

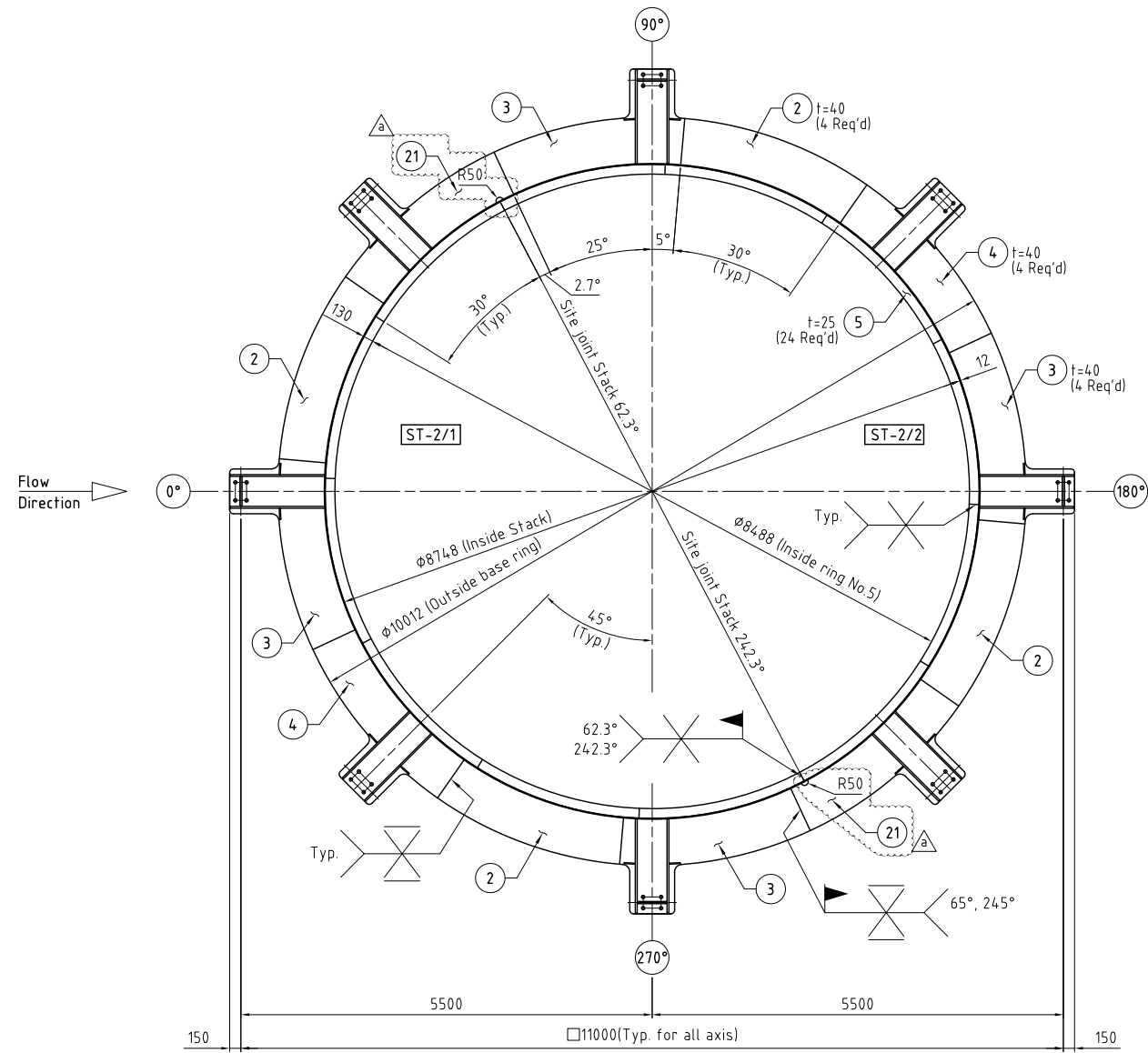
No	Description	Material	Qty	Reference Drawing	W.T.(Kg)		NPS Free Issue	NPS-No. 11983-
					Unit	Total		
ST-1/1-2	Shell stack		2	VHE-E197-07-0002	4527	9054.0		07-2001
ST-2/1-2	Shell stack		2	VHE-E197-07-0003,0004,0005	13127.6	26255.2		07-2002
ST-2/3-4	Shell stack		2	VHE-E197-07-0006	4178.7	8357.4		07-2005
ST-2/5-6	Shell stack		2	VHE-E197-07-0007	3856.3	7712.6		07-2006
ST-2/7-8	Shell stack		2	VHE-E197-07-0008	3389.8	6779.6		07-2007
ST-3/1-2	Shell stack		2	VHE-E197-07-0009a	3756.4	7512.7		07-2008
ST-4/1-2	Shell stack		2	VHE-E197-07-0010	3435.0	6870.0		07-2009
ST-4/3-4	Shell stack		2	VHE-E197-07-0011	3078.4	6156.8		07-2010
STAD-01	Access Door Detail		1	VHE-E197-07-0012	102.0	102.0		07-2011
	Emission Port Detail		1	VHE-E197-07-0013	73.2	73.2		07-2012

TOTAL WEIGHT FOR 1 UNIT = 78873.5(Kg)

