TYP. HDPE TO HDPE FUSION WELD CONNECTION, SEE SHEET A320
ECI 6-12 ASSEMBLY, SEE SHEET A328
TYP. FUSION WELDED VENT/DRAIN, SEE SHEET A439 FOR ALL COMBINATIONS OF VENT & DRAIN DETAILS
TYP. HDPE TO HDPE ELECTROFUSION CONNECTION, SEE SHEET A319
3" DR-17 HDPE PIPE
FOR SEGMENTAL COUPLER DETAILS, SEE SHEET A414A.
FOR SEGMENTAL COUPLER INSTALLATION PROCEDURE, SEE SHEET A437
BEARING PLATE TO HDPE PIPE CONNECTION, SEE SHEET A347
BEARING PLATE TO HDPE PIPE CONNECTION, SEE SHEET A328
ECI 6-12 TENDON W/ FLEXIBLE FILLER OVERALL ASSEMBLY
SEGMENTAL TENDON OVERALL ASSEMBLY
NOTES:
1. CONNECTIONS & MATERIALS SHOWN IN EITHER CONFIGURATION CAN BE USED INTERCHANGEABLE, OMITTING ANY CONNECTIONS NOT REQUIRED FOR A PARTICULAR JOB.
2. HOT/PRE-BENT MINIMUM BEND RADIUS FOR 3" HDPE PIPE WITH 12 STRANDS IS 8'-0". REFER TO HOPE PIPE HEATED PRE-BENDING PROCEDURE.
3. COLD/FIELD MINIMUM BEND RADIUS FOR 3" HDPE PIPE IS 16'-0".
### Installation Procedures

1. **Assemble Trumpet into the Bearing Plate.** Apply 1¼" Bonduit All Around Lubricant to Bearing Plate prior to Installing Trumpet. Use Slot to Align Plate and Trumpet. Insert Trumpet until Seat is Engaged.

2. **Install Anchor Heads**. Use Mounting Holes in Bearing Plate to Mount Bearing Plate Assembly to Form. Secure Bearing Plate Assembly with Anchorhead Cap Bolts. Use Care Not to Damage Threads.

3. **Install and Secure Spiral.**

4. **Install Filler Port Connections.** Seal all temporary connections with Bonduit Silicone Grease (by others) and seal all permanent connections with Bonduit or Similar (by others).

5. **Secure Duct Supports @ 2' max.** Install Mandrels into Trumpets.

6. **Per Foot Specification Section 462.8.2.1.2, a Vacuum Test is Required Prior to Concrete Placement.**

7. **Install Strands.** Leave Sufficient Strand for Stressing Equipment.

8. **Install Anchor Heads and Wedges.** Make Sure Wedge Cavities are Clean and Rust Free. Use Wire Brush to Clean if Necessary. Align Anchor Head to Bearing Plate Using a Anchorhead Cap Template.

9. **Only Stress Strands if Concrete has Reached Required Strength Specified on Drawings.**

10. **Elongation Should be Within ±7%.**

11. **After Engineers Approval, Strand Tails May Be Cut.**

12. **After Form Work is Removed, Use Mounting Bolts to Install Anchorage Cap With O-Ring.**

13. **After Engineers Approval, Anchorage Cap Bolts May Be Cut.**

14. **After Engineers Approval, Use Bonduit Silicone Grease (by others).**

15. **For the Foot Specification Section 462.8.2.2, a Second Air Pressure Test is Required After Strand Stressing and Prior to Wax Injection.**

16. **Wax Tendon to Wax Spec.**

17. **Wax Tendon Per Wax Spec.**

### Table of Parts

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### System Details

- **File Name:** A328 ECI 6-12 Assembly with Flexible Filler.dwg
- **Design:** ECI 6-12 Assembly with Flexible Filler
- **Material:** Steel Gr60 Per ASTM A615
- **Finish:** Commercially Available

