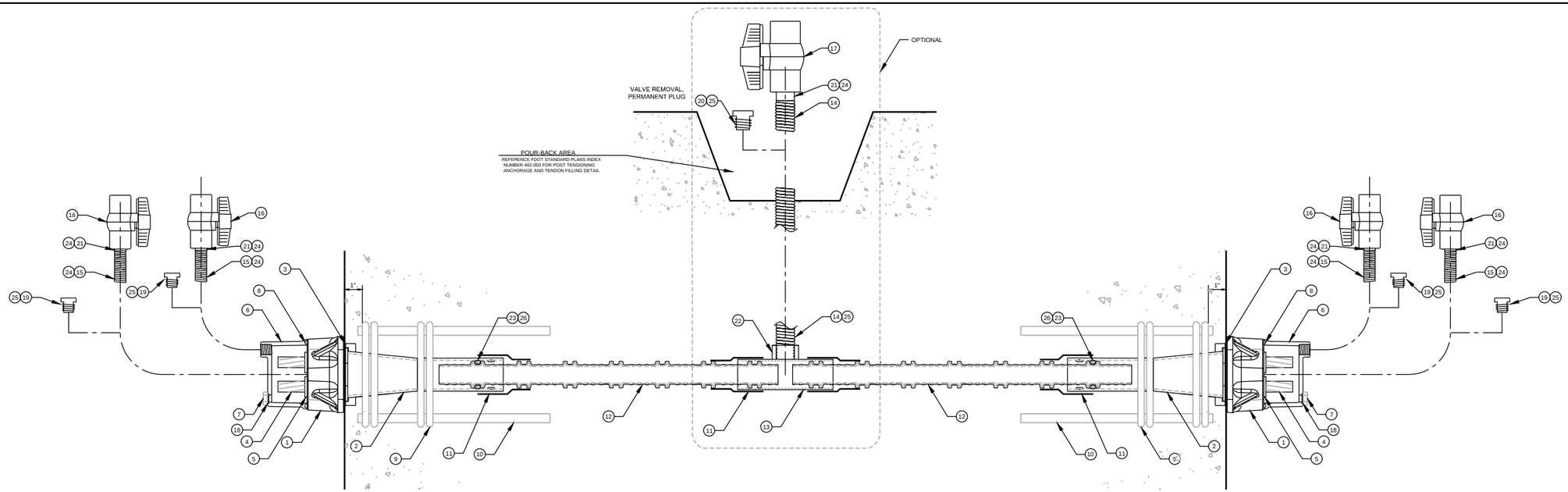

ITEM	PART NO.	DRAWING	DESCRIPTION	MATERIAL
1	71017	SDI-HD-068	SDI 4.6A ANCHORAGE	ASTM A 536 GR. 80-55-06 (GALVANIZED)
2	73010	SDI-HD-069	SDI 4.6A TRUMPET	POLYPROPYLENE PER ASTM D4101
3	76007	SDI-HD-238	GASKET	BUNA-N PER ASTM D2240 & D412
4	21001	SDI-HD-148	0.6" STRAND	270KSI STEEL PER ASTM A416, LOW RELAXATION
5	81001	SDI-HD-021	SDI 0.6" STANDARD 2-PART WEDGE	AISI 11L17 OR 12L14
6	75008	SDI-HD-070	SDI 4.6A-PC PERMANENT GROUT CAP	NYLON PER ASTM D5989
7	77008	SDI-HD-149	(2) ⅜" x 5" BOLT & WASHER	STAINLESS STEEL, TYPE 316
8	76019	SDI-HD-236	O-RING SEAL	BUNA-N PER ASTM D2240 & D412
9	74001	SDI-HD-258	BURSTING REINFORCING	GRADE 60 STEEL PER ASTM A815
10	74001	SDI-HD-258	BURSTING REINFORCING SUPPORT BAR	GRADE 60 STEEL PER ASTM A815
11	37002	SDI-HD-185	HEAT SHRINK TUBING (PLA-63-YE)	ADHESIVE LINED POLYOLEFIN
12	32002	SDI-HD-033	1"x3" (25mmx75mm) CORRUGATED DUCT	POLYPROPYLENE PER ASTM D4101
13	33002	SDI-HD-039	1"x3" (25mmx75mm) SLIP-ON DUCT COUPLER	POLYPROPYLENE PER ASTM D4101
14	51001	SDI-HD-189	¾ " (23mm) GROUT HOSE	HIGH DENSITY POLYETHYLENE PER ASTM D3350
15	51002	SDI-HD-188	½" (13mm) GROUT HOSE	HIGH DENSITY POLYETHYLENE PER ASTM D3350
16	52008	SDI-HD-153	½" BALL VALVE (TEMPORARY)	POLYVINYL CHLORIDE
17	52006	SDI-HD-152	1" BALL VALVE (TEMPORARY)	POLYVINYL CHLORIDE
18	76022	SDI-HD-236	O-RING SEAL	BUNA-N PER ASTM D2240 & D412
19	55003	SDI-HD-155	½" (13mm) PLUG	POLYPROPYLENE PER ASTM D4101
20	55001	SDI-HD-156	¾" (23mm) PLUG	POLYPROPYLENE PER ASTM D4101
21	53011	SDI-HD-222	½" (13mm) NPT COUPLER (TEMPORARY)	POLYPROPYLENE PER ASTM D4101
22	57003	SDI-HD-147	¾" (23mm) WELDABLE GROUT PORT	POLYPROPYLENE PER ASTM D4101
23	76014	SDI-HD-236	O-RING SEAL	BUNA-N PER ASTM D2240 & D412
24	0000T	N/A	TEFLON TAPE (TEMPORARY)	TEFLON
25	0000E	N/A	COMMERCIALLY AVAILABLE/COMPATIBLE EPOXY	EPOXY
26	0000G	N/A	COMMERCIALLY AVAILABLE/COMPATIBLE LITHIUM GREASE	LITHIUM
* ALL NON-FERROUS COMPONENTS CONTAIN VIRGIN MATERIAL.				

STEP-BY-STEP SYSTEM INSTALLATION PROCEDURE

STEP 1: HANG ANCHORAGE WITH 2 EACH ⅜ " ALL THREAD.
STEP 2: INSTALL TRUMPET. MAKE SURE GASKET IS INSTALLED BETWEEN TRUMPET AND ANCHORAGE.
STEP 3: PLACE BURSTING STEEL 1" BEHIND ANCHORAGE. ENSURE BURSTING STEEL IS CONCENTRIC AND PARALLEL TO PATH OF TENDON.
STEP 4: PLACE O-RING IN LAST CORRUGATION OF DUCT.
STEP 5: SLIDE DUCT INSIDE TRUMPET.
STEP 6: HEAT SHRINK DUCT TO TRUMPET.
STEP 7: PERFORM VACUUM TEST PER FDOT 462-8.2.1.2
STEP 8: INSTALL STRAND, LEAVE SUFFICIENT STRAND FOR STRESSING EQUIPMENT.
STEP 9: ENSURE WEDGE CAVITIES ARE RUST FREE AND CLEAN PRIOR TO WEDGE INSTALLATION.
STEP 10: PUSH WEDGES OVER STRAND AND AGAINST THE ANCHORAGE USING A ¾" PIPE.
STEP 11: STRESS TENDONS AFTER CONCRETE HAS REACHED REQUIRED STRENGTH PER DRAWINGS AND/OR SPECIFICATION.
STEP 12: AFTER STRESSING AND APPROVAL FROM OWNERS REPRESENTATIVE, CUT STRAND TAILS 1" FROM FACE OF ANCHORAGE.
STEP 13: INSTALL VENTS. (SEE NOTE: b)
STEP 14: INSTALL GROUT CAP BY TORQUEING BOLTS TO 15 FT-LB
STEP 15: PERFORM PRESSURE TEST PER FDOT 462-8.2.1.2
STEP 16: INSTALL TEMPORARY GROUT INJECTION HARDWARE.
STEP 17: INJECT GROUT PER GROUT INJECTION PROCEDURE.
STEP 18: REMOVE ALL TEMPORARY HARDWARE ONCE GROUTING PROCEDURE IS COMPLETE AND CAP OR PLUG PORTS PER DRAWINGS..

NOTES:

a. LUBRICATE ALL O-RINGS FOR EASE OF INSTALLATION.
b. EPOXY IS TO BE USED ON EVERY PERMANENT GROUT HOSE/COUPLER/PLUG THREADS, TEFLON TAPE IS TO BE USED ON EVERY TEMPORARY GROUT HOSE/COUPLER/PLUG THREADS. THREAD INTO ALL CONNECTIONS. DO NOT INJECT THROUGH VENTS.
c. MAKE SURE O-RING AND WASHER IS INSTALLED WITH GROUT CAP BOLT.
d. VENTS SHOWN FOR REFERENCE ONLY. FOR ACTUAL LOCATION, SEE PLACING DRAWINGS.
e. STEP-BY-STEP INSTALLATION PROCEDURE ARE GENERIC, FOLLOW FDOT SPECIFICATIONS AND PROJECT SPECIFIC REQUIREMENTS.
f. TENDON FILLER MATERIAL IS GROUT.

