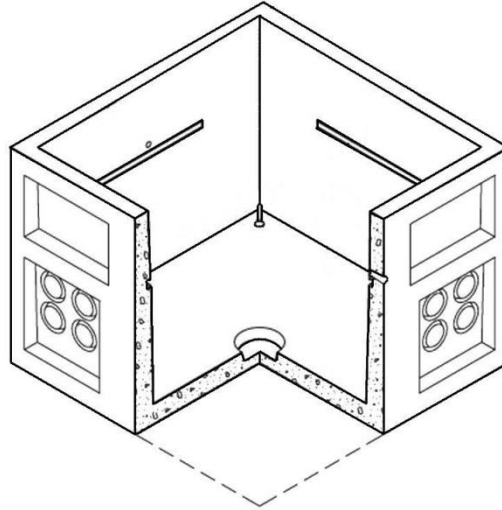


504 Electric Vault, Primary Service



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2. Scope

This standard covers the detailed requirements for 504 electrical vault components (base and cover with hatch) and assembled 504 electric vaults. Components can be ordered separately or as complete assemblies, which include covers.

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

Stock No.	Description
013096	Base , standard 507
013097	Cover with hatch, H-20
013098	Cover with 42-in round solid hatch and frame, H-20
013159	Cover with solid hatch, H-30
013122	Assembly , base and cover with solid hatch, H-20
013123	Assembly , base and cover with 42-in round solid hatch and frame, H-20
013160	Assembly , base and cover with solid hatch, H-30

3. Application

504 vaults are used to construct underground electric systems. The precast concrete structure may be used to house load break junction boxes, and in making service connections and splices for the distribution system.

H20-rated 504 vault assemblies are not to be used in high density locations.

Depending on the selected application, a 504 vault can be defined as a handhole or a vault. When SCL uses a 504 for primary service, it is designated a vault. For non-primary service it is typically designated a handhole (not covered in this standard).

Also depending on the application selected, the vault may need to be customized with a different entry opening.

4. General Requirements

This detailed standard is to be used in conjunction with the latest revisions of:

SCL 7203.21; "Precast Reinforced Concrete Structures – General"

SCL 7204.70; "Frames and Covers, 42-Inch Round, Iron"

5. Component Requirements

5.1 Grounding and Bonding

Vault grounding shall comply with SCL 7203.21, Section 9, Grounding.

5.2 Base

Table 5.2a. Base Components

	Size, Nominal (in)	Location	Per Location	Total Number
Knockouts				
Round	4-3/4 dia	All 4 walls, on bottom	8 ea side	32
Ground rod	2 dia	2 corners of floor	1 ea	02
Channels				
Galvanized "C" channel, horizontal, embedded in walls	36 length	All walls, above all knockouts	1 ea side	04
Sump	12 dia	Floor, center	1, to one side	01
Pulling Irons	1/2 dia	1 ea corner of floor (typical)	1 ea corner	04
Lift Holes	1-1/2 dia	2 walls, center of wall, above channel, opposite	1 ea side	02
Ground Inserts, bronze	1/2 dia	2 walls, opposite, internal and external	2 ea side	04
Ladder	—	Not required	—	—

Base shall have dimensions as shown in Tables 5.2b and 5.2c, and Figure 5.2.

