Kreg Jig[®] HD Railing Force Test

Test Results:

The chart represents results from third party testing on Kreg Jig® HD Deck Railing applications. The first column indicates the Joint type used. We used two common wood types of material, cedar and ACQ pressure treated wood.

The second column represents the direction of force. The type of pressure represented here correlates with the images below - showing which direction the force was applied.

The third column represents the Average Maximum Force that was applied before the joint failed. International Residential Code (IRC) requires that each joint be able to handle 200 lbs of pressure prior to failure - a milestone which was met with each and every joint in our test.

Be sure to check with your local building code authority before using the Kreg Jig® HD to construct load bearing objects such as interior walls or deck railings. Building codes differ from area to area. Please reference applications in user manual or www.kregtool.com for more information.

* Our testing of the Kreg Jig® HD for Deck Railing construction has shown the Kreg Jig® HD (utilizing the methods and techniques described in the user manual) have met or exceeded the load requirements laid out in the 2009 International Residential Code (IRC) for deck guardrail systems. See below for details.

International Residential **Code Guardrail Requirements**

Whether manufactured or site-built, guardrail systems must be constructed and installed to meet IRC live-load requirements. To be compliant, guardrails must withstand a 200 lb. load applied in any direction. Compared to manufactured guardrail systems, site-built guardrails constructed of typical dimensional lumber are not as easy to build with certainty that the live-load requirement is met. The Code sets performance standards but does not provide proscriptive detailing for guardrail design. It is the responsibility of the designer, builder, and local code official to verify if a given guardrail design meets the requirements. (For more information go to www.iccsafe.org)

Guardrail connections of the three styles shown here, constructed using the Kreg Jig® HD and Kreg Jig® HD Screws, meet the live load requirements specified in the IRC. (Testing covers only the connection of railing members to posts, not the connection of the posts to the deck structure.) To meet requirements, builders must execute these connections exactly as shown and use only structurally sound materials. Materials with splits or excessive knots must not be used.

Guardrail materials and fasteners are exposed to the weather and are subject to degradation over time. It is the homeowner's responsibility to periodically inspect the guardrail and perform any maintenance required to ensure continued compliance with IRC live-load requirements.

Joint Type	Direction of	Average N	lax Force
	Force	Cedar	ACQ
	Top Pressure	1,361	1,352
Type 1	Side Pressure	1,196	1,082
	Bottom Pressure	410	414
	Inside Pressure	1,325	1,246
Type 2	Top Pressure	1,025	1,112
	Outside Pressure	460	500
	Side Pressure	1,154	1,297
Type 3	Bottom Pressure	1,025	1,130
Type 4	Bottom Pressure	1,961	2,612

Type 1, Top Pressure

Type 1, Side Pressure

Type 1, Bottom Pressure



Type 2, Inside Pressure



Type 3, Side Pressure





Type 2, Top Pressure



Type 3, Bottom Pressure





Type 2. Outside Pressure



Type 4, Bottom Pressure



RADCO

RADCO TEST REPORT

Test Report No. RAD-5178 Project No. C2310A Lab No. TL-3516

Pocket-Hole Joint Testing in accordance with ASTM D1761-06

Prepared for

KREG TOOL COMPANY

201 Campus Dr. Huxley, IA 50124

by

RADCO

Resources, Applications, Designs and Controls, Inc. Listing and Testing Division 3220 E. 59th Street Long Beach, CA 90805 Telephone: 562-272-7231 Facsimile: 562-529-7513 www.radcoinc.com

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7/2/2012

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Issued: July 2, 2012

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<u>APPENDIX</u> Test data index (1 page) Testing machine generated data (36 pages total)





1.0 INTRODUCTION

At the request of Kreg Tool Company, three (4) configurations of pocket-hole joints were evaluated in accordance with ASTM D1761-06, *Standard Test Methods for Mechanical Fasteners in Wood.*

2.0 MATERIAL DESCRIPTION

All materials for testing were selected by The Kreg Tool Company facility in Huxley, IA and shipped to RADCO's testing facility in Long Beach, California. The samples were assembled by Kreg personnel at RADCO's testing facility in Long Beach, California.

3.0 OBJECTIVE

To evaluate the physical properties of Kreg Tool Company pocket-hole joints.

4.0 TEST PROCEDURES & RESULTS

CONDITIONING:

All materials used in fabricating the test specimens were conditioned at standard laboratory conditions of 73 °F (22.8 °C) and 50% relative humidity for a minimum of 40 hours before assembling the test specimens.

TEST SPECIMENS

Each joint was assembled as a Post (4x4) and Rail (2x4) system, with the load applied in the following configurations. In addition, each configuration was tested with Cedar as well as ACQ treated lumber.

	Joint Configuration	Di	rection of Force
	Post and Rail form a 90 degree	Top Pressure	Force applied to the long side of the rail, opposite the holes.
Type 1	and the short sides of the Rail are flush with the sides of the Post.	Side Pressure	Force applied to the short side of the rail.
	Ten (10) specimens tested for each configuration.	Bottom Pressure	Same as Top Pressure, except same side as the holes.
	Some on Turne 1, but with the Deil	Inside Pressure	Force applied to the long side of the rail, opposite the holes.
Type 2	rotated 90 degrees, longitudinally. Ten (10) specimens tested for	Top Pressure	Force applied to the short side of the rail.
	each configuration.	Outside Pressure	Same as Top Pressure, except same side as the holes.



	Joint Configuration	Di	rection of Force
	Post and Rail form a T shape, with one (1) pocket hole centered on	Bottom Pressure	Uplift force applied to the post.
Туре 3	opposite sides of the Post. Ten (10) specimens tested for each configuration.	Side Pressure	Shear Force applied to the short side of the rail, centered below the post.
Type 4	Post and Rail form a T shape, with two (2) pocket holes centered on opposite sides of the Post. Five (5) specimens tested for each configuration.	Bottom Pressure	Uplift force applied to the post.

TEST PROCEDURE

The test was conducted on a United Table Model Electromechanical Universal Testing Machine (model number TM-20) equipped with an electronic load cell and a computerized data acquisition system.

In each Type 1 and Type 2 connection, a 2 inch wide and 1 inch thick steel block was placed on the rail two inches from the post/rail connection.

Load was applied to the center of this block with a loading nose that had a 1/8" diameter steel rod welded to the supports.

For the Type 3 side pressure connection, a 2 inch wide and 8 inch long 1/2 inch thick steel plate was placed on the rail and the same loading fixture was used to apply the load. For the Type 3 and Type 4 bottom pressure connection, a steel bolt was inserted into the post and eye bolts were utilized to hook the steel bolt and apply the load. A universal joint ensured connected to the load cell ensured that the load was evenly distributed.

The rate of load application was 0.10 in / min (2.54 mm/min) +/- 25% for all tests.



TEST RESULTS

The average ultimate load from each load configuration is shown below. The individual testing machine generated data sheets and load vs. deflection curves are attached in the appendix.

Joint Type	Direction of	Average Max	k Force (lbs)
	Force	Cedar	ACQ
	Top Pressure	1,361	1,352
Type 1	Side Pressure	1,196	1,082
	Bottom Pressure	410	414
	Inside Pressure	1,325	1,246
Type 2	Top Pressure	1,025	1,112
	Outside Pressure	460	500
Trans 0	Side Pressure	1,154	1,297
Type 3	Bottom Pressure	1,025	1,130
Type 4	Bottom Pressure	1,961	2,612

Mode of Failure: Fastener pull-through (wood failure). Failure was similar in all tests.

END OF REPORT



RAD-5178

5.0 PHOTOGRAPHS

Type 1, Top Pressure



Type 1, Bottom Pressure

Type 1, Side Pressure



Type 2, Inside Pressure







Type 2, Top Pressure



Type 2, Outside Pressure



Type 3, Side Pressure

Type 3, Bottom Pressure (Same for Type 4)







Drawings 6.0

Type 1, Top Pressure



Type 1, Side Pressure



Type 1, Bottom Pressure



Type 2, Inside Pressure



Type 3, Side Pressure





Type 2, Top Pressure

Type 3, Bottom Pressure







Type 4, Bottom Pressure





<u>APPENDIX</u> Test data index (1 page) Testing machine generated data (36 pages total)

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RAD-5178

	Direction of	Denert	lumbar
Joint Type	Direction of	Report	Number
	Force	Cedar	ACQ
	Top Pressure	9185	9182
Type 1	Side Pressure	9187	9183
	Bottom Pressure	9184	9181
	Inside Pressure	9193	9190
Type 2	Top Pressure	9192	9189
	Outside Pressure	9194	9191
Turne O	Side Pressure	9200	9199
Type 3	Bottom Pressure	9196	9195
Type 4	Bottom Pressure	9197	9198

Test Data Index

Jul 2, 2012

Pocket hole joint

Report No. 9184

Test Date 13-Jun-12 Testing Machine STM-20

 Customer Name
 Kreg Tools
 Work Order
 C-2310A

 Operator
 Javier Camacho
 Fastener type
 #14 X 2 1/2 #3PH-SQ RWH

 Size of Specimer
 2" X 4"
 Species of Wood
 Cedar

 Direction:
 Joint Type 1
 Template
 270

 ASTM:
 D1761

Load Cell (01457) Capacity (-Lb: 20000 Preload Value (-Lb: 5

Crosshead Speed (-Inches / min) 0.1 Extension or Position Measured XHD_100 (XHD100)