- General Notes:** (valid also for referred drawings)
- The materials A36
 - All dimensions shown on drawing are mm except noted
 - The welding symbols shown on drawings are in accordance EN standard
 - Weld joints: Longitudinal joints of stack wall plates as shown on the drawing are to be regarded as proposal (optimized arrangement). Actual joint arrangement can be adjusted by fabricator in case the available raw plate dimensions deviate. In case of necessary adjustment the following rules must be followed:
 - Longitudinal joint arrangement shall be regular and shall be the same for each stack segment
 - Vertical joint locations of adjacent stack segments shall be arranged apart accordingly (60° respectively 90° or 180°)
 - Circumferential butt welds (if any, related to available raw plate width) are allowed, however plate arrangement shall avoid any X-crossings, and the joint arrangement shall be still regular
 - Stiffeners (vertical or circumferential) must not be arranged on top of butt welds. The minimum distance shall be 50mm
 - Markings (marking punch type): Mark the axis 0°, 90°, 180°, 270° at top and bottom of each element outside and inside
 - Referenced drawings:
 - Shell stack plate detail: Dwg no. 11983-07-2001 to 2012 (VHE-E197-07-0002 to D013)
 - Insulation arrangement, typical details, cladding plate detail: Dwg no. 11983-07-xxx to xxx (VHE-E197-07-xxx to xxx)
 - Splitter supports: Dwg no. 11983-08-xxxx to xxx
 - NDE and visual inspection of welds according to ITP Doc. No. 11855-08-xxx
 - Butt weld crossings:
 - T-crossings are acceptable (but subject to vt as per ITP)
 - X-joint (crosswelds) - if any - are subject to 100% RT
 - Minimum for marked dimensions the dimension check is required including report
 - Markings (marking punch type): Mark the axis 0°, 90°, 180°, 270° at top and bottom of each elements at inside and outside of casing
 - Surface preparation & painting in accordance to project specification
 - Dimensions (e.g. 6365, 8748) inside stack shall be measured for each segment individually at min. 8 angles
 - Main and flange dimensions to be checked and recorded after assembly in workshop.
 - General tolerances:
 - Dimension without tolerances according to N-27-0100a
 - Steel stack tolerances (Refer ASME STS-1-2006 chapter 85)
 - Misalignment between plates at any butt joints shall not exceed 0.2x (wall thickness)
 - Peaking of joints seams horizontal/vertical and at any other location shall not exceed 6mm max. as measured from an 450mm long template centered at the weld and cut to the prescribed radius
 - The difference between the max. and min. inside diameter at any cylindrical shell cross section along the height shall not exceed 0.5% of the diameter
 - Local dents in plates shall be no deeper than 1/2 the plate thickness
 - Allowable fabrication/erection tolerances out of plumb dy = L/1000, out of plumb at single stack part

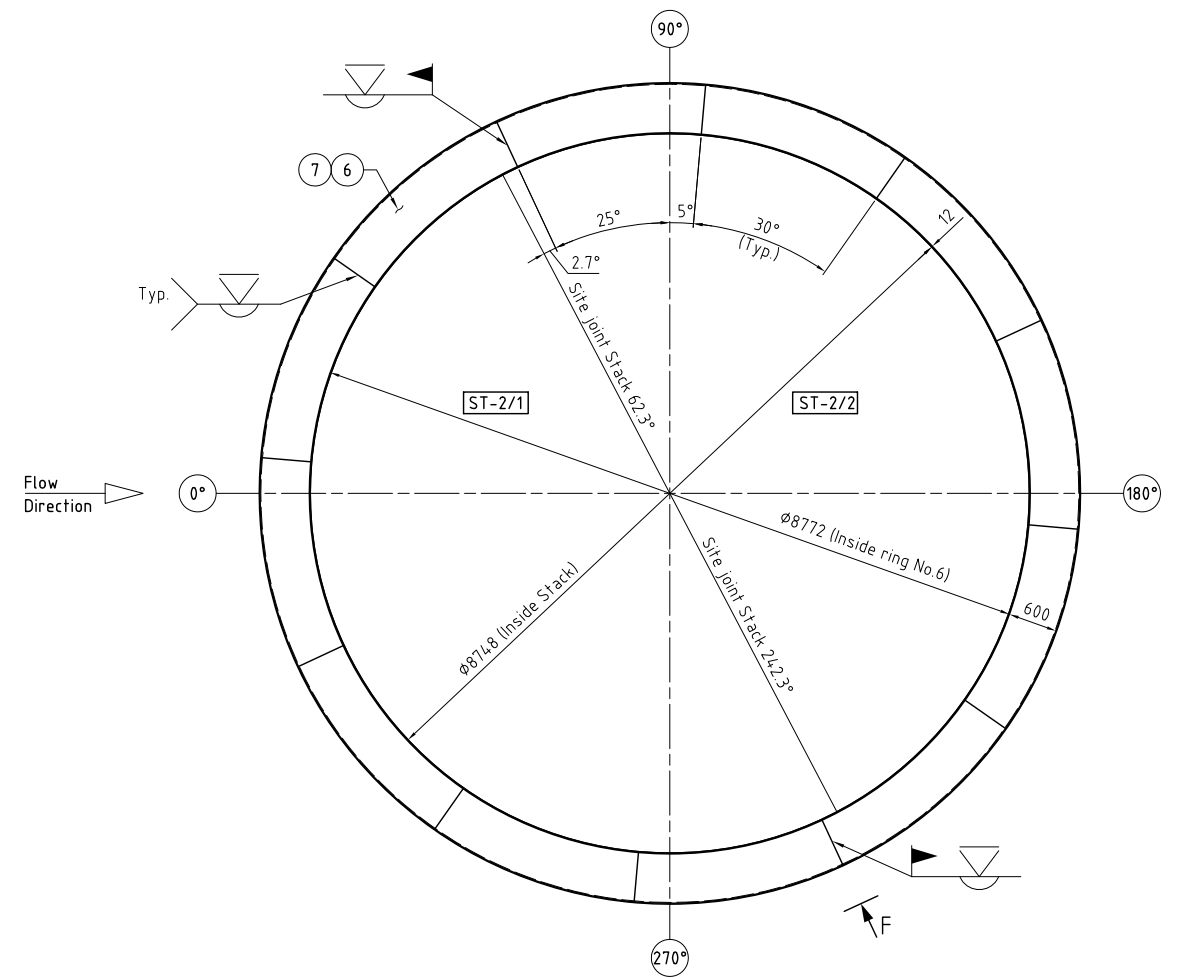
Rev.	Date	Description of Revision	Drawn	Checked	Approved
1	16 Mar 16	First issue for approval	N.V.N	L.T.S	DDK
VHE VIET HAN ENGINEERING CO., LTD.			DWG NO. VHE-E197-07-D001		
Rev.	1/1		Sht.	1/1	

Section A-A

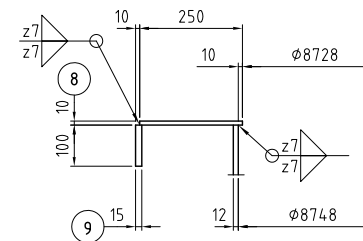


ST-2/1+2 Shell Detail

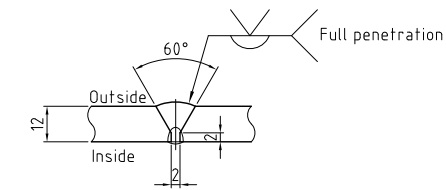
Section B-B



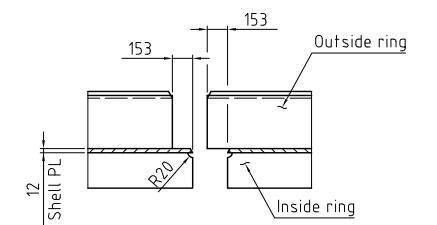
Detail "D"



