



HEADQUARTERS:

2402 Daniels Street, Madison, WI 53704 • Ph: 608/221-3361 • Fax: 608/221-0180



Ed Starostovic, P.E.
President

Michael J. Slifka, P.E.
Executive Vice President

James A. Rothman, P.E.
Sr. VP Quality Control
& Director of Field Services

PFS Regional Offices:

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Bloomsburg, PA.
717/784-8396

James M. Hopland, P.E., VP
Dallas, TX.
214/620-7012

J. Robert Nelson, P.E., Sr. VP
Los Angeles, CA.
310/559-7287

Ronald H. Reindl, AIA, VP
Madison, WI.
608/221-3361

• **Ron Hershberger, GM**
Goshen, IN.
219/533-8084

Larry A. Beineke, Ph.D., VP
Raleigh, NC.
919/981-0552

TECO Offices:

Gerald P. Marx, P.E., GM
206/896-2475

• Eugene, OR.
503/746-8271
800/628-1763

• Shreveport, LA.
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Providing Quality Control,
Testing, Inspection and
Certification Services to
the Building Industry

PFS TEST REPORT #96-60
RACKING LOAD TESTS

FOR

AMERICAN FIBERBOARD ASSOCIATION
PALATINE, ILLINOIS

BY:

PFS CORPORATION
2402 DANIELS STREET
MADISON, WI 53704



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PFS Test Report: #96-60

Test Date: 11/19-27/96

Report Date: 12/02/96

Page 1 of 2

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PFS TEST REPORT #96-60 RACKING LOAD TESTS

FOR

AMERICAN FIBERBOARD ASSOCIATION
PALATINE, ILLINOIS

GENERAL

PFS Corporation of Madison, Wisconsin, conducted dry racking load tests for American Fiberboard Association from November 19-27, 1996. Tests were conducted in accordance with ASTM E 72-95, "Conducting Strength Tests of Panels for Building Construction," Section 14. The test specimens were constructed by PFS personnel, in accordance with the client instructions.

MATERIAL DESCRIPTION

PFS Test Project #96-59 was performed prior to the racking load tests reported herein. Project #96-59 was the testing in accordance with ASTM D 1037-87, Section 41-46, for the determination of the dry condition lateral nail resistance. The lateral nail resistance tests were performed on cellulosic fiberboard products submitted to PFS, as directed by the client. The test panels were received at PFS from September 5-27, 1996. The following manufacturers submitted nominal 1/2-in.-thick product: Georgia-Pacific Corporation, International Bildrite, Inc., and Temple-Inland Forest Products Corporation. The following manufacturers submitted nominal 25/32-in.-thick product: Huebert Fiberboard Company, International Bildrite Inc., and Temple-Inland Forest Products Corporation. The client reviewed the lateral nail resistance test results and following this process selected the specific cellulosic fiberboard panel products to be installed for the racking load tests.

The selected cellulosic fiberboard panels were fastened to specified racking load frames that were constructed with a stud spacing of 16 in. o.c. The nominal 2x4-in. framing lumber was identified as S-DRY, No. 2, D Fir (N) and had a moisture content of approximately 13-14% during assembly and testing. The fiberboard panels were fastened to the frames with the 8-ft. panel dimension parallel with the studs. Three different fasteners were used for the project. The fasteners consisted of: Prime-Source, Inc. E/G Roofing Nails, 11 gauge, 1-3/4-in.-long, galvanized, with an approximately 0.37-in. head diameter, Senco Products, Inc., N19BRB, 16 gauge, 1-3/4-in.-long, 7/16-in. crown staple, and Stanley-Bostitch, BCS1116, 16 gauge, 1-3/4-in.-long, 1-in.-crown staple. The fastening schedule was in accordance with and as directed by the client during their visitation to our testing laboratory. The perimeter fastener spacing was 2-in. o.c. and the field spacing was 6-in.-o.c. The perimeter edge distance was 3/4-in. and the central stud edge distance was 1/2-in.

MATERIAL DESCRIPTION CONT'D

The roofing nails were installed with a manual hammer, the Senco staples were installed with a Senco Model M1 staple gun, and the Stanley Bostitch staples were installed with a Stanley-Bostitch Model T5052 staple gun.

TEST PROCEDURE

Three wall panel test specimens were tested for each combination of a specific fastener used to install a specific panel thickness to the standard frame.

The specimens were installed in the test apparatus as shown in Figure 1. The load was applied at one top corner of the wall with a 10-ton Enerpac hydraulic ram to a 4x4 timber firmly bolted to the top plate of the wall. The test specimen bottom plate was attached with screws to a 2x4 structural member which was mounted to a steel I-beam. The loads were monitored with an Interface Model 1210AF5 electronic load cell and a Sciometrics Data Acquisition unit. Deflection measurements were recorded at each 200 (lbf) increment using Starrett dial indicators accurate to ± 0.001 in. Figure 1 illustrates the location of the indicators which measure the apparent deformation, base slip, and panel uplift. The horizontal deflection was determined by subtracting the additive sum of both bottom plate dial indicators from the head dial indicator. (#1 plus #3 subtracted from #2.)

The load was applied continuously throughout the test at a uniform rate of 400 lb. per min. for all loading increments.

TEST RESULTS

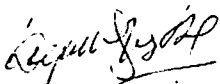
The fasteners did not withdraw from the studs but tilted towards the direction of displacement. The fastener staples tore through the panel edges and pulled through the panels at the central stud panel edges and at the head and sill panel edges adjacent to the central stud.

A summary of the ultimate load, maximum shear, allowable shear and failure characteristics for each type of sheathing tested is reported in Tables 1-18.

Load versus deflection graphs are illustrated in Figures 2-8.

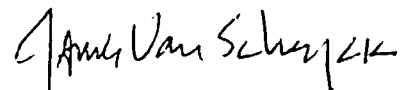
Tables for the display of maximum loads, average shear values, the average loads @ L/400 and @L/200 are reported in Tables 19-22.

Tests Conducted and
Report Reviewed By:

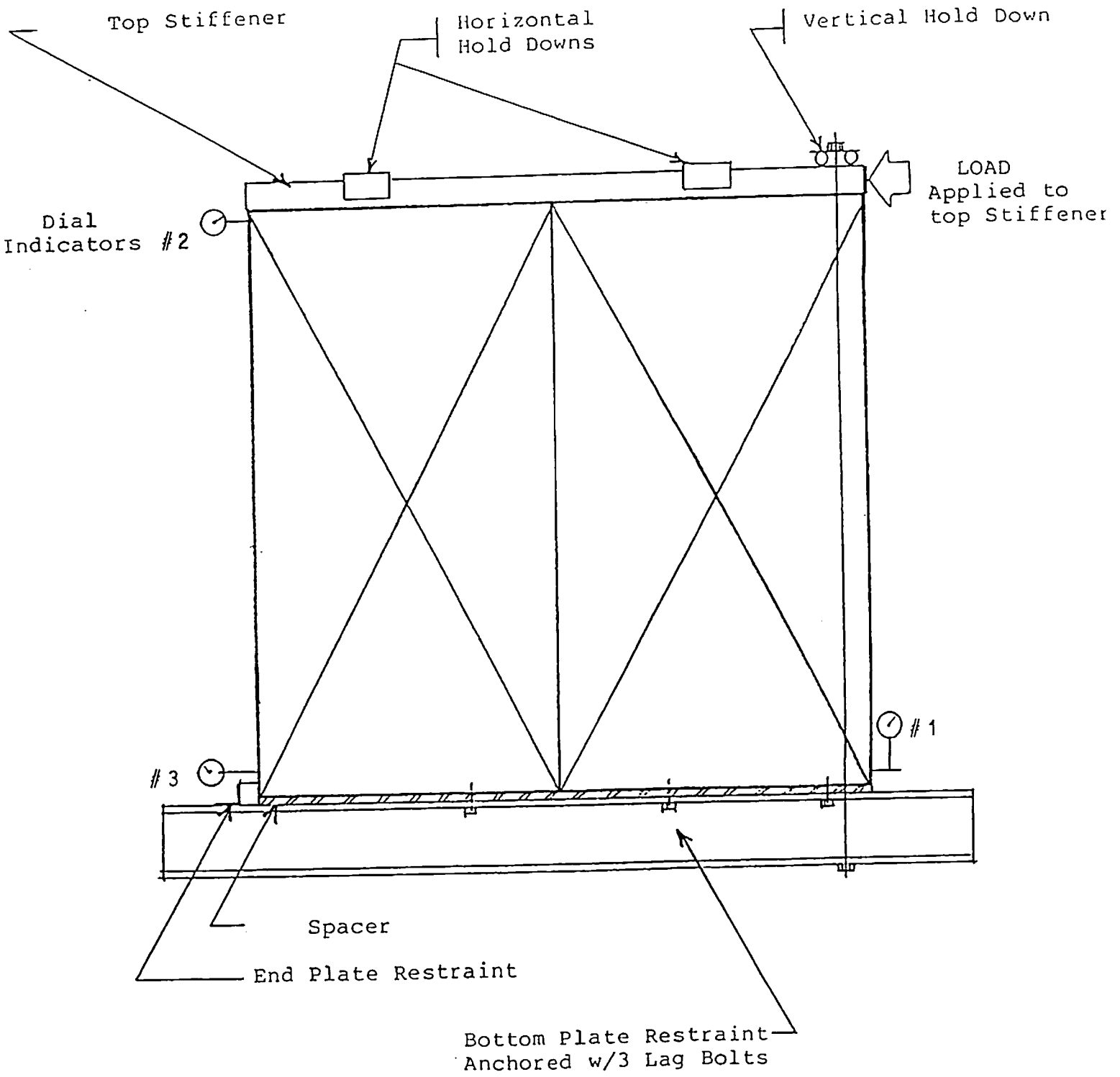


Deepak Shrestha, P.E.
Asst. Lab Manager

Tests Witnessed and
Report Prepared By:



James Van Schoyck
Lab Manager



RACKING LOAD SET-UP
 FIGURE 1



ASTM E 72-95 Racking Load Test

Client: American Fiberboard Association
 Project No.: 96-60
 Design: 1/2" Panel with Roofing Nails

Test Date: 11/19/96
 Test No: 1
 Tested by: LA/JF

	Load (lbf)	Dial Readings (in.)			Net Deflection (in.)
		Dial 1	Dial 2	Dial 3	
Initial	0	0.000	0.000	0.000	0.000
Preload	200	0.004	0.023	0.000	0.019
Set	0	0.003	0.008	0.000	0.005
Start	0	0.000	0.000	0.000	0.000
	200	0.001	0.016	0.001	0.014
	400	0.006	0.036	0.002	0.028
	600	0.013	0.062	0.003	0.046
	800	0.027	0.100	0.005	0.068
Set	0	0.010	0.020	0.001	0.009
	1000	0.041	0.141	0.007	0.093
	1200	0.055	0.184	0.010	0.119
	1400	0.073	0.229	0.012	0.144
	1600	0.087	0.279	0.015	0.177
Set	0	0.032	0.079	0.005	0.042
	1800	0.102	0.330	0.018	0.210
	2000	0.118	0.373	0.021	0.234
	2200	0.132	0.443	0.026	0.285
	2400	0.150	0.556	0.030	0.376
Set	0	0.054	0.174	0.013	0.107
	2600	0.164	0.565	0.036	0.365
	2800	0.180	0.639	0.042	0.417
	3000	0.195	0.705	0.046	0.464
	3200	0.209	0.777	0.053	0.515
	3400	0.222	0.876	0.057	0.597
	3600	0.237	0.940	0.064	0.639
	3800	0.254	1.055	0.069	0.732
	4000	0.269	1.136	0.076	0.791
	4200	0.284	1.245	0.080	0.881
	4400	0.302	1.353	0.087	0.964
	4600	0.323	1.540	0.093	1.124
	4800	0.342	1.730	0.101	1.287
	5000	0.364	1.930	0.107	1.459
	5200	0.394	2.114	0.115	1.605
	5400	0.421	2.490	0.125	1.944

Failure Load (lbf): 5500

Load at 1/8" Deflection (lbf.): 1248

Observation: Fasteners tore through edges at central stud and at head and sill adjacent to central stud.

Table 1



ASTM E 72-95 Racking Load Test

Client: American Fiberboard Association
 Project No.: 96-60
 Design: 1/2" Panel with Roofing Nails

Test Date: 11/19/96
 Test No: 2
 Tested by: LAJF

	Load (lb)	Dial Readings (in.)			Net Deflection (in.)
		Dial 1	Dial 2	Dial 3	
Initial	0	0.000	0.000	0.000	0.000
Preload	200	0.009	0.055	0.005	0.041
Set	0	0.001	0.011	0.001	0.009
Start	0	0.000	0.000	0.000	0.000
	200	0.002	0.020	0.002	0.016
	400	0.007	0.045	0.004	0.034
	600	0.014	0.080	0.007	0.059
	800	0.037	0.136	0.013	0.086
Set	0	0.017	0.042	0.005	0.020
	1000	0.059	0.195	0.020	0.116
	1200	0.078	0.249	0.025	0.146
	1400	0.094	0.300	0.032	0.174
	1600	0.109	0.352	0.037	0.206
Set	0	0.046	0.137	0.020	0.071
	1800	0.124	0.410	0.045	0.241
	2000	0.141	0.470	0.051	0.278
	2200	0.160	0.535	0.060	0.315
	2400	0.169	0.586	0.064	0.353
Set	0	0.068	0.235	0.033	0.134
	2600	0.186	0.651	0.074	0.391
	2800	0.199	0.716	0.079	0.438
	3000	0.210	0.764	0.086	0.468
	3200	0.222	0.844	0.092	0.530
	3400	0.235	0.905	0.100	0.570
	3600	0.246	1.000	0.106	0.648
	3800	0.266	1.174	0.117	0.791
	4000	0.279	1.190	0.125	0.786
	4200	0.292	1.251	0.133	0.826
	4400	0.307	1.492	0.140	1.045
	4600	0.325	1.596	0.154	1.117
	4800	0.336	1.654	0.164	1.154
	5000	0.353	1.800	0.175	1.272
	5200	0.381	2.080	0.186	1.513
	5400	0.407	2.230	0.201	1.622
	5600	0.451	2.600	0.215	1.934

Failure Load (lb): 5720

Load at 1/8" Deflection (lb): 1060

Observation: Fasteners tore through edges at central stud and at head and sill adjacent to central stud.

Table 2



ASTM E 72-95 Racking Load Test

Client: American Fiberboard Association
 Project No.: 96-60
 Design: 1/2" Panel with Roofing Nails

Test Date: 11/26/96
 Test No: 3
 Tested by: LA/JF

	Load (lbf)	Dial Readings (in.)			Net Deflection (in.)
		Dial 1	Dial 2	Dial 3	
Initial	0	0.000	0.000	0.000	0.000
Preload	200	0.006	0.024	0.001	0.017
Set	0	0.001	0.003	0.000	0.002
Start	0	0.000	0.000	0.000	0.000
	200	0.005	0.023	0.001	0.017
	400	0.014	0.059	0.003	0.042
	600	0.023	0.093	0.005	0.065
	800	0.032	0.127	0.008	0.087
Set	0	0.010	0.027	0.003	0.014
	1000	0.045	0.172	0.011	0.116
	1200	0.056	0.220	0.014	0.150
	1400	0.066	0.263	0.017	0.180
	1600	0.078	0.318	0.021	0.219
Set	0	0.024	0.094	0.006	0.064
	1800	0.091	0.367	0.025	0.251
	2000	0.102	0.421	0.028	0.291
	2200	0.110	0.464	0.031	0.323
	2400	0.123	0.513	0.035	0.355
Set	0	0.040	0.170	0.009	0.121
	2600	0.134	0.584	0.040	0.410
	2800	0.143	0.634	0.044	0.447
	3000	0.154	0.691	0.047	0.490
	3200	0.164	0.753	0.051	0.538
	3400	0.173	0.812	0.054	0.585
	3600	0.183	0.876	0.058	0.635
	3800	0.183	0.945	0.061	0.691
	4000	0.204	1.023	0.065	0.754
	4200	0.216	1.109	0.069	0.824
	4400	0.228	1.209	0.073	0.908
	4600	0.239	1.302	0.077	0.986
	4800	0.252	1.413	0.082	1.079
	5000	0.266	1.532	0.086	1.180
	5200	0.281	1.680	0.092	1.307
	5400	0.303	1.884	0.100	1.481
	5600	0.323	2.060	0.105	1.632
	5800	0.339	2.264	0.111	1.814
	6000	0.371	2.512	0.125	2.016

Failure Load (lbf): 6120

Load at 1/8" Deflection (lbf): 1053

Observation: Fasteners tore through edges at central stud and at head and sill adjacent to central stud.

Table 3

American Fiberboard Association
Project #96-60
Summary of Racking Load Test
1/2" Panel with Roofing Nails

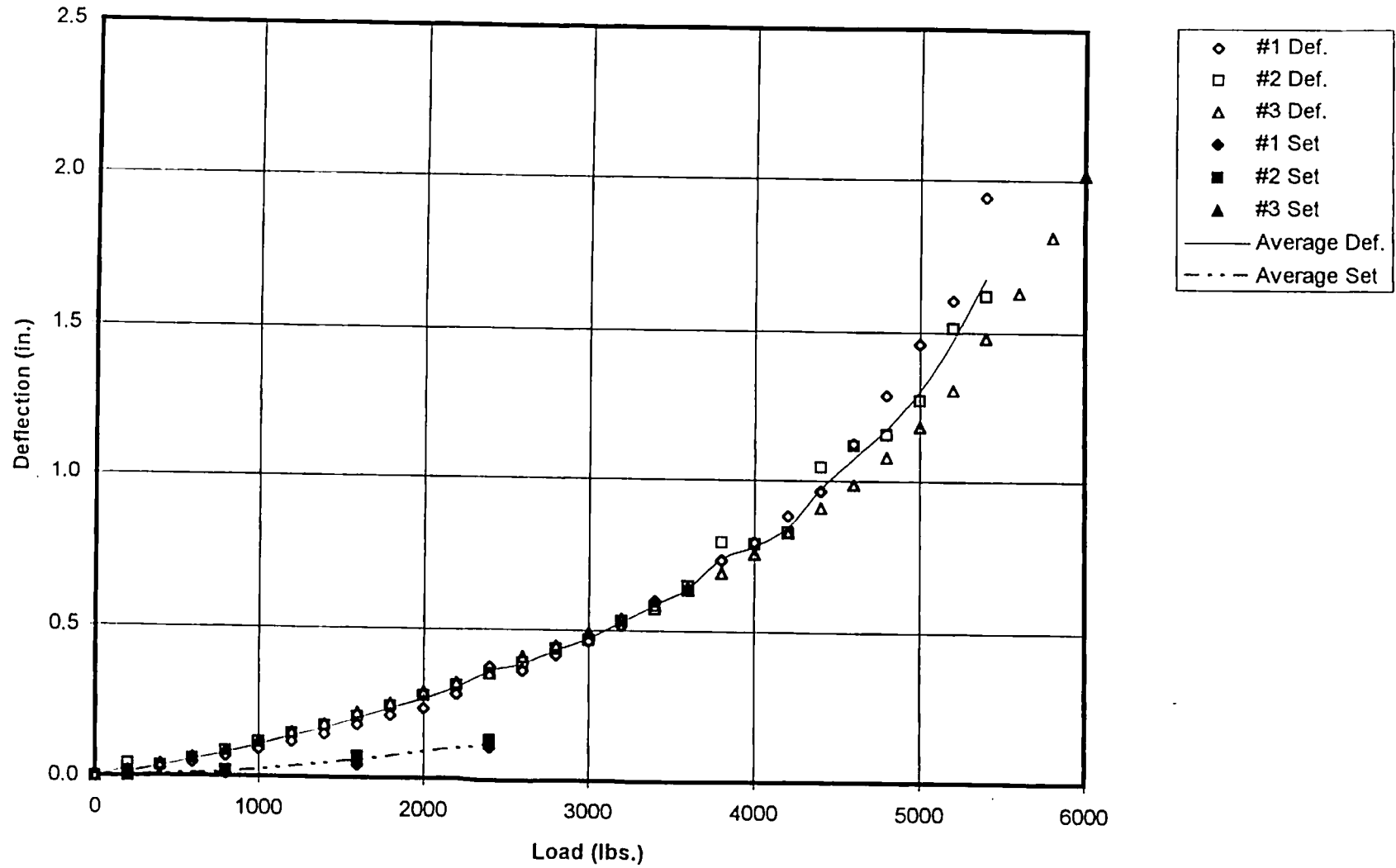


Figure 2



ASTM E 72-95 Racking Load Test

Client: American Fiberboard Association
 Project No.: 96-60
 Design: 1/2" Panel with
 16-Ga. 7/16x1-3/4" Staples