	Notes	s Bottom Pressure.									
Test No	Spec ID	Specimen Size (in)	Force @ 0.01" (lbs)	Force @ 0.015" (lbs)	Force @ 0.05" (lbs)	Force @ 0.1 (lbs)	Force @ 0.2' (lbs)	' Force @ 0.3" (Ibs)	Yield point (lbs)	Max Force (lbs)	
37318	1-1	0.000	46.616	53.482	92.239	155.334	262.604	362.396	94.223	374.985	
37319	1-2	0.000	78.125	85.678	174.026	181.656	285.187	373.077	133.896	421.295	
37320	1-3	0.000	5.035	5.035	72.632	176.620	273.666	380.096	248.032	465.851	
37321	1-4	0.000	5.035	5.035	56.152	120.163	217.590	298.843	177.765	361.938	
37322	1-5	0.000	16.403	21.667	61.111	97.961	189.133	288.773	147.324	376.434	
37323	1-6	0.000	10.376	16.556	51.575	114.441	186.844	276.184	80.948	350.113	
37324	1-7	0.000	22.430	26.550	59.814	122.452	248.108	282.516	96.970	359.039	
37325	1-8	0.000	15.640	20.065	64.240	175.400	231.018	324.326	81.863	369.415	
37326	1-9	0.000	5.112	5.112	68.207	156.403	243.759	364.914	103.226	486.145	
37327	1-10	0.000	53.101	59.052	123.749	167.694	309.448	444.260	539.093	539.093	
	Mean Median	0.000	25.787	29.823	82.375	146.812	244.736	339.53	170.334	410.431	
	Std Dev	0.000	25.050	27.329	38.631	30.292	39.945	54.398	139.614	65.151	
	Maximum	0.000	78.125	85.678	174.026	181.656	309.448	444.26(539.093	539.093	
	Minimum	0.000	5.035	5.035	51.575	97.961	186.844	276.184	80.948	350.113	
	Range	0.000	73.090	80.643	122.452	83.694	122.604	168.07€	458.145	188.980	

Date:





Force (-Lbs) vs Extension (%)



Force

Jun 26, 2012

RADCO, INC. 3220 E. 59th Street Long Beach, CA 90805 TEL (562)272-7231 FAX (562)529-7513



Report No. 9187

Pocket hole joint

Test Date 14-Jun-12 Testing Machine STM-20

		Work Order:	C-2310A
Customer Name:	Kreg Tools	Fastener type:	#14 X 2 1/2" #3PH-SQ RWH
Operator:	Javier Camacho	Species of Wood:	Cedar
Size of Specimen:	2" X 4"	Template:	270
Direction:	Joint Type 1		

Load Cell (01457) Capacity (-Lbs) 20000 Preload Value (-Lbs) 5

ASTM: D1761

Crosshead Speed (Inches / min) or 0.1 Extension or Position Measured by XHD_100 (XHD100)

	Notes	Side Pressure.					Came O D 2"	Forme (D 0 3"	Yield point	Max Force
-		Specimen Size (in)	Force @ 0.01" (lbs)	Force (2) 0.015" (ibs)	Force (2) 0.05" (lbs)	(lbs)	(ibs)	(ibs)	(ibs)	(lbs)
Test No	Spec ID	ORE (III)	00 500	05 373	174 103	357.056	760.422	1,150.131	1,140.060	1,536.179
37338	1-1	0.000	68.566	65.375	174.100	001.000	CT0 (02	702 288	357 208	1.009.674
37330	1-2	0.000	68.130	76.218	181.046	356.903	5/2.433	102.200	007.200	
51000		0.000	113 907	136.566	260.086	509.186	911.484	1,087.265	313.797	1,242.599
37340	1-3	0.000	110.001		E 02E	17 020	306 396	584.641	515.900	1,302.185
37341	1-4	0.000	5.035	5.035	5.035	17.325	500.000	1	040 407	1 997 416
CACTO	1.5	0.000	102.234	122.681	255,508	501.938	779.419	1,014.252	910.18/	1,307.410
3/342	1-5		00.045	114 748	234,909	453,110	751.190	897.369	860.901	1,121.216
37343	1-6	0.000	33.340	114.140			707 489	870 590	234 070	1.086.655
37344	1-7	0.000	99.106	107.117	228.577	444.000	727,403	010.000		4 059 404
3794E	1.8	0.000	5.188	5.188	5.188	16.556	287.857	583.954	268.860	1,056.121
3/345	1-0	0.000	69.007	76 141	171 967	355.301	647,812	834.579	229.263	1,145.782
37346	1-9	0.000	00.201	10.141	111.001		040 854	707 777	256 348	1 094 894
37347	1-10	0.000	93.155	102.615	205.765	415.115	646.001	101.211	200.040	Hav nev i
	Maan	0.000	72.350	83.168	172.218	342.766	639.313	851.234	508.659	1,196.472
	Median	0.000								104 472
	Sid Dev	0.000	38.903	45.521	93.583	180.523	202.113	195.275	336.576	104.174
	Sea Liev	0.000	113.907	136.566	260.086	509.186	911.484	1,150.131	1,140.060	1,530,179
		0.000	5.035	5.035	5.035	16.556	287.857	583.954	229.263	1,009.674
	Minimum	0.000	102 971	131 531	255.051	492.630	623.627	566.177	910.797	526.505
	Range	0.000	100.071	101.001						

Date: 6/14 By: Claviel 1ama

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Force

TEL (562)272-7231 FAX (562)529-7513 RADCO, INC. 3220 E. 59th Street Long Beach, CA 90805

Jul 2, 2012

Pocket hole joint

RADE

Report No. 9185

Test Date 13-Jun-12 Testing Machine STM-20

Customer Nam Kreg Tools Operator Javier Camacho Size of Specimer 2" X 4" Direction: Joint Type 1 ASTM: D1761

Crosshead Speed (-Inches / min) 0.1

Species of Wood Cedar

Work Order C-2310A

Template 270

Fastener type #14 X 2 1/2" #3PH-SQ RWH

Load Cell (01457) Capacity (-Lb: 20000 Preload Value (-Lb: 5

Extension or Position Measured XHD_100 (XHD100)

	Notes	Top Pressure.									
Test No	Spec ID	Specimen Size (in)	Force @ 0.01" (lbs)	Force @ 0.015" (lbs)	Force @ 0.05" (lbs)	Force @ 0.1 (lbs)	" Force @ 0.2 (lbs)	" Force @ 0.3" (lbs)	Yield point (lbs)	Max Force (lbs)	
37328	1-1	0.000	228.806	240.173	400.162	751.572	1,138.611	1,311.951	941.772	1,374.664	
37329	1-2	0.000	203.705	223.083	391.617	718.613	1,133.575	1,349.411	924.149	1,397.552	
37330	1-3	0.000	26.703	39.291	128.937	283.203	758.438	1,268.005	516.434	1,678.162	
37331	1-4	0.000	48.218	63.782	174.179	340.729	878.067	1,226.425	416.718	1,303.101	
37332	1-5	0.000	54.932	54.932	149.918	305.023	757.523	1,142.731	899.963	1,435.928	
37333	1-6	0.000	44.937	54.398	158.920	314.636	784.149	931.396	594.940	1,091.232	
37334	1-7	0.000	59.052	59.052	157.242	299.683	814.667	1,144.409	247.269	1,256.790	
37335	1-8	0.000	46.539	59.662	140.762	290.070	775.070	1,365.204	784.760	1,591.568	
37336	1-9	0.000	174.408	191.345	305.862	528.793	890.045	1,057.739	882.111	1,139.297	
37337	1-10	0.000	39.139	49.210	138.550	282.974	708.389	1,026.764	916.672	1,343.460	
	Mean Median	0.000	92.644	103.493	214.615	411.530	863.853	1,182.404	712.479	1,361.176	
	Std Dev	0.000	77.242	80.285	107.950	185.496	153.613	146.493	250.415	181.762	
	Maximum	0.000	228.806	240.173	400.162	751.572	1,138.611	1,365.204	941.772	1,678.162	
	Minimum	0.000	26.703	39.291	128.937	282.974	708.389	931.39€	247.269	1,091.232	
	Range	0.000	202.103	200.882	271.225	468.597	430.222	433.807	694.504	586.929	



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Date:





Ferce (-Lbs) vs Extension (%)



Force



Pocket hole joint

RAD

Report No. 9181

Test Date 12-Jun-12 Testing Machine STM-20

Customer NamKreg ToolsOperatorJavier CamachoSize of Specimer2" X 4"Direction:Joint Type 1ASTM:D1761

Work OrderC-2310AFastener type#14 X 2 1/2" #3PH-SQ RWHSpecies of WoodACQTemplate270

Load Cell (01457) Capacity (-Lb: 20000 Preload Value (-Lb: 5

Crosshead Speed (-Inches / min) 0.1 Extension or Position Measured XHD_100 (XHD100)

	Note	 Bottom Pressure. 							_		
Test No	Spec ID	Specimen Size (in)	Force @ 0.01" (lbs)	Force @ 0.015" (lbs)	Force @ 0.05" (lbs)	Force @ 0.1 (lbs)	" Force @ 0.2 (lbs)	2" Force @ 0.3" (lbs)	Yield point (lbs)	Max Force (lbs)	
37288	1	0.000	5.112	20.599	108.719	214.996	373.077	468.903	144.424	475.998	
37289	1-2	0.000	74.844	85.297	119.095	183.182	345.688	474.472	94.376	492.554	
37290	1-3	0.000	5.035	14.267	70.877	126.190	249.023	332.565	68.054	360.947	
37291	1-4	0.000	12.817	23.727	91.705	138.550	275.421	385.361	125.504	436.325	
37292	1-5	0.000	20.599	29.831	96.130	124.359	225.830	308.304	69.504	367.661	
37293	1-6	0.000	5.112	5.112	81.940	132.828	255.051	361.328	84.534	444.641	
37294	1-7	0.000	34.943	41.122	107.727	127.640	247.040	352.173	71.106	376.282	
37295	1-8	0.000	23.193	26.321	66.452	153.809	240.173	313.644	67.902	359.879	
37296	1-9	0.000	28.763	40.588	119.476	171.204	309.296	416.107	119.095	464.783	
37297	1-10	0.000	5.035	5.035	38.452	116.119	237.808	337.601	170.517	360.107	
	Mean Median	0.000	21.545	29.190	90.057	148.888	275.841	375.04€	101.501	413.918	
	Std Dev	0.000	21.699	23.377	25.955	31.755	50.170	60.212	36.553	54.005	
	Maximum	0.000	74.844	85.297	119.476	214.996	373.077	474.472	170.517	492.554	
	Minimum	0.000	5.035	5.035	38.452	116.119	225.830	308.304	67.902	359.879	
	Range	0.000	69.809	80.261	81.024	98.877	147.247	166.168	102.615	132.675	

