

Foreword

The formulation of this national standard was initiated by the Agricultural Machinery Testing and Evaluation Center (AMTEC) under the project entitled “Development of Standards for Slaughterhouse Equipment for Large Ruminants” which was funded by the Department of Agriculture - National Meat Inspection Services (DA-NMIS).

This standard has been technically prepared in accordance with BPS Directives Part 3:2003 – Rules for the Structure and Drafting of International Standards.

The word “shall” is used to indicate mandatory requirements to conform to the standard.

The word “should” is used to indicate that among several possibilities one is recommended as particularly suitable without mentioning or excluding others.

In the preparation of this standard, the following documents/publications were considered:

Baumeister, T., E.A. Avallone and T. Baumeister III. 1978. *Mark’s Standard Handbook for Mechanical Engineers*. 8th ed. McGraw – Hill, Inc.

PAES 411:2000 Agricultural Structures – Slaughterhouse for Swine, Small and Large Animals – General Requirements

LeFielle Product Line. http://www.lefiellco.com/co_specs/product.htm. <accessed March 25, 2008>.

Pneumatic Site. <http://www.foodtec.It/?en=1117775206>. <accessed April 08, 2008>.

Slaughterhouse for Cattle. <http://www.renner-schlachthaustechnik.de/ne/products/rinderschlachtung.html>. <accessed March 28, 2008>.

Tordillo, Jose Arvin S. 2002. *Mechanical Engineering Formulas*. DMC Busa Printers

1 Scope

This standard specifies the requirements on fabrication, installation and performance for platform.

2 References

The following normative documents contain provisions, which, through reference in this text, constitute provisions of this National Standard:

AWS D1.1:2000	Structural Welding Code – Steel
PAES 102:2000	Agricultural Machinery – Operator’s Manual – Content and Presentation
PAES 524:2008	Slaughterhouse Equipment – Platform – Methods of Test

3 Definitions

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

3.1

dehiding

process of removing the skin of animal

3.2

evisceration

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

3.3

floor plate

part of the platform that serves as the flooring for the operator to stand on

3.4

floor plate height

distance measured vertically from the floor plate to the finish floor line

3.5

guard rail

part of the platform designed to provide safety for the operator

3.6

hand rail

part of the guard rail designed to be grasped by the operator when ascending, descending or moving horizontally

3.7

platform

equipment used by the operator to reach the required height to perform slaughtering process

3.8

platform control

switch

auxiliary part of the mechanical platform that regulates the speed and controls the vertical – horizontal movement of the platform

3.9

side travel

sideward or horizontal movement of the platform

3.10

splitting

cutting or dividing the carcass into half through its backbone

4 Classification

4.1 Stationary Platform

Type of platform that has a fixed height for a specific application such as bleeding, dehiding, evisceration and splitting.