Test Date: 11/21/96
 Test No: 1
 Tested by: LAJF

	Load (lbf)	Dial Readings (in.)			Net Deflection (in.)
		Dial 1	Dial 2	Dial 3	
Initial	0	0.000	0.000	0.000	0.000
Preload	200	0.005	0.040	0.002	0.033
Set	0	0.002	0.018	0.000	0.016
Start	0	0.000	0.000	0.000	0.000
	200	0.003	0.026	0.001	0.022
	400	0.021	0.036	0.005	0.010
	600	0.040	0.181	0.008	0.133
	800	0.064	0.238	0.012	0.162
Set	0	0.029	0.116	0.003	0.084
	1000	0.069	0.296	0.018	0.189
	1200	0.109	0.352	0.022	0.221
	1400	0.130	0.407	0.027	0.250
	1600	0.150	0.470	0.031	0.289
Set	0	0.058	0.202	0.009	0.135
	1800	0.166	0.532	0.037	0.329
	2000	0.181	0.595	0.041	0.373
	2200	0.196	0.665	0.046	0.423
	2400	0.210	0.750	0.051	0.489
Set	0	0.076	0.302	0.014	0.212
	2600	0.229	0.852	0.057	0.566
	2800	0.243	0.929	0.062	0.624
	3000	0.265	1.057	0.068	0.724
	3200	0.275	1.137	0.072	0.790
	3400	0.291	1.262	0.077	0.894
	3600	0.306	1.397	0.082	1.009
	3800	0.325	1.550	0.088	1.137
	4000	0.341	1.701	0.094	1.266
	4200	0.366	1.915	0.101	1.448
	4400	0.389	2.128	0.109	1.630
	4600	0.411	2.345	0.116	1.818

Failure Load (lbf): 4725

Load at 1/8" Deflection (lbf): 587

Observation: Fasteners tore through edges at central stud and at head and sill adjacent to central stud.

Table 4



ASTM E 72-95 Racking Load Test

Client: American Fiberboard Association
 Project No.: 96-60
 Design: 1/2" Panel with
 16-Ga. 7/16x1-3/4" Staples

Test Date: 11/21/96
 Test No: 2
 Tested by: LAJF

	Load (lbf)	Dial Readings (in.)			Net Deflection (in.)
		Dial 1	Dial 2	Dial 3	
Initial	0	0.000	0.000	0.000	0.000
Preload	200	0.001	0.017	0.001	0.015
Set	0	0.000	0.002	0.000	0.002
Start	0	0.000	0.000	0.000	0.000
	200	0.001	0.016	0.001	0.014
	400	0.007	0.039	0.002	0.030
	600	0.008	0.075	0.005	0.062
	800	0.027	0.106	0.008	0.071
Set	0	0.006	0.024	0.002	0.016
	1000	0.039	0.145	0.013	0.093
	1200	0.052	0.192	0.018	0.122
	1400	0.066	0.238	0.024	0.148
	1600	0.081	0.288	0.030	0.177
Set	0	0.026	0.083	0.012	0.045
	1800	0.096	0.347	0.037	0.214
	2000	0.112	0.409	0.042	0.255
	2200	0.125	0.463	0.047	0.291
	2400	0.143	0.536	0.053	0.340
Set	0	0.045	0.176	0.023	0.108
	2600	0.158	0.611	0.061	0.392
	2800	0.174	0.685	0.066	0.445
	3000	0.189	0.768	0.072	0.507
	3200	0.203	0.841	0.076	0.562
	3400	0.224	0.952	0.083	0.645
	3600	0.237	1.032	0.088	0.707
	3800	0.257	1.165	0.095	0.813
	4000	0.281	1.334	0.104	0.949
	4200	0.296	1.457	0.110	1.051
	4400	0.315	1.612	0.119	1.178
	4600	0.335	1.796	0.128	1.333
	4800	0.350	1.929	0.135	1.444
	5000	0.371	2.143	0.146	1.626
	5200	0.390	2.313	0.156	1.767

Failure Load (lbf): 5250

Load at 1/8" Deflection (lbf): 1223

Observation: Fasteners tore through edges at central stud and at head and sill adjacent to central stud.

Table 5



ASTM E 72-95 Racking Load Test

Client: American Fiberboard Association
 Project No.: 96-60
 Design: 1/2" Panel with
 16-Ga. 7/16x1-3/4" Staples

Test Date: 11/27/96
 Test No: 3
 Tested by: LA/JF

	Load (lbf)	Dial Readings (in.)			Net Deflection (in.)
		Dial 1	Dial 2	Dial 3	
Initial	0	0.000	0.000	0.000	0.000
Preload	200	0.001	0.015	0.001	0.013
Set	0	0.000	0.000	0.000	0.000
Start	0	0.000	0.000	0.000	0.000
	200	0.001	0.018	0.001	0.016
	400	0.001	0.043	0.004	0.038
	600	0.013	0.077	0.008	0.056
	800	0.023	0.129	0.013	0.093
Set	0	0.004	0.029	0.006	0.019
	1000	0.033	0.171	0.020	0.118
	1200	0.042	0.217	0.029	0.146
	1400	0.053	0.270	0.039	0.178
	1600	0.062	0.312	0.047	0.203
Set	0	0.014	0.095	0.028	0.053
	1800	0.088	0.389	0.065	0.236
	2000	0.101	0.449	0.080	0.268
	2200	0.111	0.532	0.117	0.304
	2400	0.123	0.591	0.126	0.342
Set	0	0.047	0.247	0.094	0.106
	2600	0.136	0.657	0.140	0.381
	2800	0.149	0.731	0.150	0.432
	3000	0.158	0.795	0.158	0.479
	3200	0.170	0.869	0.166	0.533
	3400	0.181	0.953	0.172	0.600
	3600	0.191	1.027	0.180	0.656
	3800	0.203	1.117	0.184	0.730
	4000	0.213	1.215	0.192	0.810
	4200	0.225	1.321	0.197	0.899
	4400	0.235	1.415	0.201	0.979
	4600	0.250	1.538	0.110	1.178
	4800	0.264	1.689	0.115	1.310
	5000	0.279	1.830	0.120	1.431

Failure Load (lbf): 5150

Load at 1/8" Deflection (lbf): 1050

Observation: Fasteners tore through edges at central stud and at head and sill adjacent to central stud.

Table 6

American Fiberboard Association
 Project #96-60
 Summary of Racking Load Test
 1/2" Panel with 16-Ga 7/16x1-3/4 Staples