By:

Date:







Force



Report No. 9183

Pocket hole joint

- Test Date 13-Jun-12 Testing Machine STM-20
- Customer Name: Kreg Tools Operator: Javier Camacho Size of Specimen: 2" X 4" Direction: Joint Type 1 ASTNI: D1761

Work Order: C-2310A Fastener type: #14 X 2 1/2" #3PH-SQ RWH Species of Wood: ACQ Templats: 270

Load Cell (01457) Capacity (-Lhs.) 20000 Preload Value (-Lhs.) 5 Crossheed Speed (-Inches / min) or 0.1 Extension or Position Measured by XHD_100 (XHD100)

Notes Side Pressure. Yield point Max Force Force @ 0.1" Force @ 0.2" Force @ 0.3" Force @ Force C Force C Specimen (ibs) (ibs) (bs) (bs) 0.015" (ibs) 0.05" (lbs) (bs) 0.01" (bs) Size (in) Spec ID Test No 219.879 1,122.818 862.350 392,380 669.022 246.201 113.907 93,994 0.000 37308 1-1 367.813 914.154 678.558 529.480 205.231 367.355 105,438 90.179 0.000 1-2 37309 811.081 1.015.854 615.387 178.757 382.843 5.112 43.259 5.112 0.000 1-3 37310 1.080.551 771.332 848.846 331.345 593.796 154.343 61.646 69.809 0.000 37311 1-4 1,063.614 740.509 840.378 573.502 335.388 90.561 202.408 77.133 1-5 0.000 37312 1,285,477 878.601 885.162 338,593 618.820 207.596 96.512 87.738 0.000 37313 1-6 859.375 753.632 746.231 591.202 372.009 177.917 78.125 70,648 0.000 1-7 37314 1,203.918 692,139 917.969 687.180 395.660 205.154 78.659 87,509 0.000 37315 1-8 851.212 1 144.257 570.526 355,759 115.585 5.035 23.575 5.035 1-9 0.000 37316 1.134.720 727.844 697.403 260,468 503.616 93.689 167.999 78.354 0.000 37317 1-10 1.082.474 690.651 757.034 308.754 550.522 74.570 163.368 64.850 0.000 Mean Median 219.813 127.817 118.643 110.619 73.123 94.655 32.879 38,680 Sid Dev 0.000 1.285.477 878.601 917.965 687.180 246.201 395.660 113.907 93,994 0.000 Maximum 859.375 219.879 570.526 115.585 355.759 5.035 23.575 5.035 0.000 Minimum 426.102 658.722 347.443 222.626 280.075 331.421 108.871 88.959 0.000 Range

Date: 6/13/12 By: Clau ama

Tel (562)272-7231 FAX (562)529-7513

RADCO, INC. 3220 E/59/h Street Long Beach, CA 90805 Tel (







Pocket hole joint

RA

Report No. 9182

Test Date 12-Jun-12 Testing Machine STM-20

Customer Nam Kreg Tools Operator Javier Camacho Size of Specimer 2" X 4" Direction: Joint type 1 ASTM: D1761

Crosshead Speed (-Inches / min) 0.1

Species of Wood ACQ

Work Order C-2310A

Template 270

Fastener type #14 X 2 1/2" #3PH-SQRWH

Load Cell (01457) Capacity (-Lb: 20000 Preload Value (-Lbs 5

Extension or Position Measured XHD_100 (XHD100)

Made	Ten Deserves	
Notes	Top Pressure.	

-	Notes	TOD T TOBOUTO.							Vield as int	May Forse	
Sec. 14		Specimen	Force @	Force @	Force @	Force @ 0.1	" Force @ 0.	2" Force @ 0.3'	(lhs)	(lbs)	
Test No	Spec ID	Size (in)	0.01" (ibs)	0.015 (105)	0.05 (ibs)	(ius)	(ins)	(105)	(103)	(150)	
37298	1-1	0.000	47.073	54.703	152.359	293.274	646.744	907.593	1,236.267	1,241.455	
37299	1-2	0.000	200.653	212.631	317.841	517.654	1,014.175	1,373.444	1,030.655	1,708.298	
37300	1-3	0.000	47.455	59.280	154.572	311.813	744.324	1,068.268	716.476	1,325.989	
37301	1-4	0.000	46.005	54.474	154.572	327.988	709.305	918.655	582.428	1,061.935	
37302	1-5	0.000	167.542	182.037	280.151	499.802	991.211	1,331.406	1,685.257	1,685.257	
37303	1-6	0.000	149.460	158.386	261.078	439.987	839.005	1,106.949	1,008.606	1,366.882	
37304	1-7	0.000	68.130	85.907	178.604	322.800	624.619	898.132	721.130	1,202.850	
37305	1-8	0.000	154.495	169.983	273.361	491.104	848.312	1,028.748	983.505	1,168.060	
37306	1-9	0.000	175.476	190.659	339.966	599.976	1,142.654	1,354.599	543.518	1,500.854	
37307	1-10	0.000	140.457	151.520	263.443	493.240	983.353	1,201.553	773.239	1,258.392	
-	Mean	0.000	119.675	131.958	237.595	429.764	854.370	1,118.938	928.108	1,351.997	
	Median										
	Std Dev	0.000	60.612	61.792	71.305	107.414	174.270	187.574	344.370	216.606	
	Maximum	0.000	200.653	212.631	339,966	599.976	1.142.654	1.373.444	1,685.257	1,708.298	
	Minimum	0.000	46.005	54.474	152.359	293.274	624.619	898.132	543.518	1,061.935	
		0.000	154 649	159 157	197 607	306 702	518 036	475 31	1 141 739	646 362	
	Range	0.000	104.040	100.107	107.007	500.702	510.050	710.01	1,141.700	040.002	

By:

RADCO, INC. 3220 E. 59th Street Long Beach, CA 90805 Tel (562)272-7231 FAX (562)529-7513

Date:



Report No 9182 Pocket hole joint

Force (-Lbs) vs Extension (%)





RADCO, INC. 3220 E. 59th Street Long Beach, CA 90805 TEL (562)272-7231 FAX (562)529-7513

Report No. 9192

Pocket hole joint

STING . IS PRODO

RADEC

Test Date 18-Jun-12 Testing Machine STM-20

		Work Order:	C-2310A
Customer Name:	Kreg Tools	Facianar fy Dit:	#14 X 2 1/2 #3PH-SQ RWH
Operator:	Javier Camacho		Cedar
Size of Specimen:	ZX4	Spinis of Hood.	270
Direction	Joint hope 2	i antri pinanta.	El M

ASTN: D1761

Crossheed Speed (-Inches / min) or 0.1 Load Cell (01467) Capacity (-Lhs) 20000

Preiced Value (-Lbs) 5

Extension or Position Measured by XHD_100 (XHD100)

	Notes	Top pressure.						Earna @ 0.9	Vield point	Max Force
		Specimen Size (in)	Force @ 0.01" (bs)	Force @ 0.015" (lbs)	Force @ 0.05" (lbs)	Force (g U.1" (lbs)	(ibs)	(lbs)	(bs)	(ibs)
Test No	Spec ID	0.000	315.36	51 575	105.667	192,719	406.723	603.943	482.178	1,020.966
37384	1-1	0.000	30.310	01.010		000 000	574 975	796 819	592 575	989.456
37385	1-2	0.000	27.466	40.512	141.983	202.022	3/4.013	100.013		
999900	1.9	0.000	29.602	40.817	118.866	233.307	487.747	683.594	190.964	975.037
3/300	12		17 604	47 684	159 531	309,296	570.908	784.225	250.473	1,272.583
37367	1-4	0.000	47.004	41.004	100.001			744 940	224 690	1 104 382
37388	1-5	0.000	24.948	35.095	115.738	245.132	509.033	/14.340	234,000	1,134,002
03000	1.0	0.000	23.117	32.654	107.651	211.563	470.734	688.095	291.595	933.151
3/389	1-0	0.000		10.500	494 900	258 042	522 766	743.866	226.974	1,095.200
37390	1-7	0.000	27.924	40.568	131,302	200.042	011.100	1 10.000		1 000 140
37391	1-8	0.000	57.297	70.343	176.849	353.241	607.071	743.027	544.510	1,009.140
	10	0.000	63.400	72.556	147.247	269.547	519.333	702.667	172.653	879.440
3/392	1-9	0.000					500 704	740 604	460 790	885 239
37393	1-10	0.000	37.537	48.828	160.065	294.342	532.761	113.004	400.759	000.200
	Mass	0.000	37 529	48.065	136,490	265.091	520.195	717.018	344.734	1,025.459
	Neutro	0.000	Of Lake							
		0.000	14.001	13,664	24.521	47.684	57.517	53.485	157.983	128.278
	SIGURY	0.000	004.63	72 555	176 849	353.241	607.071	786.81S	592.575	1,272.583
	Maximum	0.000	00.400	92.554	105 667	102 719	406 723	603.943	172.653	879.440
	Minimum	0.000	23.11/	34.004	100.001	460.522	200 349	182 877	419 922	393,143
	Rance	0.000	40.283	39.902	/1.102	100.322	200.340	I GEVOL I	TIGGE	

By: Javie In Date:

Tel (562)272-7231 FAX (562)529-7513 RADCO, INC. 3220 E/59th Street Long Beach, CA 90805





Report No. 9193

RADE · 000000000 • 0 ISING . INPECTOR

Pocket hole joint

Test Data 18-Jun-12 Testing Machine STM-20

	K	Work Order:	C-2310A
Cristomer same:	Neg Dus	Fastener type:	#14 x 2 1/2" #3PH-SQ RWH
Operator:		Species of Wood:	Cedar
Size of Specification:	Z X4 Joint topo 2	Template:	270
	JUNE (1965 4		

