

Handhole, Secondary, Composite Fiberglass, Polymer Concrete**1. Scope**

This standard covers requirement for composite fiberglass reinforced polymer and polymer concrete handholes.

This standard applies to the following Seattle City Light stock numbers:

Stock No.	Description
720393	17" x 30" x 12" handhole box
720397	17" x 30" x 3/4" cover
720394	24" x 36" x 18" handhole box
720399	24" x 36" x 2" cover

2. Application

Composite fiberglass polymer handholes and polymer concrete handholes are non-conductive, non-flammable and corrosion resistant underground enclosures used to house connections for secondary service and streetlight (SL).

Tier 5 enclosures are only to be used in planting strips or landscaped areas, or for pedestrian traffic.

Polymer handholes are not intended for use in constant traffic areas.

Handhole boxes may be stacked to achieve proper service termination installation depth of 24 inches or 36 inches as required in Construction Standard 1561.07.

3. Industry Standards

Composite fiberglass polymer and polymer concrete handholes shall meet the following industry standards:

ANSI/SCTE 77 - 2010; Specification for Underground Enclosure Integrity

ASTM C857 - 2016; Standard Practice for Minimum Structural Design Loading for Underground Precast Concrete Utility Structures

4. General Requirements

Handhole and cover shall have the following attributes:

- Made of fiberglass reinforced polymer or polymer concrete
- Gray in color
- Non-conductive
- Non-flammable
- Corrosion resistant
- Design load rating as shown in Table 4
- Chemical resistance (sunlight exposure, water absorption, and flammability) of polymer handholes and covers according to ANSI/SCTE 77 2010, Section 6
- Nominal dimensions as shown in Table 4 and Figure 4

Figure 4. Polymer Handhole and Cover Dimensions

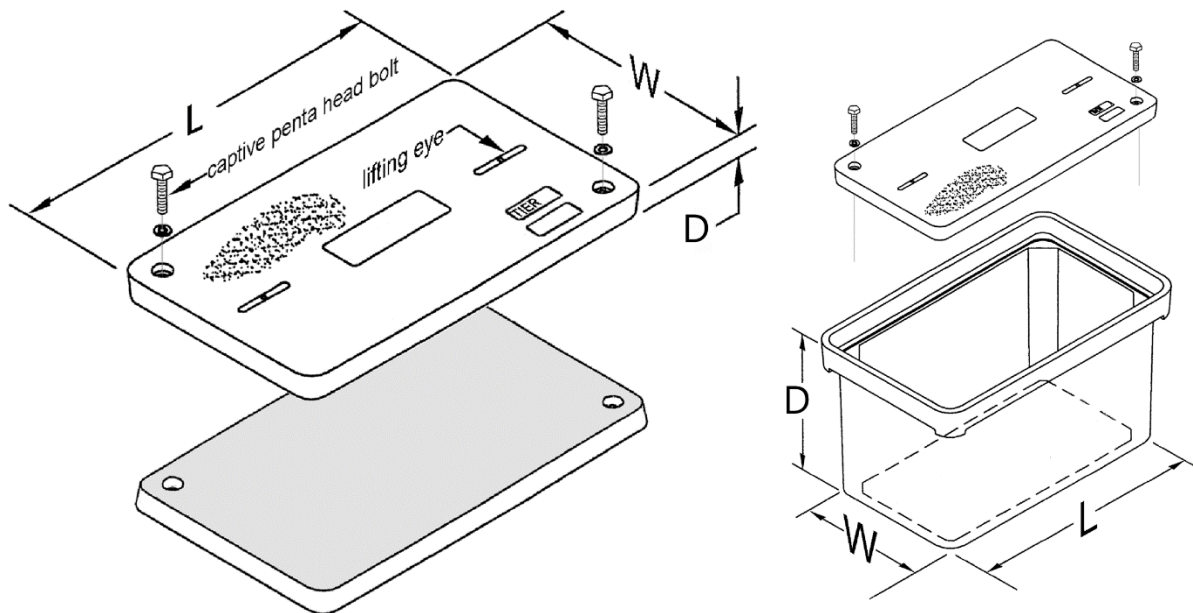


Table 4. Handhole and Cover Dimensions

Stock No.	720393	720397	720394	720399
Type				
Description	Handhole Box	Cover	Handhole Box	Cover
Dimensions, Inside, Nominal (in)				
Length (L)	30	30	36	36
Width (W)	17	17	24	24
Height/Thickness (D)	12	3/4	18	2
Cover Label	Seattle City Light	–	–	Seattle City Light
Design Load				
Tier	5	5	22	8
Vertical, minimum (lb)	5000	5000	22,500	8000
Test Load				
Vertical, nominal (lb)	7500	7500	33,750	12,000

