

**12C15 INSTALLATION PROCEDURE:**

- 1) LAYOUT EACH TENDON ANCHORAGE AND DUCT LOCATION ACCORDING TO THE SPACING SHOWN ON THE TENDON LAYOUT PLANS.
- 2) BOLT THE ANCHORAGE TRUMPLATE SECURELY AND PERPENDICULAR TO THE BLOCK-OUT FORM.
- 3) INDIVIDUAL DUCT LENGTHS SHALL BE COUPLED TOGETHER TO OBTAIN THE CORRECT LENGTH FROM ANCHORAGE TO ANCHORAGE. INSTALL VENTED COUPLERS AS SHOWN ON THESE DRAWINGS AND THE APPLICABLE CONTRACT PLANS.
- 4) USE HEAT SHRINK TO SEAL DUCT TO DUCT AND DUCT TO TRUMPLATE CONNECTIONS FOLLOWING THE MANUFACTURER'S RECOMMENDED PROCEDURE. CARE MUST BE OBSERVED TO AVOID BURNS ON THE DUCT.
- 5) PLACE ALL REINFORCEMENTS AS SHOWN ON THESE DRAWINGS AND THE APPLICABLE CONTRACT PLANS.
- 6) PROCEED WITH CONCRETING, TAKING CARE TO NOT DAMAGE OR DISPLACE THE DUCT.
- 7) PLACE THE CORRECT QUANTITY OF STRAND IN EACH DUCT LEAVING MINIMUM STRESSING TAILS AT EACH END. THIS CAN BE ACCOMPLISHED BY PUSHING OR PULLING THE STRAND THROUGH THE DUCT.
- 8) INSTALL THE ANCHOR BLOCK AT EACH END OF THE TRUMPLATE. INSERT THE WEDGES INTO THE ANCHOR BLOCK.
- 9) STRESSING MAY PROCEED ONCE THE CONCRETE HAS ATTAINED THE REQUIRED COMPRESSIVE STRENGTH AS INDICATED IN THE PLANS AND AS CONFIRMED BY TESTS.
- 10) ALL TENDONS SHALL BE STRESSED BY JACKING FROM ONE OR TWO ENDS IN THE APPROVED SEQUENCE. ONCE APPROVED, CUT TAILS TO 1.5" MAXIMUM LENGTH.
- 11) INSTALL GROUT CAPS, INLET AND OUTLET ACCESSORIES.
- 12) PERFORM DUCT PRESSURE FIELD TEST AS REQUIRED BY APPLICABLE SPECIFICATIONS.
- 13) GROUTING SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE PTI GUIDE SPECIFICATIONS FOR GROUTING OF POST TENSIONING STRUCTURES OR APPLICABLE SPECIFICATION.

**VENDOR-SPECIFIC INSTALLATION PROCEDURE FOR WELDING PORT (ITEM #30) TO DUCT:**

MARK GTI DUCT & DRILL 7/8" (22mm) HOLE IN THE GTI DUCT AND CLEAN HOLE AND GTI WELDED GROUT PORT. WELDED GROUT PORT HOLE REQUIRED TO BE BETWEEN RIBS OF DUCT.

FOLLOW MANUFACTURER'S REQUIREMENTS FOR PREPARATION OF THE PORT WELDER.

SIMULTANEOUSLY, INSERT MALE ADAPTER OF GTI GROUT PORT WELDER INTO DRILLED HOLE AND PLACE GTI WELDED GROUT PORT INTO FEMALE ADAPTER.

APPLY LIGHT PRESSURE FOR 20-25 SECONDS BY PUSHING THE GTI WELDED GROUT PORT WITH THE PALM OF HAND.

REMOVE THE PORT WELDER FROM THE DRILLED HOLE AND WITHIN 5 SECONDS, INSERT THE WELDED GROUT PORT UNTIL SHOULDER IS REACHED.

ALLOW THE GTI DUCT AND GTI WELDED GROUT PORT TO COOL FOR A MINIMUM OF 4 MINUTES.

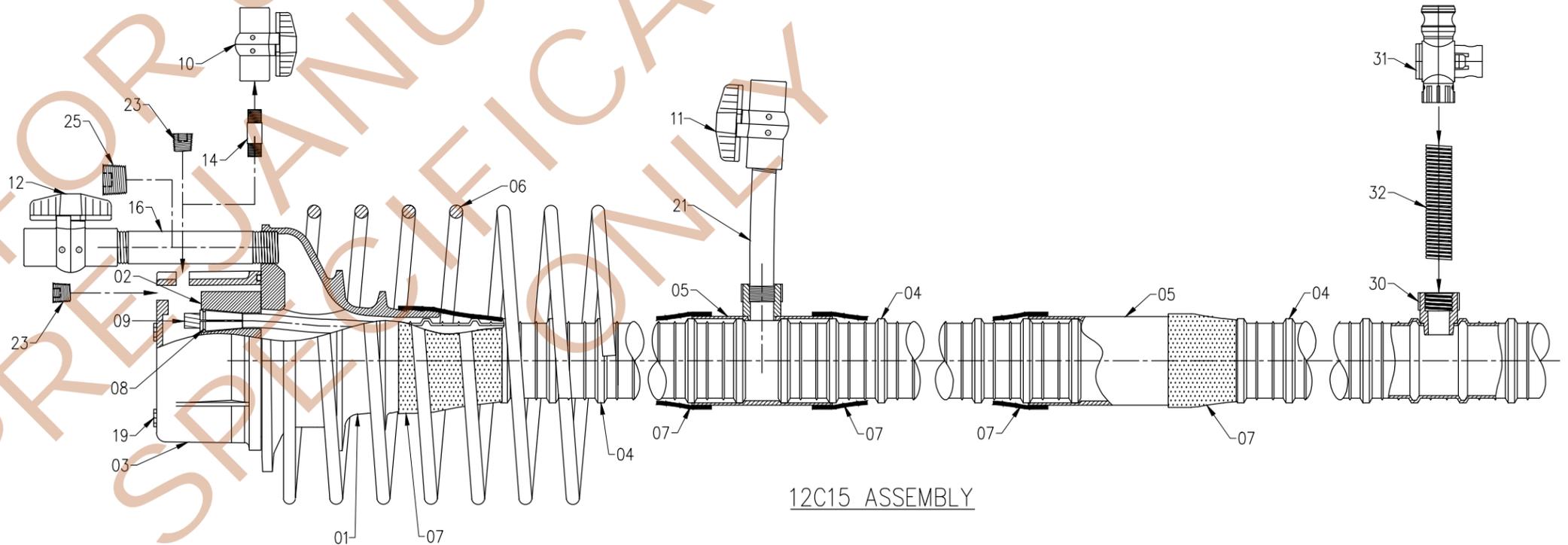
AFTER THE COOLING TIME HAS FINISHED, THE ASSEMBLY CAN BE USED AS REQUIRED.

• THE ABOVE IS A GENERIC INSTALLATION PROCEDURE - JOB SPECIFIC PROCEDURES SHALL ACCOMPANY EACH PROJECT.

