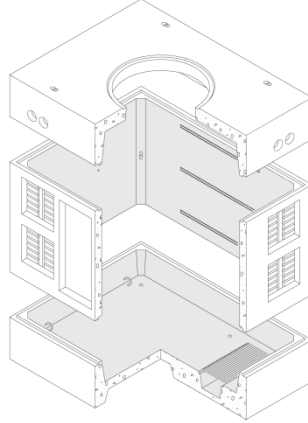


687 Electric Vault, Primary Service



1. Scope

This standard covers the requirements for 687 electrical vault components (vault base, mid-section, and cover with round access) and assembled 687 electric vaults.

Either separate components or an assembled unit can be ordered.

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

Stock No.	Description
013734	Base, standard 687
013735	Mid-section
013736	Cover with round access
013737	Assembly (base, mid-section, and cover with round access)

2. Application

687 precast concrete vaults are used to construct the underground electric system. The vault may be used to house medium-size transformers, and service connections and splices for the distribution system.

The standard assembly consists of a base, a mid-section, and a cover with one 42-in round access.

A 42-in round iron frame and cover must be ordered separately. For detailed material specifications for the iron frame and cover, see SCL 7204.70, "Frame and Covers, 42-Inch Round, Iron."

H20-rated vault assemblies with rectangular or square hatches should not be used in locations with high-density traffic.

Standards Coordinator
Quan Wang

Standards Supervisor
John Shipek

Unit Director
Darnell Cola

3. General Requirements

This standard is to be used in conjunction with SCL 7203.21, "Precast Reinforced Concrete Structures, General."

Vault grounding shall conform to SCL 7203.21, Section 9, "Grounding."

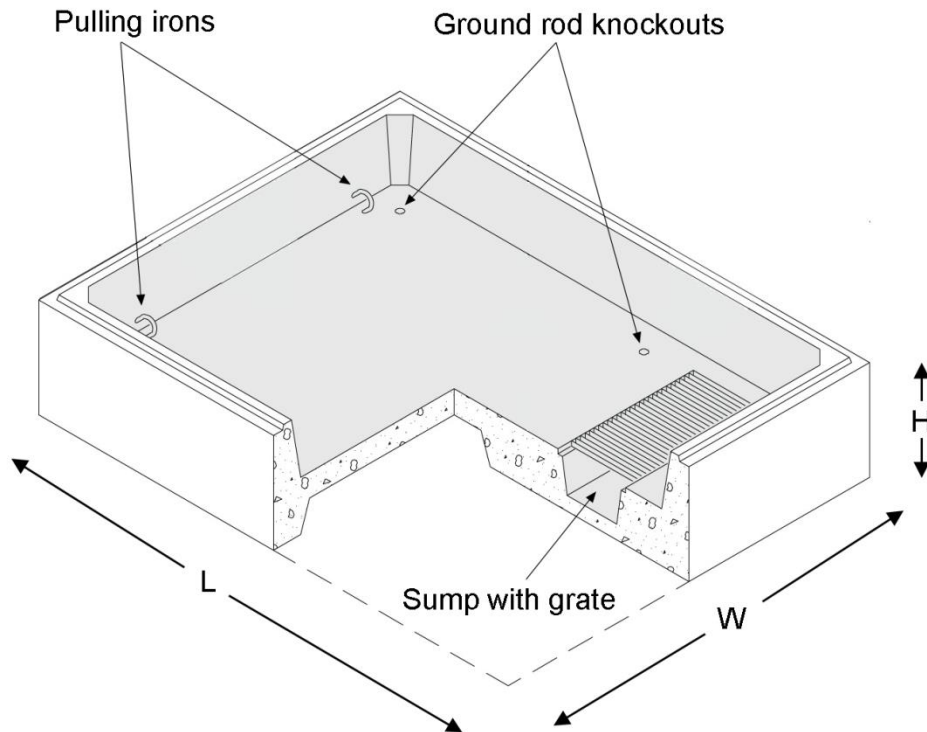
4. Base Requirements

The vault base shall be constructed according to the dimensions and details shown in Table 4 and Figure 4.