DRAWING No: SDI-HD-273

#	REVISIONS	DRAWN	CHECKED	APPROVED	DATE
0	RELEASE	JSA	MSC	MSC	082418

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SDI 4.6A INTERNAL BONDED FLAT DUCT GROUTED SYSTEM

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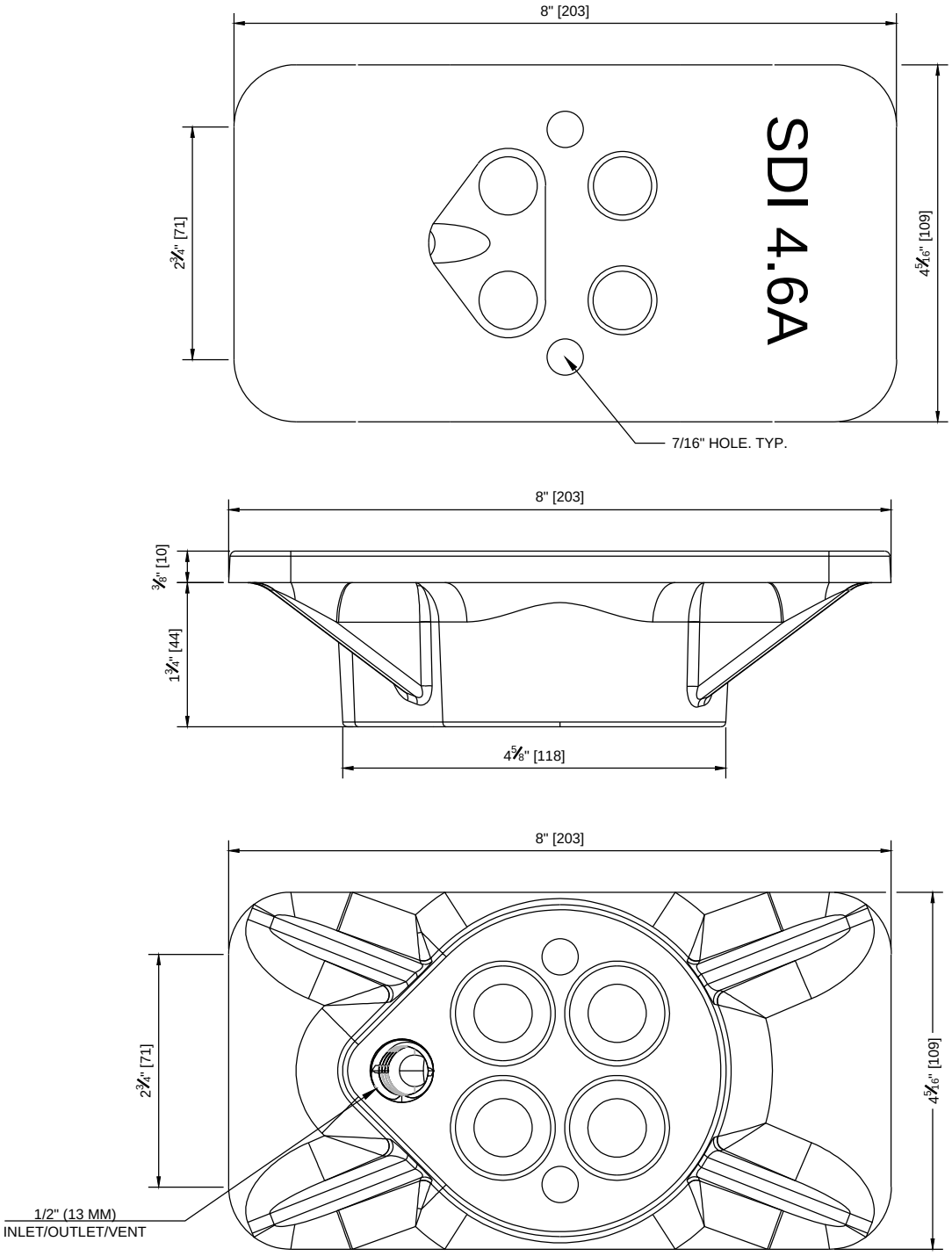
POST-TENSION SYSTEM LIBRARY



SDI 4.6A ANCHORAGE

PART NO.: 71017
MATERIAL: ASTM A 536 GR. 80-55-06 (GALVANIZED)
MATERIAL MEETS ALL SPECIFICATIONS.
SCALE: 6" = 1'-0"

SDI 4.6A ANCHORAGE

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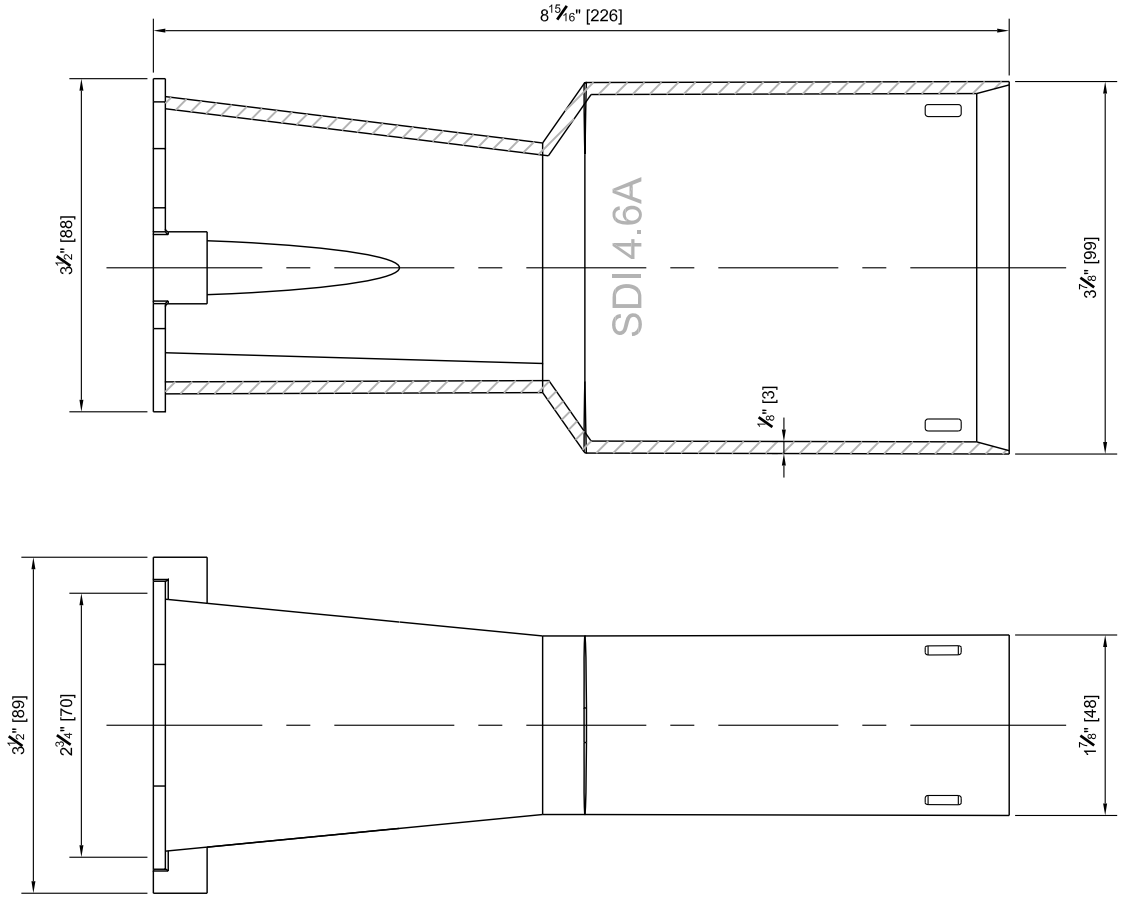
DRAWING No: SDI-HD-068

#	REVISIONS	DRAWN	CHECKED	APPROVED	DATE
0	RELEASE	THT	MCS	MCS	12/29/11
1	UPDATE	CSM	MSC	MSC	05/26/15
2	UPDATE	JSA	MSC	MSC	06/13/18



SDI 4.6A TRUMPET

PART NO.: 73010
MATERIAL: POLYPROPYLENE PER ASTM D4101
CELL CLASS RANGE: PP0340B44541 TO PP0304B67884
MATERIAL MEETS ALL SPECIFICATIONS.
SCALE: 6" = 1'-0"

SDI 4.6A TRUMPET

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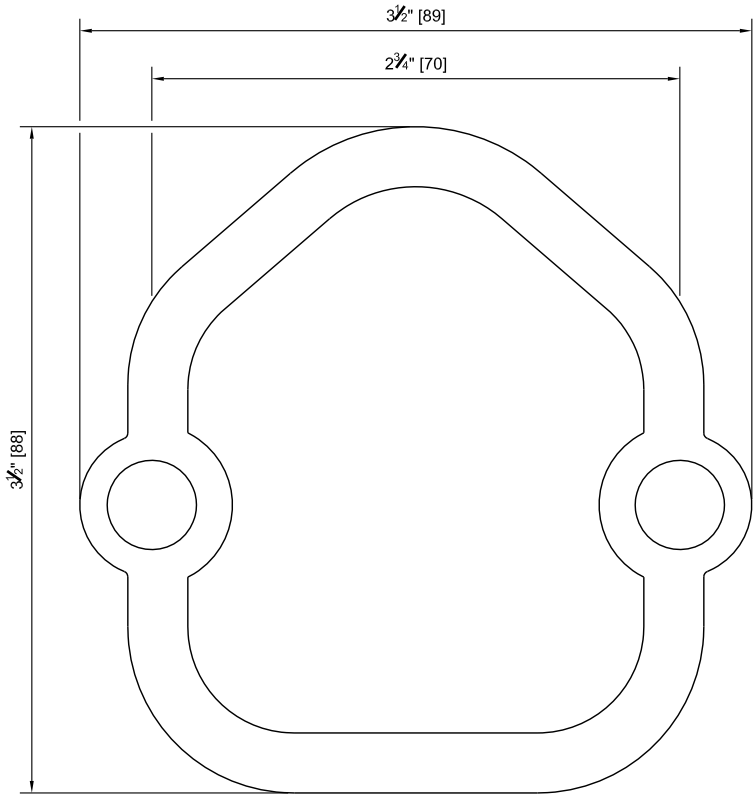
DRAWING No: SDI-HD-069

#	REVISIONS	DRAWN	CHECKED	APPROVED	DATE
0	RELEASE	THT	MCS	MCS	12/29/11
1	COMMENTS	THT	MCS	MCS	04/12/12
2	UPDATE	CSM	MSC	MSC	05/26/15
3	UPDATE	JSA	MSC	MSC	06/13/18



SDI 4.6A TRUMPET GASKET

PART NO.: 76007
MATERIAL: 1/8" THICK - BUNA-N PER ASTM D2240 & D412
MATERIAL MEETS ALL SPECIFICATIONS.
SCALE: 1'-0" = 1'-0"

