ACI E706 RAP Bulletin 11 SLABJACKING

Fred Goodwin, FACI, FASTM, FICRI
BASF Construction Chemicals

and Jim Warner who let me use his stuff!!
Fred Goodwin is a chemist with >30 years of experience in the construction chemicals industry, including cement manufacture, research, development, and technical support of grouts, adhesives, coatings, shotcrete, stucco, flooring, and concrete repair materials. He has been with BASF and its predecessors for 28 years and is an active member of ICRI, ACI, ASTM, NACE, SDC, and SSPC. He is a fellow of ASTM, ACI and ICRI, and current chair of the ICRI Technical Activities Committee (TAC) and SSPC 8.3 Commercial Floor Coatings. He was awarded the ASTM Award of Merit in 2016, the JCPL Editors Award in 2006, 2010, and 2012 as well as the ACI 2011 Delmar Bloem Distinguished Service Award and the ACI Foundation – SDC Council – 2015 Roumain Innovation in Concrete Award. He is certified by NACE as a Corrosion Technologist and was recently named as a Top 25 Innovative Thinker by Technology Publishing, and frequently speaks at industry events. He currently heads the BASF Construction Chemicals Global Corrosion Control Competency Center.
FIELD GUIDE TO CONCRETE REPAIR APPLICATION PROCEDURES

Slabjacking
ACI Concrete Terminology

slabjacking—the process of either raising concrete pavement slabs or filling voids under them, or both, by injecting a material (cementitious, noncementitious, or asphaltic) under pressure.
1. Drill Holes
2. Pump Grout
3. Fix Holes
Drill staggered grid of holes every 5 to 10 feet, depending on crack and settlement pattern.

Too close to edge or too fluid can leak instead of lift.

Too fast lifting cracks slab.
Some cracks are wider on top, others on the bottom
As temperatures increase, cracks get narrower and slabjacking is more difficult.
As slab lifts, binding can occur, so be prepared to move pumping location.
PUMPING STARTS AT LOWEST POINT AND WORKS OUTWARD IN BOTH DIRECTIONS
Pump Pressure

2kg/cm² × 30cm² = 60kg

Area of piston 30cm²

Tube

1cm³
Fig. 6—A Y-fitting from a main delivery line divides into two branches (Warner 2004).
Fix Holes
Questions

THANK YOU!

Fred Goodwin FACI, FICRI, FASTM
Head of Corrosion Competency Center
BASF Construction Chemicals, EB-T