



STANDARD OPERATING PROCEDURE FOR FILLING OF ABANDONED RAILROAD SLOTS IN CLOSURES



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Each of the slots to receive concrete fill placement should be prepared to provide a minimum 1/8-inch surface profile. This may be accomplished using high pressure water jet tools, roto-hammers or other scarifying equipment. Since this concrete is mature and fully cured, it is expected to be very hard and this roughening process will not be easily accomplished. If water jetting is used, this will require much higher water pressure than is used to simply pressure clean a surface. The purpose here is to provide a surface that promotes an excellent bond between the newly placed concrete infill and the existing older concrete.

The next step is to drill in and epoxy in place a series of vertical dowels. These should be #6 deformed reinforcement bars meeting the length requirement below:

$$\text{Required dowel length} = \text{depth of slot} + 8''$$

Rebars are placed in one-inch diameter by 12-inch deep drilled holes. These should be spaced approximately 18 inches on center in each slot. Immediately prior to placing the dowel, clean hole of dust and other deleterious material with a high pressure air hose. Fill hole halfway with grout. Insert dowel in hole by rotating it at least one complete turn while tapping it down. If necessary add more grout to fill hole.

After the epoxy has cured to reach mature strength in accordance with the manufacturer's recommendations, the slots should be cleaned one more time. Prepare surfaces of slots by high pressure water cleaning. Remove dust, dirt, and any loosely bonded material resulting from the previous work. Ensure slot surfaces are free of standing water prior to concrete placement.

Concrete mixture proportions are the responsibility of the Contractor. Specified compressive strength f_c shall be 3,000 psi at 28 days. The maximum nominal size coarse aggregate is 3/4 inch. The concrete mix should include a shrinkage compensating admixture. The air content shall be between 4.5 and 7.5 percent with a slump between 2 and 5 inches. The maximum water cement ratio shall be 0.50.

Sampling of fresh concrete for testing shall be in accordance with ASTM C 172. Test concrete for compressive strength at 7 and 28 days for each design mix. Concrete test specimens shall conform to ASTM C 31/C 31M. Perform Compressive strength testing conforming to ASTM C 39/C 39M.

Ensure that the concrete is properly consolidated, finished, protected, and cured.