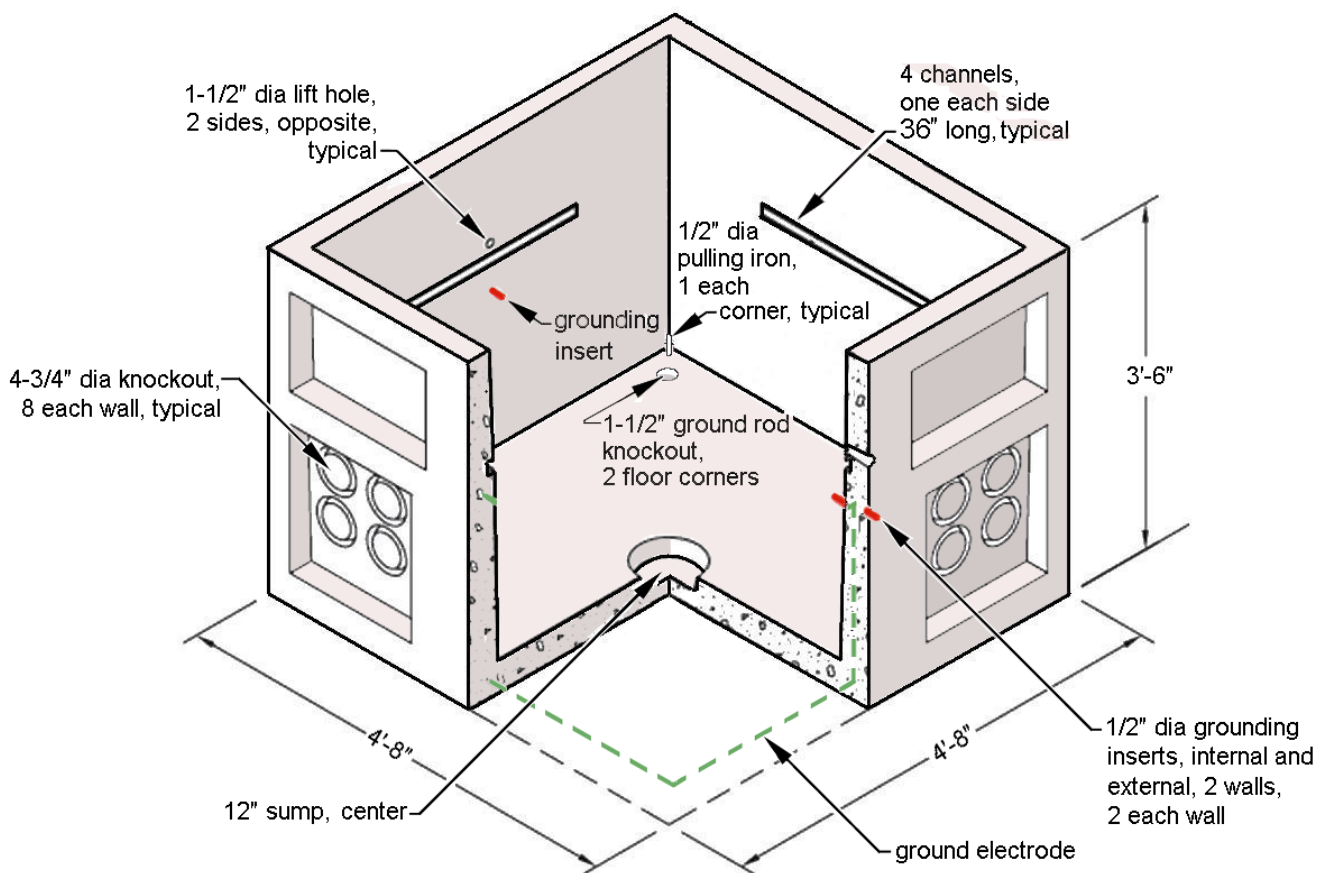
Table 5.2b. Base Dimensions, Inside, Nominal (ft-in)

Length	Width	Height
4-2	4-2	3-2

Table 5.2c. Base Dimensions, Outside, Nominal (ft-in)

Length	Width	Height
4-8	4-8	3-6

Figure 5.2. Base



5.3 Covers

Covers shall consist of a concrete collar with a slip-resistant hatch.

Covers shall have dimensions as shown in Table 5.3. Note: cover for square opening is tapered from top to bottom and is notched on the bottom to fit inside the sides of the vault.

Covers shall have 3/4-inch diameter (nominal) lift insert at each corner on the top, as shown in Figure 5.3a.

Caps shall be provided to cover the lift inserts.

The 42-inch round cover shall include a 4-in deep, round frame, as shown in Figure 5.3b.

Equipment hatches shall have:

- 3 ft x 3 ft dimension
- H20 rating
- Recessed lift handles
- Non-slip surfaces
- One handle located on each of the short ends of the hatch
- 5/8-in bonding point hole on support bar for grounding hatch
- Hatch-locking mechanism with Penta head bolt

