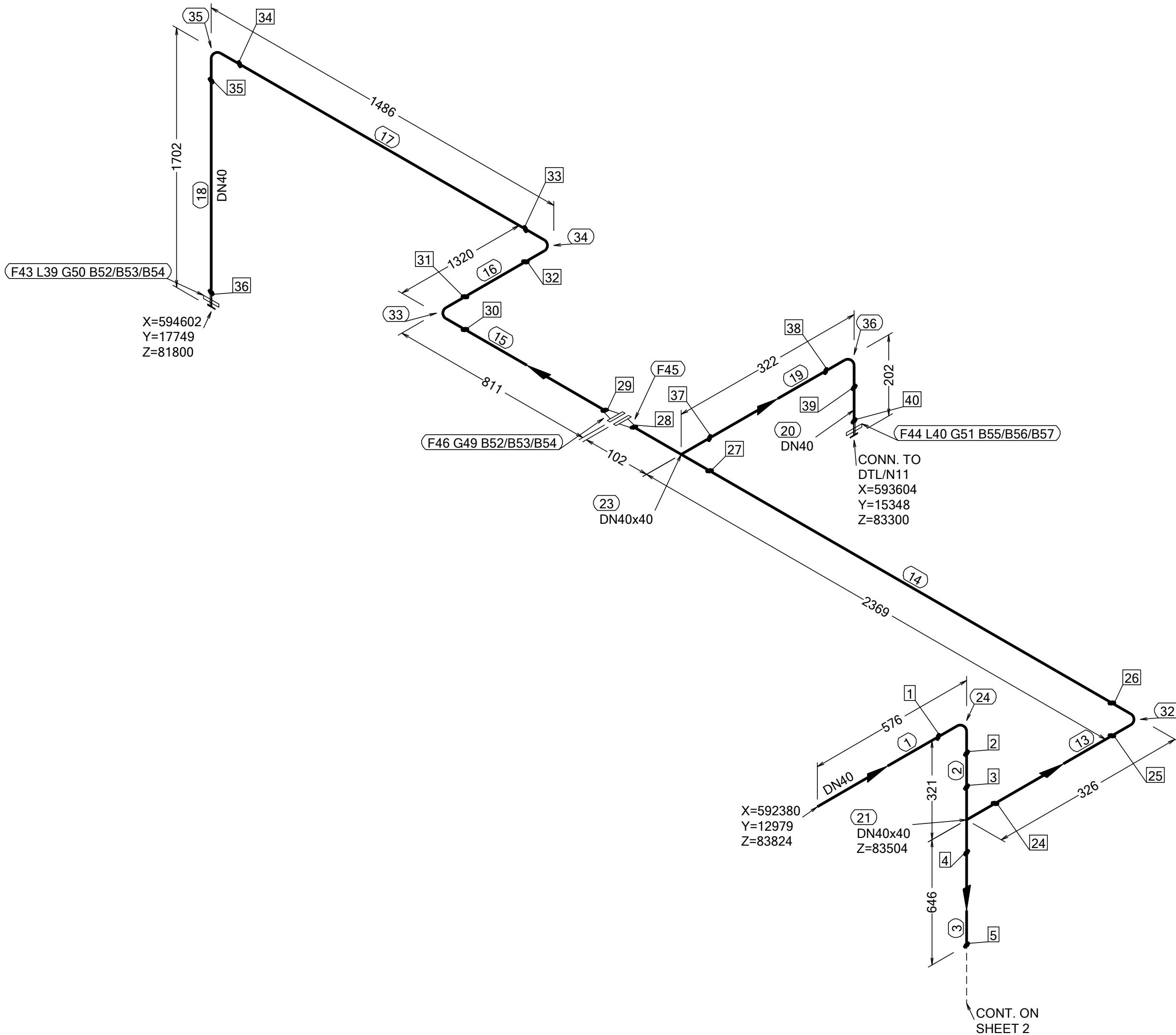
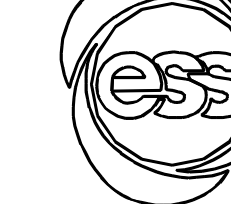