12C15 ASSEMBLY				
ITEM	DESCRIPTION	MATERIAL	PART # / LABEL	DWG REF.
	12C15 INTERNAL TENDON W/COUPLER OVERALL ASSEMBLY			FINC-12C15-001
	12C15 ANCHORAGE ASSEMBLY			FINC-12C15-002
01	12C15 ANCHORAGE (TRUMPLATE)	ASTM A48, 35B GALV. ASTM A123	FREYSSINET 12C15	FINC-12C15-003
02	12C15 ANCHOR BLOCK (WEDGE PLATE)	AISI C1045/C1050	12C15	FINC-12C15-004
03	12/13C15 GROUT CAP	NYLON ASTM D5989	FREYSSINET 12/13C15	FINC-12C15-005
04	12/13C15 76mm GTI DUCT	POLYPROPYLENE ASTM D4101	220300	FINC-12C15-006
05	12/13C15 76mm GTI SLIP-ON COUPLER W/ OR W/O VENT	POLYPROPYLENE ASTM D4101	220305	FINC-12C15-007
06	12C15 SPIRAL REINFORCEMENT	STEEL GR. 60ksi; ASTM A615	N/A	FINC-12C15-008
07	12C15 HEAT SHRINK SLEEVE	POLYOLEFIN BACKING W/ ADHESIVE	PLA 90	FINC-12C15-009
08	WEDGE	12L14 ASTM A240	N/A	FINC-001
09	0.6" DIA. STRAND	STEEL ASTM A416	N/A	FINC-002
10	1/2" BALL VALVE	PVC SCH. 80 PRESSURE RATING ≥ 150 psi	N/A	FINC-003
11	3/4" BALL VALVE	PVC SCH. 80 PRESSURE RATING ≥ 150 psi	N/A	FINC-004
12	1" BALL VALVE	PVC SCH. 80 PRESSURE RATING ≥ 150 psi	N/A	FINC-005
14	1/2" NIPPLE	PVC SCH. 80 PRESSURE RATING ≥ 150 psi	N/A	FINC-007
16	1" NIPPLE	PVC SCH. 80 PRESSURE RATING ≥ 150 psi	N/A	FINC-009
19	3/8" BOLT	316 STAINLESS STEEL ASTM F593	F593	FINC-012
21	3/4" CRESLINE PIPE	HIGH-DENSITY POLYETHYLENE	CRESLINE HD160	FINC-014
23	1/2" PLUG	NYLON ASTM D5989	FREYSSI 1/2"	FINC-016
25	1" PLUG	NYLON ASTM D5989	FREYSSI 1"	FINC-018
30	21mm GROUT PORT, HEAT WELDED	POLYPROPYLENE ASTM D4101	220064	FINC-025
31	21mm NPT GROUT VALVE	PC-ABS / NYLON (TEMP. FITTING)	220087	FINC-023
32	21mm GROUT TUBE	POLYPROPYLENE ASTM D4101	220044	FINC-024

**NOTES:**

1. ALL PVC SCH. 80 MATERIALS TO BE TEMPORARY FITTING.
2. 21mm GROUT VENT TUBE (ITEM #32) AND ASSEMBLY ARE USED AS AN ALTERNATIVE TO THE RIGID PE VENT TUBE (ITEM #21).



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2	01-15-16	JM	TG/JN	AM	SECOND REVISION
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DRAWING TITLE:  
**12C15 INTERNAL TENDON W/COUPLER OVERALL ASSEMBLY**

SCALE:  
**N.T.S.**

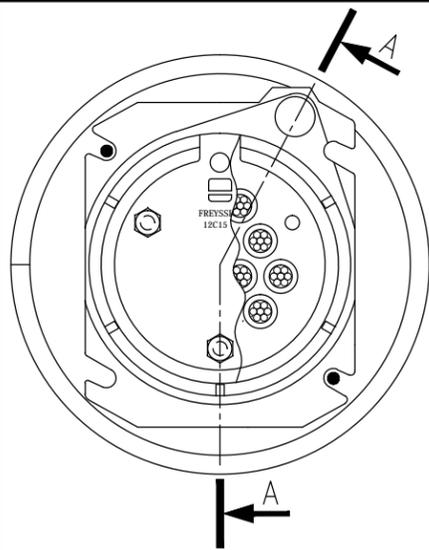
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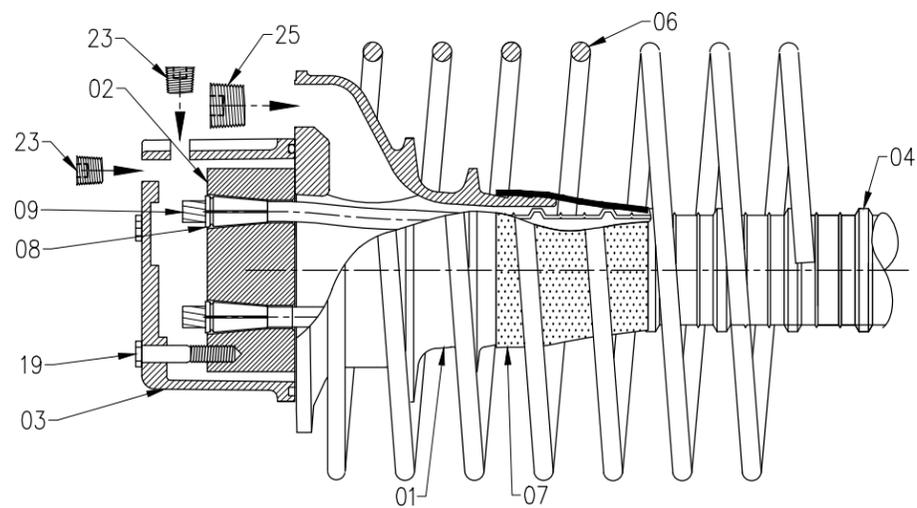
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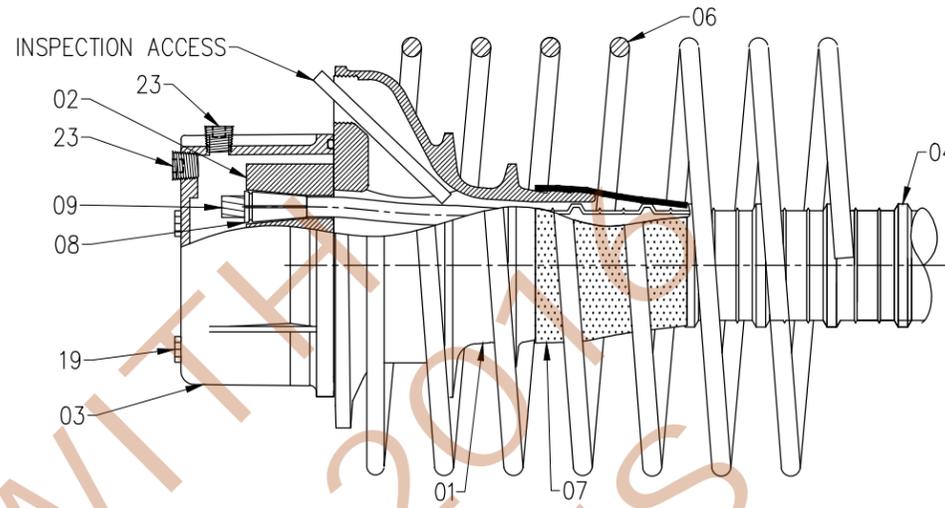
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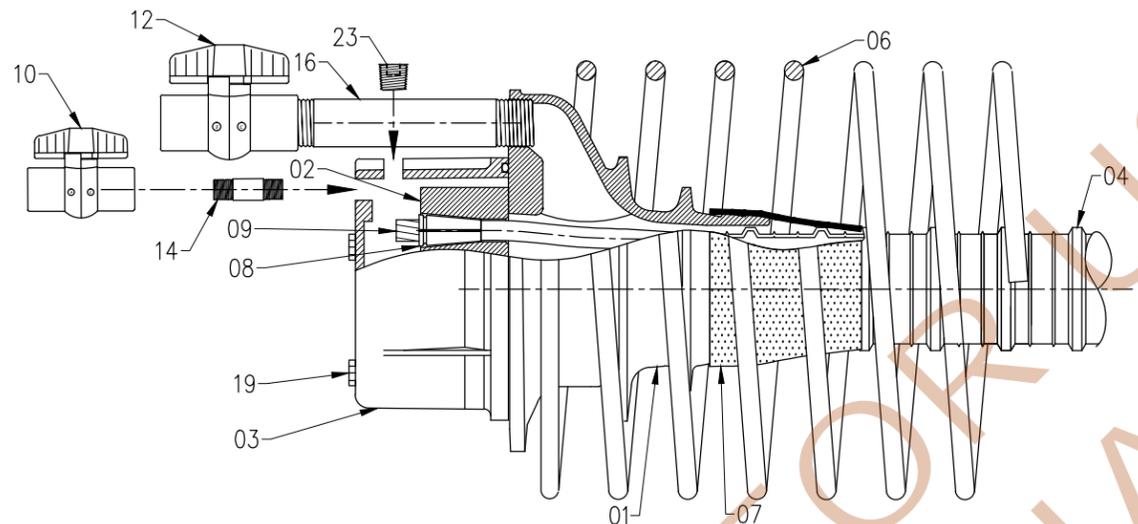
FRONT VIEW  
12C15 ANCHORAGE ASSEMBLY



