

WARNING: READ AND COMPLY WITH ALL APPLICABLE SAFETY AND OPERATING INSTRUCTIONS AND WARNINGS FOR MULTI-STRAND STRESSING BEFORE STARTING ANY WORK OR OPERATION.

CAUTION: WHEN PRESSURIZING GROUT CAPS, DO NOT STAND BEHIND CAPS!

INSTALLATION PROCEDURE:
BELOW PROCEDURE IS GENERIC. USERS SHALL REFER TO FDOT STANDARD SPECIFICATIONS AND PROJECT SPECIFIC CRITERIA

- PREASSEMBLE THE MULTI-PLANE ANCHOR, SPIRAL AND PE TRUMPET. USE PREMIUM 100% SILICONE BETWEEN MPA AND TRUMPET TO HAVE A STRONG CONNECTION. GREASE THE BOLTS TO FACILITATE REMOVAL LATER.
- BOLT THE MULTI-PLANE ANCHOR (MPA) WITH PE TRUMPET TO THE POCKET FORMER USING SOME OF THE SIX THREADED HOLES IN MPA. THE MPA SHALL BE ORIENTED SUCH THE GROUT HOLE POINTS UP. THE SPIRAL SHOULD BE ATTACHED TO ADJACENT REBARS AND ROTATED SUCH THAT IT WON'T INTERFERE WITH 3/4" NPT PIPE ATTACHMENT (IF USING SIDE GROUT HOLE IN MPA). ALIGN AXIS OF SPIRAL WITH ANCHOR. USE PLUG IN UNUSED PORT IN MPA AS SHOWN. INSTALL PIPE NIPPLE WITH FOAM INSULATION FOR ANY PIPE NIPPLE CAST IN CONCRETE.
- INSTALL THE DUCT SYSTEM AS SHOWN ON SHOP DRAWINGS. INSERT DUCT WITH SPACER INTO TRUMPET AND HEAT SHRINK. SECURE DUCT PROFILE EVERY TWO FEET.
- PRESSURE TEST DUCT SYSTEM PER FDOT SPECS 462-8.2.1.1.

CONCRETING CAN NOW PROCEED

- AFTER COMPLETION OF CONCRETE PLACEMENT, PROVE THAT THE DUCTS ARE CLEAR OF ANY OBSTRUCTIONS OR DAMAGE. PASS A TORPEDO THROUGH THE DUCT TO DEMONSTRATE.
- PROVE THAT ALL GROUT VENTS ARE FREE AND SECURED.
- AFTER THE CONCRETE HAS GAINED STRENGTH, THE STRESSING OPERATION MAY BEGIN.
- INSTALL STRANDS BY PUSHING OR PULLING INDIVIDUALLY OR AS A BUNDLE INTO DUCTS. ALLOW SUFFICIENT TAIL LENGTH FOR STRESSING.
- CHECK THE WEDGE PLATE FOR RUST, DIRT AND GRIT. CLEAN WEDGE HOLES WITH WIRE BRUSH IF NECESSARY. LIGHTLY GREASE OR OIL WEDGE HOLES.
- CHECK WEDGES FOR RUST, DIRT AND GRIT. DISCARD RUSTY WEDGES. USE ONLY CLEAN WEDGES.
- INSTALL WEDGE PLATE, SLIP THE WEDGES OVER THE STRANDS AND LOOSELY SEAT IN WEDGE HOLES.

STRESSING CAN PROCEED WHEN CONCRETE STRENGTH HAS REACHED MIN. COMPRESSIVE STRENGTH REQUIRED IN CONTRACT DRAWING NOT LESS THAN 4000 PSI.

- AFTER THE STRESSING OPERATION IS COMPLETED AND THE ELONGATIONS FALL WITHIN ±7%, OBTAIN APPROVAL FROM THE ENGINEER TO CUT THE STRAND TAILS APPROXIMATELY 3/4" AWAY FROM THE WEDGES.
- EVALUATE STRESSING OPERATION IF ELONGATIONS FALL OUTSIDE THE 7% LIMIT.
- INSTALL GROUT CAP WITH O-RING USING SIX BOLTS. CONNECT 1/2" PIPE NIPPLE IN PORT TO BE USED, INSERT DRILL BIT INTO PIPE NIPPLE AND DRILL 1/2" HOLE IN CAP USING SAW BIT OR SPADE BIT (BY OTHERS) TO PREVENT DAMAGE TO THREADS.
- CONNECT THE 3/4" NPT PIPE NIPPLE ASSEMBLY INTO THE FRONT PORT OF THE MPA.
- THREAD 1/2" NPT PIPE NIPPLE ASSEMBLY INTO THE THREADED PORTS PROVIDED IN THE GROUT CAP. THIS PORT CAN BE USED AS AN INJECTION VENT ONLY.
- PRESSURE TEST DUCT SYSTEM PER FDOT SPECS 462-8.2.2.

GROUTING CAN NOW PROCEED

- REMOVE GROUT PORT PIPES AND INSERT PLUGS. FILL BLOCKOUT AND HOLES WITH NON-SHRINK GROUT AFTER POST GROUTING OPERATIONS AND INSPECTIONS ARE COMPLETED.

REFER TO STANDARD PLANS 462-003 FOR PT ANCHORAGE AND TENDON FILLING DETAILS

MATERIAL LIST

PART NO.	DESCRIPTION	MATERIAL SPECIFICATION
68 07 248	07-0.6" MULTI-PLANE ANCHOR CASTING, GALVANIZED	DUCTILE IRON ASTM A536, GRADE 65-45-12 GALV. ACC. TO ASTM A123
68 07 254	07-0.6" STANDARD SPIRAL	ASTM A615, GR. 60, #4, 1-7/8" PITCH, 11-1/4" O.D., ~6 TURNS
68 07 587	7-0.6" PE TRUMPET	POLYETHYLENE
68 07 142	7-0.6" FORGED WEDGE PLATE	STEEL FORGING, ASTM A-521-76, NORMALIZED, BHN = 180-220
68 07 7230	7-0.6" NYLON CAP WITH O-RING	CAP: NYLON 6, 20% GLASS FILLED O-RING: EPDM
U00220200	2-3/8" (59mm) CORR. DUCT (Rmin.=22.8 FT.)	POLYPROPYLENE
U00220205	(OPTIONAL) 2-3/8" DUCT COUPLER	POLYPROPYLENE
U00044063	HEAT SHRINK SLEEVE, PLA-63-450-YE	ACCORDING TO FDOT SPEC. 960-2.2.1.8
301060	0.6" STRAND	270 KSI LOW RELAX STRAND
68 00 0536	3-PART WEDGE FOR 0.6" STRAND	AISI-C12L14 HEAT TREATED

MATERIAL LIST

PART NO.	DESCRIPTION	MATERIAL SPECIFICATION
00 00 771	(6) 3/8"-16UNC HEX BOLT 2.75" LONG (GROUT CAP)	316 STAINLESS STEEL
00 00 774	(6) SMALL DIA. WASHERS (FOR GROUT CAP)	316 STAINLESS STEEL
00 00 878	3/4" NPT PIPE NIPPLE, LENGTH AS REQ'D (TEMP.)	SCH 40 BLACK STEEL
00 00 834	3/4" NPT BALL VALVE (TEMPORARY)	PVC
00 00 849	3/4" NPT PLUG	NYLON 6, WHITE
00 00 678	1/2" NPT PIPE NIPPLE, LENGTH AS REQ'D (TEMP.)	SCH 40 BLACK STEEL
00 00 634	1/2" NPT BALL VALVE (TEMPORARY)	PVC
00 00 649	1/2" NPT PLUG	NYLON 6, WHITE
ANS	PREMIUM 100% SILICONE	SILICONE
68 00 583	1" x 1/4" SEAL	CLOSED CELL NEOPRENE BLEND
ANS	TEFLON TAPE OR PASTE FOR THREADS	--
00 00 861	(OPTIONAL) 3/4" NPT GROUT VENT PORT	POLYPROPYLENE

NOTES:

- REQUIRED REINFORCING BARS NOT SHOWN.
- DUCT IS DELIVERED IN STRAIGHT SECTIONS AND IS NOT INTENDED TO BE COILED.

INTERNAL GROUTED 7-0.6" MA ASSEMBLY DRAWING

DATE: 05/06/19 DWG: G. MALECKI CHK: S.I. APP: S.I.

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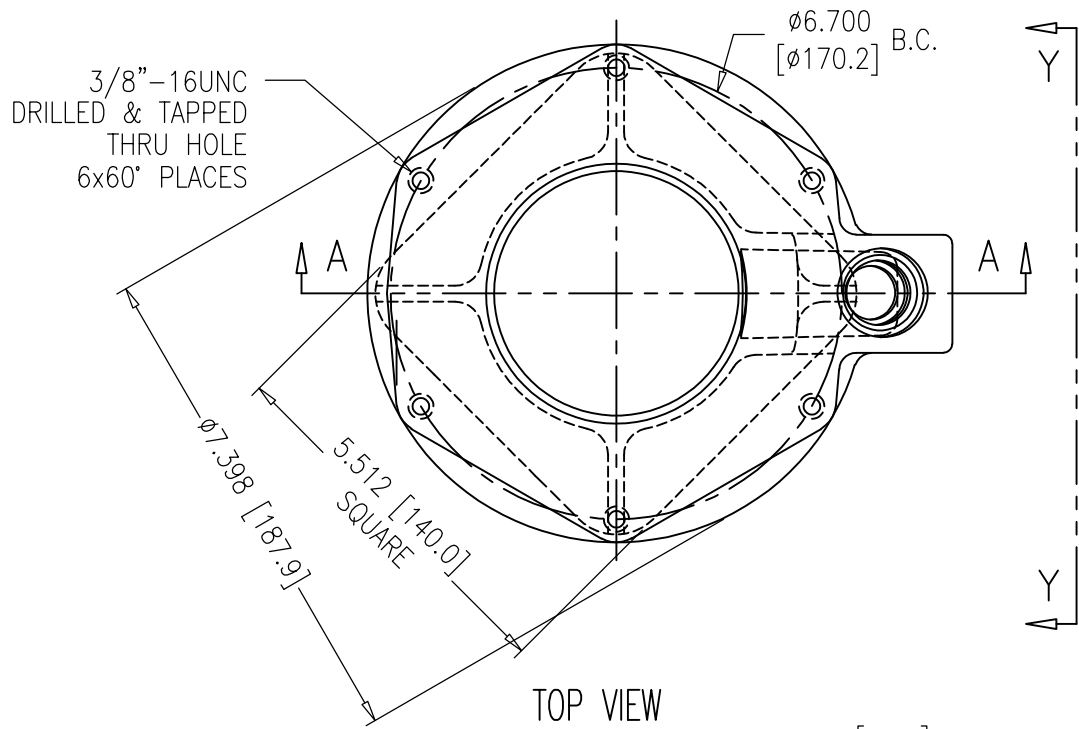
REV.	DATE	NAME

