§ 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 for 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\( ^{\prime} \times 4 \) 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\( ^{\prime} \) thick lumber laid flat on the deck. The raised type shall be constructed of not less than 2\( ^{\prime} \) thick lumber nailed to scantlings of at least 2\( ^{\prime} \times 3^{\prime} \) 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. Footlocks in pens for sheep, goats, and swine shall be of not less than 1\( ^{\prime} \times 2^{\prime} \) lumber, four to each pen, equally distributed and laid in the manner prescribed in paragraph (c)(1) of this section for horses and cattle.

(c)(1) Horses and cattle. In pens for horses or cattle, there shall be four footlocks of 1\( ^{\prime} \times 4^{\prime} \) 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\( ^{\prime} \times 2^{\prime} \) lumber, four to each pen, equally distributed and laid in the manner prescribed in paragraph (c)(1) of this section for horses and cattle.

§ 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\( ^{\prime} \times 4^{\prime} \) 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 be provided for the proper watering of the animals.

(b) Sheep, goats, and swine. Pens for these animals shall have feed troughs not less than 8 inches wide and shall be equipped with proper receptacles for watering. Pens for sheep and goats shall also have ample hayracks suitable for these animals.

§ 91.28 Stanchions and rails.

(a)(1) Pipes used for stanchions and rails for pens aboard an ocean vessel shall be made of zinc coated, galvanized, extra strong, medium carbon steel. Steel pipes or other steel profiles shall consist of not less than 4 pipes or
profiles, the upper one to have 3 inch diameter and the others a diameter of not less than 2 1/2 inches. Stanchions shall not be of less than 3 1/2 inches diameter; shall not be of less than 3/16 inch thickness and shall not be placed more than 8 feet apart center to center.

Provided, that the method of securing the required fittings to provide the necessary strength. When animals are carried on upper decks, bulkheads shall be erected at all unprotected ends of stalls.

(2) Cattle and horses. Rail stanchions for pens aboard an ocean vessel for cattle or horses shall be constructed of not less that 4" or 6" lumber set 5 feet apart on centers secured to the ship’s rail or bulwark with % inch or larger bolts or collars and with heels raced to the sheer streak or waterway. Inboard stanchions of 4"x6” lumber shall be set in line with the rail stanchions and properly braced: Provided, however, That the method of securing and bracing of stanchions may be modified as approved by the underwriter of the cargo bureau, and the inspector. Information concerning the modifications shall be made available to APHIS, at its request. On open rail ships, spaces between the rails shall be blocked out to permit the affixing of outside planking. If supplementary stanchions are required for rump boards, these shall not be less than 3"x4" in size and shall be secured to beams and decks as outlined above. On upper deck fittings at ends of unprotected stalls, a stanchion not less than 3"x4" in size shall be similarly spaced and secured to beams and decks and properly braced. Stanchions on underdecks shall be constructed, spaced, and secured in the same manner as upper deck fittings.

(2) Sheep, goats, and swine. Stanchions for single or double tier pens for sheep, goats, and swine shall be constructed of not less 3"x4" lumber set at not greater distance than 5 feet on centers and secured as outlined in paragraph (d)(1).

(c) Animals may be carried on upper decks of an ocean vessel in space abutting the outside rails or bulwarks only if such rails or bulwarks are 3 feet or more in height from the deck and are of sufficient strength to hold the necessary fittings securely or if the space available is sufficient to permit securing the required fittings to provide the necessary strength. When animals are carried on upper decks, bulkheads shall be erected at all unprotected ends of stalls.

(2) Sheep, goats, and swine. Stanchions for single or double tier pens for sheep, goats, and swine shall be constructed of not less 3"x4" lumber set at not greater distance than 5 feet on centers and secured as outlined in paragraph (d)(1).