### Notes

- All items marked with a "T" are temporary and are not a permanent part of the system.
INSTALLATION PROCEDURE (SEE MANUFACTURER INSTRUCTION MANUAL FOR DETAILED INSTALLATION INSTRUCTIONS):  
1. CUT SQUARE ENDS ON PIPE TO BE FUSED  
2. CLEAN BOTH PIPE ENDS  
3. SCRAPE BOTH PIPE ENDS WITH PROVIDED SCRAPING TOOL  
4. CLEAN BOTH PIPE ENDS USING 90% OR GREATER ISOPROPYL ALCOHOL  
5. USE ROUNDING TOOLS PROVIDED TO CORRECT OVAL PIPE IF NECESSARY  
6. USE ALIGNMENT CLAMPS PROVIDED TO ENSURE PIPE IS ALIGNED WITH COUPLER  
7. SUPPORT PIPE AND COUPLER AND RESTRAIN PIPE TO PREVENT MOVEMENT  
8. CHECK FOR GAPS AND ELIMINATE AS NECESSARY  
9. ATTACH LEADS OF THE PROVIDED FUSION PROCESSOR TO THE COUPLER  
10. SCAN THE BARCODE ON THE COUPLER  
11. START FUSION PROCESS  
12. WHEN FUSION PROCESS IS COMPLETE, UNPLUG THE LEADS  
13. DO NOT MOVE OR PRESSURIZE THE JOINT COMPONENTS BEFORE COOLING TIME HAS COMPLETED  

NOTE: FOLLOW COUPLER MANUFACTURER'S INSTALLATION INSTRUCTIONS
NOTES:
1. HDPE 3" IPS/DR-17 MEETS FDOT 960 SPEC.
2. SEE VSL BUTT-WELDING PROCEDURE IN APPENDIX
3. USE INSPECTED & APPROVED FUSION PIPE WELDER
ECI 6-12 ANCHORAGE CAP

NOTE: ITEMS MARKED WITH A "T" ARE TEMPORARY AND ARE NOT A PERMANENT PART OF THE SYSTEM.
NOTES:
1. ITEMS MARKED WITH A "T" ARE TEMPORARY AND ARE NOT A PERMANENT PART OF THE SYSTEM.
2. ALL COMPONENTS MUST BE PRESSURE RATED FOR 150 PSI.
3. CONCRETE COVER MUST MEET FDOT STRUCTURES DESIGN GUIDELINES SECTION 1.4.2.

SEE SHEET A336 FOR ANCHORAGE CAP ALTERNATIVE VENTING DETAILS.

ITEM | QTY | DESCRIPTION | MATERIAL | INVENTORY # | DWG # |
--- | --- | --- | --- | --- | --- |
1 | 1 | 1/4" NPT PP PLUG | HDPE BLACK PER ASTM D3350 | 02DT019 | C695 |
2 | 1 | 1" NPT PP PLUG | BLACK POLYPROPYLENE PER ASTM D4101 | 02DT01948 | C879 |
3 | 1 | ECI 6-12 BEARING PLATE W/ 1" NPT PORT CAST IRON GR80-55-06 PER ASTM A536 | CAST IRON GR80-55-06 PER ASTM A536 | 02BP0037V | C737 |
4 | 1 | ECI 6-12 ANCHORAGE CAP W/ 1/4" VERT. PORT | ABS LUSTERAN 633 PER ASTM D4673 | 02GC61203 | C739 |
5 | 1 | ECI 6-12 ANCHORAGE CAP O-RING | COMMERCIAL O-RING | 02WX5020 | C796 |
6 | 1 | 1" NPT NIPPLE | SCH 40 STEEL | - | C752 |
7 | 1 | 1/4" PAN HEAD SCREW | 316 STAINLESS STEEL PER ASTM A240 | 02WX7001 | A336 |
8 | 1 | 1" NPT CAP | BLACK POLYPROPYLENE PER ASTM D4101 | 02DT01941 | C877 |
9 | 1 | 1/4" TURN BOLT | WHITE COPPER | - | C755 |
10 | 1 | BONDUIT | COMMERCIALLY AVAILABLE | - | - |
11 | 1 | SILICONE GREASE | COMMERCIALLY AVAILABLE | - | - |
12 | 2 | 1" FNPT X MNPT STEEL ELBOW | SCH 40 STEEL | 02DT01955 | C751 |
13 | 1 | 1" FNPT COUPLER | STEEL | 02DT01953 | C752 |

NOTES:
1. ITEMS MARKED WITH A "T" ARE TEMPORARY AND ARE NOT A PERMANENT PART OF THE SYSTEM.
2. ALL COMPONENTS MUST BE PRESSURE RATED FOR 150 PSI.
3. CONCRETE COVER MUST MEET FDOT STRUCTURES DESIGN GUIDELINES SECTION 1.4.2.

SEE SHEET A336 FOR ANCHORAGE CAP ALTERNATIVE VENTING DETAILS.

EPOXY GROUT POUR-BACK AREA (TYPICAL)—REFER TO FOOT STANDARD PLANS BEC-A200 FOR POST-TENSIONING ANCHORAGE AND TENDON FILLING DETAILS.

