

Heat spliced at ALL intersections



Incorrect waterstop splice



Joining Waterstop Lengths

- Heat welding with approved waterstop welding iron – NO OVERLAPPING
 - 380 – 390 F for PVC
 - 390 - 410 F for TPER & PE
 - Avoid charring or pinholes
 - Proper rib/centerbulb alignment
- Testing
 - Field test by bending around curved object once weld has cooled.
- Highly recommend factory-made fabrications for intersections!



Field Fabrication Tools



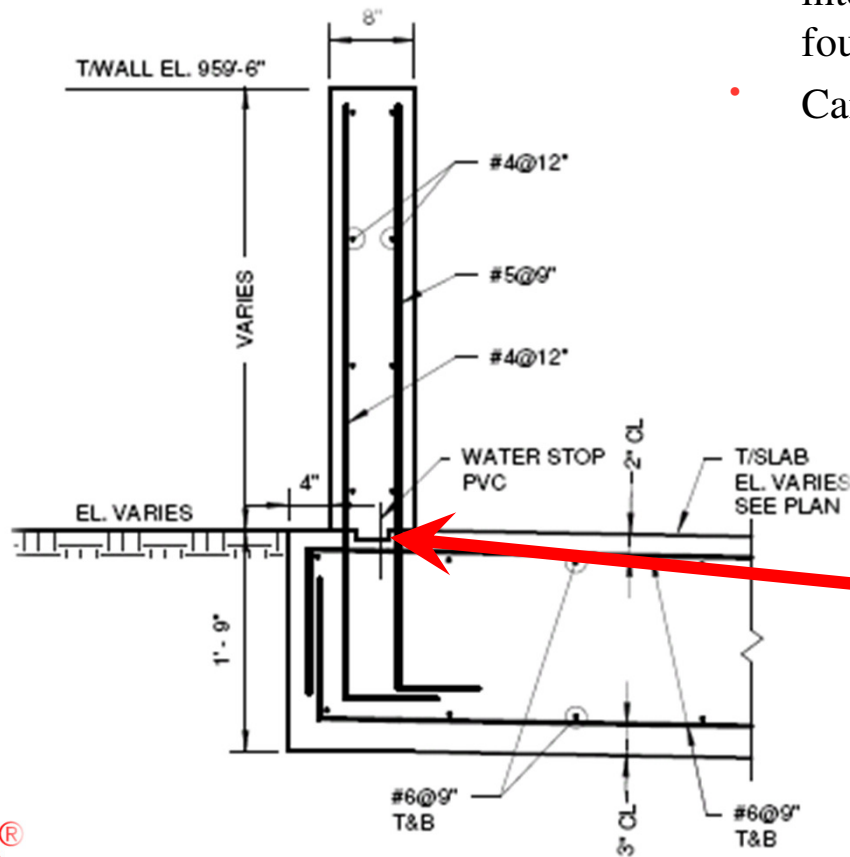
Field Fabrication Tools



Waterstop - Rebar Intersections

Waterstop between the base of a wall and top of slab

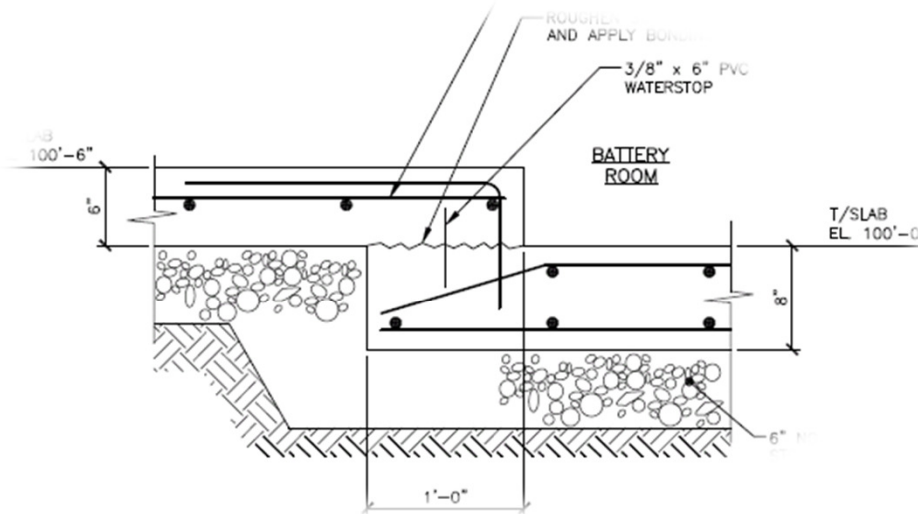
- Waterstop in recessed keyway will often interfere w/ top mat of steel in foundation/slab
- Cannot puncture waterstop to accommodate



This is a problem!