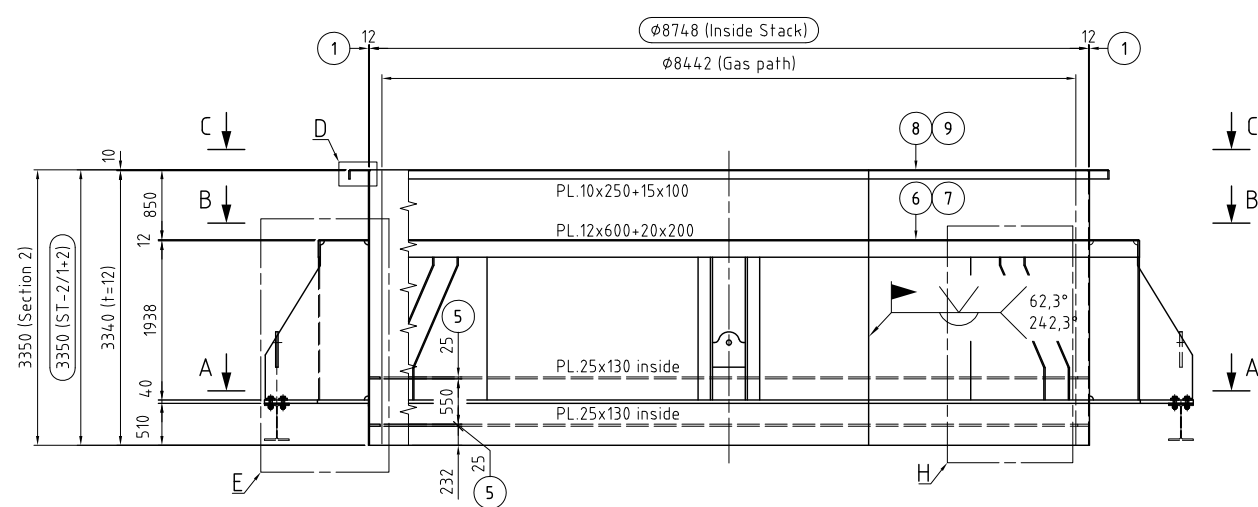
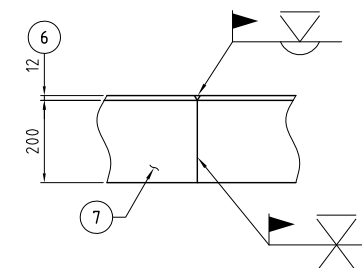
Welding Detail of Stack shell plate
(Typical for site welding of stack shell plate and at shop if required)



Typical vertical joint arrangement



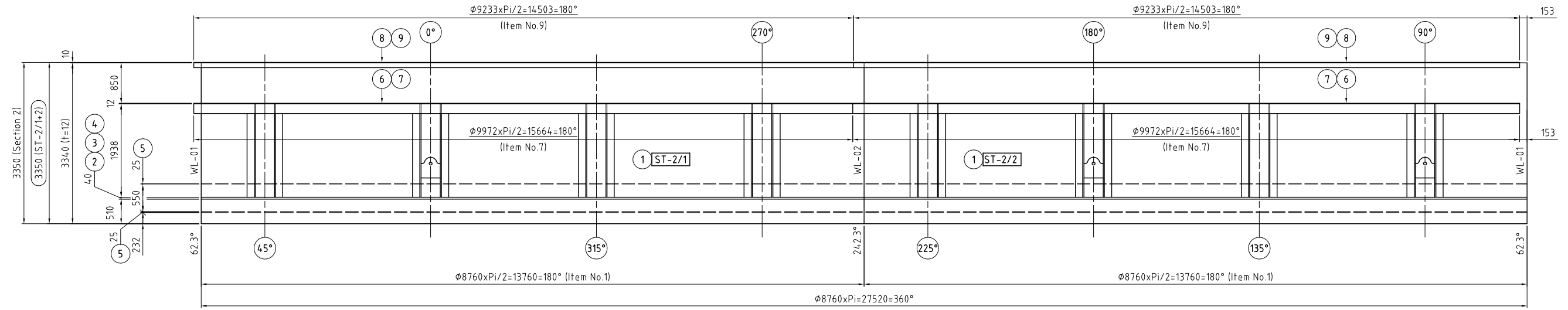
View "F"



