International Standard 5709

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Equipment for internal farm work and husbandry — Metal grids for cattle stalls

Matériel d'intérieur de ferme et d'élevage — Grilles métalliques pour étables à bovins

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Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 5709 was developed by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry,* and was circulated to the member bodies in September 1978.

It has been approved by the member bodies of the following countries :

Australia	India	Portugal
Belgium	Ireland	Romania
Brazil	Italy	South Africa, Rep. of
Bulgaria	Korea, Rep. of	Spain
Chile	Libyan Arab Jamahiriya	Sweden
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The member bodies of the following countries expressed disapproval of the document on technical grounds :

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Equipment for internal farm work and husbandry — Metal grids for cattle stalls

1 Scope

This International Standard specifies requirements for the dimensions, materials, methods of installation and safety of metal grids for cattle stalls.

2 Field of application

This International Standard applies to metal grids covering liquid manure channels, intended to allow the passage of excreta from cattle in enclosed stalls. They are subject to loads imposed by animals and staff standing on and/or walking over them. They may be cast or may be made up of welded parts which are either bare or covered with a flexible material.

3 Description

The metal grid usually comprises the following parts :

a) a frame or grid surround;

b) cross-piece, horizontal struts maintaining the bars at a fixed distance apart;

c) bars, parts with any shape of cross-section parallel to the longitudinal axis of the channel.

4 Specifications

4.1 Dimensions (see figure)

4.1.1 The overall width of the grid shall be 800 ± 5 mm.

4.1.2 The overall length of the welded grid may vary from 900 mm to 1 200 mm in steps of 50 mm [see figure a)].

4.1.3 The overall length of the cast grid may vary from 450 to 600 mm in steps of 50 mm [see figure b)].

The free space between two bars shall be 38 ± 2,5 mm.

4.2 Deformation

The grid shall not show any permanent deformation under the effect of a static load of 8 kN spread evenly over a circle with a diameter of 110 mm at the most vulnerable point on the part(s) in question.

4.3 Toxicity of materials

If anti-corrosive treatment of materials is applied, it shall cause no residual toxicity.

4.4 Methods of installation

4.4.1 The overall length of one (see 4.1.2) or two (see 4.1.3) grids is generally equal to the width of the stall measured between two axes of separation. In order to offset possible displacement caused by the presence of shorter slides (see 4.4.3), it may be necessary occasionally to use a shorter grid.

4.4.2 Fixed grids are placed in completely flat grooves positioned at the top of the side walls of the channel parallel to its longitudinal axis.

Each groove shall provide a support surface of not less than 30 mm, whatever the position of the grid, and these shall bring the top surface of the grid to the finished level of the stall and the supply channel.

4.4.3 Adjustable grids are placed on suitable metal sections providing a minimum support surface of 30 mm at each end of the grid and bringing the top surface of the grid to the level of the stall and the supply channel.

These sections embedded in the masonry perpendicular to the longitudinal axis of the channel act as slides when the position of the grid is adjusted to suit the size of the animal.

4.5 Safety

4.5.1 The grids shall be made integral with one another, and it shall not be possible for them to be moved accidentally in relation to their grooves when animals or staff walk over them.

4.5.2 The grid shall be finished such that there are no visible points of roughness, ridges, sharp angles or burrs likely to cause injury to animals or persons.

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