NOTES:
1. ITEMS MARKED WITH A "T" ARE TEMPORARY AND ARE NOT A PERMANENT PART OF THE SYSTEM.
2. ALL COMPONENTS MUST BE PRESSURE RATED FOR 150 PSI.
3. CONCRETE COVER MUST MEET FDOT STRUCTURES DESIGN GUIDELINES SECTION 1.4.2.

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NOTES:
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2. ALL COMPONENTS MUST BE PRESSURE RATED FOR 150 PSI.
3. CONCRETE COVER MUST MEET FDOT STRUCTURES DESIGN GUIDELINES SECTION 1.4.2.

SEE SHEET A336 FOR ANCHORAGE CAP ALTERNATIVE VENTING DETAILS.
STEP 1
1. Orient bearing plate in vertical position.
2. Apply Bonduit around outside of end of pipe (2" Min.) that will be inserted into bearing plate. Total pipe length should be 2'-0" Min.

STEP 2
1. Insert pipe into bearing plate.
2. Wait Min. 1 hour for Bonduit to set.

STEP 3
1. After Bonduit has set for 1 hour, wrap heat shrink sleeve around bearing plate and pipe as shown.

STEP 4
1. Follow heat shrink installation instructions (provides as a separate appendix).

ITEM | QTY | DESCRIPTION | MATERIAL | INVENTORY # | DWG #
--- | --- | --- | --- | --- | ---
1 | 1 | ECI 6-12 bearing plate w/ 1" NPT port Galvanized per ASTM A123 | Cast Iron (US) (ES-8) per ASTM A335 | 02BP0037V | C737
2 | 1 | 3" DR-17 PIPE | HDPE per ASTM D3350 | - | C882A
3 | 1 | CANUSA KLNN-90 WS BOL. 3" HEAT SHRINK SLEEVE | Polyolefin per FDOT 960 Table 2.2.1.8-1 | 02DT0513 | C761
4 | - | BONDUIT | - | - | -
ELEVATION VIEW

ITEM | QTY | DESCRIPTION                      | MATERIAL                                      | INVENTORY # | DWG # |
-----|-----|----------------------------------|-----------------------------------------------|-------------|-------|
1A   | 1   | 76MM OXTC SC - HUB              | WHITE POLYPROPYLENE PER ASTM D4101            | 02SC07601    | C646  |
1B   | 1   | 3" SC BLK - TAPERED HUB        | HDPE BLACK PER ASTM D3350                     | 02SC07611    | C860  |
2    | 2   | 76MM SEGMENTAL COUPLER CHAMPS   | SANTOPRENE PER FDOT 960 TABLE 2.2.1.7-2      | 02WX0232     | C903  |
3    | 1   | 76MM OXTC SC - FACE SEAL        | SANTOPRENE PER FDOT 960 TABLE 2.2.1.7-2      | 02SC07603    | C648  |
4    | 1   | 2" HOPE PIPE DR-17             | HDPE BLACK PER ASTM D3350                     | -            | C882A |

3" PIPE SEGMENTAL COUPLER

FUSION BUTT WELD USE INSPECTED & APPROVED FUSION WELDER

1/2" MIN

LENGTH "L"

DIAMETER "D1"

DIAMETER "D2"

FUSION BUTT WELD USE INSPECTED & APPROVED FUSION WELDER

ELEVATION VIEW

TAPERED HUB SIZE CHART

DESCRIPTION | LENGTH "L" | DIAMETER "D1" | DIAMETER "D2"
-------------|------------|---------------|---------------
3" SC BLK - TAPERED HUB | 1.09" | 4.00" | 3.27"
**Segmemtal Duct Coupler**

**Installations Guide**

---

**NOTES:**

1. THE "OPEN" SIDE OF THE SPIDER CLIP IS MANUALLY "SNAPPED" ONTO EITHER THE HUB (SHOWN SHEET 4) OR THE FORM TOOL (SHOWN HERD).
2. THE "CLOSED" SIDE OF THE SPIDER CLIP IS "ENGAGED" WHEN THE MANDREL IS INSERTED THROUGH THE SPIDER CLIP FROM THE "OPEN" SIDE (SEE SHEET 2).
3. THE SPIDER CLIP IS USED TO:
   3.1. SECURE THE FORM TOOL TO THE HUB IN CASE OF A WET CAST (SEE SHEETS 1-3), AND
   3.2. SECURE THE HUB OF A MATCH-CAST SEGMENT TO THE HUB OF A PRE-CAST SEGMENT (SEE SHEET 4-6).
4. SPIDER CLIP SHOULD ALWAYS BE ORIENTED AS SHOWN WITH THE WIDE MANDREL RAMPS VERTICAL TO EACH OTHER.

