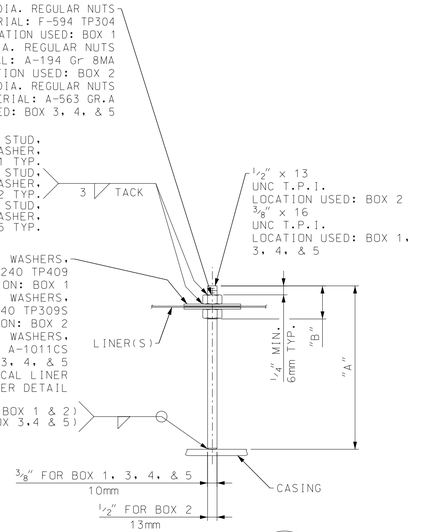
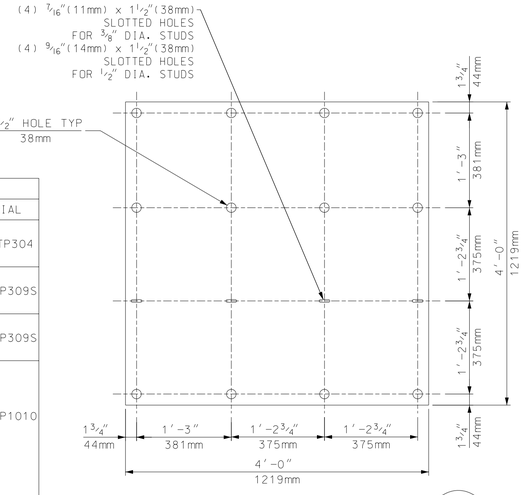


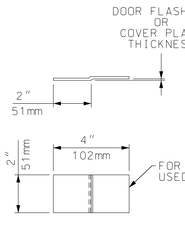
STUD DETAIL 900
SEE CHART FOR DETAILS — 900 CHART

STUD DETAIL 900				
WHERE USED	QTY.	"A"	"B"	MATERIAL
V17494-BCND-0010 /BC10A	68	9 3/4" (248mm)	1 7/16" (37mm)	A-479 TP304
V17494-BCND-0011 /BC10B	68			
V17494-BCND-0010 /BC10C	68			
V17494-BCND-0020 /BC20A	67	15 1/8" (384mm)	1 5/8" (41mm)	A-479 TP309S
V17494-BCND-0021 /BC20B	68			
V17494-BCND-0020 /BC20C	68			
V17494-BCND-0020 /BC20A	12	4 5/8" (117mm)	1 5/8" (41mm)	A-479 TP309S
V17494-BCND-0021 /BC20B	12			
V17494-BCND-0020 /BC20C	12			
V17494-BCND-0030 /BC30A	94	4 1/2" (114mm)	1 7/16" (37mm)	A-108 TP1010
V17494-BCND-0031 /BC30B	94			
V17494-BCND-0030 /BC30C	94			
V17494-BCND-0040 /BC40A	106			
V17494-BCND-0041 /BC40B	104			
V17494-BCND-0040 /BC40C	106			
V17494-BCND-0050 /BC50A	95			
V17494-BCND-0051 /BC50B	94			
V17494-BCND-0050 /BC50C	95			

NOTES:
1. TP309S, TP310S OR TP321 MAY BE SUBSTITUTED FOR TP304 STUDS.
2. TP304 MAY BE SUBSTITUTED FOR 8MA NUT.
3. TP304 & 8MA MATERIAL TO HAVE MIN. CARBON CONTENT OF 0.04%

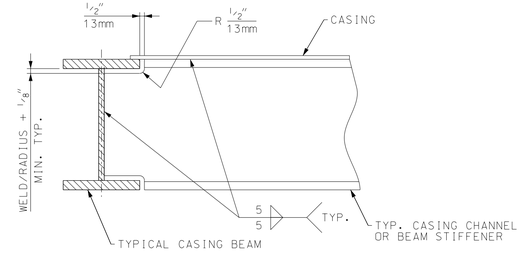


TYPICAL LINER PANEL DETAIL 901
NOTE: THIS DETAIL IS TO BE USED AS AN EXAMPLE OF THE LINER PANEL HOLE SIZES AND THE ADJUSTMENTS FOR EXPANSION. REFER TO THE ASSEMBLY DRAWINGS FOR MATERIAL, HOLE LOCATIONS AND LINER EDGE DISTANCES.
0010 THRU 0051