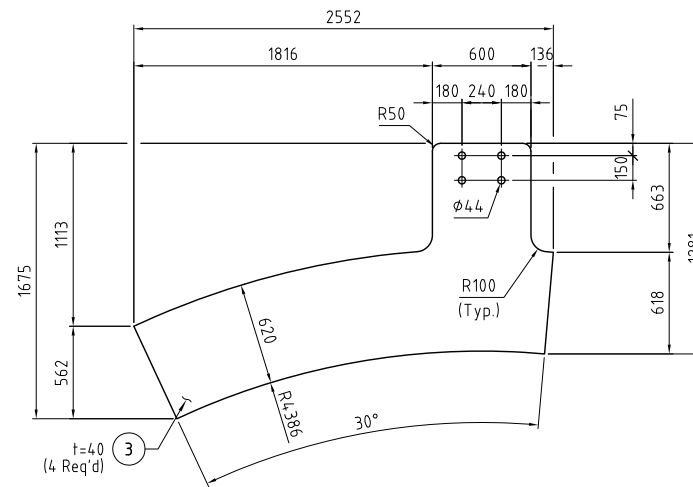
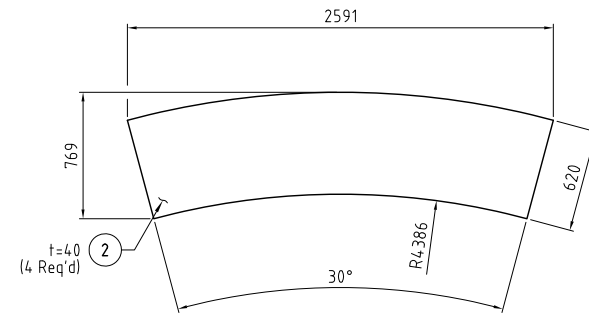
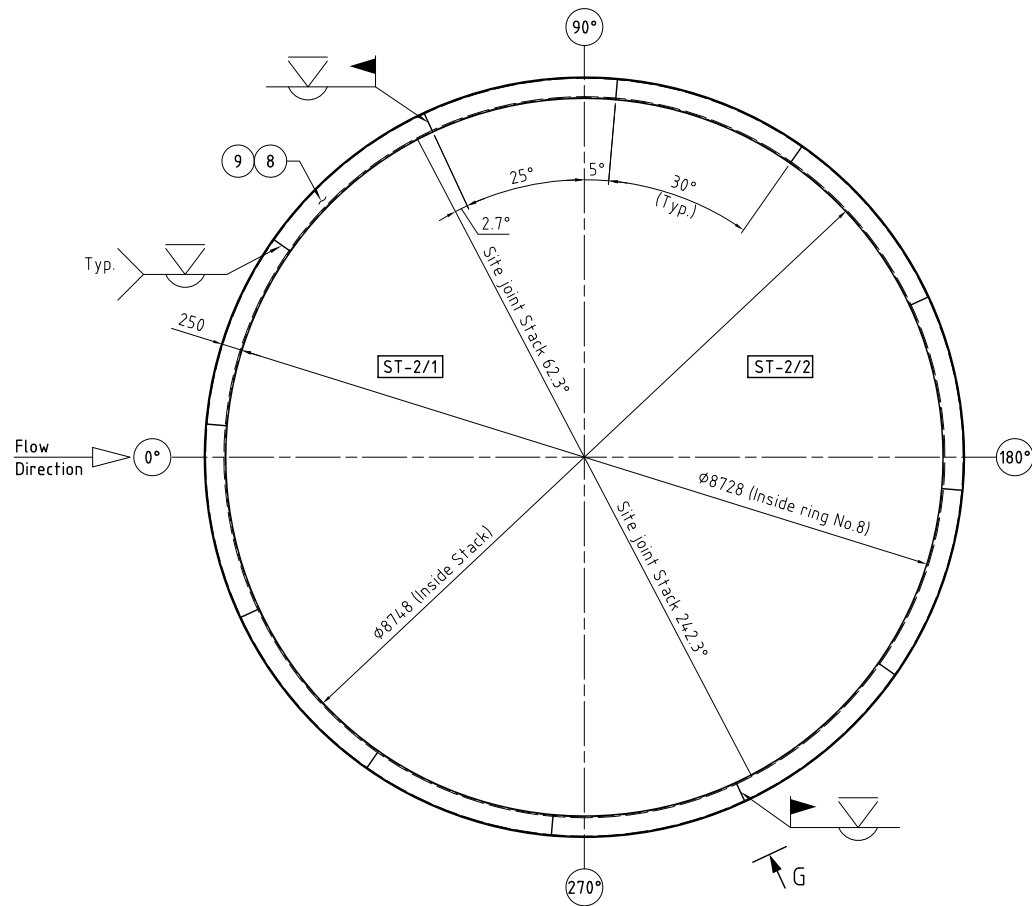
16 Mar.16	First issue for approval	N.V.N	L.T.S	DDK	
Rev.	Date	Description of Revision	Drawn	Checked	Approved
VHE VIET HAN ENGINEERING CO.,LTD.		DWG NO.	Rev.		0
Engineering		VHE-E197-07-D003	Sht.		1/1

ST-2/1+2 Development Detail

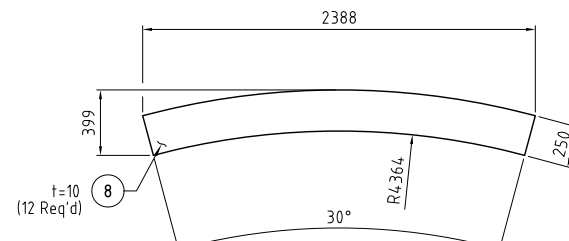
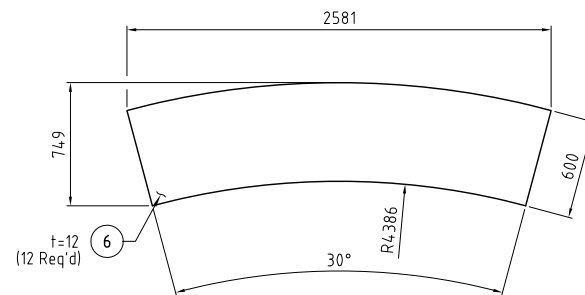
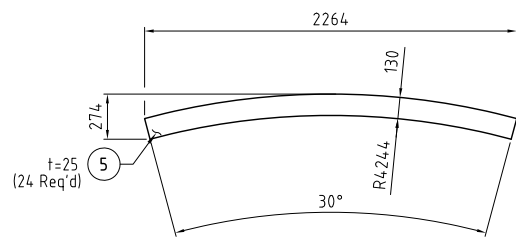
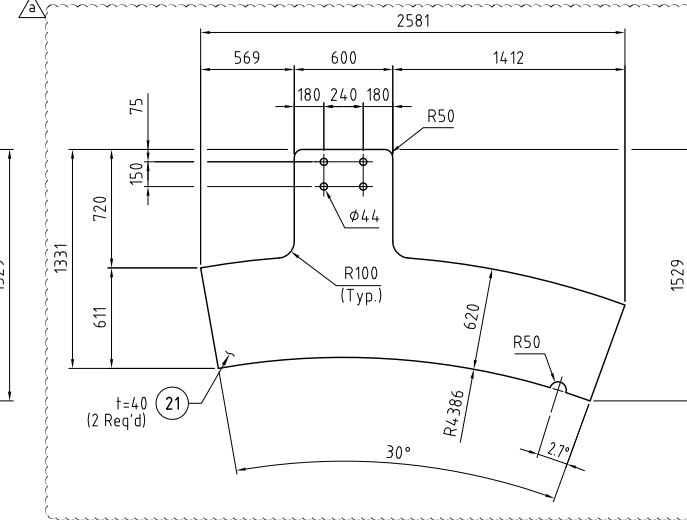
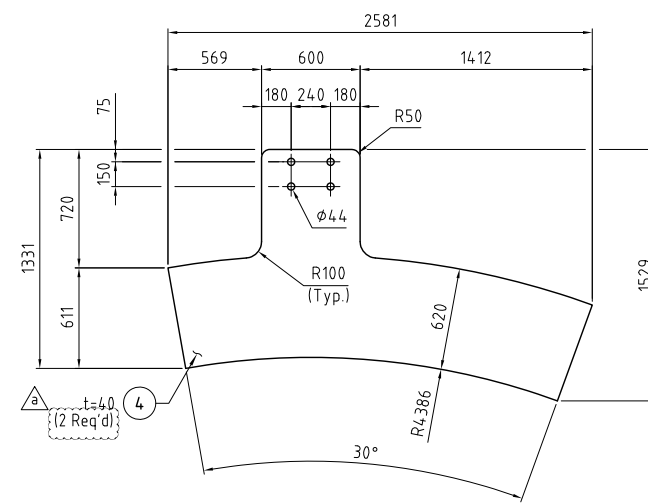
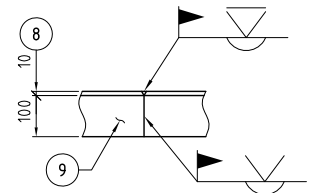
- x) WL-01-02: All Site Weld Joint
- x) Plate separation to appointed at workshop according to draw plate size.
- x) Cross welds for workshop and site joints are not allowed.