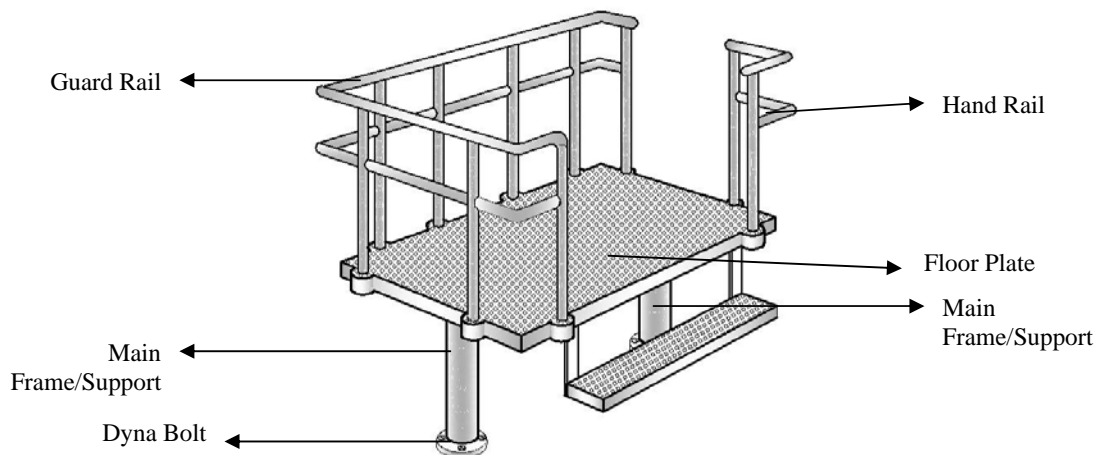


Figure 1. Stationary platform

Classification of stationary platform shall be based according to:

4.1.1 Number of Steps

4.1.1.1 One – Step Stationary Platform

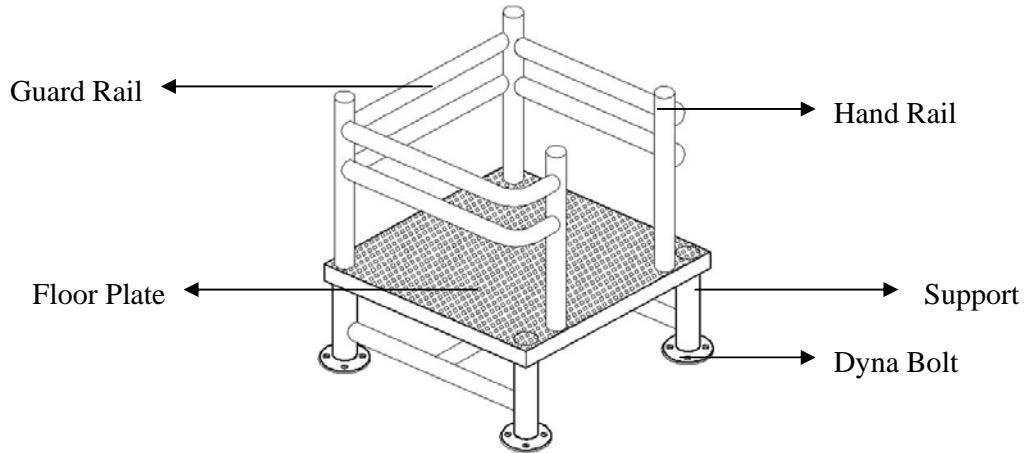


Figure 2. One – Step Stationary Platform

4.1.1.2 Two – Step Stationary Platform

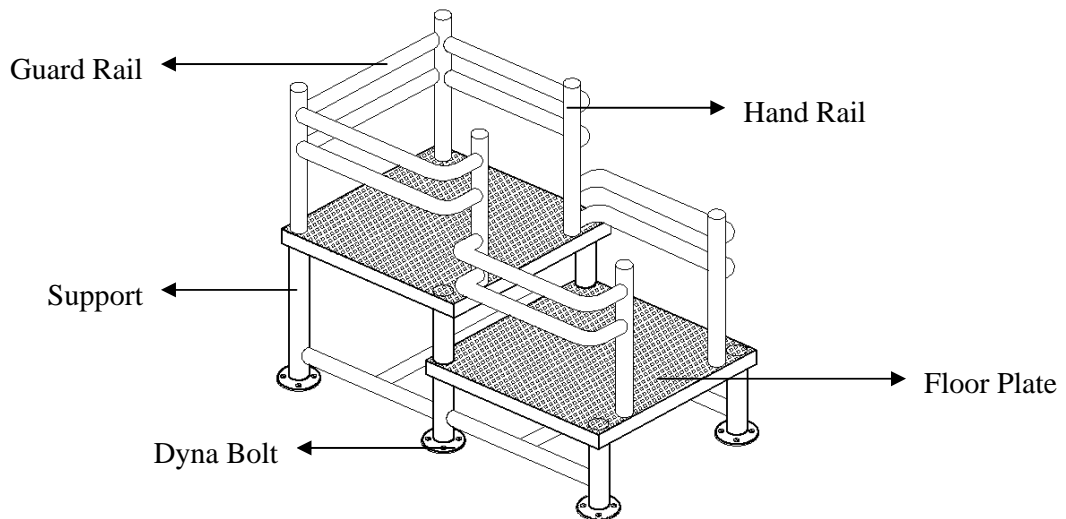


Figure 3. Two – Step Stationary Platform

4.1.1.3 Three – Step Stationary Platform

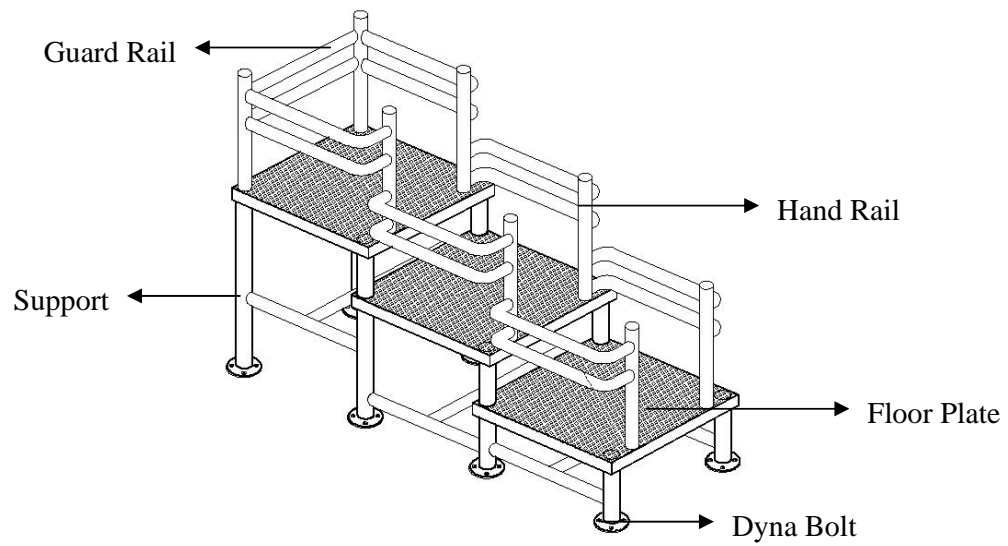


Figure 4. Three – Step Stationary Platform

4.2 Mechanized Platform

Type of platform that is capable of moving vertically and horizontally

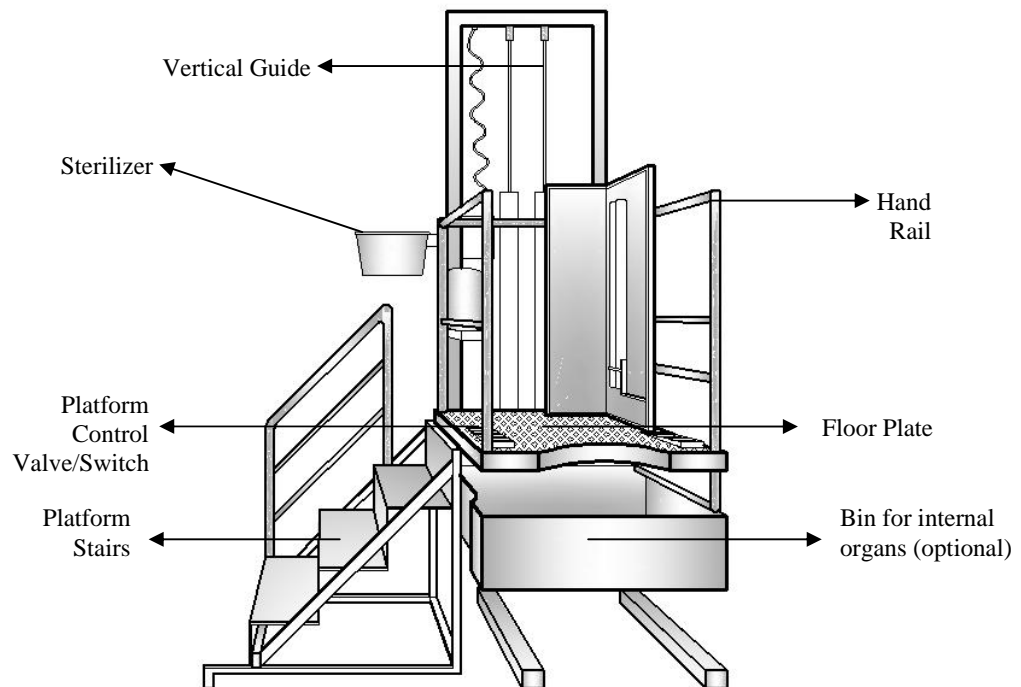


Figure 5. Mechanized platform

Classification of mechanized platform shall be based according to:

4.2.1 Driving Mechanism

4.2.1.1 Motorized

Mechanized platform that makes use of solid mechanical components to drive the platform

