

SAFETY GROOVING



Diamond Grooving on I-55 in Illinois: Improved Traction, Improved Safety

>>> LONGITUDINALLY GROOVED SURFACES ARE AN ECONOMICAL MEANS OF IMPROVING FRICTION

DEPARTMENTS OF TRANSPORTATION across the United States are continuously exploring new ways of improving traction to enhance wet-weather safety while trying to contain ever-escalating costs. Longitudinal diamond grooving is a proven way to accomplish this goal, with grooving being conducted in localized areas where wet-pavement crashes have historically been a problem (for example, along curves and at intersections).

In the summer of 2017, The Illinois Department of Transportation (IDOT) grooved 1.92 miles of pavement on I-55. The treatment was installed along three separate curved highway segments near the village of Dwight (south-west of Chicago). IDOT chose grooving to

increase wet-pavement traction and reduce splash and spray.

A total of 48,845 square yards of concrete pavement were grooved with an O-3 AR 100G Airport Grooving Machine equipped with diamond blades. Grooves measured 1/8 inch wide and 3/16 inch \pm 1/16 inch deep (3 mm wide and 5 mm \pm 1.5 mm deep) at 3/4 inch (20 mm) centers.

Despite challenging conditions including variable width lanes, tight radius curves and night work, the work was completed in 15 working days.

The longitudinally grooved surface represented

TEAM MEMBERS

- Quality Saw & Seal, Inc.
(Grooving Contractor)

the most economical means for IDOT to address friction at the curves when compared to treatment alternatives such as asphalt overlays and high friction surface treatments, which can cost in excess of ten times more than grooving. Additionally it is expected to last as a finished surface for the lifetime of the concrete pavement with little to no maintenance, an attribute that cannot be claimed by the overlay treatments.

The total project cost including traffic control and slurry disposal was economical at \$439,141, considering the location and traffic density.