**FORMING MATERIALS**

- **FORM BUMLHEAD**
  - (2) Ø1/2" NITRILE WASHER [INV. #02SC50001]
  - (2) Ø1/2" FLAT WASHER [INV. #02SC50003]

- **Mandrel (Not Shown)**
  - (2) Ø1/2"UNC-1.25" LONG HEX BOLT [INV. #02SC50003]
  - (2) Ø1/2" UNC NUT [INV. #02SC50003]

**FORM PLAN VIEW**

- **Spider Clip**
- **Form Tool**

---

**Section A-A**

**Forming Materials**

- **Forming Materials**
  - (1) Mandrel (Not Shown)
  - (2) Ø1/2" UNC Nut (2 Places) Welded to Form (All Segmented Duct Couplers Sizes)

---

**Forming Preparation Guide**

- **Form Tool**
  - For 76mm, See Sheet C651 [INV. #02SC07605]
  - For 100mm, See Sheet C645 [INV. #02SC10005]
  - For 130mm, See Sheet C661 [INV. #02SC13005]

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**NOTES:**

1. PART NUMBERS SHOWN ARE FOR 3/8" THICK FORMWARD ONLY
2. ALTERNATE FORM TOOLS MAY BE USED BY CONTRACTOR ONLY IF THEY PERMIT ±6° SKEW ANGLE AND IF THEY POSITION THE RECESS FORMER HALF-WAY INSIDE THE FORM BEING CAST.

---

**Forming Materials**

- **Forming Materials**
  - (1) Ø Thru Hole in Form for 76mm 8" For 100mm 10" For 130mm 12 1/8"
WET CAST FORM

MANDREL

SCH. 40 PVC RECOMMENDED
FOR 76MM USE 2.38" OD MANDREL, 2" PVC OR SIMILAR
FOR 100MM USE 3.50" OD MANDREL, 3" PVC OR SIMILAR
FOR 130MM USE 4.50" OD MANDREL, 4" PVC OR SIMILAR

HDPE SMOOTH PIPE

FOR 76MM, SEE SHEET C651 [INV. #02SC07605]
FOR 100MM, SEE SHEET C645 [INV. #02SC10005]
FOR 130MM, SEE SHEET C661 [INV. #02SC13005]

FORM TOOL (PIVOTS ON Ø1/2"UNC BOLTS ±6° SKEW FROM BULKHEAD)

FOR 76MM, SEE SHEET C651 [INV. #02SC07605]
FOR 100MM, SEE SHEET C645 [INV. #02SC10005]
FOR 130MM, SEE SHEET C661 [INV. #02SC13005]

O-RINGS

FOR 76MM, SEE SHEET C903 [INV. #02WX0232]
FOR 100MM, SEE SHEET C793 [INV. #02VS06406]
FOR 130MM, SEE SHEET C904 [INV. #02WX0348]

HUB

FOR 76MM, SEE SHEET C646 [INV. #02SC07601]
FOR 100MM, SEE SHEET C641 [INV. #02SC10001]
FOR 130MM, SEE SHEET C656 [INV. #02SC13001]

HDPE SMOOTH PIPE

USE INSPECTED & APPROVED FUSION WELDER

HDPE SMOOTH PIPE

FUSION BUTT WELD

USE INSPECTED & APPROVED FUSION WELDER

MAX ARTICULATION WITH BULKHEAD IS 6°

RECESS FORMER

FOR 76MM, SEE SHEET C649 [INV. #02SC07607]
FOR 100MM, SEE SHEET C639 [INV. #02SC10007]
FOR 130MM, SEE SHEET C659 [INV. #02SC13007]

SPIDER CLIP

FOR 76MM, SEE SHEET C639 [INV. #02SC07606]
FOR 100MM, SEE SHEET C639 [INV. #02SC10006]
FOR 130MM, SEE SHEET C659 [INV. #02SC13006]

MANDREL

SCH. 40 PVC RECOMMENDED
FOR 76MM USE 2.38" OD MANDREL, 2" PVC OR SIMILAR
FOR 100MM USE 3.50" OD MANDREL, 3" PVC OR SIMILAR
FOR 130MM USE 4.50" OD MANDREL, 4" PVC OR SIMILAR