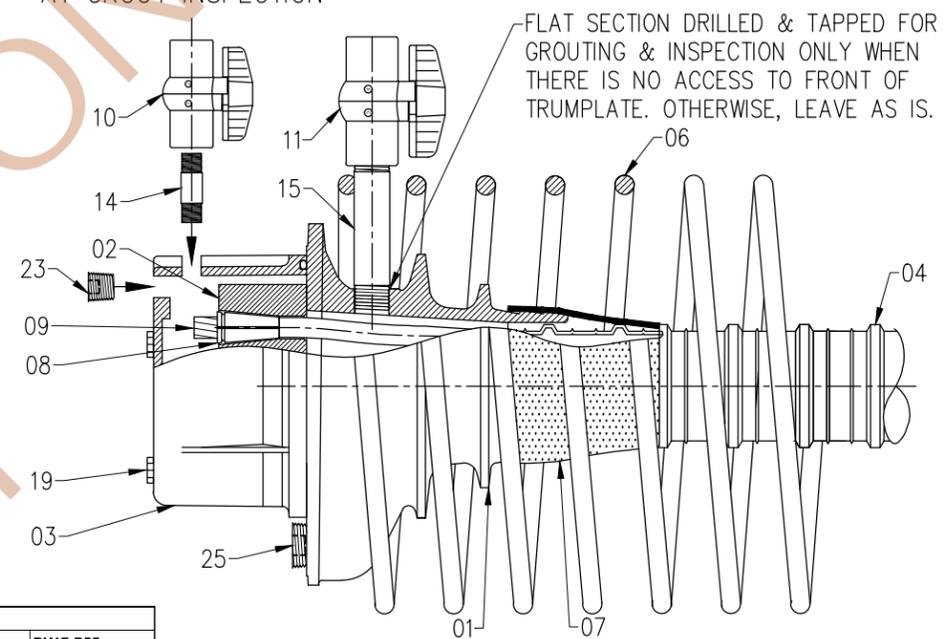
PARTIAL SECTION A-A  
AFTER GROUTING



PARTIAL SECTION A-A  
AT GROUT INSPECTION



PARTIAL SECTION A-A  
GROUT INLET / OUTLET



PARTIAL SECTION A-A  
GROUT & INSPECT FROM TOP

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11	3/4" BALL VALVE	PVC SCH. 80 PRESSURE RATING ≥ 150 psi	N/A	FINC-004
12	1" BALL VALVE	PVC SCH. 80 PRESSURE RATING ≥ 150 psi	N/A	FINC-005
14	1/2" NIPPLE	PVC SCH. 80 PRESSURE RATING ≥ 150 psi	N/A	FINC-007
15	3/4" NIPPLE	PVC SCH. 80 PRESSURE RATING ≥ 150 psi	N/A	FINC-008
16	1" NIPPLE	PVC SCH. 80 PRESSURE RATING ≥ 150 psi	N/A	FINC-009
19	3/8" BOLT	316 STAINLESS STEEL ASTM F593	F593	FINC-012
23	1/2" PLUG	NYLON ASTM D5989	FREYSSI 1/2"	FINC-016
25	1" PLUG	NYLON ASTM D5989	FREYSSI 1"	FINC-018