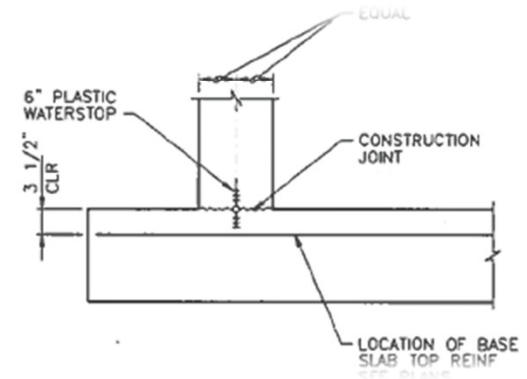
The Infamous Detail... Some Common Solutions

Waterstop Between the base of a wall and top of slab



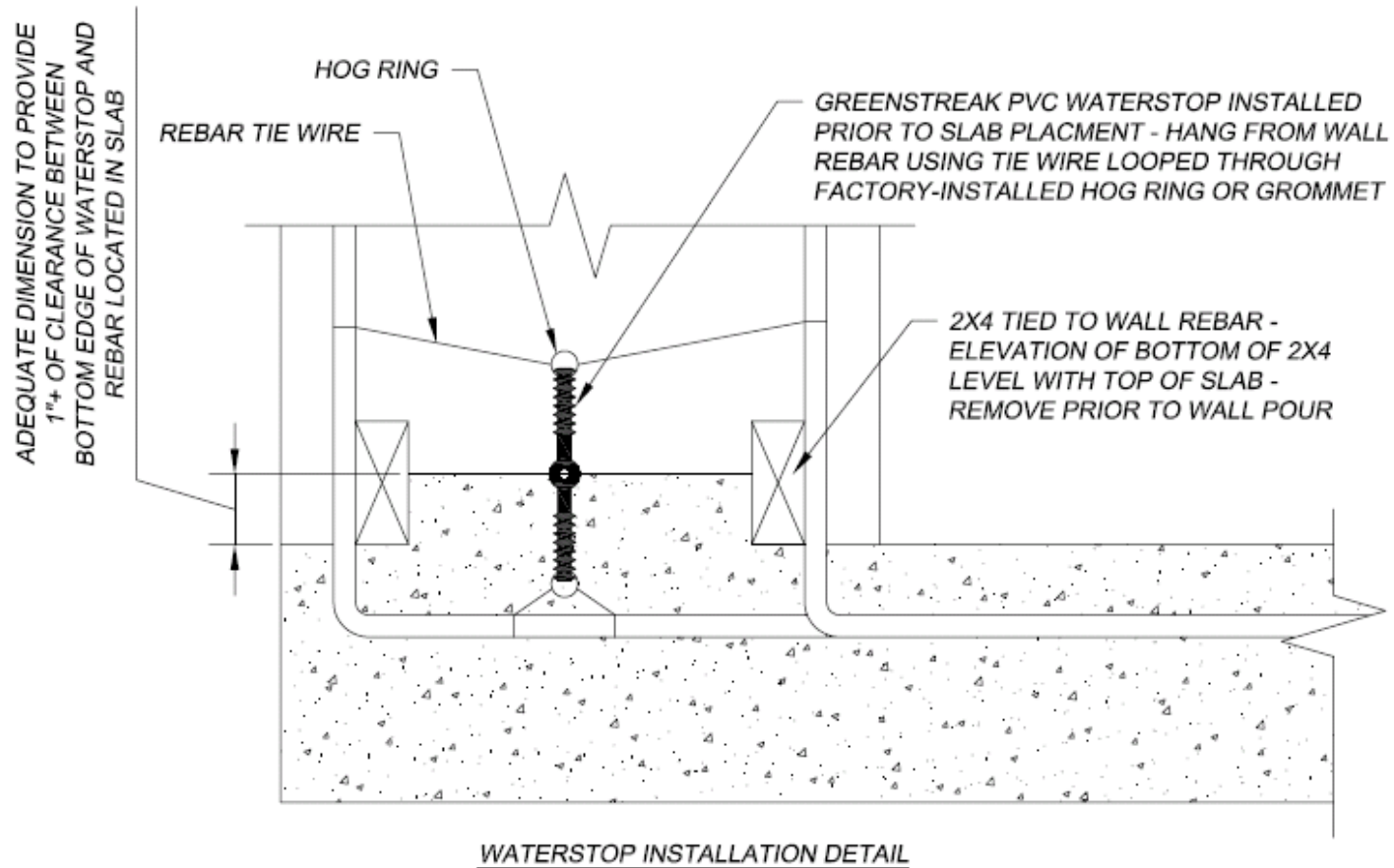
1. Bend Rebar

2. Lower Top Mat of steel

