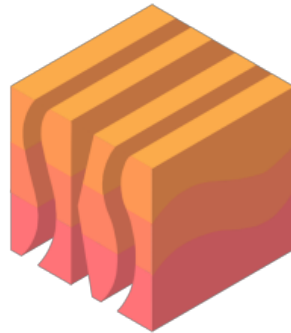


DEMO ABOVEGROUND STORAGE TANK INSPECTION REPORT

Report done by PT. SURYA KWON SUNG



For

CLIENT

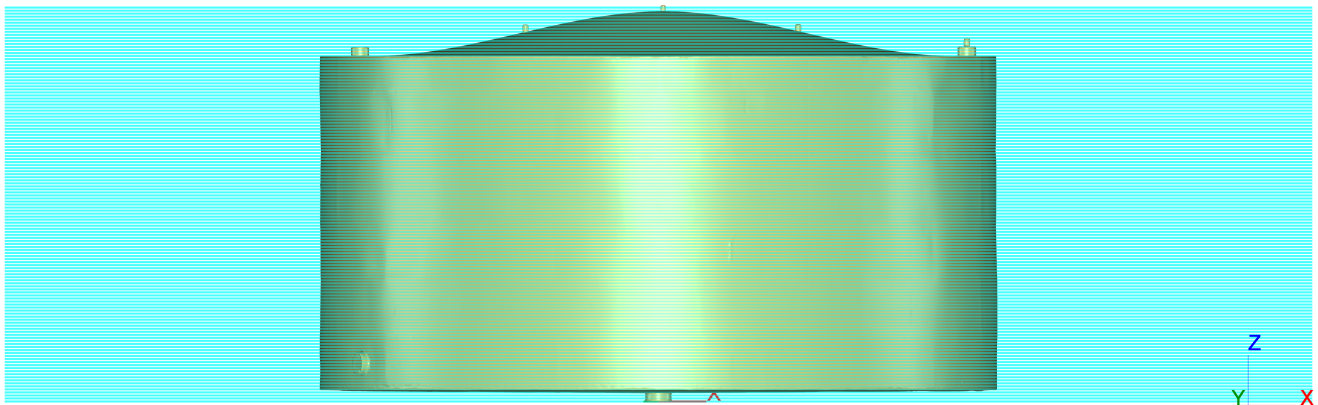
3/11/2025

Website: www.3dscanindonesia.co.id
Tel & WhatsApp: +6287876772196
Email: stephen@3dscanindonesia.co.id

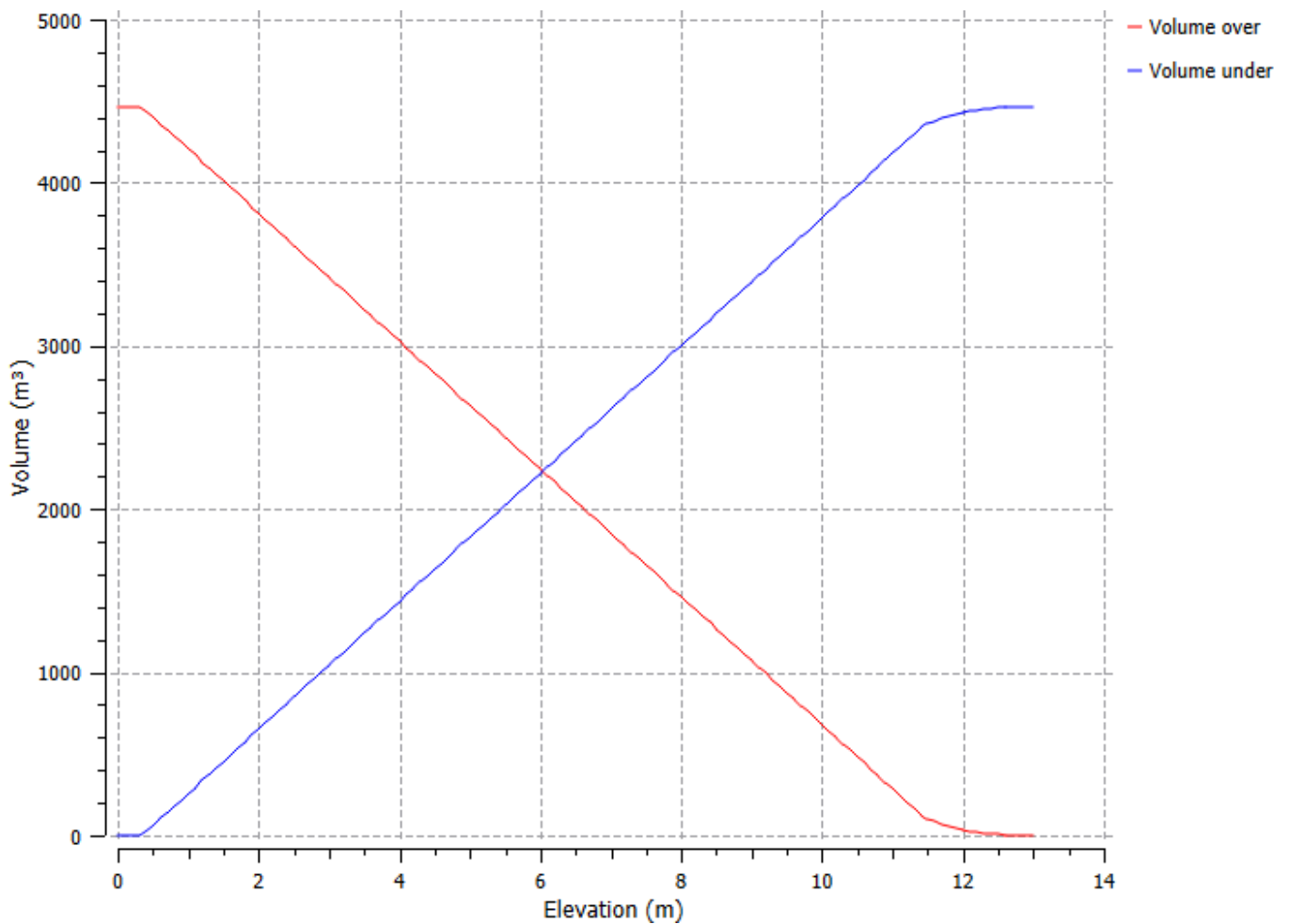


Volume from Elevation

Direction: X= 0 m ; Y= 0 m ; Z= 1 m



1 : 250 | 5 m





Elevation (m)	Volume over (m³)	Volume under (m³)	Elevation (m)	Volume over (m³)	Volume under (m³)	Elevation (m)	Volume over (m³)	Volume under (m³)
0.000	4,463.31	0.00	3.500	3,226.07	1,237.23	7.000	1,853.75	2,609.55
0.100	4,463.25	0.06	3.600	3,186.87	1,276.44	7.100	1,814.53	2,648.77
0.200	4,463.19	0.12	3.700	3,147.67	1,315.64	7.200	1,775.31	2,687.99
0.300	4,462.97	0.34	3.800	3,108.47	1,354.84	7.300	1,736.09	2,727.22
0.400	4,441.81	21.49	3.900	3,069.27	1,394.03	7.400	1,696.87	2,766.44
0.500	4,402.63	60.68	4.000	3,030.08	1,433.23	7.500	1,657.64	2,805.66
0.600	4,363.43	99.87	4.100	2,990.87	1,472.43	7.600	1,618.42	2,844.88
0.700	4,324.23	139.07	4.200	2,951.67	1,511.63	7.700	1,579.20	2,884.10
0.800	4,285.03	178.28	4.300	2,912.47	1,550.84	7.800	1,539.99	2,923.32
0.900	4,245.82	217.49	4.400	2,873.27	1,590.04	7.900	1,500.78	2,962.52
1.000	4,206.59	256.71	4.500	2,834.06	1,629.25	8.000	1,461.59	3,001.72
1.100	4,167.35	295.96	4.600	2,794.85	1,668.46	8.100	1,422.40	3,040.90
1.200	4,128.10	335.20	4.700	2,755.64	1,707.67	8.200	1,383.23	3,080.07
1.300	4,088.85	374.45	4.800	2,716.43	1,746.88	8.300	1,344.08	3,119.22
1.400	4,049.60	413.71	4.900	2,677.21	1,786.09	8.400	1,304.91	3,158.39
1.500	4,010.35	452.96	5.000	2,638.00	1,825.31	8.500	1,265.72	3,197.59
1.600	3,971.10	492.20	5.100	2,598.78	1,864.53	8.600	1,226.51	3,236.79
1.700	3,931.87	531.43	5.200	2,559.56	1,903.74	8.700	1,187.30	3,276.00
1.800	3,892.65	570.66	5.300	2,520.35	1,942.96	8.800	1,148.08	3,315.22
1.900	3,853.42	609.88	5.400	2,481.14	1,982.17	8.900	1,108.87	3,354.44
2.000	3,814.20	649.11	5.500	2,441.92	2,021.38	9.000	1,069.65	3,393.66
2.100	3,774.97	688.34	5.600	2,402.72	2,060.59	9.100	1,030.43	3,432.87
2.200	3,735.74	727.56	5.700	2,363.51	2,099.79	9.200	991.22	3,472.09
2.300	3,696.53	766.77	5.800	2,324.31	2,139.00	9.300	952.00	3,511.30
2.400	3,657.33	805.98	5.900	2,285.09	2,178.21	9.400	912.78	3,550.52
2.500	3,618.13	845.18	6.000	2,245.88	2,217.42	9.500	873.57	3,589.74
2.600	3,578.93	884.38	6.100	2,206.67	2,256.63	9.600	834.35	3,628.95
2.700	3,539.73	923.58	6.200	2,167.47	2,295.84	9.700	795.14	3,668.17
2.800	3,500.52	962.79	6.300	2,128.26	2,335.05	9.800	755.92	3,707.38
2.900	3,461.32	1,001.99	6.400	2,089.05	2,374.26	9.900	716.71	3,746.59
3.000	3,422.11	1,041.20	6.500	2,049.84	2,413.47	10.000	677.50	3,785.80
3.100	3,382.90	1,080.41	6.600	2,010.62	2,452.68	10.100	638.30	3,825.00
3.200	3,343.69	1,119.61	6.700	1,971.41	2,491.90	10.200	599.10	3,864.20
3.300	3,304.49	1,158.82	6.800	1,932.19	2,531.11	10.300	559.90	3,903.40
3.400	3,265.28	1,198.03	6.900	1,892.97	2,570.33	10.400	520.68	3,942.62



Elevation (m)	Volume over (m³)	Volume under (m³)
10.500	481.46	3,981.84
10.600	442.25	4,021.06
10.700	403.02	4,060.28
10.800	363.80	4,099.50
10.900	324.57	4,138.73
11.000	285.35	4,177.95
11.100	246.14	4,217.17
11.200	206.93	4,256.37
11.300	167.74	4,295.57
11.400	128.59	4,334.72
11.500	105.22	4,358.08
11.600	86.48	4,376.83
11.700	70.61	4,392.69
11.800	57.07	4,406.24
11.900	45.44	4,417.86
12.000	35.49	4,427.81
12.100	27.04	4,436.26
12.200	19.94	4,443.36
12.300	14.07	4,449.23
12.400	9.34	4,453.96
12.500	5.67	4,457.63
12.600	2.98	4,460.33
12.700	1.18	4,462.12
12.800	0.22	4,463.08
12.900	0.00	4,463.30
13.000	0.00	4,463.30



