

REBIS
AutoPIPE 6.20 RESULT PAGE 1

[illegible]

REBIS Industrial Workgroup Software
1600 Riviera Ave., Suite 300
Walnut Creek, CA 94596

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**
** AUTOPIPE SYSTEM INFORMATION **
**

SYSTEM NAME : 79319836_KOMPLETT

PROJECT ID : ASU KOSICE

DESCRIPTION :

PREPARED BY : _____
WEGSTEIN

CHECKED BY : _____
FRICKHOEFER

PIPING CODE : B31.3
VERTICAL AXIS : Z
AMBIENT TEMPERATURE : 20.0 deg C
COMPONENT LIBRARY : HANAU_AL
MATERIAL LIBRARY : AUTOB313
MODEL REVISION NUMBER : 5

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D I S P L A C E M E N T S

Point name	Load combination	TRANSLATIONS (mm)			ROTATIONS (deg)		
		X	Y	Z	X	Y	Z
*** Segment A begin *** Line # 79319836							
A00	T1	-3.700	3.700	-171.300	0.000	0.000	0.000
A01	T1	-4.042	4.048	-171.296	0.005	-0.008	0.005
A02 N	T1	-4.042	4.048	-171.296	0.005	-0.008	0.005
A02 F	T1	-4.488	4.464	-171.861	0.026	-0.047	0.032
A03 N	T1	-11.084	6.405	-181.161	-0.244	-0.300	0.252
A03 F	T1	-11.922	8.262	-180.263	-0.558	-0.486	0.333
A04 N	T1	-2.804	39.794	-129.052	-1.114	-0.507	0.842
A04 F	T1	0.778	40.965	-124.854	-1.175	-0.438	1.190
A05 N	T1	37.410	17.050	-107.176	-1.131	-0.421	1.486
A05 F	T1	39.097	17.661	-106.666	-1.019	-0.515	1.513
A06	T1	31.705	31.037	-109.611	-0.995	-0.594	1.541
A07	T1	30.653	32.773	-109.995	-0.998	-0.612	1.546
A08 N	T1	30.653	32.774	-109.996	-0.998	-0.612	1.546
A08 F	T1	30.265	33.204	-110.187	-1.008	-0.652	1.551
A09	T1	30.218	33.239	-110.215	-1.008	-0.652	1.551
A10	T1	27.900	34.961	-111.585	-1.008	-0.653	1.551
A11	T1	25.898	30.981	-114.501	-1.008	-0.653	1.551
A12	T1	24.610	28.410	-116.399	-1.016	-0.677	1.554
A13 N	T1	17.432	13.727	-127.752	-1.055	-0.779	1.551
A13 F	T1	18.918	7.339	-130.816	-1.092	-0.996	1.511
A14	T1	23.453	3.962	-130.599	-1.118	-1.052	1.497
A15	T1	31.690	-2.156	-130.486	-1.053	-1.062	1.485
A16 N	T1	34.301	-4.091	-130.517	-1.036	-1.062	1.478
A16 F	T1	35.758	-6.568	-131.760	-1.010	-1.077	1.441
A17 N	T1	37.731	-26.853	-148.228	-0.889	-1.005	1.355

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DISPLACEMENTS

Point name	Load combination	TRANSLATIONS (mm)			ROTATIONS (deg)		
		X	Y	Z	X	Y	Z
A17 F	T1	36.954	-29.310	-150.716	-0.844	-0.900	1.277
A18 N	T1	32.690	-34.434	-157.149	-0.808	-0.841	1.237
A18 F	T1	29.242	-34.972	-160.298	-0.647	-0.575	1.128
A19 N	T1	10.384	-2.449	-173.996	-0.540	-0.136	0.509
A19 F	T1	9.601	-2.002	-175.877	-0.647	-0.089	0.387
A21	T1	8.953	-3.521	-178.379	-0.666	-0.071	0.354
*** Segment A end *** Line # 79319836							
*** Segment B begin *** Line # 79319836							
A14	T1	23.453	3.962	-130.599	-1.118	-1.052	1.497
B01	T1	25.445	7.458	-125.368	-1.814	-1.438	1.323
*** Segment B end *** Line # 79319836							
*** Segment C begin *** Line # 79319836							
A15	T1	31.690	-2.156	-130.486	-1.053	-1.062	1.485
C01	T1	33.276	-0.018	-127.835	-1.053	-1.062	1.485
*** Segment C end *** Line # 79319836							
*** Segment D begin *** Line # 79319836							
D00	T1	0.000	0.000	0.000	0.000	0.000	0.000
D01	T1	0.190	-0.190	0.000	0.000	0.000	0.000
D02 N	T1	0.406	-0.402	-0.110	-0.151	-0.050	0.000
D02 F	T1	0.750	-0.193	-0.266	-0.471	-0.132	-0.002
D03	T1	0.851	0.373	0.363	-0.663	-0.155	0.020
D04	T1	0.953	0.889	1.095	-0.848	-0.160	0.040
D05 N	T1	1.113	1.607	2.329	-1.112	-0.148	0.065
D05 F	T1	1.170	3.378	3.066	-1.678	-0.020	0.074
D06 N	T1	9.622	108.503	-3.346	-5.070	0.481	0.555
D06 F	T1	9.477	117.681	-10.551	-5.280	0.474	0.607