Table 4. Base Dimensions (Nominal)

Stock No.	Outside			Inside		
	Length	Width	Height	Length	Width	Height
013734	8' 8"	6' 8"	1' 10"	8' 0"	6' 0"	1' 0"

Figure 4. Base



Vault bases shall have:

- Round rod knockout (1 in diameter) at each corner of the floor.
- Trench sump with removable galvanized grating (12 in x 64 in x 8 in) 1 ft from, and parallel to, the end wall.
- Two pulling irons that are 7/8 in diameter at each end of the floor. 1/2-inch diameter pulling irons shall not be used for 687 vaults.

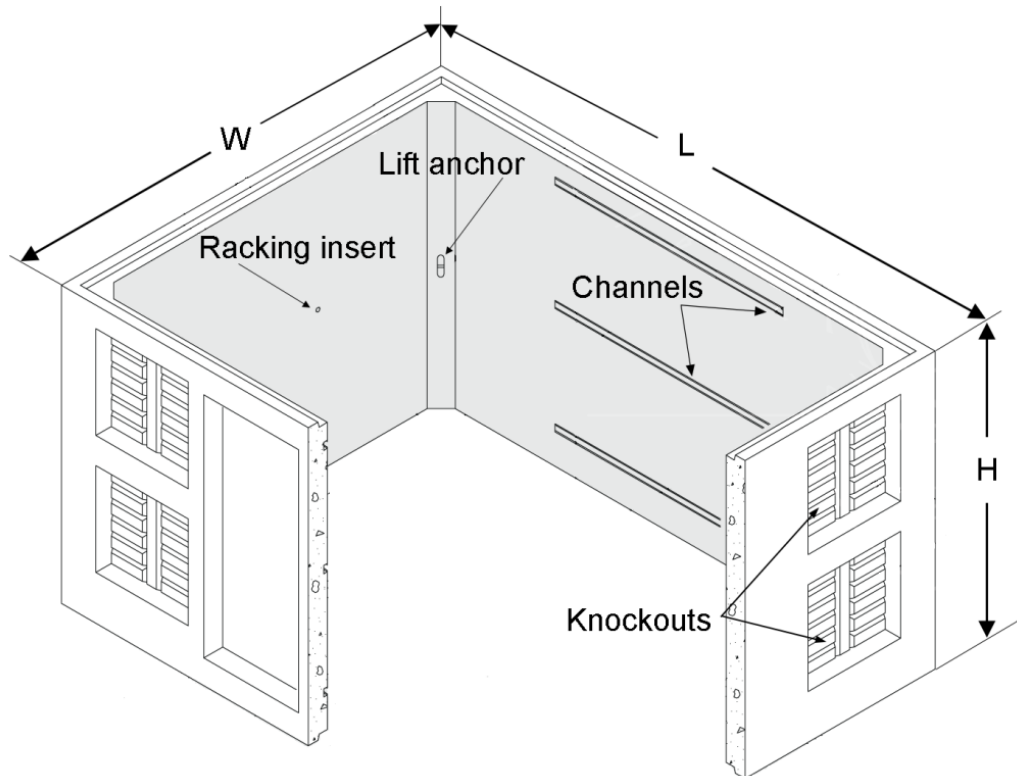
5. Mid-Section Requirements

The vault mid-section shall be constructed according to the dimensions and details shown in Table 5 and Figure 5.

Table 5. Mid-Section Dimensions (Nominal)

Stock No.	Outside			Inside		
	Length	Width	Height	Length	Width	Height
013735	8' 8"	6' 8"	4' 10"	8' 0"	6' 0"	4' 9"

Figure 5. Mid-Section



5.1 Knockouts, Waffle

Knockouts shall be of the waffle type.

Knockouts shall measure 18 in by 18 in.