DEMO ABOVEGROUND STORAGE TANK

Tank definition

Elevation marker: X= 0.401 m ; Y= -0.028 m ; Z= -0.005 m

Orientation marker: X= 11.046 m ; Y= 2.262 m ; Z= 1.661 m

Tank height: 11.000 m

Best cylinder computation

Number of points: 46,464

Distance of worst point: 0.247 m

Standard deviation: 0.027 m

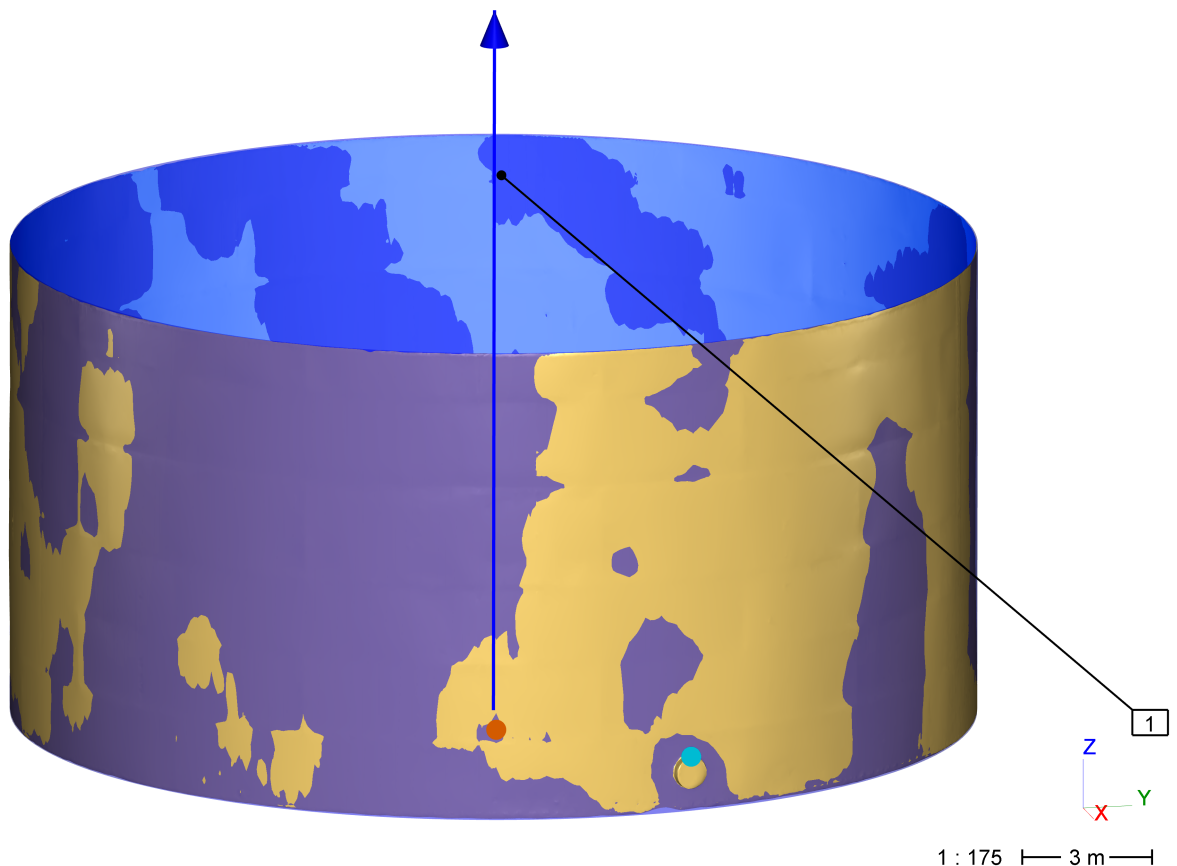
Cylinder axis: X= 0.001 ; Y= 0.001 ; Z= 1.000

Cylinder diameter: 22.345 m

Plumbness computation

Measured plumbness: 0.017 m

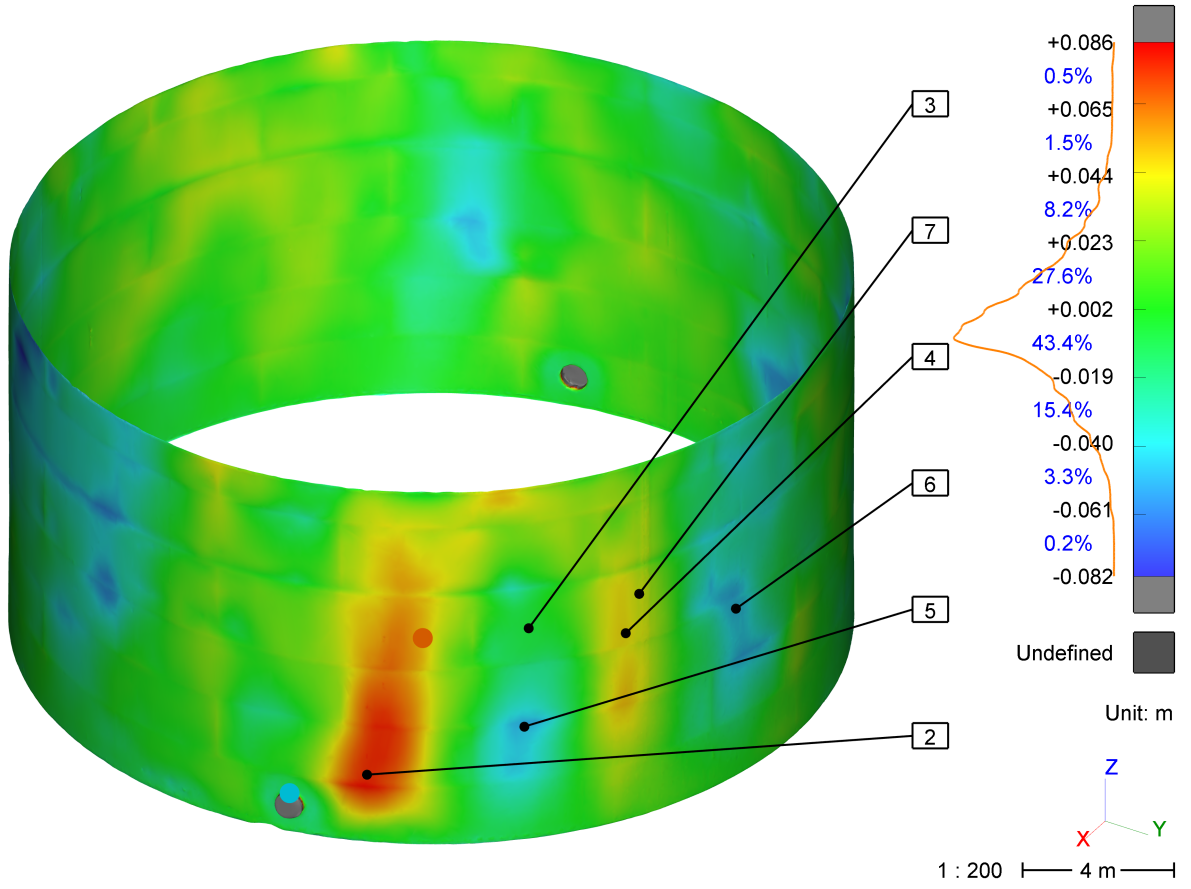
Tolerance: 0.110 m (according to API 653)



id	Meas Dist (m)	Comment
1	0.017	Plumbness



COLOR MAP

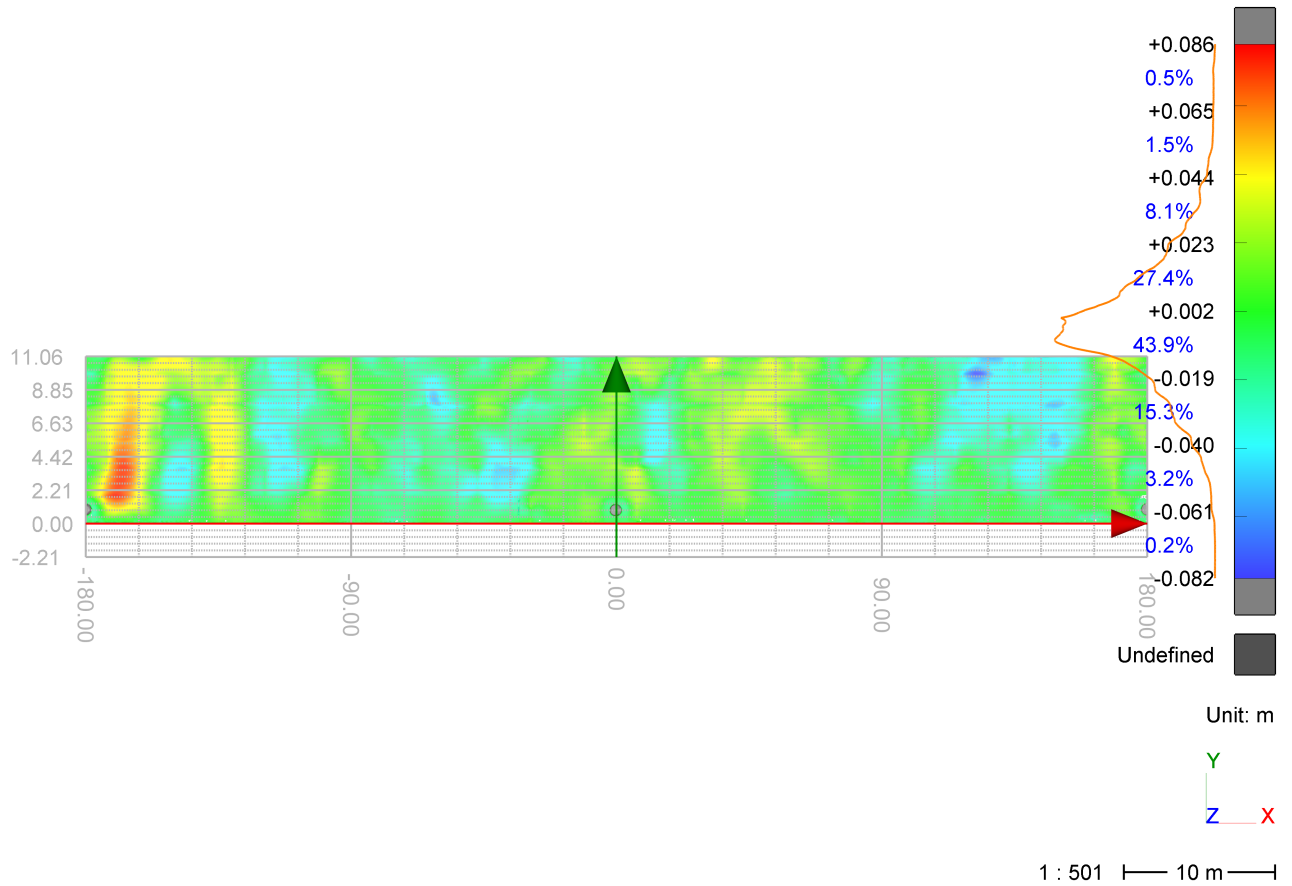


id	Dev X (m)	Dev Y (m)	Dev Z (m)	Dev 3D (m)
2	0.073	0.030	-0.000	0.079
3	-0.003	-0.003	0.000	-0.004
4	0.025	0.040	-0.000	0.047
5	-0.036	-0.035	0.000	-0.050
6	-0.011	-0.048	0.000	-0.049
7	0.019	0.033	-0.000	0.038