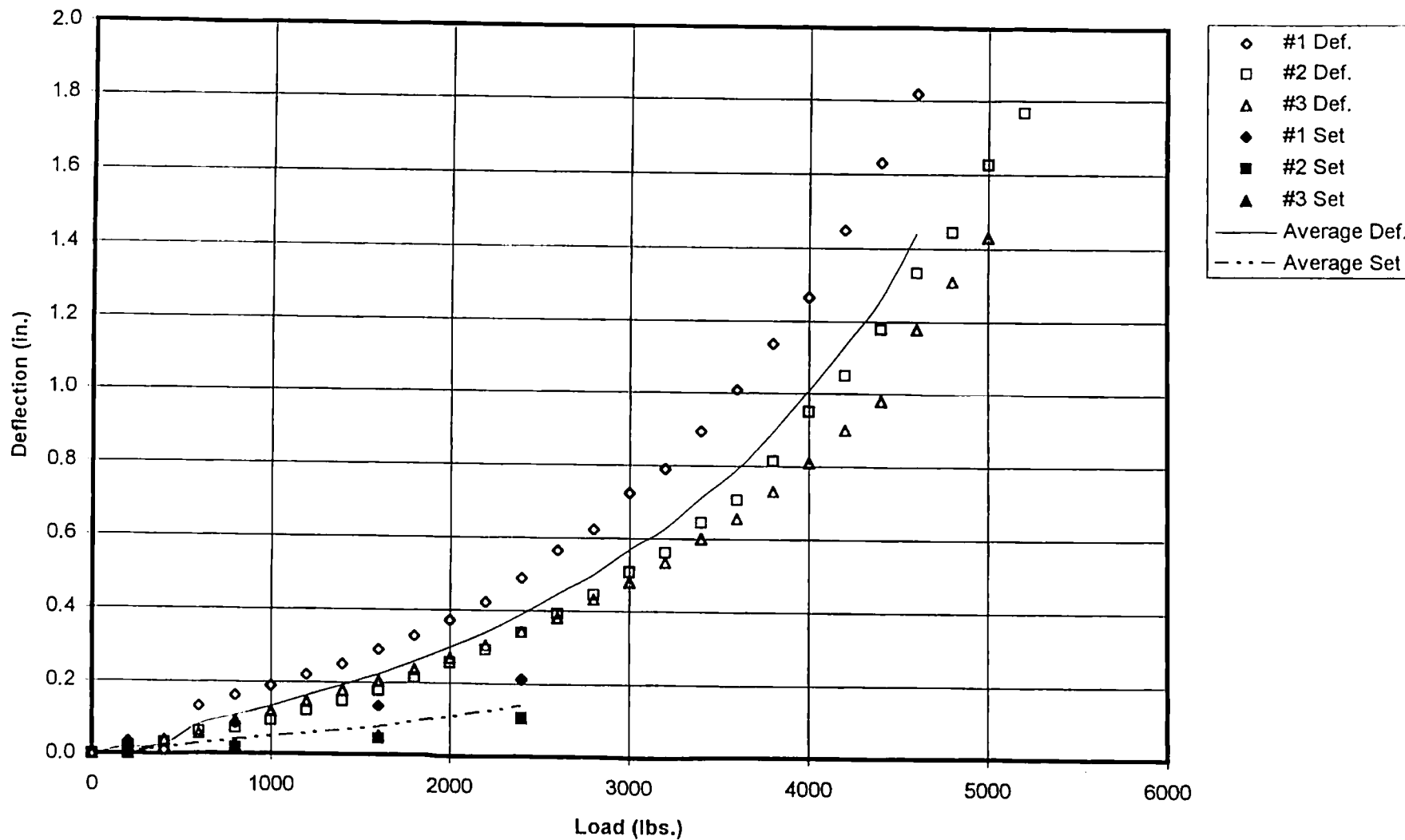


Figure 3



ASTM E 72-95 Racking Load Test

Client: American Fiberboard Association
 Project No.: 96-60
 Design: 1/2" Panel with
 16-Ga. 1x1-3/4" Staples

Test Date: 11/20/96
 Test No: 1
 Tested by: LAJF

	Load (lbf)	Dial Readings (in.)			Net Deflection (in.)
		Dial 1	Dial 2	Dial 3	
Initial	0	0.000	0.000	0.000	0.000
Preload	200	0.004	0.020	0.002	0.014
Set	0	0.003	0.004	0.000	0.001
Start	0	0.000	0.000	0.000	0.000
	200	0.002	0.018	0.002	0.014
	400	0.007	0.046	0.005	0.034
	600	0.020	0.085	0.018	0.057
	800	0.035	0.147	0.028	0.084
Set	0	0.017	0.052	0.018	0.017
	1000	0.053	0.196	0.036	0.107
	1200	0.079	0.252	0.041	0.132
	1400	0.097	0.306	0.047	0.162
	1600	0.113	0.357	0.053	0.191
Set	0	0.045	0.129	0.029	0.055
	1800	0.134	0.425	0.051	0.240
	2000	0.145	0.483	0.067	0.271
	2200	0.159	0.534	0.071	0.304
	2400	0.175	0.601	0.077	0.349
Set	0	0.056	0.218	0.040	0.122
	2600	0.190	0.665	0.081	0.394
	2800	0.205	0.726	0.087	0.434
	3000	0.220	0.789	0.092	0.477
	3200	0.235	0.857	0.098	0.524
	3400	0.253	0.938	0.107	0.578
	3600	0.267	1.000	0.113	0.620
	3800	0.286	1.077	0.121	0.670
	4000	0.304	1.169	0.129	0.736
	4200	0.321	1.271	0.138	0.812
	4400	0.334	1.344	0.143	0.867
	4600	0.351	1.461	0.152	0.958
	4800	0.367	1.556	0.159	1.030
	5000	0.378	1.631	0.165	1.088
	5200	0.388	1.730	0.171	1.171
	5400	0.399	1.829	0.177	1.253
	5600	0.415	1.930	0.182	1.333
	5800	0.430	2.056	0.188	1.438
	6000	0.450	2.205	0.196	1.559
	6200	0.462	2.289	0.201	1.626
	6400	0.481	2.430	0.208	1.741
	6800	0.502	2.559	0.218	1.839

Failure Load (lbf): 7700

Load at 1/8" Deflection (lbf): 1144

Observation: Fasteners tore through edges at central stud and at head and sill adjacent to central stud.

Table 7



ASTM E 72-95 Racking Load Test

Client: American Fiberboard Association
 Project No.: 96-60
 Design: 1/2" Panel with
 16-Ga. 1x1-3/4" Staples

Test Date: 11/27/96
 Test No: 2
 Tested by: LA/JF

	Load (lbf)	Dial Readings (In.)			Net Deflection (In.)
		Dial 1	Dial 2	Dial 3	
Initial	0	0.000	0.000	0.000	0.000
Preload	200	0.003	0.020	0.003	0.014
Set	0	0.001	0.004	0.001	0.002
Start	0	0.000	0.000	0.000	0.000
	200	0.002	0.014	0.001	0.011
	400	0.006	0.039	0.005	0.028
	600	0.010	0.066	0.010	0.046
	800	0.017	0.096	0.017	0.062
Set	0	0.004	0.019	0.008	0.007
	1000	0.025	0.128	0.025	0.078
	1200	0.032	0.161	0.031	0.098
	1400	0.043	0.202	0.039	0.120
	1600	0.054	0.238	0.045	0.139
Set	0	0.012	0.065	0.022	0.031
	1800	0.063	0.274	0.052	0.159
	2000	0.074	0.309	0.057	0.178
	2200	0.084	0.352	0.062	0.206
	2400	0.096	0.401	0.069	0.236
Set	0	0.020	0.113	0.031	0.062
	2600	0.102	0.443	0.076	0.265
	2800	0.110	0.482	0.080	0.292
	3000	0.123	0.534	0.086	0.325
	3200	0.133	0.592	0.092	0.367
	3400	0.143	0.644	0.099	0.402
	3600	0.155	0.704	0.106	0.443
	3800	0.167	0.769	0.113	0.489
	4000	0.176	0.820	0.118	0.526
	4200	0.189	0.888	0.125	0.574
	4400	0.199	0.946	0.131	0.616
	4600	0.209	1.009	0.137	0.663
	4800	0.220	1.083	0.144	0.719
	5000	0.231	1.149	0.151	0.767
	5200	0.245	1.236	0.159	0.832
	5400	0.256	1.304	0.165	0.883
	5600	0.266	1.376	0.170	0.940
	5800	0.281	1.470	0.176	1.013
	6000	0.291	1.536	0.182	1.063
	6200	0.306	1.635	0.189	1.140
	6400	0.318	1.728	0.197	1.213
	6800	0.338	1.872	0.210	1.324

Failure Load (lbf): 7820

Load at 1/8" Deflection (lbf): 1453

Observation: Fasteners tore through edges at central stud and at head and sill adjacent to central stud.

Table 8



ASTM E 72-95 Racking Load Test

Client: American Fiberboard Association
 Project No.: 96-60
 Design: 1/2" Panel with
 16-Ga. 1x1-3/4" Staples

Test Date: 11/27/96
 Test No: 3
 Tested by: LA/JF

	Load (lbf)	Dial Readings (In.)			Net Deflection (In.)
		Dial 1	Dial 2	Dial 3	
Initial	0	0.000	0.000	0.000	0.000
Preload	200	0.007	0.031	0.002	0.022
Set	0	0.003	0.006	0.001	0.002
Start	0	0.000	0.000	0.000	0.000
	200	0.003	0.016	0.001	0.012
	400	0.008	0.036	0.002	0.026
	600	0.016	0.069	0.005	0.048
	800	0.027	0.107	0.009	0.071
Set	0	0.012	0.025	0.003	0.010
	1000	0.037	0.137	0.011	0.089
	1200	0.049	0.186	0.015	0.122
	1400	0.061	0.234	0.018	0.155
	1600	0.076	0.282	0.022	0.184
Set	0	0.029	0.085	0.008	0.048
	1800	0.115	0.355	0.027	0.213
	2000	0.132	0.412	0.031	0.249
	2200	0.146	0.466	0.035	0.285
	2400	0.168	0.520	0.039	0.313
Set	0	0.082	0.191	0.014	0.095
	2600	0.181	0.577	0.042	0.354
	2800	0.194	0.632	0.046	0.392
	3000	0.204	0.683	0.050	0.429
	3200	0.215	0.744	0.054	0.475
	3400	0.229	0.808	0.057	0.522
	3600	0.244	0.879	0.062	0.573
	3800	0.256	0.945	0.065	0.624
	4000	0.269	1.021	0.069	0.683
	4200	0.281	1.097	0.073	0.743
	4400	0.292	1.162	0.077	0.793
	4600	0.311	1.265	0.081	0.873
	4800	0.325	1.346	0.085	0.936
	5000	0.340	1.450	0.089	1.021
	5200	0.355	1.541	0.094	1.092
	5400	0.370	1.650	0.098	1.182
	5600	0.385	1.743	0.102	1.256
	5800	0.398	1.836	0.106	1.332
	6000	0.422	1.990	0.112	1.456
	6200	0.440	2.113	0.117	1.556
	6400	0.456	2.208	0.122	1.630
	6800	0.502	2.508	0.134	1.872

Failure Load (lbf): 7250

Load at 1/8" Deflection (lbf): 1218

Observation: Fasteners tore through edges at central stud and at head and sill adjacent to central stud.