ASTN: D1761

Load Cell (01457) Capacity (-Lbs) 20000

Preload Value (-Lbs) 5

Crosshead Speed (-Inches / min) or 0.1

Extension or Position Measured by XHD_100 (XHD100)

Notes	inside pressure.	and the second second						Vield point	May Eorop
See ID	Specimen Sizs (in)	Force @ 0.01" (ibs)	Force @ 0.015" (ibs)	Force @ 0.05" (ibs)	Force @ 0.1" (lbs)	Force @ 0.2" (lbs)	Force @ 0.3" (ibs)	(ibs)	(Ibs)
Species	0.000	204.010	215.454	344.772	590.897	1 104.660	1,340.332	1,008.835	1,509.018
1-1	0.000	400.004	044 050	220.026	651 016	1 154 480	1.266.327	845.413	1,476.669
1-2	0.000	196.381	211.200	3/0.020	001.010	1,101.100	1,	000 004	4 975 990
1-3	0.000	181.274	192.261	322.189	567.169	1,038.437	1,182.32/	202.004	1,275.350
1.4	0.000	50.659	61.798	143.051	310.669	803.299	1 122.284	308.609	1,199.341
4.8	0.000	105 133	115.433	207,443	390.854	741.348	922.470	224.838	1,101.303
1-3	0.000	100.100			400 000	950 200	1 046 609	227 814	1 160 202
1-6	0.000	141.144	152.359	271.301	483.093	609.289	1,010.005	221.014	1,100.202
1-7	0.000	161.819	174.484	301.971	520.172	912.781	1,135.712	266.418	1,317.673
1-8	0.000	165.787	177.002	301.285	525.131	1,092.300	1,286.316	258,713	1,304.245
1.9	0.000	146.561	157.852	271.530	507.050	958.405	1,216.202	320.816	1,380.386
		005 000	040 409	960 407	E03 403	1 157 074	1 367 645	400.772	1.531.677
1-10	0.000	205.688	219.195	333.431	002.450	1,101.014	1,0011010	100.110	4
Mater	0.000	155.846	167.709	289.307	514.854	962.208	1,185.631	412.483	1,325.584
Nedian									
Std Dev	0.000	48.496	49.266	70.424	101.659	149.461	141.01C	278.718	148.544
Manimum	0.000	205.688	219.193	370.026	651.016	1,157.074	1,367.645	1,008.835	1,531.677
Minimann	0.000	50.659	61.798	143.051	310.669	741.348	922.47C	224.838	1,101.303
Dence	0.000	155.029	157.394	226.974	340.347	415.726	445.175	783.997	430.374
	Notes Spec ID 1-1 1-2 1-3 1-4 1-5 1-6 1-7 1-8 1-9 1-10 Mean Median Stid Dev Maximum Minimum Rance	Notes Inside pressure. Spec ID Size (in) 1-1 0.000 1-2 0.000 1-3 0.000 1-4 0.000 1-5 0.000 1-6 0.000 1-7 0.000 1-8 0.000 1-9 0.000 Neen 0.000 Neen 0.000 Median 0.000 Neen 0.000	Notes Ensure pressure. Spec ID Size (in) Corre @ 1-1 0.000 204.010 1-2 0.000 196.381 1-3 0.000 181.274 1-4 0.000 50.659 1-5 0.000 105.133 1-6 0.000 141.144 1-7 0.000 165.787 1-9 0.000 146.561 1-10 0.000 155.846 Mean 0.000 48.496 Maximum 0.000 50.659 1-50 0.000 155.846	Notes Ensure pressure. Spec ID Size (in) Force @ 0.01" (bs) Force @ 0.015" (bs) 1-1 0.000 204.010 215.454 1-2 0.000 196.381 211.258 1-3 0.000 181.274 192.261 1-4 0.000 50.659 61.798 1-5 0.000 105.133 115.433 1-6 0.000 1041.144 152.359 1-7 0.000 161.819 174.484 1-8 0.000 165.787 177.002 1-9 0.000 146.561 157.852 1-10 0.000 205.688 219.193 Mean 0.000 48.496 49.266 Maximum 0.000 205.688 219.193 Mean 0.000 205.688 219.193 Mean 0.000 205.688 219.193 Mean 0.000 205.688 219.193 Mean 0.000 50.659 61.798	Notes Pressure Force @ Force @ Corce @ <thcorce @<="" th=""> Corce @ <thc< td=""><td>Notes Instante pressure. Specimen Force @ force @</td><td>Notes Instruct pressure. Force (2) 0.01" (bs) Force (2) 0.015" (bs) Force (2) 0.05" (bs)</td><td>Notes Histole pressure. Speciment Force @ Force @ Force @ Force @ Lot's" (bs) Force @ Lit's Lit's</td><td>Specimen Force @ 0.01" (bs) Force @ 0.01" (bs) Force @ 0.05" (bs) Force @ 0.05" (bs) Force @ 0.1" (bs) Force @ 0.2" (bs) Force @ 0.3" (bs) Yield point (bs) 1-1 0.000 204.010 215.454 344.772 590.897 1,104.660 1,340.332 1,008.835 1-2 0.000 196.381 211.258 370.026 651.016 1,154.480 1,266.327 845.413 1-3 0.000 181.274 192.261 322.189 567.169 1,038.437 1,182.327 262.604 1-4 0.000 50.659 61.798 143.051 310.669 803.299 1,122.284 308.609 1-5 0.000 105.133 115.433 207.443 390.854 741.348 922.470 224.838 1-6 0.000 161.819 174.484 301.971 520.172 912.781 1,135.712 266.418 1-9 0.000 165.787 177.002 301.285 525.131 1,092.300 1,286.316 258.713 1-9</td></thc<></thcorce>	Notes Instante pressure. Specimen Force @ force @	Notes Instruct pressure. Force (2) 0.01" (bs) Force (2) 0.015" (bs) Force (2) 0.05" (bs)	Notes Histole pressure. Speciment Force @ Force @ Force @ Force @ Lot's" (bs) Force @ Lit's Lit's	Specimen Force @ 0.01" (bs) Force @ 0.01" (bs) Force @ 0.05" (bs) Force @ 0.05" (bs) Force @ 0.1" (bs) Force @ 0.2" (bs) Force @ 0.3" (bs) Yield point (bs) 1-1 0.000 204.010 215.454 344.772 590.897 1,104.660 1,340.332 1,008.835 1-2 0.000 196.381 211.258 370.026 651.016 1,154.480 1,266.327 845.413 1-3 0.000 181.274 192.261 322.189 567.169 1,038.437 1,182.327 262.604 1-4 0.000 50.659 61.798 143.051 310.669 803.299 1,122.284 308.609 1-5 0.000 105.133 115.433 207.443 390.854 741.348 922.470 224.838 1-6 0.000 161.819 174.484 301.971 520.172 912.781 1,135.712 266.418 1-9 0.000 165.787 177.002 301.285 525.131 1,092.300 1,286.316 258.713 1-9

By: Anure, an Date:

Tel (562)272-7231 FAX (562)529-7513 RADCO, INC. 3220 E/59th Street Long Beech, CA 90805





3220 E. 59th Street Long Beach, CA 90805 TEL (562)272-7231 FAX (562)529-7513 RADCO, INC.



Report No. 9194

Pocket hole joint

Test Date 19-Jun-12 Testing Machine STM-20

	Mara Taala	Work Order:	C-2310A
Customer Name:	Kineg Loois	Fastener type:	#14 X2 1/2" #3PH-SQ RWH
Operator:	Javier Camacilo	Species of Wood:	Cedar
Size of Specimen:	Z*X4*	Templata:	270
Direction:	Joint Type 2		

Load Cell (01457) Capacity (-Lbs) 20000 Preload Value (-Lbs) 5

ASTN: D1761

Crosshead Speed (-Inches / min) or 0.1 Extension or Position Measured by XHD_100 (XHD100)

