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Report of Extruded Rail Load / Deflection Testing

Client: Gridworx, Ltd.
Project: Moderate "T" Anchor 052
Project No.: 20-00157-900-01

Report No.: 13920-052
Date of Service: 3/30/2020

Construction Testing Sciences (CTS) was retained by Gridworx, Ltd. to perform compression load / deflection testing on a continuous intermediate "T" anchor, identified as Moderate Anchor 052. This test program consisted of a steel frame with three vertical members at 16" o.c., simulating metal studs. DensGlass sheathing was secured to the frame, followed by installation of the anchor, which measured 34" long. The anchor was secured to the frame with 1/4" Ø self-tapping hex head screws. A rigid steel loading bar, simulating kerfed stone, was placed on the anchor through which to apply a compression load. Dial gauges were installed at each end of the the anchor to measure deflection under load. Initially, load was applied in 25 lbs. increments up to 300 lbf., followed by loading in 50 lbs. increments up to 900 lbf. Deflection was recorded at each increment throughout the test. A total of five anchors were tested in this manner. Results of these tests are given on the following pages.

We trust the information provided is acceptable for your use. If you have any questions or require additional information please contact us.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Jack Gary".

Jack Gary
General Manager

LIMITATIONS: The test results presented herein were prepared based upon the specific samples provided for testing. We assume no responsibility for variation in quality (compositor appearance, performance, etc.) or any other feature of similar subject matter provided by persons or conditions over which we have no control. Our letters and reports are for the exclusive use of the clients to whom they are addressed and shall not be reproduced except in full without the written approval of Construction Testing Sciences, LLC.



Gridworx Extruded Rail Compression Loading

Date of Service: 3/30/2020

Sample ID: Moderate Anchor 052

Report Number: 13920-052

Sample #: 1

Load (lbs)	Deflection (inches)		
	Gauge 1	Gauge 2	Avg.
25	0.010	0.009	0.010
50	0.019	0.017	0.018
75	0.029	0.027	0.028
100	0.039	0.037	0.038
125	0.049	0.048	0.049
150	0.059	0.059	0.059
175	0.070	0.070	0.070
200	0.080	0.081	0.081
225	0.093	0.092	0.093
250	0.104	0.104	0.104
275	0.112	0.114	0.113
300	0.132	0.134	0.133
350	0.153	0.155	0.154
400	0.184	0.173	0.179
450	0.202	0.183	0.193
500	0.217	0.196	0.207
550	0.230	0.206	0.218
600	0.243	0.219	0.231
650	0.253	0.230	0.242
700	0.262	0.240	0.251
750	0.271	0.249	0.260
800	0.280	0.257	0.269
850	0.288	0.264	0.276
900	0.296	0.271	0.284



Gridworx Extruded Rail Compression Loading

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Sample #: 2

Load (lbs)	Deflection (inches)		
	Gauge 1	Gauge 2	Avg.
25	0.007	0.008	0.008
50	0.014	0.018	0.016
75	0.025	0.031	0.028
100	0.036	0.044	0.040
125	0.047	0.058	0.053
150	0.057	0.071	0.064
175	0.070	0.088	0.079
200	0.082	0.102	0.092
225	0.095	0.113	0.104
250	0.107	0.129	0.118
275	0.116	0.144	0.130
300	0.128	0.160	0.144
350	0.156	0.193	0.175
400	0.186	0.220	0.203
450	0.205	0.233	0.219
500	0.218	0.248	0.233
550	0.232	0.263	0.248
600	0.248	0.279	0.264
650	0.262	0.294	0.278
700	0.273	0.307	0.290
750	0.284	0.318	0.301
800	0.294	0.330	0.312
850	0.303	0.341	0.322
900	0.310	0.352	0.331



Gridworx Extruded Rail Compression Loading

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Sample #: 3

Load (lbs)	Deflection (inches)		
	Gauge 1	Gauge 2	Avg.
25	0.007	0.004	0.006
50	0.020	0.013	0.017
75	0.033	0.024	0.029
100	0.046	0.035	0.041
125	0.058	0.051	0.055
150	0.071	0.059	0.065
175	0.086	0.073	0.080
200	0.101	0.086	0.094
225	0.118	0.098	0.108
250	0.134	0.112	0.123
275	0.151	0.126	0.139
300	0.170	0.140	0.155
350	0.197	0.164	0.181
400	0.237	0.197	0.217
450	0.260	0.209	0.235
500	0.283	0.231	0.257
550	0.300	0.240	0.270
600	0.313	0.256	0.285
650	0.327	0.270	0.299
700	0.343	0.285	0.314
750	0.356	0.298	0.327
800	0.369	0.310	0.340
850	0.383	0.323	0.353
900	0.396	0.335	0.366



Gridworx Extruded Rail Compression Loading

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Sample #: 4

Load (lbs)	Deflection (inches)		
	Gauge 1	Gauge 2	Avg.
25	0.005	0.005	0.005
50	0.018	0.013	0.016
75	0.025	0.022	0.024
100	0.036	0.033	0.035
125	0.046	0.043	0.045
150	0.058	0.055	0.057
175	0.070	0.068	0.069
200	0.082	0.081	0.082
225	0.095	0.094	0.095
250	0.109	0.109	0.109
275	0.123	0.116	0.120
300	0.136	0.130	0.133
350	0.159	0.160	0.160
400	0.192	0.192	0.192
450	0.224	0.219	0.222
500	0.246	0.237	0.242
550	0.269	0.258	0.264
600	0.289	0.277	0.283
650	0.304	0.297	0.301
700	0.318	0.315	0.317
750	0.329	0.331	0.330
800	0.340	0.344	0.342
850	0.350	0.358	0.354
900	0.361	0.373	0.367



Gridworx Extruded Rail Compression Loading

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Sample #: 5

Load (lbs)	Deflection (inches)		
	Gauge 1	Gauge 2	Avg.
25	0.006	0.005	0.006
50	0.015	0.013	0.014
75	0.024	0.023	0.024
100	0.033	0.033	0.033
125	0.043	0.044	0.044
150	0.053	0.055	0.054
175	0.063	0.065	0.064
200	0.073	0.077	0.075
225	0.084	0.088	0.086
250	0.096	0.098	0.097
275	0.107	0.110	0.109
300	0.121	0.131	0.126
350	0.142	0.151	0.147
400	0.165	0.187	0.176
450	0.194	0.210	0.202
500	0.215	0.225	0.220
550	0.232	0.239	0.236
600	0.250	0.253	0.252
650	0.266	0.265	0.266
700	0.279	0.276	0.278
750	0.289	0.287	0.288
800	0.299	0.296	0.298
850	0.308	0.303	0.306
900	0.317	0.311	0.314