SCALE
1:6

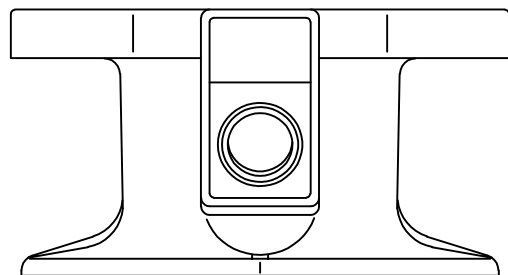
DRAWING NUMBER:
MA 68 07 200

DYWIDAG-SYSTEMS INTERNATIONAL, USA, INC.
320 MARMON DRIVE - BOLINGBROOK, IL 60440
PHONE: 630-739-1100 FAX: 630-739-1405

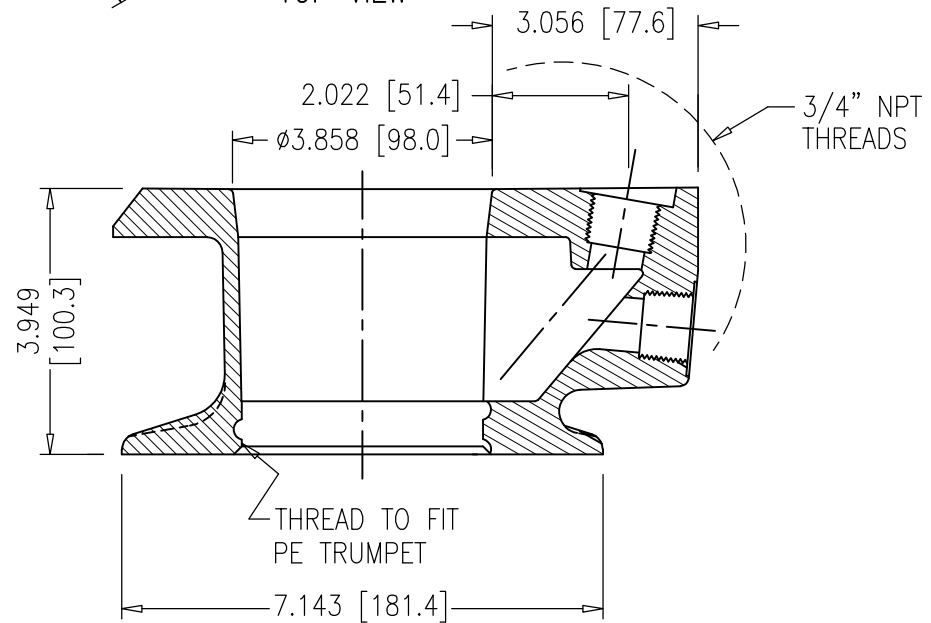




TOP VIEW



VIEW Y-Y



SECTION A-A

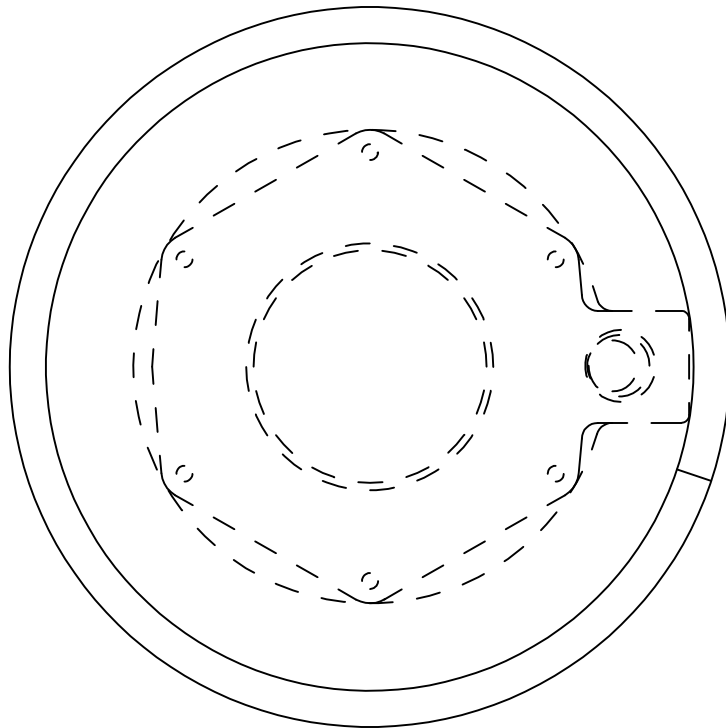
- NOTES FOR GALVANIZING PARTS:
1. AFTER CASTING IS STRIPPED, GRIND AND TOUCH UP TOP AND BOTTOM SURFACES AS NECESSARY TO ELIMINATE ANY PARTING LINES OR UNEVEN AREAS.
 2. GALVANIZE ACCORDING TO ASTM A123 AND TAKE CARE HOW CASTINGS ARE STORED TO PREVENT RUST.
 3. DRILL & TAP BOLT HOLES AND GROUT PORTS AND MACHINE GROOVE IN BOTTOM OF ANCHOR USING A WATER BASED CUTTING FLUID AND SPRAY THEM WITH ZINC RICH PAINT ACCORDING TO ASTM A780, ENSURE THREADABILITY.

DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY		QUALITY PLAN NUMBER:		TOLERANCES: ±.020 UNLESS NOTED	WEIGHT 10 LBS.	REV.	DATE	NAME	PART NUMBER: 68 07 248
7-0.6"/9-0.5" MULTI-PLANE ANCHOR WITH TWO GROUT PORTS - GALV.				MATERIAL: DUCTILE IRON 65-45-12 ASTM A536	SCALE 1:3				DRAWING NUMBER: 68 07 216
DATE: 10-13-04	DWG: G. MALECKI	CHK: H.K.	APP: K.S.						

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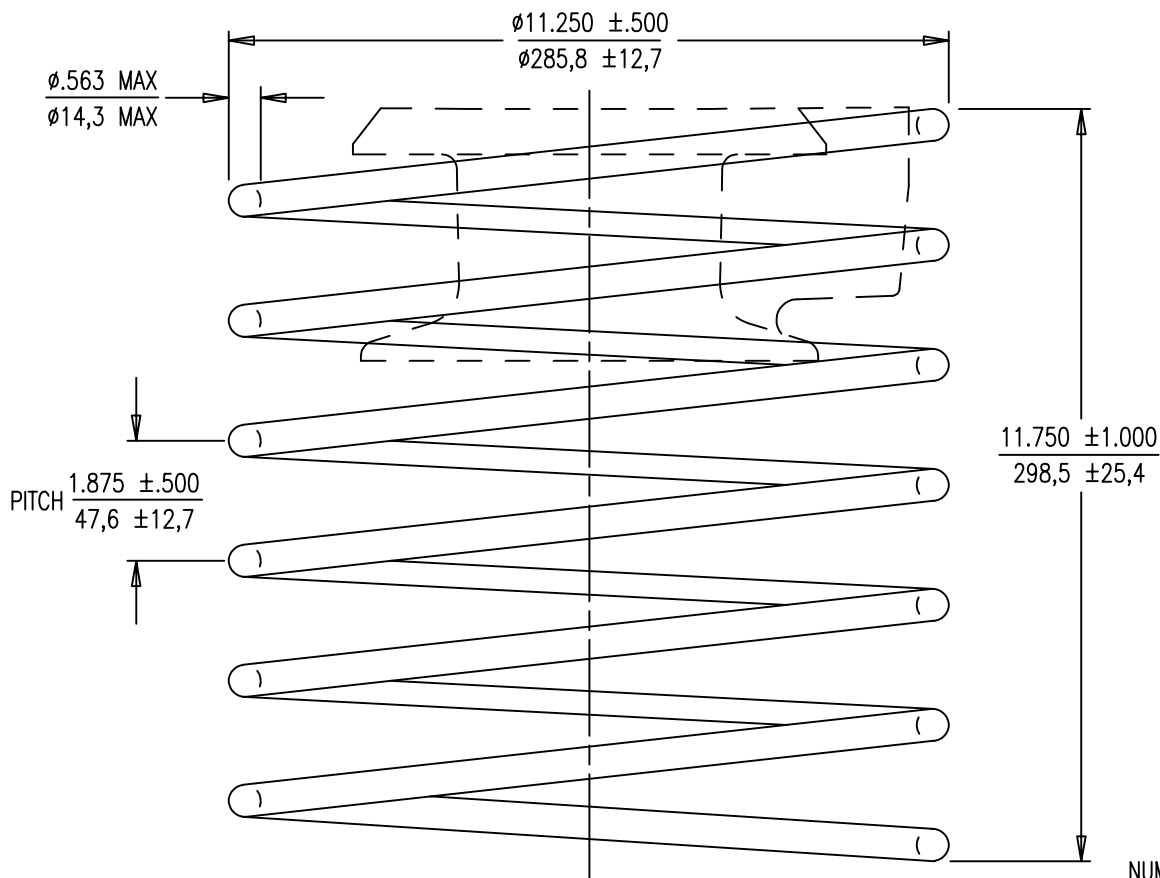
DYWIDAG-SYSTEMS INTERNATIONAL, USA, INC.
320 MARMON DRIVE - BOLINGBROOK, IL 60440
PHONE: 630-739-1100 FAX: 630-739-1405





NOTES:

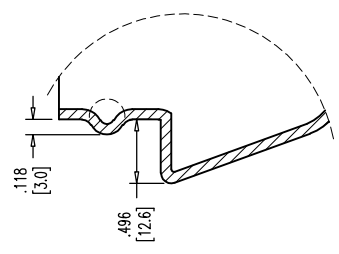
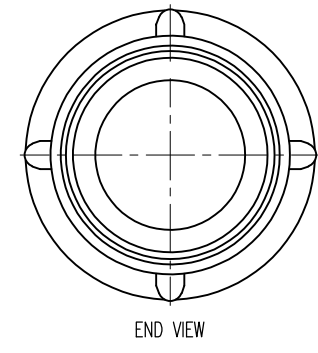
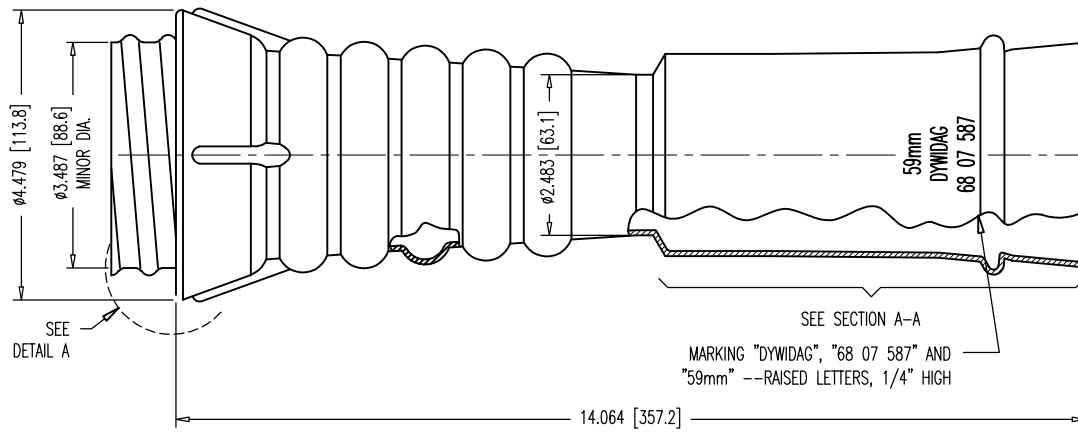
1. SPIRAL IS MADE FROM STANDARD #4 REBAR, NO PART NUMBER MARKING IS SHOWN.
2. KEEP SPIRAL AND MPA AXIS ALIGNED, IF USING SIDE PORT, ROTATE SPIRAL TO CLEAR.



