Construction Testing Sciences
2978 Congressman Ln. Dallas, TX 75220
Phone: 214.703.8911
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Report of Extruded Rail Load / Deflection Testing

Client: Gridworx, Ltd. **Report No.:** 13920-212
Project: **Slim Extended Intermediate "T" Anchor 212**
Project No.: 20-00157-900-01 **Date of Service:** 3/30/2020

Construction Testing Sciences (CTS) was retained by Gridworx, Ltd. to perform compression load / deflection testing on a continuous slim extended intermediate "T" anchor, identified as Slim Extended Intermediate T Anchor 212. 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. 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 2100 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,

Jack Gary
General Manager

CONSTRUCTION TESTING SCIENCES

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Gridworx Extruded Rail Compression Loading

Sample ID: Slim Extended Intermediate T Anchor 212 **Report No.: 13920-212**
Sample #: 1 **Date of Service: 3/30/2020**

Load (lbs)	Deflection (inches)		
	Gauge 1	Gauge 2	Avg.
25	0.000	0.000	**0.000**
50	0.000	0.001	**0.001**
75	0.000	0.001	**0.001**
100	0.000	0.001	**0.001**
125	0.000	0.002	**0.001**
150	0.001	0.002	**0.002**
175	0.001	0.003	**0.002**
200	0.002	0.004	**0.003**
225	0.003	0.005	**0.004**
250	0.005	0.007	**0.006**
275	0.006	0.008	**0.007**
300	0.007	0.010	**0.009**
350	0.009	0.015	**0.012**
400	0.011	0.018	**0.015**
450	0.015	0.021	**0.018**
500	0.016	0.031	**0.024**
550	0.021	0.035	**0.028**
600	0.024	0.039	**0.032**
650	0.029	0.044	**0.037**
700	0.033	0.050	**0.042**
750	0.036	0.055	**0.046**
800	0.040	0.060	**0.050**
850	0.043	0.064	**0.054**
900	0.047	0.068	**0.058**

Load (lbs)	Deflection (inches)		
	Gauge 1	Gauge 2	Avg.
950	0.051	0.073	**0.062**
1000	0.055	0.076	**0.066**
1050	0.058	0.079	**0.069**
1100	0.066	0.085	**0.076**
1150	0.067	0.086	**0.077**
1200	0.069	0.088	**0.079**
1250	0.074	0.092	**0.083**
1300	0.077	0.095	**0.086**
1350	0.080	0.097	**0.089**
1400	0.083	0.100	**0.092**
1450	0.087	0.103	**0.095**
1500	0.095	0.106	**0.101**
1550	0.098	0.109	**0.104**
1600	0.101	0.112	**0.107**
1650	0.104	0.115	**0.110**
1700	0.111	0.119	**0.115**
1750	0.115	0.122	**0.119**
1800	0.119	0.125	**0.122**
1850	0.123	0.127	**0.125**
1900	0.128	0.130	**0.129**
1950	0.132	0.133	**0.133**
2000	0.136	0.136	**0.136**
2050	0.141	0.138	**0.140**
2100	0.145	0.142	**0.144**

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Sample ID: Slim Extended Intermediate T Anchor 212 **Report No.: 13920-212**
Sample #: 2 **Date of Service: 3/30/2020**

Load (lbs)	Deflection (inches)		
	Gauge 1	Gauge 2	Avg.
25	0.000	0.001	**0.001**
50	0.000	0.001	**0.001**
75	0.001	0.001	**0.001**
100	0.002	0.002	**0.002**
125	0.003	0.003	**0.003**
150	0.004	0.003	**0.004**
175	0.006	0.004	**0.005**
200	0.007	0.004	**0.006**
225	0.008	0.005	**0.007**
250	0.009	0.005	**0.007**
275	0.010	0.006	**0.008**
300	0.011	0.007	**0.009**
350	0.014	0.010	**0.012**
400	0.018	0.013	**0.016**
450	0.021	0.015	**0.018**
500	0.024	0.018	**0.021**
550	0.027	0.022	**0.025**
600	0.029	0.025	**0.027**
650	0.032	0.028	**0.030**
700	0.035	0.031	**0.033**
750	0.037	0.034	**0.036**
800	0.040	0.038	**0.039**
850	0.042	0.041	**0.042**
900	0.046	0.045	**0.046**