NOTE: ALL PVC SCH. 80 MATERIALS TO BE TEMPORARY FITTING

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DRAWING TITLE:  
**12C15 INTERNAL ANCHORAGE ASSEMBLY**

SCALE:  
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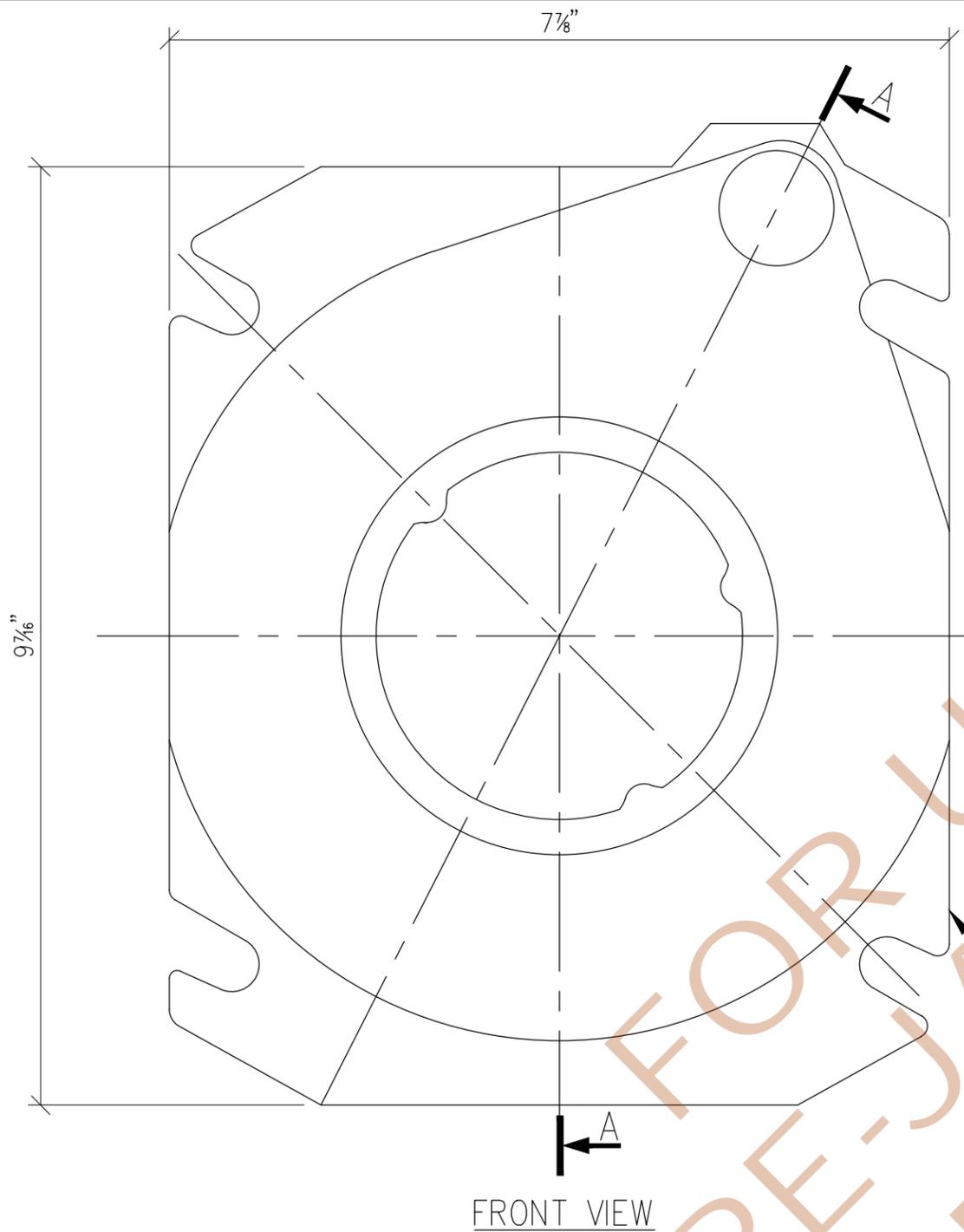
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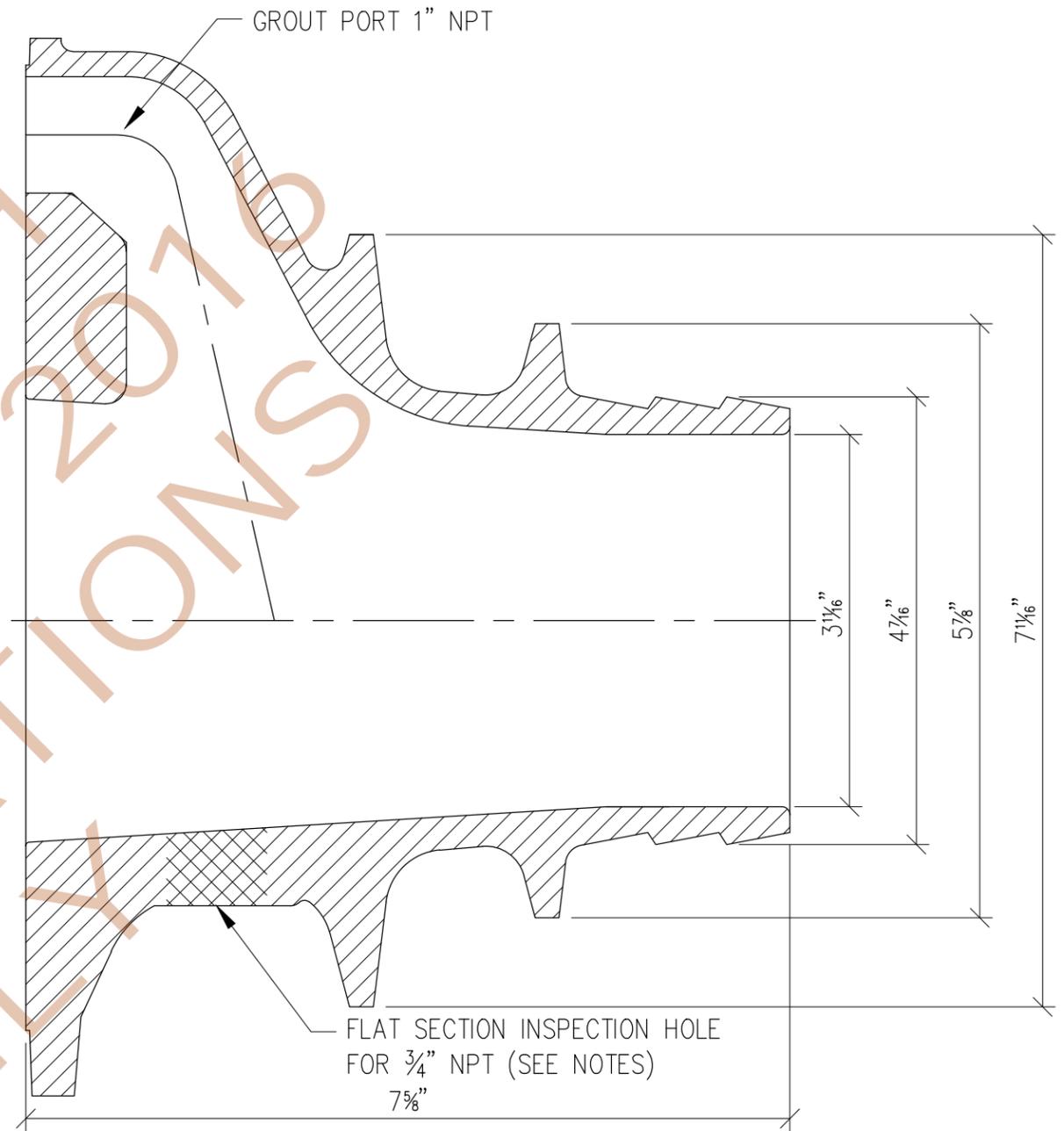
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REV:  
**2**



FRONT VIEW

PART NUMBER LOCATED ON SIDE OF TRUMPLATE: "FREYSSINET 12C15"



SECTION A-A

NOTES:

- MATERIAL: ASTM A48, 35B
- GALV. ASTM A123
- FLAT SECTION DRILLED & TAPPED FOR GROUTING & INSPECTION ONLY WHEN THERE IS NO ACCESS TO FRONT OF TRUMPLATE. OTHERWISE LEAVE AS IS.