1. BOLT THE APPROPRIATE FORM TOOL TO THE BULKHEAD WITH A SPIDER CLIP INSTALLED IN EACH FORM TOOL.
2. POSITION A RECESS FORMER BETWEEN THE FORM TOOL AND THE HUB.
3. (OPTIONAL) DUCTS CAN BE PRE-ASSEMBLED WITH HUB SEALS AND HUBS TO SPEED THE FORMING TIME. ANY SILICON-BASED OR OIL-BASED LUBRICANT OR DISHWASHING DETERGENT SOLUTION ACCEPTABLE TO THE CONTRACTOR AND THE LOCAL DOT MAY BE USED TO ASSIST WITH THE ASSEMBLY OF THE SEGMENTAL DUCT COUPLER COMPONENTS.
4. INSERT MANDREL THROUGH THE FORM TOOL, ENGAGING THE SPIDER CLIP AND SECURING THE FORM TOOL TO THE HUB. WITH A RECESS FORMER SANDWICHED IN BETWEEN.
5. PLACE THE FORM TOOL ON THE HUB WHERE THE MANDREL WILL BE INSERTED FROM THE OPPOSITE DIRECTION AS SHOWN. THE SPIDER CLIP WILL BE ATTACHED TO THE HUB AND WILL ENGAGE THE FORM TOOL ONCE THE MANDREL IS INSERTED.
6. THE WET CAST IS READY TO POUR.
7. AFTER THE CONCRETE IS POURED, DISASSEMBLE THE FORM IN THE FOLLOWING ORDER:

7.1 REMOVE ALL MANDRELS
7.2 STRIP THE BULKHEAD FORMWORK FROM THE SEGMENT FACE.
7.3 REMOVE ALL RECESS FORMERS. VISUALLY INSPECT. IF THERE ARE NOT SIGNIFICANT CUTS OR TEARS, RETAIN RECESS FORMER, OTHERWISE DISCARD.
7.4 THERE IS NO NEED TO REMOVE THE FORM TOOLS FROM THE BULKHEAD. VISUALLY INSPECT THE SPIDER CLIPS. IF THERE ARE NO BROKEN OR MISSING "FEET", RETAIN SPIDER CLIP, OTHERWISE DISCARD.

SPIDER CLIP
FOR 76MM, SEE SHEET C818 [INV. #02SC07604]
FOR 100MM, SEE SHEET C818 [INV. #02SC10004]
FOR 130MM, SEE SHEET C820 [INV. #02SC13004]

FORM TOOL
FOR 76MM, SEE SHEET C651 [INV. #02SC07605]
FOR 100MM, SEE SHEET C645 [INV. #02SC10005]
FOR 130MM, SEE SHEET C661 [INV. #02SC13005]
8. Install the Spider Clip as shown.
9. Ensure a recess former is positioned between the hubs.
10. Slide a mandrel through the length of the duct, engaging the Spider Clip to secure the Match-Cast hub to the Pre-Cast segment hub.
11. Note: The Spider Clip may also be installed on the hub of the Pre-Cast segment where the Mandrel will be inserted from the opposite direction as shown.
12. Once the mandrel is inserted, the spider clip has locked the two hubs together, and the match cast segment can be poured.
13. To separate the match-cast segment from the pre-cast segment, disassemble the form in the following steps:

13.1 Remove all mandrels
13.2 Separate segments
13.3 Remove all spider clips. Visually inspect. If there are not significant cuts or tears, retain recess former, otherwise discard. If there are no broken or missing "feet", retain spider clip, otherwise discard.
13.4 Note: There is no need to remove the form tools from the bulkhead. Visually inspect the spider clips as noted above.

14. Install protective caps over duct openings
   - For 76mm, see Sheet C663 (inv. #02SC07606)
   - For 100mm, see Sheet C662 (inv. #02SC10006)
   - For 130mm, see Sheet C664 (inv. #02SC13006)

NOTE: Failure to remove mandrel results in severe spalling of bottom slabs.
SEGMENTAL DUCT COUPLER INSTALLATION GUIDE
(CONTINUED)

ONCE THE SEGMENTS HAVE BEEN TRANSPORTED AND ARE READY FOR ERECTION:

15. REMOVE PROTECTIVE CAPS FROM DUCT OPENINGS.
16. INSTALL FACE SEALS INTO ONE SEGMENT FACE ONLY.
17. APPLY SEGMENTAL EPOXY TO SEGMENT FACES AS REQUIRED. (DO NOT APPLY EPOXY TO FACE SEAL – STEPS 17 & 18 MAY BE REVERSED AT THE DISCRETION OF THE CONTRACTOR.)
18. BRING SEGMENTS TOGETHER AND SECURE WITH PT BARS.