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D I S P L A C E M E N T S

Point name	Load combination	TRANSLATIONS (mm)			ROTATIONS (deg)		
		X	Y	Z	X	Y	Z
D07 N	T1	5.347	119.659	-38.149	-5.314	0.019	0.625
D07 F	T1	4.784	111.382	-43.886	-5.080	-0.432	0.592
D08 N	T1	26.678	33.809	-40.322	-4.625	-2.222	0.430
D08 F	T1	30.473	25.317	-47.711	-4.635	-2.581	0.395
D09 N	T1	30.795	22.906	-62.503	-4.518	-2.812	0.406
D09 F	T1	31.762	21.238	-69.406	-4.348	-2.928	0.451
D10 N	T1	32.659	20.918	-67.603	-4.280	-2.914	0.482
D10 F	T1	33.577	19.036	-74.394	-4.224	-2.781	0.578
D11 N	T1	33.515	17.264	-83.491	-4.175	-2.653	0.635
D11 F	T1	32.194	16.187	-93.261	-3.930	-2.365	0.787
D12 N	T1	30.834	16.971	-95.295	-3.716	-2.202	0.850
D12 F	T1	28.955	15.902	-103.548	-3.224	-2.026	0.983
B01	T1	25.445	7.458	-125.368	-1.814	-1.438	1.323
*** Segment D end *** Line # 79319836							
*** Segment F begin *** Line # 79319836							
F00	T1	2.299	-3.998	-203.800	0.000	0.000	0.000
F01 N	T1	2.300	-4.000	-203.800	0.000	0.000	0.000
F01 F	T1	2.672	-4.941	-202.983	-0.072	0.018	0.029
F02	T1	2.671	-4.945	-202.970	-0.072	0.018	0.029
F03	T1	2.624	-5.130	-202.443	-0.083	0.021	0.031
F04	T1	2.371	-6.153	-200.646	-0.171	0.039	0.044
F05	T1	2.268	-6.621	-200.090	-0.201	0.042	0.048
F06 N	T1	2.132	-7.304	-199.406	-0.240	0.045	0.053
F06 F	T1	2.394	-7.804	-197.866	-0.494	0.077	0.099
F07 N	T1	5.513	-6.270	-189.001	-0.640	0.019	0.155
F07 F	T1	5.758	-6.133	-188.248	-0.664	0.013	0.191

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D I S P L A C E M E N T S

Point name	Load combination	TRANSLATIONS (mm)			ROTATIONS (deg)		
		X	Y	Z	X	Y	Z
F08 N	T1	8.458	-4.240	-180.042	-0.680	-0.052	0.269
F08 F	T1	8.848	-3.785	-178.832	-0.669	-0.067	0.348
A21	T1	8.953	-3.521	-178.379	-0.666	-0.071	0.354

*** Segment F end *** Line # 79319836

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R E S T R A I N T R E A C T I O N S

Point name	Load combination	FORCES (N)				MOMENTS (Nm)			
		X	Y	Z	Result	X	Y	Z	Result
A00	Anchor T1	125	-459	415	631	139	-289	188	372
D00	Anchor T1	53	221	-1005	1030	-426	-233	-22	486
F01 N	Anchor T1	-178	238	589	660	-421	310	85	530

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G L O B A L F O R C E S & M O M E N T S

