

MATERIAL STANDARD**ACCEPTANCE CRITERIA FOR THE INSTALLATION OF NEW
PRECAST CONCRETE DISTRIBUTION FACILITIES**

Figure 1. Precast Ring Vault

1. Purpose

This Material Standard sets criteria for acceptability and repair of new precast concrete panel vaults, ring vaults, manholes, handholes and equipment pads from manufacture through the warranty period. Design parameters such as surface loading are not included.

2. General

- 2.1 Vaults and manholes installed with duct windows, risers, and/or panel seams placed contrary to the original design may be rejected at the discretion of SCL Engineering.
- 2.2 All repairs referred to in this criteria will be performed by the manufacturer in his yard and the installing contractor in the field.
- 2.3 Repairs will be performed in accordance with SCL Guideline U2-6.
- 2.4 These procedures assume an adequate structural unit design is used per established good engineering practices, with sound material and good workmanship conforming to the design. This criteria will not limit SCL's recourses if the above assumptions are not met.
- 2.5 Manufacturer will provide a one (1) year warranty on all repairs and patches.

2. General, continued

- 2.6 The Manufacturer will not be held responsible for damage that can be determined to be caused by unusual conditions outside of his control.

3. Action While in Manufacturer's Yard**3.1 Roof-top surface**

- a. The manufacturer shall replace the roof if cracks 0.012 inch or wider, that run from one edge to another edge or to the manhole opening, or appears to go through the concrete or through a ladder insert.
- b. The manufacturer shall replace the roof if a crack 0.062 inch wide or greater develops.
- c. Any spalled concrete 0.375 inch or deeper shall be repaired.
- d. Exposed rebar shall be repaired.



Figure 2. Precast Panel Vault

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MATERIAL STANDARD

Acceptance Criteria for the Installation of New Precast Concrete Distribution Facilities

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3. Action While in Manufacturer's Yard, continued

- 3.2** Roof -inside surface, risers, walls, and floor slabs
- a. Cracks 0.012 inch or wider will be repaired.
 - b. Repair shall be made for any spalled concrete 0.375 inch deep or greater.
 - c. Exposed rebar shall be repaired.
- 3.3** Major defects or excessive patching can be cause for rejection.

4. Action from Facility Placement through SCL Approval

- 4.1** The installing contractor shall provide repairs to facilities that have been delivered to the installation site in acceptable condition and are damaged after delivery.
- 4.2** Roof-top surface
- a. The installing contractor shall replace the roof if cracks 0.012 inch or wider, that run from one edge to another edge or to the manhole opening, or appears to go through the concrete.
 - b. The installing contractor shall replace the roof if a crack 0.062 inch wide or greater develops.
- 4.3** Roof-inside surface, risers, walls, and floor slabs
- a. Cracks 0.012 inch wide or greater shall be repaired.
 - b. Concrete spalls 0.375 inch deep or greater shall be repaired.
 - c. Exposed rebar shall be repaired.
 - d. SCL Civil Engineering Department shall determine the remedial action to be taken by the installing contractor for cracks 0.125 inch wide or greater, extensive smaller cracking, and/or delamination of concrete.
- 4.4** Water intrusion due to structure quality problems, or improper installation, can be cause for rejection.

5. References

224.IR-07; "Causes, Evaluation, and Repair of Cracks in Concrete Structures"; American Concrete Institute

Detter, Chris; SCL Standards Engineer, subject matter expert and originator of 7201.00 (chris.detter@seattle.gov)

NVH-80; "Network Area Requirements for Panel or Cast-In-Place Vaults"; *SCL Construction Guidelines*

U2-6; "Inspecting and Repair Procedures for Precast Vaults and Manholes"; *SCL Construction Guidelines*