Notes	Out side pressure.						Farma @ 0.2#	Vield noint	Max Force	
	Specimen Size (in)	Force @ 0.01" (lbs)	Force () 0.015" (bs)	Force (2) 0.05" (lbs)	Force (2) 0.1" (lbs)	(ibs)	(ibs)	(ibs)	(ibs)	
Spec IU		01.010	24 067	91 797	155 029	261,536	375.061	85.449	434.952	
1-1	0.000	24.043	31.907	01.101	100.020				000 470	
1-2	0.000	16.327	23.041	77.744	143.356	272.980	358.505	75.607	380.478	
		22 402	33 403	80.490	162 125	281.219	386.810	90.256	467.453	
1-3	0.000	33,495	33.435	00.400					454 550	
14	0.000	28.915	38.223	105.743	213.623	334.930	423.737	91.248	404.009	
	0.000	25 024	35,248	107.956	168.076	290.756	372.925	84.076	407.181	
1-0	0.000						C4C 000	114 212	501 593	
1-6	0.000	26.321	36.316	106.201	208.359	3/2.//2	515.623	1 14.212	031.000	
47	0.000	31.891	41,199	120.544	217.896	343.857	505.905	269.165	589.218	
1-1	0.000		10 Mar 10 M		101 000	205 604	344 238	74.005	390 167	
1-8	0.000	5.112	5,112	5.112	104.960	223.001	344.230	14.000		
1.9	0.000	19.684	29.373	92.545	148.392	282.822	407.333	126.114	492.477	
15			00.007	00 770	445 984	256 271	318 985	80 719	388.336	
1-10	0.000	19.302	20.62/	62.(19	145.204	200.211	010.000			
Mana	0.000	23.071	30.060	86.090	166.710	292.274	400.932	109.065	459.641	
Revenue I	0.000		••••							
	0.000	8 374	10 307	31 947	36.311	45.010	65.118	58.646	78.105	
SILLIN	0.000	0.014	44.400	120 544	217 906	379 779	515 823	269.165	591.583	
Maximum	0.000	33.493	41.199	120.344	217.090	005.004	349 095	74 005	380 478	
Minimum	0.000	5.112	5.112	5.112	104.980	223,001	310.300	405 460	211 405	
Ranne	0.000	28.381	36.087	115.433	112.915	147.171	196.838	190,100	211.100	
	Spac ID 1-1 1-2 1-3 1-4 1-5 1-6 1-7 1-8 1-9 1-10 Meen Median Std Dev Maximum Minimum	Notes Out side pressure. Spec ID Size (in) 1-1 0.000 1-2 0.000 1-3 0.000 1-4 0.000 1-5 0.000 1-6 0.000 1-7 0.000 1-8 0.000 1-9 0.000 Nean 0.000 Mean 0.000 Mean 0.000 Mainrum 0.000 Minimum 0.000 Rance 0.000	Notes Out side pressure. Spec ID Size (in) Force @ 1-1 0.000 24.643 1-2 0.000 16.327 1-3 0.000 33.493 1-4 0.000 28.915 1-5 0.000 25.024 1-6 0.000 26.321 1-7 0.000 31.891 1-8 0.000 5.112 1-9 0.000 19.634 1-10 0.000 19.302 Mean 0.000 8.374 Maximum 0.000 5.112 Rance 0.000 28.381	Notes Out side pressure. Spec ID Size (in) Force (2) Force (2) 1-1 0.000 24.643 31.967 1-2 0.000 16.327 23.041 1-3 0.000 33.493 33.493 1-4 0.000 28.915 38.223 1-5 0.000 25.024 35.248 1-6 0.000 26.321 36.316 1-7 0.000 31.891 41.199 1-8 0.000 5.112 5.112 1-9 0.000 19.684 29.373 1-10 0.000 19.302 26.627 Mean 0.000 8.374 10.307 Mainmum 0.000 33.493 41.199 Misimum 0.000 23.071 30.060	Notes Out side pressure. Specimen Force (2) 0.01" (lbs) Force (2) 0.015" (lbs) Force (2) 0.05" (lbs) 1-1 0.000 24.643 31.967 81.787 1-2 0.000 16.327 23.041 77.744 1-3 0.000 33.493 33.493 80.490 1-4 0.000 26.915 38.223 105.743 1-5 0.000 25.024 36.248 107.956 1-6 0.000 26.321 36.316 106.201 1-7 0.000 31.891 41.199 120.544 1-8 0.000 5.112 5.112 5.112 1-9 0.000 19.302 26.627 82.779 Mean 0.000 23.071 30.060 86.090 Median 0.000 33.493 41.199 120.544 1-10 0.000 8.374 10.307 31.947 Mean 0.000 8.374 10.307 31.947 Masimum	Notes Out ade pressure. Specimen Force (2) For	Notes Out side pressure. Force (2) Force (2)	Notes Out side pressure. Speciment Force @ Force @ Force @ Force @ Cots" (bs) Force @ 0.1" Force @ 0.0" (bs) force @ 0.1" Force @ 0.0" (bs) (bs)	Notes Out side pressure. Force @ 0.01" (bs) Force @ 0.01" (bs) Force @ 0.05" (bs) Force @ (bs) Force @ 0.1" Force @ 0.2" Force @ 0.3" Yield point (bs) 1-1 0.000 24.643 31.967 81.787 155.029 261.536 375.061 85.449 1-2 0.000 16.327 23.041 77.744 143.356 272.980 358.505 75.607 1-3 0.000 28.915 38.223 105.743 213.623 334.930 423.737 91.248 1-4 0.000 25.024 352.48 107.956 168.076 290.756 372.925 84.076 1-4 0.000 25.321 36.316 106.201 208.359 372.925 84.076 1-4 0.000 25.321 36.316 106.201 208.359 372.925 84.076 1-4 0.000 51.12 51.12 104.980 225.601 344.238 74.005 1-4 0.000 19.684 29.373 92.545 1	Notes Out sube pressure. Force @ 0.01* (bs) Force @ 0.01* (bs) Force @ 0.05* (bs) Force @ (bs) 0.2* Force @ 0.3* Yield point (bs) Max Force (bs) Spec ID Sze (h) 0.001* (bs) 0.015* (bs) 0.05* (bs) (bs)

Date: 6/ B١

Tel (562)272-7231 FAX (562)529-7513 RADCO, INC. 3220/E. 59th Street Long Beach, CA 90805



Pocket hole joint Report No 9194



Force

3220 E. 59th Street Long Beach, CA 90805 TEL (562)272-7231 FAX (562)529-7513 RADCO, INC.



Report No. 9189

Pocket hole joint

Test Date 16-Jun-12 Testing Machine STM-20

	Kasa Taska	Work Order:	C-2310A
Customer Name:	King Loois	Fastener type:	#14 X 2 1/2" #3PH-SQ RWH
Operator:	Javier Camacho	Species of Wood:	ACQ
Size of Specimen:	2"X4"	Templete:	270
Direction:	Joint Type 2	l em prave.	210

Load Cell (01457) Capacity (-Lbs) 20000

ASTN: D1761

Preload Value (-Lbs.) 5

Crossheed Speed (-Inches / min) or 0.1

(-Lbs) 5 Extensi

Extension or Position Measured by XHD_100 (XHD100)

	Notes	Top pressure.						E (0.0 98	Vield point	May Force
		Specimen Size (in)	Force @ 0.01" (lbs)	Force @ 0.015" (lbs)	Force (2) 0.05" (ibs)	Force (2) 0.1" (lbs)	Force (20.2" (ibs)	(bs)	(ibs)	(ibs)
Test No	Spec ID	000 (04	104 400	440 04F	100 751	275 803	524 445	772.324	204.697	1,044.235
37354	1-1	0.000	101.166	112.915	100.751	210.000	021110			1 051 040
37355	1-2	0.000	22.964	34.561	135.193	280.609	569.687	771.484	1,354.218	1,394.218
37955	1-3	0.000	5.035	5.035	106.659	210.571	445.023	672.913	672.760	1,198.349
07957	14	0.000	5.035	5.035	5.035	109.100	288.010	467.987	708.542	930.481
3/30/	1-4	0.000	46 530	46 539	136.261	264.282	496.140	667.953	768.280	1,015.625
37358	1-5	0.000	40.000	40.000				010 010	707 855	872 260
37359	1-6	0.000	78.201	89.722	166.702	286.789	543.060	679.016	101.000	672.209
37360	1-7	0.000	24.490	35.629	109.558	219.116	470.810	685.577	735.703	1,059.952
97961	1.9	0.000	86.746	103.989	164.795	280.075	549.545	779.724	977.402	1,031.876
3/301		0.000	106 583	112 839	175.323	300.522	549.545	734.482	855.637	1,134.567
37362	1-9	0.000	100,000	1122000				4 000 407	4 990 417	1 473 619
37363	1-10	0.000	146.637	156.250	237.427	391.464	760.193	1,000.137	1,339.417	1,473.016
	Neen	0.000	62.340	70.251	142.570	261.833	519.646	723.16C	832.451	1,111.519
	Median									105 040
	Sid Day	0.000	48.555	51.734	62.065	72.717	117.798	132.851	335.780	165.840
	Managertation	0.000	146.637	156.250	237.427	391.464	760.193	1,000.137	1,354.218	1,473.618
		0.000	5 095	5.035	5.035	109.100	288.010	467.987	204.697	872.269
	Ninimum	0.000	444.600	161 215	232 391	282 364	472,183	532.15C	1,149.521	601.349
	Range	0.000	141.QUZ	191.413	202.001	LUL.UUT				

amarthe Date: 6/16/12 By: Spanie

RADCO, INC. 3220 E 5911 Street Long Beach, CA 90805 Tel (562)272-7231 FAX (562)529-7513







Template 270 Jun 26, 2012

-0.50

Testing Machine STM-20

RADCO, INC. 3220 E. 59th Street Long Beach, CA 90805 TEL (562)272-7231 FAX (562)529-7513

By:

Date:

Extension



Report No. 9190

Pocket hole joint

Test Date 16-Jun-12 Testing Machine STM-20

 Customer Name:
 Kreg Tools
 Work Order:
 C-2310A

 Operator:
 Javier Camacho
 Fastener type:
 #14 X 2 1/2" #3PH-SQ RWH

 Stze of Specimen:
 2" X 4"
 Species of Wood:
 ACQ

 Direction:
 Joint Type 2
 Template:
 270

Load Cell (01457) Capacity (-Lbs) 20000

Crossheed Speed (-Inches / min) or 0.1

Preload Value (-Lbs) 5

Extension or Position Measured by XHD_100 (XHD100)