Point name	Load combination	X	FORCES (N Y	Z	Result	X	MOMENTS (Nm Y	Z	Result
*** Segment A begin *** Line # 79319836									
A00	T1	-125	459	-415	631	-139	289	-188	372
A01	T1	-125	459	-415	631	-177	252	-218	377
A02 N	T1	-125	459	-415	631	-177	252	-218	377
A02 F	T1	-125	459	-415	631	-151	226	-253	372
A03 N	T1	-125	459	-415	631	958	529	-253	1124
A03 F	T1	-125	459	-415	631	987	507	-286	1146
A04 N	T1	-125	459	-415	631	243	-323	-979	1059
A04 F	T1	-125	459	-415	631	166	-320	-952	1018
A05 N	T1	-125	459	-415	631	-322	266	-159	447
A05 F	T1	-125	459	-415	631	-293	326	-101	450
A06	T1	-125	459	-415	631	58	421	-101	437
A07	T1	-125	459	-415	631	104	434	-101	458
A08 N	T1	-125	459	-415	631	104	434	-101	458
A08 F	T1	-125	459	-415	631	119	439	-100	465
A09	T1	-125	459	-415	631	121	439	-100	466
A10	T1	-125	459	-415	631	199	469	-91	518
A11	T1	-125	459	-415	631	225	508	-56	559
A12	T1	-125	459	-415	631	242	533	-33	586
A13 N	T1	-125	459	-415	631	335	676	97	761
A13 F	T1	-125	459	-415	631	316	759	194	845
A14 -	T1	-125	459	-415	631	253	822	282	905
A14 +	T1	-178	238	589	660	-627	233	54	671
A15 -	T1	-178	238	589	660	-464	71	169	499
A15 +	T1	-178	238	589	660	-464	71	169	499
A16 N	T1	-178	238	589	660	-413	19	205	461

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G L O B A L F O R C E S & M O M E N T S

Point name	Load combination	FORCES (N)				MOMENTS (Nm)			
		X	Y	Z	Result	X	Y	Z	Result
A16 F	T1	-178	238	589	660	-385	-43	239	455
A17 N	T1	-178	238	589	660	-367	-549	448	798
A17 F	T1	-178	238	589	660	-390	-610	466	860
A18 N	T1	-178	238	589	660	-510	-731	478	1011
A18 F	T1	-178	238	589	660	-531	-762	484	1047
A19 N	T1	-178	238	589	660	314	-130	484	591
A19 F	T1	-178	238	589	660	287	-156	487	586
A21	T1	-178	238	589	660	180	-246	491	578
*** Segment A end *** Line # 79319836									
*** Segment B begin *** Line # 79319836									
A14	T1	53	221	-1005	1030	880	588	227	1083
B01	T1	53	221	-1005	1030	772	476	197	928
*** Segment B end *** Line # 79319836									
*** Segment C begin *** Line # 79319836									
A15	T1	0	0	0	0	0	0	0	0
C01	T1	0	0	0	0	0	0	0	0
*** Segment C end *** Line # 79319836									
*** Segment D begin *** Line # 79319836									
D00	T1	-53	-221	1005	1030	426	233	22	486
D01 -	T1	-53	-221	1005	1030	376	183	8	419
D01 +	T1	-53	-221	1005	1030	376	183	8	419
D02 N	T1	-53	-221	1005	1030	321	127	-7	345
D02 F	T1	-53	-221	1005	1030	331	23	-30	333
D03	T1	-53	-221	1005	1030	411	-16	-34	413
D04	T1	-53	-221	1005	1030	476	-47	-37	480
D05 N	T1	-53	-221	1005	1030	556	-85	-42	564

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G L O B A L F O R C E S & M O M E N T S

Point name	Load combination	FORCES (N)				MOMENTS (Nm)			
		X	Y	Z	Result	X	Y	Z	Result
D05 F	T1	-53	-221	1005	1030	587	-103	-44	597
D06 N	T1	-53	-221	1005	1030	220	-16	-44	225
D06 F	T1	-53	-221	1005	1030	130	58	-32	146
D07 N	T1	-53	-221	1005	1030	-152	339	15	372
D07 F	T1	-53	-221	1005	1030	-199	403	26	450
D08 N	T1	-53	-221	1005	1030	7	354	26	355
D08 F	T1	-53	-221	1005	1030	-35	286	9	288
D09 N	T1	-53	-221	1005	1030	-149	168	-23	226
D09 F	T1	-53	-221	1005	1030	-147	30	-53	159
D10 N	T1	-53	-221	1005	1030	-71	-45	-66	107
D10 F	T1	-53	-221	1005	1030	-69	-183	-96	218
D11 N	T1	-53	-221	1005	1030	-143	-259	-116	318
D11 F	T1	-53	-221	1005	1030	-279	-260	-124	400
D12 N	T1	-53	-221	1005	1030	-354	-184	-111	414
D12 F	T1	-53	-221	1005	1030	-490	-184	-118	536
B01	T1	-53	-221	1005	1030	-772	-476	-197	928
*** Segment D end *** Line # 79319836									
*** Segment F begin *** Line # 79319836									
F00	T1	0	0	0	0	0	0	0	0
F01 N-	T1	0	0	0	0	0	0	0	0
F01 N+	T1	178	-238	-589	660	421	-310	-85	530
F01 F	T1	178	-238	-589	660	592	-203	-77	630
F02	T1	178	-238	-589	660	593	-202	-77	631
F03	T1	178	-238	-589	660	625	-178	-77	654
F04	T1	178	-238	-589	660	736	-95	-77	746
F05	T1	178	-238	-589	660	770	-69	-77	777