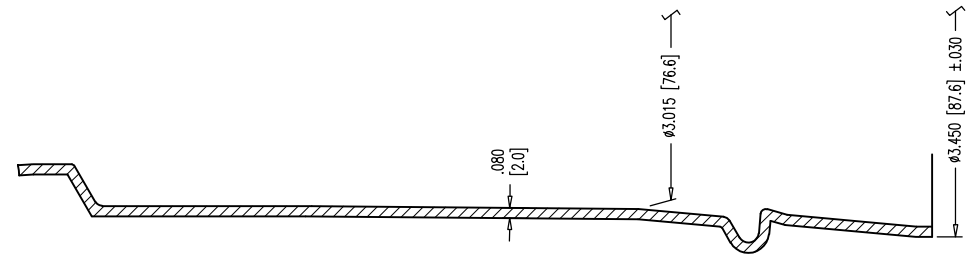
NUMBER OF TURNS: 6
 REBAR LENGTH: 16'-11".
 WEIGHT: 11.3 LBS.

DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY		QUALITY PLAN NUMBER: QS60021400A		TOLERANCES: ±.020 UNLESS NOTED	WEIGHT 11.3 LBS.	REV.	DATE	NAME	PART NUMBER: 68 07 254
STANDARD SPIRAL FOR 7-0.6"/9-0.5" MPA				MATERIAL: ASTM A615 SIZE #4, GR 60	SCALE 1:3				DRAWING NUMBER: 68 07 254
				DATE: 01-19-07	DWG: G. MALECKI	CHK: S.Y.	APP: K.S.		
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DETAIL A
 THREAD FITS INTO 7-0.6" MPA CASTING

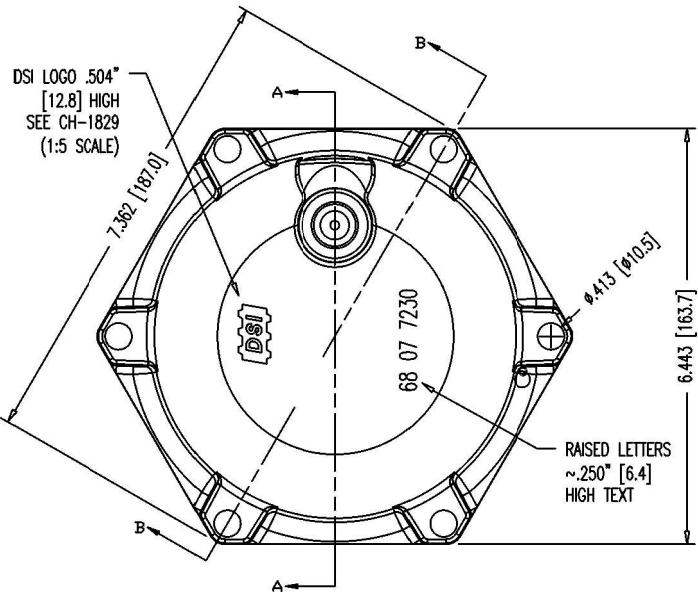


SECTION A-A

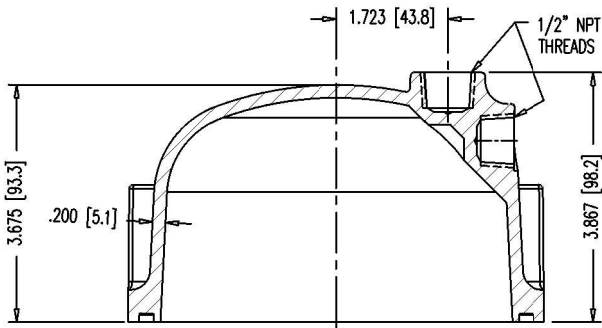
- MATERIAL SPECIFICATIONS:**
1. MEETS REQUIREMENTS OF ASTM D3350 WITH A MINIMUM CELL CLASS OF 445574C.
 2. CONTAINS ANTIOXIDANTS WITH A MINIMUM OXIDATIVE-INDUCTION TIME (OIT) ACCORDING TO ASTM D3895 OF 40 MINUTES.
 3. REMOLDED FINISHED MATERIAL HAS A MINIMUM FAILURE TIME OF 24 HOURS WHEN TESTED FOR STRESS CRACK RESISTANCE USING ASTM F2136 AT AN APPLIED STRESS OF 600 PSI.

DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY		QUALITY PLAN NUMBER: Q980058800P		TOLERANCES: ± 0.020 UNLESS NOTED	WEIGHT	REV. Δ	DATE	NAME	PART NUMBER:
7-0.6" TRUMPET FOR MPA TO 59mm PP DUCT OR 2.5" HDPE PIPE				MATERIAL: SEE ABOVE	SCALE 1:2 1:1		01-11-19	S.I.	68 07 587
DATE: 10-16-08	DWG: G. MALECKI	CHK: E.A.	APP: K.S.						DRAWING NUMBER: 68 07 587
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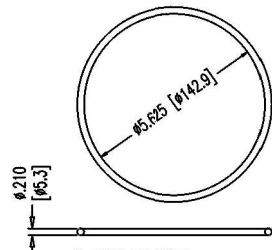




TOP VIEW



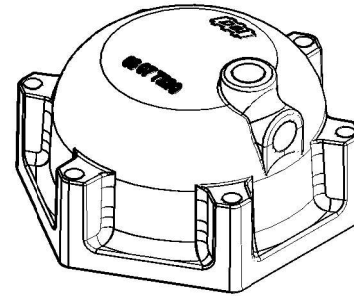
SECTION A-A



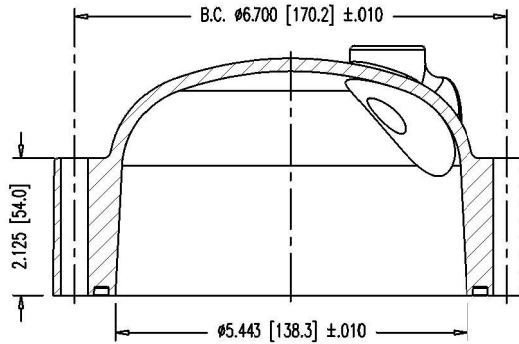
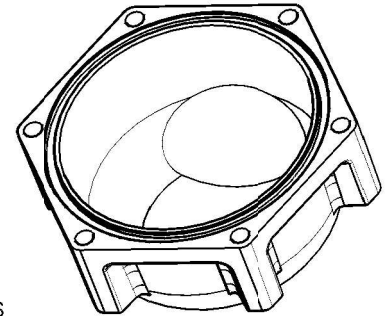
O-RING MATERIAL:
EPDM, MEETING FDOT
SPECIFICATIONS 960-2.2.1.7.

#358 O-RING
5-5/8"x6"x3/16"

SCALE: NTS



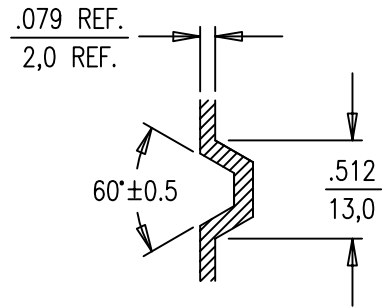
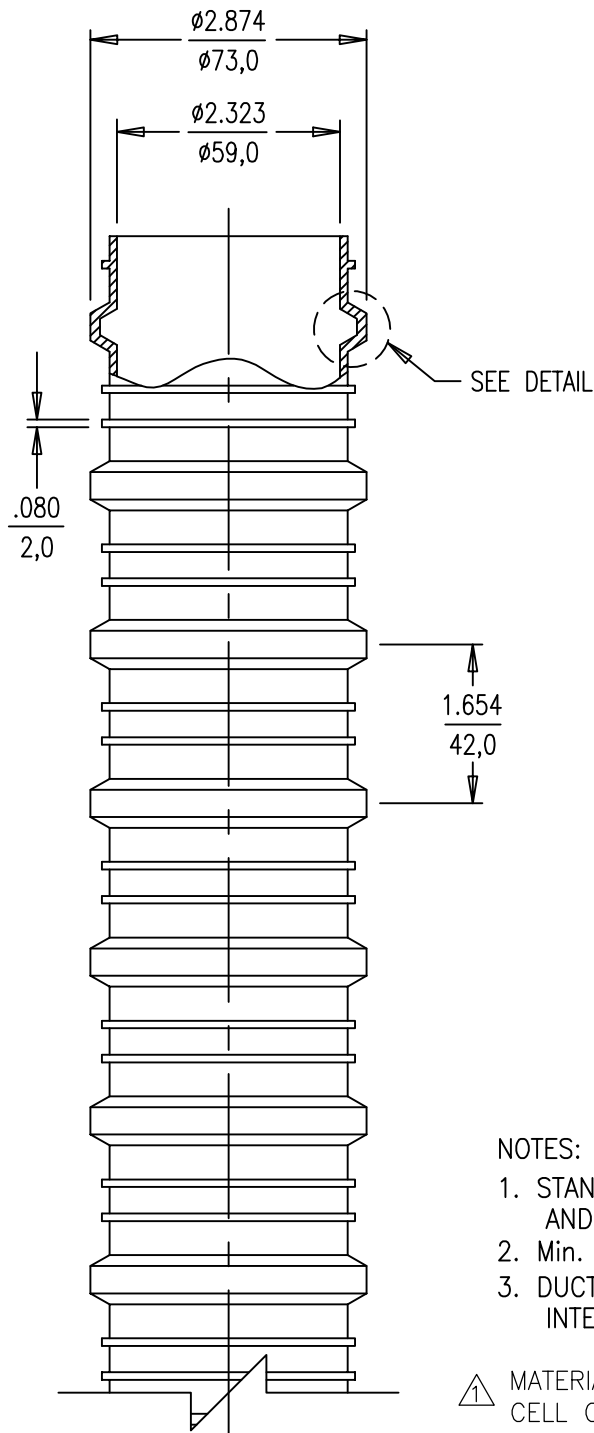
SCALE: NTS



SECTION B-B

- ⚠ NOTES:
1. USE 3/8"-16UNC 316L S.S. HEX BOLTS, 2-3/4" LONG W/SMALL DIA. WASHER.
 2. INSTALL O-RING IN GROOVE USING DROPS OF LIQUID ADHESIVE BEFORE SHIPPING. DON'T USE EXCESSIVE ADHESIVE. O-RING MUST STAY IN PLACE UNTIL INSTALLATION.
 3. THE NYLON CONFORMS TO ASTM D5989, WITH CELL CLASSIFICATION S-PA0401 (ULTIMATE STRENGTH 10,000 PSI MIN., WITH UV STABILIZER ADDED).
 4. DRILL 1/2" [12.7] HOLE IN PORT BEING USED -CAUTION-RECOMMEND USING HOLE SAW BIT OR SPADE BIT (BY OTHERS), BE CAREFULL TO PREVENT DAMAGE TO THREADS OR CAP.
 5. WHEN PRESSURIZING GROUT CAPS, DO NOT STAND BEHIND CAPS!

DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY		QUALITY PLAN NUMBER: QS80072300P		TOLERANCES: ±.020 UNLESS NOTED	WEIGHT 1.12 LBS.	REV. Δ	DATE 10/04/16	NAME S.I.	PART NUMBER: 68 07 7230
7-0.6" PLASTIC GROUT CAP				MATERIAL: NYLON 6 20% GLASS FIBER FILLED	SCALE 1:2 UNLESS NOTED				DRAWING NUMBER: 68 07 7230
DATE: 11-07-03	DWG: G. MALECKI	CHK: E.A.	APP: K.S.	THIS DRAWING, THE PERTINENT ENCLOSURES, DESCRIPTIONS, CALCULATIONS ETC. AND THEIR CONTENTS ARE THE PROPERTY OF DYWIDAG SYSTEMS INTERNATIONAL, USA, INC. THEY ARE NOT ALLOWED TO BE DUPLICATED WITHOUT OUR PERMISSION. THEY ARE ALSO NOT TO BE SHOWN OR EXPLAINED FOR ANY REASON TO A THIRD PARTY OTHER THAN FOR REASONS EXPRESSLY INTENDED BY DSI'S SUBMITTAL TO THE ORIGINAL RECEIVER. THEY HAVE TO BE RETURNED UPON REQUEST.					
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DETAIL
SCALE 1:1

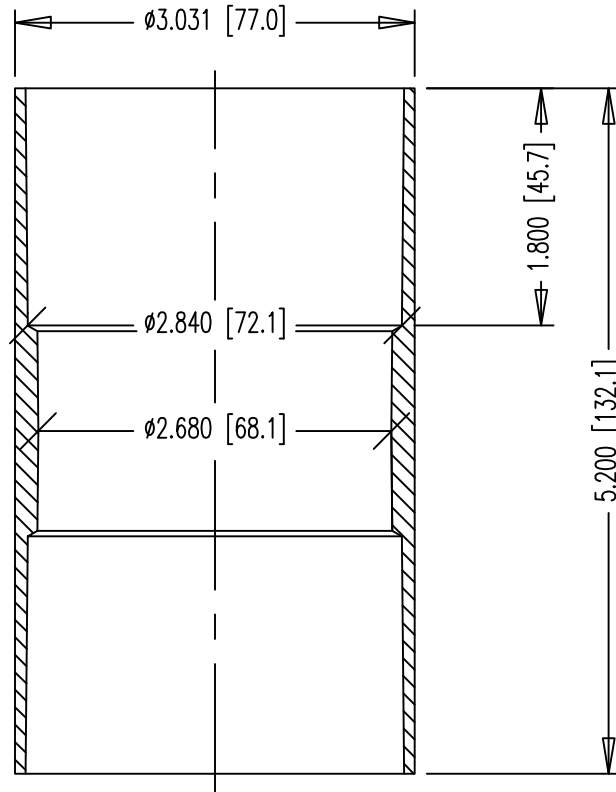
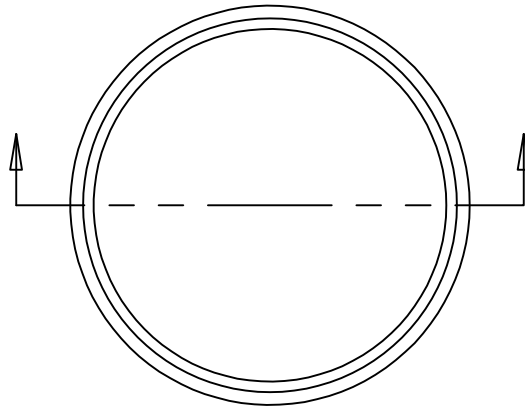
NOTES:

1. STANDARD FIT FOR 5-0.6", 7-0.5", 7-0.6" AND 9-0.5" STRANDS.
2. Min. BENDING RADIUS, $R_{min} = 22.8$ FT.
3. DUCT IS DELIVERED IN STRAIGHT SECTIONS AND IS NOT INTENDED TO BE COILED.



▲ MATERIAL: POLYPROPYLENE
 CELL CLASS RANGE: PP0340B44541 TO PP0340B67884
 MATERIAL MEETS FDOT SPECS. 960-2.4.3.

DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY		QUALITY PLAN NUMBER: QU00041110P		TOLERANCES: ±.020 UNLESS NOTED	WEIGHT 0.296 LBS/FT	REV. ▲	DATE 01-11-19	NAME S.I.	PART NUMBER: U00220200
2-3/8" (59mm) CORRUGATED PP DUCT				MATERIAL: SEE ABOVE	SCALE 1:2				DRAWING NUMBER: U00220200
DATE: 04-23-96	DWG: G. MALECKI	CHK: H.K.	APP: K.S.	THIS DRAWING, THE PERTINENT ENCLOSURES, DESCRIPTIONS, CALCULATIONS ETC. AND THEIR CONTENTS ARE THE PROPERTY OF DYWIDAG SYSTEMS INTERNATIONAL, USA, INC. THEY ARE NOT ALLOWED TO BE DUPLICATED WITHOUT OUR PERMISSION. THEY ARE ALSO NOT TO BE SHOWN OR EXPLAINED FOR ANY REASON TO A THIRD PARTY OTHER THAN FOR REASONS EXPRESSLY INTENDED BY DSI'S SUBMITTAL TO THE ORIGINAL RECEIVER. THEY HAVE TO BE RETURNED UPON REQUEST.					
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△ MATERIAL: POLYPROPYLENE
 CELL CLASS RANGE: PP0340B44541 TO PP0340B67884
 MATERIAL MEETS FDOT SPECS. 960-2.4.3.

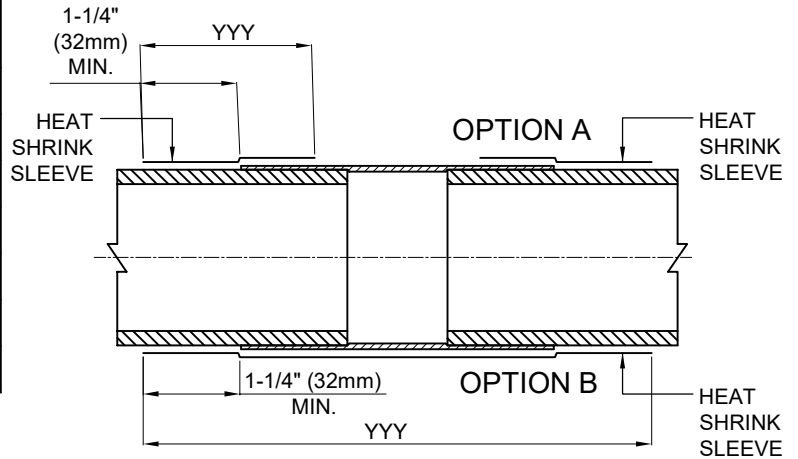
DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY		QUALITY PLAN NUMBER: QSA0028000P		TOLERANCES: ± 0.005 UNLESS NOTED	WEIGHT 0.23 LBS.	REV.  01-11-19	DATE	NAME S.I.	PART NUMBER: U00220205	
Ø2-3/8" (59mm) DUCT COUPLER				MATERIAL: HDPE	SCALE 2:3				DRAWING NUMBER: U00220205	
DATE: 10-25-99	DWG: G. MALECKI	CHK: S.Y.	APP: K.S.							
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DIMENSIONS & ORDERING INFO	P	L	A	-	XXX	-	YYY	-	ZZ	STANDARD ORDERING OPTIONS
										YE - YELLOW, BK - BLACK
										300mm, 450mm, 600mm, 900mm (12", 18", 24", 36")
										63mm -315mm (2-1/2" - 12")
										A - 0.75 mm (30 mils)
										L - 0.80 mm (31 mils)
										P - Tubular

PMA - HIGH SHRINK SLEEVE.
 L - HIGH SHRINK TUBULAR BACKING.

TUBULAR SLEEVE	TUBULAR SLEEVE DIAMETER AS SUPPLIED	FULLY RECOVERED
PLA 63-YYY YE	3.5" [90mm]	2.5" [63mm]
PLA 90-YYY YE	4.8" [120mm]	3.3" [81mm]
PLA 115-YYY BK	5.5" [145mm]	3.8" [98mm]
PLA 125-YYY YE	6.3" [160mm]	4.3" [110mm]
PLA 160-YYY BK	7.5" [190mm]	5.2" [130mm]
PMA 90/30-YYY BK	3.5" [90mm]	1.2" [30mm]
PMA 120/40-YYY BK	4.7" [120mm]	1.6" [40mm]

YYY = SLEEVE WIDTH: 300/450/600/900/1500(mm)
 COLOR: YE = YELLOW; BK = BLACK



NOTE:
 FOLLOW MANUFACTURER'S
 INSTALLATION INSTRUCTIONS.

MATERIAL:
 POLYELEFIN FDOT SPECS 960-2.2.1.8 FOR
 GROUTED APPLICATIONS

	DUCT SIZE	STRAND SYSTEM	BAR SYSTEM	HEAT SHRINK SLEEVE SIZE	PART NUMBER
CORRUGATED DUCT	1" x 3" (25mm x 76mm)	4-0.6"		PLA-63-450 YE	U00044063
	2-3/8" (59mm)	7-0.6"		PLA-63-450 YE	U00044063
			1", 1-1/4", 1-3/8"	PMA-90/30-450 BK	U00044030
	3" (76mm)		1 3/4"	PMA-120/40-450 BK	U00044040
	3-3/8" (85mm)	12-0.6"		PLA-90-450 YE	U00044090
	4" (100mm)		2-1/2"	PLA-90-450 YE	U00044090
	4" (100mm)	19-0.6"		PLA-115-450 BK	U00044115
	4-1/2" (115mm)	27-0.6"		PLA-125-450 YE	U00044125
5-1/8" (130mm)	31-0.6", 37-0.6"		PLA-160-450 BK	U00044160	
SMOOTH DUCT	3" SDR 17 HDPE PIPE		1-3/8"	PLA-63-450 YE	U00044063

DIMENSIONS: INCH [mm]
 mm FOR REFERENCE ONLY

HEAT SHRINK SLEEVE SIZES FOR INTERNAL GROUTED APPLICATIONS

DATE: 07-31-19 DWG: G. Malecki CHK: S.I. APP: S.I.

