

720 - SLIPFORMING CONCRETE BARRIER FOR BRIDGES

SECTION 720

SLIPFORMING CONCRETE BARRIER FOR BRIDGES

720.1 DESCRIPTION

At the Contractor's option, slipform the concrete barrier for the bridge.

720.2 MATERIALS

Provide concrete for the bridge barrier that complies with **SECTION 401**, with these exceptions:

- Use Type II cement;
- Use an aggregate combination that contains approximately 55% coarse aggregate. For coarse aggregate, use traprock, chat or calcite-cemented sandstone that complies with **TABLE 720-1**;

TABLE 720-1: PERCENT RETAINED – SQUARE MESH SIEVES					
1 inch	¾ inch	½ inch	¼ inch	No. 4	No. 8
0	5-20	30-65	55-90	90-100	95-100

- Use a concrete mixture that complies with **TABLE 720-2**;

TABLE 720-2: CONCRETE FOR SLIPFORMING CONCRETE BARRIER FOR BRIDGES		
Lbs. of cement per Cu. Yd. (min.)	Lbs. of water per lbs of cement (max.)	Percent Air by Volume
658	0.40	6.5±1.5

- Determine the percent air using Kansas Test Method (KT-19); and
- The maximum slump allowed is ½ inch.

Provide set retarder admixture and Type 1-D clear or translucent curing compound with fugitive dye that complies with **DIVISION 1400**.

720.3 CONSTRUCTION REQUIREMENTS

Form the ends of the bridge barrier. Brace all formed sections. Include bolt holes in the pattern and location required for installing guardrail. Form barrier sections with bridge name plates, deck drain boxes, light standards and expansion devices a minimum of 4 feet on each side of these locations.

Before placing concrete, check the clearance between the slipform machine and the reinforcing steel throughout the length of the barrier. While placing the concrete barrier, monitor the reinforcing steel at the entrance to the slipform machine to verify location and clearance. Brace reinforcing steel to prevent racking.

Place concrete in the uphill direction when slipforming concrete barriers on bridges with grades exceeding 2%.

See **DIVISION 700** for curing times required for the deck before using construction equipment or concrete delivery on new bridge decks.

If using trucks to deliver concrete to the slipform machine, limit the quantity of concrete each truck is allowed to haul to the load carrying capacity of the bridge, or 75% of the truck's rated capacity, whichever is less. Control the speed of vehicles entering or leaving the deck in order to limit deck movement. Except for vehicles necessary for the concrete placement operations, limit heavy vehicles on the bridge deck for 24 hours following the concrete placement of the barrier.

Construct a test section approximately 100 feet long to demonstrate the acceptability of the slipforming method. Repair or replace the test section, and form the remaining barrier in the conventional manner if the Engineer rejects the test section.

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Correct surface irregularities and other defects. With the Engineer's approval of the methods, repair or remove and replace unacceptable portions of the barrier.

Following the slipforming, lightly broom both sides of the barrier vertically. Broom the top of the barrier perpendicular to the longitudinal axis of the barrier.

Cut contraction joints as shown in the Contract Documents without spalling, just prior to initial set.

Apply 2 coats of curing compound immediately after the brooming operation. The minimum application rate is 1 gallon per 250 square feet of barrier for both applications. Apply the second application immediately after the first application, and at right angles to the first application.

720.4 MEASUREMENT AND PAYMENT

Slipforming of concrete barrier is not measured for payment.