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G L O B A L F O R C E S & M O M E N T S

Point name	Load combination	FORCES (N)				MOMENTS (Nm)			
		X	Y	Z	Result	X	Y	Z	Result
F06 N	T1	178	-238	-589	660	812	-38	-77	817
F06 F	T1	178	-238	-589	660	774	24	-114	783
F07 N	T1	178	-238	-589	660	313	262	-348	537
F07 F	T1	178	-238	-589	660	277	271	-363	531
F08 N	T1	178	-238	-589	660	-106	281	-483	569
F08 F	T1	178	-238	-589	660	-160	262	-491	580
A21	T1	178	-238	-589	660	-180	246	-491	578

*** Segment F end *** Line # 79319836

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ASME B31.3b (2001) CODE COMPLIANCE									
		(Moments in Nm)			(Stress in N/mm2)				
Point	Load	In-Pl.	Out-Pl.	Torsion	S.I.F	Eq. Load	Code	Code	
name	combination	Moment	Moment	Moment	In Out	no. type	Stress	Allow.	
*** Segment A begin *** Line # 79319836									
A00	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	106	188	303	1.00 1.00	(17) DISP	4	147	
A01	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	53	218	303	1.00 1.00	(17) DISP	7	147	
A02 N-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	53	218	303	1.00 1.00	(17) DISP	7	147	
A02 N+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.96 1.63	(18) SUST	0	71	
	Cold to T1	53	218	303	1.96 1.63	(17) DISP	9	147	
A02 F-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.96 1.63	(18) SUST	0	71	
	Cold to T1	53	267	253	1.96 1.63	(17) DISP	10	147	
A02 F+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	226	151	253	1.00 1.00	(17) DISP	7	147	
A03 N-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	529	958	253	1.00 1.00	(17) DISP	21	147	
A03 N+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.96 1.63	(18) SUST	0	71	
	Cold to T1	1052	304	253	1.96 1.63	(17) DISP	41	147	
A03 F-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.96 1.63	(18) SUST	0	71	
	Cold to T1	1057	315	313	1.96 1.63	(17) DISP	41	147	
A03 F+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	1057	315	313	1.00 1.00	(17) DISP	22	147	
A04 N-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	57	1010	313	1.00 1.00	(17) DISP	20	147	
A04 N+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.95 1.63	(18) SUST	0	71	
	Cold to T1	1011	31	313	1.95 1.63	(17) DISP	38	147	

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ASME B31.3b (2001) CODE COMPLIANCE										
		(Moments in Nm)				(Stress in N/mm2)				
Point	Load	In-Pl.	Out-Pl.	Torsion	S.I.F		Eq. Load	Code	Code	
name	combination	Moment	Moment	Moment	In	Out	no. type	Stress	Allow.	
A04 F-	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.95	1.63	(18) SUST	0	71	
	Cold to T1	984	259	26	1.95	1.63	(17) DISP	37	147	
A04 F+	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	343	958	26	1.00	1.00	(17) DISP	19	147	
A05 N-	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	416	162	26	1.00	1.00	(17) DISP	9	147	
A05 N+	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.96	1.63	(18) SUST	0	71	
	Cold to T1	416	162	26	1.96	1.63	(17) DISP	16	147	
A05 F-	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.96	1.63	(18) SUST	0	71	
	Cold to T1	437	23	101	1.96	1.63	(17) DISP	16	147	
A05 F+	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	326	293	101	1.00	1.00	(17) DISP	9	147	
A06	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	421	58	101	1.00	1.00	(17) DISP	8	147	
A07	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	434	104	101	1.00	1.00	(17) DISP	16	147	
A08 N-	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	434	104	101	1.00	1.00	(17) DISP	16	147	
A08 N+	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.78	1.48	(18) SUST	0	71	
	Cold to T1	381	233	101	1.78	1.48	(17) DISP	27	147	
A08 F-	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.78	1.48	(18) SUST	0	71	
	Cold to T1	394	244	39	1.78	1.48	(17) DISP	28	147	
A08 F+	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	394	244	39	1.00	1.00	(17) DISP	16	147	
A09	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	396	244	39	1.00	1.00	(17) DISP	16	147	