SDI 4.6A TRUMPET GASKET

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DRAWING No: SDI-HD-238

#	REVISIONS	DRAWN	CHECKED	APPROVED	DATE
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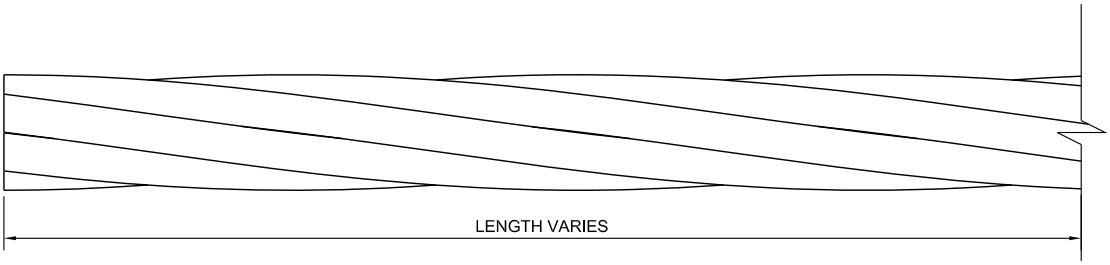
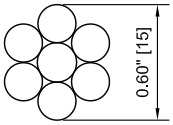
1	UPDATE	CSM	MSC	MSC	05/26/15
2	UPDATE	CSM	MSC	MSC	06/19/18





0.6" BARE STRAND

PART NO.: 21001
MATERIAL: 270 KSI LOW RELAXATION STEEL ACCORDING TO ASTM A416
MATERIAL MEETS ALL SPECIFICATIONS.
SCALE: 1'-0" = 1'-0"

0.6" BARE STRAND

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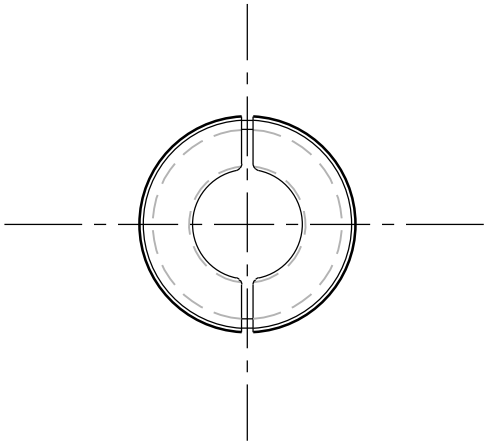
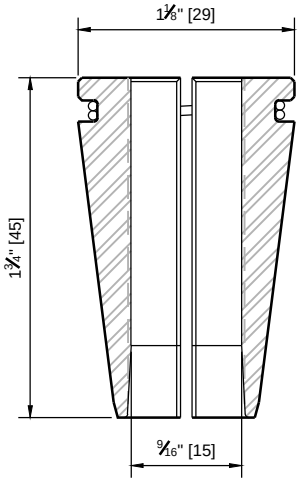
DRAWING No: SDI-HD-148

#	REVISIONS	DRAWN	CHECKED	APPROVED	DATE
0	RELEASE	MHA	MSC	MSC	04/02/14
1	UPDATE	CSM	MSC	MSC	05/26/15





SDI 0.6" WEDGE (2-PART)

PART NO.: 81001
MATERIAL: AISI 11L17 OR 12L14
MATERIAL MEETS ALL SPECIFICATIONS.
PART IDENTIFICATION MARKED ON CONTAINER
SCALE: 1'-0" = 1'-0"

SDI 0.6" WEDGE (2-PART)

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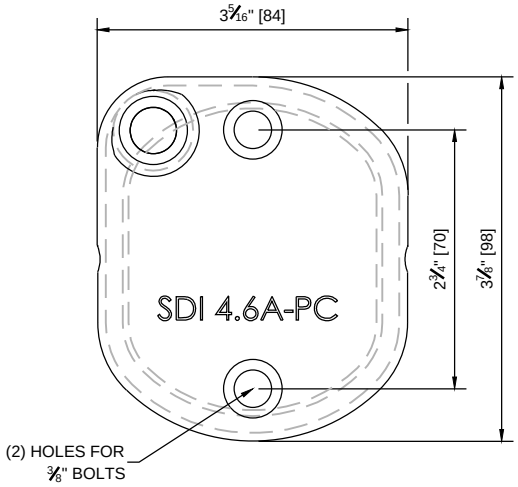
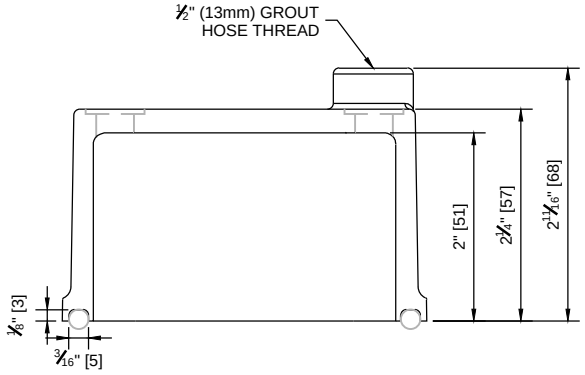
DRAWING No: SDI-HD-021

#	REVISIONS	DRAWN	CHECKED	APPROVED	DATE
0	RELEASE	MCS	GAS	MCS	03/14/11
1	COMMENTS	CMS	MCS	MCS	07/05/13
2	UPDATE	CSM	MSC	MSC	05/26/15
3	UPDATE	JSA	MSC	MSC	06/14/18





SDI 4.6A-PC PERMANENT GROUT CAP

PART NO.: 75008
MATERIAL: NYLON MEETING CELL CLASS S-PA0141, S-PA0231, OR S-PA0401
MATERIAL MEETS ALL SPECIFICATIONS.
SCALE: 6" = 1'-0"

SDI 4.6A-PC PERMANENT GROUT CAP

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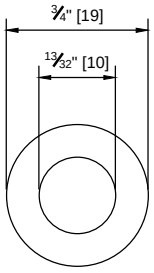
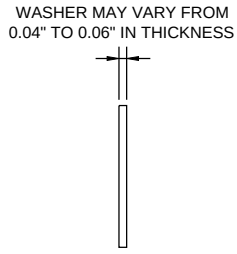
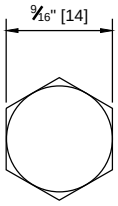
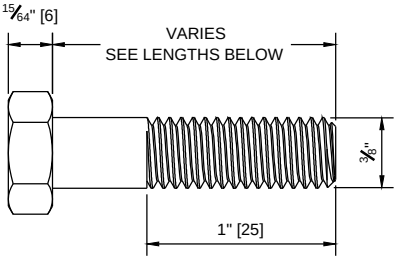
DRAWING No: SDI-HD-070

#	REVISIONS	DRAWN	CHECKED	APPROVED	DATE
1	REVISED	THT	MCS	MCS	05/22/12
2	REVISED	THT	MCS	MCS	08/13/12
3	UPDATE	CSM	MSC	MSC	05/26/15
4	UPDATE	JSA	MSC	MSC	06/15/18









3/8"-16 BOLT & WASHER

PART NO.: 77002 - SDI 2.6A-PC PERMANENT CAP BOLTS (L= 5")
77004 - SDI 12.6-PC PERMANENT CAP BOLTS (L= 2.5")
77006 - SDI 22.6-PC PERMANENT CAP BOLTS (L= 3")
77008 - SDI 4.6A-PC PERMANENT CAP BOLTS (L= 5")

MATERIAL: STAINLESS STEEL, TYPE 316 ACCORDING TO ASTM F593
MATERIAL MEETS ALL SPECIFICATIONS.
SCALE: 1'-0" = 1'-0"

3/8"-16 BOLT & WASHER

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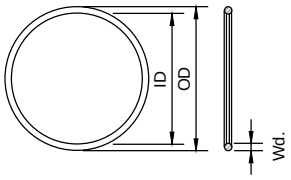
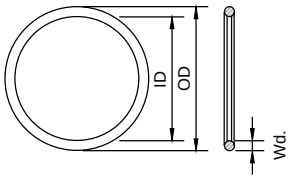
DRAWING No: SDI-HD-149

#	REVISIONS	DRAWN	CHECKED	APPROVED	DATE
0	RELEASE	MHA	MSC	MSC	04/02/14
1	UPDATE	CSM	MSC	MSC	05/26/15
2	UPDATE	JSA	MSC	MSC	06/14/18

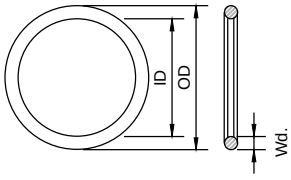
1/8" FRACTIONAL
(0.139" ACTUAL)



3/16" FRACTIONAL
(0.210" ACTUAL



1/4" FRACTIONAL
(0.275" ACTUAL)



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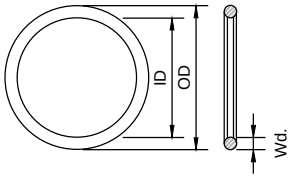