Section C-C



View "G"



16.Mar.16	First issue for approval	N.V.N	L.T.S	DDK	
Rev.	Date	Description of Revision	Drawn	Checked	Approved
VHE VIET HAN ENGINEERING CO.,LTD.		DWG NO.	Rev.	0	
Engineering		VHE-E197-07-D004	Sht.	1/1	

Detail "H"

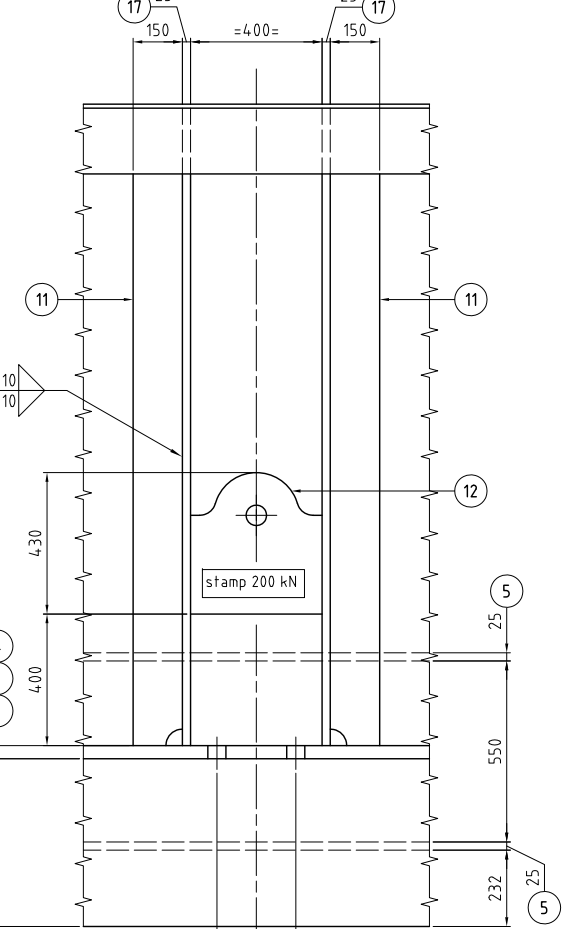
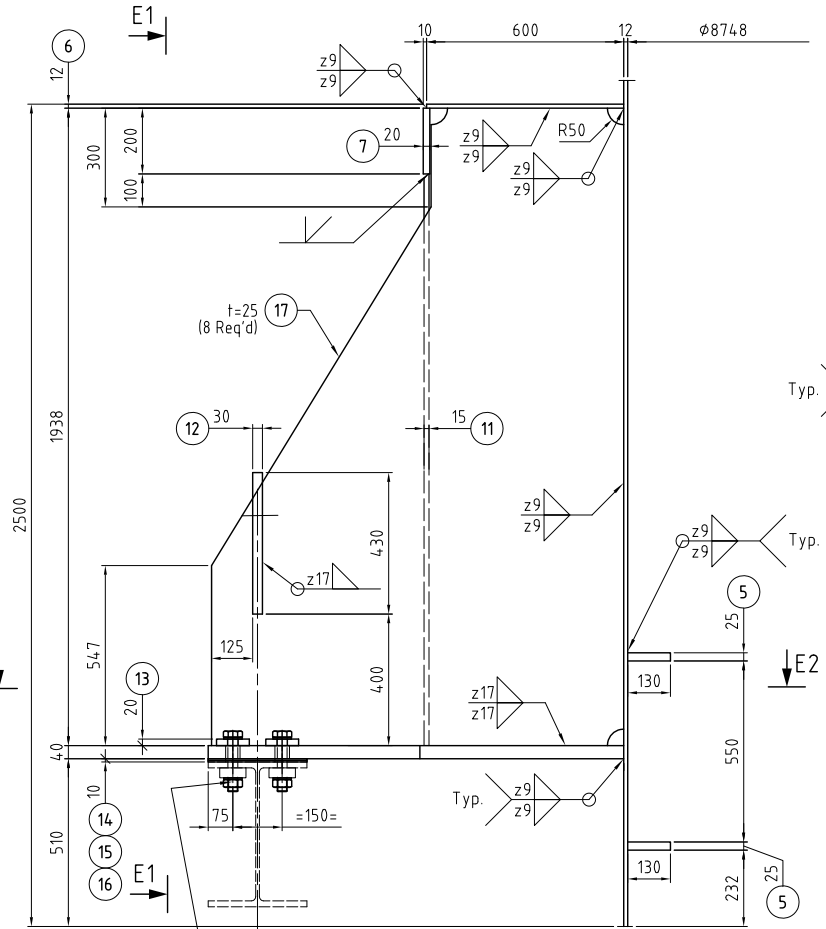
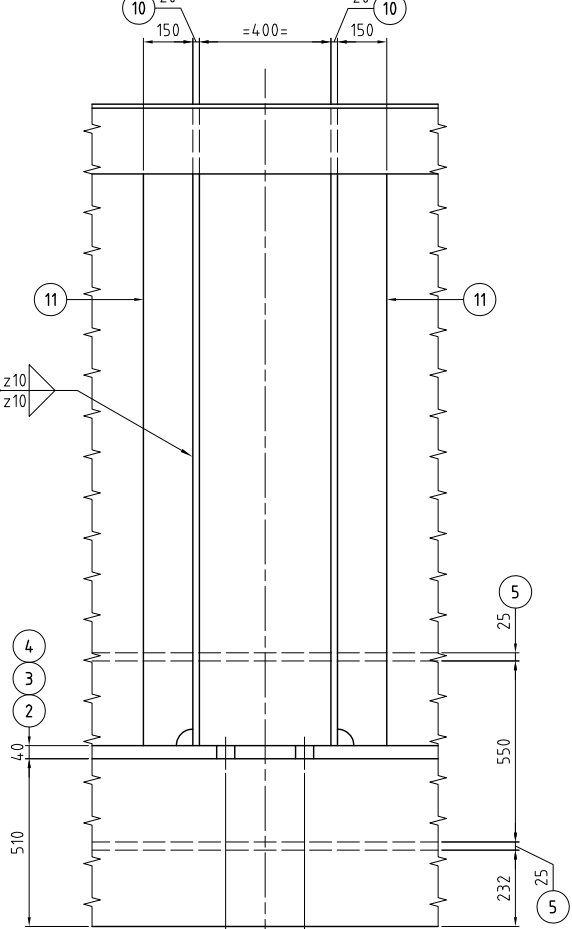
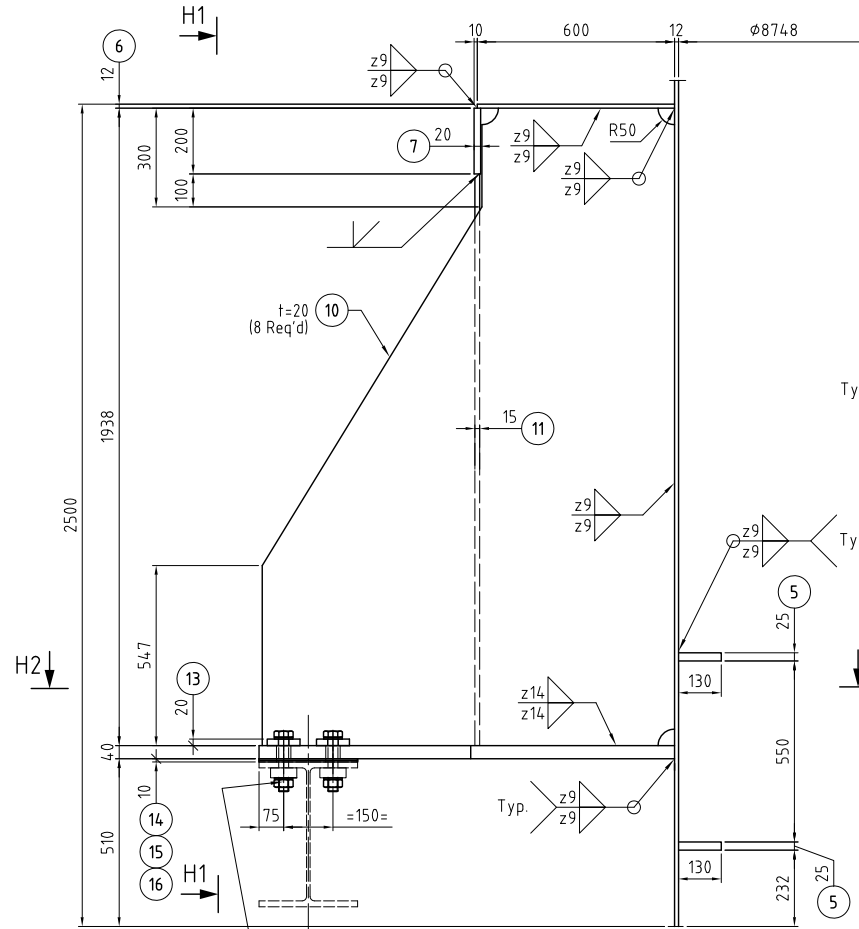
Support axis 45°, 135°, 225°, 315°

