

Abstract**LAPPED JOINT BETWEEN CONCRETE STRUCTURES, METHOD FOR FORMING THE SAME, AND GROUTING MONITOR USED DURING GROUTING**

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The present invention discloses a lapped joint between concrete structures and a method for forming the same. The lapped joint includes a first shaped void formed at a first concrete structure adjacent to a first reinforcement. A movable reinforcement is wholly placed within the first shaped void. A second concrete structure is disposed adjacent to the first concrete structure and has a second reinforcement adjacent to a second void. The second void is substantially coaxial to the first shaped void. A portion of the movable reinforcement is present within the first shaped void and another portion thereof is present within the second void. As such, the movable reinforcement laps over the first reinforcement and the second reinforcement, and then the voids containing reinforcements are grouting through positioning the reinforcements. Furthermore, the present invention discloses a method for forming a shaped void in a precast element and a detector configured to detect grout levels.

(FIG. 1)