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REV.	DATE	NAME	ECRN
1	05-28-20	S.I.	
2	02-15-21	S.I.	

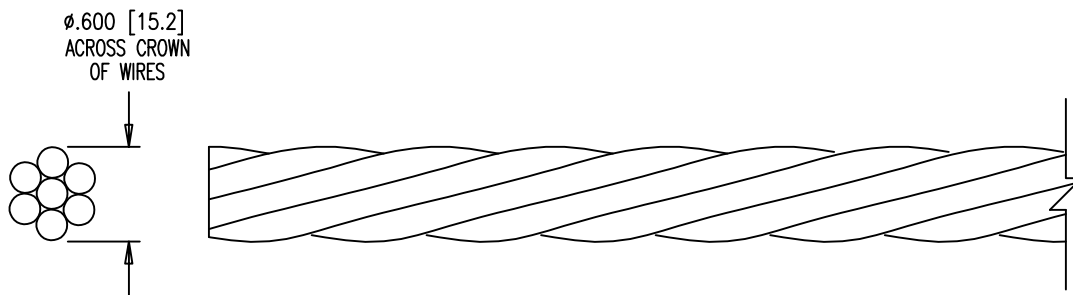
PART NUMBERS:

SEE TABLE ABOVE

DRAWING NUMBER:
U00044000

DYWIDAG-SYSTEMS INTERNATIONAL, USA, INC.
 320 MARMON DRIVE - BOLINGBROOK, IL 60440
 PHONE: 630-739-1100 FAX: 630-739-1405

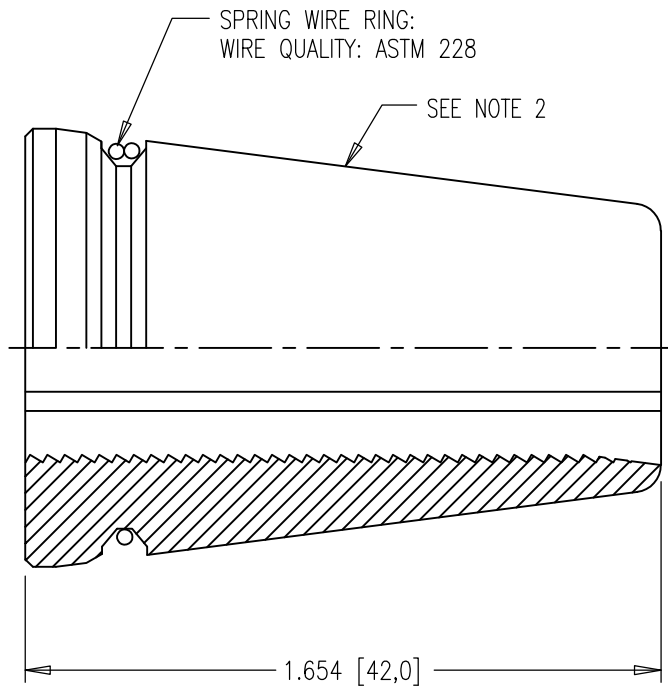
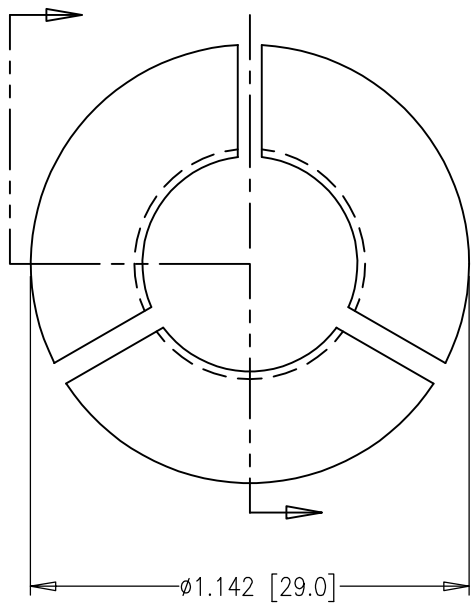




- NOTES:
1. NO PART NUMBER OR IDENTIFICATION MARKS ON STRAND.
 2. RUST PRODUCING VISIBLE PITTING TO THE UN-AIDED EYE IS NOT ALLOWED.

MATERIAL:
 0.6" 270 KSI LOW RELAX STRAND
 ASTM A416

DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY		QUALITY PLAN NUMBER: QS000301000		TOLERANCES: ±.020 UNLESS NOTED	WEIGHT .738 PER/FT	REV.	DATE	NAME	PART NUMBER: 301060
0.6" BARE 270 KSI STRAND				MATERIAL: SEE ABOVE	SCALE 1:1				
DATE: 02-18-19	DWG: G. MALECKI	CHK: C.S.	APP: K.S.	THIS DRAWING, THE PERTINENT ENCLOSURES, DESCRIPTIONS, CALCULATIONS ETC. AND THEIR CONTENTS ARE THE PROPERTY OF DYWIDAG SYSTEMS INTERNATIONAL, USA, INC. THEY ARE NOT ALLOWED TO BE DUPLICATED WITHOUT OUR PERMISSION. THEY ARE ALSO NOT TO BE SHOWN OR EXPLAINED FOR ANY REASON TO A THIRD PARTY OTHER THAN FOR REASONS EXPRESSLY INTENDED BY DSI'S SUBMITTAL TO THE ORIGINAL RECEIVER. THEY HAVE TO BE RETURNED UPON REQUEST.					
DYWIDAG-SYSTEMS INTERNATIONAL, USA, INC. 320 MARMON DRIVE - BOLINGBROOK, IL 60440 PHONE: 630-739-1100 FAX: 630-739-1405									



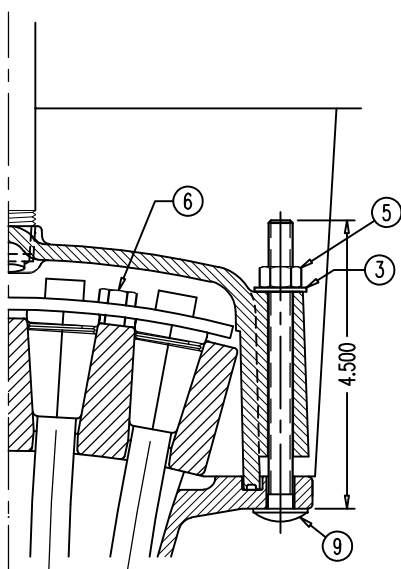
NOTES:

1. SHARP EDGES MUST BE BROKEN.
2. VIBRATE TO SURFACE FINISH OF 63 μ IN. MAX.
3. DIP IN SQ70 OIL OR EQUIV. FOR CORROSION PROTECTION.
4. MAKE SURE THAT THE BUTTRESS THREAD IS ORIENTED IN THE DIRECTION SHOWN ON THIS DRAWING.
5. NO STAMPED PART NUMBER

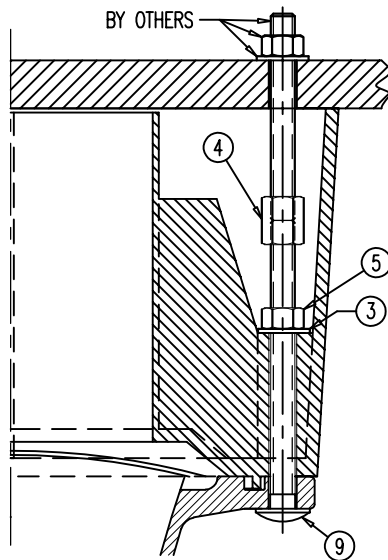
MATERIAL:
12L14
ALL HARDENED

DIMENSIONS: INCH/mm mm FOR REFERENCE ONLY		QUALITY PLAN NUMBER: QS00000500D		TOLERANCES: ± 0.010 ; $\pm 2^\circ$ UNLESS NOTED	WEIGHT 0.19 LBS.	REV.	DATE	NAME	PART NUMBER: 68 00 0536
3-PART WEDGE FOR 0.6" STRAND				MATERIAL: SEE ABOVE	SCALE 2:1				DRAWING NUMBER: 68 00 0536
				DATE: 06-01-18	DWG: G. MALECKI	CHK: C.S.	APP: S.I.		
<p>THIS DRAWING, THE PERTINENT ENCLOSURES, DESCRIPTIONS, CALCULATIONS ETC. AND THEIR CONTENTS ARE THE PROPERTY OF DYWIDAG SYSTEMS INTERNATIONAL, USA, INC. THEY ARE NOT ALLOWED TO BE DUPLICATED WITHOUT OUR PERMISSION. THEY ARE ALSO NOT TO BE SHOWN OR EXPLAINED FOR ANY REASON TO A THIRD PARTY OTHER THAN FOR REASONS EXPRESSLY INTENDED BY DSI'S SUBMITTAL TO THE ORIGINAL RECEIVER. THEY HAVE TO BE RETURNED UPON REQUEST.</p> <p>DYWIDAG-SYSTEMS INTERNATIONAL, USA, INC. POST TENSIONING / REINFORCING UNIT PHONE: 630-739-1100 320 MARMON DRIVE - BOLINGBROOK, IL FAX: 630-739-1405</p>									

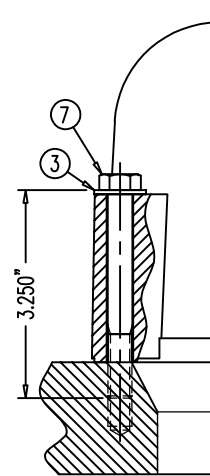




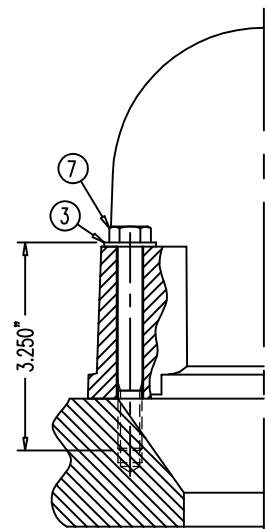
KEEPER PLATE 68 04 2637 ON
WEDGE PLATE 68 04 2534A &
NYLON CAP 68 04 2539 ON
FLAT ANCHOR 68 04 2548



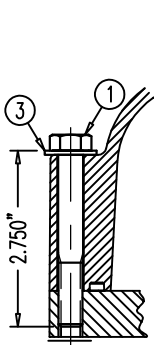
POCKET FORMER 68 04 2640
ON FLAT ANCHOR 68 04 2548



