

COMPUTATIONS

NO. _____ OF _____ SHEETS

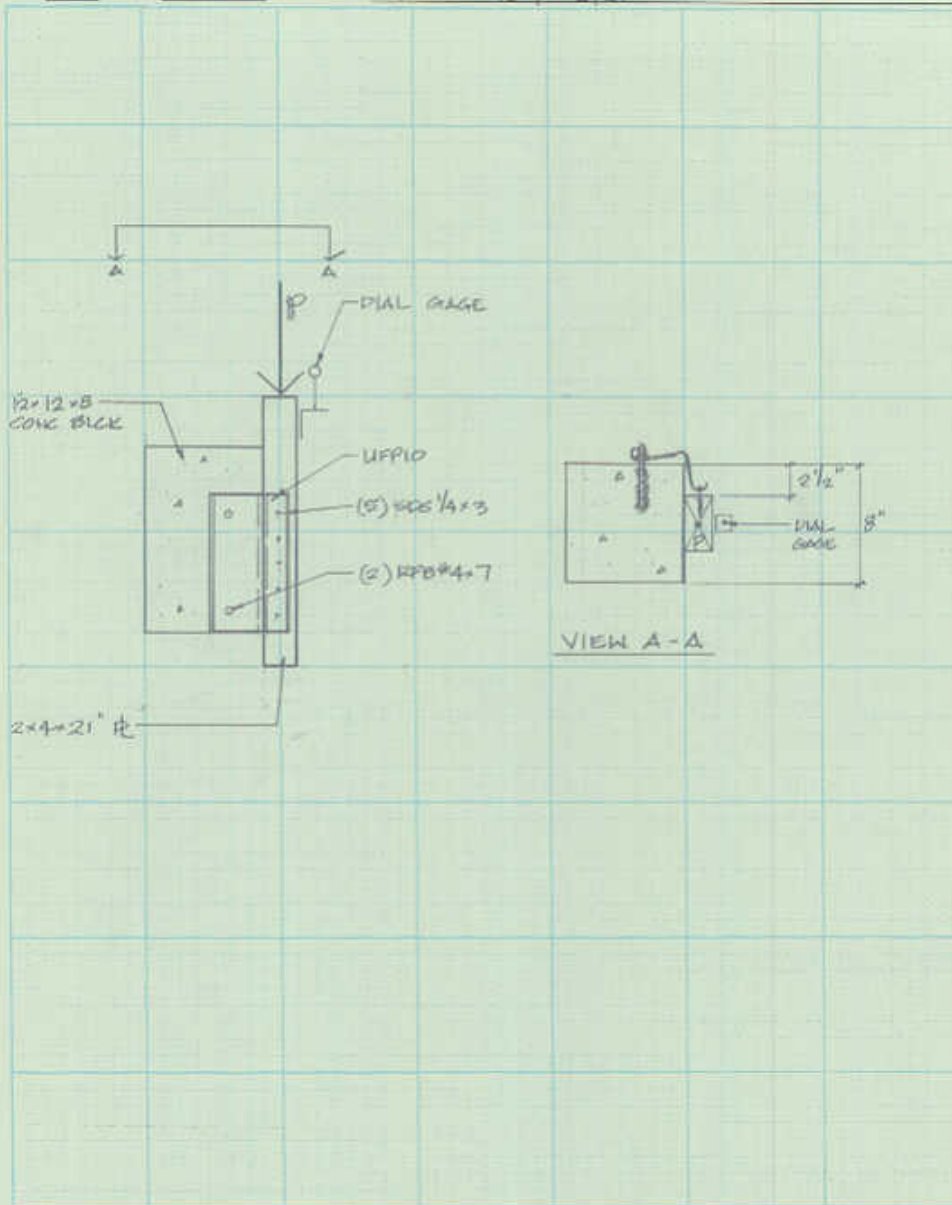


SIMPSON STRONG-TIE® COMPANY, INC.

The World's "No Equal" Structural Connector Company
4637 Chabot Drive • Suite 200 • Pleasanton, California 94588-2749
Telephone: 1/800/999-5099 • Fax: 510/847-3068

DATE: _____ PROJECT: _____

BY: _____ CHK: _____ SUBJECT: UFP10 TEST SETUP





Testing Engineers, Inc.

