

Precast Concrete Industry - Application Series: 5 of 5

Overhead/Gantry Cranes

Trapped Key Interlock Safety Solutions



The analysis of accidents involving overhead cranes between 1981 and 2009 allowed to identify 227 accidents according to the National Institute of Research and Safety (INRS)

Overhead and gantry cranes are essential for the movement of heavy materials to be efficient, effective, and without harm to personnel. During cement production, heavy pieces of equipment as well as finished precast product requires transportation into holding areas and or trucks for distribution.

This study revealed the following breakdown of hazards: 33% Fall of material, 15% Inappropriate behaviour, 12% Uncontrolled access in a dangerous zone, 6% Operation of equipment at energised state

Risks such as caught-in/between, struck-by/against, and/or overloaded or falling materials from a crane can bring serious harm to personnel, product, and equipment. To ensure safety within the area, controlled access points interlocked with crane controls mitigate accidental entry while crane is in operation.

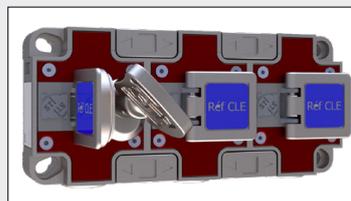
On average, 71 working days are lost by accident at work. According to 2018 data from the Health Insurance - Occupational Risks, occupational accidents in the building and public works sector represented nearly 14% of all accidents at work, more than 16% of accidents that led to permanent disability, more than 19% of fatal accidents.

Trapped key interlock safety solutions ensure a pre-determined sequence of operations each & every time. While LOTO provides a visual warning and identifies hazards, a TKI solution physically prevents a specific set of actions from being performed until previous action(s) have been fully completed!

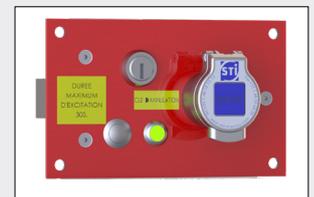
Common trapped key interlock solution implementation for overhead cranes:



Step 1: Safe Access STI SOL access interlock installed on any and all access points safeguarding overhead crane perimeter



Step 2: Multiple Entry Points STI NX exchange box for sequence control of access keys only after all access points have been locked closed and ready to safely energize overhead/gantry crane



Step 3: Controlled Power STI ERTK electrical switch installed on control switch overhead/gantry crane

PROTECT your employees, **PREVENT** accidents, and **PROVIDE** risk control and peace of mind by implementing a trapped key interlock solution that will ensure that...

Everyone has the right to be **SAFE** at work!