

# Lorenzetti Acres Ltd. Dairy Farm

Hope, BC, Canada

## BACKGROUND

Lorenzetti Acres is a family run dairy operation run out of Hope, British Columbia. After a fire, the construction of a new dairy was required. The 70,000 square foot project called for the construction of a modern milking parlour and loafing barn to rest and feed cattle.

The dairy's concrete construction included a standard slab on grade which was finished with a textured surface to provide traction for the cattle. Without any hardening solutions, the regular concrete was expected to deteriorate within two years of operation. Concrete surface wear, however, is a hazard for cattle since it is easier for cattle to lose footing on rough concrete. The more cattle are susceptible to injury, the higher the veterinary costs and the lower the operational efficiency. The poured concrete had to accommodate for this requirement.

## SOLUTION

To combat the deterioration problem, Mardina Construction proposed that Hard-Cem be used to integrally harden concrete. After reviewing the proposal, Kerkhoff Engineering was also on board. Hard-Cem was added at the time of batching to concrete, significantly reducing field application time. Hard-Cem concrete was poured into the milking and loafing barn slabs, which withstand high abrasion and erosion, and the vertical silos, which are subjected to regular high-pressure power washes. After 28 days of curing, a mini-groover used diamond blades to cut grooves 1/2" wide by 1/2" deep with a 3" spacing for the textured traction finish.

With Hard-Cem's erosion resistance concrete panels, rigorous quality and cleanliness standards can be maintained. By using Hard-Cem to reduce concrete wear and maintain the traction finish, dairy production is up and operational costs are down. Hard-Cem also increases the mechanical and hydraulic functionality of the structure, allowing people, animals and equipment to safely traverse concrete surfaces. Using Hard-Cem in concrete reduces equipment wear and tear, preserves operational efficiency and makes it easier to maintain a clean, non-hazardous environment.

**ENGINEER:**

Kerkhoff Engineering

**CONTRACTOR:**

Mardina Construction

**READY-MIX:**

Lafarge Canada

**Total Area:**

70,000ft<sup>2</sup> (6,503 m<sup>2</sup>)

**PRODUCTS:**

Learn more at [kryton.com](http://kryton.com)

Hard-Cem®



Hard-Cem extends concrete wear life 2-6 times under harsh conditions.



Texturing was done by rake across the plastic concrete surface for a friction finish for animal traction and welfare.