



Precast Polymer Concrete Enclosures
for Underground Construction

2008 National Electric Code



SECTION - 314.30:

Handhole enclosures shall be designed and installed to withstand all loads likely to be imposed.

FPN: See ANSI/SCTE 77

“Specification for Underground Enclosures Integrity,” for additional information on deliberate and non-deliberate traffic loading that can be expected to bear on underground enclosures.

ANSI/SCTE 77 Minimum Testing Requirements:

- Accelerated service exposure per ASTM D756 Procedure E
- Chemical resistance per ASTM D543, section 7
- Simulated sunlight exposure per ASTM G154
- Water absorption per ASTM D570, sections 5, 6.1 and 6.5
- Cover impact resistance per ASTM D2444
- Fire resistance per RUS PE-35, RUS 7 CFR 1755.910 paragraph xiii
- Maximum deflection criteria for:
 - lateral sidewall loads
 - vertical sidewall loads
 - vertical cover loads

QUAZITE® enclosures are UL Listed to ANSI/SCTE 77 as referenced in the NEC 2008.

Quazite® Underground Handhole Enclosure Selection Guide

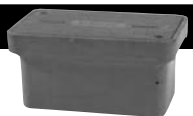
PG Style

Stackable for increased depth. Straight sides for easy adjustment of box to grade.

- Available in sizes:

11" x 18"	24" x 24"	30" x 60"	36" x 72"	48" x 96"
13" x 24"	24" x 36"	36" x 36"	48" x 48"	
17" x 30"	30" x 48"	36" x 60"	48" x 72"	

- Design load: 22,500 lbs. Test load: 33,750 lbs. (Loadings comply with ANSI/SCTE 77. These boxes, with a design load of 22,500 lbs. and a test load of 33,750 lbs., meet ANSI Tier 22 test provisions.)
- 12" - 48" depths



PC Style

Straight sides permit easy movement of box should grade level change. Gasketing also available. All sizes are stackable.

- Sizes: 6" x 8", 8" x 18", 11" x 18" and 12" x 12"
Design load: 15,000 lbs. Test load: 22,500 lbs. (ANSI Tier 15)
- Sizes: 13" x 24" and 17" x 30"
Design load: 5,000 lbs. Test load: 7,500 lbs. (ANSI Tier 5)
- Sizes: 8" x 8"
Design load: 22,500 lbs. Test load: 33,750 lbs. (ANSI Tier 22)
- 6" - 18" depths



PD Style

Enclosures with 1° (degree) flare for maximum strength. Flared design optimizes internal volume and prevents frost heave.

- Available in sizes: 13" x 24", 17" x 30", 24" x 36", 30" x 48"
- Design load: 22,500 lbs. Test load: 33,750 lbs. (ANSI Tier 22)
- 18" - 48" depths



PX Style

Service box assemblies with flared sides. Nestable for compact storage.

- PX Size: 12" x 12" x 24"
Design load: 15,000 lbs. Test load: 22,500 lbs. (ANSI Tier 15)



PR Style

Round enclosures. Cover cannot fall into the box.

Available in sizes:

27" dia. x 36" & 48" depths
39" dia. x 18", 24", 36" & 48" depths.

- Design load: 22,500 lbs. Test load: 33,750 lbs. (ANSI Tier 22)



PT Style

Flared design prevents frost heave. Covers are interchangeable with many precast concrete parts. Nestable for compact storage.

- Sizes: 10" x 15", 13" x 24", 17" x 30"
- Design load: 15,000 lbs. Test load: 22,500 lbs. (ANSI Tier 15)
- 18" deep



Application Tiers & Static Vertical Wheel Load Ratings per ANSI/SCTE 77 2007 "Specification for Underground Enclosure Integrity"

NOTE - QUAZITE® products are not intended for use in deliberate traffic areas.

Application Tiers	Loading Requirements				UL Listed to meet ANSI 77 Requirements ²
TIER 5¹ Sidewalk applications with a safety factor for occasional non-deliberate vehicular traffic	Vertical	Design Load	22.2 kN	5,000 lbs.	PC 13"x24" or PC 17"x30" style enclosure and cover assemblies with standard covers (CA) and standard covers w/o bolts (WA).
		Test Load	33.3 kN	7,500 lbs.	
	Lateral	Design Load	28.7 kPa	600 lbs./sq. ft.	
		Test Load	43.1 kPa	900 lbs./sq. ft.	
TIER 8¹ Sidewalk applications with a safety factor for non-deliberate vehicular traffic	Vertical	Design Load	35.6 kN	8,000 lbs.	PG and PT style enclosure and cover assemblies up to 30" x 48" and PC style in sizes 6"x8", 8"x18", 11"x18" and 12"x12" with standard covers (CA) and standard covers w/o bolts (WA).
		Test Load	53.4 kN	12,000 lbs.	
	Lateral	Design Load	28.7 kPa	600 lbs./sq. ft.	
		Test Load	43.1 kPa	900 lbs./sq. ft.	
TIER 15¹ Driveway, parking lot, and off-roadway applications subject to occasional non-deliberate heavy vehicular traffic	Vertical	Design Load	66.7 kN	15,000 lbs.	PG, PT and PC style enclosure and cover assemblies up to 30"x48" with heavy duty covers (HA).
		Test Load	100.1 kN	22,500 lbs.	
	Lateral	Design Load	38.3 kPa	800 lbs./sq. ft.	
		Test Load	57.5 kPa	1,200 lbs./sq. ft.	
Tier 22¹ Driveway, parking lot, and off-roadway applications subject to occasional non-deliberate heavy vehicular traffic	Vertical	Design Load	100.1 kN	22,500 lbs.	PC, PD, PG and PT style enclosure and cover assemblies up to 30" x 48" with extra heavy duty covers (HH).
		Test Load	150.1 kN	33,750 lbs.	
	Lateral	Design Load	38.3 kPa	800 lbs./sq. ft.	
		Test Load	57.5 kPa	1,200 lbs./sq. ft.	

AASHTO H-20

Deliberate vehicular traffic applications ONLY. Quazite does not currently offer any enclosures for this application tier.

Certified precast concrete, cast iron or other AASHTO recognized materials.*

*There are no AASHTO design or test provisions for polymer composites. Therefore there is no recognized method of testing for qualification. Applying other material testing methods to polymer composites is not recognized by AASHTO. **BUYER BEWARE!**

QUAZITE® underground handhole enclosures are designed to meet or exceed the tier loadings set forth in the American National Standards Institute's ANSI/SCTE 77 2007 "Specification for Underground Enclosure Integrity"¹. ANSI tier designations are minimum specifications used by the industry to ensure the safe and reliable performance of underground handhole enclosures.

The ANSI application tier number relates to a nominal design load times 1,000 pounds (i.e.: Tier 8 = 8 x 1,000 lbs. = 8,000 lbs.). All ANSI tier loadings will have a corresponding test load which is 50% greater than the design load. The maximum deflection at the indicated design load shall be 1/2 inch for vertical tests and 1/4 inch per foot of length for lateral tests.

- Electronic file available at www.scte.org/documents/pdf/ANSISCTE%2077%202007.pdf.
- Some QUAZITE® products are currently not UL Listed. Refer to Quazite catalog pg. 15 for a complete listing of products.

Yellow highlights indicate UL Listing

NOTE: Because Hubbell has a policy of continuous product improvement, we reserve the right to change design and specifications without notice.



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