

New Jersey Bridge Deck Grooving Specification

3. **Saw Cut Grooved Surface.** The hardened surface of concrete bridge deck slabs shall be grooved except at the locations shown in Table 501-1 below.

At least seven days before saw cutting, a plan of action shall be submitted for approval detailing the layout of the grooving procedure to be followed. Spacing dimensions at the starting and ending point of each pass shall be noted. A description of the saw cutting equipment shall be included.

Grooves shall be cut perpendicular or radial to the centerline of the traveled way. Radial grooving shall be conducted in partial-width passes. Each pass shall be limited to one lane width. Adjustment along the longitudinal axis of the bridge deck shall be made at no less than 12-foot intervals, yielding a uniformly grooved surface finish. Grooves shall be rectangular in shape and shall conform to the following dimensions:

Width..... 0.10 to 0.15 inch
 Depth..... ¼ to ⅜ inch

Grooves shall be spaced at $1\frac{1}{2} \pm 1/16$ inches center-to-center of groove. This spacing dimension may be increased up to 3 inches at the end of each consecutive, multi-bladed, saw cut pass as necessary to accommodate the distance limits required at the joint system according to Table 501-1 below. The required dimension shall be determined before actual deck grooving and shall be stated in the plan of action. Grooves shall not be cut over an area which has been already grooved. No cutting blade shall be introduced into a groove that has been already established. When it is necessary to rotate the sawing equipment to complete grooving to within the limits specified in Table 501-1 below, the longitudinal gap created shall not be located in a wheelpath and shall be limited to 3 inches of width.

Grooves shall terminate within the limits prescribed in Table 501-1 below.

Table 501-1 Saw Cut Grooved Area Limits

Location	Closest Allowable Distance	Farthest Allowable Distance
Drainage Structure	1 ft – 0 in	1 ft – 3 in
Vertical Face (curb or parapet), or Face of Railing (no curb)	1 ft – 0 in	1 ft – 3 in
Joint System	6 in	(see Note 1)

Note 1: This distance is a variable which is dependent upon equipment size. This dimension shall be measured perpendicular to the direction of the grooves. The distance shall be measured from the edge of the joint system and, in no case, shall be greater than the width of the saw head plus a 9-inch tolerance up to a maximum distance of 2 feet-9 inches.

Grooves shall be constructed using multi-bladed saw cutting equipment, fitted with diamond-tipped circular saw blades except when the use of single blade circular saw equipment is permitted where such equipment is necessary to complete the work, as required.

Before grooving operations, two approved gauges to verify groove depth shall be supplied. The gauges shall be accompanied by the manufacturer’s instructions for their use.

During grooving operations, the groove dimensions will be checked at random. If the minimum groove depth has not been achieved, grooving operations shall stop and the necessary adjustments shall be made.

Slurry or debris from the grooving operations shall not accumulate in the grooves. Slurry or debris shall not be disposed of in the structure or highway drainage system or on roadway slopes. Slurry shall be collected promptly and removed for off-site disposal.

Sidewalks and top of curbs shall receive a final finish with a fine-bristle broom