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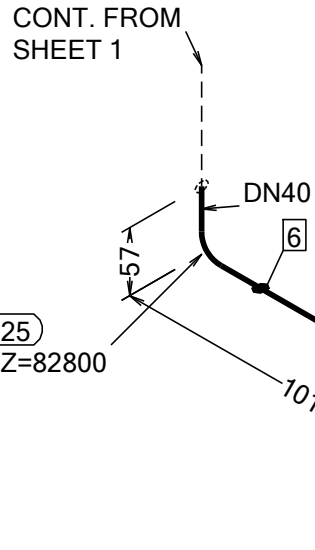
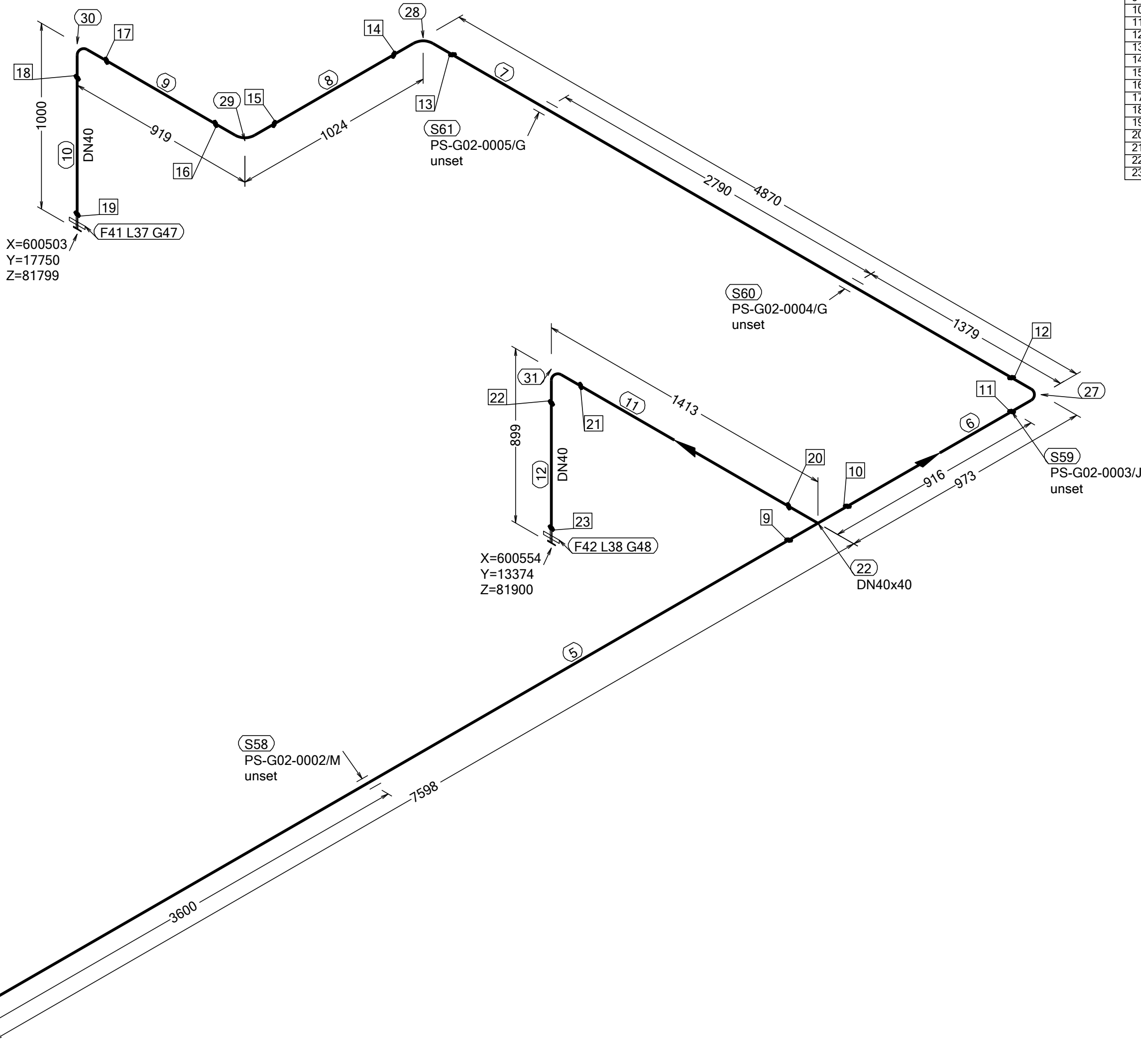
WELD	WPS	FABRICATION MATERIALS					
1		PT	COMPONENT DESCRIPTION	DN	MATERIAL	QTY	REMARKS
2		NO				(mm)	
3							
4							
5			PIPE				
24							
25		1	PIPE, SS-EN 10217-7, TC1, 48.3x2.0	40	EN 1.4404	519	
26		2	PIPE, SS-EN 10217-7, TC1, 48.3x2.0	40	EN 1.4404	207	
27		3	PIPE, SS-EN 10217-7, TC1, 48.3x2.0	40	EN 1.4404	589	
28		13	PIPE, SS-EN 10217-7, TC1, 48.3x2.0	40	EN 1.4404	212	
29		14	PIPE, SS-EN 10217-7, TC1, 48.3x2.0	40	EN 1.4404	2255	
30		15	PIPE, SS-EN 10217-7, TC1, 48.3x2.0	40	EN 1.4404	709	
31		16	PIPE, SS-EN 10217-7, TC1, 48.3x2.0	40	EN 1.4404	1206	
32		17	PIPE, SS-EN 10217-7, TC1, 48.3x2.0	40	EN 1.4404	1372	
33		18	PIPE, SS-EN 10217-7, TC1, 48.3x2.0	40	EN 1.4404	1600	
34		19	PIPE, SS-EN 10217-7, TC1, 48.3x2.0	40	EN 1.4404	208	
35		20	PIPE, SS-EN 10217-7, TC1, 48.3x2.0	40	EN 1.4404	100	
36							
37			FITTINGS				
38							
39		21	TEE EQUAL, SS-EN 10253-4, TYPE A, 48.3x2.0 / 48.3x2.0	40 x 40	EN 1.4404	1	
40		23	TEE EQUAL, SS-EN 10253-4, TYPE A, 48.3x2.0 / 48.3x2.0	40 x 40	EN 1.4404	1	
		24	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 48.3x2.0	40	EN 1.4404	1	
		32	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 48.3x2.0	40	EN 1.4404	1	
		33	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 48.3x2.0	40	EN 1.4404	1	
		34	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 48.3x2.0	40	EN 1.4404	1	
		35	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 48.3x2.0	40	EN 1.4404	1	
		36	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 48.3x2.0	40	EN 1.4404	1	
			FLANGES				
		39	WELDING RING WITH COLLAR, SS-EN 1092-1 TYPE 35, PN40	40		1	
		40	WELDING RING WITH COLLAR, SS-EN 1092-1 TYPE 35, PN40	40		1	
		43	LOOSE FLANGE, SS-EN 1092-1, TYP 02, PN40	40		1	
		44	LOOSE FLANGE, SS-EN 1092-1, TYP 02, PN40	40		1	
		45	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	40		1	
		46	FLANGE WN, SS-EN 1092-1, TYPE 11, PN40	40		1	