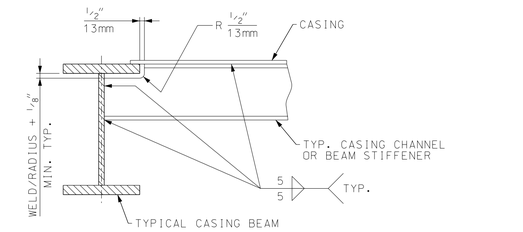


RETAINER CLIP 905
SCALE: 3" = 1'-0"
12 GA (3mm) THK. SHEET
CHART

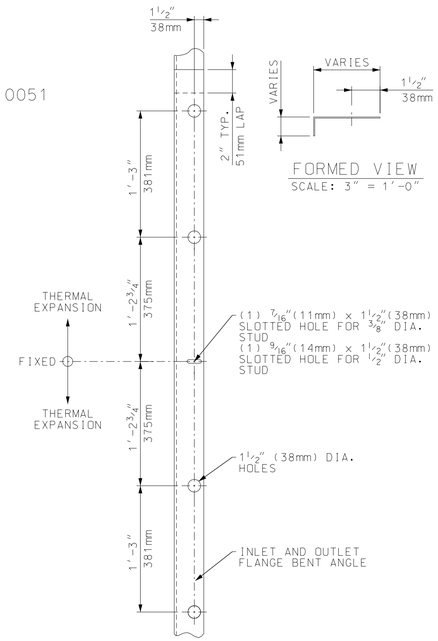
WHERE USED	QTY.	MATERIAL
V17494-BCND-0010 /BC10A	16	A-240 TP409
V17494-BCND-0011 /BC10B	12	
V17494-BCND-0010 /BC10C	14	
V17494-BCND-0020 /BC20A	12	A-240 TP309S
V17494-BCND-0021 /BC20B	9	
V17494-BCND-0020 /BC20C	10	
V17494-BCND-0030 /BC30A	16	A-1011 CS
V17494-BCND-0031 /BC30B	8	
V17494-BCND-0030 /BC30C	12	
V17494-BCND-0040 /BC40A	18	
V17494-BCND-0041 /BC40B	8	
V17494-BCND-0040 /BC40C	10	
V17494-BCND-0050 /BC50A	14	
V17494-BCND-0051 /BC50B	2	
V17494-BCND-0050 /BC50C	2	



TYPICAL COPING SECTION SA
N.T.S.
AT CASING
0010 THRU 0051

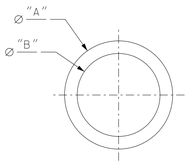


TYPICAL COPING SECTION SB
N.T.S.
AT CASING
0010 THRU 0051



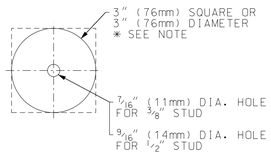
TYPICAL DETAIL
FOR BENT ANGLE 902
NOTE: LENGTH OF BENT ANGLE TO BE LIMITED TO COVER (5) STUDS
0010 THRU 0051

FORMED VIEW
SCALE: 3" = 1'-0"



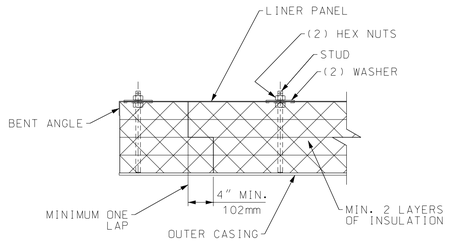
COVER RING DETAIL 906
CHART

MARK	QUANTITY WHERE USED: V17494-BCND-0010 / BC10A	V17494-BCND-0011 / BC10B	V17494-BCND-0010 / BC10C	V17494-BCND-0020 / BC20A	V17494-BCND-0021 / BC20B	V17494-BCND-0020 / BC20C	V17494-BCND-0030 / BC30A	V17494-BCND-0030 / BC30B	V17494-BCND-0030 / BC30C	V17494-BCND-0041 / BC40A	V17494-BCND-0040 / BC40B	V17494-BCND-0040 / BC40C	V17494-BCND-0050 / BC50A	V17494-BCND-0051 / BC50B	V17494-BCND-0050 / BC50C	"A" COVER RING O.D.	"B" COVER RING I.D.	MAT'L THICKNESS	MATERIAL
A							4	–	–	5	–	2	6	–	–	6 1/16"	2 1/16"	12 GA	A-1011CS
B							3	3	5	2	2	–	1	1	1	11"	7"	12 GA	A-1011CS
C							–	–	–	1	1	2	–	–	–	8 7/8"	4 7/8"	12 GA	A-1011CS
D							–	–	–	1	1	1	–	–	–	1'-5 1/8"	1'-1 1/8"	12 GA	A-1011CS
E							1	1	1	–	–	–	–	–	–	1'-1"	9"	12 GA	A-1011CS
F	4	4	4													1'-1"	9"	12 GA	A-240 TP409
G				2	2	2										1'-3 1/8"	11 1/8"	12 GA	A-240 TP309S
H				1	1	1										1'-6 3/8"	1'-2 3/8"	12 GA	A-240 TP309S
J				1	–	–										6 1/16"	2 1/16"	12 GA	A-240 TP309S
K	1	–	–													6 1/16"	2 1/16"	12 GA	A-240 TP409

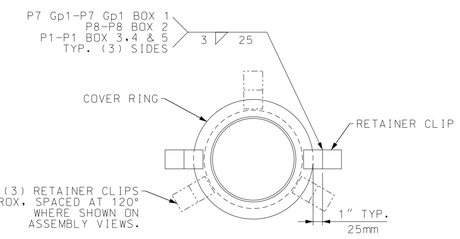


TYPICAL LINER WASHER DETAIL
N.T.S.