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DRAWING TITLE:  
**12C15 INTERNAL ANCHORAGE (TRUMPLATE)**

SCALE:  
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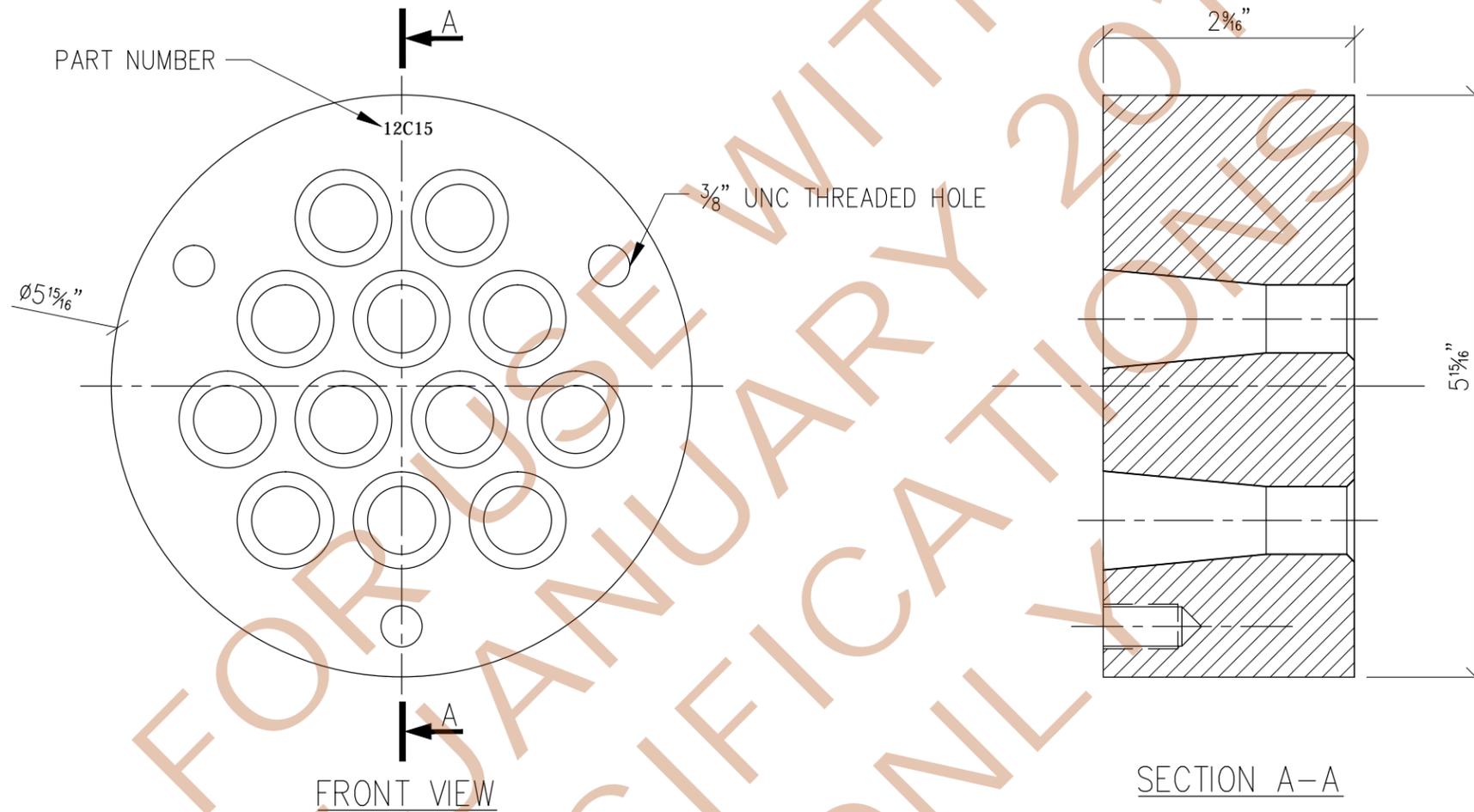
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**FINC-12C15-003**

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NOTE:  
 • MATERIAL: AISI C1045 / C1050

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DRAWING TITLE:  
**12C15 ANCHOR BLOCK (WEDGE PLATE)**

SCALE:  
**N.T.S.**

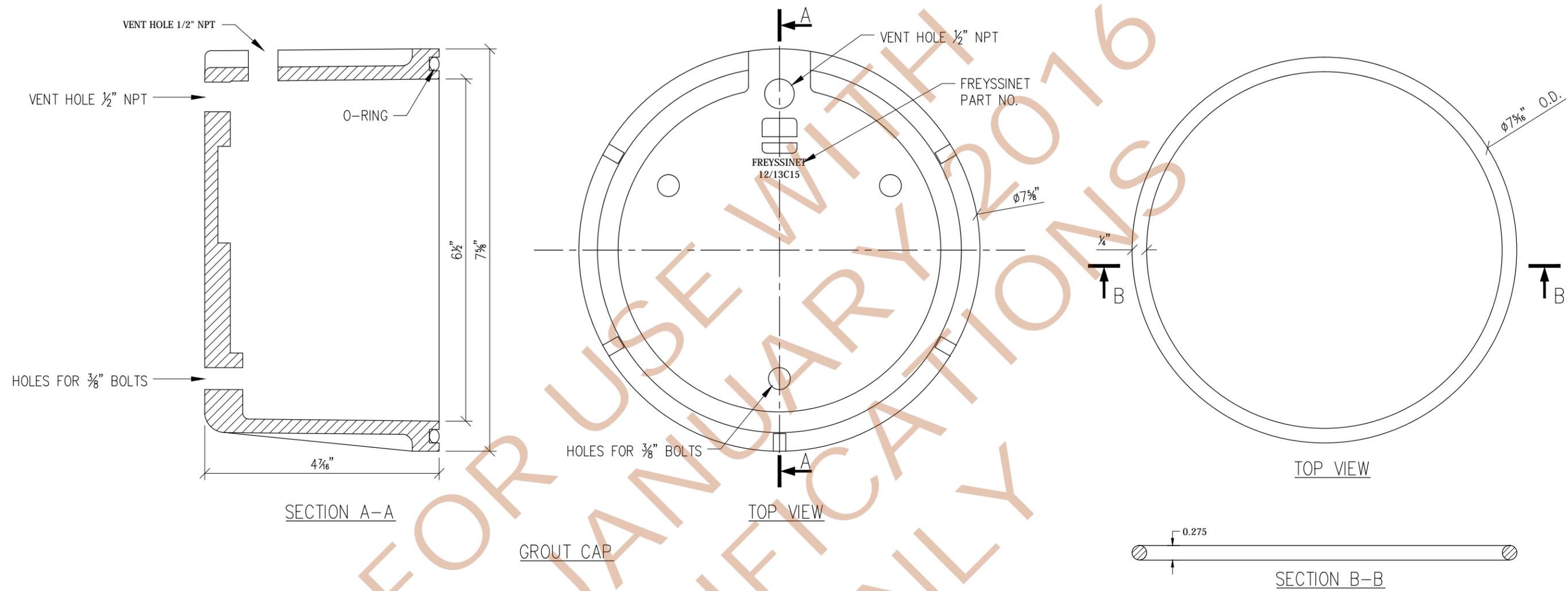
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**FINC-12C15-004**

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**2**



NOTES:

- GROUT CAP MATERIAL: NYLON ASTM D5989
- USE O-RING IN GROOVE FOR SEALING AGAINST TRUMPLATE (DWG. FINC-12C15-002)
- USE 3/8" S.S. BOLT ASTM F593
- PRESSURE RATING = 150 psi
- GROUT CAP MEETS OR EXCEEDS FDOT REQUIREMENTS OF SECTION 960-2.2.2.1 AND 960-2.4.1

NOTE:

- O-RING MATERIAL: 65-75 DUROMETER BLACK NITRILE WITH A SHORE A DUROMETER = 72 AS PER ASTM D2240
- MEETS OR EXCEEDS FDOT REQUIREMENTS OF SECTION 960-2.2.1.7