Load (lbs)	Deflection (inches)		
	Gauge 1	Gauge 2	Avg.
950	0.048	0.047	**0.048**
1000	0.050	0.050	**0.050**
1050	0.052	0.053	**0.053**
1100	0.057	0.057	**0.057**
1150	0.058	0.058	**0.058**
1200	0.060	0.062	**0.061**
1250	0.062	0.064	**0.063**
1300	0.064	0.067	**0.066**
1350	0.067	0.069	**0.068**
1400	0.069	0.071	**0.070**
1450	0.071	0.073	**0.072**
1500	0.074	0.075	**0.075**
1550	0.076	0.077	**0.077**
1600	0.079	0.079	**0.079**
1650	0.081	0.081	**0.081**
1700	0.083	0.083	**0.083**
1750	0.086	0.085	**0.086**
1800	0.089	0.087	**0.088**
1850	0.091	0.088	**0.090**
1900	0.094	0.089	**0.092**
1950	0.098	0.091	**0.095**
2000	0.101	0.093	**0.097**
2050	0.104	0.095	**0.100**
2100	0.108	0.098	**0.103**

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Sample ID: Slim Extended Intermediate T Anchor 212 **Report No.: 13920-212**
Sample #: 3 **Date of Service: 3/30/2020**

Load (lbs)	Deflection (inches)		
	Gauge 1	Gauge 2	Avg.
25	0.000	0.001	**0.001**
50	0.000	0.001	**0.001**
75	0.001	0.002	**0.002**
100	0.004	0.002	**0.003**
125	0.006	0.003	**0.005**
150	0.008	0.004	**0.006**
175	0.011	0.006	**0.009**
200	0.013	0.008	**0.011**
225	0.016	0.010	**0.013**
250	0.020	0.014	**0.017**
275	0.022	0.016	**0.019**
300	0.025	0.019	**0.022**
350	0.030	0.025	**0.028**
400	0.037	0.030	**0.034**
450	0.042	0.035	**0.039**
500	0.048	0.040	**0.044**
550	0.051	0.042	**0.047**
600	0.055	0.045	**0.050**
650	0.058	0.048	**0.053**
700	0.061	0.050	**0.056**
750	0.064	0.053	**0.059**
800	0.067	0.056	**0.062**
850	0.070	0.058	**0.064**
900	0.073	0.061	**0.067**

Load (lbs)	Deflection (inches)		
	Gauge 1	Gauge 2	Avg.
950	0.075	0.063	**0.069**
1000	0.079	0.066	**0.073**
1050	0.081	0.068	**0.075**
1100	0.087	0.074	**0.081**
1150	0.087	0.074	**0.081**
1200	0.090	0.076	**0.083**
1250	0.094	0.079	**0.087**
1300	0.097	0.082	**0.090**
1350	0.100	0.085	**0.093**
1400	0.103	0.087	**0.095**
1450	0.106	0.090	**0.098**
1500	0.109	0.092	**0.101**
1550	0.112	0.095	**0.104**
1600	0.116	0.097	**0.107**
1650	0.119	0.100	**0.110**
1700	0.122	0.103	**0.113**
1750	0.126	0.105	**0.116**
1800	0.129	0.018	**0.074**
1850	0.133	0.110	**0.122**
1900	0.137	0.112	**0.125**
1950	0.140	0.114	**0.127**
2000	0.144	0.116	**0.130**
2050	0.148	0.119	**0.134**
2100	0.152	0.121	**0.137**

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Gridworx Extruded Rail Compression Loading

Sample ID: Slim Extended Intermediate T Anchor 212 **Report No.: 13920-212**
Sample #: 4 **Date of Service: 3/30/2020**

