



City of Santa Monica Building and Safety Division

Shotcrete Guide

***This list is to be used as a general guide.
It is not inclusive of all code requirements and inspection criteria.***

Per California Building Code (CBC) 1908

California Codes available at www.bsc.ca.gov

Preconstruction Testing CBC 1908.5

- Test panel to simulate job conditions (panel thickness and reinforcement shall reproduce thickest and most congested area of project)
- It shall be shot at the same angle (that will be used on the project) using the same nozzle man, the same concrete mix design and delivery equipment.
- Sized per 1908.10.2 and shall be field curing only.
- Results submitted to the building official prior to commencement of project

Reinforcement CBC 1908.4

- Maximum bar size #5 (unless establish with preconstruction testing)
- Minimum clearance 2 ½" when using #5 or smaller on parallel bars (6db when >#5)
- Securely tied in place (no movement)
- Double curtains
 - curtain nearest the nozzle shall have a minimum spacing equal to 12 bar diameters (db)
 - the remaining curtain shall have a minimum spacing of 6 db.
- Lap splices of bars shall utilize the noncontact splice method with a min 2" clear between bars.
- Shotcrete shall not be applied to spirally tied columns.
- Shooting wires (aka Piano wire, ground wire) shall be in place for inspection.

Placing (shooting) CBC 1908.6-1908.8

- (cold) joints (over 30 minutes)-sloped to thin edge-cleaned and wetted prior to restarting
- Remove sand pockets, honeycomb, sags, segregation and replace while plastic
- Continuous* deputy inspection required
- Nozzleman must be ACI certified

Curing CBC 1908.9

- Initial cure shall be kept moist for 24 hrs. or shall be sealed with an approved curing compound at double the manufacturer's application rate per ACI (ref. std.)
- Final curing is initial curing or 7-day cover with approved moisture retaining cover or until specified strength is obtained

Sampling and Strength Tests CBC 1908.10

- Once each shift (nozzle man change)
- Not less than every 50 yards
- Strength testing
 - 3/8" to ¾" MSA = 3" cores or 3" cubes
 - 3/8" MSA = 2" cores or 2" cubes