

SAFETY BULLETIN: Pumping Cement Into Silos – The Pressure's On

Unloading Cement Tankers and the Ready Mixed Concrete Industry

The unloading of cement, fly ash, or slag from a tanker to a silo at a ready mixed concrete plant is a daily occurrence. The process is done safely all across the country but is not without issues. Only with careful planning and a knowledge of good safety practices is it accomplished without incident. From the tanker operator to the plant manager, from the ready mixed concrete driver to the yardman, all involved in the production of ready mixed concrete should be knowledgeable of the safety issues of unloading cement into silos at the plant.

What to Know About Safety While Loading Silos

A tanker driver should have good knowledge of the traffic pattern at the plant and park the vehicle for unloading where it least disrupts the daily plant operations. The tanker operator and all those working in the vicinity of the unloading operations should wear the proper PPE including gloves, hardhat, safety glasses, high-viz vest, work shoes, and the proper hearing protection. Be especially mindful of slips, trips, and falls caused by fill hoses and wet or icy conditions and climbing into or out of the vehicle. Follow company procedures to ensure that the product being loaded is connected to the correct fill pipe. Fill pipes should be well marked. Over-pressurization of silos is a main concern and can lead to catastrophic failure of the silo or system. All feed lines and couplings should make sound and good connections without leaks. The tanker operator should be familiar with high pressure and high powder level sensors and alarms. Never exceed recommended tanker unloading pressures found on tanker plaques. Although silos have a degree of integrity they are not designed as pressure vessels and must be protected with pressure relief valves. Charging procedures should be displayed at fill points. The tanker driver should confirm with the plant operator that there is sufficient space in the silo to receive the load. Finally, if any dust emissions or spills occur, the plant operator or supervisor should be notified immediately.

Silo Filling Do's and Don'ts

- Think first, know the silo filling hazards at the ready mixed concrete plant
- Conduct a hazard assessment of the filling of silos
- Train tanker drivers on safe unloading procedures
- Train employees of safe unloading procedures when in the unloading area (including proper PPE)
- Be especially careful when working alone
- Tanker driver should remain at the tanker controls during discharging and be able to see or hear high powder alarm
- Ear protection should be adequate for the sound level and may require double ear protection (plugs & muffs)

Resources

NRMCA: [Personal Protective Equipment \(PPE\) Program](#)

NRMCA: [Plant Safety](#)

