



## Case Study: Yuma Dairy Milking Parlor

The Yuma Dairy milking parlor operates 24/7, 365 days a year. During this time, dairy cows undergo a three times per day milking cycle which cannot be interrupted for any reason. If a milking cycle is missed, the dairy cow's biology is such that the production for the next several periods will drop dramatically, impacting the animal's health and production rates for the operation. The cost impact of any delay can be significant.

There is tremendous wear and tear on the concrete cow decks by these 1800lb cows in these types of facilities. During the milking operation, the cow rocks back and forth over the same area of the cow deck about a square foot in size. This constant shuffling and impact causes the concrete to wear in deep pockets which fill with waste and wash water. Standing in these puddles is uncomfortable and causes more shifting of weight and the cycle continues, creating deeper holes and eventually tripping or twisting hazards for the animal. Combine this with the need to maintain sanitary conditions as regulated by the State Health Dept. and USDA, and provide a safe and slip-resistant environment for the animal, and you have a very challenging environment indeed. Yuma Dairy needed a protective topping that would keep their cow's safe and comfortable, hold up to the physical challenges, as well as the standard sanitizing chemicals, lactic acid, and hot water wash down several times an hour, and most importantly, one which can be installed in a timely manner with minimum down-time

They decided to specify Milamar Coating's ICO Iron-Guard™ (in the fast cure version for this project) as it has the needed physical wear properties, critical cure times, and can hold up to the constant wash-down regimen. Iron-Guard™ is an extremely tough system with special non-rusting steel fillers for superior wear resistance. Moreover, due to the extreme time constraints for floor preparation and application of the 1/4" nominal top-coat, the project demanded a system that had great damp adhesion, did not require priming nor pre-filling of cracks or deep depressions, and would finish in any thickness (100% solids) in a one-step process and be back in service 8 hours after application.

The contractor, Dairy Specialists is a leading supplier of dairy production equipment and services to the Colorado dairy industry. On average, these dairy milking parlors are a series of two (2) to four (4) areas, each approximately 450 SF each. Each cow deck is done one at a time to prevent minimum downtime to the operation, as the dairy cows have to double up on the other areas in order to maintain the schedule.



They first diamond grind the entire area followed by jack hammers to chase all cracks and remove any and all loose concrete. Then it's followed by a hot water wash down, sanitizing and degreasing chemicals, final rinse and removal of all standing water. The final step is a drying/sanitizing burn off with weed burner open flame and air as needed. The Iron-Guard™ topping is applied using a combination of hand-troweling and mechanical screed techniques to maintain thickness and slope to drain requirements. Then a broadcast of white aluminum oxide is added for enhanced traction. Project preparation is started in the early morning hours and usually takes 2-3 hours to complete. Iron-Guard™ is then mixed and applied. With an application crew of four plus two helpers, and one mixer, the entire job is usually completed in 3 hours at

which time it is allowed to cure for a minimum 8 hours (at 70-75 degrees) before allowing sanitation crews to prepare the area and open up for milking.

The customer (and the cows!) are very happy with the end result. In the nine months (previous coating had failed after just 6) it has been down, 1,848 cows per day have been milked. That equals 498,960 cows over that time and there have been no signs of wear! The discomfort of the cows as well as the risk of slipping and injury have been reduced or eliminated ~ 500,000 cows can't be wrong!

As Jeremiah Lungwitz, owner/operator of Yuma Dairy recently stated, "We appreciate the added safety and cleanability of our new cow deck coating. The Dairy Specialist installation crew was able to get the job done within an 8 hour time frame with minimal downtime for the animals. We are planning to use this same product and crew on two other cow decks and this dairy in the near future. Thanks to Milamar and Dairy Specialists for a job well-done."