

## Volumetric Mixer Lockout/Tagout Areas



*Lockout/Tagout* refers to the complete isolation of equipment during maintenance or service work. OSHA regulations 29 CFR 1910.147 in the general industry sector and 1926.416 in the construction sector require the use of locks and/or tags as warning devices to ensure personnel are not injured from accidental machine start-ups. The standards require written policies and procedures for de-energizing equipment, and training for employees engaged in the process.

Examples of such machinery or equipment include but are not limited to, ready mixed concrete drums, high voltage power supplies, milling machines, boilers, elevators, fan systems, and lasers. Work situations where unexpected re-energizing or start-up can occur include new construction, installation or set-up of equipment, and the adjustment, inspection, maintenance, repair, and service of machines and equipment. Energy types to be considered include stored energy (spring), electrical, mechanical, hydraulic, pneumatic, chemical, steam and thermal.

On a Volumetric Concrete Mixer, three main areas should be considered for *lockout/tagout* before any maintenance or work in the area begins.

1. **Material Delivery Device ...** Belts, chains or augers used to carry aggregate and cement from bins to the mixing auger must always be locked out and tagged out before maintenance service or repair begins. These material delivery devices are usually controlled by hydraulic, pneumatic or electrically controlled energy sources. Always remove the keys from the vehicle, tag the vehicle out of service and disconnect the battery. Isolate any of the energy sources that may cause the material delivery device to move.
2. **Mixing Auger ...** The mixing auger must be guarded with a lid or other device that will prevent fingers, hands and arms from entering the space while the auger is in operation. When maintenance is performed, *lockout/tagout* procedures include removal of the vehicle key, tag the vehicle out of service, removal of the negative battery cable and isolation of hydraulic or pneumatic controls of the mixing auger.
3. **Admixture & Water Dispensing Systems ...** Most admixture and water dispensing systems are pressurized either by electrical, hydraulic or pneumatic energy sources. Before maintenance of these systems can begin, remove the key from the vehicle, disconnect the battery, and make sure the systems are depressurized and that any potential energy source is isolated to prevent re-pressurization. Make sure the vehicle is tagged out of service.

Visit OSHA's lockout/tagout page at [www.osha.gov/SLTC/controlhazardousenergy/index.html](http://www.osha.gov/SLTC/controlhazardousenergy/index.html). To locate your regional office for further questions, visit [www.osha.gov/html/RAMap.html](http://www.osha.gov/html/RAMap.html).