Table 9

American Fiberboard Association
Project #96-60
Summary of Racking Load Test
1/2" Panel with 16-Ga. 1x1-3/4" Staples

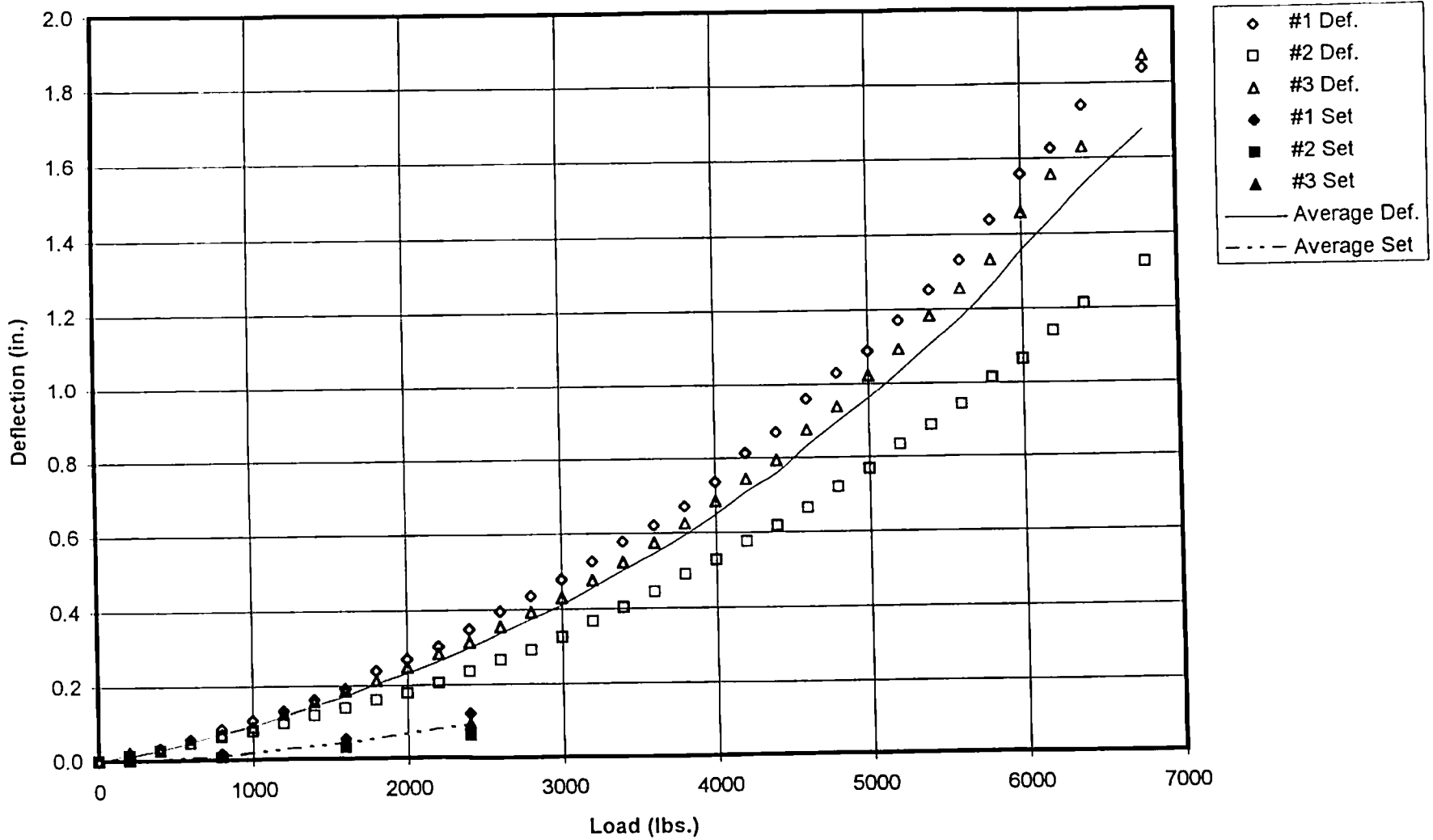


Figure 4



ASTM E 72-95 Racking Load Test

Client: American Fiberboard Association
 Project No.: 96-60
 Design: 25/32" Panel with Roofing Nails

Test Date: 11/19/96
 Test No: 1
 Tested by: LAJF

	Load (lbf)	Dial Readings (in.)			Net Deflection (in.)
		Dial 1	Dial 2	Dial 3	
Initial	0	0.000	0.000	0.000	0.000
Preload	200	0.004	0.023	0.002	0.017
Set	0	0.002	0.002	0.000	0.000
Start	0	0.000	0.000	0.000	0.000
	200	0.004	0.025	0.002	0.019
	400	0.014	0.063	0.005	0.044
	600	0.027	0.113	0.010	0.076
	800	0.058	0.189	0.017	0.114
Set	0	0.029	0.065	0.006	0.030
	1000	0.082	0.252	0.025	0.145
	1200	0.101	0.295	0.030	0.164
	1400	0.118	0.356	0.038	0.200
	1600	0.133	0.406	0.047	0.226
Set	0	0.064	0.157	0.021	0.072
	1800	0.155	0.490	0.066	0.269
	2000	0.167	0.555	0.075	0.313
	2200	0.182	0.608	0.083	0.343
	2400	0.196	0.679	0.090	0.393
Set	0	0.089	0.280	0.053	0.138
	2600	0.214	0.759	0.101	0.444
	2800	0.228	0.820	0.107	0.485
	3000	0.240	0.907	0.113	0.554
	3200	0.254	0.963	0.120	0.589
	3400	0.271	1.081	0.129	0.681
	3600	0.286	1.154	0.137	0.731
	3800	0.301	1.251	0.145	0.805
	4000	0.315	1.345	0.152	0.878
	4200	0.332	1.474	0.161	0.981
	4400	0.335	1.501	0.163	1.003
	4600	0.363	1.712	0.178	1.171
	4800	0.386	1.905	0.190	1.329
	5000	0.407	2.108	0.202	1.499
	5200	0.427	2.278	0.214	1.637
	5400	0.441	2.425	0.223	1.761
	5600	0.467	2.601	0.240	1.894
	5800	0.494	2.846	0.256	2.096
	6000	0.517	4.090	0.271	3.302

Failure Load (lbf): 6120

Load at 1/8" Deflection (lbs.): 871

Observation: Fasteners tore through edges at central stud and at head and sill adjacent to central stud.

Table 10



ASTM E 72-95 Racking Load Test

Client: American Fiberboard Association
 Project No.: 96-60
 Design: 25/32" Panel with Roofing Nails

Test Date: 11/19/96
 Test No: 2
 Tested by: LA/JF

	Load (lbf)	Dial Readings (in.)			Net Deflection (in.)
		Dial 1	Dial 2	Dial 3	
Initial	0	0.000	0.000	0.000	0.000
Preload	200	0.002	0.015	0.002	0.011
Set	0	0.001	0.002	0.000	0.001
Start	0	0.000	0.000	0.000	0.000
	200	0.002	0.013	0.001	0.010
	400	0.005	0.038	0.004	0.029
	600	0.013	0.070	0.011	0.046
	800	0.019	0.105	0.019	0.067
Set	0	0.005	0.027	0.011	0.011
	1000	0.029	0.142	0.026	0.087
	1200	0.054	0.196	0.033	0.109
	1400	0.068	0.246	0.040	0.138
	1600	0.128	0.342	0.050	0.164
Set	0	0.069	0.131	0.028	0.034
	1800	0.156	0.411	0.058	0.197
	2000	0.173	0.465	0.063	0.229
	2200	0.193	0.531	0.070	0.268
	2400	0.208	0.589	0.075	0.306
Set	0	0.111	0.251	0.042	0.098
	2600	0.227	0.681	0.083	0.371
	2800	0.241	0.743	0.088	0.414
	3000	0.254	0.806	0.093	0.459
	3200	0.268	0.877	0.098	0.511
	3400	0.284	0.965	0.105	0.576
	3600	0.300	1.069	0.112	0.657
	3800	0.313	1.156	0.118	0.725
	4000	0.326	1.251	0.124	0.801
	4200	0.343	1.374	0.131	0.900
	4400	0.360	1.512	0.139	1.013
	4600	0.376	1.659	0.148	1.135
	4800	0.393	1.802	0.156	1.253
	5000	0.412	1.984	0.166	1.406
	5200	0.430	2.174	0.176	1.568
	5400	0.454	2.420	0.188	1.778
	5600	0.474	2.601	0.197	1.930
	5800	0.502	2.922	0.213	2.207

Failure Load (lbf): 5950

Load at 1/8" Deflection (lbf): 1345

Observation: Fasteners tore through edges at central stud and at head and sill adjacent to central stud.

Table 11



ASTM E 72-95 Racking Load Test

Client: American Fiberboard Association
 Project No.: 96-60
 Design: 25/32" Panel with Roofing Nails

Test Date: 11/20/96
 Test No: 3
 Tested by: LA/JF

	Load (lbf)	Dial Readings (In.)			Net Deflection (In.)
		Dial 1	Dial 2	Dial 3	
Initial	0	0.000	0.000	0.000	0.000
Preload	200	0.006	0.025	0.001	0.018
Set	0	0.003	0.004	0.000	0.001
Start	0	0.000	0.000	0.000	0.000
	200	0.005	0.022	0.001	0.016
	400	0.018	0.065	0.005	0.042
	600	0.038	0.122	0.010	0.074
	800	0.055	0.179	0.017	0.107
Set	0	0.022	0.057	0.010	0.025
	1000	0.074	0.239	0.028	0.137
	1200	0.090	0.293	0.036	0.167
	1400	0.105	0.346	0.044	0.197
	1600	0.120	0.398	0.051	0.227
Set	0	0.043	0.145	0.030	0.072
	1800	0.135	0.460	0.059	0.266
	2000	0.149	0.519	0.065	0.305
	2200	0.162	0.585	0.071	0.352
	2400	0.176	0.650	0.078	0.396
Set	0	0.060	0.240	0.046	0.134
	2600	0.190	0.744	0.089	0.465
	2800	0.204	0.831	0.097	0.530
	3000	0.214	0.892	0.102	0.576
	3200	0.224	0.958	0.108	0.626
	3400	0.237	1.047	0.115	0.695
	3600	0.251	1.155	0.124	0.780
	3800	0.265	1.266	0.132	0.869
	4000	0.279	1.396	0.142	0.975
	4200	0.294	1.523	0.150	1.079
	4400	0.306	1.654	0.158	1.190
	4600	0.322	1.803	0.167	1.314
	4800	0.338	1.991	0.178	1.475
	5000	0.356	2.219	0.190	1.673
	5200	0.369	2.371	0.198	1.804
	5400	0.390	2.620	0.212	2.018
	5600	0.404	2.776	0.221	2.151

Failure Load (lbf): 5900

Load at 1/8" Deflection (lbf): 920

Observation: Fasteners tore through edges at central stud and at head and sill adjacent to central stud.