PART NO.	DASH NO.	FRACTIONAL SIZE, ID x OD	ACTUAL SIZE ID x OD	WIDTH	DUROMETER
76022	2-204	3/8" x 5/8"	0.359" x 0.637"	1/8" FRACTIONAL (0.139" ACTUAL)	70
76023	2-206	1/2" x 3/4"	0.484" x 0.762"	1/8" FRACTIONAL (0.139" ACTUAL)	70
76019	2-339	3 1/4" x 3 5/8"	3.225" x 3.645"	3/16" FRACTIONAL (0.210" ACTUAL)	70
76014	2-407	2 1/4" x 2 3/4"	2.225" x 2.775"	1/4" FRACTIONAL (0.275" ACTUAL)	70
76016	2-415	3 1/4" x 3 3/4"	3.225" x 3.775"	1/4" FRACTIONAL (0.275" ACTUAL)	70
76017	2-422	4 1/8" x 4 5/8"	4.100" x 4.650"	1/4" FRACTIONAL (0.275" ACTUAL)	70
76018	2-427	4 3/4" x 5 1/4"	4.725" x 5.275"	1/4" FRACTIONAL (0.275" ACTUAL)	70
76025	2-432	5 3/8" x 5 7/8"	5.350" x 5.900"	1/4" FRACTIONAL (0.275" ACTUAL)	70
76008	2-435	5 3/4" x 6 1/4"	5.725" x 6.275"	1/4" FRACTIONAL (0.275" ACTUAL)	40
76009	2-440	6 3/4" x 7 1/4"	6.725" x 7.275"	1/4" FRACTIONAL (0.275" ACTUAL)	40
76010	2-442	7 1/4" x 7 3/4"	7.225" x 7.775"	1/4" FRACTIONAL (0.275" ACTUAL)	40
76002	2-444	7 3/4" x 8 1/4"	7.725" x 8.275"	1/4" FRACTIONAL (0.275" ACTUAL)	70
76011	2-445	8" x 8 1/2"	7.975" x 8.525"	1/4" FRACTIONAL (0.275" ACTUAL)	40
76026	2-446	8 1/2" x 9"	8.475" x 9.025"	1/4" FRACTIONAL (0.275" ACTUAL)	40
76004	2-448	9 1/2" x 10"	9.475" x 10.025"	1/4" FRACTIONAL (0.275" ACTUAL)	70
76024	2-452	11 1/2" x 12"	11.475" x 12.025"	1/4" FRACTIONAL (0.275" ACTUAL)	70
76003	CUSTOM	-	8.747" x 9.259"	0.256"	70
76005	CUSTOM	-	10.226" x 10.738"	0.256"	70
76029	2-228	2 1/4" x 2 1/2"	2.250" x 2.500"	9/64" FRACTIONAL (0.139" ACTUAL)	70
76030	2-425	4 1/2" x 5"	4.475" x 5"	1/4" FRACTIONAL (0.275" ACTUAL)	70

STANDARD O-RINGS

MATERIAL: BUNA-N

MATERIAL MEETS ALL SPECIFICATIONS.

STANDARD O-RINGS

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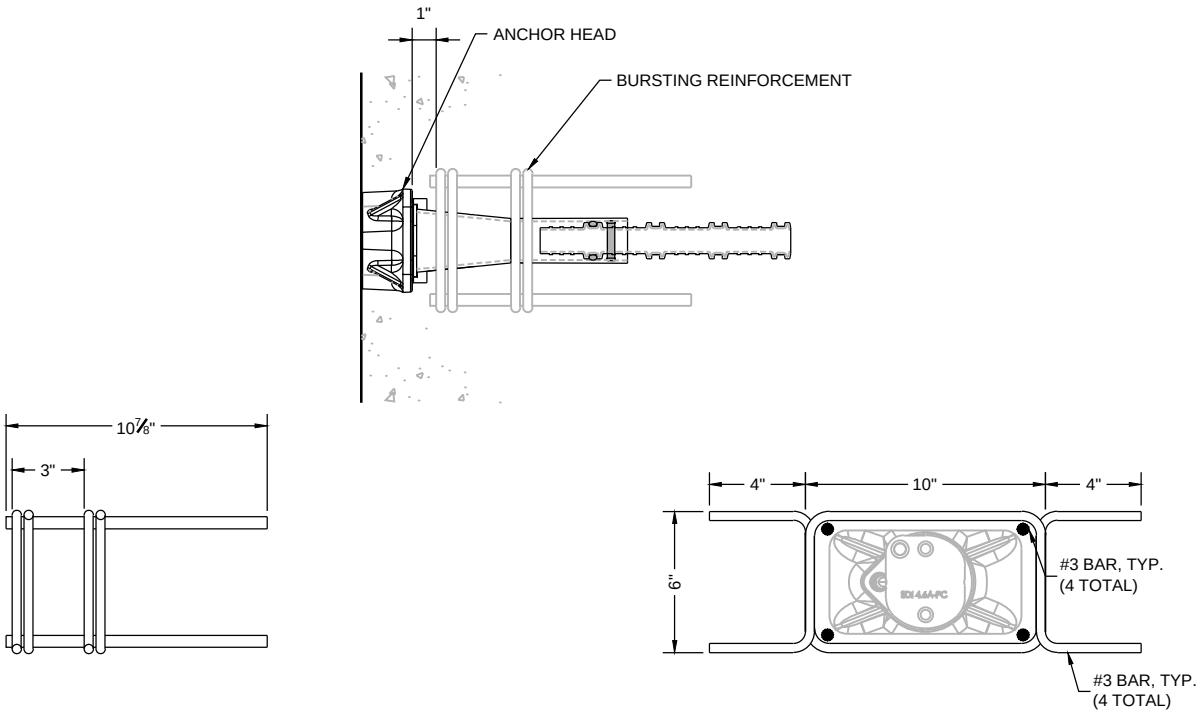
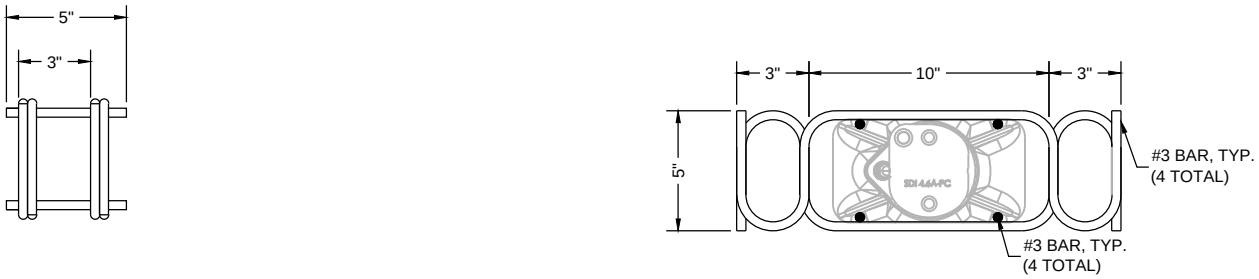
DRAWING No: SDI-HD-236

#	REVISIONS	DRAWN	CHECKED	APPROVED	DATE
0	RELEASE	MHA	MSC	MSC	01/15/15
1	UPDATE	CSM	MSC	MSC	05/26/15
2	UPDATE	CSM	MSC	MSC	06/07/16
3	UPDATE	JSA	MSC	MSC	06/20/18



SDI 4.6A STANDARD BURSTING REINFORCEMENT



SDI 4.6A ALTERNATIVE BURSTING REINFORCEMENT

FOR USE IN DECKS THAT REQUIRE MORE CONCRETE COVER

SDI 4.6A BURSTING REINFORCEMENT

PART NO.: 74001
MATERIAL: GRADE 60 STEEL ACCORDING TO ASTM A615
#3 REBAR, 2EA SETS OF BENT BARS
#3 REBAR, 4EA STRAIGHT BARS
MATERIAL MEETS ALL SPECIFICATIONS.
SCALE: 1-1/2" = 1'-0"

NOTE: PROJECT SPECIFIC REQUIREMENTS SUPERSEDE BURSTING STEEL REQUIREMENTS OF THIS SHEET

SDI 4.6A-PC BURSTING REINFORCEMENT

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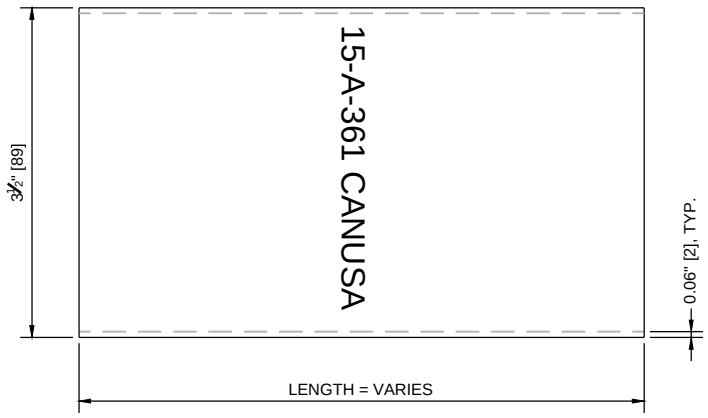
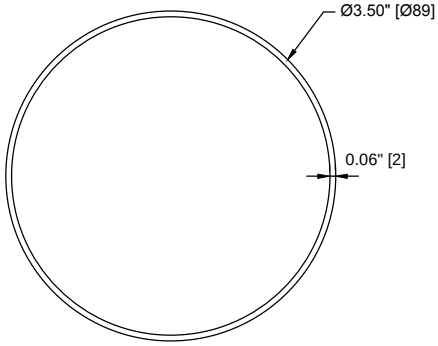
DRAWING No: SDI-HD-258

#	REVISIONS	DRAWN	CHECKED	APPROVED	DATE
0	RELEASE	CSM	MSC	MSC	05/29/15
1	UPDATE	JSA	MSC	MSC	08/16/18





HEAT SHRINK TUBING (PLA-63-YE)

PART NO.: 37002
MATERIAL: POLYOLEFIN
TUBULAR SLEEVE DIAMETER: 3.50" [89mm] AS SUPPLIED
2.50" [64mm] FULLY RECOVERED
MATERIAL MEETS ALL SPECIFICATIONS.
SCALE: 6" = 1'-0"

NOTE: INSTALL PER MANUFACTURE'S RECOMMENDATION

HEAT SHRINK TUBING
(PLA-63-YE)

SCHWAGER DAVIS, INC.
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SYSTEM LIBRARY

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DRAWING No: SDI-HD-185

#	REVISIONS	DRAWN	CHECKED	APPROVED	DATE
0	RELEASE	MHA	MSC	MSC	04/04/14
1	UPDATE	CSM	MSC	MSC	05/26/15
2	UPDATE	JSA	MSC	MSC	06/12/18

CANUSA-CPS

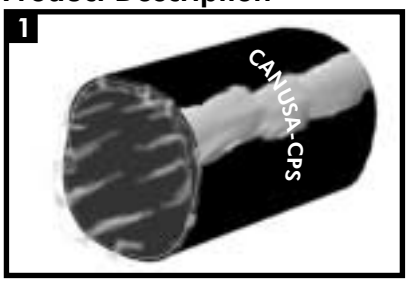
A SHAWCOR COMPANY

Installation Guide

CanusaTube™ - PLA

Tubular sleeve for pipeline corrosion protection

Product Description



CanusaTubes™ are shipped with an inner release liner for protection from contamination.