PT NO	COMPONENT DESCRIPTION	DN	MATERIAL	QTY (mm)	REMARKS
GASKETS					
49	GASKET, EN 1514-1, TYPE XXX, T=1,5mm	40	EXPANDED GRAPHITE	1	
50	GASKET, EN 1514-1, TYPE XXX, T=1,5mm	40	EXPANDED GRAPHITE	1	
51	GASKET, EN 1514-1, TYPE XXX, T=1,5mm	40	EXPANDED GRAPHITE	1	
BOLTS					
52	HEXAGONAL NUT, M6M, ISO 4032	16	EN 1515-4, A4, HV≥250	8	
53	WASHER, BRB, ISO 7089	16	EN 1515-4, A4-70	16	
54	65 mm HEXAGONAL BOLT, M6S, ISO 4017	16	EN 1515-4, A4-70	8	
55	HEXAGONAL NUT, M6M, ISO 4032	16	EN 1515-4, A4	4	
56	WASHER, BRB, ISO 7089	16	EN 1515-4, A4, HV≥250	8	
57	80 mm HEXAGONAL BOLT, M6S, ISO 4017	16	EN 1515-4, A4-70	4	

WPS See Weldlist TBN	Design Temperature 50degC	Tightening Torque For Flange Joints TBN	P&ID Drawing Number ESS-0060416	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 0040-CWS-0001-M00523-02	Date (First Issue) 170523-02
Weld Joint Efficiency Factor (Longitudinal) 1,0	Test Pressure 14.3bar (g)	Insulation Specification N/A		Title/Name EUROPEAN SPALLATION SOURCE ERIC WATER COOLING SYSTEM CWM DIW SUPPLY FOR FEB ESS.ACC.E02.WP0005	Document Number ESS-XXXXXX5	Scale - Format A2 Sheet 1 of 2 Revision A1	
Elevation (z) Acc To BCS	Quality Class MQC4-C	Insulation Thickness N/A					
	Media CWM	Allowance For Corrosion 0					
	Pipe Specification MQC4-W-PN16	Surface Treatment N/A					