Table 12

American Fiberboard Association
 Project #96-60
 Summary of Racking Load Test
 25/32" Panel with Roofing Nails

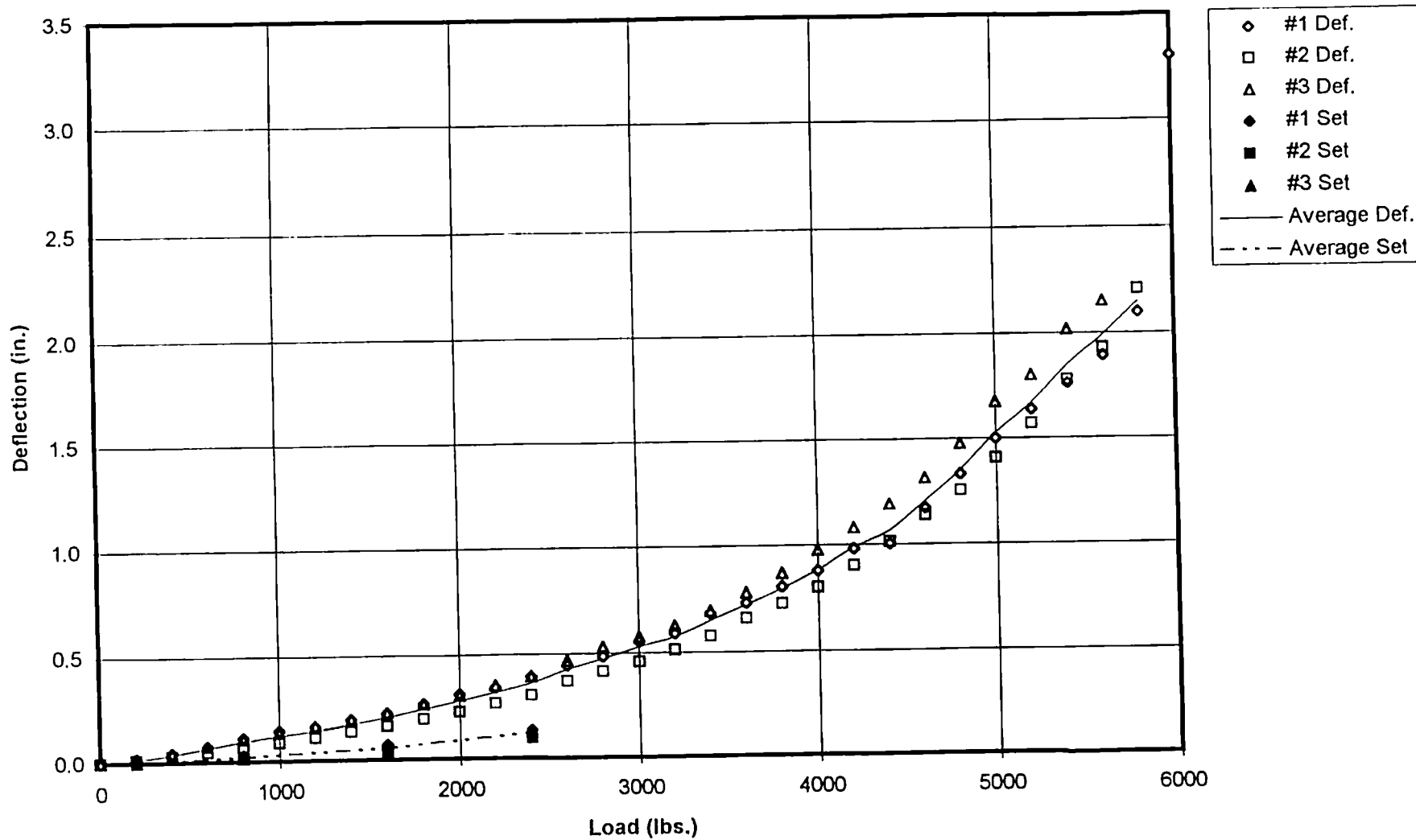


Figure 5



ASTM E 72-95 Racking Load Test

Client: American Fiberboard Association
 Project No.: 96-60
 Design: 25/32" Panel with
 16-Ga. 7/16x1-3/4" Staples

Test Date: 11/22/96
 Test No: 1
 Tested by: LAJF

	Load (lbf)	Dial Readings (in.)			Net Deflection (in.)
		Dial 1	Dial 2	Dial 3	
Initial	0	0.000	0.000	0.000	0.000
Preload	200	0.003	0.023	0.002	0.018
Set	0	0.002	0.006	0.000	0.004
Start	0	0.000	0.000	0.000	0.000
	200	0.002	0.018	0.001	0.015
	400	0.010	0.055	0.005	0.040
	600	0.026	0.114	0.013	0.075
	800	0.046	0.185	0.022	0.117
Set	0	0.020	0.063	0.010	0.033
	1000	0.074	0.281	0.035	0.172
	1200	0.094	0.348	0.045	0.209
	1400	0.112	0.411	0.053	0.246
	1600	0.126	0.464	0.060	0.278
Set	0	0.043	0.075	0.029	0.003
	1800	0.143	0.531	0.072	0.316
	2000	0.158	0.595	0.079	0.358
	2200	0.175	0.676	0.087	0.414
	2400	0.188	0.742	0.094	0.460
Set	0	0.078	0.142	0.058	0.006
	2600	0.206	0.837	0.105	0.526
	2800	0.222	0.931	0.113	0.596
	3000	0.236	1.020	0.121	0.663
	3200	0.254	1.128	0.131	0.743
	3400	0.271	1.252	0.142	0.839
	3600	0.294	1.427	0.156	0.977
	3800	0.308	1.552	0.166	1.078
	4000	0.324	1.700	0.177	1.199
	4200	0.344	1.811	0.191	1.276
	4400	0.365	2.096	0.207	1.524
	4600	0.384	2.288	0.220	1.684
	4800	0.411	2.565	0.244	1.910

Failure Load (lbf.): 5050

Load at 1/8" Deflection (lbf): 829

Observation: Fasteners tore through edges at central stud and at head and sill adjacent to central stud.

Table 13



ASTM E 72-95 Racking Load Test

Client: American Fiberboard Association
 Project No.: 96-60
 Design: 25/32" Panel with
 16-Ga. 7/16x1-3/4" Staples

Test Date: 11/22/96
 Test No: 2
 Tested by: LAJF

	Load (lbf)	Dial Readings (in.)			Net Deflection (in.)
		Dial 1	Dial 2	Dial 3	
Initial	0	0.000	0.000	0.000	0.000
Preload	200	0.003	0.017	0.001	0.013
Set	0	0.002	0.004	0.000	0.002
Start	0	0.000	0.000	0.000	0.000
	200	0.003	0.014	0.001	0.010
	400	0.011	0.046	0.002	0.033
	600	0.021	0.084	0.004	0.059
	800	0.031	0.123	0.007	0.085
Set	0	0.013	0.042	0.003	0.026
	1000	0.042	0.166	0.010	0.114
	1200	0.053	0.213	0.015	0.145
	1400	0.065	0.263	0.019	0.179
	1600	0.078	0.321	0.025	0.218
Set	0	0.031	0.110	0.013	0.066
	1800	0.094	0.395	0.033	0.268
	2000	0.108	0.455	0.038	0.309
	2200	0.119	0.522	0.041	0.362
	2400	0.136	0.619	0.047	0.436
Set	0	0.052	0.233	0.025	0.156
	2600	0.155	0.730	0.055	0.520
	2800	0.169	0.824	0.059	0.596
	3000	0.188	0.939	0.064	0.687
	3200	0.209	1.091	0.069	0.813
	3400	0.228	1.226	0.075	0.923
	3600	0.251	1.409	0.080	1.078
	3800	0.267	1.550	0.086	1.197
	4000	0.288	1.748	0.091	1.369
	4200	0.312	1.994	0.098	1.584
	4400	0.332	2.178	0.102	1.744
	4600	0.355	2.422	0.108	1.959
	4800	0.418	3.562	0.124	3.020

Failure Load (lbf): 4875
 Load at 1/8" Deflection: 1071
 Observation: Fasteners tore through edges at central stud and at head
 and sill adjacent to central stud.

Table 14



ASTM E 72-95 Racking Load Test

Client: American Fiberboard Association
 Project No.: 96-60
 Design: 25/32" Panel with
 16-Ga. 7/16x1-3/4" Staples

Test Date: 11/22/96
 Test No: 3
 Tested by: LA/JF

	Load (lbf)	Dial Readings (in.)			Net Deflection (in.)
		Dial 1	Dial 2	Dial 3	
Initial	0	0.000	0.000	0.000	0.000
Preload	200	0.007	0.036	0.001	0.028
Set	0	0.001	0.005	0.000	0.004
Start	0	0.000	0.000	0.000	0.000
	200	0.008	0.035	0.001	0.026
	400	0.018	0.070	0.004	0.048
	600	0.029	0.110	0.007	0.074
	800	0.038	0.151	0.011	0.102
Set	0	0.003	0.009	0.002	0.004
	1000	0.050	0.185	0.018	0.127
	1200	0.060	0.232	0.022	0.150
	1400	0.070	0.274	0.027	0.177
	1600	0.081	0.325	0.032	0.212
Set	0	0.008	0.048	0.009	0.031
	1800	0.095	0.391	0.042	0.254
	2000	0.111	0.474	0.050	0.313
	2200	0.123	0.538	0.058	0.357
	2400	0.138	0.628	0.066	0.424
Set	0	0.029	0.171	0.019	0.123
	2600	0.153	0.727	0.075	0.499
	2800	0.167	0.818	0.080	0.571
	3000	0.183	0.933	0.088	0.662
	3200	0.200	1.082	0.096	0.786
	3400	0.214	1.205	0.102	0.889
	3600	0.236	1.394	0.111	1.047
	3800	0.253	1.569	0.118	1.198
	4000	0.277	1.815	0.128	1.410
	4200	0.296	2.012	0.135	1.581
	4400	0.313	2.213	0.142	1.758
	4600	0.345	2.537	0.154	2.038

Failure Load (lbf): 4730

Load at 1/8" Deflection (lbf): 984

Observation: Fasteners tore through edges at central stud and at head
 and sill adjacent to central stud.