	Specimen	Earce M							
	Size (in)	0.01" (lbs)	1-orce @ 0.015" (lbs)	rorce@ 0.05" (lbs)	Force gg U.1" (lbs)	(ibs)	(ibs)	(ibs)	(ibs)
pec in		000 577	242 402	331 802	549 850	1.024.475	1.261.826	304.947	1,374.207
-1	0.000	200.5//	212.402	331.002	010.000				1 100 710
-2	0.000	31,281	42.114	142.212	290.451	780.945	1,119.614	1,249.771	1,429.749
		100.017	440.044	200.040	459 670	824 585	1 004 944	1.147.690	1,231.003
-3	0.000	139.847	149.041	200.010	400.013	024.000			
4	0.000	155.869	165.863	271.912	473.404	902.328	1,042.175	662.537	1,144.943
				240.044	E47 562	027 500	1 080 856	979 843	1.219.940
-5	0.000	181.580	202.942	319.214	547.502	351.000	1,000.000	010.010	
	0.000	163 651	172,501	308.685	553.284	905.304	994.797	921.936	1,068.573
-0	0.000		0			0.17.000	4 000 000	C07 708	1 100 109
-7	0.000	152.664	162.277	257.263	446.091	847.092	1,022.203	097.700	1,130,103
	0.000	142 681	154 495	260 391	478.592	924.988	1,165.695	707.474	1,365.204
1-8	0.000	145.001	101.100	200.001					4 444 448
1-9	0.000	135.040	155.258	245.590	438.461	848.846	976.715	221.481	1,111.149
7		07.100	49.004	127 559	205 258	770 187	1,160,889	266.495	1,323.090
-10	0.000	37.400	40.304	137.330	200.200	Tronor	11.00.000		Contraction of the second s
Man	0.000	134 163	146,660	253,464	453,163	876.625	1,082.977	715.988	1,245.796
	0.000								
		CC 47C	67 166	68 523	94,895	77.620	92.348	365.471	122.138
d Dev	0.000	011.00	37,130	204 002	653 294	1 024 475	1 261 826	1 249 771	1.429.749
imum	0.000	200.577	212.402	331.002	000.404	770 407	076 745	221 481	1 068 573
imum	0.000	31.281	42.114	137.558	290.451	//0.16/	8/0./ 15	4 000 000	964 476
anne.	0.000	169.296	170.288	194.244	262.833	254.288	285.11C	1,026.290	301.170
	-1 -2 -3 -3 -4 -5 -6 -7 -6 -7 -8 -9 -10 -9 -10 -9 -10 -9 -10 -7 -8 -9 -10 -7 -8 -9 -10 -7 -7 -8 -9 -10 -7 -7 -8 -8 -9 -10 -7 -7 -8 -9 -10 -7 -7 -8 -8 -9 -10 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	-1 0.000 -2 0.000 -3 0.000 -4 0.000 -5 0.000 -6 0.000 -7 0.000 -8 0.000 -9 0.000 Mean 0.000 mum 0.000 mum 0.000 mum 0.000	1 0.000 2000 -2 0.000 31.281 -3 0.000 139.847 -4 0.000 155.869 -5 0.000 181.580 -6 0.000 163.651 -7 0.000 152.664 -8 0.000 143.661 -9 0.000 37.460 Mean 0.000 56.176 mum 0.000 31.281 ange 0.000 169.296	1 0.000 10000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 1000000 100000 100000 <td>1 0.000 10000 100000 100000 100000 100000 100000 100000 100000 100000</td> <td>1 0.000 31.281 42.114 142.212 290.451 .3 0.000 139.847 149.841 260.010 458.679 .4 0.000 155.869 165.863 271.912 473.404 .5 0.000 181.580 202.942 319.214 547.562 .6 0.000 163.651 172.501 308.685 553.284 .7 0.000 152.664 162.277 257.263 448.091 .8 0.000 143.661 154.495 260.391 478.592 .9 0.000 135.040 155.258 245.590 438.461 10 0.000 37.460 48.904 137.558 295.258 Mean 0.000 56.176 57.156 66.523 94.895 .6 0.000 200.577 212.402 331.802 553.284 .9 0.000 31.281 42.114 137.558 290.451 .9 0.000 134.163 146.660</td> <td>1 0.000 110000 1100000 1100000 1100000 1100000 1100000 1100000 1100000 1100000 1100000 1100000 1100000 1100000 11000000 110000000 11000000</td> <td>1 0.000 31.281 42.114 142.212 290.451 780.945 1,119.614 3 0.000 139.847 149.841 260.010 458.679 824.585 1,004.944 4 0.000 155.869 165.863 271.912 473.404 902.328 1,042.175 -5 0.000 181.580 202.942 319.214 547.562 937.500 1,080.856 -6 0.000 163.651 172.501 308.685 553.284 905.304 994.797 -7 0.000 152.664 162.277 257.263 448.091 847.092 1,022.263 -8 0.000 135.040 155.258 245.590 438.461 846.846 976.715 10 0.000 37.460 48.904 137.558 295.258 770.187 1,160.889 Mean 0.000 58.176 57.156 66.523 94.895 77.620 92.348 mum 0.000 58.176 57.156 66.523 <t< td=""><td>1 0.000 31.281 42.114 142.212 290.451 780.945 1,119.614 1,249.771 3 0.000 139.847 149.841 260.010 458.679 824.585 1,004.944 1,147.690 4 0.000 155.869 165.863 271.912 473.404 902.328 1,042.175 662.537 5 0.000 181.580 202.942 319.214 547.562 937.500 1,080.856 979.843 -6 0.000 163.651 172.501 308.685 563.284 905.304 994.797 921.936 -7 0.000 152.664 162.277 257.263 446.091 847.092 1,022.263 697.708 -8 0.000 143.661 154.495 260.391 478.592 924.988 1,165.695 707.474 -9 0.000 37.460 48.904 137.558 295.258 770.187 1,160.889 266.495 Mean 0.000 56.176 57.156 66.523 94.895 77.620 92.348 365.471 10 0.000 <th< td=""></th<></td></t<></td>	1 0.000 10000 100000 100000 100000 100000 100000 100000 100000 100000	1 0.000 31.281 42.114 142.212 290.451 .3 0.000 139.847 149.841 260.010 458.679 .4 0.000 155.869 165.863 271.912 473.404 .5 0.000 181.580 202.942 319.214 547.562 .6 0.000 163.651 172.501 308.685 553.284 .7 0.000 152.664 162.277 257.263 448.091 .8 0.000 143.661 154.495 260.391 478.592 .9 0.000 135.040 155.258 245.590 438.461 10 0.000 37.460 48.904 137.558 295.258 Mean 0.000 56.176 57.156 66.523 94.895 .6 0.000 200.577 212.402 331.802 553.284 .9 0.000 31.281 42.114 137.558 290.451 .9 0.000 134.163 146.660	1 0.000 110000 1100000 1100000 1100000 1100000 1100000 1100000 1100000 1100000 1100000 1100000 1100000 1100000 11000000 110000000 11000000	1 0.000 31.281 42.114 142.212 290.451 780.945 1,119.614 3 0.000 139.847 149.841 260.010 458.679 824.585 1,004.944 4 0.000 155.869 165.863 271.912 473.404 902.328 1,042.175 -5 0.000 181.580 202.942 319.214 547.562 937.500 1,080.856 -6 0.000 163.651 172.501 308.685 553.284 905.304 994.797 -7 0.000 152.664 162.277 257.263 448.091 847.092 1,022.263 -8 0.000 135.040 155.258 245.590 438.461 846.846 976.715 10 0.000 37.460 48.904 137.558 295.258 770.187 1,160.889 Mean 0.000 58.176 57.156 66.523 94.895 77.620 92.348 mum 0.000 58.176 57.156 66.523 <t< td=""><td>1 0.000 31.281 42.114 142.212 290.451 780.945 1,119.614 1,249.771 3 0.000 139.847 149.841 260.010 458.679 824.585 1,004.944 1,147.690 4 0.000 155.869 165.863 271.912 473.404 902.328 1,042.175 662.537 5 0.000 181.580 202.942 319.214 547.562 937.500 1,080.856 979.843 -6 0.000 163.651 172.501 308.685 563.284 905.304 994.797 921.936 -7 0.000 152.664 162.277 257.263 446.091 847.092 1,022.263 697.708 -8 0.000 143.661 154.495 260.391 478.592 924.988 1,165.695 707.474 -9 0.000 37.460 48.904 137.558 295.258 770.187 1,160.889 266.495 Mean 0.000 56.176 57.156 66.523 94.895 77.620 92.348 365.471 10 0.000 <th< td=""></th<></td></t<>	1 0.000 31.281 42.114 142.212 290.451 780.945 1,119.614 1,249.771 3 0.000 139.847 149.841 260.010 458.679 824.585 1,004.944 1,147.690 4 0.000 155.869 165.863 271.912 473.404 902.328 1,042.175 662.537 5 0.000 181.580 202.942 319.214 547.562 937.500 1,080.856 979.843 -6 0.000 163.651 172.501 308.685 563.284 905.304 994.797 921.936 -7 0.000 152.664 162.277 257.263 446.091 847.092 1,022.263 697.708 -8 0.000 143.661 154.495 260.391 478.592 924.988 1,165.695 707.474 -9 0.000 37.460 48.904 137.558 295.258 770.187 1,160.889 266.495 Mean 0.000 56.176 57.156 66.523 94.895 77.620 92.348 365.471 10 0.000 <th< td=""></th<>

Date: 6/16 By: Coluce Tamache

RADCO, INC. 3220 E, 591 Street Long Beach, CA 90805 Tel (562)272-7231 FAX (562)529-7513



Pocket hole joint **Report No 9190**



Force

3220 E. 59th Street Long Beach, CA 90805 TEL (562)272-7231 FAX (562)529-7513 RADCO, INC.



Report No. 9191

Pocket hole joint

Test Date 18-Jun-12 Testing Machine STM-20

	ta	Work Order:	C-2310A
Customer Name:	Kreg Loois	Fastener type:	#14 X 2 1/2"
Operator:	Javier Camacho	Species of Wood:	ACQ
Size of Specimen:	2" X 4"	Tomplete:	270
Direction:	Joint Type 2	Tempaco.	210

ASTM: D1761

Template: 210

Load Cell (01457) Capacity (-Lbs.) 20000 Preload Value (-Lbs.) 5 Crossheed Speed (-Inches / min) or 0.1 Extension or Position Measured by XHD_100 (XHD100)

