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§91.25 Space requirements for animals on ocean vessels.

(a) *General requirements.* A general space requirement for any individual animal in stalls or crates on ocean vessels shall be six inches more in height, depth, and width than the measurements of the animal concerned. The number of animals in each stall, pen or other container, the cubic inches of air available for each animal, and the ventilation capability of the transporting carrier are other criteria used to determine final space requirements for each animal. Guidelines of space requirements for storage of animals in pens are listed in paragraphs (b) and (c) of this section. Final determination of space needed and manner of loading of animals for export shipment will be made by the inspector or the APHIS veterinarian at the port of embarkation, based upon the size and type of animals presented, weather, destination, route, and means of transportation employed for the export shipment.

(b) *Space guidelines:*

	Space in square feet allowed per animal—
Animal weight, pounds:	
100 .....	4.0
150 .....	5.0
200 .....	6.0
250 .....	6.9
300 .....	7.9
350 .....	8.9
400 .....	9.9
450 .....	10.9
500 .....	11.8
550 .....	12.5
600 .....	13.2
650 .....	13.9
700 .....	14.6
750 .....	15.3
800 .....	15.9

	Space in square feet allowed per animal—
850 .....	16.6
900 .....	17.3
950 .....	17.8
1,000 .....	18.4
1,050 .....	18.9
1,100 .....	19.4
1,150 .....	19.9
1,200 .....	20.4
1,250 .....	21.0
1,300 .....	21.5
1,350 .....	22.0
1,400 .....	22.7
1,450 .....	23.3
1,500 .....	24.0
1,550 .....	24.6
1,600 .....	25.3
1,650 .....	25.9
1,700 .....	26.6
1,750 .....	27.2
1,800 .....	27.8

(c) *Space guidelines for containers.* Containers used aboard containerized ocean vessels measure 8 feet in width outside but vary from 7 feet 3 inches to 7 feet 9 inches in width inside and from 17 feet to 40 feet in length. For such containers the space requirements and minimum pen widths shown in the following charts shall be used whenever the length of the animal exceeds the width of the container. For ready measurement of dairy cattle only, the distance from the withers to the pin bone multiplied by 1.65 gives the approximate total length. Length of other cattle and large animals will require measurement of their total length. Other animals larger than those shown in the following charts shall be stowed subject to the approval of the inspector or the APHIS veterinarian at the port of embarkation. Maximum inside length of container pens shall be 12 feet 9 inches.

Weight	Square feet per head	3 head		4 head	
		Square feet	Width	Square feet	Width
CONTAINERS 7'9" IN WIDTH					
800	18.5	.....	.....	74.0	9'7"
850	19.5	.....	.....	78.0	10'1"
900	20.4	61.2	7'11"	81.6	10'6"
950	21.4	64.2	8'4"	85.6	11'1"
1,000	22.4	67.5	8'9"	90.6	11'7"
1,050	23.4	70.2	9'1"	93.6	12'1"
1,100	24.5	73.5	9'6"	98.0	12'8"
1,150	25.5	76.2	9'10"	.....	.....
1,200	26.5	79.5	10'3"	.....	.....
1,250	27.4	82.2	10'6"	.....	.....
1,300	28.4	85.2	11'0"	.....	.....
1,350	29.6	88.8	11'6"	.....	.....

Weight	Square feet per head	3 head		4 head	
		Square feet	Width	Square feet	Width
1,400	30.8	92.4	12'0"	.....	.....
1,450	31.9	95.7	12'4"	.....	.....
1,500	32.9	98.7	12'9"	.....	.....
CONTAINERS 7'3" IN WIDTH					
700	16.3	.....	.....	65.2	9'9"
750	17.5	52.2	7'3"	70.0	9'8"
800	18.9	56.7	7'9"	75.6	10'5"
850	20.1	60.3	8'3"	80.4	11'1"
900	21.3	63.9	8'9"	85.2	11'9"
950	22.3	66.9	9'2"	89.2	12'4"
1,000	23.7	71.1	9'8"	.....	.....
1,050	24.8	74.1	10'1"	.....	.....
1,100	26.0	78.6	10'9"	.....	.....
1,150	27.1	81.3	11'3"	.....	.....
1,200	28.4	85.5	11'10"	.....	.....
1,250	29.6	88.8	12'3"	.....	.....
1,300	30.9	92.7	12'9"	.....	.....

(d) *Special requirements.* If an animal to be loaded on an ocean vessel is in the third trimester of pregnancy or the route of the carrier will be into or through a tropical area,<sup>9</sup> the space required for each animal shall be increased by 10 percent. If the animal to be exported is in the third trimester of pregnancy and the route of the vessel will be into or through such area, the space required for such animal shall be increased by 20 percent. (See also paragraph (g). In addition, hospital pens measuring not less than 3 feet by 8 feet for each animal shall be provided at the rate of 3 such pens for each 100 head loaded, except as provided for horses in paragraph (e) of this section.