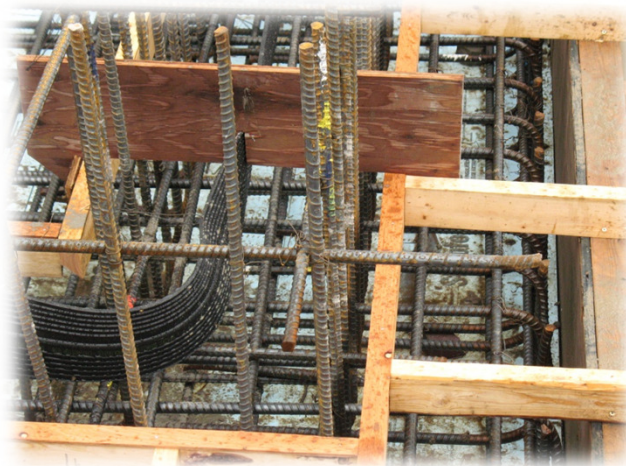
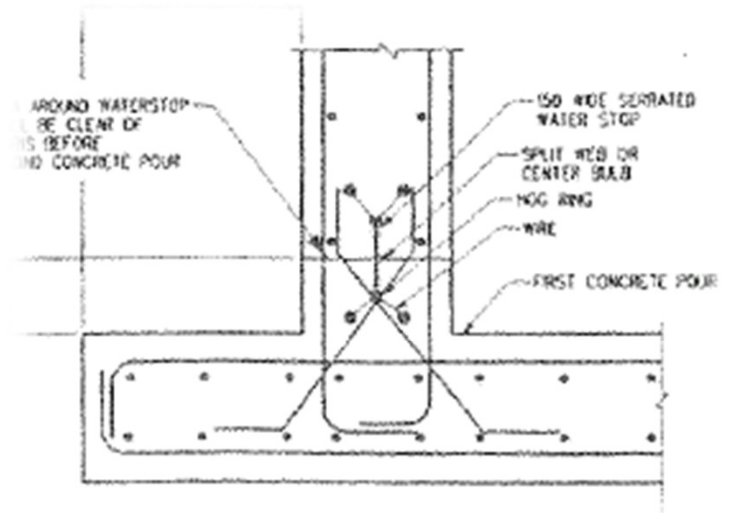


The Infamous Detail...Common Solutions

“Upturned Keyway”



The Infamous Detail...Common Solutions “Starter Wall”