4.2.1.2 Hydraulic

Mechanized platform that makes use of liquid under pressure to drive the platform

4.2.1.3 Pneumatic

Mechanized platform that makes use of compressed air to drive the platform

4.2.2 Direction of Movement

4.2.2.1 Vertical

Mechanized platform that can move vertically

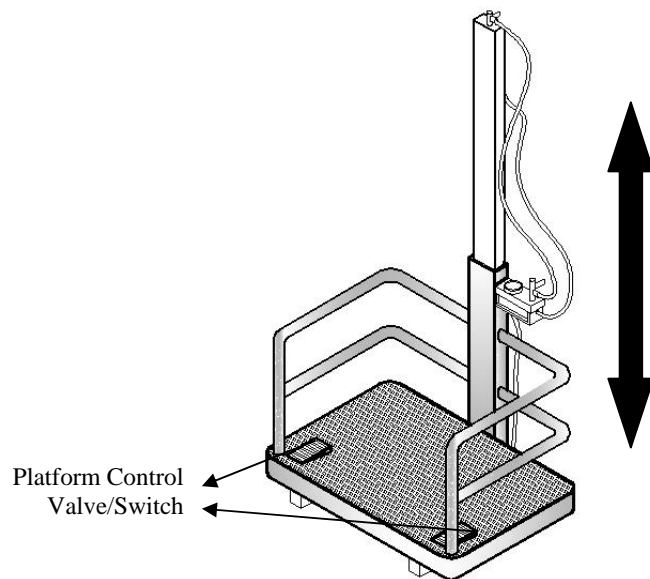


Figure 6. Vertically moving platform

4.2.2.2 Vertical and Horizontal

Mechanized platform that can move vertically and horizontally. (Fig. 7)

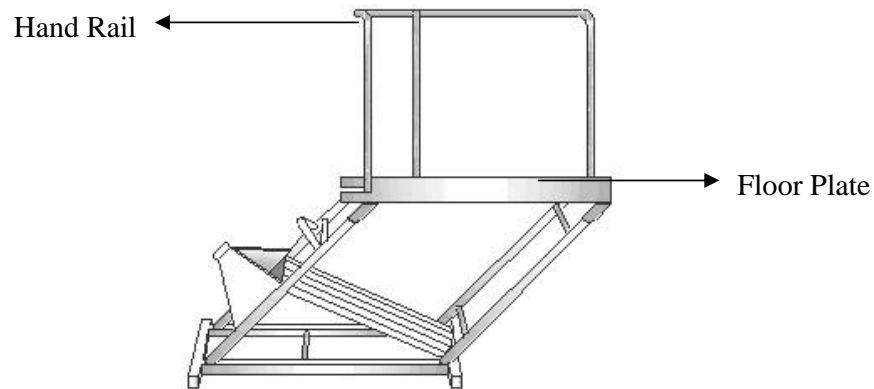


Figure 7. Vertically and horizontally moving platform

5 Principle of Operation

The platform is used in slaughtering large ruminants to ensure ease and safety of operation.

