

## GENERAL NOTES FOR G-SERIES TOWERS

1. The suitability of a ROHN standard design and standard foundation for a specific application must be verified by the purchaser based on site-specific data in accordance with ANSI/TIA-222-G.
2. The effective projected area and lines to be installed must not exceed the design values for the structure.
3. Structures supported on buildings or other structures require special consideration. Designs assume structures are installed on level grade.
4. Designs assume maintenance and inspection will be performed over the life of the structure in accordance with ANSI/TIA-222-G. All towers should be thoroughly inspected by qualified personnel and re-marked as required with appropriate danger and anti-climb labels at least twice a year to ensure safety and proper performance.
5. Standard Designs are intended to be climbed by skilled and competent climbers only. A safety climb system is required for all structures.
6. Installation and dismantling must be performed by qualified and experienced personnel and be in conformance with ANSI/TIA-222-G.
7. Standard guyed masts and bracketed towers are not stable without guys or brackets attached and will not support personnel in this condition. Temporary steel guys supplied by a qualified contractor may be required to maintain stability during installation or dismantling.
8. Do not install or dismantle structures within falling distance of electrical and/or telephone lines without taking special precautions in accordance with the appropriate utility.
9. All field connections are bolted.
10. The tolerance on installed height is equal to plus 1% and minus 1/2%.
11. Installation must be grounded in accordance with local and national codes. ANSI/TIA-222-G requires that the resistance to ground must not exceed 10 ohms. Additional grounding may be required in addition to the ROHN standard grounding kit provided with the tower.
12. Additional anchor rod corrosion protection may be required based on site-specific conditions.
13. Installation must be in conformance with local, state and federal requirements for obstruction marking and lighting.
14. Warning plate P/N: AWCS provided with the structure must be installed in a highly visible location.

## G-SERIES FOUNDATION GENERAL NOTES

1. Standard foundation designs (unless otherwise noted) are in accordance with ANSI/TIA-222-G, "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures," Section 9 and Annex F for the following presumptive clay soil parameters:

N (blows/ft)	$\phi$ (deg)	Y (lb/ft <sup>3</sup> )	c (psf)	Ultimate Bearing (psf)		Ultimate Skin Friction (psf)	k (pci)	$\epsilon_{50}$
				Shallow Fdns.	Deep Fdns.			
8	0	110	1000	5000	9000	500	150	0.01

2. The purchaser must verify that actual site soil parameters meet or exceed the assumed soil conditions and that the depth of standard foundations are adequate based on the frost penetration and/or zone of seasonal moisture variation at the site. Foundation design modifications may be required in the event the assumed soil parameters are not applicable for the actual subsurface conditions encountered.



## G-SERIES FOUNDATION GENERAL NOTES

3. Foundation designs assume field inspections will be performed by the purchasers' representative to verify that construction materials, installation methods and assumed design parameters are acceptable based on the conditions existing at the site.
4. Work shall be in accordance with local codes, safety regulations and unless otherwise noted, the latest revision of ACI 318, "Building Code Requirements for Reinforced Concrete." Procedures for the protection of excavations, existing construction and utilities shall be established prior to foundation installations.
5. Concrete materials shall conform to the appropriate state requirements for exposed structural concrete.
6. Proportions of concrete materials shall be suitable for the installation method utilized and shall result in durable concrete for resistance to local anticipated aggressive actions. The durability requirement of ACI 318 Chapter 4 shall be satisfied based on the conditions expected at the site. As a minimum, concrete shall develop a minimum compressive strength of 4000 psi in 28 days.
7. Maximum size of aggregate shall not exceed the size suitable for the installation method utilized or 1/3 the clear distance behind or between reinforcing. Maximum size may be increased to 2/3 the clear distance provided workability and methods of consolidation such as vibrating will prevent honeycombs or voids.
8. Reinforcement shall be deformed and conform to the requirements of ASTM A615 Grade 60 unless otherwise noted. Splices in reinforcement shall not be allowed unless otherwise indicated.
9. Reinforcing cages shall be braced to retain proper dimensions during handling and throughout placement of concrete.
10. Welding is prohibited on reinforcing steel and embedments.
11. Minimum concrete cover for reinforcement shall be 3 inches unless otherwise noted. Appropriate spacers shall be used to insure a 3 inch minimum cover on reinforcement.
12. Concrete cover from top of foundations to ends of vertical reinforcement shall not exceed 3 inches nor be less than 2 inches.
13. Spacers shall be attached intermittently throughout the entire length of vertical reinforcing cages to insure concentric placement.
14. Foundation designs assume structural backfill to be compacted in 8 inch maximum layers to 95% of maximum dry density at optimum moisture content in accordance with ASTM D698. Additionally, structural backfill must have a minimum compacted until weight of 100 pounds per cubic foot.
15. Foundation designs assume level grade at the site.
16. Foundation installations shall be supervised by personnel knowledgeable and experienced with the proposed foundation type. Construction shall be in accordance with generally accepted installation practices.
17. Loose material shall be removed from bottom of excavations prior to concrete placement. Sides of excavations shall be rough and free of loose cuttings.
18. Concrete shall be placed in a manner that will prevent segregation of concrete materials and other occurrences which may decrease strength or durability.
19. Free fall concrete may be used provided fall is vertical down without hitting sides of excavation, form work, reinforcing bars, form ties, cage bracing or other obstructions. Under no circumstances shall concrete fall through water.
20. Concrete shall be placed against undisturbed soil except for piers in pier and pad foundations. Forms for piers shall be removed prior to placing structural backfill.
21. Construction joints, if required in piers must be at least 12 inches below bottom of embedments and must be intentionally roughened to a full amplitude of 1/4 inch. Foundation designs assume no other construction joints.
22. Tops of foundations shall be sloped to drain with a floated finished.
23. Exposed edges of concrete shall be chamfered 3/4" x 3/4".
24. Additional corrosion protection may be required for steel guy anchors in direct contact with soil. Design assumes periodic inspections will be performed over the life of the structure to determine if additional anchor corrosion protection measures must be implemented based on observed site-specific conditions.

## FOUNDATION TOLERANCES

### GENERAL

1. Concrete dimensions - plus 2" or minus 0".
2. Depth of foundation - plus 3" or minus 0".
3. Drilled foundations out-of-plumb - 1.0 degree.
4. Reinforcing steel placement - per A.C.I. 301.
5. Projection of embedments - plus or minus 1/8".
6. Vertical embedments out of plumb - 0.5 degree.

### GUY ANCHORS

1. Guy radius - plus or minus 5% of distance specified.
2. Anchor elevation - plus or minus 5% of guy radius.
3. Anchor alignment (perpendicular to guy radius) - 1.0 degree.
4. Anchor rod slope - plus or minus 1.0 degree.
5. Anchor rod alignment with guy radius - plus or minus 1.0 degree.
6. Anchor head out of plumb - 1.0 degree.
7. Guy initial tension - plus or minus 10% of tension specified.

Note: Tolerances in notes 1 & 2 cannot occur simultaneously.