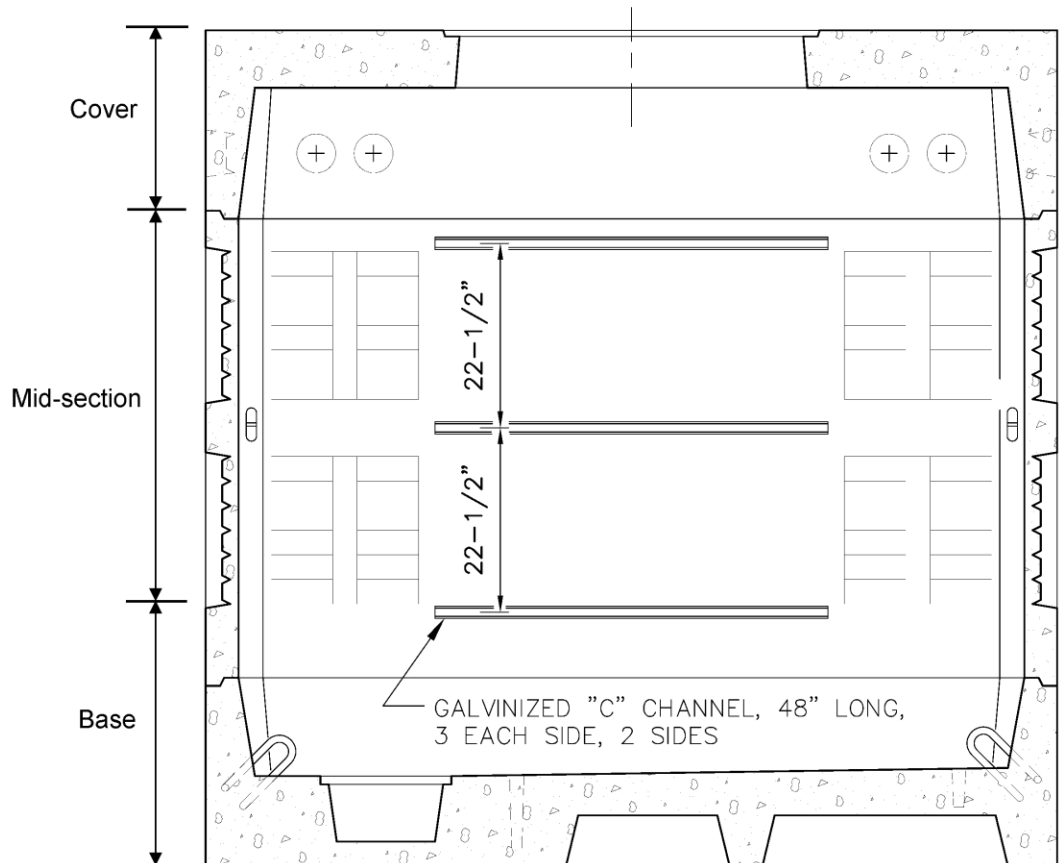
Four knockouts shall be located on the outer edge of each wall for a total of 16 knockouts.

5.2 Channels

Galvanized "C" channels shall be embedded and centered in the side walls between knockouts. There shall be 22-1/2 inches of space between channel rows as measured from the center of each row.