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**FDOT STANDARD DRAWINGS**

DRAWING TITLE:  
**12/13C15 GROUT CAP**

SCALE:  
**N.T.S.**

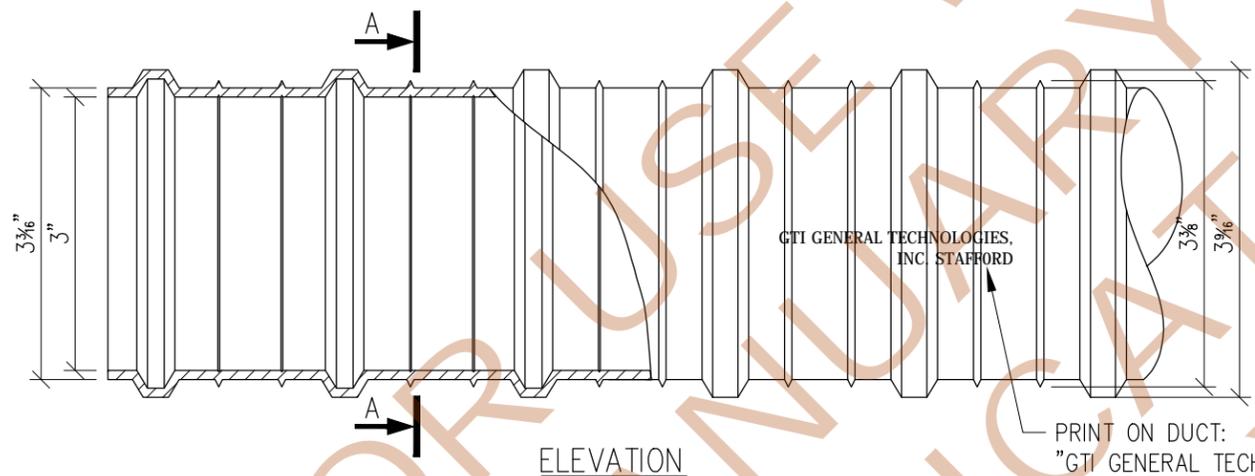
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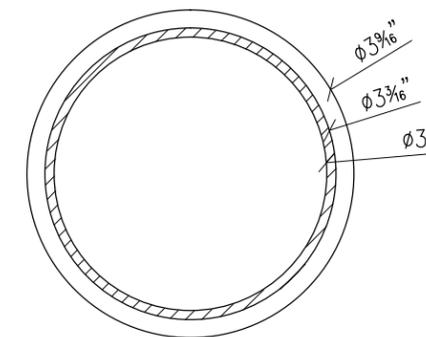
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REV: **2**



ELEVATION



SECTION A-A

PRINT ON DUCT:  
 "GTI GENERAL TECHNOLOGIES, INC.  
 STAFFORD, TEXAS X3F U.S. & FOREIGN  
 PATENT PENDING P.N. 220300 76mm"

NOTES:

- MATERIAL: POLYPROPYLENE (ASTM D4101)
- STANDARD FIT FOR 12/13C15
- DUCT IS DELIVERED IN STRAIGHT SECTIONS AND IS NOT INTENDED TO BE COILED.
- DUCT MEETS OR EXCEEDS FDOT REQUIREMENTS OF SECTION 960-2.2.1.1 AND 960-2.4.4

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DRAWING TITLE:  
**12/13C15 76mm GTI DUCT**

SCALE:  
**N.T.S.**

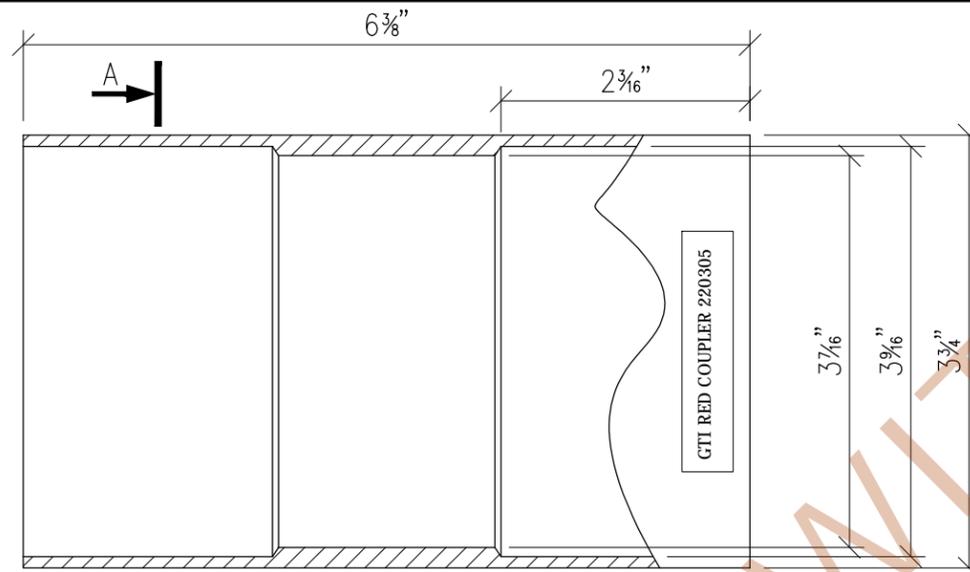
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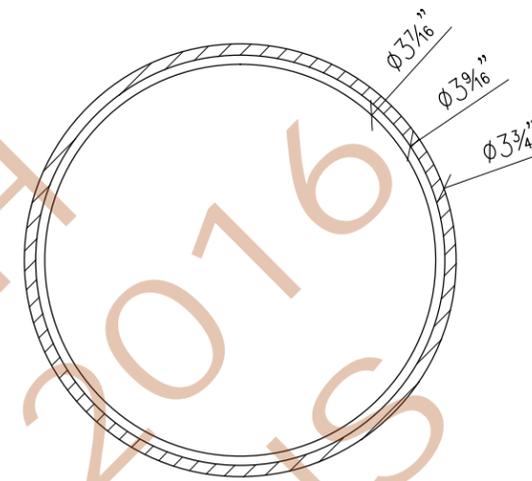
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**FINC-12C15-006**