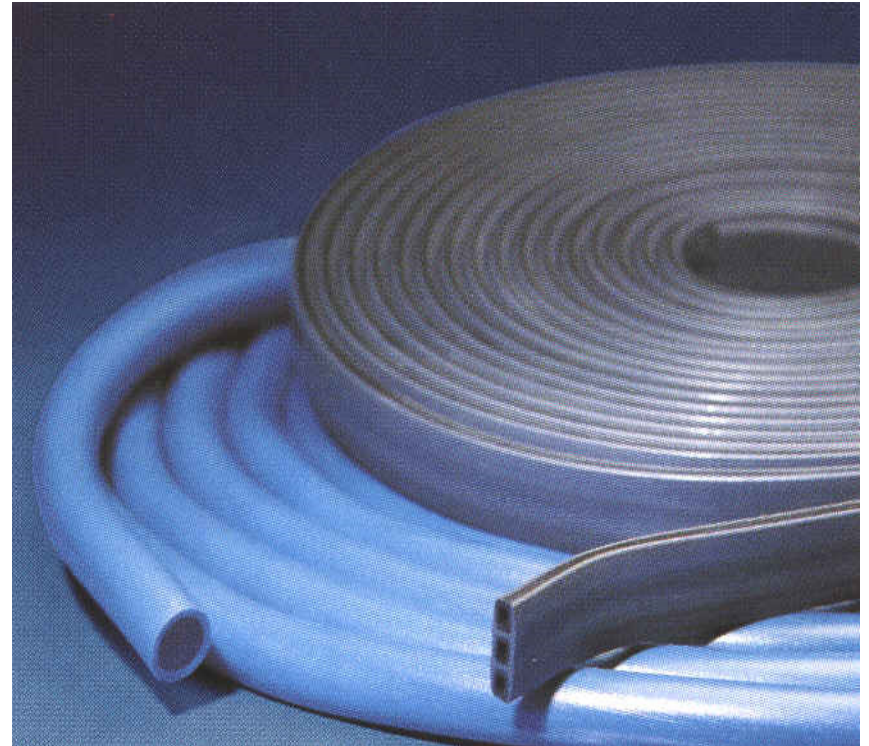


Strip-applied Waterstops

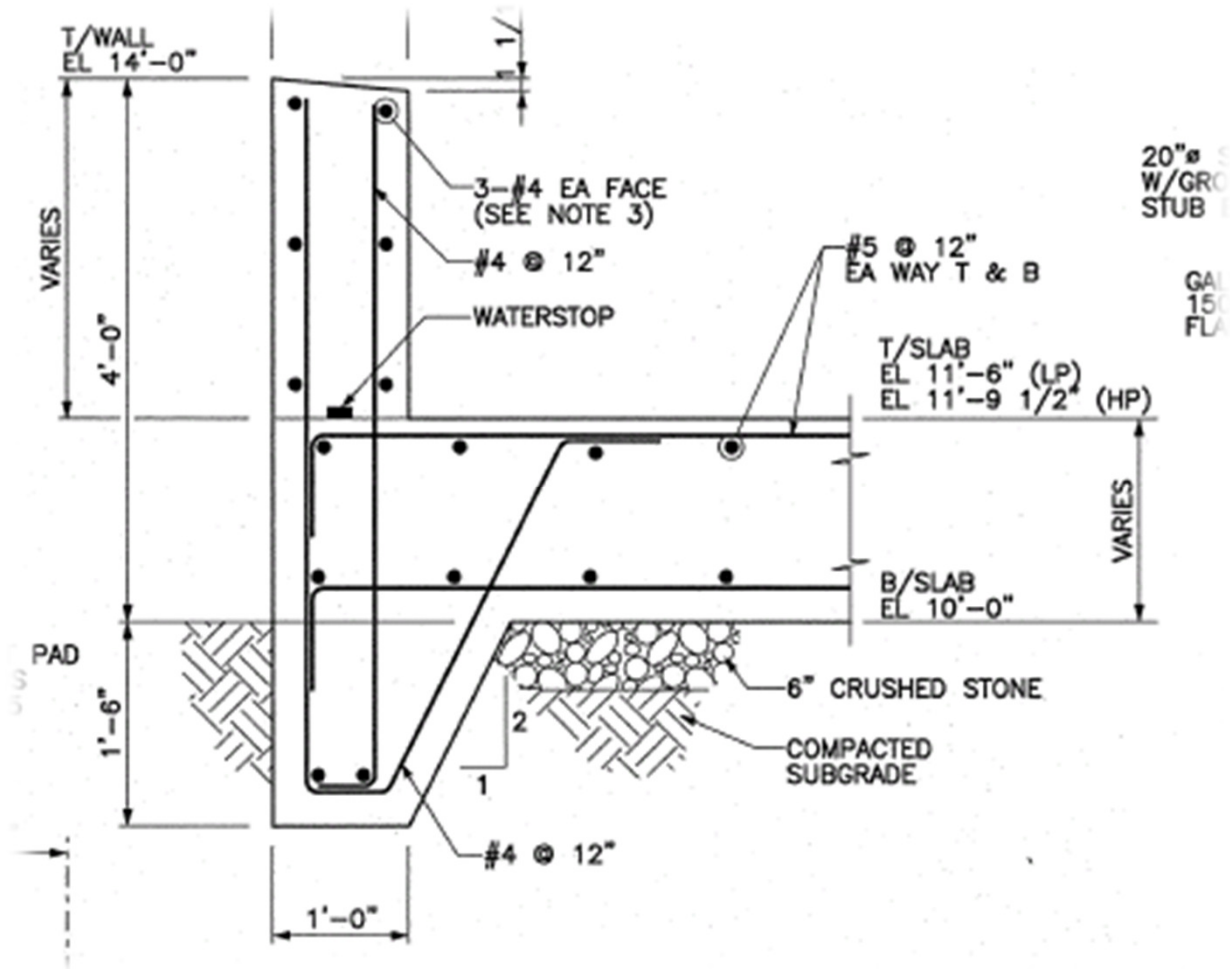


Applications include:

- ◆ Foundation walls and slabs
- ◆ Slabs-on-grade
- ◆ Precast wall panels
- ◆ Manholes
- ◆ Pipe connections
- ◆ Box culverts
- ◆ Utility and burial vaults
- ◆ Wet wells
- ◆ Portable water tanks



Remember the rebar interference issue? Solved!



