

A formula for installation of lifetime non-skid concrete alleyways in flush barns

VERN FOLEY DIP.AN.HUB; FRED R. BLACK DIP.AN.HUB., MLAT.

Old fashioned methods of installing poured in place grooves and other floor texturing techniques in an attempt to create built in traction for dairy cows, leads to costly problems and disappointment for farmers. Cows are slipping on flush alleys with poured in place finishing methods. Very large moulded in place grooves contribute to foot problems by spreading the toes causing undue flexing of the interdigital cleft. Complicated steps are being taken to achieve the proper grade of 1.5% to 2% minimum, no hollows where water will pool, crowning alley centres to divert more water to curbs. Then at a critical time of the operation (as cement is setting), installing the grooves and othe surface texturing to provide skid resistance, which takes up to twice as long to complete the pour.

You are choosing a flush barn because you want clean cows. This means that the flush operation must remove manure debris by floating it all the way down the alley to the receiving pit, including the heavy load that accumulates at the curbs. Cutting grooves two ways in all free stall, feed alleys, holding areas and all cow traffic areas with diamond wheel machinery will meet the above desired criteria for the following reasons. You can now have your contractor just concentrate on getting the floor poured flat, sloped in the direction of flush flow 2-3%, and light broom finish. Concrete grooving can be done anytime after 14 days at which time the concrete has reached 75% of its final strength. Grooves cut crosswise in a herringbone pattern, channel a small percentage of the water to the curbs to help float away the extra manure. Crowning is not required, and with a flat floor and the recommended flow rate of five feet per second and 2000 gallon flush volume, a completely clean floor will result.

Some of the added benefits of diamond wheel grooving are:

- grooved floors dry off faster
- cows show heat because the superior traction does not inhibit mounting
- the required movements of stepping up, stepping down, walking, turning and mounting are supported
- older high producing cows stay in the herd longer
- safer walking surfaces for people

After flushing because of drainage grooves in two directions at 4" centers floors have been observed to be dry to the touch in less than 6 minutes.

Superior traction and comfort is due to the fact that the grooves stay square and sharp for the life of the floor. The flat smooth surface between the grooves allows 100% of the hoof sole to be in contact with the floor, and the grooves are there to engage the hoof.