View H1-H1

Detail "E"

Support axis 0°, 90°, 180°, 270°

View E1-E1

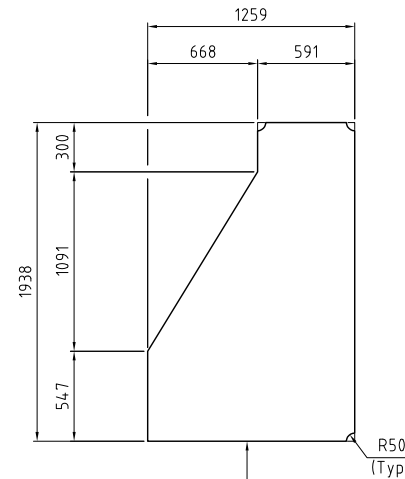
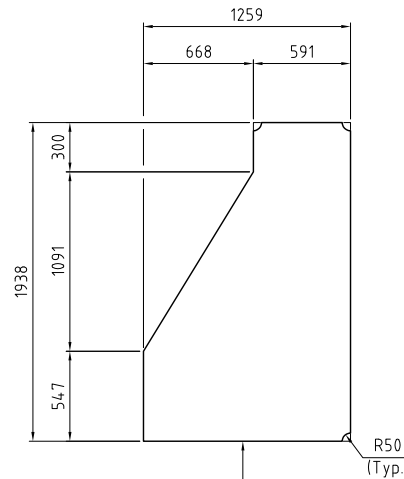
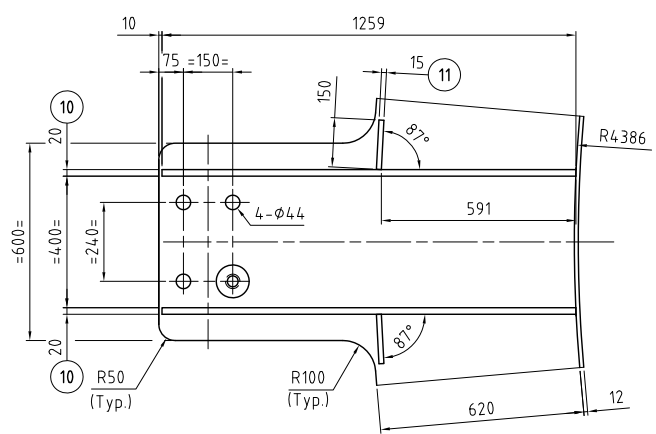
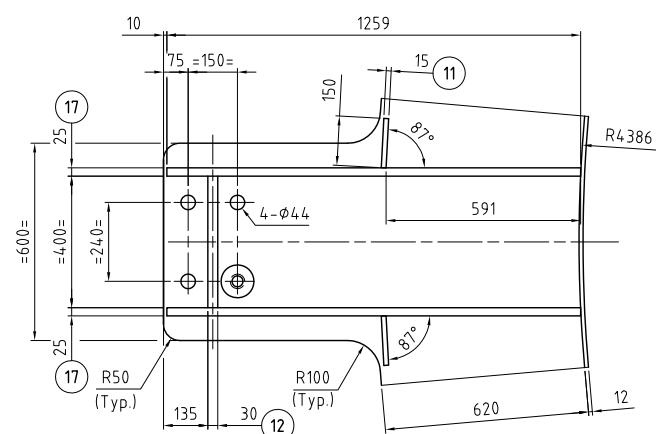