	Notes	Out side pressure.	and the second second				E	Form D 0 3"	Vield point	Max Force
	12.1	Specimen Size (in)	Force @ 0.01" (lbs)	Force @ 0.015" (lbs)	Force (2) 0.05" (lbs)	Force (2) 0.1" (1bs)	(lbs)	(lbs)	(lbs)	(ibs)
est No	Spec ID	Orthe (my	00.004	40.950	86 823	189.514	270.538	395.813	107.117	535.736
37374	1-1	0.000	35.934	40.309	00.020	100.011	044 000	967 500	71 335	363 235
37375	1.2	0.000	26.245	33.112	91.858	184.097	311.900	337.390	11.000	000,200
31313			E 112	5 112	62.637	135.651	257.950	384.827	119.324	605.164
37376	1-3	0.000	5.112	0.112		100 0001	000 004	400 467	100 632	502,853
37377	1-4	0.000	5.035	5.035	68.665	132.751	286.331	400.407	100.002	
		0.000	5 1 1 2	13.657	76.370	149.918	307.007	434.647	102.768	509.644
37378	1-5	0.000	0.114		400.004	007 014	356 360	479.660	134.964	554.810
37379	1-6	0.000	25.177	34.485	109.634	201.214	000.003	47 01000		110 777
	17	0.000	5.264	5.264	84.915	142.517	289.536	405.579	91.019	446.777
37380	1-/	0.000		E4 707	112 457	222 168	282,440	398.560	94.147	482.025
37381	1-8	0.000	5.035	51.727	112.451	222.100			00 545	465 012
97989	1.9	0.000	23.270	32.425	91.171	157.547	266.495	380.630	92.545	405.012
31302	1.5		E 026	5 035	70 877	151,749	326.309	483.017	102.615	533.752
37383	1-10	0.000	5.035	5.055	10.011	10.000.00			101010	400.004
	Mean	0.000	14.122	22.621	85.541	167.313	295.494	412.079	101.646	499.901
	Mertino	0.000							47.000	ac 307
	Circl Date	0.000	12.098	17.687	16.624	31.319	30.226	41.411	17.063	00.367
		0.000	35,934	51.727	112.457	222.168	356.369	483.017	134.954	603.104
		0.000	5.035	5,035	62.637	132.751	257.950	357.590	71.335	303.235
	Ministry	0.000	30.800	46 692	49,820	89.417	98.419	125.427	63.629	241.928
	Range	0.000	30.039			/-				

n Date: By:

Tel (562)272-7231 FAX (562)529-7513

RADCO, INC. 3220 5 59th Street Long Beach, CA 90805



Report No 9191 Pocket hole joint





Report No. 9200

· IEMING · INPECTION

RADEC

Pocket hole joint

- Test Date 22-Jun-12 Testing Machine STM-20
- Customer Name:
 Kreg Tools

 Operator:
 Javier Camacho

 Stze of Specimen:
 2" X 4"

 Direction:
 Joint Type 3

 ASTNI:
 D1761

Work Order: C-2310A Fastener type: #14 X 2 1/2*#3PH-SQ RWH Species of Wood: Cedar Template: 270

Load Cell (01457) Capacity (-Lbs) 20000 Preload Value (-Lbs) 5 Crosshead Speed (-Inches / min) or 0.1 Extension or Position Measured by XHD_100 (XHD100)

	Notes	Side pressure.							Vield point	May Eorop
T	Cana ID	Specimen Size (in)	Force (2) 0.01" (lbs)	Force @ 0.015" (lbs)	Force @ 0.05" (ibs)	Force @ 0.1" (lbs)	Force @ 0.2" (ibs)	Force (2) 0.3" (ibs)	(lbs)	(ibs)
Test No	Specilu		01 500	114 059	269 891	515 442	680.084	784.607	213.623	1,093.063
37454	1-1	0.000	97.580	144,000	300.001	010.412				1 100 200
37455	1-2	0.000	86.594	119.247	291.367	418.549	600.052	708.237	233.688	1,189.728
37456	1-3	0.000	28.839	41.199	255.203	497.437	912.323	1,170.959	298.920	1,456.223
97457	14	0.000	70,496	86.365	278.778	429.611	585.251	664.749	175.705	900.040
07450	15	0.000	131.302	202.866	437.317	626.068	876.236	969.620	259.781	1,319.275
3/400	1-0	0.000	101,000			105 000	000 040	791 741	175 858	900 879
37459	1-6	0.000	95.596	120.163	276.947	425.339	606.042	121.141	175.000	555.510
37460	1-7	0.000	79.575	133.820	355.072	532.913	740.128	853.958	555.344	1,247.253
37461	1-8	0.000	71,335	103.455	305.634	483.246	731.964	905.533	226,746	1,154.633
37462	1_9	0.000	5.112	5.112	5.112	455.017	839.081	798.416	217.590	1,109.009
JIHUE	1-3			100 005	000 000	400 020	635 757	732 346	229 416	1,172,791
37463	1-10	0.000	90.942	132.065	330.009	402.030	000.101	102.040	LLO.TIG	
	Meen	0.000	75.737	108.894	291.092	484.566	720.772	831.017	258.667	1,154.289
	Median							100 100	440.950	474 097
	Std Dev	0.000	35.834	55.169	114.132	63.024	120.259	152.193	110.350	11.007
	Maximum	0.000	131.302	202.866	437.317	626.068	912.323	1,170.959	555.344	1,490.223
	Minimum	0.000	5,112	5.112	5.112	418.549	585.251	664.749	175.705	900.040
		0.000	126,190	197.754	432.205	207.520	327.072	506.21C	379.639	556.183
	Kange	0.000	14.01.100							

Date: 6 By: Anuin Inun

RADCO, INC. 3220 E 59th Street Long Beach, CA 90805 Tel (562)272-7231 FAX (562)529-7513



Report No 9200 Pocket hole joint

Force (-Lbs) vs Extension (%)





Jun 20, 2012

Report No. 9196

Pocket hole joint

Test Date 20-Jun-12 Testing Machine STM-20

 Customer Name:
 Kreg tools
 Work Order:
 C-2310A

 Operator:
 Javier Camacho
 Fastener type:
 #14 X 2 1/2" #3PH-SQ RWH

 Size of Specimen:
 2" X 4"
 Species of Wood:
 Cedar

 Direction:
 Joint type 3
 Template:
 270

Load Cell (01457) Capacity (Lbs) 20000 Preload Value (Lbs) 5 Crossheed Speed (Inches / min) or Rate 0.1 Extension or Position Measured by XHD_100 (XHD100)

	Notes	Bottom pressure.		Section and the					Wield maint	May Force
	Once ID	Specimen Size (in)	Force @ 0.01" (lbs)	Force @ 0.015" (lbs)	Force (2) 0.05" (lbs)	Force (20.1" (lbs)	Force @ 0.2" (lbs)	' Force @ 0.3" (lbs)	(ibs)	(ibs)
Test NO	Specilu		F0 40F	95 007	354 601	673 447	880,203	455.475	207.138	881.958
37424	1-1	0.000	52.185	65.907	554.031	010.411				4 484 888
37425	1-2	0.000	5.035	54.779	349.274	695.648	986.404	1,061.554	220.337	1,121.902
37426	1.3	0.000	5.188	5.188	305.939	715.179	1,126.709	630.264	223.694	1,138.763
07407	14	0.000	134,125	178.680	488.434	937.195	1,283.188	1,391.602	280.075	1,420.670
3/42/	(0.000				740.000	670 245	433 884	175 095	895.844
37428	1-5	0.000	5.035	5.035	388.565	740.002	0/9.245	+00.004		
37429	1-6	0.000	106.659	153.046	452.881	774.689	985.031	539.780	192.871	985.031
97490	1.7	0.000	5.035	5.035	428.772	807.648	581.436	519.028	176.849	904.846
3/430	1-7	0.000		E 005	200 470	762 024	643 768	511 322	201,187	1.026.230
37431	1-8	0.000	5.035	5.035	389.170	102.024	040.700	Briteza		
37432	1-9	0.000	5.035	98.038	413.513	739.594	886.993	957.413	192.871	985.184
37433	1-10	0.000	82.397	125.351	373.459	664.902	889.511	576.477	174.484	892.487
01100	Mean	0.000	40.573	71.609	395.470	751.099	894.249	707.68C	204.460	1,025.291
	Median		50.079	60 565	53 A70	79 282	218.362	319.628	31.884	167.069
	Std Dev	0.000	5/0.00	00.000	400 434	037 105	1 293 189	1 391 602	280.075	1.420.670
	Maximum	0.000	134.125	178.680	400.434	33/.130	E04 420	423 R84	174 484	881 958
	Minimum	0.000	5.035	5.035	305.939	064.902	001.430	400.004	105 501	53R 742
	Range	0.000	129.089	173.645	182.495	272.293	701.752	957.718	105.591	JJ0.712

Date: 0 By:

RADCO, INC. 3220 E 59th Street Long Beach, CA 90805 Tel (562)272-7231 FAX (562)528-7513



Report No 9196 Pocket hole joint





Force



Jun 22, 2012

Report No. 9199

Pocket hole joint

Test Date 21-Jun-12 Testing Machine STM-20

	Maria Anala	Work Order:	C-2310A
Customer Name:	Kreg tools	Fastener type:	#14 X 2 1/2" #3PH-SQ RWH
Operator:	Javier Carnacho	Species of Wood:	ACQ
Size of Specimen:	2" X 4"	Tempiste:	270
Direction:	Joint type 3		

ASTM: D1761

Load Cell (01457) Capacity (-Lbs) 20000 Preload Value (-Lbs) 5 Crosshead Speed (-inches / min) or 0.1 Extension or Position Measured by XHD_100 (XHD100)