Load (lbs)	Deflection (inches)		
	Gauge 1	Gauge 2	Avg.
25	0.000	0.000	**0.000**
50	0.000	0.001	**0.001**
75	0.000	0.001	**0.001**
100	0.001	0.002	**0.002**
125	0.002	0.002	**0.002**
150	0.004	0.003	**0.004**
175	0.006	0.004	**0.005**
200	0.008	0.005	**0.007**
225	0.011	0.005	**0.008**
250	0.015	0.007	**0.011**
275	0.024	0.010	**0.017**
300	0.031	0.014	**0.023**
350	0.045	0.026	**0.036**
400	0.054	0.036	**0.045**
450	0.061	0.042	**0.052**
500	0.066	0.047	**0.057**
550	0.071	0.052	**0.062**
600	0.076	0.056	**0.066**
650	0.080	0.060	**0.070**
700	0.084	0.064	**0.074**
750	0.088	0.068	**0.078**
800	0.092	0.072	**0.082**
850	0.095	0.075	**0.085**
900	0.099	0.079	**0.089**

Load (lbs)	Deflection (inches)		
	Gauge 1	Gauge 2	Avg.
950	0.102	0.082	**0.092**
1000	0.106	0.086	**0.096**
1050	0.110	0.089	**0.100**
1100	0.116	0.095	**0.106**
1150	0.119	0.097	**0.108**
1200	0.123	0.101	**0.112**
1250	0.128	0.105	**0.117**
1300	0.135	0.111	**0.123**
1350	0.138	0.114	**0.126**
1400	0.143	0.118	**0.131**
1450	0.149	0.121	**0.135**
1500	0.155	0.125	**0.140**
1550	0.161	0.128	**0.145**
1600	0.166	0.131	**0.149**
1650	0.171	0.134	**0.153**
1700	0.175	0.136	**0.156**
1750	0.181	0.139	**0.160**
1800	0.185	0.142	**0.164**
1850	0.190	0.145	**0.168**
1900	0.194	0.148	**0.171**
1950	0.198	0.152	**0.175**
2000	0.202	0.155	**0.179**
2050	0.205	0.158	**0.182**
2100	0.209	0.161	**0.185**

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Gridworx Extruded Rail Compression Loading

Sample ID: Slim Extended Intermediate T Anchor 212 **Report No.: 13920-212**
Sample #: 5 **Date of Service: 3/30/2020**

Load (lbs)	Deflection (inches)		
	Gauge 1	Gauge 2	Avg.
25	0.000	0.000	**0.000**
50	0.000	0.000	**0.000**
75	0.000	0.000	**0.000**
100	0.001	0.001	**0.001**
125	0.002	0.002	**0.002**
150	0.003	0.002	**0.003**
175	0.005	0.003	**0.004**
200	0.006	0.004	**0.005**
225	0.007	0.005	**0.006**
250	0.008	0.006	**0.007**
275	0.009	0.007	**0.008**
300	0.011	0.008	**0.010**
350	0.014	0.010	**0.012**
400	0.017	0.013	**0.015**
450	0.021	0.017	**0.019**
500	0.025	0.022	**0.024**
550	0.029	0.027	**0.028**
600	0.033	0.030	**0.032**
650	0.036	0.034	**0.035**
700	0.040	0.038	**0.039**
750	0.044	0.042	**0.043**
800	0.047	0.046	**0.047**
850	0.051	0.051	**0.051**
900	0.053	0.053	**0.053**

Load (lbs)	Deflection (inches)		
	Gauge 1	Gauge 2	Avg.
950	0.056	0.057	**0.057**
1000	0.059	0.061	**0.060**
1050	0.063	0.065	**0.064**
1100	0.068	0.071	**0.070**
1150	0.070	0.072	**0.071**
1200	0.074	0.075	**0.075**
1250	0.075	0.079	**0.077**
1300	0.081	0.083	**0.082**
1350	0.085	0.086	**0.086**
1400	0.088	0.090	**0.089**
1450	0.091	0.093	**0.092**
1500	0.094	0.096	**0.095**
1550	0.098	0.099	**0.099**
1600	0.101	0.102	**0.102**
1650	0.104	0.105	**0.105**
1700	0.108	0.108	**0.108**
1750	0.111	0.110	**0.111**
1800	0.115	0.113	**0.114**
1850	0.118	0.115	**0.117**
1900	0.122	0.118	**0.120**
1950	0.126	0.120	**0.123**
2000	0.130	0.122	**0.126**
2050	0.135	0.125	**0.130**
2100	0.136	0.125	**0.131**