+ = Outside of Best Cylinder
- = Inside of Best Cylinder



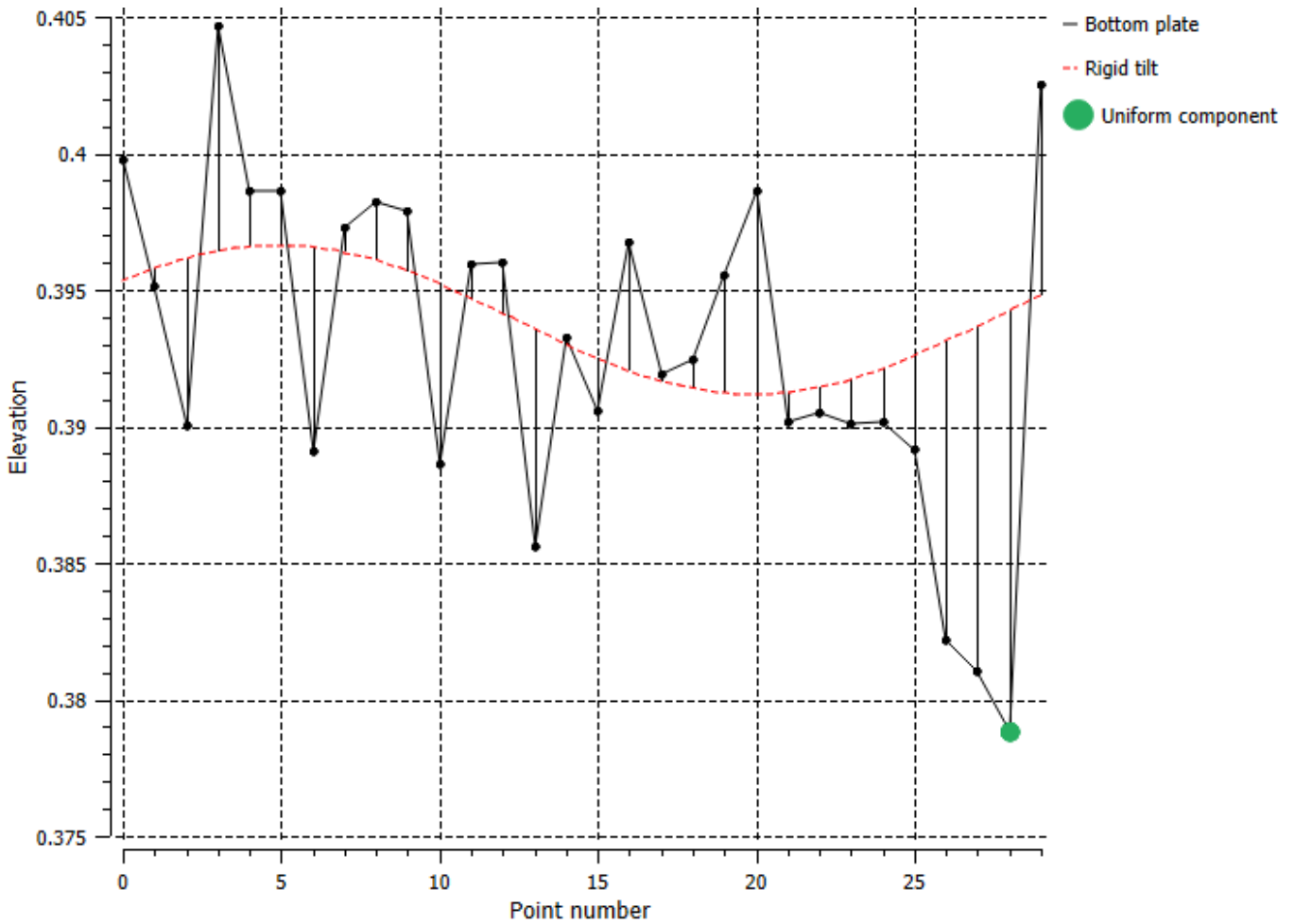
UNROLL



+ = Outside of Best Cylinder
- = Inside of Best Cylinder



DIFFERENTIAL SETTLEMENTS



Best cosine: $0.394 + 0.003 * \cos(0.209x + (-1.026))$

R²: 0.155

Uniform settlement: 0.379 m (reached on Bottom plate point 28)

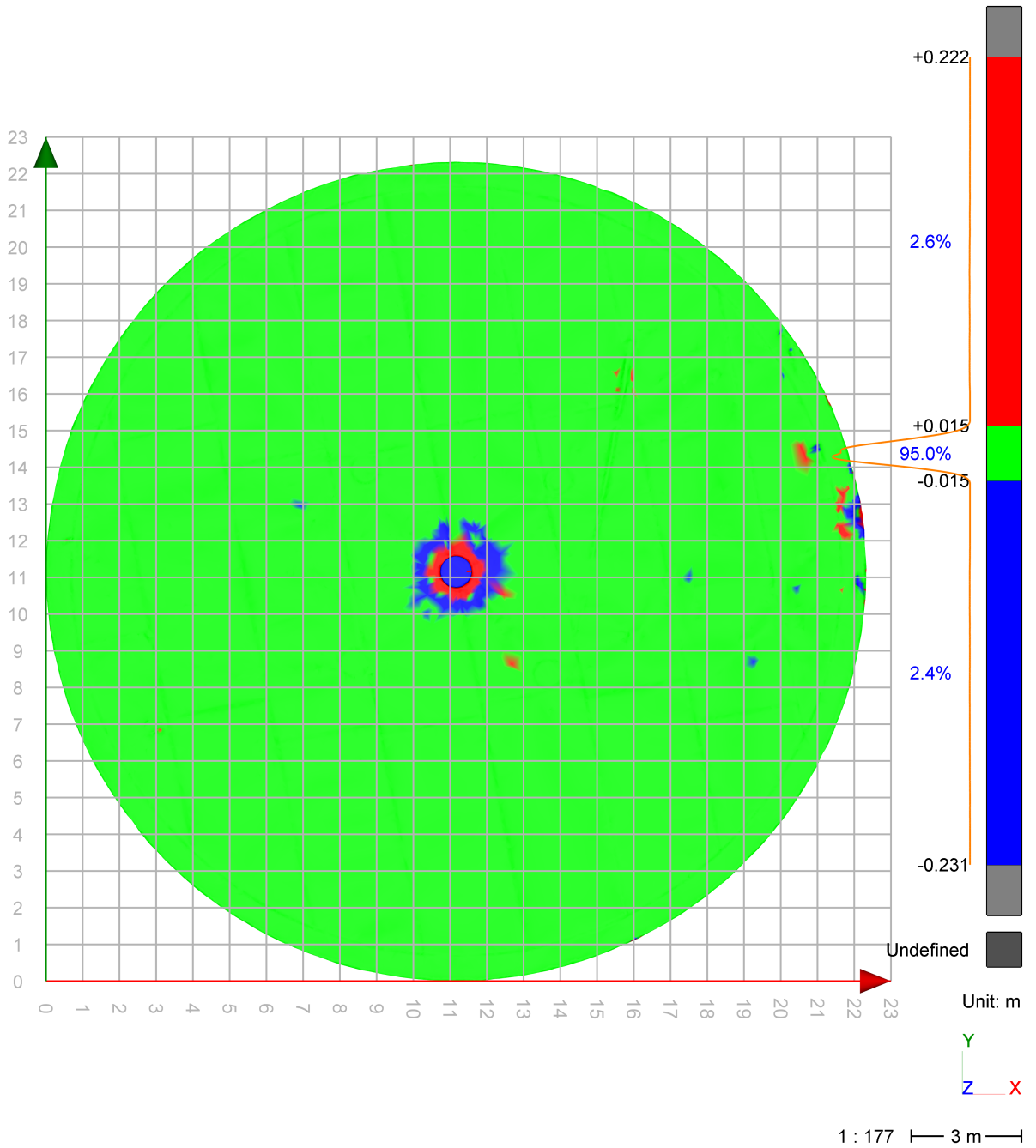
Number of points: 30



Points	Elevation (m)	Tilt plane elevation (m)	Magnitude (m)	Deviation (m)
Bottom plate point 0	0.400	0.395	0.004	0.001
Bottom plate point 1	0.395	0.396	-0.001	0.000
Bottom plate point 2	0.390	0.396	-0.006	-0.010
Bottom plate point 3	0.405	0.396	0.008	0.010
Bottom plate point 4	0.399	0.397	0.002	-0.003
Bottom plate point 5	0.399	0.397	0.002	0.005
Bottom plate point 6	0.389	0.397	-0.007	-0.009
Bottom plate point 7	0.397	0.396	0.001	0.004
Bottom plate point 8	0.398	0.396	0.002	0.001
Bottom plate point 9	0.398	0.396	0.002	0.004
Bottom plate point 10	0.389	0.395	-0.007	-0.008
Bottom plate point 11	0.396	0.395	0.001	0.004
Bottom plate point 12	0.396	0.394	0.002	0.005
Bottom plate point 13	0.386	0.394	-0.008	-0.009
Bottom plate point 14	0.393	0.393	0.000	0.005
Bottom plate point 15	0.391	0.392	-0.002	-0.004
Bottom plate point 16	0.397	0.392	0.005	0.006
Bottom plate point 17	0.392	0.392	0.000	-0.003
Bottom plate point 18	0.392	0.391	0.001	-0.001
Bottom plate point 19	0.396	0.391	0.004	0.000
Bottom plate point 20	0.399	0.391	0.007	0.006
Bottom plate point 21	0.390	0.391	-0.001	-0.004
Bottom plate point 22	0.390	0.391	-0.001	0.000
Bottom plate point 23	0.390	0.392	-0.002	-0.000
Bottom plate point 24	0.390	0.392	-0.002	0.001
Bottom plate point 25	0.389	0.393	-0.003	0.003
Bottom plate point 26	0.382	0.393	-0.011	-0.003
Bottom plate point 27 (ignored)	0.381	0.394	-0.013	0.001
Bottom plate point 28 (ignored)	0.379	0.394	-0.015	-0.013
Bottom plate point 29	0.403	0.395	0.008	0.013



LOCALIZED SETTLEMENTS



Ruler dimension: 1.000 m / Tolerance: 0.015 m



ROUNDNESS

Section Height (m)	Avg. Radius (m)	Min. Radius (m)	Max. Radius (m)	Min. Acc. Radius (m)	Max. Acc. Radius (m)
1.000	11.185	11.141	11.415	11.115	11.230
2.000	11.172	11.125	11.253	11.115	11.230
3.000	11.173	11.120	11.253	11.115	11.230
4.000	11.172	11.123	11.251	11.115	11.230
5.000	11.173	11.121	11.242	11.115	11.230
6.000	11.173	11.121	11.239	11.115	11.230
7.000	11.174	11.133	11.235	11.115	11.230
8.000	11.167	11.115	11.229	11.115	11.230
9.000	11.174	11.121	11.226	11.115	11.230
10.000	11.175	11.095	11.218	11.115	11.230
11.000	11.168	11.108	11.225	11.115	11.230

Tolerances are computed according to API653.
The level 0 passes through the point X= -0.004 m ; Y= -0.007 m ; Z= 0.360 m
The sections are perpendicular to the cylinder axis.