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ASME B31.3b (2001) CODE COMPLIANCE									
		(Moments in Nm)			(Stress in N/mm2)				
Point	Load	In-Pl.	Out-Pl.	Torsion	S.I.F		Eq. Load	Code	Code
name	combination	Moment	Moment	Moment	In	Out	no. type	Stress	Allow.
A11	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	518	2	208	1.00	1.00	(17) DISP	20	147
A12	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	548	22	208	1.00	1.00	(17) DISP	11	147
A13 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	715	156	208	1.00	1.00	(17) DISP	14	147
A13 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.96	1.63	(18) SUST	0	71
	Cold to T1	156	715	208	1.96	1.63	(17) DISP	23	147
A13 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.96	1.63	(18) SUST	0	71
	Cold to T1	268	253	760	1.96	1.63	(17) DISP	19	147
A13 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	313	194	760	1.00	1.00	(17) DISP	16	147
A14 -	Max P						(3a) HOOP	0	71
	Max P	0	0		1.63	1.83	(18) SUST	0	71
	Cold to T1	316	376	760	1.63	1.83	(17) DISP	22	147
A14 +	Max P						(3a) HOOP	0	71
	Max P	0	0		1.63	1.83	(18) SUST	0	71
	Cold to T1	107	601	278	1.63	1.83	(17) DISP	22	147
A15 -	Max P						(3a) HOOP	0	71
	Max P	0	0		1.63	1.83	(18) SUST	0	71
	Cold to T1	169	379	278	1.63	1.83	(17) DISP	15	147
A15 +	Max P						(3a) HOOP	0	71
	Max P	0	0		1.63	1.83	(18) SUST	0	71
	Cold to T1	169	379	278	1.63	1.83	(17) DISP	15	147
A16 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	305	205	278	1.00	1.00	(17) DISP	9	147
A16 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.96	1.63	(18) SUST	0	71
	Cold to T1	166	328	278	1.96	1.63	(17) DISP	13	147
A16 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.96	1.63	(18) SUST	0	71
	Cold to T1	207	25	404	1.96	1.63	(17) DISP	11	147

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ASME B31.3b (2001) CODE COMPLIANCE											
Point name	Load combination	(Moments in Nm)			S.I.F		(Stress in N/mm2)		Eq. Load no. type	Code Stress	Code Allow.
		In-Pl. Moment	Out-Pl. Moment	Torsion Moment	In	Out					
A16 F+	Max P						(3a)	HOOP		0	71
	Max P	0	0		1.00	1.00	(18)	SUST		0	71
	Cold to T1	43	204	404	1.00	1.00	(17)	DISP		9	147
A17 N-	Max P						(3a)	HOOP		0	71
	Max P	0	0		1.00	1.00	(18)	SUST		0	71
	Cold to T1	549	414	404	1.00	1.00	(17)	DISP		15	147
A17 N+	Max P						(3a)	HOOP		0	71
	Max P	0	0		1.96	1.63	(18)	SUST		0	71
	Cold to T1	434	533	404	1.96	1.63	(17)	DISP		24	147
A17 F-	Max P						(3a)	HOOP		0	71
	Max P	0	0		1.96	1.63	(18)	SUST		0	71
	Cold to T1	451	724	114	1.96	1.63	(17)	DISP		28	147
A17 F+	Max P						(3a)	HOOP		0	71
	Max P	0	0		1.00	1.00	(18)	SUST		0	71
	Cold to T1	707	477	114	1.00	1.00	(17)	DISP		16	147
A18 N-	Max P						(3a)	HOOP		0	71
	Max P	0	0		1.00	1.00	(18)	SUST		0	71
	Cold to T1	877	490	114	1.00	1.00	(17)	DISP		19	147
A18 N+	Max P						(3a)	HOOP		0	71
	Max P	0	0		1.96	1.63	(18)	SUST		0	71
	Cold to T1	877	490	114	1.96	1.63	(17)	DISP		36	147
A18 F-	Max P						(3a)	HOOP		0	71
	Max P	0	0		1.96	1.63	(18)	SUST		0	71
	Cold to T1	914	163	484	1.96	1.63	(17)	DISP		36	147
A18 F+	Max P						(3a)	HOOP		0	71
	Max P	0	0		1.00	1.00	(18)	SUST		0	71
	Cold to T1	762	531	484	1.00	1.00	(17)	DISP		20	147
A19 N-	Max P						(3a)	HOOP		0	71
	Max P	0	0		1.00	1.00	(18)	SUST		0	71
	Cold to T1	130	314	484	1.00	1.00	(17)	DISP		11	147
A19 N+	Max P						(3a)	HOOP		0	71
	Max P	0	0		1.96	1.63	(18)	SUST		0	71
	Cold to T1	157	301	484	1.96	1.63	(17)	DISP		14	147
A19 F-	Max P						(3a)	HOOP		0	71
	Max P	0	0		1.96	1.63	(18)	SUST		0	71
	Cold to T1	120	511	260	1.96	1.63	(17)	DISP		17	147
A19 F+	Max P						(3a)	HOOP		0	71
	Max P	0	0		1.00	1.00	(18)	SUST		0	71
	Cold to T1	120	511	260	1.00	1.00	(17)	DISP		11	147

