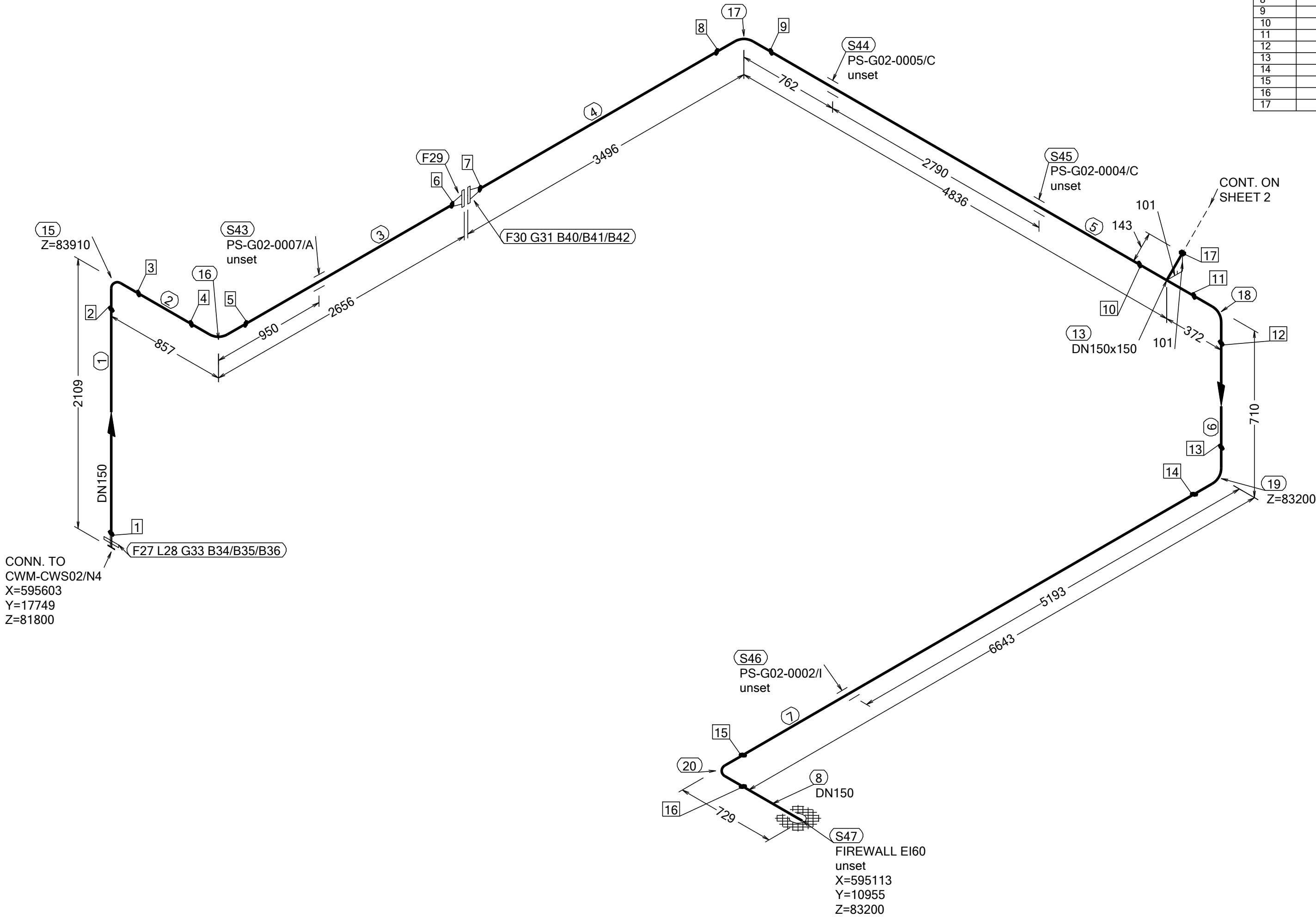



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WELD	WPS
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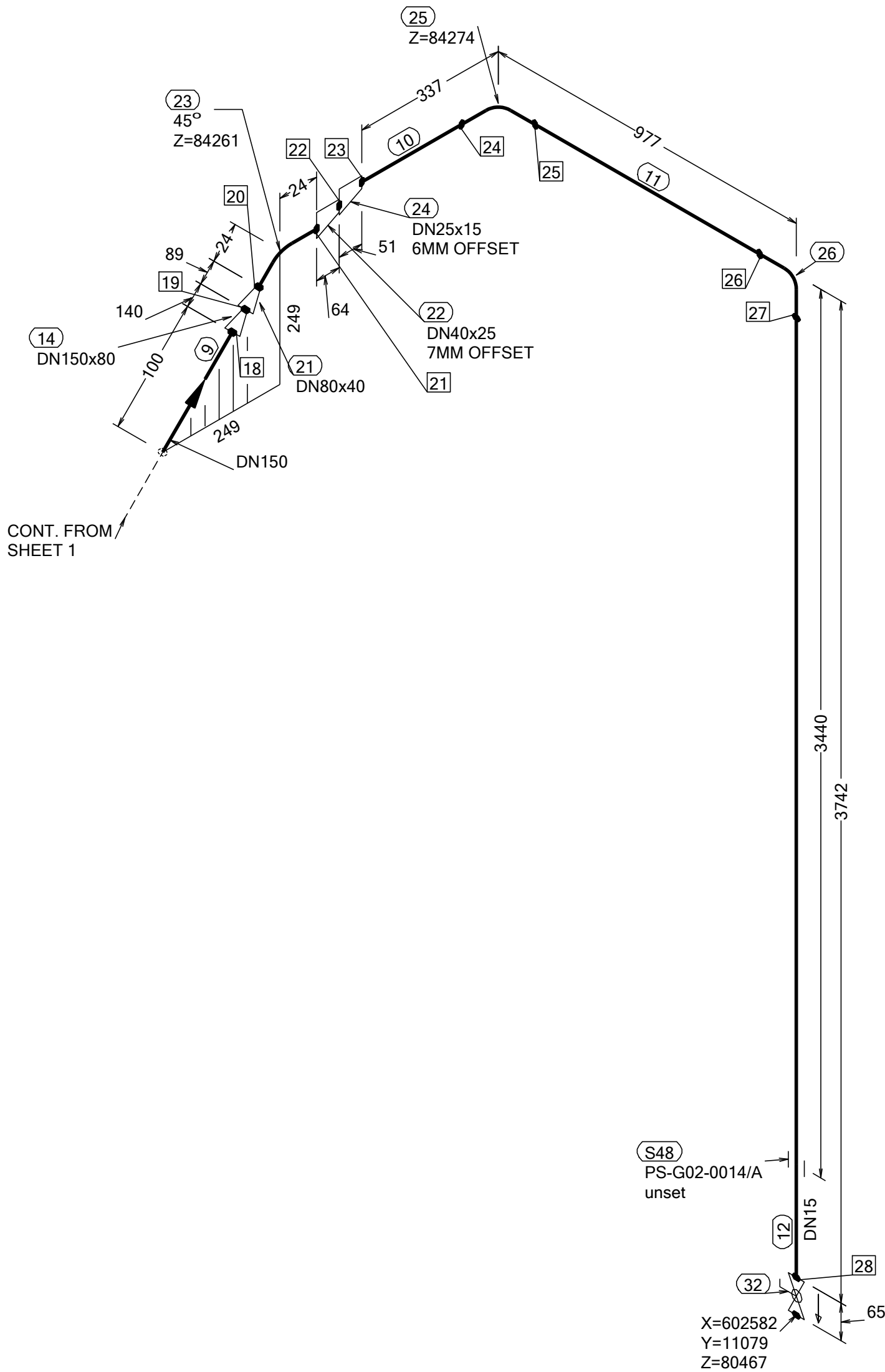
PT NO	COMPONENT DESCRIPTION	DN	MATERIAL	QTY (mm)	REMARKS
PIPE					
1	PIPE, SS-EN 10217-7, TC1, 168.3x2.0	150	EN 1.4404	1825	
2	PIPE, SS-EN 10217-7, TC1, 168.3x2.0	150	EN 1.4404	399	
3	PIPE, SS-EN 10217-7, TC1, 168.3x2.0	150	EN 1.4404	2372	
4	PIPE, SS-EN 10217-7, TC1, 168.3x2.0	150	EN 1.4404	3212	
5	PIPE, SS-EN 10217-7, TC1, 168.3x2.0	150	EN 1.4404	4464	
6	PIPE, SS-EN 10217-7, TC1, 168.3x2.0	150	EN 1.4404	252	
7	PIPE, SS-EN 10217-7, TC1, 168.3x2.0	150	EN 1.4404	6185	
8	PIPE, SS-EN 10217-7, TC1, 168.3x2.0	150	EN 1.4404	500	
FITTINGS					
13	TEE EQUAL, SS-EN 10253-4, TYPE A, 168.3x2.0 / 168.3x2.0	150 x 150	EN 1.4404	1	
15	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 168.3x2.0	150	EN 1.4404	1	
16	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 168.3x2.0	150	EN 1.4404	1	
17	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 168.3x2.0	150	EN 1.4404	1	
18	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 168.3x2.0	150	EN 1.4404	1	
19	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 168.3x2.0	150	EN 1.4404	1	
20	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 168.3x2.0	150	EN 1.4404	1	
FLANGES					
27	LOOSE FLANGE, SS-EN 1092-1, TYP 02, PN16	150		1	
28	WELDING RING WITH COLLAR, SS-EN 1092-1 TYPE 35, PN16	150		1	
29	FLANGE WN, SS-EN 1092-1, TYPE 11, PN16	150		1	
30	FLANGE WN, SS-EN 1092-1, TYPE 11, PN16	150		1	
GASKETS					
31	GASKET, EN 1514-1, TYPE XXX, T=1,5mm	150	EXPANDED GRAPHITE	1	