Section at 1.000 m

Position on cylinder axis:

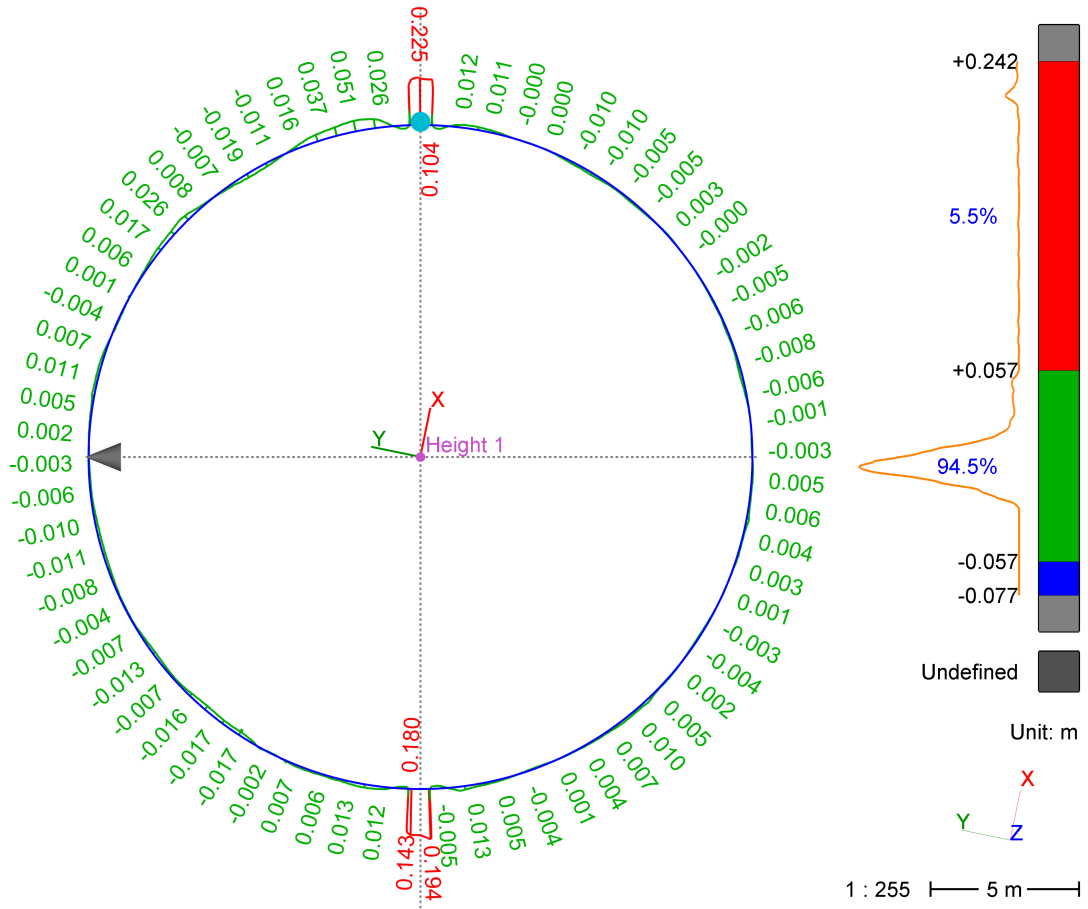
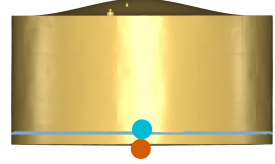
X= -0.003 m ; Y= -0.005 m ; Z= 1.360 m

Acceptable radius: [11.115 m;11.230 m]

Minimum radius: 11.141 m

Maximum radius: 11.415 m

Average radius: 11.185 m



Deviation magnification x6.999



Section at 2.000 m

Position on cylinder axis:

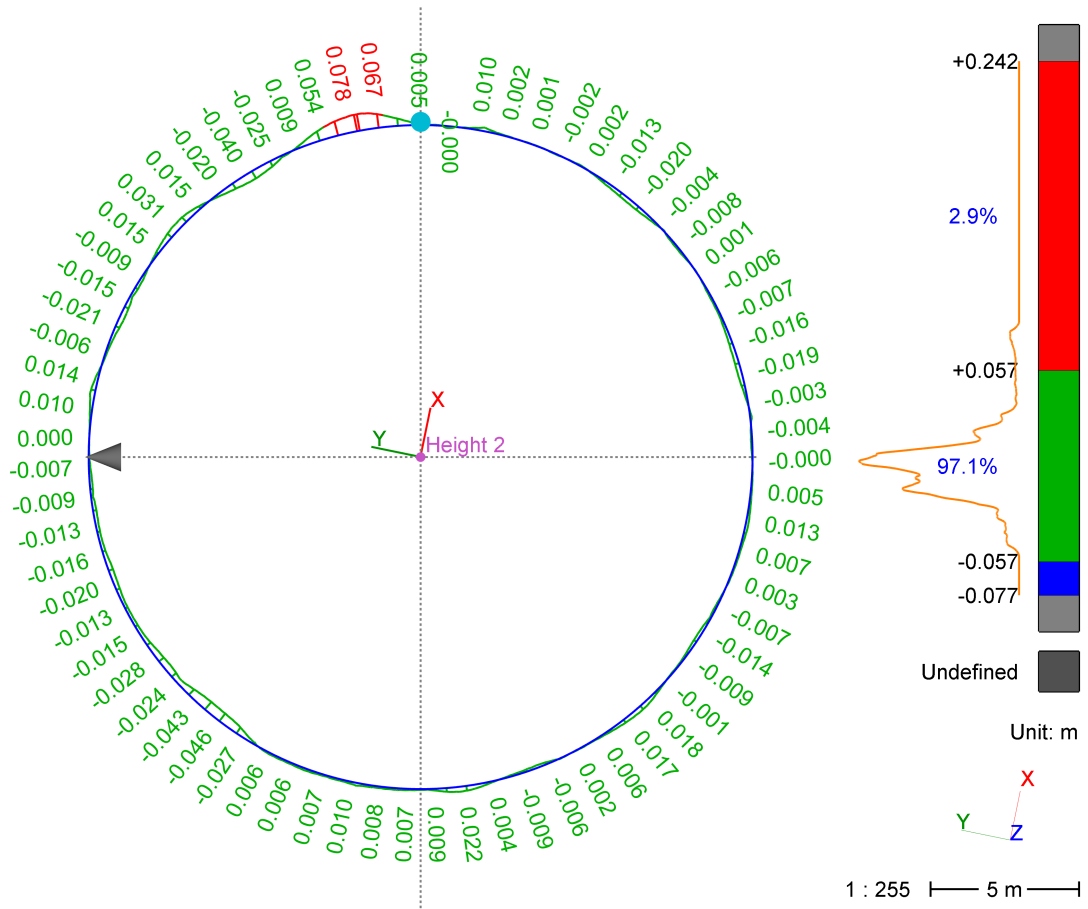
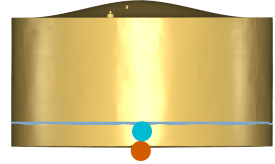
X= -0.003 m ; Y= -0.004 m ; Z= 2.360 m

Acceptable radius: [11.115 m;11.230 m]

Minimum radius: 11.125 m

Maximum radius: 11.253 m

Average radius: 11.172 m



Deviation magnification x6.999



Section at 3.000 m

Position on cylinder axis:

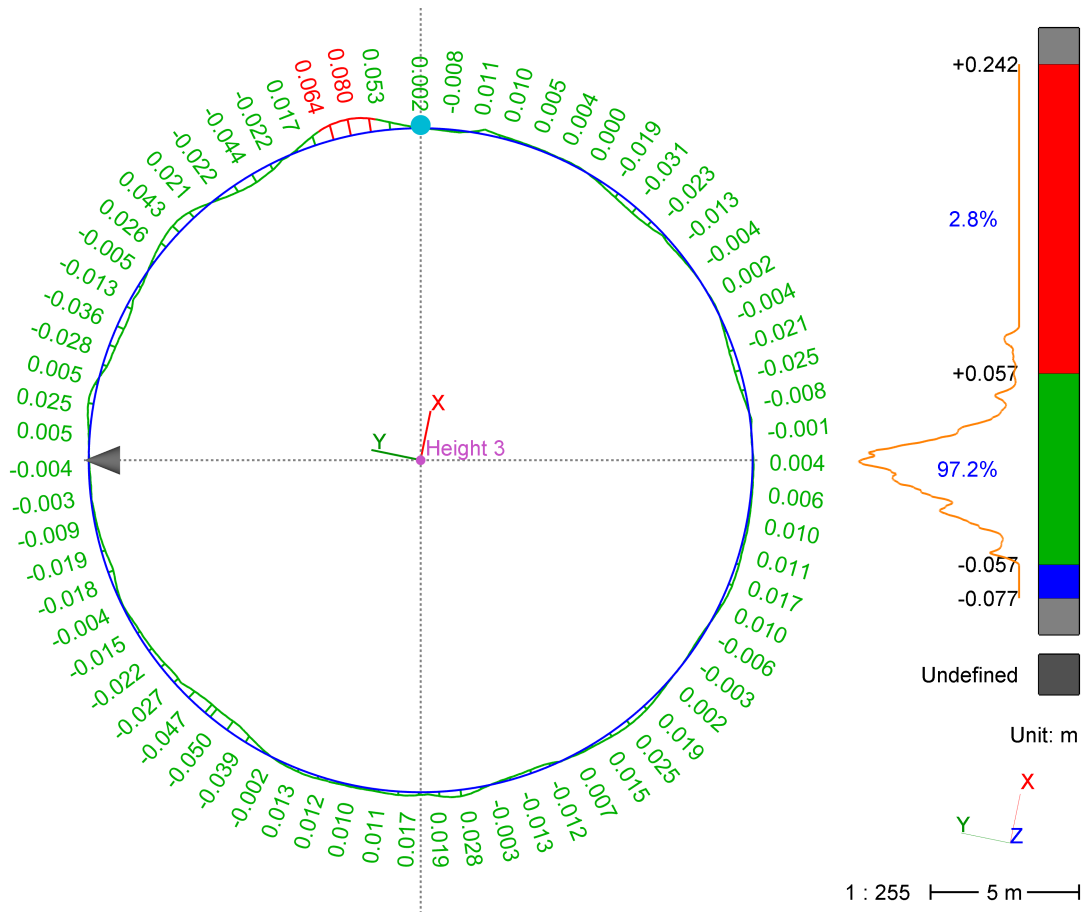
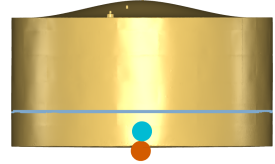
X= -0.002 m ; Y= -0.003 m ; Z= 3.360 m

Acceptable radius: [11.115 m;11.230 m]

Minimum radius: 11.120 m

Maximum radius: 11.253 m

Average radius: 11.173 m



Deviation magnification x6.999



Section at 4.000 m

Position on cylinder axis:

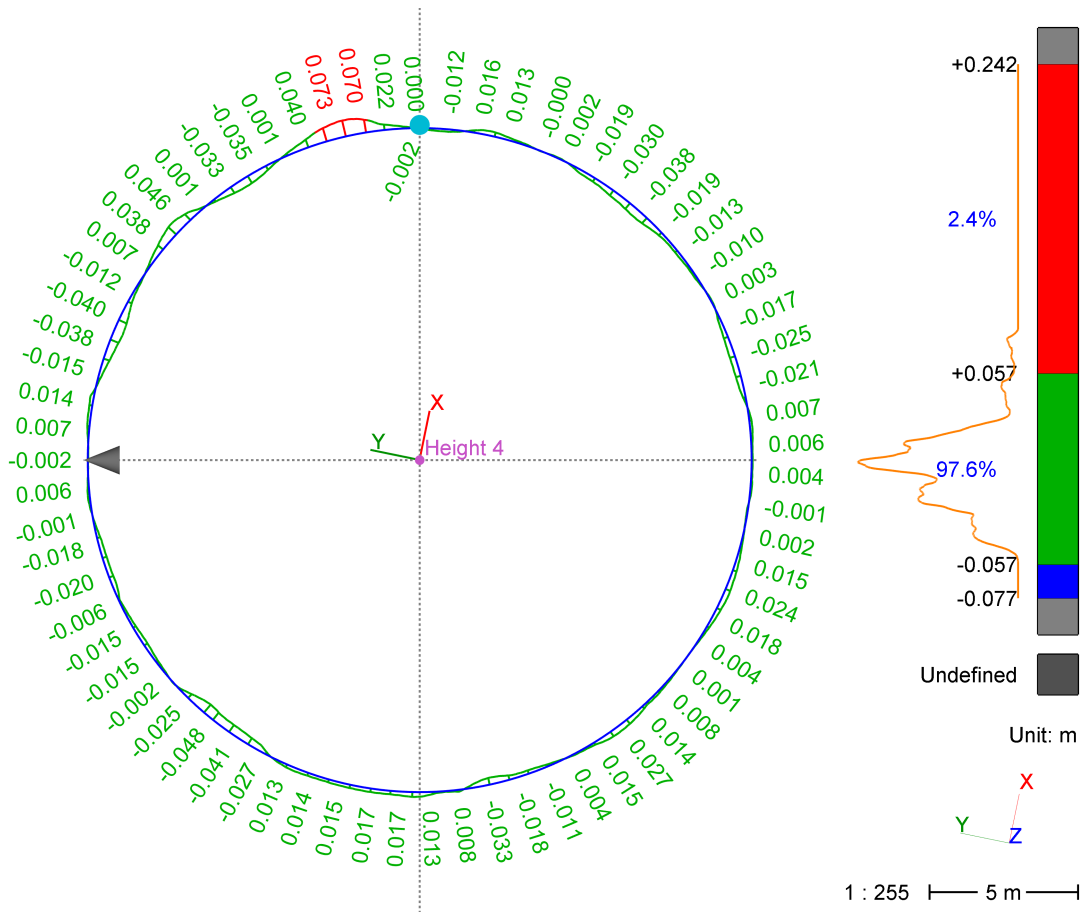
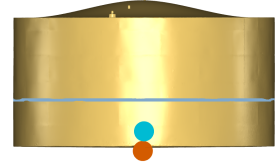
X= -0.001 m ; Y= -0.001 m ; Z= 4.360 m