Other Useful Applications



Inexpensive
“Belt & Suspenders”

Repairing damaged or improperly installed internal waterstop

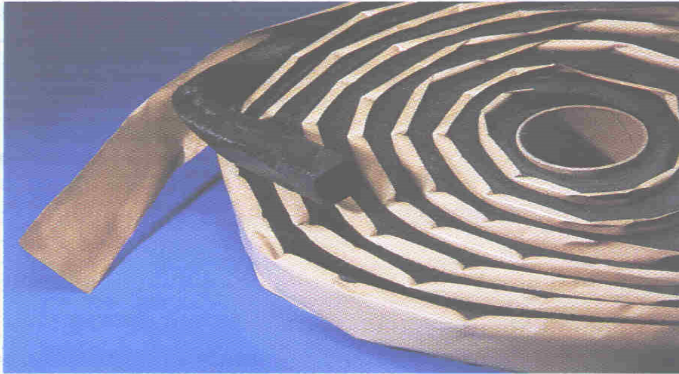


Strip-applied Mastic Waterstop

- Adhesive Seal – no swelling action
- No chemical resistance
- Durability – Fair
- Lowest cost



Strip-applied Bentonite Waterstop



Applications include:

- ◆ Foundation walls and slabs
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- ◆ Utility and burial vaults
- ◆ Wet wells
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Swells upon contact w/ water to provide a compression seal

Swells several times its original volume

2-4 inches concrete coverage required...**VERIFY!!**

Durability – Fair

Not considered chemical resistant

Strip-applied Hydrophilic Rubber/Acrylate Waterstop (Hydrotite)



- Swells upon contact w/ water to provide a compression seal
- Contains NO bentonite
- 2+” concrete coverage required - VERIFY
- Durability – Excellent
- Consider swell time & degree of swell for chemical applications
- Should not be specified as “equal” to bentonite waterstop

Leakmaster LV-1



- Swells upon contact w/ water to provide a compression seal
- Expands about two times its original volume
- Adheres to various materials before swelling
- Substitute for Greenstreak 7300 Epoxy for Hydrotite (smooth, dry conditions)
- Not considered chemical resistant
- User-dependent consistency

Strip-applied Waterstops

Pro's...

- **Eliminates need for split-formwork**
- **Eliminates need for heat splicing**
- **Easy to bend around small radii**
- **Easy to install in tight spaces**
- **Economical waterstop for retrofit applications**
- **Overall, easy to install**

Con's...

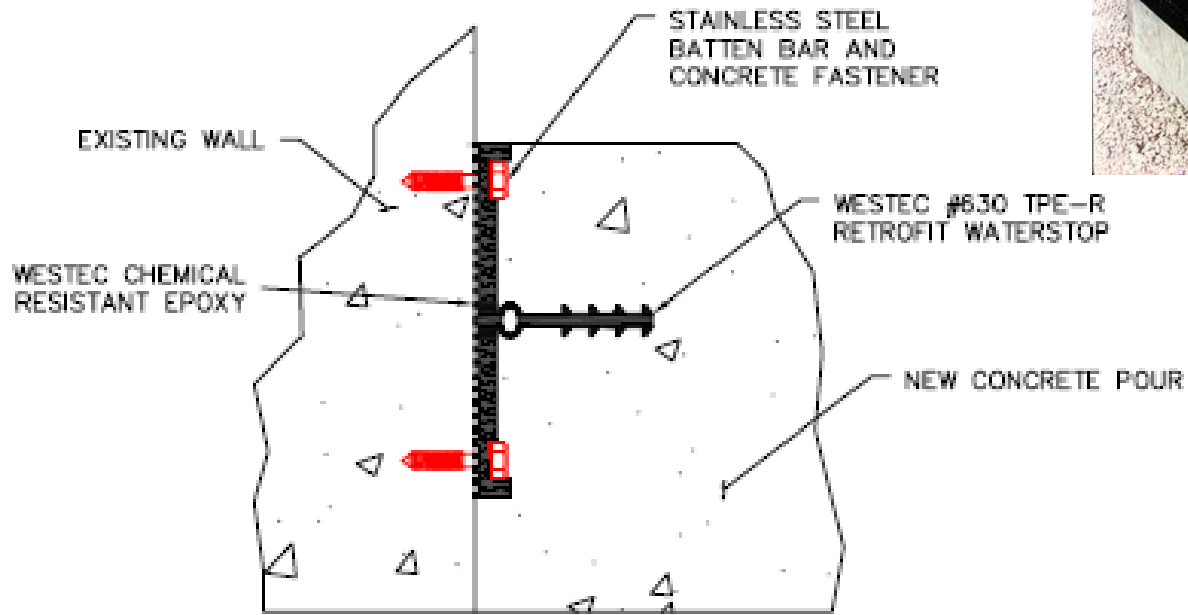
- For use in non-moving joints only
- Must be secured with a primer/adhesive - often requires fairly smooth, dry surface
- Requires excellent concrete consolidation
- Often attacked by chemicals
- Chemicals can affect maximum swell capacity
- Chemicals can affect swell rate
- Work best in constantly wet environments
- Improper installation/cover results in spalled concrete



Retrofit Applications – Sealing between new & existing concrete structures



Retrofit Systems For Existing Concrete or Around Columns



INSTALLATION

SCALE: NOT TO SCALE



Construction



Good Installation – Epoxy Squeezes from behind waterstop



Construction



Good Installation - offset batten bars
A Tapcon in every hole



Fully Welded Fabrication

INTERACTIVE VIEW
SCALE: N.T.S.