F 169

Quality Assurance Services
Materials Consulting
Since 1954



May 31, 1996

SIMPSON STRONG-TIE COMPANY, INC.
4637 Chabot Drive, Suite 200
Pleasanton, CA 94588

WORK REQUEST NO.: M5095

ATTN: Gregg Summers
Engineer, Manager of Testing

SUBJECT: Simpson Strong-Tie UFP Foundation Anchor Parallel-to-Mudsill

Dear Mr. Summers:

In accordance with your request, we have performed the tests described below on May 30, 1996.

TEST SAMPLES

According to Simpson Strong-Tie specifications, the UFP foundation anchor was made from 14 gauge (0.070") ASTM A-653 steel with a minimum yield strength of 33 ksi and a minimum ultimate strength of 45 ksi. The samples tested conformed to the attached photos.

TEST ASSEMBLY

Each foundation anchor was attached to a 2" x 4" x 21" Douglas Fir mudsill simulator. The foundation anchors were then bolted to a 12" x 12" x 8" concrete foundation simulator with RFB # 4 x 7's. The 1/2" Diameter x 7" threaded rods were secured to the foundation simulator with Simpson Strong-Tie ET22 epoxy.

PROCEDURE

Each test assembly was placed on the bed of a 120 kip Satec universal testing machine (calibration traceable to N.I.S.T.). A downward force was applied to the end of each mudsill simulator. A dial indicator accurate to 0.001" measured deflection of the mudsill with respect to the foundation. The loads were applied at a slow rate and gauge readings were recorded at 200 pound intervals until 0.125" deflection was reached. The load was continued at the same slow rate until failure. The mudsill was loosely blocked to minimize eccentric rotation. Results are listed in Table A.

Enclosed are load and deflection values as well as two (2) pictures of the test set-up and (3) pictures depicting mode of failure.

SIMPSON STRONG-TIE COMPANY, INC.
Mr. Gregg Summers
May 31, 1996
Page Two


WORK REQUEST NO: M5043

RESULTS

The results are tabulated on the enclosed Table A.

If you have any questions regarding this report, or if we may be of further service to you, please contact the undersigned.

TEI CONSULTING ENGINEERS


Roger S. Tansley
C.E. No. 20132, Exp. 09-30-97



Enclosure

TABLE A

SIMPSON STRONG-TIE TEST F169	
DATE OF TEST:	5/30/96
TEST SPECIMEN:	SIMPSON STRONG-TIE UFP FOUNDATION ANCHOR, PARALLEL TO MUDSILL
MATERIAL:	14 GAUGE
FOUNDATION SIMULATOR:	12"x12"x8" CONCRETE BLOCK
MUDSILL:	2"x4"x21" DOUGLAS FIR
FASTENERS	
FOUNDATION SIMULATOR:	TWO(2) RFB #4x7 (1/2"x7")
MUDSILL:	FIVE (5) 1/4"x3" SIMPSON STRONG-TIE SELF-TAPPING LAG SCREWS

	TEST NO. 1	TEST NO. 2	TEST NO. 3
LOAD (lb.)	DEFLECTION (in.)		
0	0.000	0.000	0.000
200	0.020	0.003	0.001
400	0.030	0.009	0.008
600	0.046	0.014	0.016
800	0.065	0.020	0.024
1,000	0.087	0.027	0.033
1,200	0.107	0.035	0.045
1,400		0.042	0.056
1,600		0.058	0.070
1,800		0.085	0.088
2,000		0.125	0.106
@ 0.125"			
DEFLECTION	1,340	2,000	2,200
@ ULTIMATE	4,996	5,621	4,494
MODE OF FAILURE	WOOD SPLIT	^{TORE} STEEL @ 1/2" FASTENER	PULL THROUGH OF LAG SCREW
MOISTURE	20%	20%	20%

Least Value @ 0.125" deflection (lb.)	1,340
Lowest Ultimate /3 (lb.)	1,498
Average Ultimate (lb.)	5,037

Witnesses Present: Doron Fishman and Gregg Summers