

BEST PRACTICE

LOCATION: Readymix or mortar plant **ARTICLE YEAR:** 2002
ACTIVITY: Production and Processing **COMPANY:** CEMEX UK
SUB ACTIVITY: Readymix **COMPANY LOCATION:** Not applicable
BEST PRACTICE No: BP261 **COMPANY TEL:** 0191 261 2314

TITLE

 On Video

Silo pressure relief device

ARTICLE

CEMEX Readymix Northern & Yorkshire took overall top slot in the 2002 Awards with this winning innovation. The issue of preventing silo over-pressurisation has been given considerable prominence of late with the publication by QPA in 2001 of the BCA/BPCF/HSE/QPA guidance.

CEMEX have pursued a silo-based solution but are also evaluating a tanker-based solution, there being far more silos (5000+?) than tankers. This silo-based solution reflected the fact that conventional spring-loaded PRDs are difficult to inspect and are prone to jamming due to internal build-up of cement. Importantly, there can require a silo pressure considerably higher than advisable, to initiate their action.

CEMEX set about designing a counterbalanced hinged lid PRD which eliminates airflow reversal (which CEMEX had proved to be responsible for up to 70% of the back pressure) and which reseals reliably after activation. Deadweight rising lids had been proven to fail to re-seat properly on over 50% of occasions. The result is a low-cost efficient reliable solution which achieves faster venting of the initial pressure wave (the risk of structural damage is greatest at this time), combined with a reduction in the time required for the silo pressure to return to the atmospheric level. On its own however, the device does not prevent overfilling a silo, so systems need to be in place to sense PRD activation, such that powder delivery can be shut-off.

ARTICLE IMAGES