Table 15

American Fiberboard Association
Project #96-60
Summary of Racking Load Test
25/32" Panel with 16-Ga. 7/16x1-3/4 Staples

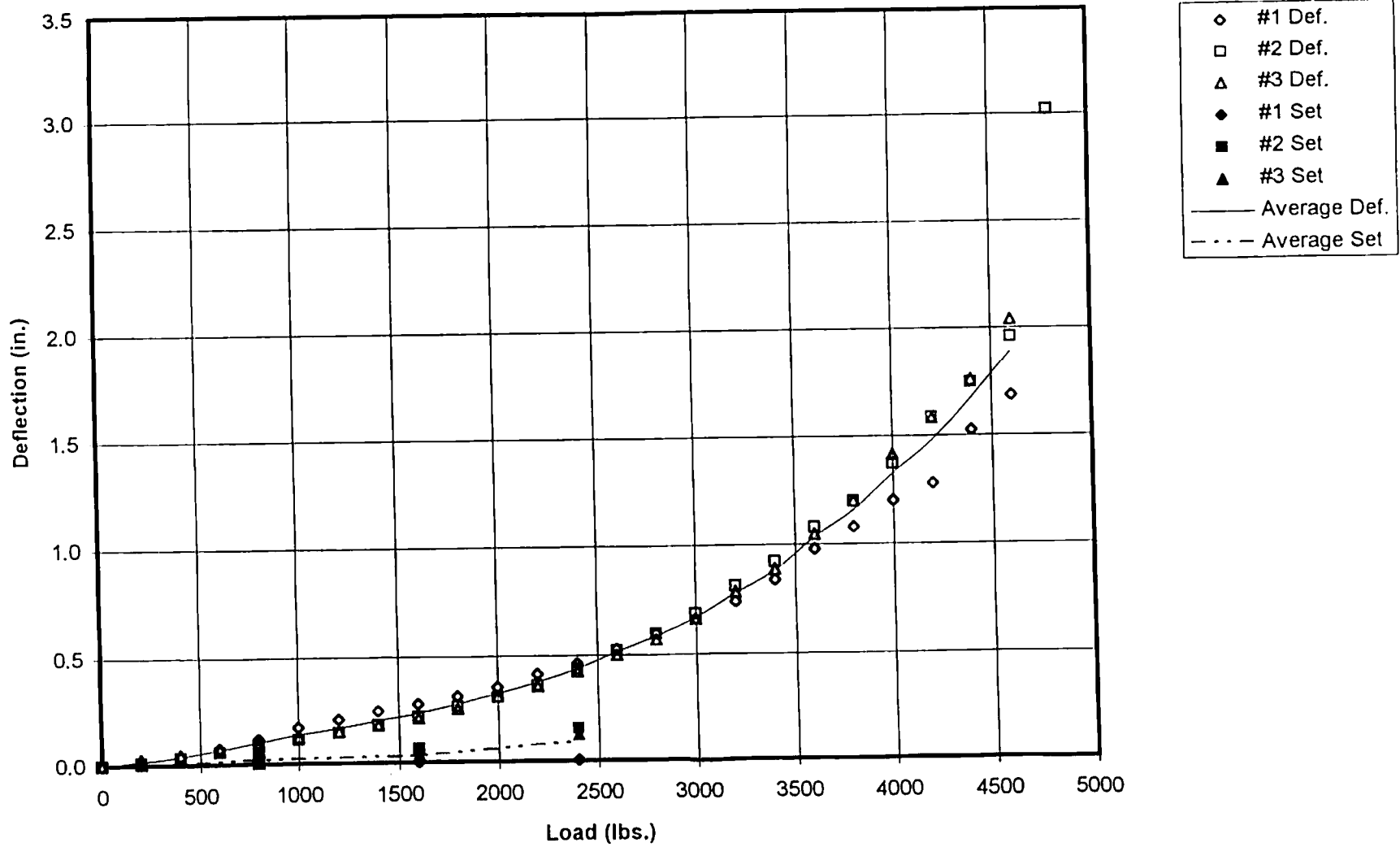


Figure 6



ASTM E 72-95 Racking Load Test

Client: American Fiberboard Association
 Project No.: 96-60
 Design: 25/32' Panel with
 16-Ga. 1x1-3/4" Staples

Test Date: 11/25/96
 Test No: 1
 Tested by: LAJF

	Load (lbf)	Dial Readings (in.)			Net Deflection (in.)
		Dial 1	Dial 2	Dial 3	
Initial	0	0.000	0.000	0.000	0.000
Preload	200	0.005	0.022	0.002	0.015
Set	0	0.001	0.004	0.001	0.002
Start	0	0.000	0.000	0.000	0.000
	200	0.004	0.020	0.001	0.015
	400	0.015	0.053	0.004	0.034
	600	0.024	0.085	0.008	0.053
	800	0.039	0.128	0.012	0.077
Set	0	0.011	0.033	0.004	0.018
	1000	0.043	0.158	0.015	0.100
	1200	0.043	0.200	0.020	0.137
	1400	0.065	0.247	0.026	0.156
	1600	0.084	0.311	0.036	0.191
Set	0	0.028	0.095	0.018	0.049
	1800	0.103	0.379	0.047	0.229
	2000	0.121	0.437	0.055	0.261
	2200	0.139	0.508	0.066	0.303
	2400	0.156	0.578	0.073	0.349
Set	0	0.059	0.207	0.043	0.105
	2600	0.181	0.662	0.085	0.396
	2800	0.196	0.734	0.090	0.448
	3000	0.211	0.808	0.097	0.500
	3200	0.230	0.902	0.105	0.567
	3400	0.246	0.988	0.113	0.629
	3600	0.263	1.075	0.122	0.690
	3800	0.276	1.155	0.127	0.752
	4000	0.298	1.281	0.138	0.845
	4200	0.329	1.484	0.152	1.003
	4400	0.336	1.542	0.158	1.048
	4600	0.348	1.618	0.162	1.108
	4800	0.364	1.721	0.170	1.187
	5000	0.379	1.820	0.177	1.264
	5200	0.398	1.961	0.187	1.376
	5400	0.416	2.098	0.194	1.488
	5600	0.435	2.234	0.204	1.595
	5800	0.457	2.404	0.213	1.734
	6000	0.476	2.544	0.223	1.845
	6200	0.500	2.710	0.233	1.977
	6400	0.523	2.894	0.246	2.125
	6800	0.570	3.283	0.272	2.441

Failure Load (lbf): 7200

Load at 1/8" Deflection (lbf): 1135

Observation: Fasteners tore through edges at central stud and at head and sill adjacent to central stud.

Table 16



ASTM E 72-95 Racking Load Test

Client: American Fiberboard Association
 Project No.: 96-60
 Design: 25/32" Panel with
 16-Ga. 1x1-3/4" Staples

Test Date: 11/25/96
 Test No: 2
 Tested by: LA/JF

	Load (lbf)	Dial Readings (In.)			Net Deflection (In.)
		Dial 1	Dial 2	Dial 3	
Initial	0	0.000	0.000	0.000	0.000
Preload	200	0.008	0.037	0.000	0.029
Set	0	0.001	0.005	0.000	0.004
Start	0	0.000	0.000	0.000	0.000
	200	0.008	0.042	0.000	0.034
	400	0.014	0.073	0.002	0.057
	600	0.024	0.121	0.006	0.091
	800	0.035	0.181	0.013	0.133
Set	0	0.006	0.044	0.006	0.032
	1000	0.061	0.271	0.029	0.181
	1200	0.068	0.324	0.038	0.218
	1400	0.083	0.390	0.047	0.260
	1600	0.103	0.487	0.061	0.303
Set	0	0.036	0.175	0.042	0.097
	1800	0.119	0.568	0.096	0.353
	2000	0.131	0.637	0.103	0.403
	2200	0.145	0.715	0.111	0.459
	2400	0.156	0.780	0.118	0.506
Set	0	0.052	0.322	0.092	0.178
	2600	0.161	0.870	0.151	0.558
	2800	0.172	0.949	0.162	0.615
	3000	0.181	1.011	0.171	0.659
	3200	0.190	1.080	0.180	0.710
	3400	0.200	1.146	0.187	0.759
	3600	0.213	1.257	0.200	0.844
	3800	0.222	1.333	0.209	0.902
	4000	0.233	1.426	0.220	0.973
	4200	0.242	1.505	0.228	1.035
	4400	0.255	1.609	0.236	1.118
	4600	0.266	1.704	0.246	1.192
	4800	0.280	1.829	0.254	1.295
	5000	0.293	1.932	0.263	1.376
	5200	0.306	2.053	0.271	1.476
	5400	0.318	2.147	0.278	1.551
	5600	0.334	2.316	0.293	1.689
	5800	0.348	2.451	0.302	1.801
	6000	0.361	2.587	0.312	1.914
	6200	0.374	2.713	0.321	2.018
	6400	0.388	2.852	0.334	2.130
	6800	0.425	3.212	0.356	2.431

Failure Load (lbf): 7200

Load at 1/8" Deflection (lbf): 762

Observation: Fasteners tore through edges at central stud and at head and sill adjacent to central stud.