2'
END CAP PLUG
#630
#638
1'

630/638 FLAT TEE
SCALE: 3" = 1'-0"

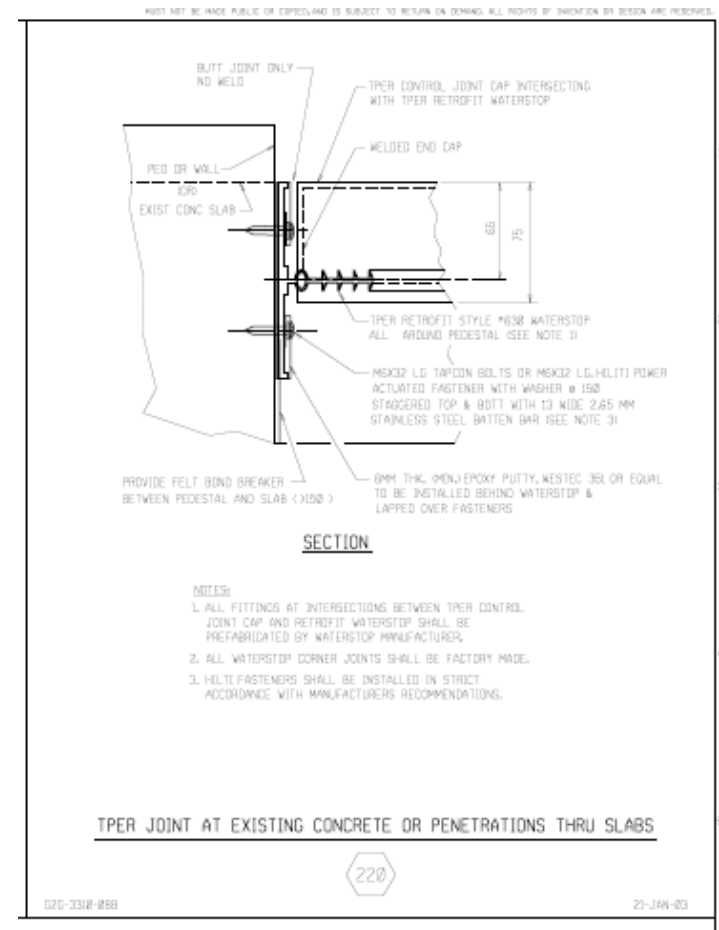
SCALE: 6" = 1'-0"

| REV. NO. | REVISION | BY | CHK | APP | DATE | DESIGNED | DATE |
|----------|---------------|-----|-----|-----|---------|-----------|---------|
| 1 | 3D VIEW ADDED | LEP | | | 5/25/11 | R. MOSBEY | 5/28/02 |
| | | | | | | R. MOSBEY | 5/28/02 |

| | | | |
|---------------------------------------|--|-----------------------------------------------------|--|
| PART NUMBER: 0630299 | | WESTEC® BARRIER TECHNOLOGIES, INC. | |
| QUANTITY REQUIRED: | | 3400 TREE CRT. IND. BLVD., ST. LOUIS, MO 63122-6688 | |
| SCALE: AS SHOWN | | PH: 800-792-7832 (636-861-0443) FX: (636-225-4849) | |
| DWG. REF. NO.: WTC630_638FT | | WEBSITE: www.chemstop.com EMAIL: info@chemstop.com | |
| TITLE: #630/#638 FLAT TEE FABRICATION | | REV | |