(e) For all animals, two beams of 2"x6" lumber shall be bolted on each side of the stanchions using % inch bolts, nuts, and washers. Beams shall extend from outside planking to at least 2 feet beyond the line of the breast boards unless the beams butt on the ship’s deck fittings. Two beams of 2"x6" lumber shall be used to support the roof of single tier pens on exposed decks and the floor of double tier pens on all decks.

(f) All pens for carrying animals on exposed decks aboard an ocean vessel shall be roofed with not less than 1 inch thick, watertight lumber extending from outside planking to at least 2 feet beyond the line of breast boards: Provided, That, if tongue and grooved lumber is used, it must be caulked or covered so that it is watertight or if square edged lumber is used it shall be covered with a saturated roofing paper known to the trade as 30 pound roofing paper and shall be securely battened.

(g) All pens for carrying animals on exposed decks shall be provided with outside planking of not less than 1 1/2 inch tongue and groove lumber, laid fore and aft of ship, driven tightly together and securely nailed to backs of stanchions in a manner to cover all open spaces properly. However, during warm weather the top course planking
may be left off in order to allow a free circulation of air. On vessels with
closed bulwarks, the outside planking
shall extend not less than 6 inches
below the upper edge of the bulwark.

(h)(1) Horses. All stalls and pens for
horses shall be equipped with breast
boards of no less than 2″×10″ dressed
lumber with the top edge placed 3 feet
10 inches from the floor and securely
nailed to the stanchions. Where
butting occurs, the joints are to be on
the stanchions and shall be covered
with metal plates 3 inches square or 5
inches in diameter and not less than ¾
inch in thickness. A ¾ inch bolt shall
then be passed through the plate, joint,
and stanchion and securely fastened
with a nut. All breast boards shall have
1 inch holes bored through them at
proper distances for tying animals. An
occasional pen shall be provided with a
removable breast board in order that
animals may be loaded into and re-
moved from the stalls and pens. All
stalls and pens shall be provided with
foot boards of not less than 2″×10″ lum-
ber securely nailed or bolted to the
stanchions. At the discretion of the in-
spector, small ponies, asses, small
mules, mares with foal at foot, young
unbroken horses or gentle horses of
any size may be stowed loose in pens.
In these cases, a sufficient number of
finished 2″×10″ lumber shall be placed
between the breast and foot boards to
effectively contain the animals.

(i)(1) Horses and cattle. Rump boards
in pens for horses or cattle shall form
a solid wall at least 4 feet high for cat-
tle and 4 feet 6 inches high for horses
and shall be of lumber not less than 1½
inches thick if tongued and grooved or
2 inches thick if square edged or of ply-
wood of the same strength. Where the
deck is clear of obstructions, rump
boards may be set on the inside of the
rail stanchions. When this is not pos-
sible, sections so affected may be
brought forward to clear such obstruc-
tions and shall be fastened by stan-
chions provided for this purpose. On
lower decks where the ship’s construc-
tion so justifies, rump boards may be
affixed to 2″×6″ wooden pieces set the
same as prescribed for stanchions.
Rump boards may be formed by filling
spaces between cargo battens. Rump
boards in stalls or pens built alongside
hatches need be carried down only to
the coaming line.

(2) Sheep, goats, and swine. Pens for
sheep, goats, and swine on all exposed
decks shall be provided with rump
boards of the specified size built to a
height of 2 feet 6 inches.

(j)(1) Horses and cattle. Division
boards in pens for horses and cattle
shall be used to separate all stalls and
pens and to close the sides thereof at
the ends of rows. They shall be used in
sets of four boards of 2″×10″ dressed lumber separated by 3 inch spacers,
shall extend from the rump boards to
the inboard stanchions, and shall be
fitted into appropriate channels or
slots at both ends in a manner that
will permit their ready removal.

(2) Sheep, goats, and swine. Division
boards and those forming ends of pens
for sheep, goats, and swine shall be the
same as prescribed for rump boards for
these animals in paragraph (i) of this
section.

§ 91.29 Hatches.

(a) Animals may be placed on hatches
on exposed decks on an ocean vessel if
the pens or stalls are securely lashed
down.