Acceptable radius: [11.115 m;11.230 m]

Minimum radius: 11.123 m

Maximum radius: 11.251 m

Average radius: 11.172 m



Deviation magnification x6.999



Section at 5.000 m

Position on cylinder axis:

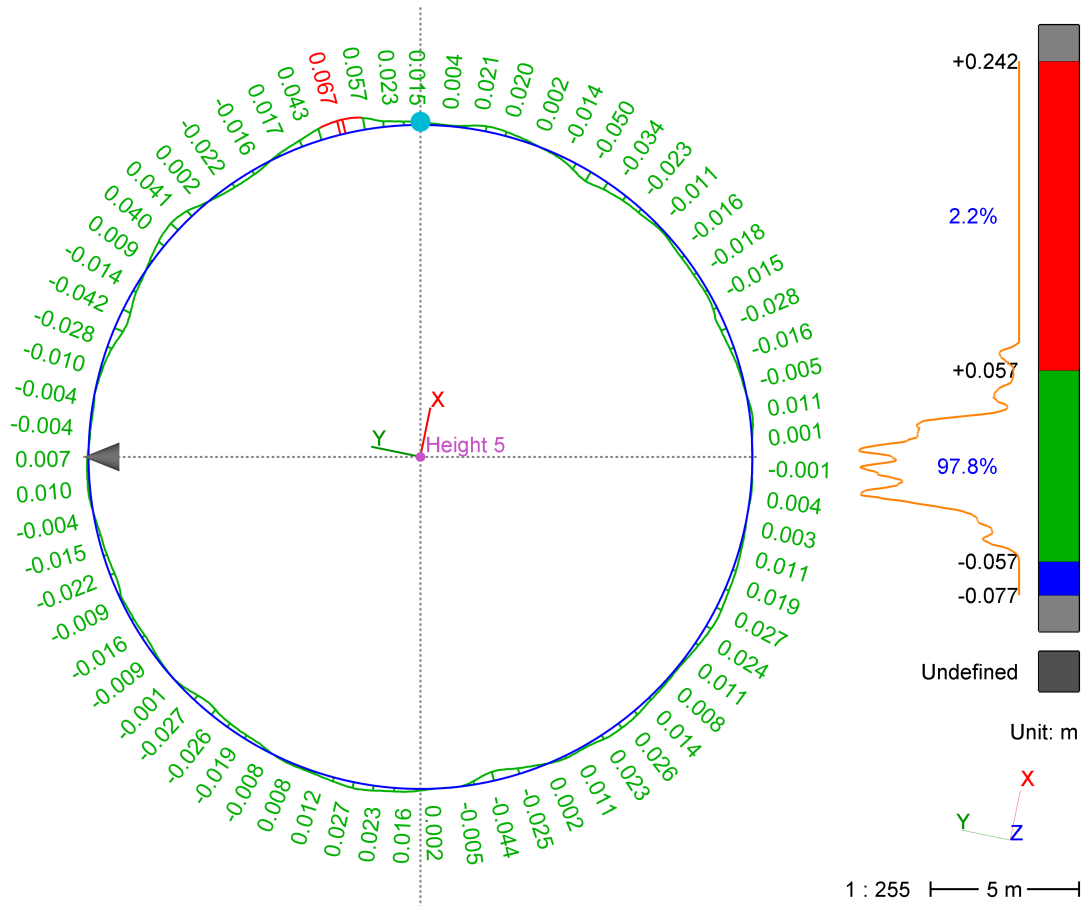
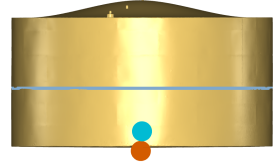
X= -0.00 m ; Y= 0.00 m ; Z= 5.36 m

Acceptable radius: [11.115 m;11.230 m]

Minimum radius: 11.121 m

Maximum radius: 11.242 m

Average radius: 11.173 m



Deviation magnification x6.999



Section at 6.000 m

Position on cylinder axis:

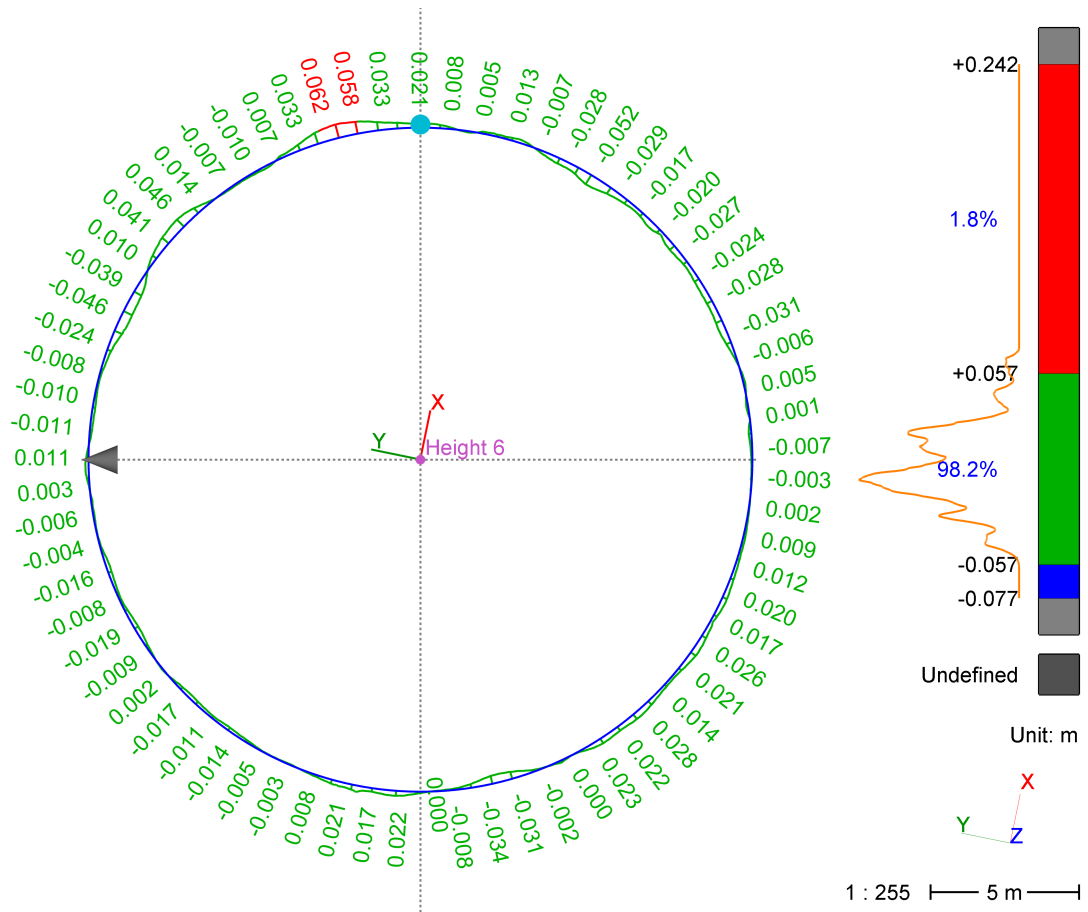
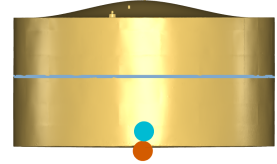
X= 0.001 m ; Y= 0.001 m ; Z= 6.360 m

Acceptable radius: [11.115 m;11.230 m]

Minimum radius: 11.121 m

Maximum radius: 11.239 m

Average radius: 11.173 m



Deviation magnification x6.999



Section at 7.000 m

Position on cylinder axis:

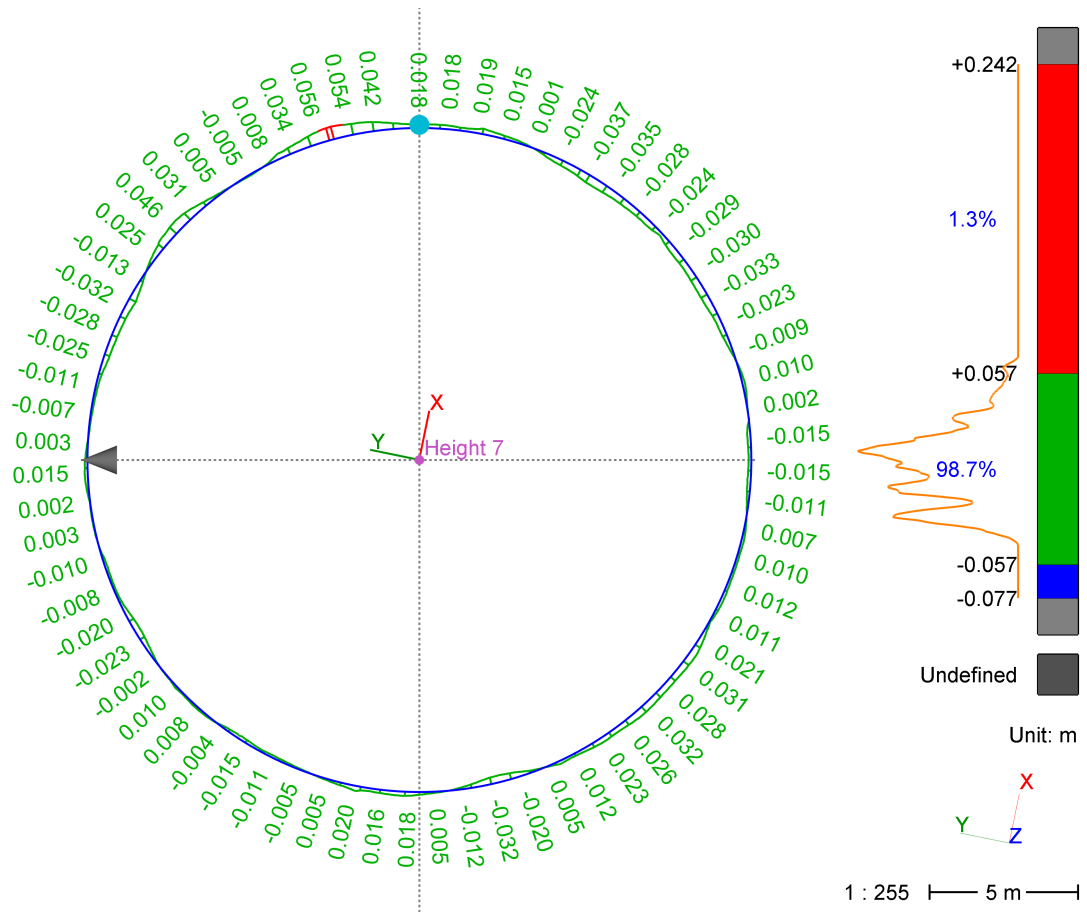
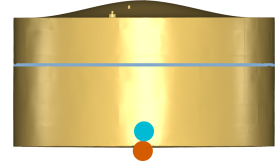
X= 0.001 m ; Y= 0.003 m ; Z= 7.360 m

