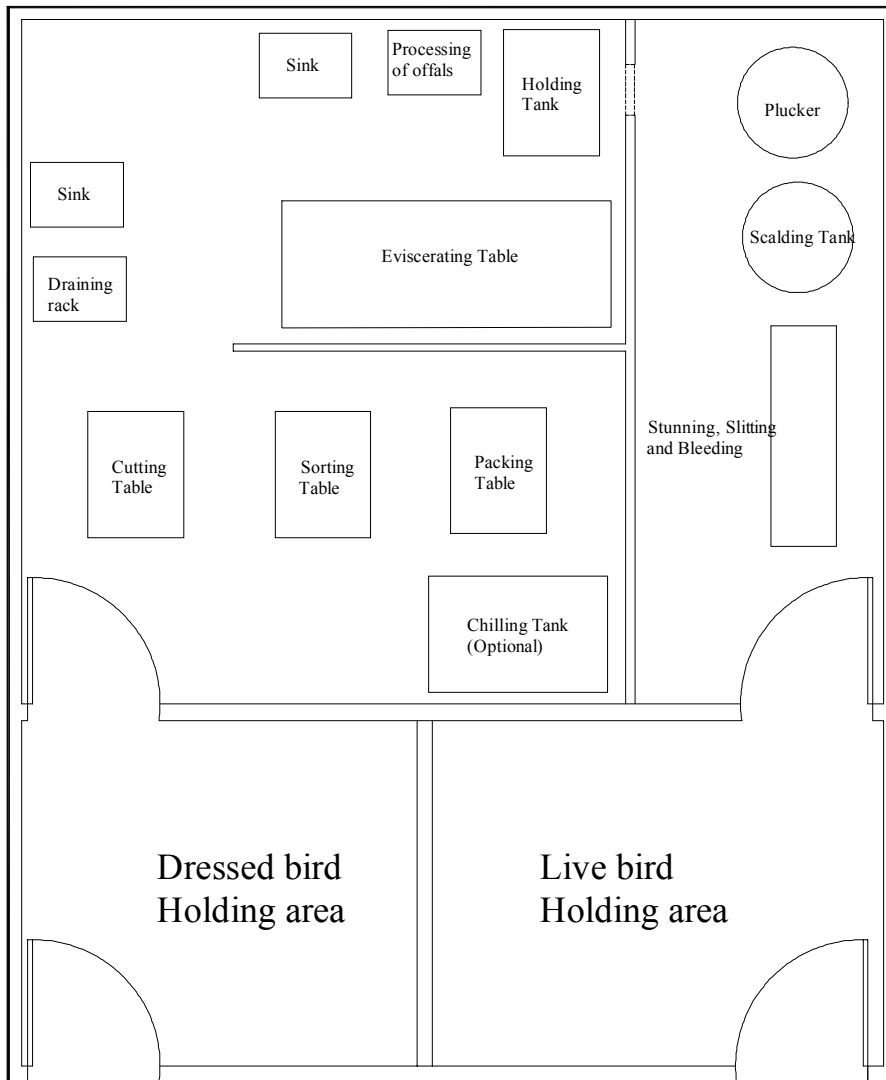
6.9.3 The ventilation system shall be designed to prevent airflow from holding pens, restrooms, and other areas of possible contamination into the processing rooms.

7 Waste disposal

For waste management, refer to **PAES 414-1:2002** and **PAES 414-2:2002**.

Annex A
(informative)

Sample Layout of a Small-scale Dressing Plant



Annex B
(informative)

Lighting Requirements

Lighting Intensity lux	No. of Bulbs Required per m ²							
	Incandescent lamp						Fluorescent lamp	
	25W	40W	60W	100W	150W	200W	20W	40W
500	3.935	1.989	1.052	0.520	0.314	0.226	0.682	0.266
400	3.148	1.591	0.842	0.416	0.251	0.181	0.546	0.213
300	2.361	1.193	0.631	0.312	0.189	0.136	0.409	0.160
200	1.574	0.796	0.421	0.208	0.126	0.090	0.273	0.107
150	1.180	0.597	0.316	0.156	0.094	0.068	0.205	0.080
100	0.787	0.398	0.210	0.104	0.063	0.045	0.136	0.053
50	0.393	0.199	0.105	0.052	0.031	0.023	0.068	0.027
10	0.079	0.040	0.021	0.010	0.006	0.005	0.014	0.005