1. reinforced concrete foundation with "Y-type" aeration duct
2. reinforced concrete foundation with "Y-type" aeration duct
3. reinforced concrete foundation with "L-type" aeration duct, for bins not over 10'-0" diam.
4. reinforced concrete foundation with "Full floor aeration system"; system consists of galv. steel or concrete block supports, perforated plank flooring, and flashing to seal bin; see manufacturer
5. aeration duct extension or fan transition
6. aeration duct with floor panels or use perforated flooring
7. center bin wall and unloading auger
8. unloading auger trench with removable solid floor
9. intermediate bin wall (optional); do not use to start emptying a full bin

SPECIFICATIONS

Before constructing foundation consult manufacturer of steel grain bins for details such as: foundation and bin diameter, bin anchorage, under floor and sweep augers, aeration ducts and fan outlets. Also consult local authorities for compliance with codes.

The design of this plan considered a max. bin diameter of 22'-0" with a max. depth of 16'-11" (shallow bin). For greater bin depths and diameters increase the perimeter footing width and circumferential reinforcing.

The minimum soil safe bearing pressure must be larger than 1200 psf. Unless otherwise specified, all cast-in-place concrete is to be mix 3000 psi at 28 days, 65 air-entrainment. The plan user must ensure that the foregoing requirements are met. Consult an engineer if you are not familiar with the details required or if your bin and soil do not fall within these limits.

All reinforcing steel to be min. 60,000 psi deformed bars; provide 2" min. concrete cover over reinforcing steel.

All exposed steel to be galvanized or painted to resist corrosion from moisture.

COOPERATIVE EXTENSION SERVICE
AGRICULTURE AND HOME ECONOMICS
Agricultural Extension Service
University of Tennessee Institute of Agriculture
Agricultural Engineering Department
UNITED STATES DEPARTMENT OF AGRICULTURE COOPERATING

FOUNDATIONS FOR CIRCULAR STEEL GRAIN BINS UNDER 22 FT DIAMETER

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