Acceptable radius: [11.115 m;11.230 m]

Minimum radius: 11.133 m

Maximum radius: 11.235 m

Average radius: 11.174 m



Deviation magnification x6.999



Section at 8.000 m

Position on cylinder axis:

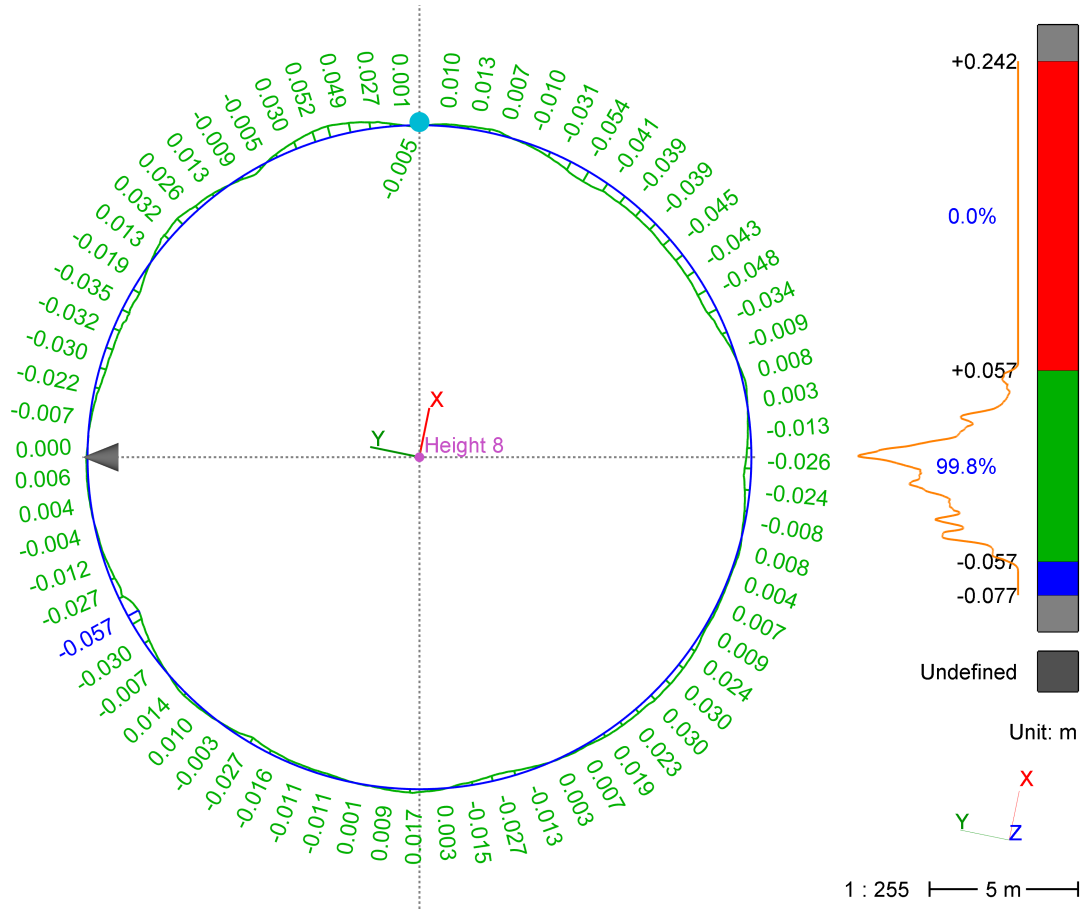
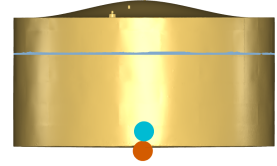
X= 0.002 m ; Y= 0.004 m ; Z= 8.360 m

Acceptable radius: [11.115 m;11.230 m]

Minimum radius: 11.115 m

Maximum radius: 11.229 m

Average radius: 11.167 m



Deviation magnification x6.999



Section at 9.000 m

Position on cylinder axis:

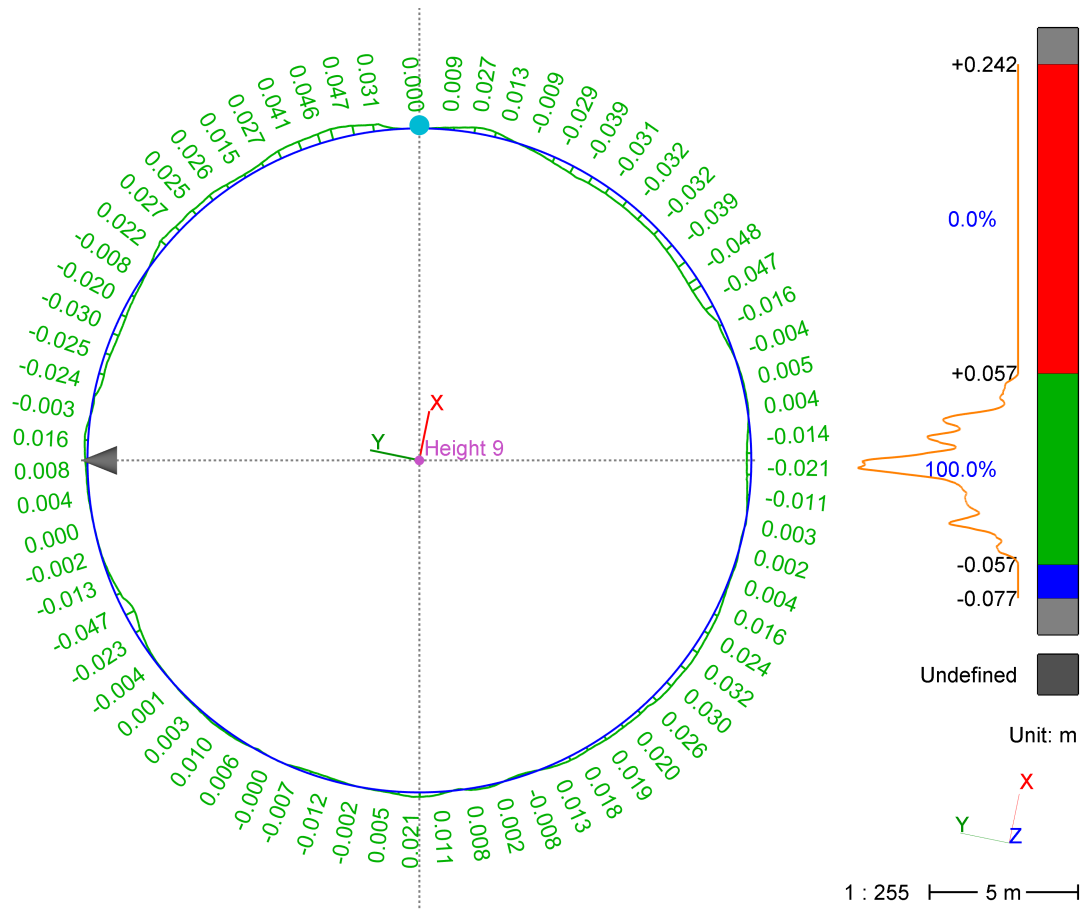
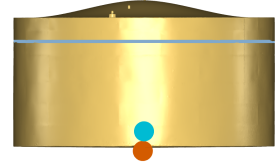
X= 0.003 m ; Y= 0.006 m ; Z= 9.360 m

Acceptable radius: [11.115 m;11.230 m]

Minimum radius: 11.121 m

Maximum radius: 11.226 m

Average radius: 11.174 m



Deviation magnification x6.999



Section at 10.000 m

Position on cylinder axis:

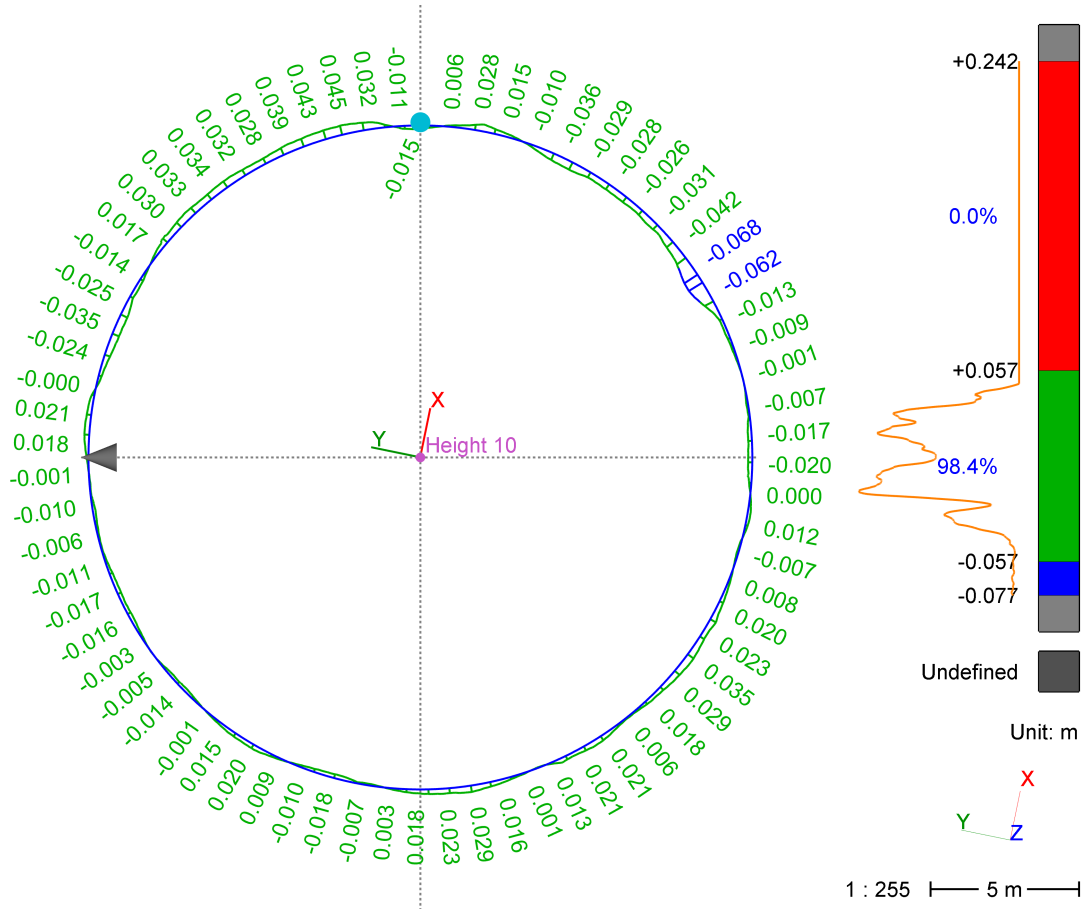
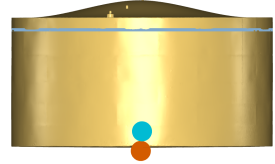
X= 0.004 m ; Y= 0.007 m ; Z= 10.360 m

Acceptable radius: [11.115 m;11.230 m]

Minimum radius: 11.095 m

Maximum radius: 11.218 m

Average radius: 11.175 m



Deviation magnification x6.999



Section at 11.000 m

Position on cylinder axis:

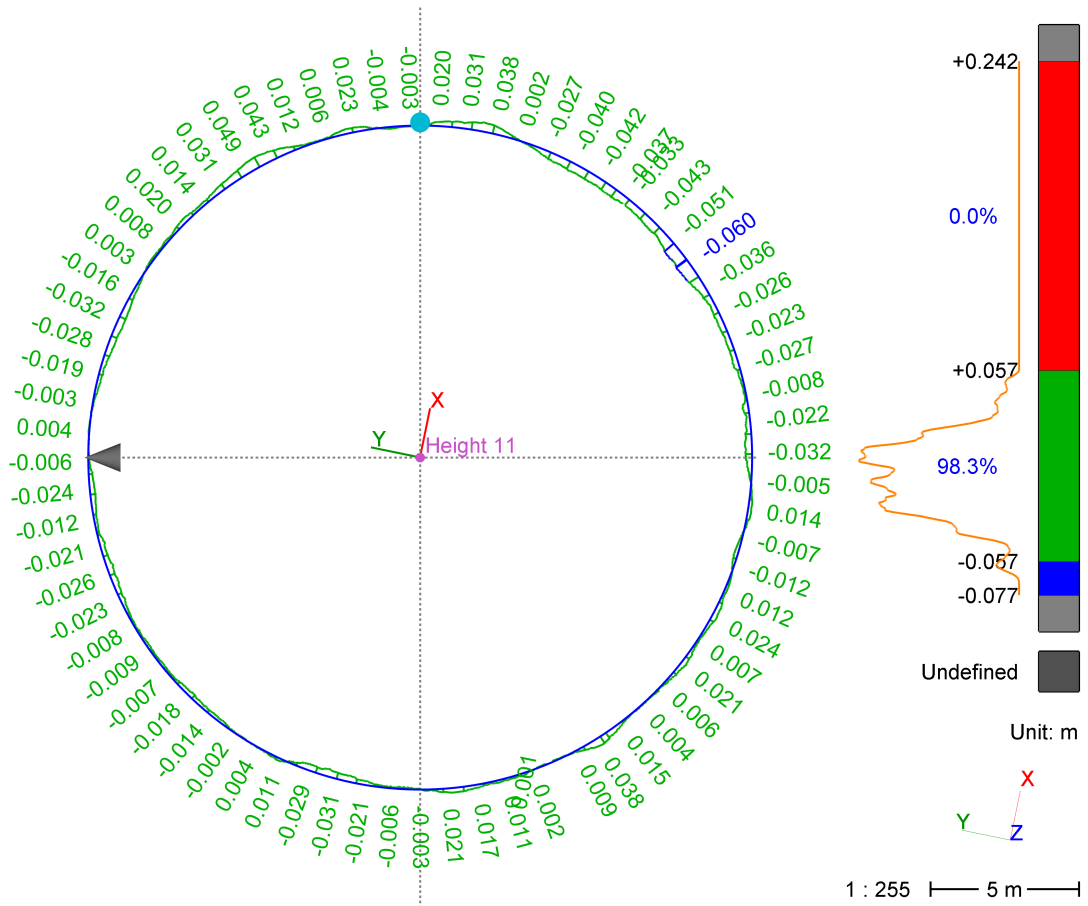
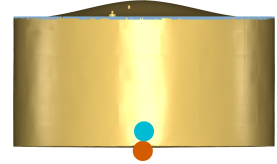
X= 0.004 m ; Y= 0.008 m ; Z= 11.360 m

Acceptable radius: [11.115 m;11.230 m]

Minimum radius: 11.108 m

Maximum radius: 11.225 m

Average radius: 11.168 m



Deviation magnification x6.999



VERTICALITY

Section Angle (°)	Avg. Radius (m)	Min. Radius (m)	Max. Radius (m)
0.000	11.198	11.145	11.394
20.000	11.205	11.143	11.224
40.000	11.185	11.143	11.210
60.000	11.155	11.132	11.169
80.000	11.176	11.155	11.197
100.000	11.168	11.145	11.183
120.000	11.154	11.120	11.170
140.000	11.156	11.119	11.186
160.000	11.173	11.134	11.192
180.000	11.191	11.159	11.409
200.000	11.169	11.154	11.178
220.000	11.192	11.164	11.201
240.000	11.184	11.158	11.204
260.000	11.177	11.155	11.192
280.000	11.168	11.146	11.178
300.000	11.150	11.100	11.179
320.000	11.148	11.125	11.168
340.000	11.169	11.148	11.177

Tolerances are computed according to API653.

Acceptable radius: [11.115 m;11.230 m]

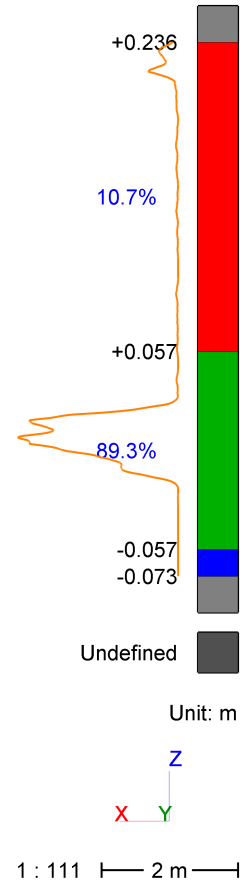
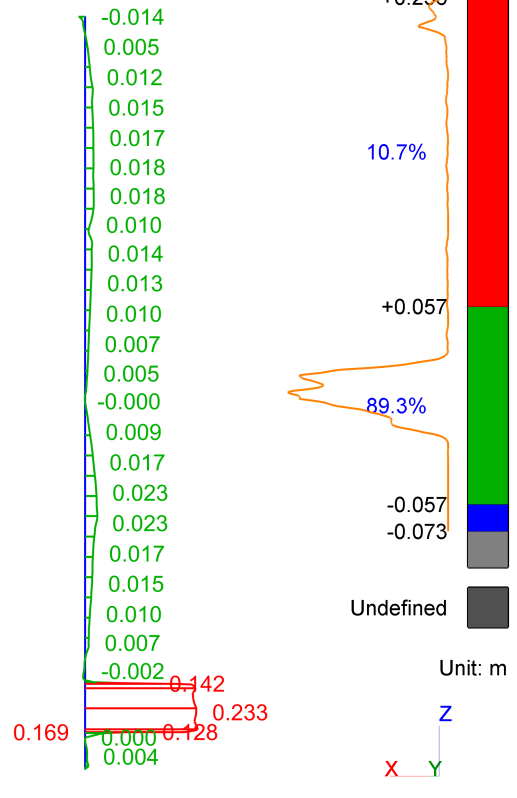
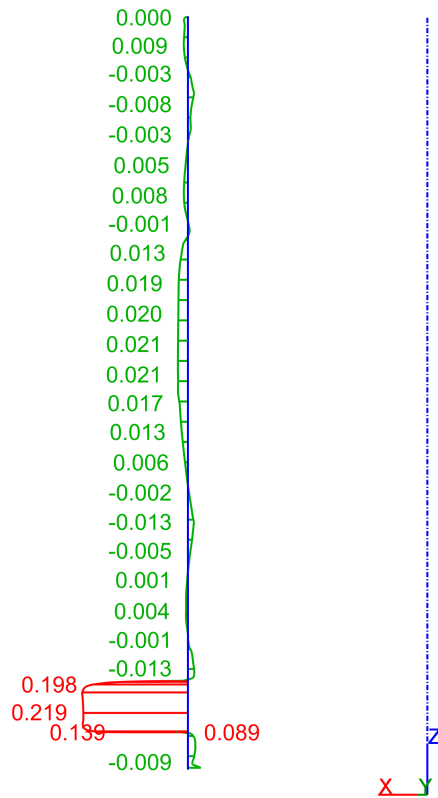
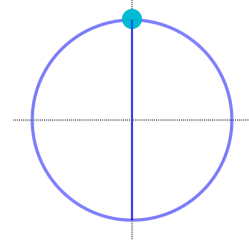


Section 0.000°

Minimum radius: 11.145 m
Maximum radius: 11.394 m
Average radius: 11.198 m

Section 180.000°

Minimum radius: 11.159 m
Maximum radius: 11.409 m
Average radius: 11.191 m



Deviation magnification x7.236

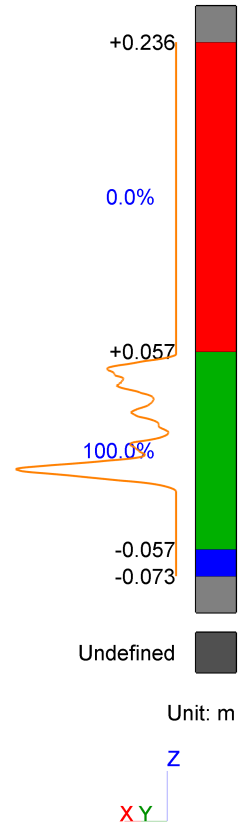
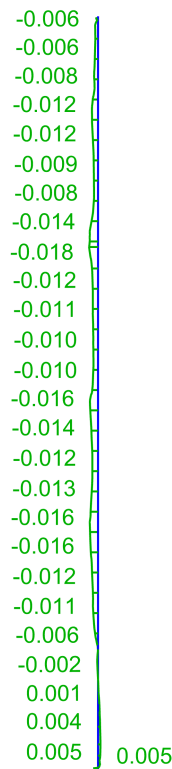
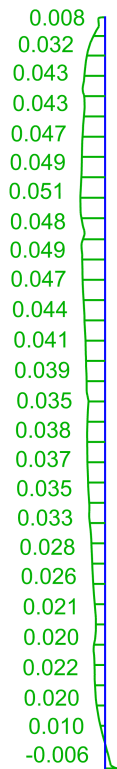
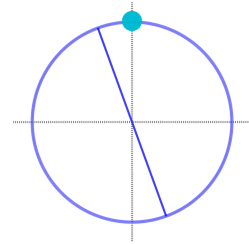


Section 20.000°

Minimum radius: 11.143 m
Maximum radius: 11.224 m
Average radius: 11.205 m

Section 200.000°

Minimum radius: 11.154 m
Maximum radius: 11.178 m
Average radius: 11.169 m



1 : 111 | 2 m

Deviation magnification x7.236

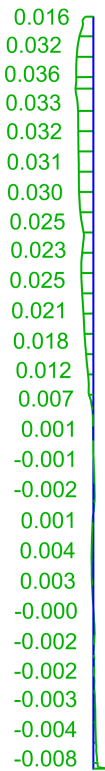
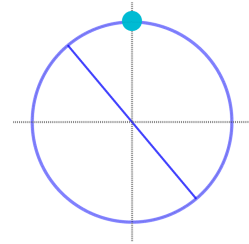


Section 40.000°

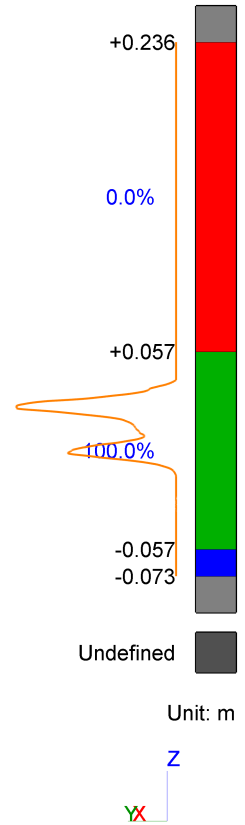
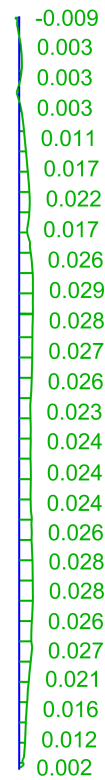
Minimum radius: 11.143 m
Maximum radius: 11.210 m
Average radius: 11.185 m

