

Silo collapses from stressed structural weld



Details of incident

A silo containing 300,000 litres of milk collapsed at a dairy co-op factory recently.

The collapse occurred after the dome bottom tore away, causing a large hole in the silo. The contents then rapidly discharged, creating a negative pressure which sucked in the upper 'barrel' and subsequently collapsed the silo.

Fortunately no one was injured.

Following the collapse, the factory conducted a visual inspection of all other silos and found minor to severe cracking to the structural welds.

PTO

Contributing factors

An investigation into this incident found:

- the structural weld between the bottom dome and supporting skirt was highly stressed and had developed cracks over time from constant filling, emptying and cleaning cycles (the silos were manufactured and installed in January 1997)
- the design and execution of the welds between the supporting skirt and the dome bottom of the silo were inadequate.

Recommendations

- Conduct regular inspections of the structural welds.
- Consult engineers on any repairs.
- Check that vents and pressure alarms are adequate and working.

If you would like further information contact Workplace Standards Tasmania on:
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28 September 2009