Retrofit Profiles #630



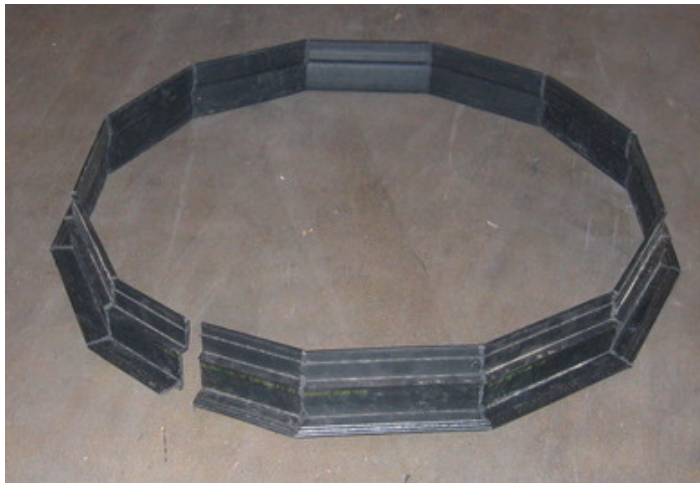
Construction



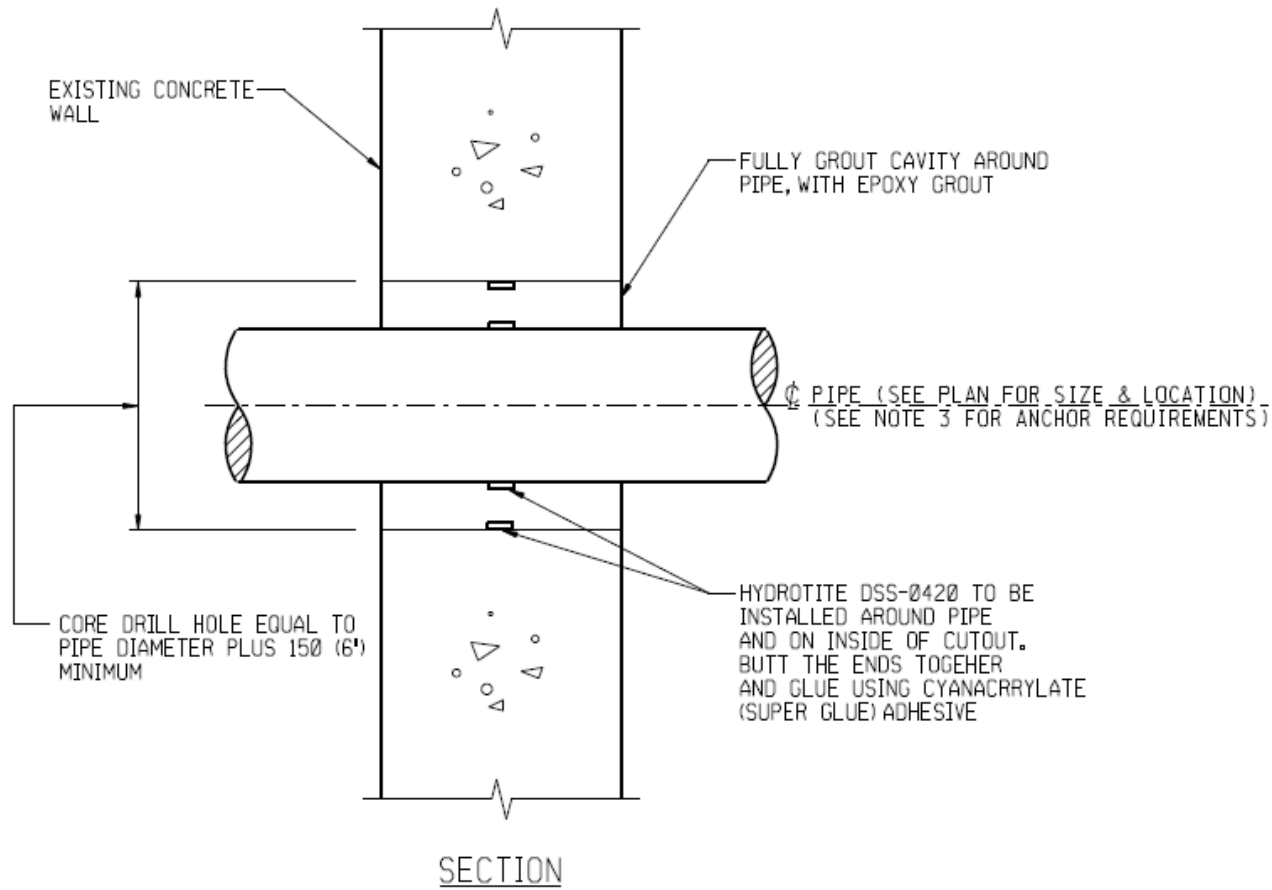
Curved foundations can use straight retrofit
If they are 15' diameter or greater

What about pipe penetrations?