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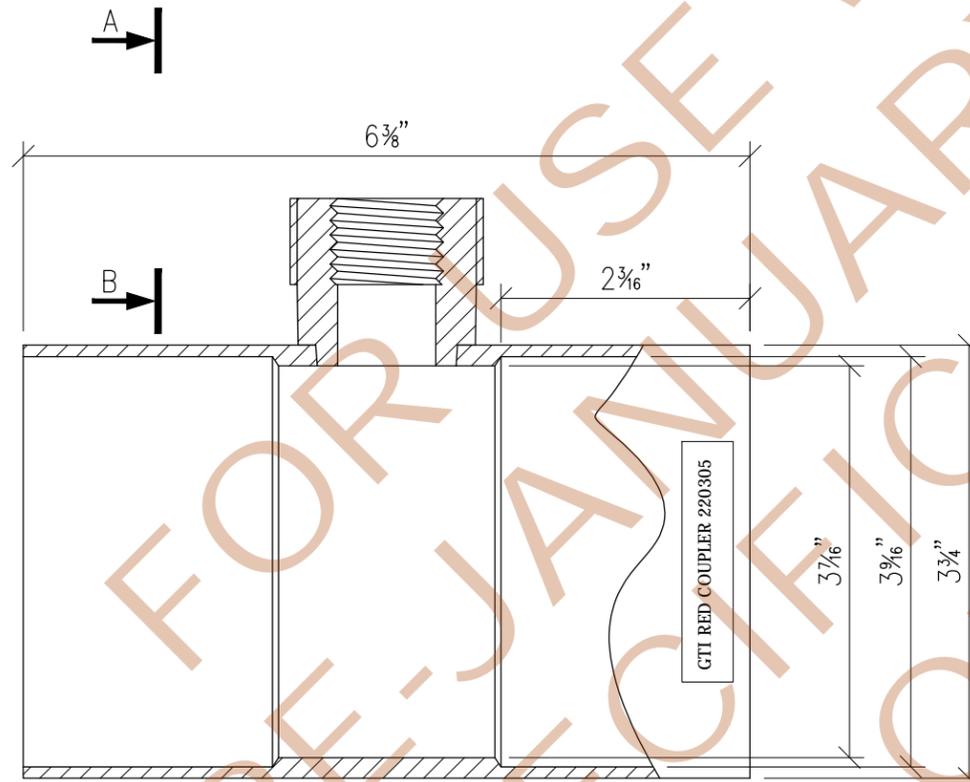
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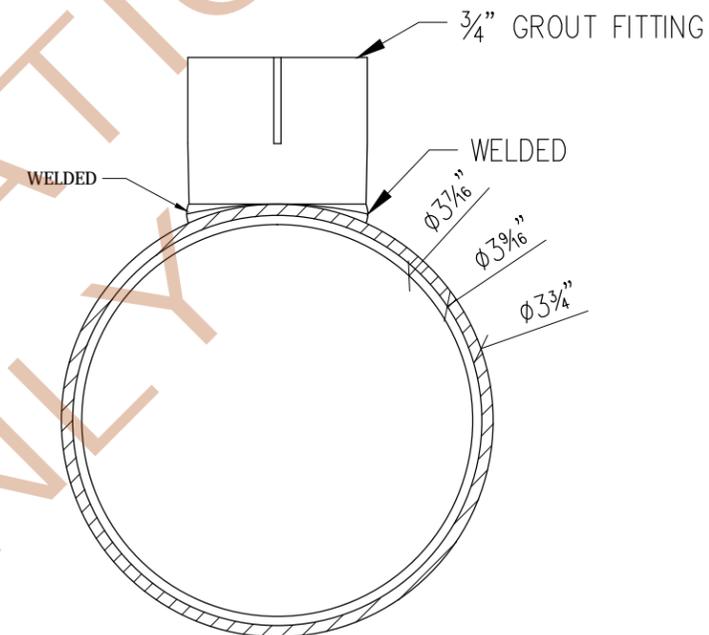
SECTION / ELEVATION COUPLER W/O VENT



SECTION A-A



SECTION / ELEVATION COUPLER W/ VENT



SECTION B-B

NOTES:

- MATERIAL: POLYPROPYLENE (ASTM D4101)
- STANDARD FIT FOR 76mm DUCT
- COUPLER MEETS OR EXCEEDS FDOT REQUIREMENTS OF SECTION 960-2.2.1.5 AND 960-2.4.4

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**FDOT STANDARD DRAWINGS**

DRAWING TITLE:  
**12/13C15 76mm GTI SLIP-ON COUPLER W/ OR W/O VENT**

SCALE:  
**N.T.S.**

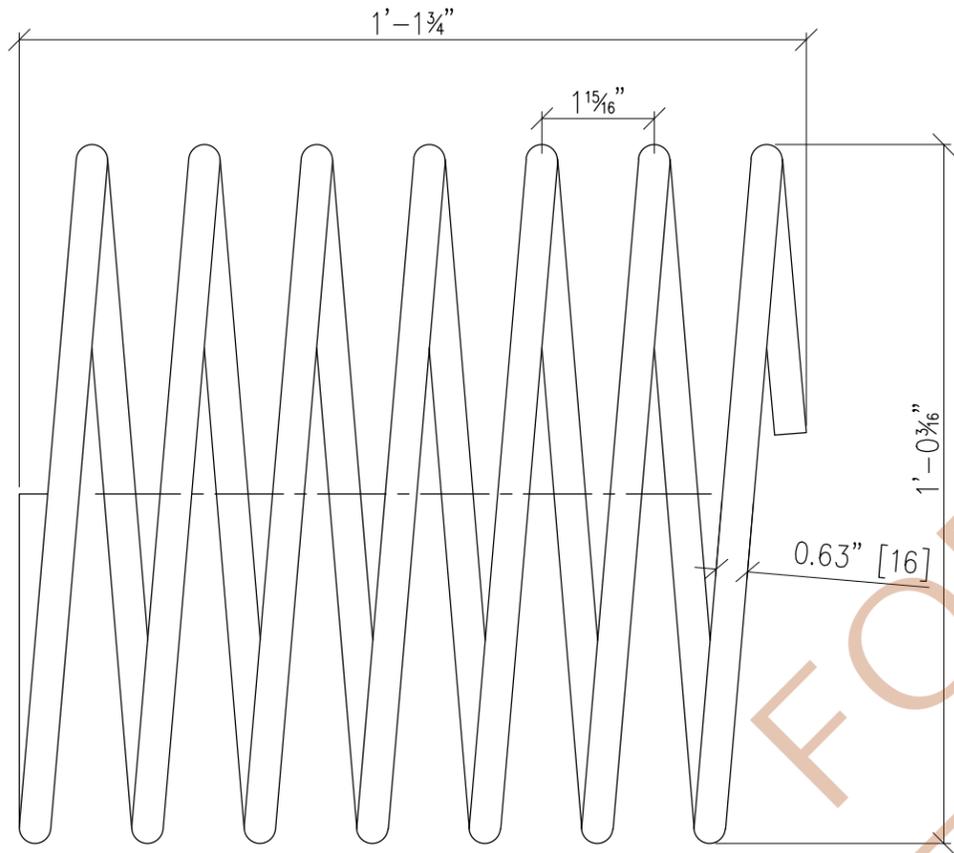
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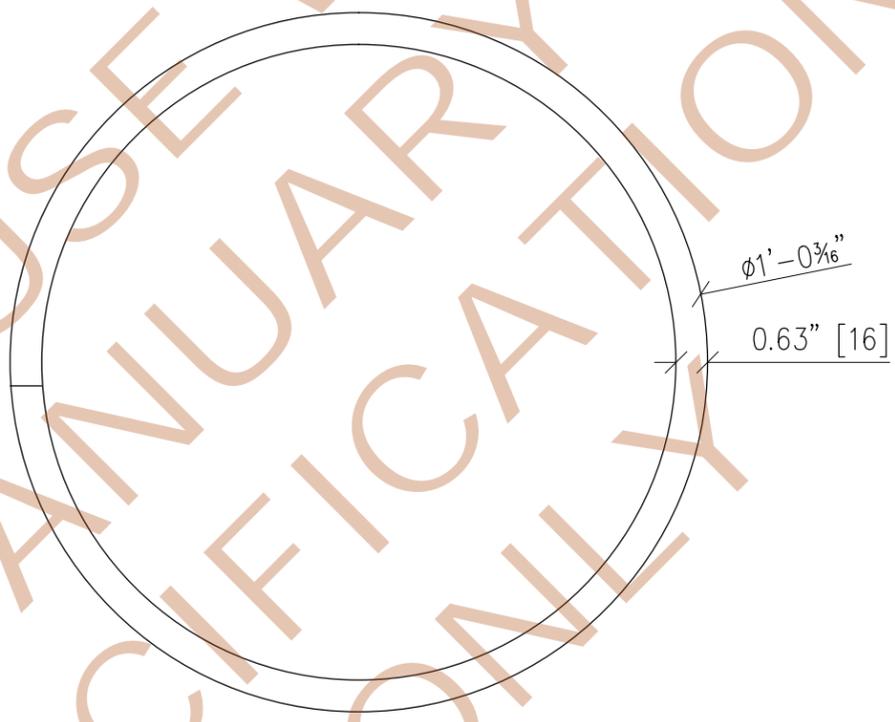
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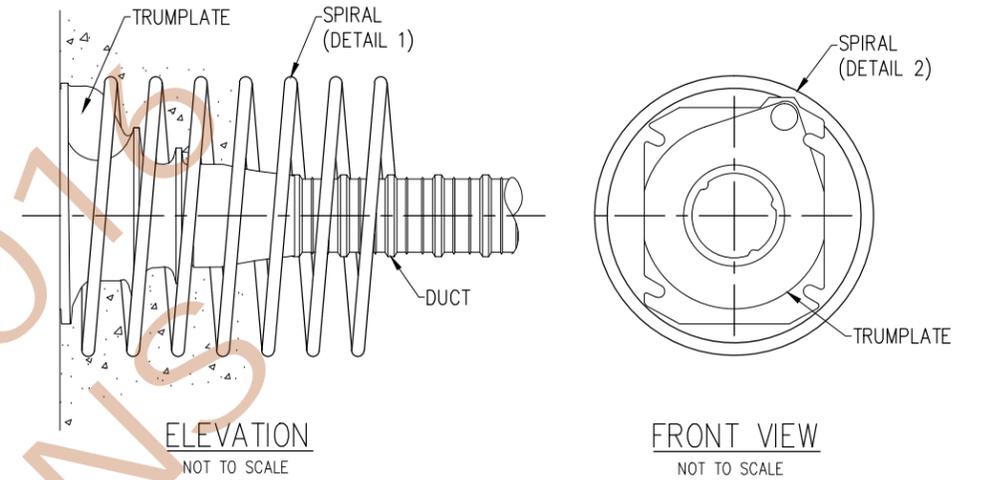
REV:  
**2**