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ASME B31.3b (2001) CODE COMPLIANCE										
		(Moments in Nm)				(Stress in N/mm2)				
Point	Load	In-Pl.	Out-Pl.	Torsion	S.I.F		Eq. Load	Code	Code	
name	combination	Moment	Moment	Moment	In	Out	no. type	Stress	Allow.	
A21	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	20	515	260	1.00	1.00	(17) DISP	11	147	
*** Segment A end *** Line # 79319836										
*** Segment B begin *** Line # 79319836										
A14	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.63	1.83	(18) SUST	0	71	
	Cold to T1	209	1038	225	1.63	1.83	(17) DISP	223	147**	
	with Sus. load margin						(17)	223	218**	
B01	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	882	178	225	1.00	1.00	(17) DISP	137	147	
*** Segment B end *** Line # 79319836										
*** Segment C begin *** Line # 79319836										
*** Segment C end *** Line # 79319836										
*** Segment D begin *** Line # 79319836										
D01	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	396	8	137	1.00	1.00	(17) DISP	62	147	
D02 N-	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	317	7	137	1.00	1.00	(17) DISP	51	147	
D02 N+	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.11	1.00	(18) SUST	0	71	
	Cold to T1	80	307	137	1.11	1.00	(17) DISP	51	147	
D02 F-	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.11	1.00	(18) SUST	0	71	
	Cold to T1	40	288	163	1.11	1.00	(17) DISP	49	147	
D02 F+	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	291	13	163	1.00	1.00	(17) DISP	49	147	
D03	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	379	8	163	1.00	1.00	(17) DISP	61	147	
D04	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	451	5	163	1.00	1.00	(17) DISP	71	147	

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ASME B31.3b (2001) CODE COMPLIANCE									
		(Moments in Nm)					(Stress in N/mm2)		
Point name	Load combination	In-Pl. Moment	Out-Pl. Moment	Torsion Moment	S.I.F		Eq. Load no.	Load type	Code Stress Allow.
D05 N-	Max P						(3a)	HOOP	0 71
	Max P	0	0		1.00	1.00	(18)	SUST	0 71
	Cold to T1	540	0	163	1.00	1.00	(17)	DISP	83 147
D05 N+	Max P						(3a)	HOOP	0 71
	Max P	0	0		1.11	1.00	(18)	SUST	0 71
	Cold to T1	540	0	163	1.11	1.00	(17)	DISP	91 147
D05 F-	Max P						(3a)	HOOP	0 71
	Max P	0	0		1.11	1.00	(18)	SUST	0 71
	Cold to T1	575	154	44	1.11	1.00	(17)	DISP	97 147
D05 F+	Max P						(3a)	HOOP	0 71
	Max P	0	0		1.00	1.00	(18)	SUST	0 71
	Cold to T1	103	587	44	1.00	1.00	(17)	DISP	88 147
D06 N-	Max P						(3a)	HOOP	0 71
	Max P	0	0		1.00	1.00	(18)	SUST	0 71
	Cold to T1	16	220	44	1.00	1.00	(17)	DISP	33 147
D06 N+	Max P						(3a)	HOOP	0 71
	Max P	0	0		1.00	1.00	(18)	SUST	0 71
	Cold to T1	167	144	44	1.00	1.00	(17)	DISP	33 147
D06 F-	Max P						(3a)	HOOP	0 71
	Max P	0	0		1.00	1.00	(18)	SUST	0 71
	Cold to T1	51	32	133	1.00	1.00	(17)	DISP	21 147
D06 F+	Max P						(3a)	HOOP	0 71
	Max P	0	0		1.00	1.00	(18)	SUST	0 71
	Cold to T1	51	32	133	1.00	1.00	(17)	DISP	21 147
D07 N-	Max P						(3a)	HOOP	0 71
	Max P	0	0		1.00	1.00	(18)	SUST	0 71
	Cold to T1	347	15	133	1.00	1.00	(17)	DISP	55 147
D07 N+	Max P						(3a)	HOOP	0 71
	Max P	0	0		1.00	1.00	(18)	SUST	0 71
	Cold to T1	347	15	133	1.00	1.00	(17)	DISP	55 147
D07 F-	Max P						(3a)	HOOP	0 71
	Max P	0	0		1.00	1.00	(18)	SUST	0 71
	Cold to T1	426	144	26	1.00	1.00	(17)	DISP	66 147
D07 F+	Max P						(3a)	HOOP	0 71
	Max P	0	0		1.00	1.00	(18)	SUST	0 71
	Cold to T1	403	199	26	1.00	1.00	(17)	DISP	66 147
D08 N-	Max P						(3a)	HOOP	0 71
	Max P	0	0		1.00	1.00	(18)	SUST	0 71
	Cold to T1	354	7	26	1.00	1.00	(17)	DISP	52 147