PT NO	COMPONENT DESCRIPTION	DN	MATERIAL	QTY (mm)	REMARKS
GASKETS					
33	GASKET, EN 1514-1, TYPE XXX, T=1,5mm	150	EXPANDED GRAPHITE	1	
BOLTS					
34	HEXAGONAL NUT, M6M, ISO 4032	20	EN 1515-4, A4, HV≥250	8	
35	WASHER, BRB, ISO 7089	20	EN 1515-4, A4-70	16	
36	90 mm HEXAGONAL BOLT, M6S, ISO 4017	20	EN 1515-4, A4-70	8	
40	HEXAGONAL NUT, M6M, ISO 4032	20	EN 1515-4, A4, HV≥250	8	
41	WASHER, BRB, ISO 7089	20	EN 1515-4, A4-70	16	
42	80 mm HEXAGONAL BOLT, M6S, ISO 4017	20	EN 1515-4, A4-70	8	
SUPPORTS					
43	ESS Atta	150		1	
44	ESS Atta	150		1	
45	ESS Atta	150		1	
46	ESS Atta	150		1	
47	PENETRATION ATTA	150		1	

WPS See Weldlist TBN	Design Temperature 50degC	Tightening Torque For Flange Joints TBN	P&ID Drawing Number ESS-0059673	General Layout Drawing Number TBN	Calculation Report ESS-0058702	Inspection Plan TBN	Area Code G02
Quality Level For Weldign Acc To TBN	Design Pressure 10bar (g)	Bend Radius N/A	Bending Procedure N/A	Coupling Installation Procedure TBN	Pressure Test Program TBN	Alternate System Tag	Date (First Issue) 170522
Weld Joint Efficiency Factor (Longitudinal) 1,0	Test Pressure 14.3bar (g)	Insulation Specification N/A	<div><div>Title/Name EUROPEAN SPALLATION SOURCE ERIC WATER COOLING SYSTEM CWM-CWS02 OVERVIEW ESS.ACC.E02.E02.WP0001 Document Number ESS-XXXXXX8</div></div>				Scale -
Elevation (z) Acc To BCS	Quality Class MQC4-C	Insulation Thickness N/A					Format A2
	Media CWM	Allowance For Corrosion 0					Sheet 1 of 2
	Pipe Specification MQC4-W-PN16	Surface Treatment N/A					Revision

