

3. The weight of material and capacity of elevator or hoist must be known before using. Material must be positioned so it cannot shift or extend beyond cage limits.
 4. The signal system must be posted at each landing.
 5. All signal devices shall be protected against unauthorized use, unintentional use, breakage, or interference.
 6. Prevent exposure of hands and bodies at all landings and openings.
 7. Hoist must comply with local codes.
 8. The operator of a hoisting engine must have overhead protection of 2 inch unfinished planking, or its equivalent, supported to develop its full strength.
 9. Gears, belts, sprockets, drums, sheaves, and contact points between moving parts of power-driven machines, when not guarded by location, shall be enclosed in substantial guards or suitable guardrails.
 10. Engines must be stopped before refueling.
 11. Hoist brakes shall be capable of stopping and holding 150% of the rated hoisting capacity. In addition, a ratchet and pawl shall be provided on the drum to hold the load.
- I. **Welding and Burning**
1. **General**
 - a. A Welding and Burning Permit is required in all Plant Operating areas before striking an arc or lighting a torch.
 - b. All exposed combustible materials below welding and burning areas must be removed to a safe location, covered with fire-retardent material, or protected by containing all sparks and slag in an approved spark catcher.
 - c. A 4 pound, or larger, dry chemical fire extinguisher must be within 30 feet of any welding, burning, or open-flame work. (Be sure personnel know how to operate the fire extinguisher.)

- d. Hoses and welding leads should not be run through doorways. If there is no alternative, the door should be braced open, and the hoses and leads protected from damage.
 - e. No welding or burning is to be done on a closed vessel or tank, or on any vessel previously in use unless it has been decontaminated.
 - f. Welding leads and burning hose must be bridged over, or supported a minimum of 7 feet above passageways. Do not hang from conduit, process lines, sprinkler lines, etc.
 - g. The user must inspect all leads, grounds, clamps, welding machines, hoses, gauges, torches and cylinders before they are put into operation.
 - h. All fittings, couplings, and connections are to be "leak-free."
 - i. Provide adequate ventilation while working on galvanized material.
2. **Welding — Electric**
- a. All work must have a separate and adequate ground, pulled from the machine to the work location in all operating areas.
 - b. Remove the rod from the electrode holder when laying it down. Discard the stub end in proper container.
 - c. All arcs are to be shielded in operating areas.
 - d. The machine should be turned off at the end of each shift, or when not in use for extended periods.
 - e. An approved welding helmet must be worn. Use no less than a #9 filter, with a plastic cover plate on both sides of the filter.
 - f. Electric welding is prohibited from a metal ladder.
3. **Burning — Gas**
- a. All burning rigs must be broken down at the completion of work, with regulators removed and protective caps screwed down hand-tight. Any exception requires the Du Pont Administrator's approval.