* NOTE: WASHERS MUST BE FLAT. NO CUPPED WASHERS WILL BE ACCEPTED. DEBURR ALL EDGES



TYPICAL INSULATION INSTALLATION DETAIL
N.T.S.



TYP. RETAINER CLIP LOCATION
SCALE: 1 1/2" = 1'-0"

NOTES:
1. SEE BOTTOM CASING ASSEMBLY DRAWINGS FOR GENERAL NOTES.
2. RESISTANCE STUD WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1 CURRENT EDITION WELDING CODE. STUD WELDS SHALL BE TESTED IN ACCORDANCE WITH CHAPTER 7.0 OF AWS D1.1 CURRENT EDITION. IN ADDITION, ALL STUD WELDS SHALL BE GIVEN A 30 DEG. BEND TEST OR HAMMER TEST, AND STUDS THAT FAIL MUST BE REPLACED.
3. PLACEMENT OF BOTTOM NUTS: PLACE ONE NUT ON EACH STUD. TIGHTEN DOWN ON SHANK OF STUD
4. PLACEMENT OF INSULATION: AFTER STUDS HAVE BEEN WELDED IN PLACE, IMPALE INSULATION OVER STUDS TO COVER REQUIRED AREA. THE JOINTS OF THE LAYERS ARE TO BE STAGGERED. OPENINGS IN THE INSULATION ARE TO BE CUT AT THE TIME OF INSTALLATION. EXPANDED METAL (AND CLEATS IF REQUIRED) TO BE INSTALLED ON THE SIDE WALLS PRIOR TO PLACEMENT OF INSULATION.
5. PLACEMENT OF BOTTOM WASHERS: PLACE ONE WASHER ON EACH STUD.
6. PLACEMENT OF LINER PANELS: STARTING AT LOWER CORNER ON THE OUTLET END INSTALL LINER PANELS IN HORIZONTAL ROWS WORKING FROM BOTTOM TO TOP AND FROM OUTLET END TO INLET END. PANELS ALONG TOP AND BOTTOM EDGES AND AT INLET ARE TO BE CUT AS REQUIRED FOR INSTALLATION. ALL OPENINGS REQUIRED IN LINER PANELS ARE TO BE CUT AT TIME OF INSTALLATION.
7. PLACEMENT OF TOP WASHERS AND NUTS: PLACE ONE WASHER ON TOP SIDE OF LINER PANEL AND ONE NUT ON TOP OF THE WASHER. NUTS TO BE FULLY TIGHTENED AND THEN BACKED OFF 1/2 TURN TO ENSURE PROPER COMPRESSION OF THE INSULATION AND TO ALLOW LINER TO EXPAND DURING OPERATION. THEN TACK WELD NUTS TO THREADS OF THE STUD TO PREVENT NUT FROM LOOSENING. WASHERS MAY BE TRIMMED WHERE NECESSARY. TACK WELD TOP WASHER TO NUT ON TWO (2) FLATS 180° APART WITH TACK WELD A MINIMUM OF 1/8" HIGH TO PREVENT WASHER FROM SPINNING.
8. SPECIFICATIONS: ALL CONSTRUCTION, MATERIAL & TESTING SHALL BE IN ACCORDANCE WITH VOGT POWER'S SHOP FABRICATED INTERNALLY INSULATED CASING SPECIFICATIONS V17494-MANC-0001.
9. ALL WELD SIZES ARE IN METRIC (mm).
10. QUANTITIES SHOWN ARE FOR ONE (1) UNIT:
-(1) ONE UNIT REQUIRED FOR MIDDLETOWN PROJECT.
-(1) ONE UNIT REQUIRED FOR KING MOUNTAIN PROJECT.

REFERENCE DRAWINGS:
V17494-BCND-0010 THRU 0051 - BOX 1 THRU BOX 5 BOTTOM CASING ASSEMBLY DRAWINGS.

Rev.	Description	Date	Drawn	Chkd. 1	Chkd. 2	Appr.
02	REVISED STUD LENGTH AND RETAINER CLIP QTY.	11-DEC-15	PN	JONES	–	FRY
01	UPDATED QTY. OF STUD, RETAINER CLIP & COVER RING	23-NOV-15	SK	JONES	–	FRY
00	FIRST ISSUE	09-NOV-15	SK	JONES	–	FRY

Revisions

MIDDLETOWN ENERGY CENTER
and
KINGS MOUNTAIN ENERGY CENTER
for
NTE ENERGY and GEMMA POWER SYSTEMS
VOGT POWER PROJECTS V17494 & V17495

3rd ANGLE PROJECTION
Scale: 1" = 1'-0"

Title
STANDARD BOTTOM CASING & LINER DETAILS

Vogt Power International
13551 Triton Park Blvd
Suite 2000
Louisville, Ky. 40223 USA
www.VogtPower.com

Internal Drawing Status	Size	Drawing No.	Rev.
FOR RECORD	D	V17494-BCND-0090	02