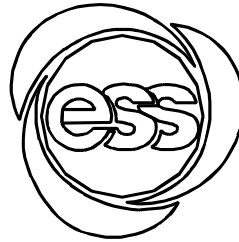
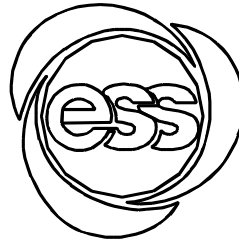
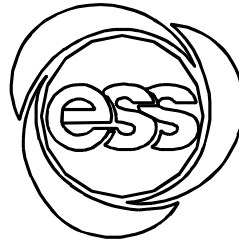
Rev	Description	Date	Drawn	Designed	Reviewed	Verified	Quality	Approved
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WELD	WPS	FABRICATION MATERIALS					
18		PT NO	COMPONENT DESCRIPTION	DN	MATERIAL	QTY (mm)	REMARKS
19							
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28							
			<u>PIPE</u>				
		9	PIPE, SS-EN 10217-7, TC1, 168.3x2.0	150	EN 1.4404	100	
		10	PIPE, SS-EN 10217-7, TC1, 21.3x2.0	15	EN 1.4404	309	
		11	PIPE, SS-EN 10217-7, TC1, 21.3x2.0	15	EN 1.4404	921	
		12	PIPE, SS-EN 10217-7, TC1, 21.3x2.0	15	EN 1.4404	3714	
			<u>FITTINGS</u>				
		14	REDUCER CONC, SS-EN 10253-4, TABLE A.5, 168.3x2.0 / 88.9x2.0	150 x 80	EN 1.4404	1	
		21	REDUCER CONC, SS-EN 10253-4, TABLE A.5, 88.9x2.0 / 48.3x2.0	80 x 40	EN 1.4404	1	
		22	REDUCER ECC, SS-EN 10253-4, TABLE A.5, 48.3x2.0 / 33.7x2.0	40 x 25	EN 1.4404	1	
		23	ELBOW 45, TYPE 3D, SS-EN 10253-4, TYPE A, 48.3x2.0	40	EN 1.4404	1	
		24	REDUCER ECC, SS-EN 10253-4, TABLE A.5, 33.7x2.0 / 21.3x2.0	25 x 15	EN 1.4404	1	
		25	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 21.3x2.0	15	EN 1.4404	1	
		26	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 21.3x2.0	15	EN 1.4404	1	
			<u>VALVES / IN-LINE ITEMS</u>				
		32	BALL VALVE, WORCESTER A44, SHORT, BW	15		1	

PT NO	COMPONENT DESCRIPTION	DN	MATERIAL	QTY (mm)	REMARKS
SUPPORTS					
48	ESS Atta	15		1	

WPS See Weldlist	Design Temperature	Tightening Torque For Flange Joints	P&ID Drawing Number	General Layout Drawing Number	Calculation Report	Inspection Plan	Area Code
TBN	50degC	TBN	ESS-0059673	TBN	ESS-0058702	TBN	G02
Quality Level For Weldign Acc To	Design Pressure	Bend Radius	Bending Procedure	Coupling Installation Procedure	Pressure Test Program	Alternate System Tag	Date (First Issue)
TBN	10bar (g)	N/A	N/A	TBN	TBN		170522
Weld Joint Efficiency Factor (Longitudinal)	Test Pressure	Insulation Specification					Scale
1,0	14.3bar (g)	N/A					-
Elevation (z) Acc To	Quality Class	Insulation Thickness					Format
BCS	MQC4-C	N/A					A2
	Media	Allowance For Corrosion					Sheet
	CWM	0					2 of 2
	Pipe Specification	Surface Treatment					Revision
	MQC4-W-PN16	N/A					
					Title/Name		
					EUROPEAN SPALLATION SOURCE ERIC		
					WATER COOLING SYSTEM		
					CWM-CWS02 OVERVIEW		
					ESS.ACC.E02.E02.WP0001		
					Document Number		
					ESS-XXXXXX8		

Rev	Description	Date	Drawn	Designed	Reviewed	Verified	Quality	Approved
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