Section 220.000°

Minimum radius: 11.164 m
Maximum radius: 11.201 m
Average radius: 11.192 m



X Z



1 : 111 | 2 m

Deviation magnification x7.236

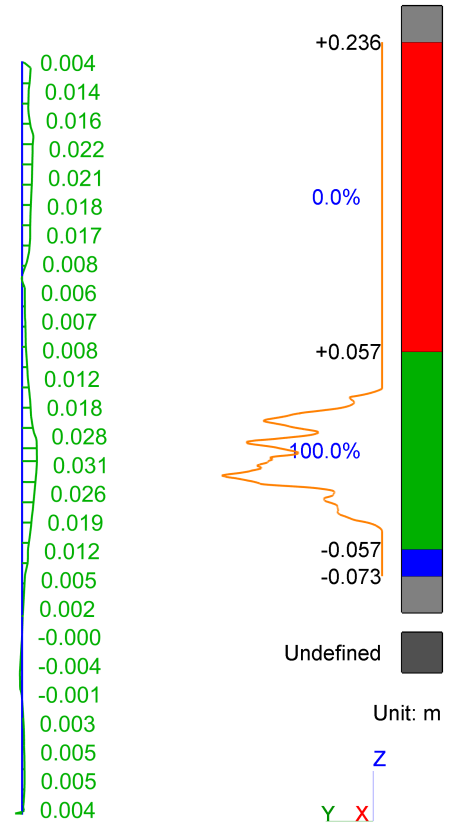
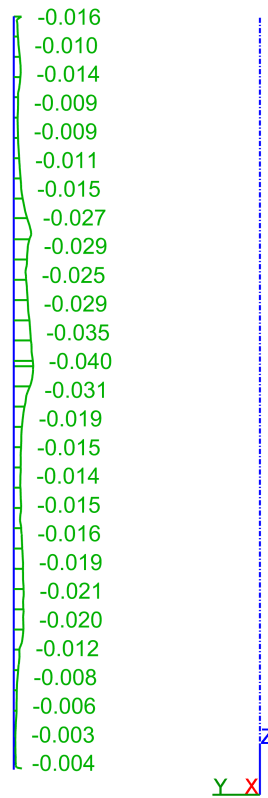
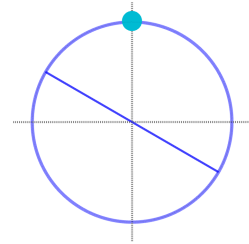


Section 60.000°

Minimum radius: 11.132 m
Maximum radius: 11.169 m
Average radius: 11.155 m

Section 240.000°

Minimum radius: 11.158 m
Maximum radius: 11.204 m
Average radius: 11.184 m



1 : 111 | 2 m

Deviation magnification x7.236

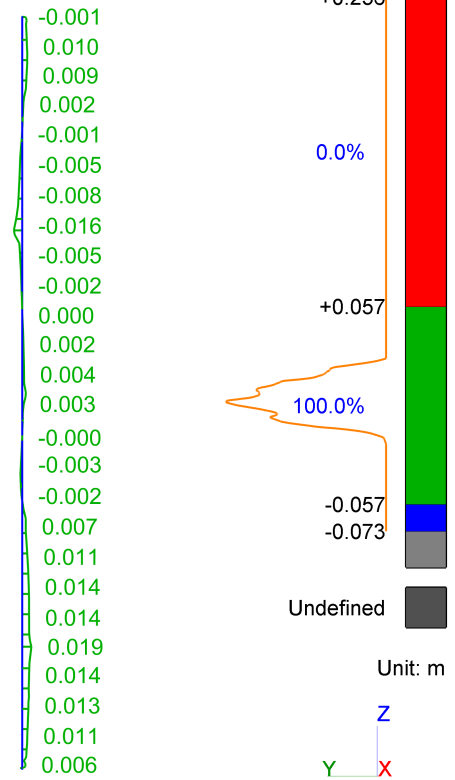
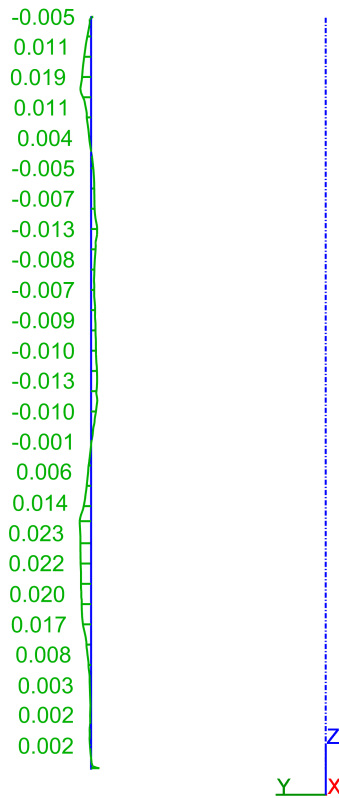
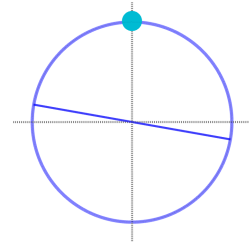


Section 80.000°

Minimum radius: 11.155 m
Maximum radius: 11.197 m
Average radius: 11.176 m

Section 260.000°

Minimum radius: 11.155 m
Maximum radius: 11.192 m
Average radius: 11.177 m



1 : 111 | 2 m

Deviation magnification x7.236

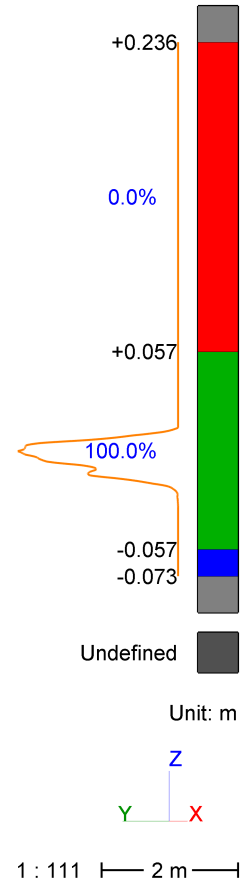
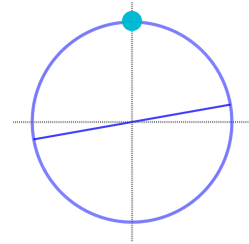


Section 100.000°

Minimum radius: 11.145 m
Maximum radius: 11.183 m
Average radius: 11.168 m

Section 280.000°

Minimum radius: 11.146 m
Maximum radius: 11.178 m
Average radius: 11.168 m



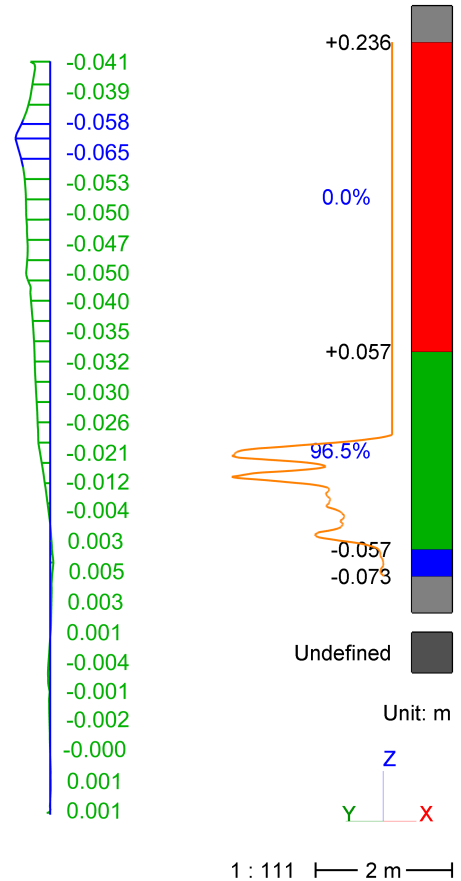
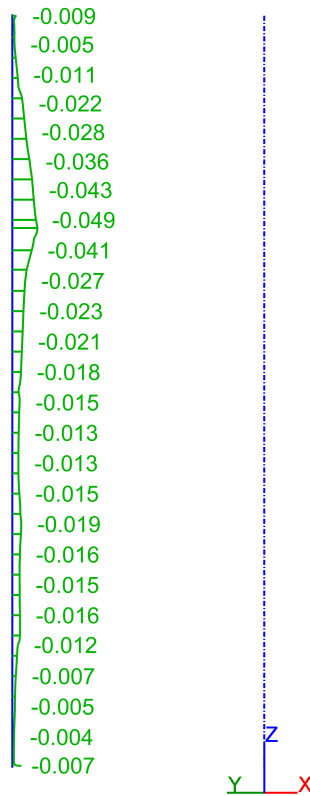
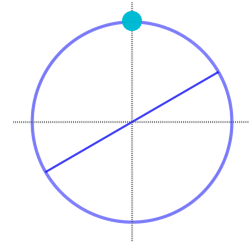


Section 120.000°

Minimum radius: 11.120 m
Maximum radius: 11.170 m
Average radius: 11.154 m

Section 300.000°

Minimum radius: 11.100 m
Maximum radius: 11.179 m
Average radius: 11.150 m



Deviation magnification x7.236

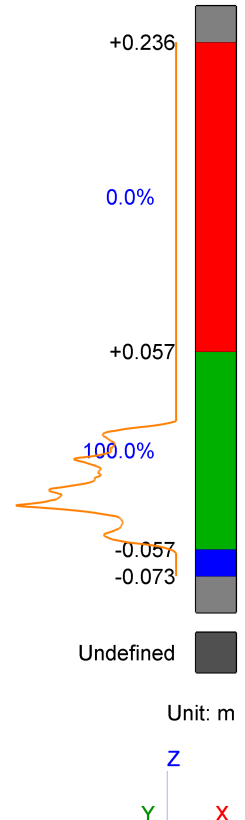
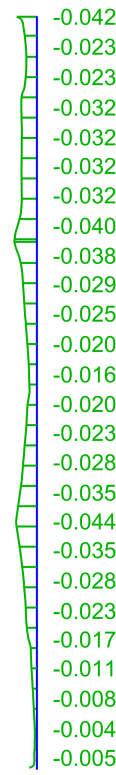
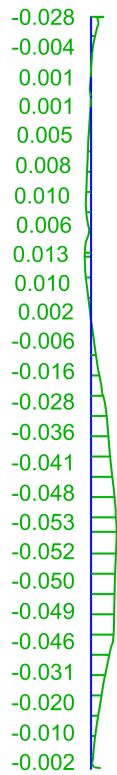
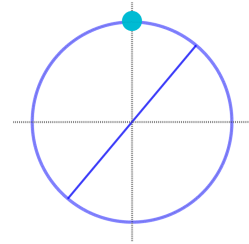


Section 140.000°

Minimum radius: 11.119 m
Maximum radius: 11.186 m
Average radius: 11.156 m

Section 320.000°

Minimum radius: 11.125 m
Maximum radius: 11.168 m
Average radius: 11.148 m



1 : 111 | 2 m

Deviation magnification x7.236

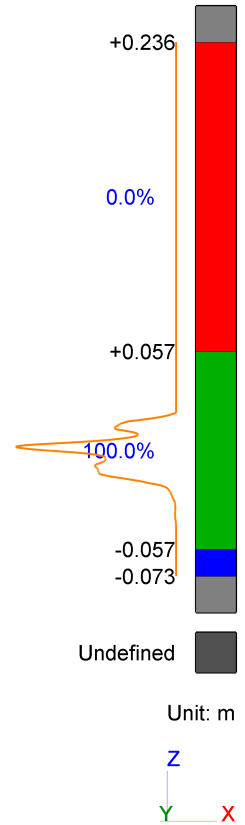
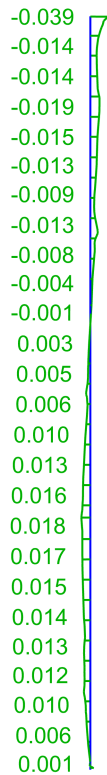
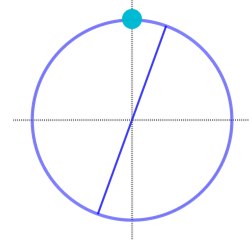


Section 160.000°

Minimum radius: 11.134 m
Maximum radius: 11.192 m
Average radius: 11.173 m

Section 340.000°

Minimum radius: 11.148 m
Maximum radius: 11.177 m
Average radius: 11.169 m



1 : 111 | 2 m

Deviation magnification x7.236