Channels shall measure 1-5/8 in by 13/16 in by 48 in. See Figure 5.2

Figure 5.2. Channel Placement, Side Wall

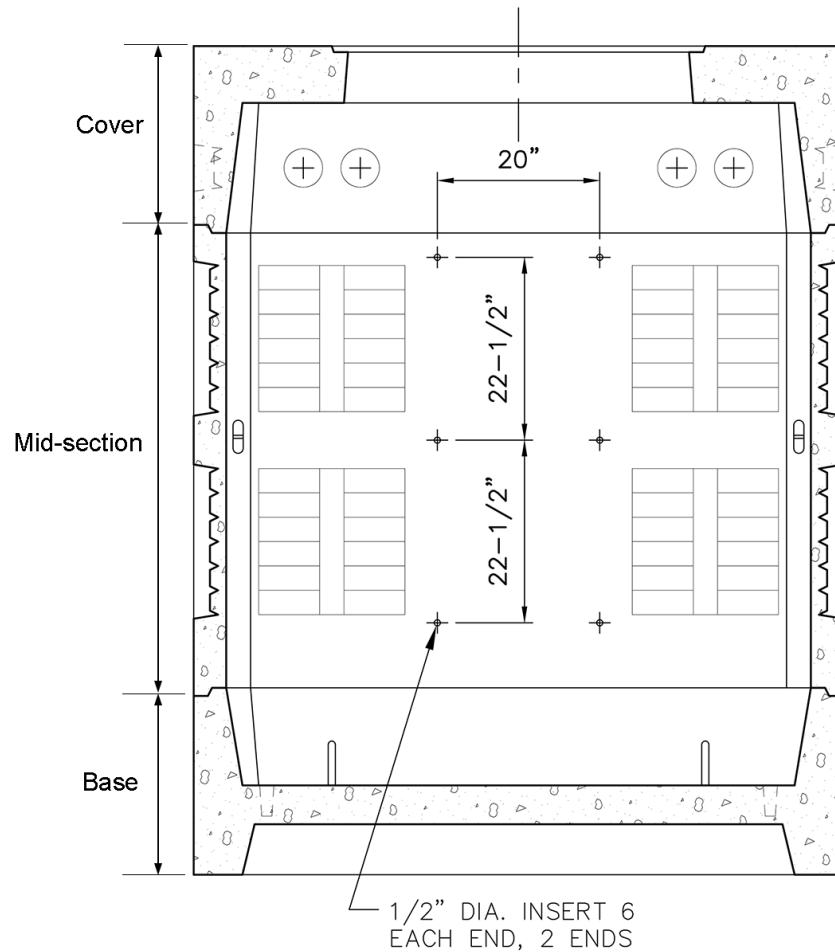


5.3 Racking Inserts

Racking inserts shall accommodate 1/2-in diameter threaded bolts.

Racking inserts shall be embedded in the center of end walls between knockouts. There shall be 20 inches of space (horizontal) and 22-1/2 inches of space (vertical) between racking inserts as measured from the center of each insert.

Figure 5.3. Racking Insert Placement, End Wall



5.4 Lift Anchor

A lift anchor with a 2-ton ultimate strength rating shall be located on each corner of the wall.

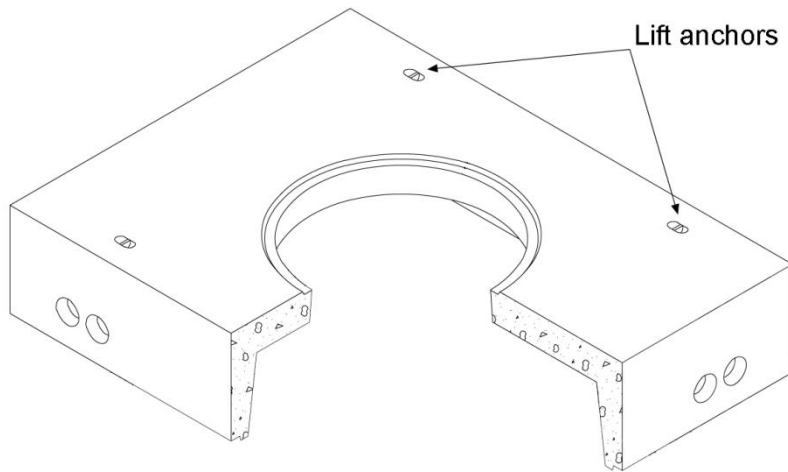
6. Cover Requirements

Covers shall be constructed according to the dimensions shown in Table 6 and Figure 6.

Table 6. Cover Dimensions (Nominal)

Stock No.	Outside			Inside			Access Configuration
	Length	Width	Height	Length	Width	Height	
013736	8' 8"	6' 8"	1' 10"	8' 0"	6' 0"	1' 3"	One 42" round

Figure 6. Cover with Round Access



The cover shall have:

- 2-ton lift anchors, two on each end of the top.
- A keyway on the cover to ensure a tight fit with the mid-section.

7. Issuance

Unit: EA

8. Approved Manufacturer

Stock No.	Components	Oldcastle/Utility Vault Catalog No.
013734	Base, standard 687	687-BL
013735	Mid-section with cable supports	687-ML
013736	Cover, with round access	687-TL-42C
013737	Assembly (base and cover with round access)	687-LA

9. References

- SCL Material Standard 7203.21**; "Precast Reinforced Concrete Structure, General"
SCL Material Standard 7204.70; "Frames and Covers, 42-Inch Round, Iron"

10. Sources

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Wang, Quan; SCL Standards Engineer, and originator and subject matter expert for
7203.66 (quan.wang@seattle.gov)