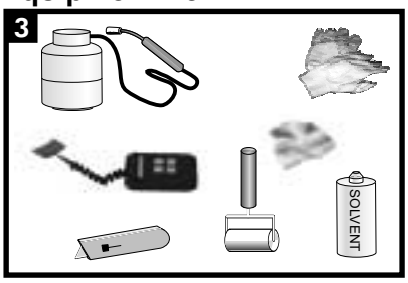
Storage & Safety Guidelines

2

To ensure maximum performance, store Canusa products in a dry, ventilated area. Keep products sealed in original cartons and avoid exposure to direct sunlight, rain, snow, dust or other adverse environmental elements. Avoid prolonged storage at temperatures above 35°C *(95°F)* or below -20°C *(-4°F)*. Product installation should be done in accordance with local health and safety regulations.

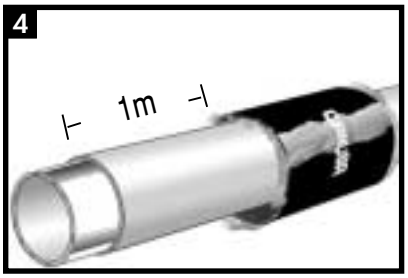
These installation instructions are intended as a guide for standard products. Consult your Canusa representative for specific projects or unique applications.

Equipment List

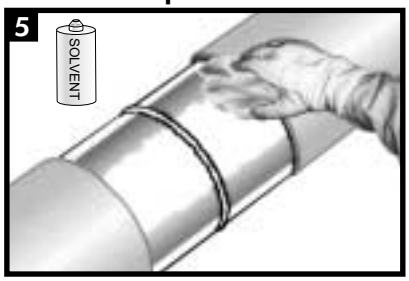


Propane tank, hose, torch & regulator
Appropriate tools for surface abrasion
Knife, roller, rags & approved solvent cleanser
Digital thermometer with suitable probe
Standard safety equipment; gloves, goggles, hard hat, etc.

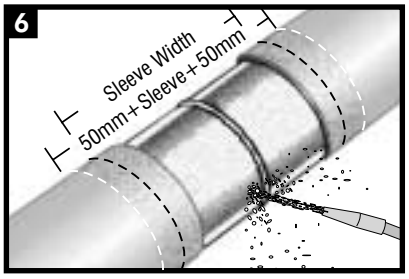
Surface Preparation



Before welding together the carrier pipe, slide the CanusaTube sleeve at least 1 m away from the cutback area of the joint



Ensure that the PE coating edges are beveled to 30°. Clean exposed steel and adjacent pipe coating with a solvent cleanser to remove the presence of oil, grease, and other contaminants.



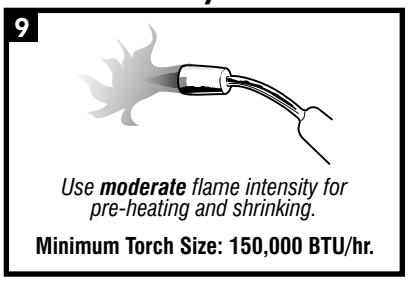
Ensure that the pipe dry before cleaning. Prepare the steel joint area to a minimum of St3 /SP3. Lightly abrade the pipe coating adjacent to the weld area to a distance of 50mm (2") beyond each end of the sleeve width.

Sleeve Installation

Wipe clean or air blast the steel and pipe coating to remove foreign contaminants.

Ensure that there is no dirt or moisture inside the tube and that the tube is not cut. If the sleeve is not useable, a one-piece Wrapid Sleeve or Canusa Wrap sleeve should be used.

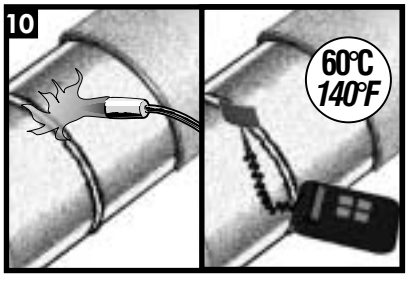
Flame Intensity & Torch Size



*Use **moderate** flame intensity for pre-heating and shrinking.*

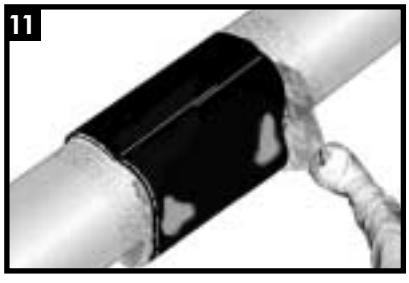
Minimum Torch Size: 150,000 BTU/hr.

Pre-Heat

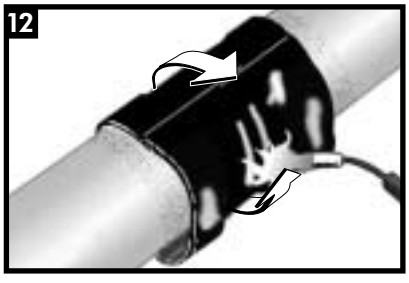


Pre-Heat the joint area to a minimum of 60°C (140°F). Using a temperature measuring device, ensure the correct temperature is reached on the steel and at least 50mm (2") on each side of the sleeve.

Sleeve Installation



Completely remove the inner release liner from the sleeve and centre the sleeve over the area to be sealed.

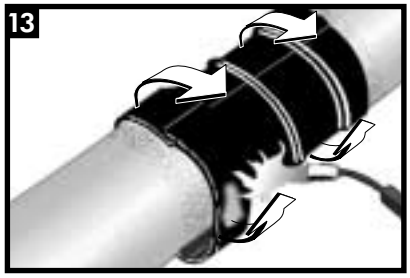


Using the appropriate sized torch, begin at the centre of the sleeve and heat circumferentially around the pipe. Use broad strokes.

CanusaTube™ - PLA

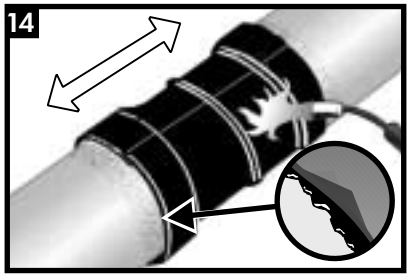
Sleeve Installation

13



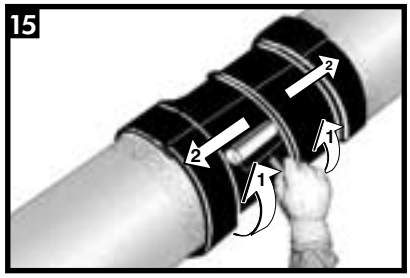
Continue heating from the centre toward one end of the sleeve until recovery is complete. In a similar manner, heat and shrink the remaining side. With a yellow backing, a pink-orange shade will appear when the proper temperature has been reached.

14



Shrinking has been completed when the adhesive begins to ooze at the sleeve edges all around the circumference. Finish shrinking the sleeve with long horizontal strokes over the entire surface to ensure a uniform bond.

15



While the sleeve is still hot and soft, use a hand roller to firmly roll the sleeve surface and push any trapped air up and out of the sleeve, as shown above. If necessary, reheat to roll out air.

Inspection

16

Visually inspect the installed sleeve for the following:

- Sleeve is in full contact with the steel joint.
- Adhesive flows beyond both sleeve edges.
- No cracks or holes in sleeve backing.

Backfilling Guidelines

17

After shrinking is complete, allow the sleeve to cool for 2 hours prior to lowering and backfilling. To prevent damage to the sleeve, use selected backfill material, (no sharp stones or large particles) otherwise an extruded polyethylene mesh or other suitable shield should be used.

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A SHAWCOR COMPANY

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Tel: +1 (416) 743-7111
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Asia/Pacific
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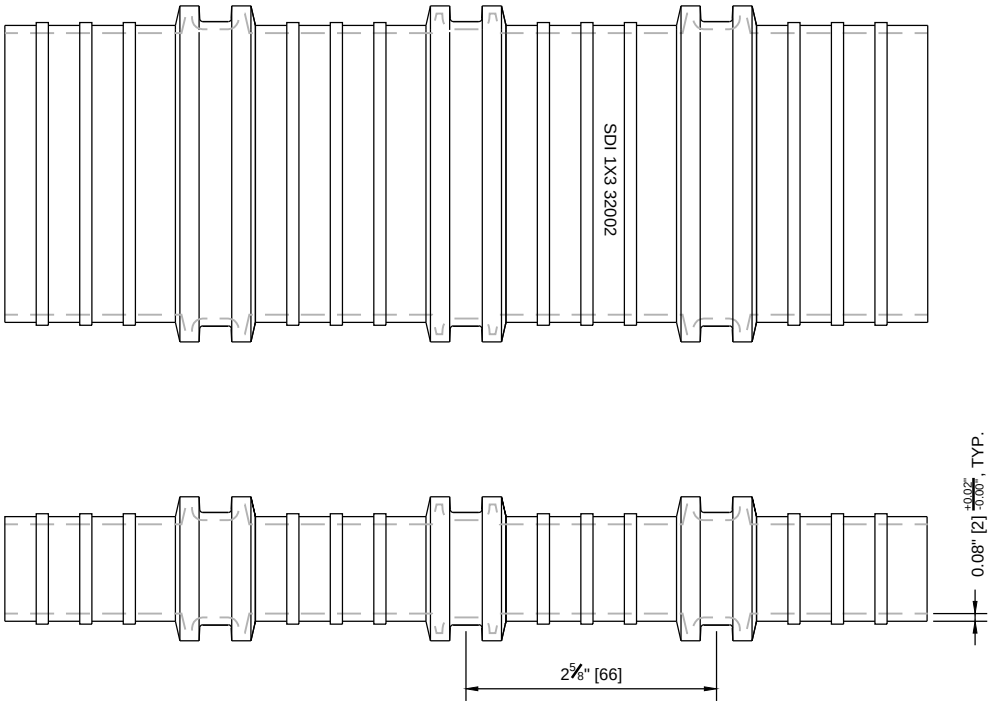
#17-01/02, United Square
Singapore
307591
Tel +65-6732-2355
Fax +65-6732-9073

