

Health and Safety Executive		Sector Information Minute	
Agriculture and Food Sector		SIM 01/2005/03	
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Target Audience:

HSE Inspectors responsible for food manufacturing industries

PROVERS AND COOLERS USED IN THE BAKING INDUSTRY

This SIM, which revises and replaces FIC 524/7, provides guidance on access to and guarding of final provers and coolers. This plant is likely to be found in larger, mechanised bakeries

Precautions for access

1. A written permit-to-work for access should be given by a responsible person. All sources of power must be isolated and warning notices attached. At least one person should be outside the prover or cooler whenever a person is inside and verbal contact should be maintained.
2. Access to the interior of a prover or cooler should only be through a designated door or panel, suitably interlocked with the main drive to the machine. Air washer pumps and air fans need not be interlocked if their dangerous parts are securely fenced.
3. The designated access should be clearly marked and any other door or panel which might allow access should either be fixed shut and require the use of a tool for its removal, or should be so secured that it cannot be removed until an interlocked access panel has been removed.
4. Access door interlocks should also stop the movement of loading and un-loading mechanism and conveyors. Interlocks on pneumatic systems should cause the air to be exhausted from the system.

SAFEGUARDING

5. Where access is provided to the trays or carriers in order to load and unload bread tins, to place dough pieces in the tins or, in particular, to slash dough pieces, the opening should be protected by a suitable trip bar. If access is not normally required the opening should be securely blanked off.
6. On machines where the trays run downwards, a suitable trip device will consist of a steel bar spanning the full width of the access opening suspended on pivot arms and provided with a metal skirt designed to prevent it from being wedged. The trip bar would normally be held in its top position by a counter balance. In some cases there may be a plate instead of a trip bar.
7. Most modern provers have automatic unloading but there may still be some older installations where baking tins are removed manually as the trays run downwards past an unloading table. The table itself will give some element of positional safety but it can usually be arranged to have the edge of the table nearest to the prover hinged to act as a trip flap. This type of prover is thought to be rare and specialist advice should be sought where a standard trip bar cannot be fitted.
8. For ascending trays the trip bar will need to be fitted at the top of the access opening and will normally be designed so that when lifted upwards from the rest position it operates suitable trip switches.
9. Any trip bar or trip plate should:
 - respond to an applied force of 27 Newtons (6 lbf)
 - operate the limit switches within the first 13mm of movement
 - cause the machine to stop after a total movement of 38mm
 - have at least 38mm remaining free movement after the machine has come to rest.

If the machine does not come to rest within the prescribed distances a suitable brake should be fitted to ensure that it does.

10. Because there can be some flexing over the length of the safety bar it will be usual to find 2 interlock switches fitted to safety bars, one at each end. To ensure that both switches are working a safety bar should be tested at least once per shift and thoroughly examined at least once a week.
11. It is recommended that trip bars or plates should be painted red and marked in white 'press bar to stop power in emergency'.