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ASME B31.3b (2001) CODE COMPLIANCE									
		(Moments in Nm)					(Stress in N/mm2)		
Point name	Load combination	In-Pl. Moment	Out-Pl. Moment	Torsion Moment	S.I.F In	S.I.F Out	Eq. Load no. type	Code Stress	Code Allow.
D08 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	255	246	26	1.00	1.00	(17) DISP	52	147
D08 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	178	29	225	1.00	1.00	(17) DISP	43	147
D08 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	178	29	225	1.00	1.00	(17) DISP	43	147
D09 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	14	3	225	1.00	1.00	(17) DISP	33	147
D09 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	3	14	225	1.00	1.00	(17) DISP	33	147
D09 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	42	129	82	1.00	1.00	(17) DISP	23	147
D09 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	125	53	82	1.00	1.00	(17) DISP	23	147
D10 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	19	66	82	1.00	1.00	(17) DISP	16	147
D10 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	64	24	82	1.00	1.00	(17) DISP	16	147
D10 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	102	178	72	1.00	1.00	(17) DISP	32	147
D10 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	178	102	72	1.00	1.00	(17) DISP	32	147
D11 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	284	123	72	1.00	1.00	(17) DISP	47	147
D11 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	123	284	72	1.00	1.00	(17) DISP	47	147

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ASME B31.3b (2001) CODE COMPLIANCE										
			(Moments in Nm)			(Stress in N/mm2)				
Point	Load	In-Pl.	Out-Pl.	Torsion	S.I.F		Eq. Load	Code	Code	
name	combination	Moment	Moment	Moment	In	Out	no. type	Stress	Allow.	
D11 F-	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	122	24	381	1.00	1.00	(17) DISP	59	147	
D11 F+	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	14	124	381	1.00	1.00	(17) DISP	59	147	
D12 N-	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	120	111	381	1.00	1.00	(17) DISP	61	147	
D12 N+	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	100	129	381	1.00	1.00	(17) DISP	61	147	
D12 F-	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	99	477	225	1.00	1.00	(17) DISP	79	147	
D12 F+	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	477	99	225	1.00	1.00	(17) DISP	79	147	
B01	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	882	178	225	1.00	1.00	(17) DISP	137	147	
*** Segment D end *** Line # 79319836										
*** Segment F begin *** Line # 79319836										
F00	Max P						(3a) HOOP	0	103	
	Max P	0	0		1.00	1.00	(18) SUST	0	103	
	Cold to T1	0	0	0	1.00	1.00	(17) DISP	0	155	
F01 N-	Max P						(3a) HOOP	0	103	
	Max P	0	0		1.00	1.00	(18) SUST	0	103	
	Cold to T1	0	0	0	1.00	1.00	(17) DISP	0	155	
F01 N+	Max P						(3a) HOOP	0	103	
	Max P	0	0		2.27	1.89	(18) SUST	0	103	
	Cold to T1	209	85	479	2.27	1.89	(17) DISP	5	155	
F01 F-	Max P						(3a) HOOP	0	103	
	Max P	0	0		2.27	1.89	(18) SUST	0	103	
	Cold to T1	411	471	77	2.27	1.89	(17) DISP	9	155	
F01 F+	Max P						(3a) HOOP	0	103	
	Max P	0	0		1.00	1.00	(18) SUST	0	103	
	Cold to T1	203	592	77	1.00	1.00	(17) DISP	5	155	