5.1 Stationary Platform

5.1.1 Once the carcass is hung, the butcher shall use the platform to perform the required activity or procedure.

5.1.2 A corresponding type, height and size of stationary platform may be designed for a specific operation.

5.2 Mechanized Platform

5.2.1 Once the carcass is hung, platform shall be used to adjust to its appropriate height for the butcher to perform dehiding, evisceration and splitting.

5.2.2 The position of the mechanized platform shall be adjusted using the platform control valve or switch.

6 Fabrication Requirements

6.1 Stationary Platform

6.1.1 Generally, the parts of the platform shall be made of corrosion free materials such as stainless steel, hot dipped galvanized iron and high grade industrial plastic.

- 6.1.2 The main frame or support shall satisfy the maximum load capacity given in sub clause 8.1.1. It shall be made of hot dipped, stainless or galvanized iron pipe schedule 40 and should have diameter of 127 mm (5 inches) for two – leg support and 38 mm (1 ½ inch) for four – leg support.
- 6.1.3 For three – step stationary platform, the height of each step from the finish floor line to the floor plate shall be 800 mm (31.5 inches), 1 meter (39.4 inches) and 1.8 meter (71 inches), respectively.
- 6.1.4 Floor plate shall be made of at least 3 mm thickness of perforated fibergrate or checkered stainless steel or hot dipped galvanized iron plate. The platform shall have the floor dimension for each step of at least 600 mm x 600 mm (23.6 inches x 23.6 inches).
- 6.1.5 Guard and hand rails shall be made of stainless steel or galvanized iron pipe with diameter of at least 25.4 mm (1 inch).
- 6.1.6 All parts shall not be painted

6.2 Mechanized Platform

- 6.2.1 Generally, the parts of the platform shall be readily serviceable and shall be made of corrosion free materials such as stainless steel, hot dipped galvanized iron and high grade industrial plastic.
- 6.2.2 The platform shall be equipped with foot-operated speed control for ascend or descend.
- 6.2.3 The main frame or support shall satisfy the maximum load capacity given in sub clause 8.2.1. It shall be made of structural steel with diameter of 152.4 mm (6 inches) for one – leg support and 76 mm (3 inches) for two – leg support.
- 6.2.4 Floor plate shall be made of at least 3 mm thickness of perforated fibergrate or checkered stainless steel or hot dipped galvanized iron plate. It shall have floor plate dimension of at least 840 mm x 1.1 meter (33 inches x 42 inches). The maximum height of lift or vertical travel of floor plate shall be 1.8 meters (6 ft). Maximum side or horizontal travel shall be 1295 mm (4 ft, 3 inches).
- 6.2.5 The stairs shall be made of non-slip corrosion free materials with the thickness of at least 3 mm.
- 6.2.6 Guard rails and hand rails shall be made of hot dipped or stainless steel galvanized iron pipe with diameter of 25.4 mm (1 inch).
- 6.2.7 The platform control valves shall be made of any non-conductor or insulator and corrosion free materials such as high grade industrial plastics and rubbers.
- 6.2.8 Bins for internal organs, if provided, shall be made of stainless steel grade 304.
- 6.2.9 All parts shall not be painted.

- 6.2.10 Pressure gauge with range of 0 to 10 bars and at least 70 mm diameter shall be installed.

7 Installation Requirements

7.1 Stationary Platform

- 7.1.1 One – step platform should not be required to be fastened or bolted to the floor but shall be dynamically balanced.

- 7.1.2 Two – step and three – step platforms shall be securely fastened to the floor using dyna bolts. Bolts shall be designed to support the maximum required load.

7.1 Mechanized Platform

- 7.1.1 Support of main frame shall be fastened securely to the floor using dyna bolts. Bolts shall be designed to support the maximum required load.

- 7.1.2 Auxiliary controls placed at the bottom of the platform floor plate shall not be in contact to the floor when operating.

8 Performance Requirements

The platform when tested in accordance with PAES 524 shall conform to the following requirements:

8.1 Stationary Platform

- 8.1.1 The platform shall support a maximum load of 350 kg (770 lbs.).