IG-CTpla-rev011



SDI 1x3 CORRUGATED PLASTIC DUCT

PART NO.: 32002
MATERIAL: POLYPROPYLENE
CELL CLASS RANGE: PP0340B44541 TO PP0340B67884
MATERIAL MEETS ALL SPECIFICATIONS.
MINIMUM BENDING RADIUS: 8 FT
SCALE: 6" = 1'-0"

SDI 1x3 CORRUGATED PLASTIC DUCT

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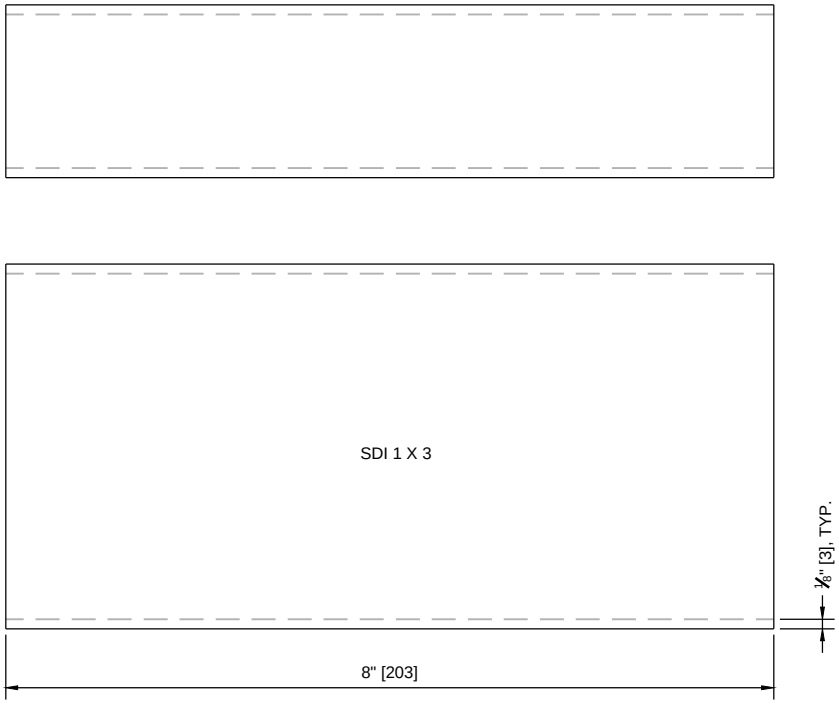
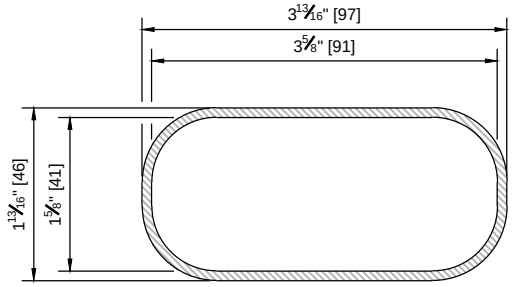
DRAWING No: SDI-HD-033

#	REVISIONS	DRAWN	CHECKED	APPROVED	DATE
0	RELEASE	MCS	JWM	MCS	08/08/11
1	REVISED	MCS	JWM	MCS	11/11/11
2	UPDATE	CSM	MSC	MSC	05/26/15
3	UPDATE	JSA	MSC	MSC	06/12/18





SDI 1x3 SLIP-ON DUCT COUPLER

PART NO.: 33002
MATERIAL: POLYPROPYLENE
CELL CLASS RANGE: PP0340B44541 TO PP0340B67884
MATERIAL MEETS ALL SPECIFICATIONS.
SCALE: 6" = 1'-0"

SDI 1x3 SLIP-ON DUCT COUPLER

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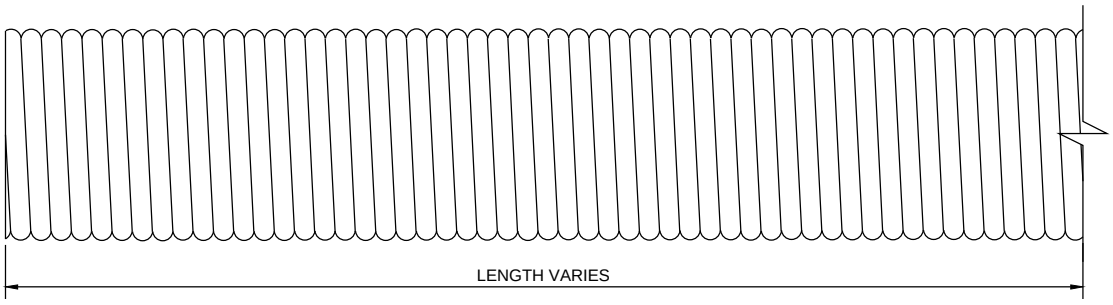
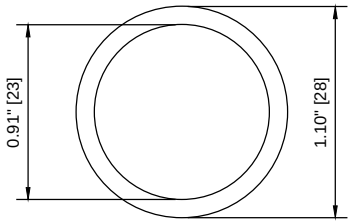
DRAWING No: SDI-HD-039

#	REVISIONS	DRAWN	CHECKED	APPROVED	DATE
0	RELEASE	MCS	JWM	MCS	8-19-11
1	REVISED LENGTH	THT	RS	RS	3-8-12
2	UPDATE	CSM	MSC	MSC	5-26-15
3	UPDATE	JSA	MSC	MSC	6-13-18





3/4" NOM. (23mm) GROUT HOSE

PART NO.: 51001
MATERIAL: HDPE
PRESSURE RATING: 150 PSI
MATERIAL MEETS ALL SPECIFICATIONS.
SCALE: 1'-0" = 1'-0"

¾" NOM. (23mm) GROUT HOSE

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DRAWING No: SDI-HD-189

#	REVISIONS	DRAWN	CHECKED	APPROVED	DATE
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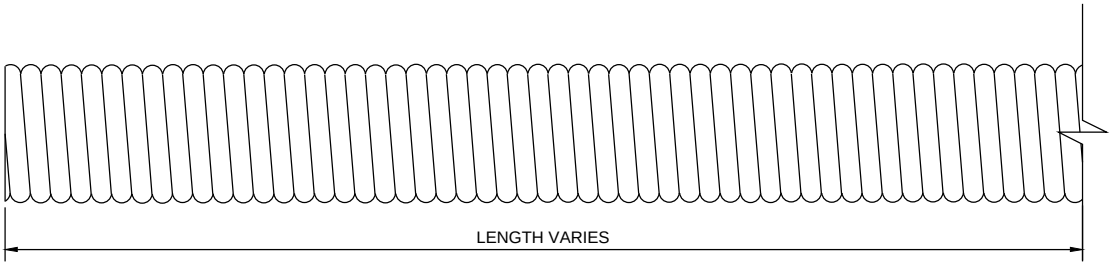
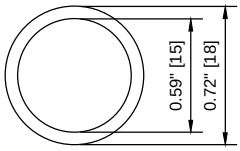
1	UPDATE	CSM	MSC	MSC	05/26/15
2	UPDATE	JSA	MSC	MSC	06/18/18





1/2" NOM. (13mm) GROUT HOSE

PART NO.: 51002
MATERIAL: HDPE
PRESSURE RATING: 150 PSI
MATERIAL MEETS ALL SPECIFICATIONS.
SCALE: 1'-0" = 1'-0"

½" NOM. 13mm GROUT HOSE

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DRAWING No: SDI-HD-188

#	REVISIONS	DRAWN	CHECKED	APPROVED	DATE
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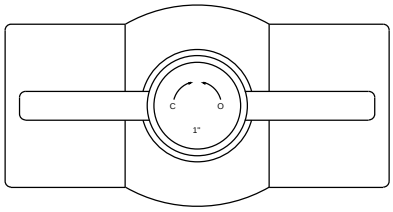
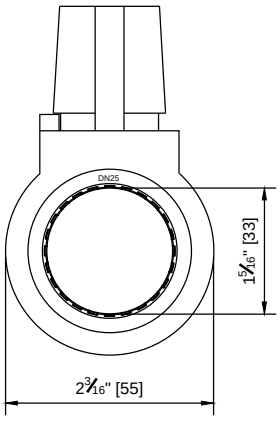
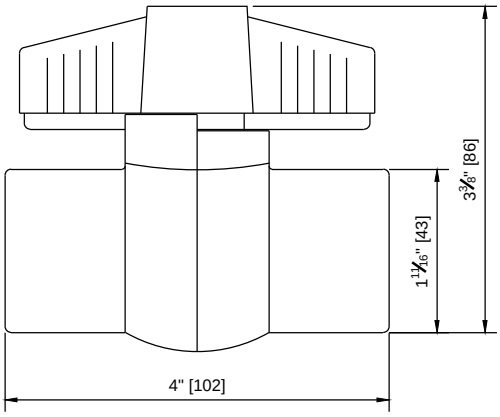
2	UPDATE	JSA	MSC	MSC	06/12/18







1" DIAMETER BALL VALVE (TEMPORARY)

PART NO.: 52006
MATERIAL: PVC
PRESSURE RATING: 150 PSI
THREAD SIZE: 1" NPT
MATERIAL MEETS ALL SPECIFICATIONS.
SCALE: 6" = 1'-0"

1" DIAMETER BALL VALVE (TEMPORARY)

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DRAWING No: SDI-HD-152

#	REVISIONS	DRAWN	CHECKED	APPROVED	DATE
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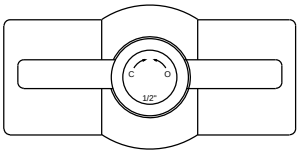
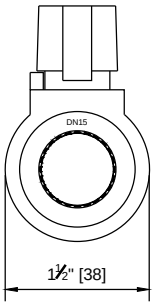
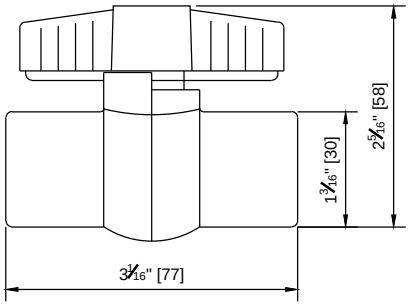
1	UPDATE	CSM	MSC	MSC	05/26/15
2	UPDATE	JAS	MSC	MSC	06/12/18