Table 17



ASTM E 72-95 Racking Load Test

Client: American Fiberboard Association
 Project No.: 96-60
 Design: 25/32" Panel with
 16-Ga. 1x1-3/4" Staples

Test Date: 11/26/96
 Test No: 3
 Tested by: LA/JF

	Load (lbf)	Dial Readings (in.)			Net Deflection (in.)
		Dial 1	Dial 2	Dial 3	
Initial	0	0.000	0.000	0.000	0.000
Preload	200	0.002	0.034	0.003	0.029
Set	0	0.001	0.005	0.000	0.004
Start	0	0.000	0.000	0.000	0.000
	200	0.002	0.032	0.002	0.028
	400	0.012	0.086	0.010	0.064
	600	0.023	0.145	0.019	0.103
	800	0.048	0.238	0.038	0.152
Set	0	0.025	0.090	0.015	0.050
	1000	0.065	0.303	0.046	0.192
	1200	0.078	0.366	0.057	0.231
	1400	0.091	0.433	0.069	0.273
	1600	0.104	0.498	0.077	0.317
Set	0	0.046	0.199	0.037	0.116
	1800	0.117	0.572	0.086	0.369
	2000	0.132	0.663	0.095	0.436
	2200	0.145	0.747	0.104	0.498
	2400	0.154	0.823	0.111	0.558
Set	0	0.056	0.335	0.054	0.225
	2600	0.164	0.916	0.128	0.624
	2800	0.175	0.985	0.126	0.684
	3000	0.184	1.047	0.132	0.731
	3200	0.195	1.134	0.137	0.802
	3400	0.209	1.229	0.146	0.874
	3600	0.212	1.265	0.147	0.906
	3800	0.222	1.352	0.154	0.976
	4000	0.229	1.417	0.157	1.031
	4200	0.240	1.515	0.164	1.111
	4400	0.248	1.604	0.169	1.187
	4600	0.258	1.692	0.174	1.260
	4800	0.272	1.842	0.182	1.388
	5000	0.282	1.942	0.187	1.473
	5200	0.292	2.036	0.192	1.552
	5400	0.304	2.159	0.198	1.657
	5600	0.316	2.391	0.204	1.871
	5800	0.331	2.532	0.212	1.989
	6000	0.347	2.683	0.219	2.117
	6200	0.363	2.827	0.227	2.237
	6400	0.376	2.950	0.234	2.340
	6800	0.414	3.286	0.252	2.620

Failure Load (lbf): 7280

Load at 1/8" Deflection (lbf): 690

Observation: Fasteners tore through edges at central stud and at head and sill adjacent to central stud.

Table 18

American Fiberboard Association
Project #96-60
Summary of Racking Load Test
25/32" Panel with 16-Ga. 1x1-3/4" Staples

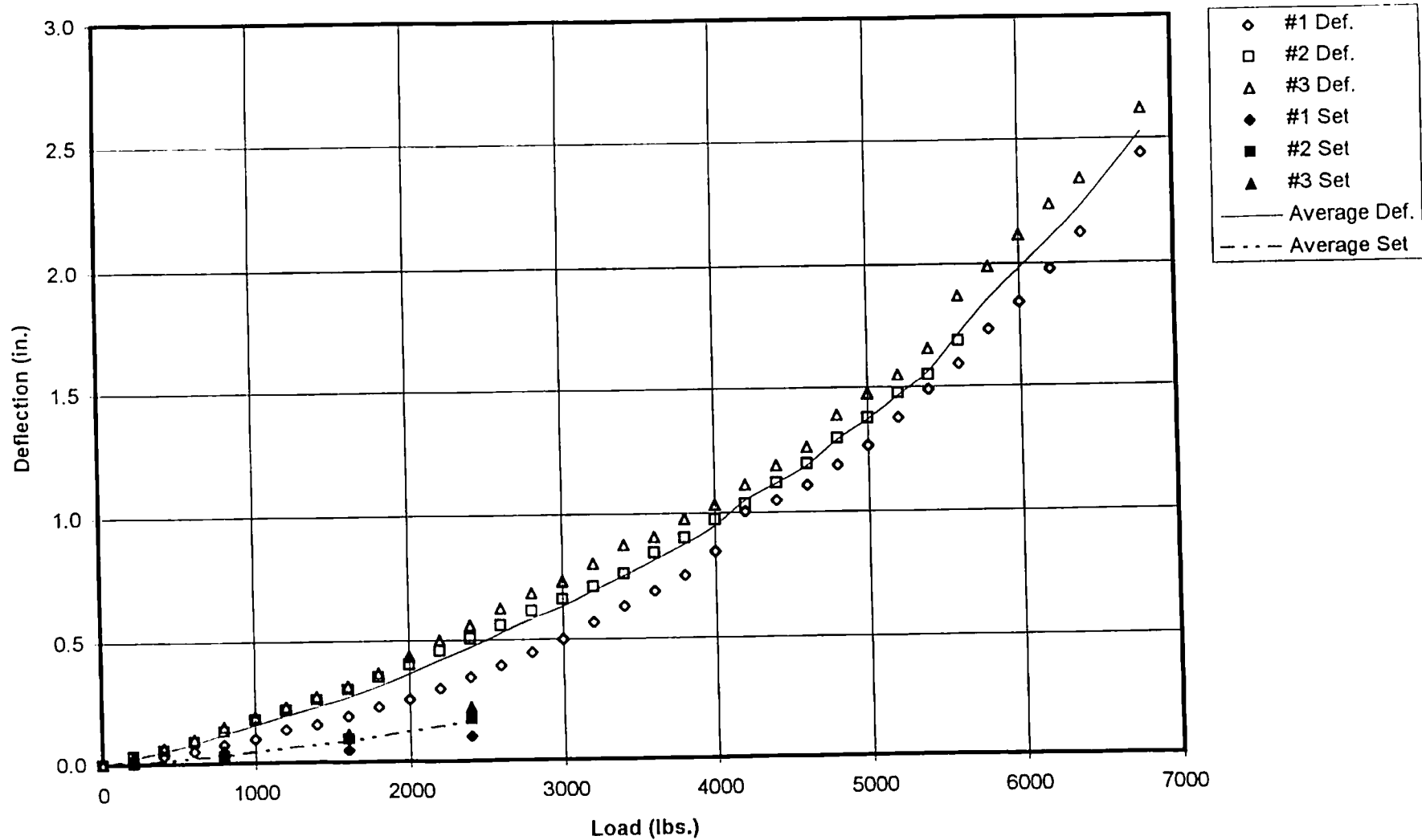


Figure 7

American Fiberboard Association
PFS Test Project #96-60
ASTM E 72-95 Racking Load Tests
Summary

1/2" THICK PANEL MAXIMUM LOAD (lbf)			
Specimen No.	Roofing Nail	16 ga., 7/16" x 1-3/4" Staple	16 ga., 1" x 1-3/4" Staple
1	5500	4725	7700
2	5720	5250	7820
3	6120	5150	7250
Average	5780	5042	7590

25/32" THICK PANEL MAXIMUM LOAD (lbf)			
Specimen No.	Roofing Nail	16 ga., 7/16" x 1-3/4" Staple	16 ga., 1" x 1-3/4" Staple
1	6120	5050	7200
2	5950	4875	7200
3	5900	4730	7280
Average	5990	4885	7227

Table 19

American Fiberboard Association
PFS Test Project #96-60
ASTM E 72-95 Racking Load Tests
Shear Values

1/2" THICK PANEL SHEAR LOAD (plf)		
Roofing Nail	16 ga., 7/16" x 1-3/4" Staple	16 ga., 1" x 1-3/4" Staple
258	225	339

25/33" THICK PANEL SHEAR LOAD (plf)		
Roofing Nail	16 ga., 7/16" x 1-3/4" Staple	16 ga., 1" x 1-3/4" Staple
267	218	323

$$\text{Shear Value} = \frac{\text{Average Maximum Load (lbs.)}}{8 \times 2.8'}$$

* 2.8 is factor of safety per APA Research Report #154 and this value was applied to the calculation shown as directed by the American Fiberboard Association.

Table 20

American Fiberboard Association
PFS Test Project #96-60
ASTM E 72-95 Racking Load Tests
Load at L/400

1/2" THICK PANEL LOAD @L/400 (lbf)			
Specimen No.	Roofing Nail	16 ga., 7/16" x 1-3/4" Staple	16 ga., 1" x 1-3/4" Staple
1	2024	1331	1800
2	1795	1927	2428
3	1731	1825	1950
Average	1850	1694	2059

25/32" THICK PANEL LOAD @ L/400 (lbf)			
Specimen No.	Roofing Nail	16 ga., 7/16" x 1-3/4" Staple	16 ga., 1" x 1-3/4" Staple
1	1665	1368	1869
2	2056	1688	1305
3	1667	1733	1243
Average	1796	1596	1472

Note: L/400 values shown are the loads corresponding with a deflection of 0.24 inches. L is 8 feet and therefore $8/400 = 0.24$.

Table 21

American Fiberboard Association
PFS Test Project #96-60
ASTM E 72-95 Racking Load Tests
Load at L/200

1/2" THICK PANEL LOAD @ L/200 (lbf)			
Specimen No.	Roofing Nail	16 ga., 7/16" x 1-3/4" Staple	16 ga., 1" x 1-3/4" Staple
1	3063	2373	3013
2	3039	2913	3761
3	2954	3004	3221
Average	3019	2763	3332

25/32" THICK PANEL LOAD @ L/200 (lbf)			
Specimen No.	Roofing Nail	16 ga., 7/16" x 1-3/4" Staple	16 ga., 1" x 1-3/4" Staple
1	2776	2461	2923
2	3081	2505	2289
3	2646	2549	2141
Average	2834	2505	2451

Note: L/200 values shown are the loads corresponding with a deflection of 0.48 inches. L is 8 feet and therefore $8/200 = 0.48$.

Table 22