Rev	Description	Date	Drawn	Designed	Reviewed	Verified	Quality	Approved
A1	ISSUED FOR CDR	170522	FRPE	FRPE	AKCO	ANLU		

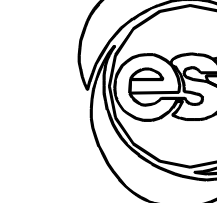
N (Y)



WELD NO	WPS
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FABRICATION MATERIALS					
PT NO	COMPONENT DESCRIPTION	DN	MATERIAL	QTY (mm)	REMARKS
PIPE					
4	PIPE, SS-EN 10217-7, TC1, 48.3x2.0	40	EN 1.4404	903	
5	PIPE, SS-EN 10217-7, TC1, 48.3x2.0	40	EN 1.4404	7484	
6	PIPE, SS-EN 10217-7, TC1, 48.3x2.0	40	EN 1.4404	859	
7	PIPE, SS-EN 10217-7, TC1, 48.3x2.0	40	EN 1.4404	4756	
8	PIPE, SS-EN 10217-7, TC1, 48.3x2.0	40	EN 1.4404	910	
9	PIPE, SS-EN 10217-7, TC1, 48.3x2.0	40	EN 1.4404	805	
10	PIPE, SS-EN 10217-7, TC1, 48.3x2.0	40	EN 1.4404	898	
11	PIPE, SS-EN 10217-7, TC1, 48.3x2.0	40	EN 1.4404	1299	
12	PIPE, SS-EN 10217-7, TC1, 48.3x2.0	40	EN 1.4404	797	
FITTINGS					
22	TEE EQUAL, SS-EN 10253-4, TYPE A, 48.3x2.0 / 48.3x2.0	40 x 40	EN 1.4404	1	
25	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 48.3x2.0	40	EN 1.4404	1	
26	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 48.3x2.0	40	EN 1.4404	1	
27	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 48.3x2.0	40	EN 1.4404	1	
28	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 48.3x2.0	40	EN 1.4404	1	
29	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 48.3x2.0	40	EN 1.4404	1	
30	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 48.3x2.0	40	EN 1.4404	1	
31	ELBOW 90, TYPE 3D, SS-EN 10253-4, TYPE A, 48.3x2.0	40	EN 1.4404	1	
FLANGES					
37	WELDING RING WITH COLLAR, SS-EN 1092-1 TYPE 35, PN40	40		1	
38	WELDING RING WITH COLLAR, SS-EN 1092-1 TYPE 35, PN40	40		1	
41	LOOSE FLANGE, SS-EN 1092-1, TYP 02, PN40	40		1	
42	LOOSE FLANGE, SS-EN 1092-1, TYP 02, PN40	40		1	

ERECTION MATERIALS					
PT NO	COMPONENT DESCRIPTION	DN	MATERIAL	QTY (mm)	REMARKS
GASKETS					
47	GASKET, EN 1514-1, TYPE XXX, T=1,5mm	40	EXPANDED GRAPHITE	1	
48	GASKET, EN 1514-1, TYPE XXX, T=1,5mm	40	EXPANDED GRAPHITE	1	
SUPPORTS					
58	ESS Atta	40		1	
59	ESS Atta	40		1	
60	ESS Atta	40		1	
61	ESS Atta	40		1	

WPS See Weldlist TBN	Design Temperature 50degC	Tightening Torque For Flange Joints TBN	P&ID Drawing Number ESS-0060416	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 0040-CWS-0001-M052-G02	Date (First Issue) 170522
Weld Joint Efficiency Factor (Longitudinal) 1,0	Test Pressure 14.3bar (g)	Insulation Specification N/A			Title/Name EUROPEAN SPALLATION SOURCE ERIC WATER COOLING SYSTEM CWM DIW SUPPLY FOR FEB ESS.ACC.E02.WP0005		Scale -
Elevation (z) Acc To BCS	Quality Class MQC4-C	Insulation Thickness N/A					Format A2
	Media CWM	Allowance For Corrosion 0					Sheet 2 of 2
	Pipe Specification MQC4-W-PN16	Surface Treatment N/A					Revision A1
					Document Number ESS-XXXXXX5		

Rev	Description	Date	Drawn	Designed	Reviewed	Verified	Quality	Approved
A1	ISSUED FOR CDR	170522	FRPE	FRPE	AKCO	ANLU		