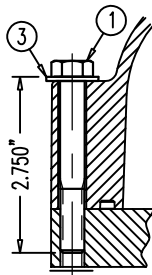
NYLON BAR CAP B36E50700 OR 50700A
ON GALV. BEARING PLATE
B26E22510, 22610, 22700, 22800,
B32E22510, 22610, 22700, 22800,
B36E22410, 22420, 22910, 22510,
22610, 22700, 22800 & NYLON
BAR CAP B66E50700 OR 50700A
ON GALV. BEARING PLATE B66E22700



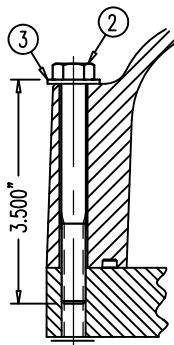
NYLON BAR CAP
B46M50700
OR 50700A
ON GALV.
BEARING PLATE
B46E22700 &
B46E22800



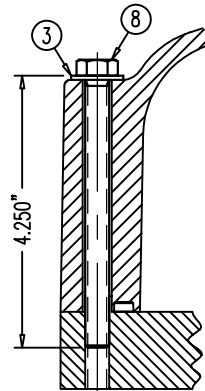
NYLON CAP
68 07 7230 OR 7230A
ON MPA 68 07 248



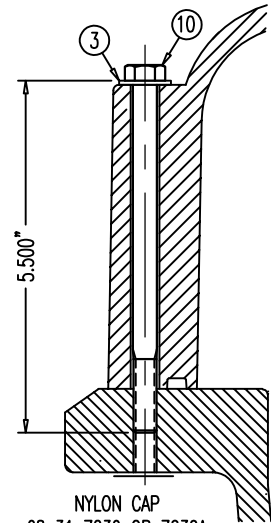
NYLON CAP
68 12 7230 OR 7230A
ON MPA 68 12 248



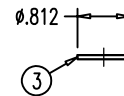
NYLON CAP
68 19 7230 OR 7230A
ON MPA 68 19 248



NYLON CAP
68 27 7230 OR 7230A
ON MPA 68 27 248



NYLON CAP
68 31 7230 OR 7230A
ON MPA 68 31 248



TYPE A NARROW WASHER
FOR 3/8"-UNC BOLT

NOTE:
THE 316L S.S. BOLTS ARE SPECIAL ORDER.
ALL WASHERS, HEX NUTS & COUPLERS HAVE
NO MARKINGS.

POS.	PART NUMBER	DISCRIPTION (ALL PARTS 316L STAINLESS STEEL UNLESS NOTED)
①	00 00 771	3/8"-16UNC HEX BOLT, 2-3/4" LONG (1" LONG THREAD)
②	00 00 772	3/8"-16UNC HEX BOLT, 3-1/2" LONG (1" LONG THREAD)
③	00 00 774	TYPE A NARROW WASHER FOR 3/8"-UNC BOLT
④	00 00 776	3/8"-16UNC COUPLER, ZINC COATED
⑤	00 00 777	3/8"-16UNC HEX NUT
⑥	00 00 778	5/16"-18UNC HEX BOLT, 7/8" LONG, ZINC PLATED
⑦	00 00 783	3/8"-16UNC HEX BOLT, 3-1/4" LONG (1" LONG THREAD)
⑧	00 00 784	3/8"-16UNC HEX BOLT, 4-1/4" LONG (FULL THREAD)
⑨	00 00 789	3/8"-16UNC CARRIAGE BOLT, 4-1/2" LONG
⑩	00 00 790	3/8"-16UNC CARRIAGE BOLT, 5-1/2" LONG

DIMENSIONS: INCH

QUALITY PLAN NUMBER:

STAINLESS STEEL 316L BOLTS AND WASHER FOR NYLON CAPS

DATE: 09-10-04 DWG: G. MALECKI CHK: E.A. APP: K.S.

THIS DRAWING, THE PERTINENT ENCLOSURES, DESCRIPTIONS, CALCULATIONS ETC. AND THEIR CONTENTS ARE THE PROPERTY OF DYWIDAG SYSTEMS INTERNATIONAL, USA, INC. THEY ARE NOT ALLOWED TO BE DUPLICATED WITHOUT OUR PERMISSION. THEY ARE ALSO NOT TO BE SHOWN OR EXPLAINED FOR ANY REASON TO A THIRD PARTY OTHER THAN FOR REASONS EXPRESSLY INTENDED BY DSI'S SUBMITTAL TO THE ORIGINAL RECEIVER. THEY HAVE TO BE RETURNED UPON REQUEST.

SCALE
1:3

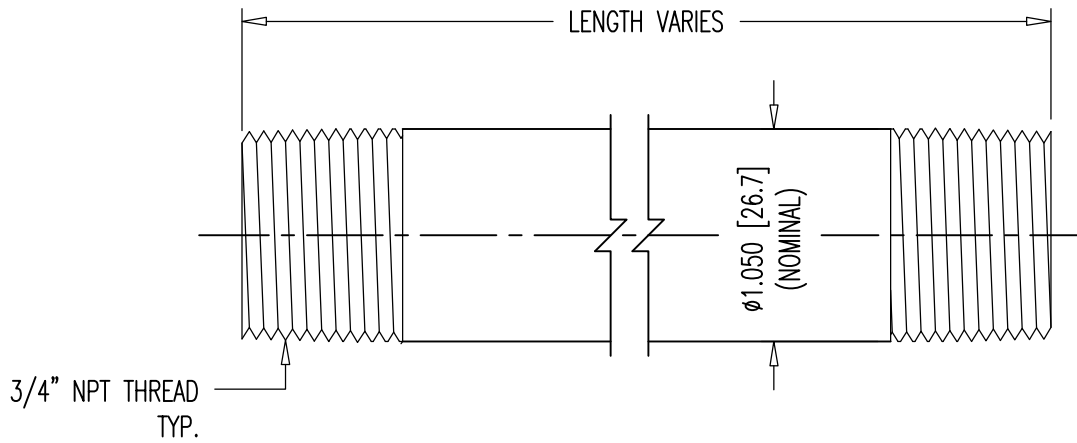
REV.	DATE	NAME	NAME
1	05/01/19	S.I.	
2	05/28/20	S.I.	

PART NUMBERS:
SEE TABLE

DRAWING NUMBER:
00 00 770

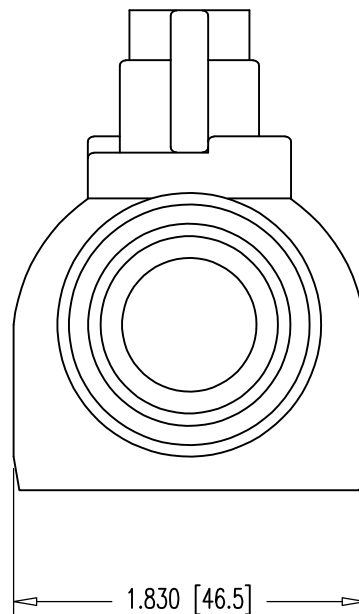
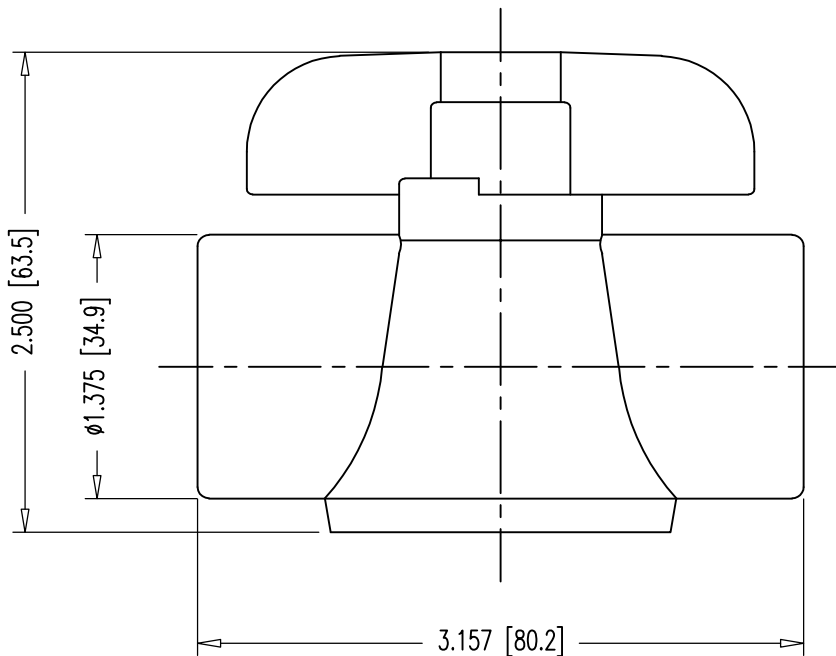
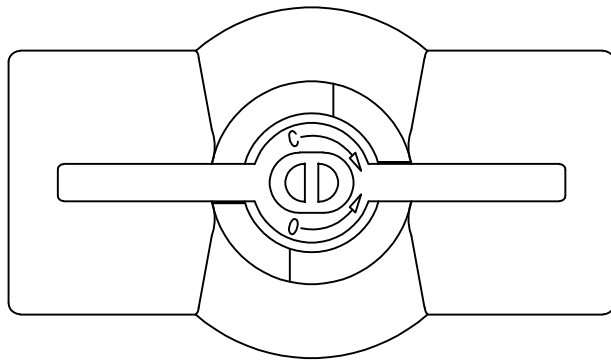
DYWIDAG-SYSTEMS INTERNATIONAL, USA, INC.
POST TENSIONING / REINFORCING UNIT PHONE: 630-739-1100
320 MARMON DRIVE - BOLINGBROOK, IL FAX: 630-739-1405