- All Westec retrofit profiles available as pipe penetration fabrication
- Wrapped around pipe/column like a “belt” (open end field welded)
- Secured to pipe/column with stainless steel banding and epoxy



Construction



NOTES:

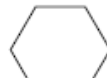
1. HYDROTITE MANUFACTURED BY C.I. KASEI CO LTD.
IS AVAILABLE FROM:

WESTEC BARRIER TECHNOLOGIES INC.
3400 TREE COURT INDUSTRIAL BLVD.
ST. LOUIS MISSOURI, 63122
PHONE: (800) 325-9504 / (636) 225-9400
EMAIL: INFO@GREENSTREAK.COM
WWW.CHEMSTOP.COM

2. HYDROTIGHT SHALL BE INSTALLED PER MANUFACTURES SPECIFICATIONS.

3. PIPE MUST BE ANCHORED AT OR NEAR WALL PENETRATION
TO PREVENT MOVEMENT AND LOSS OF SEAL.

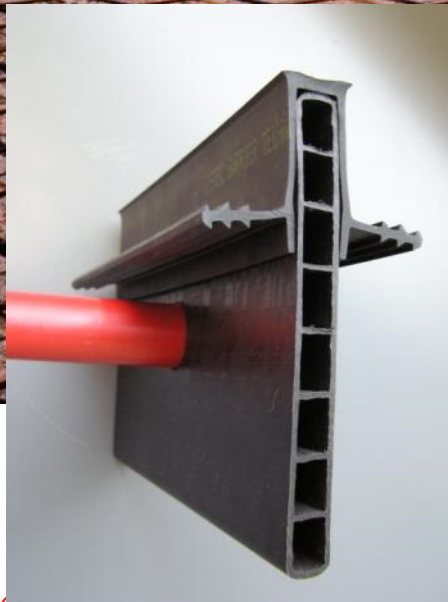
PIPE PENETRATION THROUGH EXISTING CONCRETE WALL



Sika

Construction

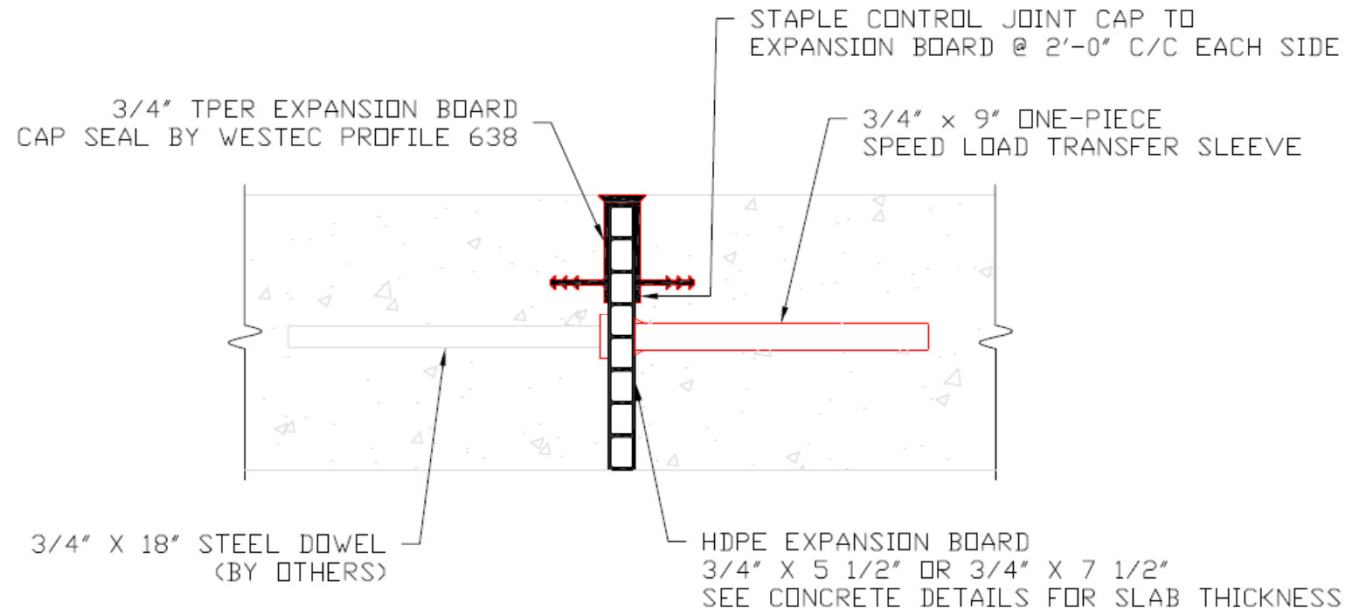
EB-Cap Installed Sealant/Waterstop



Expansion Board Cap Seal System



EB-Cap One Step Sealed Joint Placement



EB-Cap Installation Process



Construction



Construction

Finished/Installed Product



Sika®

Construction



Questions and References

- ▲ Download Data Sheets and Installation Guides
- ▲ www.chemstop.com
- ▲ www.greenstreak.com
- ▲ [Installation Video](#) – YouTube Greenstreak
- ▲ Bruce Zhu – Zhu.Bruce@us.sika.com



Construction



Thank You!