Figure 5.3a. Cover with Hatch

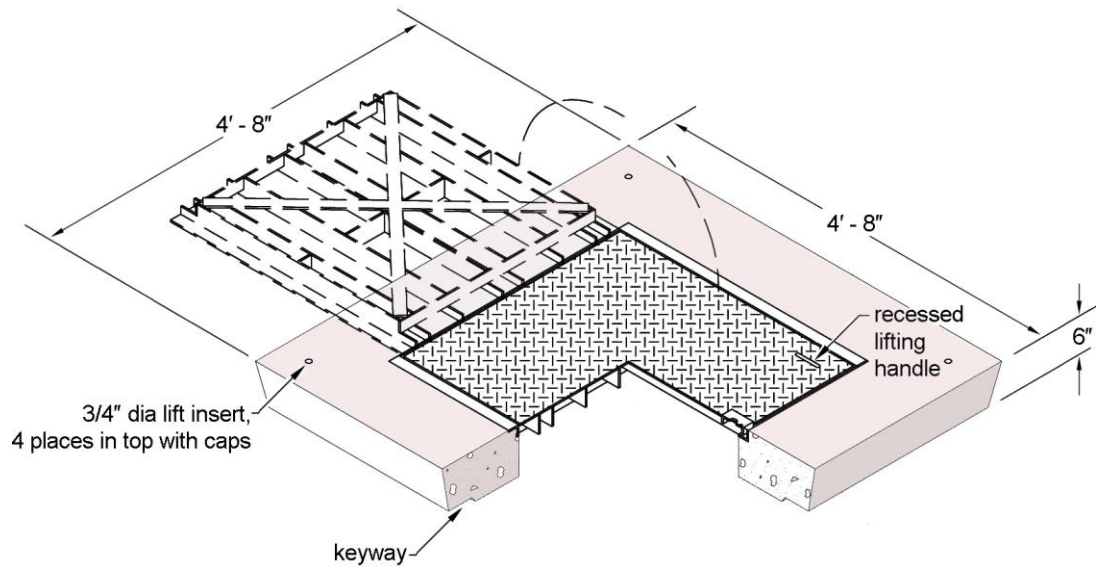


Table 5.3. Cover Dimensions, Nominal

Stock No.	Concrete Collar (ft-in)			Opening (in)	Hatch
	Length	Width	Thickness		
013094	4-8	4-8	0-6	36 x 36	Solid, H-20
013095	4-8	4-8	0-6	42 dia, round	42-in round, solid, H-20
013159	4-8	4-8	0-6	36 x 36	Solid, H-30

Figure 5.3b. Cover with 42-Inch Round Hatch

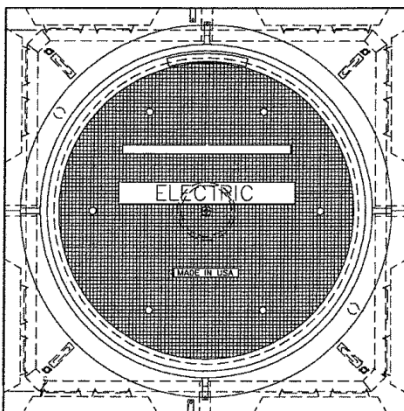
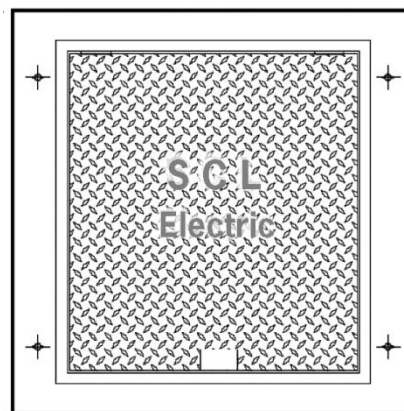


Figure 5.3c. Cover with H30 Hatch



6. Issuance

Unit: EA

7. Approved Manufacturers

Stock No.	Description	Oldcastle/Utility Vault Catalog No.
013096	Base , standard 504	504-LA Base w/ Iron and GRD In & Out
013097	Cover with hatch, H20	55-332p Cover w/ I.D. Marker
013098	Cover with 42-in round solid hatch and frame, H-20	55-42C Cover w/ I.D. Marker and 42" Cover & Frame
013159	Cover with solid hatch, H-30	55-w/3437 LW Hatch Cover w/ I.D. Marker
013122	Assembly , base and cover with solid hatch, H-20	504-LA Base w/ Iron and GRD In & Out w/332P Non-Slip-SCL
013123	Assembly , base and cover with 42-in round solid hatch and frame, H-20	504-LA Base w/ Iron and GRD In & Out w/42" Cover & Frame-SCL
013160	Assembly , base and cover with solid hatch, H-30	504-LA Base w/ Iron and GRD In & Out w/3437 LW Non-Slip-SCL

8. References

SCL Material Standard 7203.21; "Precast Reinforced Concrete Structure, General"

SCL Material Standard 7204.70; "Frames and Covers, 42-Inch Round, Iron"

9. Sources

Detter, Chris; SCL Distribution Engineer and subject matter expert for 7203.31
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Ng, Sharon; SCL Civil Engineer and subject matter expert for 7203.31
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SCL Design Standard 9246.10; "Pulling Irons - Fundamentals and Detailed Requirements, Looped Radial and Network Systems"

Wang, Quan; SCL Standards Engineer, originator, and subject matter expert for 7203.31
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