(e) *Size of stalls or pens for horses on ocean vessels.* Space for horses in pens on ocean vessels shall not be less than 6 feet 6 inches from roof or beams overhead to floor underfoot. Space containing up to 120 square feet may be used for stowage of horses and shall be at least 8 feet but not more than 9 feet in width (thwartship) except that upon approval of the inspector or the APHIS veterinarian at the port of embarkation, pens 7 feet wide may be allowed for medium-sized horses. Single stalls shall be not less than 2½ feet wide. Mares in foal shall be shipped only in separate stalls which shall be not less than 8 feet long by 3 feet wide and for

mares due to foal en route and for stallions, stalls shall not be less than 8 feet long by 5 feet wide and shall be readily accessible to ship personnel. Extra stalls suitably located shall be provided in each compartment or on decks where horses are carried so that adequate hospital space can be made available for any horses that become sick or disabled aboard ship. The number of such stalls shall be as follows: One for the first 4 to 10 horses shipped, another for any number in excess of 10 up to and including 25, and still another for each additional 25 horses or fraction thereof.

(f)(1) Except as provided in paragraph (c) of this section, space in pens on ocean vessels for cattle weighing 1000 pounds or more shall be no less than 8 feet in width and 6 feet 3 inches from roof or beams overhead to flooring underfoot, except that when floors are raised over pipes and similar obstructions, a height of not less than 6 feet may be permitted at the discretion of the inspector. Pens for cattle weighing less than 1,100 pounds may not exceed 226 square feet. Pens for cattle weighing 1,100 pounds or more may not exceed 610 square feet. When any such pen includes stanchions, sounding tubes, ventilators, and other obstructions, 20 percent more space for each animal shall be required.

(2) Single stalls in ocean vessels for cattle weighing 1000 pounds or more

<sup>9</sup>The area situated between the Tropic of Cancer and the Tropic of Capricorn.

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shall be not less than 8 feet in length by 3 feet in width.

(3) Calves and yearlings may be stowed in pens or stalls at the discretion of the inspector or the APHIS veterinarian at the port of embarkation.

(g) *Space for sheep, goats, and swine on ocean vessels.* Space for sheep, goats, and swine on ocean vessels shall not be less than 3 feet in height and the length and width of pens shall not exceed 15×8 feet. An increase of 50 percent square footage shall be required for animals in the third trimester of pregnancy, notwithstanding other provisions in paragraph (d).

[42 FR 28990, June 7, 1977. Redesignated and amended at 45 FR 86413, Dec. 31, 1980; 53 FR 40407, Oct. 17, 1988; 57 FR 23047, June 1, 1992]

### §91.26 Concrete flooring.

(a) Pens aboard an ocean vessel shall have a 3 inch concrete pavement, proportioned and mixed to give 2000 psi. compressive strength in 28 days. The pavement shall have a broom or rough finish. Steel angle bars may be used for footlocks if they are mounted into the flooring in such a way that, at the same time, the bars serve as gutterways. The angle bars shall not be less than 2 inches by 2 inches and  $\frac{5}{16}$  inches in thickness, and spaced on 12 inch centers running fore and aft on the vessel.

(b)(1) *Horses and cattle.* Flooring shall be laid athwartship and secured by placing ends beneath the under side of foot and rump boards or under a 2"×4" strip nailed along these boards. Floors may be either of two types, flush or raised. The flush type shall be constructed of not less than 1" thick lumber laid flat on the deck. The raised type shall be constructed of not less than 2" thick lumber nailed to scantlings of at least 2"×3" dimensions laid 2 feet 6 inches apart. If desired, flooring may be laid in portable sections. Flooring will not be required on ships with wooden decks provided footlocks are secured to the decks. Cement or composite material diagonally scored one-half inch deep may be used on iron decks instead of wooden flooring if the footlocks are molded in the same and bolted to the deck.

(2) *Sheep, goats, and swine.* Flooring for sheep, goats, and swine shall be the

same as prescribed in this section for horses and cattle, except that the raised flooring need not be greater than 12 inch in thickness.

(3) *Drainage.* Provisions shall be made for drainage of urine and surface water from all parts of the vessel used for carriage of animals including sufficient scuppers. A walkway shall provide easy access to the scuppers.

(c)(1) *Horses and cattle.* In pens for horses or cattle, there shall be four footlocks of 1"×4" lumber laid fore and aft with flat side down, and so placed as to provide in-between spaces of 12, 14, 26, and 14 inches, beginning at inside of the footboard. Additional footlocks shall be added at 14 inch intervals in pens having a depth of 9 feet or more. They shall be well secured with nails of a length that will permit 1 inch clinch in 1 inch flooring and 2 inch penetration in 2 inch flooring.

(2) *Sheep, goats, and swine.* Footlocks in pens for sheep, goats, and swine shall be of not less than 1"×2" lumber, four to each pen, equally distributed and laid in the manner prescribed in paragraph (c)(1) of this section for horses and cattle.

[42 FR 28990, June 7, 1977. Redesignated at 45 FR 86413, Dec. 31, 1980, and amended at 57 FR 23047, June 1, 1992]

### §91.27 Troughs and hayracks.

All stalls and pens aboard an ocean vessel shall be equipped with proper troughs for feeding and watering animals as provided in this section. Racks or nets furnished for feeding hay shall be of a type acceptable to the inspector. The feeding of hay to the animals on ocean vessels may be by means of dispensing the hay from racks or nets or by placing the hay on the floor of the pens in which the animals are confined.

(a) *Horses and cattle.* Troughs may be constructed of metal or wood and may be either removable or fixed. The space between the first footlock and footboard may be utilized for feeding cattle, provided a 2"×4" piece of lumber is affixed along the top surface of said footlock so that it, together with the footboard and the battens, will form an enclosure. If wooden troughs are used for feeding, an adequate supply of buckets or other metal containers shall