FACET SEAL
FOR 76MM, SEE SHEET C648 [INV. #02SC07603]
FOR 100MM, SEE SHEET C640 [INV. #02SC10003]
FOR 130MM, SEE SHEET C658 [INV. #02SC13003]
PRE-CAST SEGMENT 1

FINAL ELEVATION SECTION - VIEW OF SEGMENTAL DUCT COUPLER JOINT

PRE-CAST SEGMENT 2

COMPRRESSED, INSTALLED FACE SEAL

1/16" - 1/8" SEGMENTAL EPOXY

THESE SHOP DRAWINGS ILLUSTRATE THE DETAILS OF THE STRUCTURAL TECHNOLOGIES, LLC POST-TENSIONING SYSTEM. THEY WERE PREPARED IN CONFORMANCE WITH THE STRUCTURAL DESIGN PROVIDED TO STRUCTURAL TECHNOLOGIES, LLC BY PROJECT OWNER OR ITS REPRESENTATIVE. STRUCTURAL TECHNOLOGIES, LLC TOOK NO PART IN THE PREPARATION OR REVIEW OF SAID STRUCTURAL DESIGN AND DISCLAIMS ANY LIABILITY FOR IT. THE STAMP OR SEAL OF A STRUCTURAL TECHNOLOGIES, LLC EMPLOYEE ON THESE SHOP DRAWINGS PERTAINS ONLY TO THE TRANSFER OF THE FORCES REQUIRED BY THE ENGINEER OF RECORD ON THE STRUCTURAL DRAWINGS, AND NOT TO THE ADEQUACY OF THE STRUCTURAL DESIGN. NO WARRANTY, EXPRESSED OR IMPLIED, AS TO THE ADEQUACY OF THE STRUCTURAL DESIGN IS MADE BY VIRTUE OF ANY SUCH STAMP OR SEAL.
NOTES
1. ITEMS MARKED WITH A "T" ARE TEMPORARY AND ARE NOT A PERMANENT PART OF THE SYSTEM.
2. THIS ASSEMBLY CAN BE APPLIED IN ANY REQUIRED ORIENTATION TO CREATE EITHER A VENT OR A DRAIN.
3. ALL COMPONENTS MUST BE PRESSURE RATED FOR 150 PSI.
4. CONCRETE COVER MUST MEET FDOT STRUCTURES DESIGN GUIDELINES SECTION 1.4.2

1.
CLEAN PIPE PRIOR TO GROUT PORT INSTALLATION.
2.
DRILL Ø7/8" HOLE INTO PIPE.
3.
CONNECT THE SOCKET WELDING DEVICE TO THE POWER SOURCE.
4.
ALLOW THE SOCKET WELDING DEVICE TO REACH ITS WORKING TEMPERATURE.
5.
SIMULTANEOUSLY, INSERT MALE ADAPTER OF SOCKET WELDING DEVICE FROM DRILLED HOLE AND GROUT PORT FROM FEMALE ADAPTER.
6.
APPLY LIGHT PRESSURE FOR 20-25 SECONDS BY PUSHING THE GROUT PORT WITH THE PALM OF HAND.
7.
SIMULTANEOUSLY, REMOVE SOCKET WELDING DEVICE FROM DRILLED HOLE AND GROUT PORT FROM FEMALE ADAPTER.
8.
INSERT GROUT PORT INTO HOLE UNTIL THE SHOULDER IS REACHED.
9.
THIS OPERATION SHOULD BE CARRIED OUT AS QUICKLY AND CAREFULLY AS POSSIBLE, WITHIN 5 SECONDS. FIRMLY HOLD THE PIECES TOGETHER FOR A MINIMUM OF 10 SECONDS.

ITEMS MARKED WITH A "T" ARE TEMPORARY AND ARE NOT A PERMANENT PART OF THE SYSTEM.
**ECI 6-12 BOLT ASSEMBLY FLEX FILLER**

**A442**

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**CAP TO BEARING PLATE BOLTED ASSEMBLY**

1/2"-13 THREADED ROD

1/2"-13 NUT

1/2" WASHER
0.6" DIA. MULTIWEDGES

TYPE 1.6G
ECI 6-12 ANCHORAGE CAP W/ 1/4" HORIZONTAL PORT
ABS LUSTREX 633 PER ASTM D4673
02GC61202

SECTION A-A

SECTION B-B

FRONT VIEW
76MM FACE SEAL

SANTOPRENE PER FDOT 960 TABLE 2.2.1.7-2

INVENTORY # 02SC07603
**VSL SEG. COUPLER RECESS FORMER 76MM**

**TOP VIEW**

**SIDE VIEW**

**3D VIEW**

---

**DESCRIPTION**

VSL SEG. COUPLER RECESS FORMER 76MM

**MATERIAL**

SANTOPRENE PER FDOT TABLE 2.2.1.7-2

**INVENTORY #**

02SC07607

---

**TEXT 0.030" PROUD**

"VSL SEG. COUPLER RECESS FORMER 76MM" ONE SIDE ONLY

---

**NOTE:** THIS IS A TEMPORARY PART.
76MM FORM TOOL

TEXT STAMPED RECESSED; 0.25" TALL
"VSL...76"
"3/8"

NOTE: THIS IS A TEMPORARY PART.