1/2" DIAMETER BALL VALVE (TEMPORARY)

PART NO.: 52008
MATERIAL: PVC
PRESSURE RATING: 150 PSI
MATERIAL MEETS ALL SPECIFICATIONS.
SCALE: 6" = 1'-0"

1/2" DIAMETER BALL VALVE (TEMPORARY)

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DRAWING No: SDI-HD-153

#	REVISIONS	DRAWN	CHECKED	APPROVED	DATE
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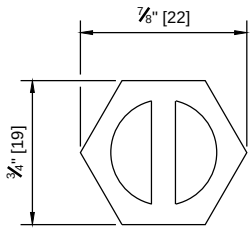
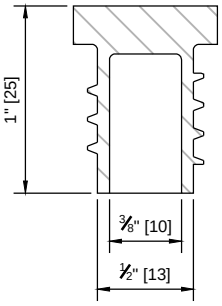
1	UPDATE	CSM	MSC	MSC	05/26/15
2	UPDATE	JSA	MSC	MSC	06/18/18





1/2" NOM. (13mm) GROUT TUBE PLUG

PART NO.: 55003
MATERIAL: POLYPROPYLENE
CELL CLASS RANGE: PP0340B44541 TO PP0340B67884
PRESSURE RATING: 150 PSI
MATERIAL MEETS ALL SPECIFICATIONS.
SCALE: 1'-0" = 1'-0"

½" NOM. (13mm) GROUT TUBE PLUG

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DRAWING No: SDI-HD-155

#	REVISIONS	DRAWN	CHECKED	APPROVED	DATE
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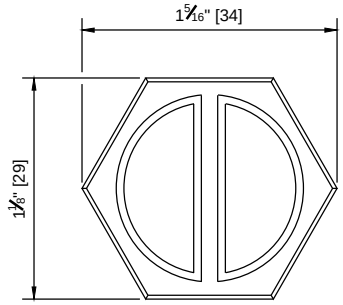
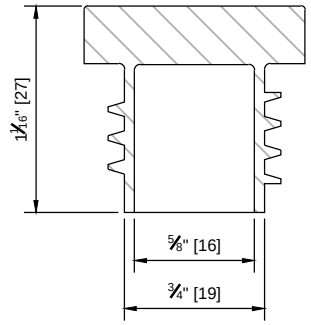
2	UPDATE	JSA	MSC	MSC	06/18/18





3/4" NOM. (23mm) GROUT TUBE PLUG

PART NO.: 55001
MATERIAL: POLYPROPYLENE
CELL CLASS RANGE: PP0340B44541 TO PP0340B67884
PRESSURE RATING: 150 PSI
MATERIAL MEETS ALL SPECIFICATIONS.
SCALE: 1'-0" = 1'-0"

¾" NOM.(23mm) GROUT TUBE PLUG

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DRAWING No: SDI-HD-156

#	REVISIONS	DRAWN	CHECKED	APPROVED	DATE
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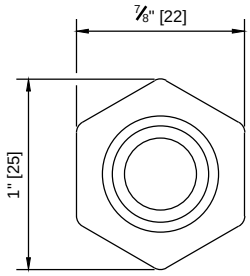
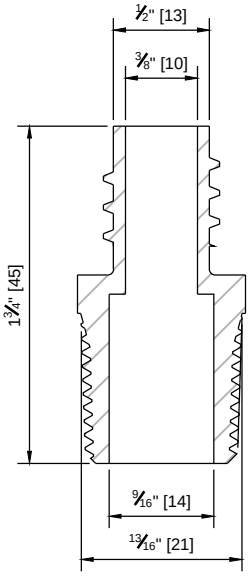
1	UPDATE	CSM	MSC	MSC	05/26/15
2	UPDATE	JSA	MSC	MSC	06/19/18





1/2" NOM. (13mm) NPT COUPLER

PART NO.: 53011
MATERIAL: POLYPROPYLENE
CELL CLASS RANGE: PP0340B44541 TO PP0340B67884
PRESSURE RATING: 150 PSI
MATERIAL MEETS ALL SPECIFICATIONS.
SCALE: 1'-0" = 1'-0"

½" NOM. (13mm) NPT COUPLER

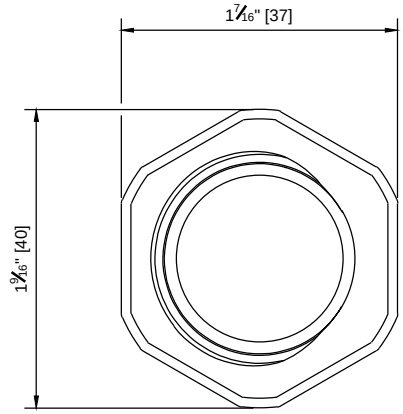
SCHWAGER DAVIS, INC.
POST-TENSION
SYSTEM LIBRARY

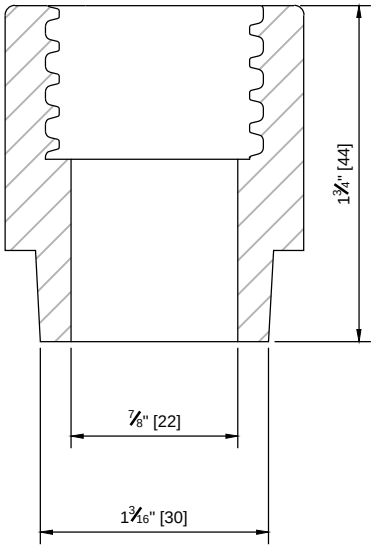
SCHWAGER DAVIS INC.

SCHWAGER DAVIS, INC.
DESIGN-BUILD CONTRACTOR
198 HILLSDALE AVENUE
SAN JOSE, CA 95136
PHONE: 408.281.9300
FAX: 408.281.9301
www.schwagerdavis.com

DRAWING No: SDI-HD-222

#	REVISIONS	DRAWN	CHECKED	APPROVED	DATE
0	RELEASE	MHA	MSC	MSC	10/10/14
1	UPDATE	CSM	MSC	MSC	05/26/15
2	UPDATE	JSA	MSC	MSC	06/19/18





PP WELDABLE GROUT PORT WITH 3/4" (23mm) GROUT THREAD

PART NO.: 57003
MATERIAL: POLYPROPYLENE
CELL CLASS: PP0340B44541 TO PP0340B67884
PRESSURE RATING: 150 PSI
MATERIAL MEETS ALL SPECIFICATIONS.
SCALE: 1'-0" = 1'-0"

PP WELDABLE GROUT PORT WITH ¾" (23mm) GROUT THREAD

SCHWAGER DAVIS, INC.
POST-TENSION
SYSTEM LIBRARY

SCHWAGER DAVIS INC.

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DRAWING No: SDI-HD-147

#	REVISIONS	DRAWN	CHECKED	APPROVED	DATE
0	RELEASE	MHA	MSC	MSC	03/25/14
1	UPDATE	CSM	MSC	MSC	05/26/14
2	UPDATE	JSA	MSC	MSC	06/20/18

Technical Product Information

RED-*i* PT CABLE COATING GREASE

RED-*i* PT CABLE COATING IS SPECIALLY FORMULATED FOR THE POST TENSIONING CONSTRUCTION INDUSTRY, AND EXCEEDS THE POST TENSIONING INSTITUTE (PTI) SPECIFICATIONS IN CORROSION PROTECTION FOR UNBONDED AND SINGLE-STRAND TENDONS IN CORROSIVE SERVICE.

Product Description: **RED-*i* PT CABLE COATING** is a premium lithium grease fortified with effective corrosion inhibitors. The coating is specifically designed to provide extended protection against corrosion of metal cables or any metallic surface exposed to moisture.

Features:

- Adhesive properties protects metal surfaces from air, moisture, and sea water.
- Excellent corrosion and rust inhibition properties.
- Exceeds PTI specifications.
- Member Post Tensioning Institute.
- High dropping point.
- Contains antimicrobial agent.

Typical Uses:

- Preserves metallic cables and wires exposed to corrosive environments.
- Preserves steel reinforcement bars or rods used for concrete structures against corrosion.
- Recommended for use in marine and construction industries.

Typical Specifications:

GRADE, NLGI	**2**
Penetration @ 77° F. (ASTM Worked)	265-295
Dropping Point, ASTM D-2265, °F.	383
Color	Amber
Texture	Butter
Appearance	Smooth
Soap Type	Lithium
Soap, %	7.0
Rust Test, ASTM D-1743	Pass
Corrosion Test, ASTM B-117	Pass (No Rust)
Soak Test, ASTM B-117 Modified	Pass
Emulsification Of Coating	None
Oil Separation, FTM 321.2 , Wt.%	0.5
Flash Point, ASTM D-92, Coc, °F	350
Water Content, ASTM D-95, Wt.%	<0.1
Base Oil Viscosity	
cSt. @ 40° C.	321.0
cSt. @ 100° C.	21.0
SUS@100° F.	74
Viscosity Index	<0.5
Chlorides, PPM ASTM D-512	<0.1
Nitrates, PPM, ASTM D3867	8.54
Tensile Strength Change Of Polymer, ASTM D638	

VALUES SHOWN HERE ARE TYPICAL AND MAY VARY.

www.simpsonanchors.com

SET High Strength Epoxy-Tie® Anchoring Adhesive

SET Epoxy-Tie® epoxy is a two-component, 1:1 ratio, high solids, epoxy-based adhesive for use as a high strength, non-shrink anchor grouting material. Resin and hardener are dispensed and mixed simultaneously through the mixing nozzle. SET meets or exceeds the requirements of ASTM C-881 specification for Type I, II, IV and V, Grade 3, Class B and C.