DETAIL 1  
ELEVATION



DETAIL 2  
FRONT VIEW



SPIRAL REINFORCEMENT

NOTES:

- MATERIAL: STEEL GR. 60ksi; ASTM A615
- #5 REBAR
- 7 TURNS IN TOTAL
- 1.97" PITCH
- $\phi$  12.2"

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PROJECT NAME AND LOCATION:  
**FDOT STANDARD DRAWINGS**

DRAWING TITLE:  
**12C15 SPIRAL REINFORCEMENT**

SCALE:  
N.T.S.

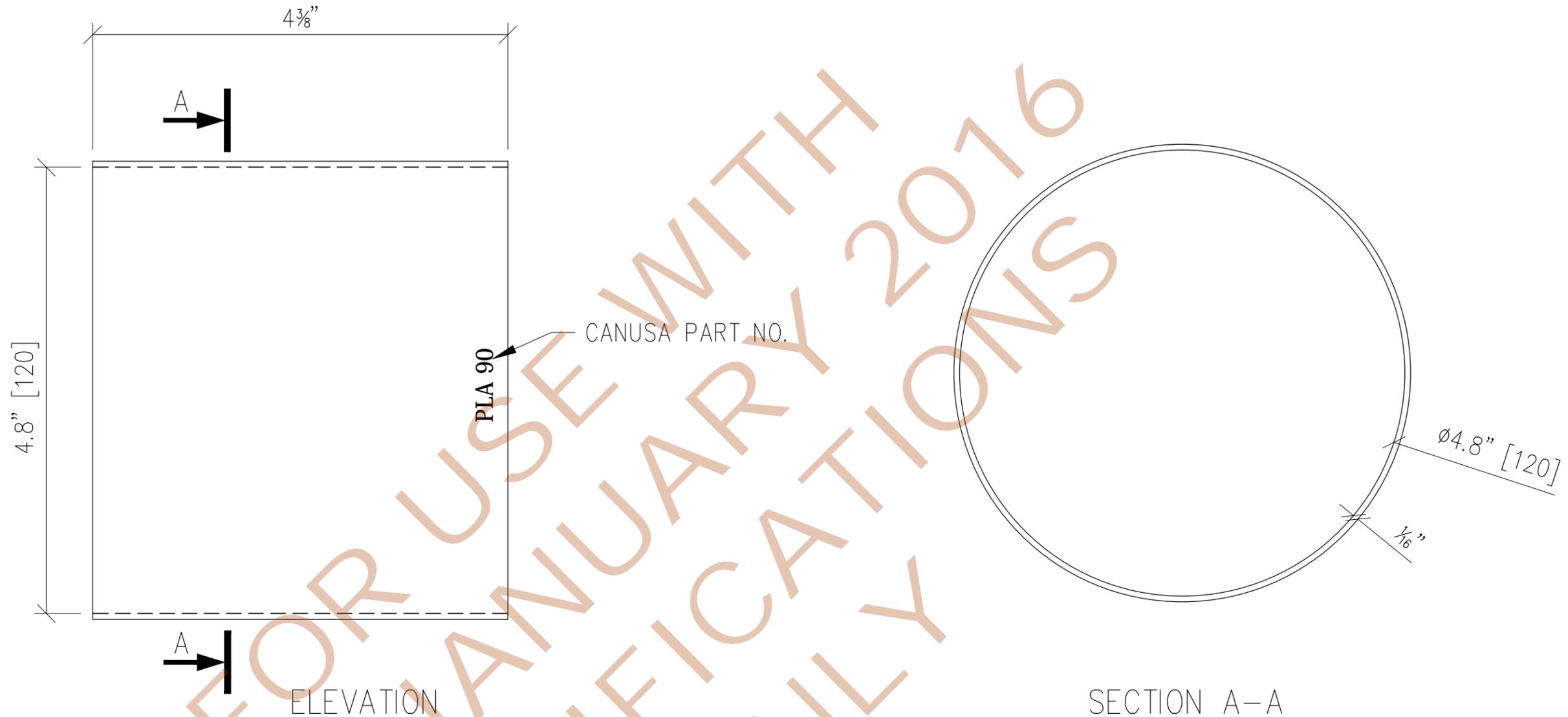
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**FINC-12C15-008**

REV:  
**2**



NOTES:

- MATERIAL: POLYOLEFIN W/ ADHESIVE
- TUBULAR SLEEVE DIAMETER: 4.8"[120mm] AS SUPPLIED  
3.3"[81mm] FULLY RECOVERED
- HEAT SHRINK SLEEVE MEETS OR EXCEEDS FDOT REQUIREMENTS OF SECTION 960-2.2.1.8

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PROJECT NAME AND LOCATION:  
**FDOT STANDARD DRAWINGS**

DRAWING TITLE:  
**12/13C15 HEAT SHRINK SLEEVE**

SCALE:  
**N.T.S.**

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