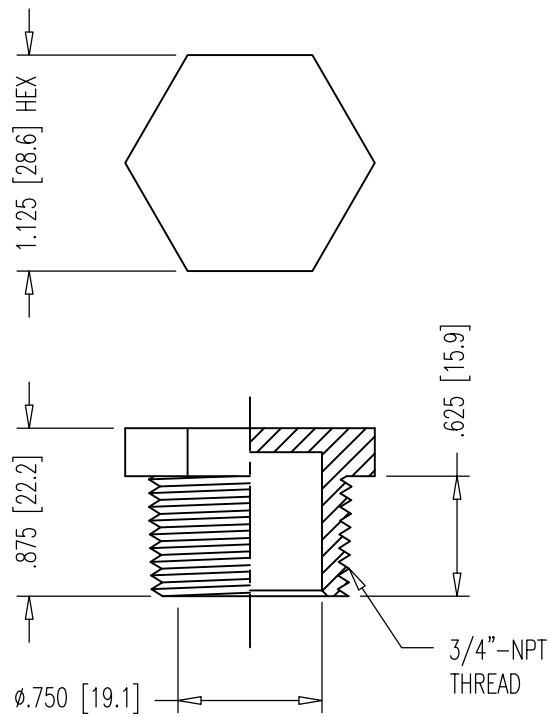
PRESSURE RATED: 150 PSI

DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY	QUALITY PLAN NUMBER: Q00000020P			REV.	DATE	NAME	ECRN	PART NUMBER: 00 00 878	
3/4" NPT PIPE NIPPLES		MATERIAL: SCH 40 BLACK WELDED STEEL	SCALE 1:1					DRAWING NUMBER: 00 00 878	
DATE: 01-29-19	DWG: G. MALECKI	CHK: S.I.	APP: S.I.						
THIS DRAWING, THE PERTINENT ENCLOSURES, DESCRIPTIONS, CALCULATIONS ETC. AND THEIR CONTENTS ARE THE PROPERTY OF DYWIDAG SYSTEMS INTERNATIONAL, USA, INC. THEY ARE NOT ALLOWED TO BE DUPLICATED WITHOUT OUR PERMISSION. THEY ARE ALSO NOT TO BE SHOWN OR EXPLAINED FOR ANY REASON TO A THIRD PARTY OTHER THAN FOR REASONS EXPRESSLY INTENDED BY DSI's SUBMITTAL TO THE ORIGINAL RECEIVER. THEY HAVE TO BE RETURNED UPON REQUEST.				DYWIDAG-SYSTEMS INTERNATIONAL, USA, INC. 320 MARMON DRIVE - BOLINGBROOK, IL 60440 PHONE: 630-739-1100 FAX: 630-739-1405				DYWIDAG	



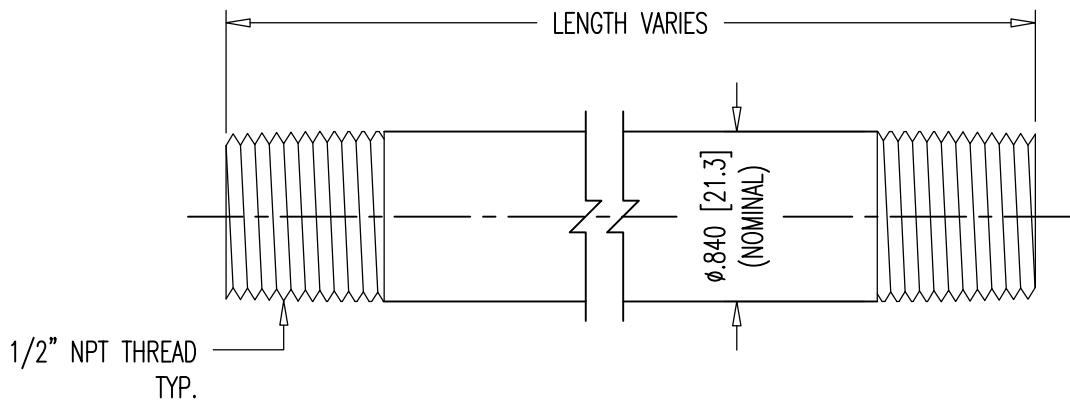
▲ NOTE:
PRESSURE RATED: 150 PSI.

DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY		QUALITY PLAN NUMBER:		WEIGHT 0.213 LBS.	REV.	DATE	NAME	PART NUMBER: 00 00 834
3/4" NPT BALL VALVE					▲	01-11-19	S.I.	
				MATERIAL: PVC	SCALE 1:1			DRAWING NUMBER: 00 00 834
DATE: 04-30-07	DWG: G. MALECKI	CHK: S.N.	APP: E.A.	THIS DRAWING, THE PERTINENT ENCLOSURES, DESCRIPTIONS, CALCULATIONS ETC. AND THEIR CONTENTS ARE THE PROPERTY OF DYWIDAG SYSTEMS INTERNATIONAL, USA, INC. THEY ARE NOT ALLOWED TO BE DUPLICATED WITHOUT OUR PERMISSION. THEY ARE ALSO NOT TO BE SHOWN OR EXPLAINED FOR ANY REASON TO A THIRD PARTY OTHER THAN FOR REASONS EXPRESSLY INTENDED BY DSI's SUBMITTAL TO THE ORIGINAL RECEIVER. THEY HAVE TO BE RETURNED UPON REQUEST.				
				DYWIDAG-SYSTEMS INTERNATIONAL, USA, INC. 320 MARMON DRIVE - BOLINGBROOK, IL 60440 PHONE: 630-739-1100 FAX: 630-739-1405				




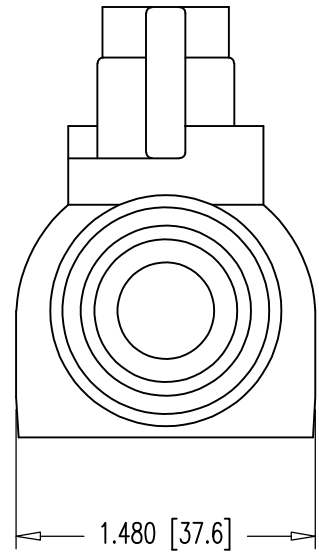
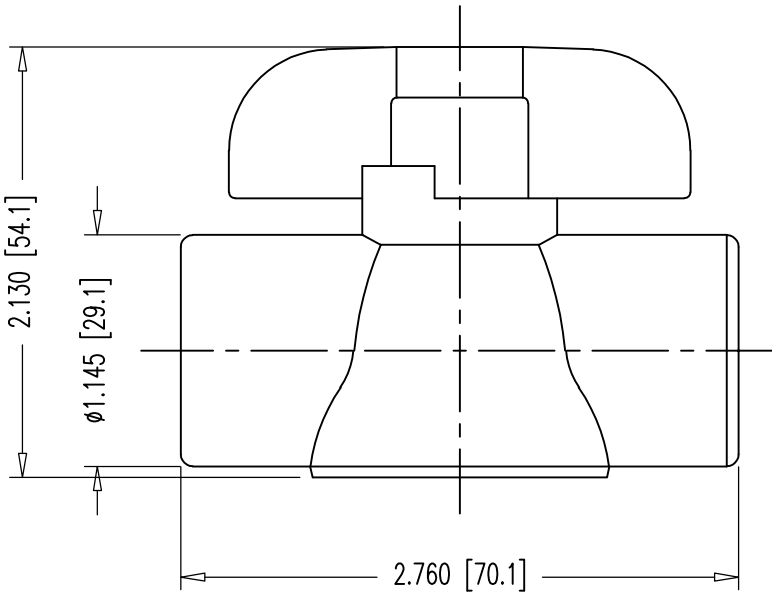
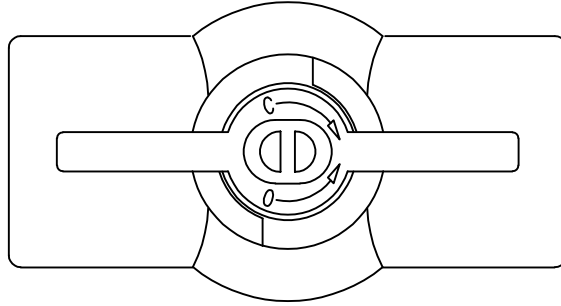
PRESSURE RATED: 150 PSI

DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY		QUALITY PLAN NUMBER:		WEIGHT .009 LBS.	REV.	DATE	NAME	PART NUMBER: 00 00 849
3/4" NPT NYLON PLUG								
				DATE: 03-12-19	DWG: G. MALECKI	CHK: S.I.	APP: S.I..	DYWIDAG-SYSTEMS INTERNATIONAL, USA, INC. 320 MARMON DRIVE - BOLINGBROOK, IL 60440 PHONE: 630-739-1100 FAX: 630-739-1405
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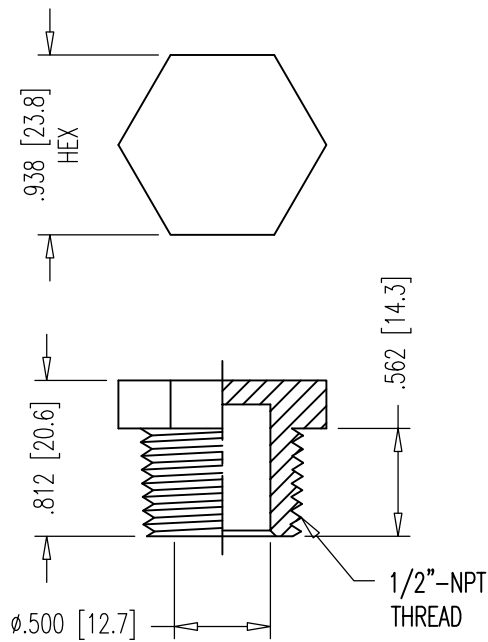
PRESSURE RATED: 150 PSI

DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY		QUALITY PLAN NUMBER: Q000000020P		REV.	DATE	NAME	PART NUMBER: 00 00 678
1/2" NPT PIPE NIPPLES				MATERIAL: SCH 40 BLACK WELDED STEEL	SCALE 1:1		DRAWING NUMBER: 00 00 678
DATE: 01-29-19	DWG: G. MALECKI	CHK: S.I.	APP: S.I.	DYWIDAG-SYSTEMS INTERNATIONAL, USA, INC. 320 MARMON DRIVE - BOLINGBROOK, IL 60440 PHONE: 630-739-1100 FAX: 630-739-1405			
THIS DRAWING, THE PERTINENT ENCLOSURES, DESCRIPTIONS, CALCULATIONS ETC. AND THEIR CONTENTS ARE THE PROPERTY OF DYWIDAG SYSTEMS INTERNATIONAL, USA, INC. THEY ARE NOT ALLOWED TO BE DUPLICATED WITHOUT OUR PERMISSION. THEY ARE ALSO NOT TO BE SHOWN OR EXPLAINED FOR ANY REASON TO A THIRD PARTY OTHER THAN FOR REASONS EXPRESSLY INTENDED BY DSI's SUBMITTAL TO THE ORIGINAL RECEIVER. THEY HAVE TO BE RETURNED UPON REQUEST.				DYWIDAG 			




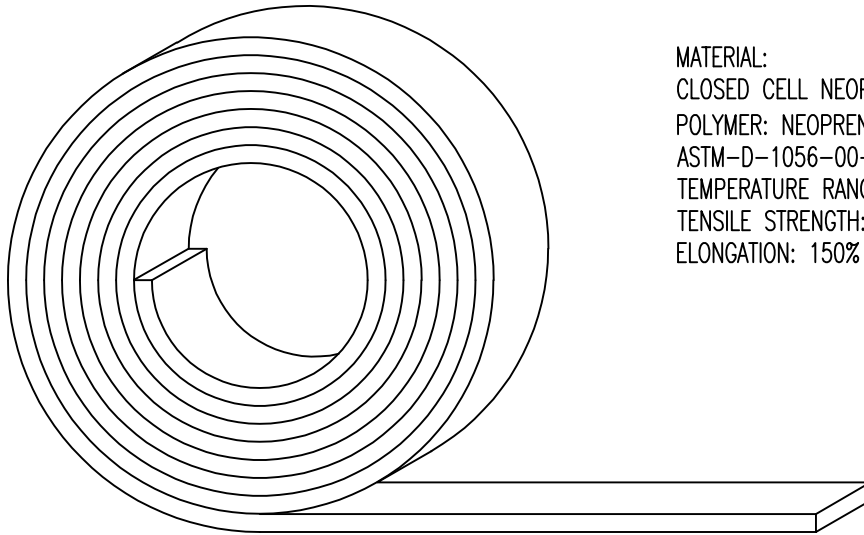
⚠ NOTE:
PRESSURE RATED: 150 PSI.

DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY		QUALITY PLAN NUMBER:		WEIGHT 0.138 LBS.	REV. ⚠	DATE 01-11-19	NAME S.I.	PART NUMBER: 00 00 634
1/2" NPT BALL VALVE								
DATE: 04-30-07	DWG: G. MALECKI	CHK: S.N.	APP: E.A.					DRAWING NUMBER: 00 00 634
THIS DRAWING, THE PERTINENT ENCLOSURES, DESCRIPTIONS, CALCULATIONS ETC. AND THEIR CONTENTS ARE THE PROPERTY OF DYWIDAG SYSTEMS INTERNATIONAL, USA, INC. THEY ARE NOT ALLOWED TO BE DUPLICATED WITHOUT OUR PERMISSION. THEY ARE ALSO NOT TO BE SHOWN OR EXPLAINED FOR ANY REASON TO A THIRD PARTY OTHER THAN FOR REASONS EXPRESSLY INTENDED BY DSI'S SUBMITTAL TO THE ORIGINAL RECEIVER. THEY HAVE TO BE RETURNED UPON REQUEST.				DYWIDAG-SYSTEMS INTERNATIONAL, USA, INC. 320 MARMON DRIVE - BOLINGBROOK, IL 60440 PHONE: 630-739-1100 FAX: 630-739-1405			DYWIDAG	



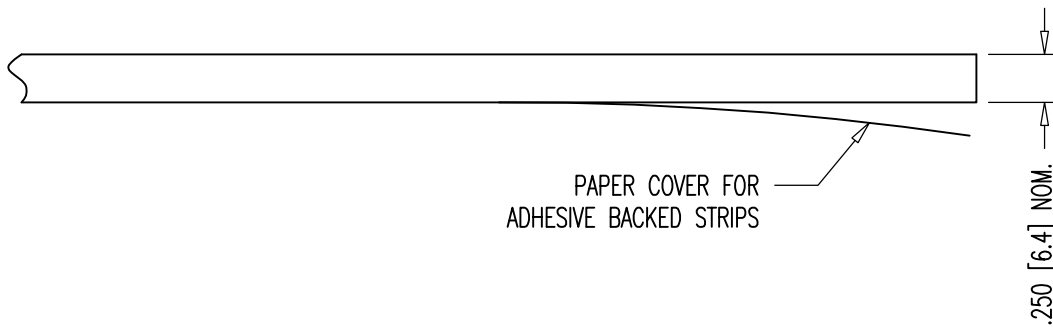
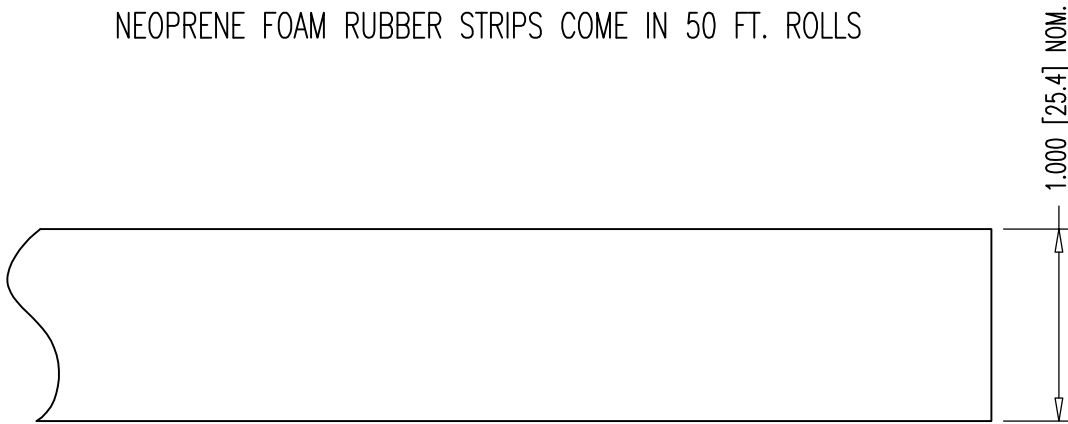
PRESSURE RATED: 150 PSI


DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY		QUALITY PLAN NUMBER:		WEIGHT .006 LBS.	REV.	DATE	NAME	ECRN	PART NUMBER: 00 00 649
1/2" NPT NYLON PLUG					SCALE 1:1				
				DATE: 03-12-19		DWG: G. MALECKI		CHK: S.I.	
THIS DRAWING, THE PERTINENT ENCLOSURES, DESCRIPTIONS, CALCULATIONS ETC. AND THEIR CONTENTS ARE THE PROPERTY OF DYWIDAG SYSTEMS INTERNATIONAL, USA, INC. THEY ARE NOT ALLOWED TO BE DUPLICATED WITHOUT OUR PERMISSION. THEY ARE ALSO NOT TO BE SHOWN OR EXPLAINED FOR ANY REASON TO A THIRD PARTY OTHER THAN FOR REASONS EXPRESSLY INTENDED BY DSI's SUBMITTAL TO THE ORIGINAL RECEIVER. THEY HAVE TO BE RETURNED UPON REQUEST.				DYWIDAG-SYSTEMS INTERNATIONAL, USA, INC. 320 MARMON DRIVE - BOLINGBROOK, IL 60440 PHONE: 630-739-1100 FAX: 630-739-1405					

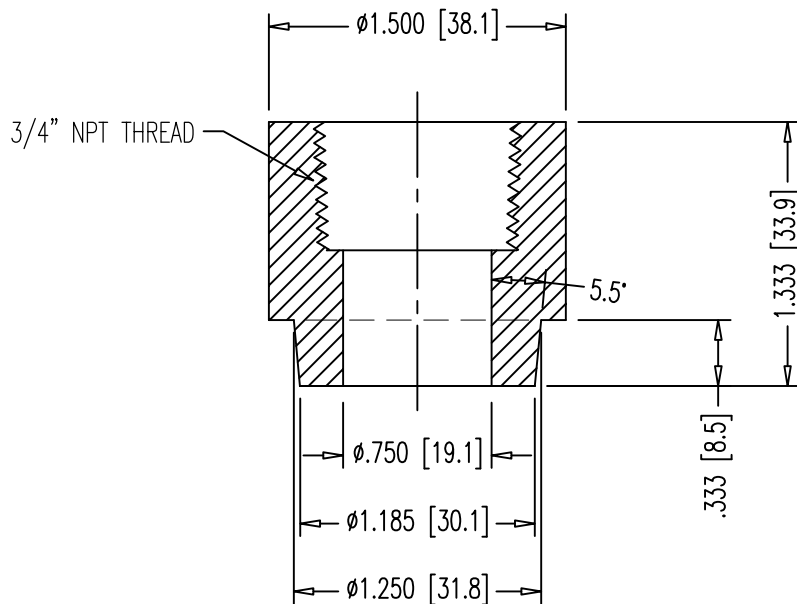
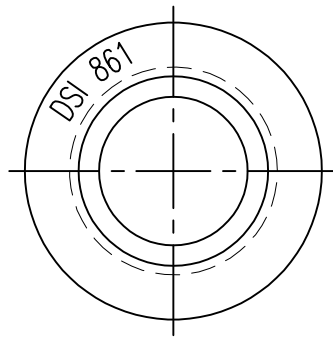


MATERIAL:
 CLOSED CELL NEOPRENE BLEND SPONGE
 POLYMER: NEOPRENE/EPDM/SBR
 ASTM-D-1056-00-SA2
 TEMPERATURE RANGE: -40 TO +200 DEG. F
 TENSILE STRENGTH: 100 PSI
 ELONGATION: 150%

NEOPRENE FOAM RUBBER STRIPS COME IN 50 FT. ROLLS



DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY		QUALITY PLAN NUMBER:		WEIGHT .019 LBS./FT.	REV.	DATE	NAME	PART NUMBER: 68 00 583
1"x1/4" NEOPRENE FOAM RUBBER STRIPS					MATERIAL: SEE ABOVE	SCALE 1:1 NTS		
DATE: 12/01/06	DWG: G. MALECKI	CHK: S.Y.	APP: K.S.					DRAWING NUMBER: 68 00 583
THIS DRAWING, THE PERTINENT ENCLOSURES, DESCRIPTIONS, CALCULATIONS ETC. AND THEIR CONTENTS ARE THE PROPERTY OF DYWIDAG SYSTEMS INTERNATIONAL, USA, INC. THEY ARE NOT ALLOWED TO BE DUPLICATED WITHOUT OUR PERMISSION. THEY ARE ALSO NOT TO BE SHOWN OR EXPLAINED FOR ANY REASON TO A THIRD PARTY OTHER THAN FOR REASONS EXPRESSLY INTENDED BY DSI'S SUBMITTAL TO THE ORIGINAL RECEIVER. THEY HAVE TO BE RETURNED UPON REQUEST.				DYWIDAG-SYSTEMS INTERNATIONAL, USA, INC. 320 MARMON DRIVE - BOLINGBROOK, IL 60440 PHONE: 630-739-1100 FAX: 630-739-1405				



WELDING OPERATIONS:
 DRILL A HOLE USING SPECIFIED CONE DRILL TOOL
 WHEREVER NEEDED IN COMMON POLYPROPYLENE
 DUCTS OF ALL BRANDS. HEAT UP POLYPROPYLENE
 GROUT PORT AND THE HOLE IN DUCT FOR ABOUT
 10 SECONDS USING PES-TEC WELDING EQUIPMENT.
 RELEASE THE GROUT PORT AND PRESS INTO THE
 HOLE IN DUCT BY HAND FOR 15 SECONDS.

MATERIAL: POLYPROPYLENE
 USAGE: FOR CORRUGATED PP DUCTS
 PRESSURE RATED: 150 PSI

DIMENSIONS: INCH [mm] mm FOR REFERENCE ONLY		QUALITY PLAN NUMBER:		TOLERANCES: ±.020 UNLESS NOTED	WEIGHT 0.045 LBS.	REV.	DATE	NAME	PART NUMBER: 00 00 861	
3/4" NPT PP PORT				MATERIAL: SEE ABOVE	SCALE 1:1				DRAWING NUMBER: 00 00 861	
				DATE: 01-11-19	DWG: G. MALECKI	CHK: S.I.	APP: S.I.			
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