4.1 Box

Handhole box shall be:

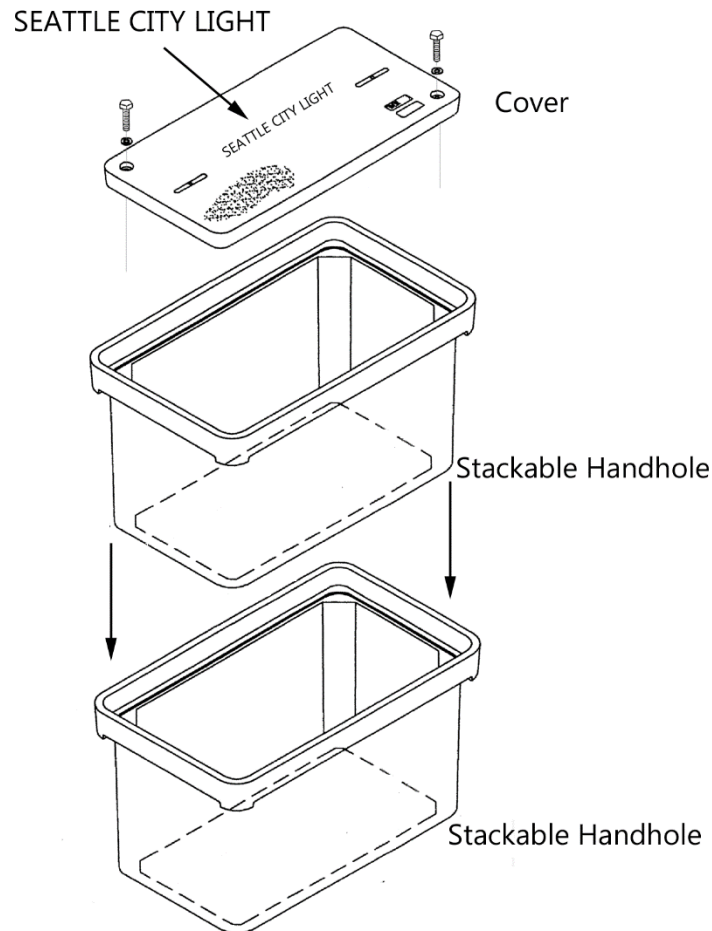
- Bottomless without any knockouts or mouseholes
- Straight wall and stackable
- Designed to nest with the handholes for a snug fit

4.2 Cover

Cover shall:

- Require the use of tools to open, to avoid easy removal by unauthorized persons
- Be skid resistant with a minimum coefficient of friction of 0.5 percent
- Have recessed bolt holes such that the bolt head will not protrude above the cover surface
- Include two, stainless steel, captive, Penta-head bolts (1/2 inches – 13 UNC) to attach cover to handhole
- Have 1/16-inch to 1/8-inch clearance on each edge of the box
- Be marked with the ANSI load rating (Tier 5 or 8)
- Have “SEATTLE CITY LIGHT” embedded on the top surface as shown in Figure 4.2

Figure 4.2. Polymer Handhole and Cover



5. Marking

Polymer handholes shall be clearly and indelibly marked in accordance with NEC2008.

Marking shall include but not be limited to:

- Manufacturer name
- Year of manufacture
- Product identification number
- ANSI load rating

6. Packaging

Handholes and cover shall be packaged in a way that allows the product to withstand normal shipping and installation practices without chipping, cracking, or structural damage.

Individual packages shall be legibly marked with:

- Manufacturer name
- Manufacturer catalog number
- Product description

- Seattle City Light stock number

Shipping containers shall be legibly marked with:

- Seattle City Light purchase order number
- Seattle City Light stock number

7. Issuance

Stock Unit: EA

8. Approved Manufacturers

Stock No.	Approved Manufacturers		
	Oldcastle-Duravault	Quazite	Armorcast
720393	FRP1730-12STB	PC1730BA12	A6001761
720397	FRP1730P1-T15/20K Seattle City Light - Penta Bolt	PC1730CA00-OL	A6001762-SEATTLE
720394	FRP2436-18STB	PG2436BA18	A6001974PCX18
720399	FRP2436P1-T15/20K Seattle City Light - Penta Bolt	PG2436CA00-OL	A6001975-SEATTLE

9. References

National Electrical Code (NEC) 2008; "Article 314.30"

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Western Underground Committee Guide 3.6; "Non-Concrete Enclosures"

10. Sources

Standard Plan No. 550a; City of Seattle Standard Plans and Specifications, 2010

SCL Material Standard 7203.10; "Handhole, 17" x 28" Precast, Secondary"

SCL Material Standard 7203.20; "Handhole, Secondary, Composite Fiberglass, Reinforced Plastic Type"