GALLERY: ROLL OVER IMAGES BELOW TO SEE LARGER IMAGE

SET22

EMN22i

EDT22B

SET-PAC EZ™ Adhesive U.S. Patent 6,634,524

SET56

SET1.7KTA

USES

- Threaded-rod anchoring
- Rebar doweling
- Bonding hardened concrete to hardened concrete
- Pick-proof sealant around doors, windows and fixtures
- Paste-over for crack injection

CODE REPORTS

- ICC Evaluation Service ESR-1772 (formerly ICBO-ES ER-5279) (PDF) (CMU & URM)
- City of L.A. RR25279 (PDF)
- Caltrans approved
- Florida Statewide Product Approval FL11506.4
- multiple DOT listings
- NSF/ANSI Standard 61 (216 in^2 /1000 gal) (PDF), except SET1.7KTA
- SET-PAC EZ™ adhesive covered by ICC-ES, City of L.A. and NSF/ANSI listings only

The load tables list values based upon results from the most recent testing and may not reflect those in current code reports. Where code jurisdictions apply, consult the current

LINKS:

- Supplemental Topics for Adhesive Anchors
- Estimating Guide
- Limited Warranty Information
- Tension and Shear Load Tables
- Load-Adjustment Factors
- Documents:
  - Anchor Catalog Section (PDF)
  - Product Submittal (PDF)
  - Material Safety Data Sheet: SET (PDF)
  - Material Safety Data Sheet: SET en Español (PDF)
  - SET-PAC-EZ™ Epoxy-Tie® Anchoring Adhesive Flier (PDF)
  - Rebar Yield and Tensile Strength Embedments Technical Bulletin (PDF)
  - Rebar Yield and Tensile Strength Embedments (Canada) Technical Bulletin (PDF)
  - Anchor Tension Loads in Masonry Chair Block Technical Bulletin (PDF)
- Free Softw are:
  - Anchor Designer
  - Adhesive Cartridge Quantity Estimator

reports for applicable load values.

APPLICATION

Surfaces to receive epoxy must be clean. For installations in or through standing water, see Supplemental Topics for Adhesive Anchors for details. The base material temperature must be 40° F or above at the time of installation. For best results, material should be 70° - 80° F at the time of application. Cartridges should not be immersed in water to facilitate warming. To warm cold material, the cartridges should be stored in a warm, uniformly heated area or storage container for a sufficient time to allow epoxy to warm completely. Mixed material in nozzle can harden in 5-7 minutes at a temperature of 40° F or above.

TEST CRITERIA

Anchors installed with SET Epoxy-Tie® adhesive have been tested in accordance with ICC-ES's *Acceptance Criteria for Adhesive Anchors (AC58)* for the following:

- Seismic/wind loading
- Long-term creep at elevated-temperature
- Static loading at elevated-temperature
- Damp and water-filled holes
- Freeze-thaw conditions
- Critical and minimum edge distance and spacing

In addition, anchors installed with SET Epoxy-Tie® adhesive have been tested in accordance with ICC-ES's *Acceptance Criteria for Unreinforced Masonry Anchors (AC60)*.

PROPERTY	TEST METHOD	RESULTS
Consistency	ASTM C 881	Non-sag/ thixotropic paste
Heat deflection	ASTM D 648	136° F (58° C)
Bond strength (moist cure)	ASTM C 882	3,218 psi (2 days) 3,366 psi (14 days)
Water absorption	ASTM D 570	0.110% (24 hrs)
Compressive yield strength	ASTM D 695	5,065 psi (24 hours) 12,650 psi (7 days)
Compressive modulus	ASTM D 695	439,000 psi (7 days)
Gel time (75° F)	ASTM C 881	30 min - 60 gram mass 60 min - thin film

ACCESSORIES / RELATED PRODUCTS

- Dispensing Tools
- Mixing Nozzles
- Plastic Anchoring Screens
- Steel Anchoring Screens
- Hole Cleaning Brushes

SUGGESTED SPECIFICATIONS

Anchoring adhesive shall be a two-component high-solids epoxy based system supplied in manufacturer's standard cartridge and dispensed through a static-mixing nozzle supplied by the manufacturer. Epoxy shall meet the minimum requirements of ASTM C-881 specification for Type I, II, IV, and V, Grade 3, Class B and C and must develop a minimum 12,650 psi compressive yield strength after 7 day cure. Epoxy must have a heat deflection temperature of a minimum 136°F (58°C). Adhesive shall be SET Epoxy-Tie® adhesive from Simpson Strong-Tie, Pleasanton, CA. Anchors shall be installed per Simpson Strong-Tie instructions for SET Epoxy-Tie® adhesive.

ASD DESIGN EXAMPLE

For design example, click here.

INSTALLATION

IMPORTANT For installation instructions, click here.

SHELF LIFE

24 months from date of manufacture in unopened side-by-side cartridge. SET-PAC EZ™ cartridge - 24 months from date of manufacture, unopened.

STORAGE CONDITIONS

For best results store between 45° F - 90° F. To store partially used cartridges, leave hardened nozzle in place. To re-use, attach new nozzle.

COLOR

Resin – white, hardener – black
When properly mixed SET adhesive will be a uniform light gray color.

CLEAN UP

Uncured material – Wipe up with cotton cloths. If desired scrub area with abrasive, waterbased cleaner and flush with water. If approved, solvents such as ketones (MEK, acetone, etc.), lacquer thinner or adhesive remover can be used. DO NOT USE SOLVENTS TO CLEAN ADHESIVE FROM SKIN. Take appropriate precautions when handling flammable solvents. Solvents may damage surfaces to which they are applied. Cured material – Chip or grind off surface.

CHEMICAL RESISTANCE

Very good to excellent against distilled water, inorganic acids and alkalis. Fair to good against organic acids and alkalis, and many organic solvents. Poor against ketones. For more detailed information download Technical Bulletin T-SAS-CHEMRES08 (PDF).

SET Cartridge Systems

Model No.	Capacity ounces (cubic inches)	Cartridge Type	Carton Quantity	Dispensing Tool(s)	Mixing[4] Nozzle
SET1.7KTA	1.7 (3.1)	side-by-side	12	Adaptor included for standard caulking tool	EMN1.7 (2 included)
SET-PAC-EZ	8.5 (16.2)	single	12	CDT10 or high quality standard caulking tool	2 included
SET22	22 (39.7)	side-by-side	10	EDT22B, EDT22AP, or EDT22CKT	EMN22i
SET56	56 (101.1)	side-by-side	6	EDT56AP	EMN22i or EMN50

1. Bulk containers also available, contact Simpson Strong-Tie for details.
2. Cartridge and bulk estimation guides are available.
3. Detailed information on dispensing tools, mixing nozzles and other adhesive accessories is available.
4. Use only appropriate Simpson Strong-Tie mixing nozzle in accordance with Simpson's instructions. Modification or improper use of mixing nozzle may impair epoxy performance.

Cure Schedule

Base Material Temperature		Cure Time
°F	°C	
40	4	72 hrs.
65	18	24 hrs.
85	29	20 hrs.
90	32	16 hrs.

In-Service Temperature Sensitivity

Base Material Temperature		Percent Allowable Load
°F	°C	
40	4	100%
70	21	100%
110	43	100%
135	57	75%
150	66	44%
180	82	20%

1. Refer to temperature sensitivity chart for allowable bond strength reduction for temperature. See Supplemental Topics for Adhesive Anchors.
2. Percent allowable load may be linearly interpolated for intermediate base material temperatures.
3. °C = (°F-32) / 1.8

top ▲

POLY-TEMP® MD
MEDIUM DENSITY THREAD SEAL TAPE

WWW.ANTISEIZE.COM

Product Description

POLY-TEMP® MD Medium Density Thread Seal Tape is a general purpose PTFE Thread Seal Tape designed to be used on all types of metal and plastic pipe threads.

Our **POLY-TEMP®** Tapes are made from 99.9% virgin PTFE resins for optimum purity and performance. **POLY-TEMP® MD** Medium Density Thread Seal Tape is malleable to easily conform to thread profiles to ensure a positive seal.

Because **POLY-TEMP® MD** Medium Density Thread Seal Tape is composed of pure PTFE, it touts an extremely broad range of chemical compatibilities and is unaffected by most chemicals and concentrations.

POLY-TEMP® MD Medium Density Thread Seal Tape is our most popular grade of thread sealing tape and has been Industry Leader for over 30 years.

Features & Benefits

- Meets FDA and USDA requirements
- UL Listed
- Ideal for all tapper thread connections
- PTFE's high lubricity makes for easy assembly
- Only 3 wraps need for most applications
- Chemically inert, non-Toxic
- Suitable for oxygen service
- Our most popular grade of Thread Seal Tape
- Easy to handle and apply
- Temperature range from -400F to 550F (-240C to 287C)
- Pressures up to 10,000psi (Liquid), 2000 psi (Gas)
- Connections can be put into service right away, no dry time
- Never dries out and an unlimited shelf life.
- Meets MIL-T-27730A
- Extremely versatile.

Typical Properties

Property	Value
Color	White
Thickness	3.5 mils
Specific Gravity	0.7 to 0.8g/cc
Toxicity	Non toxic
RoHS	Compliant

Cautions

Read all information on labels and Material Safety Data Sheets prior to use. All products should be tested and evaluated for a particular purpose prior to use.

Product Limited Warranty

This information is based on information we believe to be reliable and accurate, but no guarantee of its accuracy is made for a particular application. We urge and recommend that Users pretest their application prior to incorporating the product into use and assume that the User will conduct such testing. Also see warranty statement on website.

Available In:

Size: ½"x 60" ¼"x520" ½"x260" ½"x520" ½"x1296"
P/N: 16006 16025 16030 16035 16040

Size: ¾"x260" ¾"x520" 1"x260" 1"x520"
P/N: 16045 16050 16055 16060

Size: Counter Display ½"x260" 1/2"x520" ¾"x520"
P/N: 16030A 16035A 16050A

ANTI-SEIZE TECHNOLOGY
2345 N. 17th AVE. • FRANKLIN PARK, IL 60131–3432
847-455-2300 • www.antiseize.com