SOLCRAFT PDC

E-CHANNEL

CONCRETE PRESSURE TEST

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E-Channel Performance Test

•Test was to determine the effects of the concrete pressure and how the E-channel system would perform under placement conditions. Typical 4’ concrete lift placement procedures were followed. The concrete was vibrated with a 2” concrete stinger for consolidation. The forms were then stripped and measurements were taken.

•The test cubes were a 4’ square wall sections.

- •8” concrete core
- •6” concrete core
- •Concrete 3500 psi 6” slump ¾” stone

8” Wall Core Section Test for the E-Channel Performance

- 8” concrete core
  - 2 E-channels were installed at the top of the first course on each side of the block
    - 2 ½” was cut off at the top of the block and removed to allow for the application the channel.*
    - 2 ½” was cut off at the bottom of the block and removed to allow for the application the channel.*
  - Foam glue was used to secure the channel in place.
  - The Channel-Clips were attached on both sides

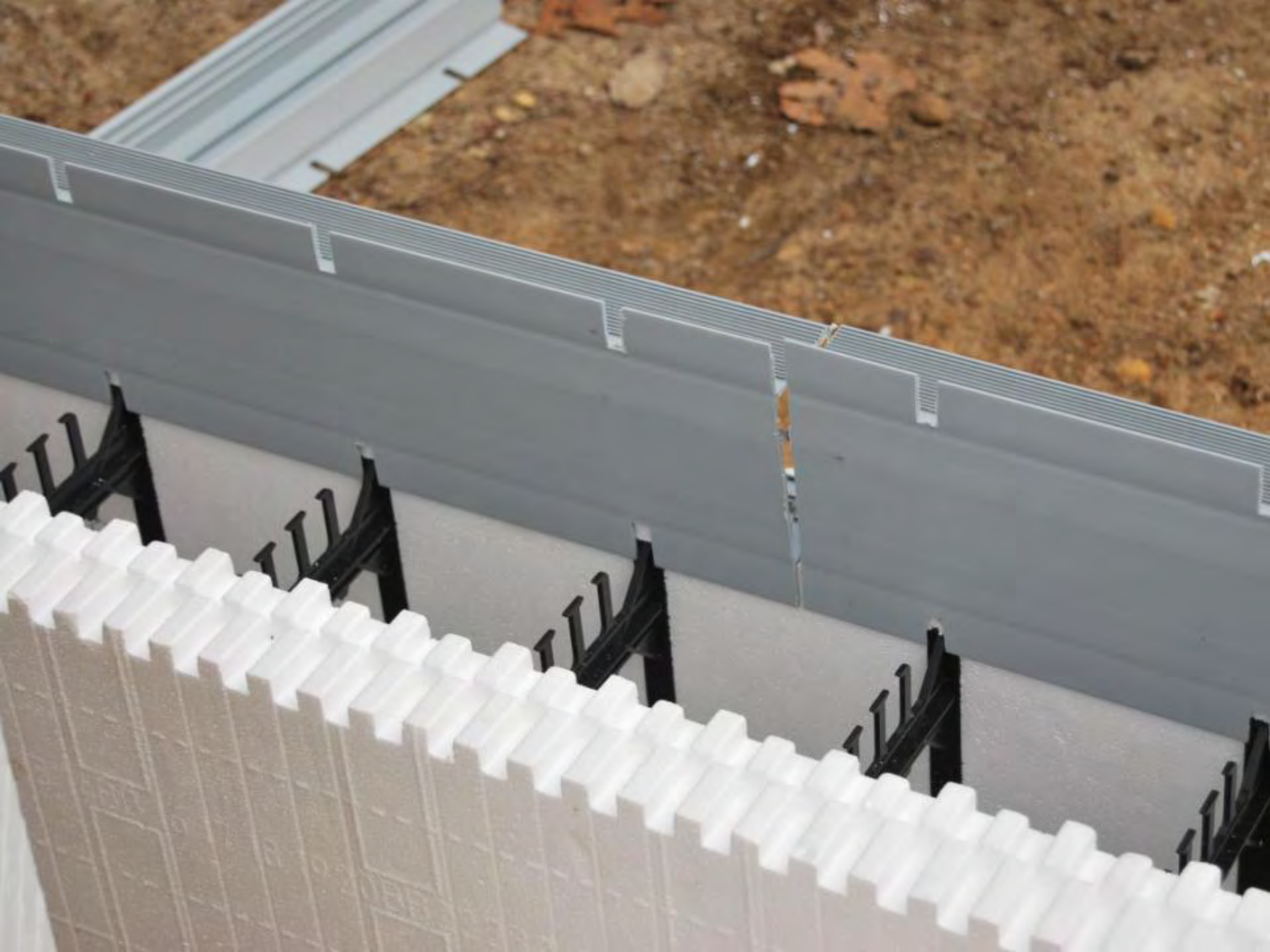
- Note this leaves an open raceway of only 4” and accounts for the block’s interlocks.

The cut pieces are reused to protect the top of the form's interlock.

6" Concrete Core E-channel performance test

- 6" core section
  - E-channel was installed at top of the first course
    - E-Channel had a butt joint in the center of the block
      - 2 ½" was cut off at the top of the block and removed to allow for the application of the channel.*
      - 2 ½" was cut off at the bottom of the block and removed to allow for the application of the channel.*
  - Center Butt joint in the E-channel
    - Expanding glue was not used to secure the channel
    - Red stucco tape was used to cover the butt joint
    - The Channel-Clips were attached on each side of the butt joint.

* Note this leaves an open raceway of only 4" and accounts for the block's interlocks.



The cut pieces are reused to protect the top of the form’s interlock.

Concrete Placement

- 6” core section
- Concrete Placement
  - The concrete was 3500 psi with ¾” stone and a # 6 slump
  - Concrete was dropped from the end of a chute.
  - 2 “+ overfill and then vibrated
- Initial vibration.
  - 2” diameter concrete vibrator head,
    - Stinger was dropped in quickly and pulled out slowly
    - This was done 3 times 9” from each end and one time in the middle
  - Measurement of channel deflection.
    - Top 2 ½”
    - Middle 2 7/16”
    - Bottom 2 ½”
      - Consistent across the length
- 2nd Vibration
  - After the initial measurements, the vibrator was returned to the wall to test to failure. (no failure occurred)
  - Wall was vibrated for 5 minutes
    - No blow outs
  - Measurement of channel deflection.
    - Top 2 7/16”
    - Middle 2 3/8”
    - Bottom 2 7/16”
  - Center of form at the butt joint in the middle of the channel
    - Middle right 2 5/16
    - Middle left 2 3/8

Concrete Placement

- 8” core section

- Concrete Placement
  - The concrete was 3500 psi with ¾” stone and a # 6 slump
  - Concrete was dropped from the end of a chute.
  - 2 “+ overfill
- Initial vibration
  - 2” diameter concrete vibrator head,
  - Stinger was dropped in quickly and pulled out slowly
    - 3 times 9” from each end and one time in the middle
  - Measurement of channel deflection
    - Top 2 ½”
    - Middle 2 7/16”
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- 2nd Vibration
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    - Measurement of channel deflection.
      - Top 2 7/16”
      - Middle 2 3/8”
      - Bottom 2 7/16”

Conclusion

IT WORKS!