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ASME B31.3b (2001) CODE COMPLIANCE									
Point name	Load combination	(Moments in Nm)			S.I.F		(Stress in N/mm2)		Code Stress
		In-Pl. Moment	Out-Pl. Moment	Torsion Moment	In	Out	Eq. Load no. type	Code Allow.	
F02	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	202	593	77	1.00	1.00	(17) DISP	5	155
F03	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	178	625	77	1.00	1.00	(17) DISP	12	155
F04	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	95	736	77	1.00	1.00	(17) DISP	14	155
F05	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	69	770	77	1.00	1.00	(17) DISP	15	155
F06 N-	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	38	812	77	1.00	1.00	(17) DISP	16	155
F06 N+	Max P						(3a) HOOP	0	103
	Max P	0	0		1.96	1.63	(18) SUST	0	103
	Cold to T1	752	309	77	1.96	1.63	(17) DISP	30	155
F06 F-	Max P						(3a) HOOP	0	103
	Max P	0	0		1.96	1.63	(18) SUST	0	103
	Cold to T1	692	144	338	1.96	1.63	(17) DISP	27	155
F06 F+	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	692	144	338	1.00	1.00	(17) DISP	15	155
F07 N-	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	173	379	338	1.00	1.00	(17) DISP	10	155
F07 N+	Max P						(3a) HOOP	0	103
	Max P	0	0		1.96	1.63	(18) SUST	0	103
	Cold to T1	376	180	338	1.96	1.63	(17) DISP	16	155
F07 F-	Max P						(3a) HOOP	0	103
	Max P	0	0		1.96	1.63	(18) SUST	0	103
	Cold to T1	391	269	238	1.96	1.63	(17) DISP	17	155
F07 F+	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	277	385	238	1.00	1.00	(17) DISP	10	155
F08 N-	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	106	505	238	1.00	1.00	(17) DISP	11	155

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ASME B31.3b (2001) CODE COMPLIANCE									
			(Moments in Nm)			(Stress in N/mm2)			
Point	Load	In-Pl.	Out-Pl.	Torsion	S.I.F		Eq. Load	Code	Code
name	combination	Moment	Moment	Moment	In	Out	no. type	Stress	Allow.
F08 N+	Max P						(3a) HOOP	0	103
	Max P	0	0		1.97	1.64	(18) SUST	0	103
	Cold to T1	508	90	238	1.97	1.64	(17) DISP	20	155
F08 F-	Max P						(3a) HOOP	0	103
	Max P	0	0		1.97	1.64	(18) SUST	0	103
	Cold to T1	517	29	260	1.97	1.64	(17) DISP	20	155
F08 F+	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	46	516	260	1.00	1.00	(17) DISP	11	155
A21	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	20	515	260	1.00	1.00	(17) DISP	11	155

*** Segment F end *** Line # 79319836

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S Y S T E M S U M M A R Y

Maximum displacements (mm)

Maximum X :	39.097	Point : A05 F	Load Comb.: T1
Maximum Y :	119.659	Point : D07 N	Load Comb.: T1
Maximum Z :	-203.800	Point : F00	Load Comb.: T1
Max. total:	203.852	Point : F01 N	Load Comb.: T1

Maximum rotations (deg)

Maximum X :	-5.314	Point : D07 N	Load Comb.: T1
Maximum Y :	-2.928	Point : D09 F	Load Comb.: T1
Maximum Z :	1.554	Point : A12	Load Comb.: T1
Max. total:	5.351	Point : D07 N	Load Comb.: T1

Maximum restraint forces (N)

Maximum X :	-178	Point : F01 N	Load Comb.: T1
Maximum Y :	-459	Point : A00	Load Comb.: T1
Maximum Z :	-1005	Point : D00	Load Comb.: T1
Max. total:	1030	Point : D00	Load Comb.: T1

Maximum restraint moments (Nm)

Maximum X :	-426	Point : D00	Load Comb.: T1
Maximum Y :	310	Point : F01 N	Load Comb.: T1
Maximum Z :	188	Point : A00	Load Comb.: T1
Max. total:	530	Point : F01 N	Load Comb.: T1

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S Y S T E M S U M M A R Y

Maximum pipe forces (N)

Maximum X :	-178	Point : A14	Load Comb.: T1
Maximum Y :	459	Point : A03 F	Load Comb.: T1
Maximum Z :	1005	Point : D00	Load Comb.: T1
Max. total:	1030	Point : D00	Load Comb.: T1

Maximum pipe moments (Nm)

Maximum X :	987	Point : A03 F	Load Comb.: T1
Maximum Y :	822	Point : A14	Load Comb.: T1
Maximum Z :	-979	Point : A04 N	Load Comb.: T1
Max. total:	1146	Point : A03 F	Load Comb.: T1

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S Y S T E M S U M M A R Y

Maximum displacement stress

Point	:	A14
Stress	N/mm2	: 223
Allowable	N/mm2	: 218
Ratio	:	1.02
Load combination	:	Cold to T1

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S Y S T E M S U M M A R Y

Maximum displacement stress ratio

Point : A14
Stress N/mm2 : 223
Allowable N/mm2 : 218
Ratio : 1.02
Load combination : Cold to T1

* * * The system does not satisfy ASME B31.3 code requirements * * *
* * * for the selected options * * *