16 HV-Hex. bolt M30x160L Mat.10.9 hdg
16 HV-Hex. nut M30 Mat. 10 hdg
32 HV-Washer 30 Mat.C45 hdg
EN 14399-4/-6

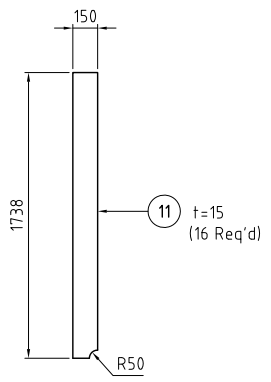
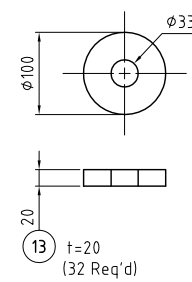
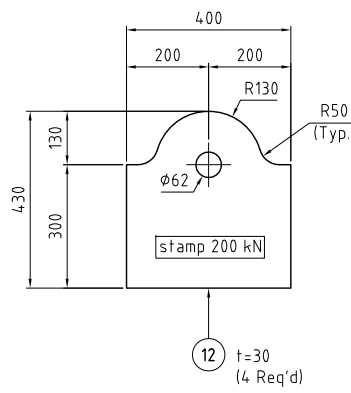
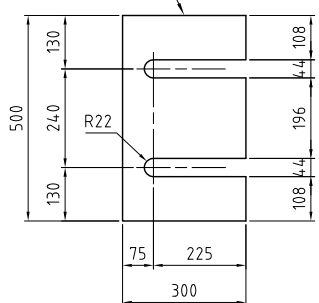
16 HV-Hex. bolt M30x160L Mat.10.9 hdg
16 HV-Hex. nut M30 Mat. 10 hdg
32 HV-Washer 30 Mat.C45 hdg
EN 14399-4/-6

Section E2-E2

Section H2-H2



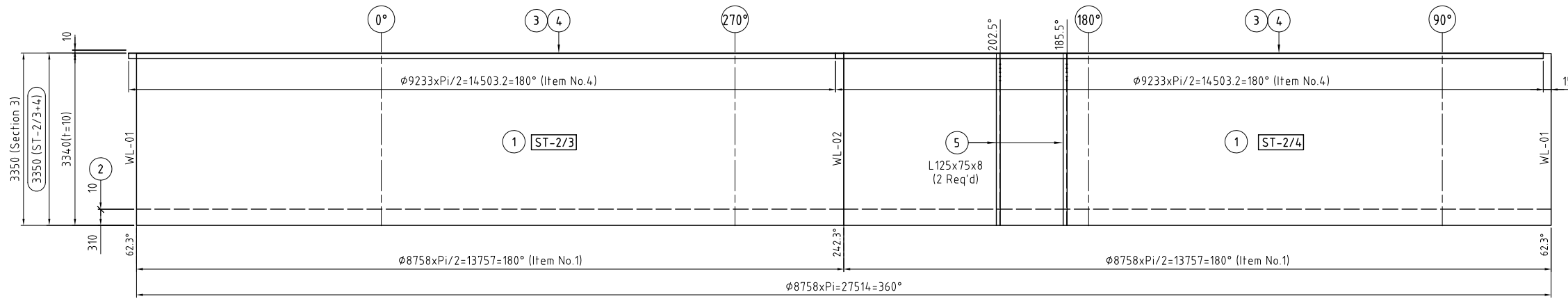
16 Req'd PL5 (Support plates)-Mat. (1.4541) 14
8 Req'd PL2 (Shim plates)-Mat. (1.4541) 15
8 Req'd PL1 (Shim plates)-Mat. (1.4541) 16



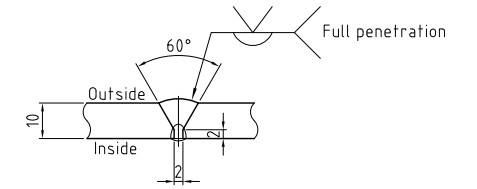
Rev	Date	Description of Revision	Drawn	Checked	Approved
16	Mar.16	First issue for approval	N.V.N	L.T.S	DDK
DWG NO.		VHE-E197-07-D005		Rev.	0
Engineering				Sht.	1/1

ST-2/3+4 Development Detail

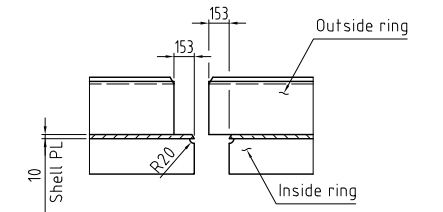
- x) WL-01-02: All Site Weld Joint
- x) Plate separation to appointed at workshop according to draw plate size.
- x) Cross welds for workshop and site joints are not allowed.



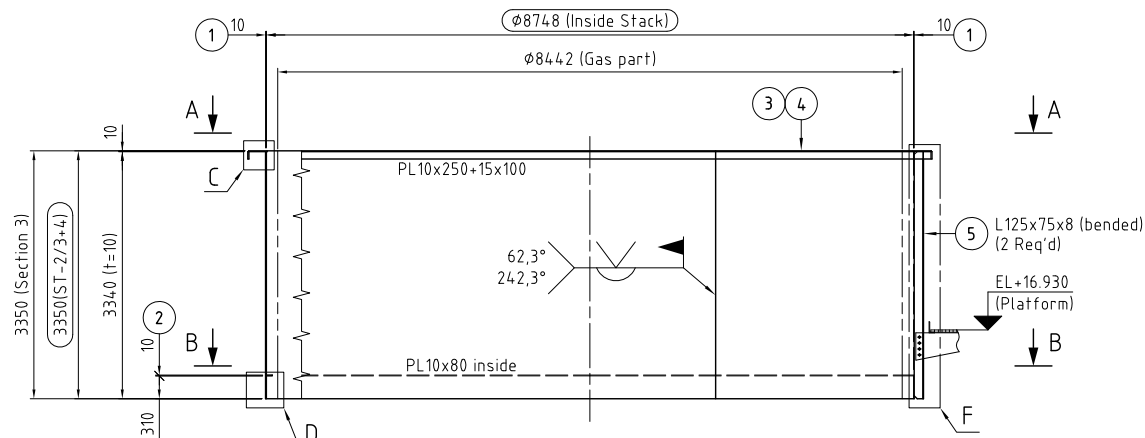
Welding Detail of Stack shell plate
(Typical for site welding of stack shell plate and at shop if required)