DESCRIPTION | MATERIAL | INVENTORY # | QTY
--- | --- | --- | ---
76MM FORM TOOL | STEEL PER ASTM A36 | 02SC07605 | 3

VSL
76
3/8

FRONT VIEW

SIDE VIEW

3D VIEW
76MM PROTECTIVE CAP

**DESCRIPTION**

**MATERIAL**

LDPE

**INVENTORY #**

02SC07606

**NOTE:** THIS IS A TEMPORARY PART.
DESCRIPTION | MATERIAL | INVENTORY #
--- | --- | ---
VSL POST TENSIONING 0.6" BARE STRAND | LOW RELAXATION STEEL SEVEN WIRE STRAND PER ASTM A416, 270KSI | VA02SD0013
1/4" NPT PE PLUG
HDPE BLACK PER ASTM D3350

NOTE: MATERIAL MEETS OR EXCEEDS FDOT SPECIFICATION 960

DESCRIPTION
1/4" NPT PE PLUG
HDPE BLACK PER ASTM D3350

INVENTORY #
2DT01919

FRONT VIEW
<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>MATERIAL</th>
<th>INVENTORY #</th>
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</thead>
<tbody>
<tr>
<td>RIBBED CAP W/ 3/4&quot; FNPT</td>
<td>BLACK POLYPROPYLENE PER ASTM D4101</td>
<td>02DT01912</td>
</tr>
</tbody>
</table>

NOTE: MATERIAL MEETS OR EXCEEDS FDOT SPECIFICATION 960

TOP VIEW

SIDE VIEW

23/32"
3/4" NPT NIPPLE
SCH 40 STEEL

VARES BY PROJECT

SIDE VIEW
DESCRIPTION
1" NPT STEEL NIPPLE

MATERIAL
SCH 40 STEEL

INVENTORY #
-
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DESCRIPTION | MATERIAL | INVENTORY #
--- | --- | ---
3/4" NPT F/F COUPLER | SCH 40 STEEL | C728 3-4in NPT F-F Coupler FDOT 02DT01952
ECI 6-12 SPIRAL #3500 (#5, DIA. 13", 2" PITCH, 7 TURNS)  
GR 60 STEEL AS PER ASTM A615  
02BP0096

ECI 6-12 SPIRAL #5500 (#4, DIA. 13", 2" PITCH, 7 TURNS)  
GR 60 STEEL AS PER ASTM A615  
02BP0097

NOTE:
1. THESE SPIRALS ARE TO BE IN ACCORDANCE WITH THE APPROVED SHOP DRAWINGS AND CONTRACT DRAWINGS
2. CONCRETE STRENGTH SHOWN IN SPIRAL NAME AS #XXXX WHERE # = PSI
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ECI 6-12 BEARING PLATE W/ 1" NPT PORT

B

0.5"

LETTERING - DATE CODE, FOUNDRY MARK, AND HEAT # "VSL ECI 6-12" STAMP "FF"

SECTION A-A

SECTION B-B

DETAIL 1

BACK VIEW

HARDNESS TEST

LETTERING - REVERSE SIDE, SEE DETAIL 1

1/2"-13 TAPPED HOLE (TYP. 4 PLACES)

0.49"

0.77"

9.9"

9.9"

Ø4.66"

Ø4.21"

Ø3.69"

Ø3.17"

8.73"

0.48"

0.5"

LETTERING - DATE CODE, FOUNDRY MARK, AND HEAT # "VSL ECI 6-12" STAMP "FF"

C737 ECI 6-12 BP W 1in NPT Port Rev 0 02BP0037V.DWG

2:49 PM

18Feb2020

FILE NAME:

ELECTRONIC FILE LOCATION:

PROJECT INFORMATION:

SHEET NO:

I:\VSL System Drawings\Work In Progress Drawings\Work In Progress Drawings\Florida DOT Test 2017\ECI 6-12 Flexible Filler Submittal

PROJECT NO:

SCALE:

TITLE:

SYSTEM DRAWING

PROJECT NO:

SYSTEM

PDF

10150 OLD COLUMBIA RD
COLUMBIA, MD 21046

PHONE:

(410) 850-7000
structuraltechnologies.com

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### SYSTEM DRAWING

**DESCRIPTION:**

- **3/4" FNPT SMOOTH PORT**

**MATERIAL:** HDPE YELLOW PER ASTM D3350

**INVENTORY #:** 2DT0253

**NOTE:** MATERIAL MEETS OR EXCEEDS FOOT SPECIFICATION 990.
DESCRIPTION: 1/4 TURN BALL VALVE W/ 1/4" FNPT
MATERIAL: SCH 40 STEEL
INVENTORY #: 2DT01924
NOTE: THIS IS A TEMPORARY PART.
SIDE VIEW

VARES BY PROJECT

DESCRIPTION

MATERIAL

INVENTORY #

1/4" NPT STEEL NIPPLE

SCH 40 STEEL

-
<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>MATERIAL</th>
<th>INVENTORY #</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&quot; FNPT X MNPT STEEL ELBOW</td>
<td>SCH 40 STEEL</td>
<td>02DT01955</td>
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</tbody>
</table>
DESCRIPTION: 1" NPT F/F COUPLER
MATERIAL: SCH 40 STEEL
INVENTORY # 02DT01953

PROJECT INFORMATION:
I:\VSL System Drawings\Work In Progress Drawings\Work In Progress Drawings\Florida DOT Test 2017\Flexible Filler Accessories

ELECTRONIC FILE LOCATION:
FILE NAME: C752 1in NPT F-F Coupler FDOT 02DT01953.dwg

PLOT DATE/TIME: 11:45 AM, 29Jan2020

APPROVED FOR CONSTRUCTION
0

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NOTE: REFERENCE THE MANUFACTURER'S INSTALLATION INSTRUCTIONS IN THE APPENDIX.
DESCRIPTION | MATERIAL | INVENTORY #
--- | --- | ---
3/4" NPT PE PLUG | BLACK HDPE PER ASTM D3350 | 020109113

NOTE: MATERIAL MEETS OR EXCEEDS FOOT SPECIFICATION 866
### Structural Technologies, LLC

**Corporation Office**

10150 Old Columbia Rd
Columbia, MD 21046

**Phone:** (410) 850-7000

structuraltechnologies.com

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**ECI 6-12 Grout Cap O-Ring**

**Description:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Size</th>
<th>Material</th>
<th>Inventory #</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECI 6-12 Grout Cap O-Ring</td>
<td>Ø7.475&quot; x 7.895&quot; x 0.21&quot;</td>
<td>BUNA-N 70 D PER FDOT TABLE 2.2.1.7-1</td>
<td>02WX6020</td>
</tr>
</tbody>
</table>
DESCRIPTION: 76MM SPIDER CLIP

MATERIAL: HDPE PER ASTM D3350

INVENTORY #: 02SC07604

NOTE: THIS IS A TEMPORARY PART.
3" SC BLK - TAPERED HUB PE

**3D VIEW**

**SECTION A-A**

**TOP VIEW**

**TEXT 0.020 PROUD
"VSL S.C.TAPERED HUB 76MM"
ONE SIDE ONLY**
1.77" 1.61"

END VIEW  SIDE VIEW

DESCRIPTION

MATERIAL  INVENTORY #

1" NPT PP CAP  BLACK POLYPROPYLENE PER ASTM D4101  02DT01941

NOTE: MATERIAL MEETS OR EXCEEDS FDOT SPECIFICATION 960
DESCRIPTION

1.500"

SIDE VIEW

END VIEW

DESCRIPTION: 1" NPT PP PLUG

MATERIAL: BLACK POLYPROPYLENE PER ASTM D4101

NOTE: MATERIAL MEETS OR EXCEEDS FDOT SPECIFICATION 960.
3" HDPE PIPE

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>MATERIAL</th>
<th>INVENTORY #</th>
<th>DIM. &quot;A&quot;</th>
<th>DIM. &quot;B&quot;</th>
<th>RADIUS</th>
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</thead>
<tbody>
<tr>
<td>3&quot; HDPE PIPE DR-17</td>
<td>HDPE BLACK PER ASTM D3350</td>
<td>-</td>
<td>3.064&quot;</td>
<td>3.5&quot;</td>
<td>16'-0&quot;</td>
</tr>
</tbody>
</table>
Description: 76MM Segmental Coupler O-Ring

Material: BUNA-N 70 D PER FDOT 960 TABLE 2.2.1.7-1

Size: 2.73" x 3.01" x 0.13"

Inventory #: 02WX0232