- 8.1.2 The platform shall have flat and horizontally leveled floor plate.

- 8.1.3 The platform shall be dynamically balanced.

8.2 Mechanized Platform

- 8.2.1 The platform shall support a maximum load of 375 kg (825 lbs.). There shall be one (1) allowable operator at any given time.

- 8.2.2 The platform shall have flat and horizontally leveled floor plate.

- 8.2.3 The platform shall have no jerking or shall have smooth ascending, descending and horizontal motion.

- 8.2.4 The actual speed of travel of the platform without load shall be the same with the speed of the platform with load.

- 8.2.5 The platform shall be easily stopped at any position and shall maintain such position when it is stationary during operation.
- 8.2.6 The platform control valve or switch shall be easily manipulated.
- 8.2.7 Speed of vertical movement (upward or downward) for the oscillating platform shall commensurate to the speed of the dehiding and splitting process.
- 8.2.8 Specifications regarding the power source of the oscillating platform shall comply with the manufacturer's specifications.
- 8.2.9 Power requirement's specification shall comply to the specification of the manufacturer.

9 Safety, Workmanship and Finish

- 9.1 All components shall be dynamically and statically balanced for stability.
- 9.2 The noise emitted by the platform measured 50 mm away from the operator's ear shall not be more than 96 db (A).
- 9.2 The platform shall be free from manufacturing defects and sharp edges that may be detrimental to the operator.
- 9.3 There shall be provision for the safety of the operators from moving parts for mechanized platform.
- 9.4 Switches or valves used to control the mechanized platform shall be accessible to the operator.
- 9.5 Pressurized hoses shall be safely and properly attached to the platform.
- 9.6 For mechanized platform, sealed type bearings should be used as protection against water and foreign material.
- 9.7 Grease point shall be integrated for lubrication of mechanical parts and non-sealed type bearings and bushings when necessary.
- 9.8 All welded parts shall be water-tight and/or air-tight and smoothly polished and it shall pass the visual inspection criteria (AWS D1.1:2000) for discontinuity of material.
- 9.9 Welded joints shall not be less than 4 mm (1/8 inch) site fillet welded. Undercut shall not exceed 2 mm (1/16 inch) for any length of weld.
- 9.10 Cover or guard for the unused part of the platform, pulley and/or belt mechanism shall be provided.

9.11 Mechanism for immediate disengagement of power transmission shall be provided.

10 Warranty for Construction and Durability

10.1 The platform's construction shall be rigid and durable without breakdown of its major components within one (1) year from the date of original purchase.

10.2 Warranty shall be provided for parts and services within six (6) months after the installation and acceptance by the consumer.

11 Maintenance and Operation

11.1 An operator's manual, which conforms to PAES 102, shall be provided for mechanized platform.

11.2 Mechanized platform unit shall be provided with a set of fabricator's standard tools required for maintenance.

11.3 The platform shall be easy to clean.

11.4 Lubricating points shall be provided with food grade grease.

12 Testing

Testing of the platform for large ruminants shall be conducted on-site during commissioning. Platform shall be tested in accordance with PAES 524.

13 Marking and Labeling

13.1 Each platform shall be marked in English with the following information in a plate:

13.1.1 Registered trademark/brand of the manufacturer (optional)

13.1.2 Brand

13.1.3 Model/or Serial number

13.1.4 Maximum weight capacity (kg)

13.1.5 Name, address and contact number of the manufacturer

13.1.6 Country of manufacture (if imported) / "Made in the Philippines" (if manufactured in the Philippines)

13.1.7 Name and address of the importer, if imported.

- 13.2** Safety/precautionary markings shall be provided when appropriate. Marking shall be stated in English or Filipino and shall be printed in red color with a white background.
- 13.3** The markings shall have a durable bond with the base surface material.
- 13.4** The markings shall be heat and water resistant and under normal cleaning procedures, it shall not fade, discolor, crack or blister and shall remain legible.