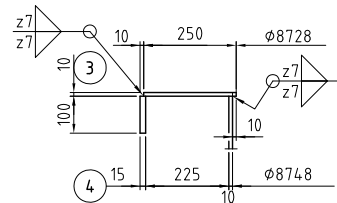
Typical vertical joint arrangement



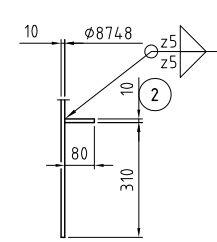
ST-2/3+4 Shell Detail



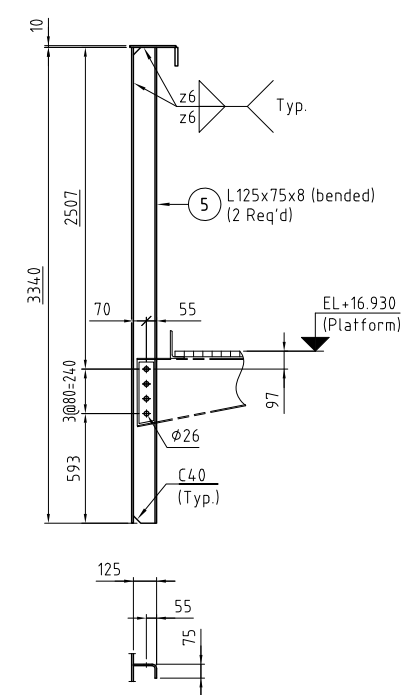
Detail "C"



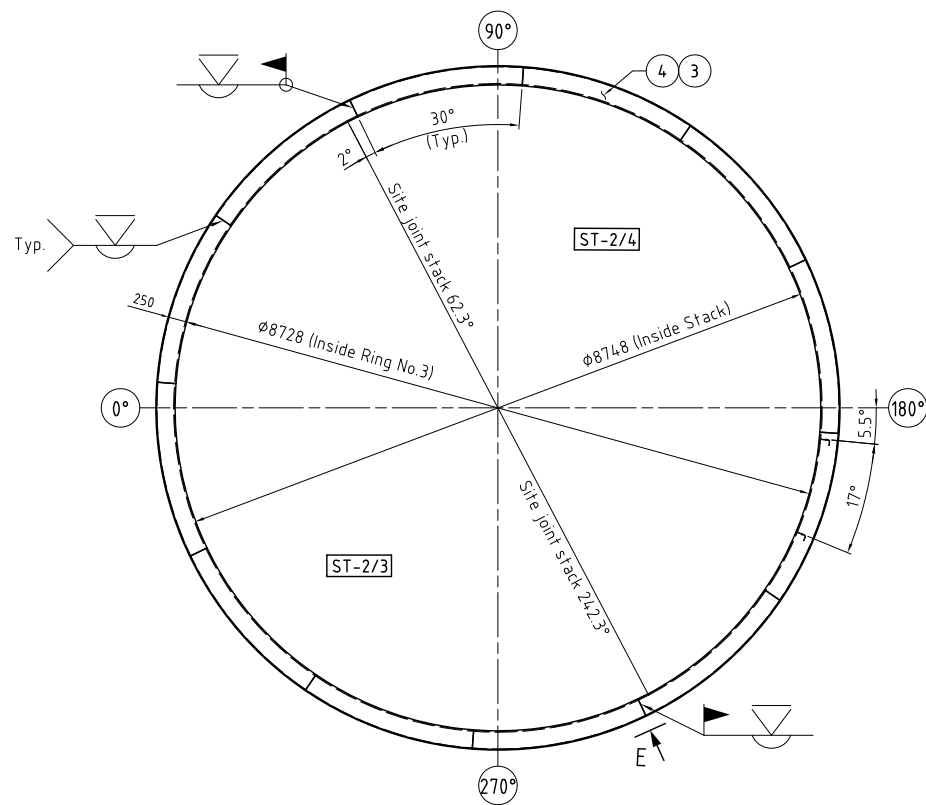
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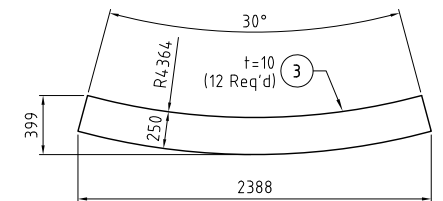
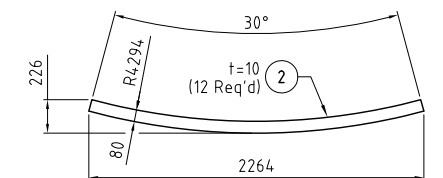
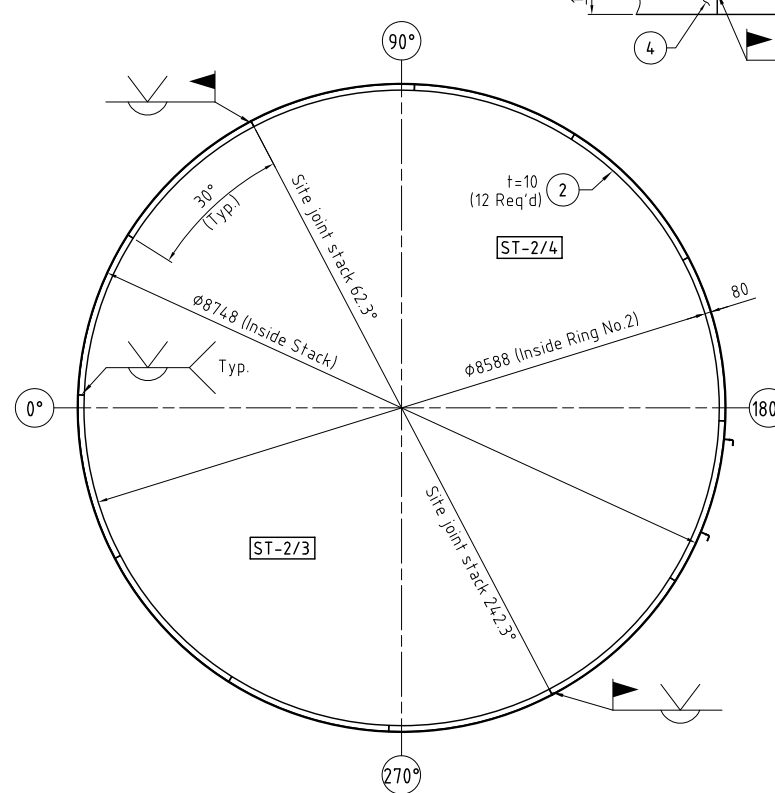
Detail "F"



Section A-A



Section B-B



16.Mar.16	First issue for approval	N.V.N	L.T.S	DDK	
Rev	Date	Description of Revision	Drawn	Checked	Approved
VHE VIET HAN ENGINEERING CO.,LTD.		DWG NO.	Rev. 0		
Engineering		VHE-E197-07-D006	Sht. 1/1		