	Notes	Side Pressure.				-		Farma @ 0.3"	Vield point	Max Force
		Specimen Size (In)	Force @ 0.01" (ibs)	Force @ 0.015" (lbs)	Force (2) 0.05" (lbs)	Force (2) 0.1" (lbs)	(ibs)	(lbs)	(ibs)	(lbs)
Test No	Spec ID		E 09E	141 930	408 859	582,504	791.855	914.459	1,146.088	1,235.504
37444	1-1	0.000	5.035	141.000	400.000		1000 2000 200		270 482	1 115 265
37445	1.2	0.000	284.042	302.353	366.058	449.600	725.479	796.280	210.402	1,110.200
31453			E 09E	5.035	5 035	261.841	508.270	709.534	494.995	1,299.057
37446	1-3	0.000	5.035	5.000	0.000			676 990	394 167	1 342 850
37447	1-4	0.000	73.929	105.286	277.176	418.015	580.826	676.660	304.101	1,012.000
		0.000	5 112	5.112	57,907	291.824	563.126	739.441	247.955	1,261.215
37448	1-5	0.000	0.112		100 000	000 000	011 494	1 072 083	315 323	1,432,419
37449	1-6	0.000	134.430	159.531	436.783	008.009	311.404	1,012.000	010.010	
-	47	0.000	5.493	5,493	64.163	315.475	612.717	800.171	296.783	1,504.440
37450	1-7	0.000		100.050	044 499	497 699	636 520	803,757	419.922	1,207.352
37451	1-8	0.000	78.201	100.250	311.432	437.022	000.020			4 000 074
97459	1.0	0.000	5.035	5.035	5.035	309.982	616.760	885.925	253.372	1,288.071
31492	1-9	0.000	100.040	450 970	275 650	304 821	574 951	714.035	267.868	1,284.866
37453	1-10	0.000	109.940	159.3/0	215.000	334.021	014.001		2601020	
	bloop	0.000	70,625	98,930	220.810	413.055	652.199	811.25E	404.694	1,297.104
	(vicen)	0.000	10.000							
		0.000	89 859	97.613	170.520	130.877	122.417	119.105	272.205	110.469
	SIGLER	0.000	2R4 042	302.353	436.783	668.869	911. 484	1,072.083	1,146.088	1,504.440
	Mapamum	0.000	5 035	5 035	5.035	261.841	508.270	676.88C	247.955	1,115.265
	Minimum	0.000	270 007	297.318	431.747	407.028	403.214	395.203	898.132	389.175
	Range	0.000	213.001	231.010						

Date: 61 By: Javin

RADCO, INC. 3220 E. 59th Street Long Beach, CA 90805 Tel (562)272-7231 FAX (562)529-7513





Force (-Lbs) vs Extension (%)



Force

3220 E. 59th Street Long Beach, CA 90805 TEL (562)272-7231 FAX (562)529-7513 RADCO, INC.



Jun 20, 2012

Report No. 9195

Pocket hole joint

- Test Date 20-Jun-12 Testing Machine STM-20
- Customer Name:Kreg ToolsOperator:Javier CamachoSize of Specimen:2" X 4"Direction:Joint type 3ASTN:D1761

Work Order: C-2310A Fastener type: #14 X 2 1/2" #3PH-SQ RWH Species of Wood: ACQ Template: 270

Load Cell (01457) Capacity (Lbs)	20000
Preload Value (Lbs)	5

Crossheed Speed (Inches / min) or Rate 0.1 Extension or Position Measured by XHD_100 (XHD100)

Notes	Bottom pressure.						E	Vield point	Max Force
Cree ID	Specimen Size (in)	Force @ 0.01" (lbs)	Force @ 0.015" (ibs)	Force @ 0.05" (lbs)	Force 2 0.1" (lbs)	Force @ 0.2" (ibs)	Force @ 0.3* (lbs)	(ibs)	(ibs)
Spec ID	Citte (inf		400 440	362 930	727.463	1.092.529	1,182,404	245.590	1,248.322
1-1	0.000	74.310	103.149	302.300	121.400				1 447 405
1-2	0.000	5.112	5.112	446.701	863.342	1,157.227	1,033.401	247.574	1,257.935
1.9	0.000	113.144	140.152	415.497	733.643	914.459	985.424	195.999	1,001.511
(-5	0.000		110 000	400 005	762 024	812 073	837 708	163.422	838.318
1-4	0.000	79.803	110.626	400.325	102.024	012.070			
1-5	0.000	5.035	5.035	424.423	801.697	850.449	902.023	190.735	973.816
	0.000	07 895	134 277	410,767	720.825	903.015	961.914	189.743	969.009
1-6	0.000	97.000	104.277				1 000 100	004.000	1 102 008
1-7	0.000	44.785	79.346	395.813	762.329	996.475	1,058.426	254.222	1,193.008
1.8	0.000	5,035	5.035	435.333	855.331	1,193.314	1,283.340	270.233	1,372.757
1-0		22352			704 700	4 462 064	1 201 885	276 642	1.308.289
1-9	0.000	5.188	5.188	394.510	764.760	1,105.004	1,201.000		()
1-10	0.000	123.901	183,182	544.586	993.042	1,096.268	1,129.684	223.389	1,137.924
Maan	0.000	55 420	77.110	423.149	800.446	1,017.967	1,064.621	223.755	1,130.089
	0.000	00.410							
Median	0.000	49 330	67 533	48 707	83,909	140.618	155,25C	37.666	175.441
Std Dev	0.000	40.023	400 400	EAA 508	003 042	1 103 314	1 291,885	276.642	1.372.757
Maximum	0.000	123.901	103.102	000,020	700 925	912 072	837 709	163 422	838.318
Minlmum	0.000	5.035	5.035	362.930	120.823	012.073	454 470	443 220	524 439
Rance	0.000	118.866	178.146	181.656	272.217	381.241	454.178	113.220	
	Notes Spec ID 1-1 1-2 1-3 1-4 1-5 1-6 1-7 1-8 1-9 1-10 Mean Median Std Dev Maximum MinImum Range	Notes Bottom pressure. Spec ID Size (in) 1-1 0.000 1-2 0.000 1-3 0.000 1-4 0.000 1-5 0.000 1-6 0.000 1-7 0.000 1-8 0.000 1-9 0.000 1-10 0.000 Mean 0.000 Median 0.000 Median 0.000 Median 0.000 Median 0.000 Median 0.000 Maximum 0.000 Maximum 0.000	Notes Bottom pressure. Spec ID Size (in) 0.01" (ibs) 1-1 0.000 74.310 1-2 0.000 5.112 1-3 0.000 113.144 1-4 0.000 79.803 1-5 0.000 5.035 1-6 0.000 97.885 1-7 0.000 5.035 1-8 0.000 5.035 1-9 0.000 5.188 1-10 0.000 123.901 Median 0.000 48.329 Maximum 0.000 5.035 Range 0.000 118.866	Notes Bottom pressure. Spec ID Size (in) Force @ 0.01" (ibs) Force @ 0.015" (ibs) 1-1 0.000 74.310 103.149 1-2 0.000 5.112 5.112 1-3 0.000 113.144 140.152 1-4 0.000 79.803 110.626 1-4 0.000 5.035 5.035 1-5 0.000 97.885 134.277 1-6 0.000 97.885 134.277 1-7 0.000 5.035 5.035 1-8 0.000 5.188 5.188 1-9 0.000 5.188 5.188 1-10 0.000 123.901 183.182 Mean 0.000 48.329 67.533 Maximum 0.000 48.329 67.533 Maximum 0.000 5.035 5.035 Minimum 0.000 118.666 178.146	Notes Bottom pressure. Specimen Force @ Force @ Force @ Force @ 0.015" (ibs) 0.05" (ibs) 1-1 0.000 74.310 103.149 362.930 1-2 0.000 5.112 5.112 446.701 1-3 0.000 113.144 140.152 415.497 1-4 0.000 79.803 110.626 400.925 1-5 0.000 5.035 5.035 424.423 1-6 0.000 97.885 134.277 410.767 1-7 0.000 5.035 5.035 435.333 1-8 0.000 5.188 394.516 1-9 0.000 55.420 77.110 423.149 Median 0.000 55.420 77.110 423.149 Median 0.000 123.901 183.182 544.586 Median 0.000 123.901 183.182 544.586 Minimum 0.000 123.901 183.182 544.586	Notase Bothom pressure. Specimen Force @ Force @ Force @ force @ force @ 0.01" (lbs) 0.05" (lbs) force @ 0.1" (lbs) 1-1 0.000 5.112 5.112 5.112 446.701 883.342 1-3 0.000 113.144 140.152 415.497 733.843 1-4 0.000 5.035 5.035 424.423 801.697 1-5 0.000 97.885 134.277 410.767 720.825 1-7 0.000 5.035 5.035 435.333 855.331 1-8 0.000 5.188 5.188 394.516	Notes Botkom pressure. Speciment Force @ Force @ Force @ Force @ force @ 0.1" force @ 0.01" (bs) 0.015" force @ 0.1" force @ 0.1" (bs) (Notes Boltom pressure. Speciment 1-1 Size (in) Force @ 0.01" (ibs) Force @ 0.015" (ibs) Force @ 0.05" (ibs) Force @ 0.1" Force @ 0.2" Force @ 0.3" (ibs) 1-1 0.000 74.310 103.149 362.930 727.463 1,092.529 1,182.404 1-2 0.000 5.112 5.112 446.701 863.342 1,157.227 1,033.401 1-3 0.000 113.144 140.152 415.497 733.643 914.489 985.424 1-4 0.000 79.803 110.626 400.925 762.024 812.073 837.708 1-5 0.000 5.035 5.035 424.423 801.697 850.449 902.023 1-5 0.000 5.035 5.035 435.333 855.331 1,93.314 1,283.340 1-7 0.000 5.188 5.188 394.516 764.760 1,163.864 1,291.885 1-10 0.000 5.182 5.188 394.516 764.760 1,105.864 1,291.	Notes Bottom pressure. Force @ Force @ Loss Force @ 0.1" Force @ 0.2" Force @

Date: 6/20/12 By: (

RADCO, INC. 3220 E, S9th Street Long Beach, CA 90805 Tel (562)272-7231 FAX (562)529-7513



Report No 9195 Pocket hole joint



Force

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Report No. 9197

Pocket hole joint

Test Date 20-Jun-12 Testing Machine STM-20

• • • • • • • • • • • • • • • • • • •		Work Order:	C-2310A
Customer Name:	Kieg was	Fastener type:	#14 X 2 1/2" #3PH-SQ RWH
Operator:	Javier Camacho	Spacing of Wood!	Cedar
Size of Specimen:	2" X 4"	Towniste:	270
Direction:	Joint type 3	lanhara.	210
ASTM:	D1761		

Load Cell (01457) Capacity (-Lbs) 20000 Preload Value (-Lbs) 5 Crosshead Speed (-Inches / min) or 0.1 Extension or Position Measured by XHD_100 (XHD100)

Dellam announce w/2 fosteners

	NORE	Bottom pressure wiz				F	Earon @ 0.2"	Earca @ 0.3"	Yield point	Max Force
Test blo	Seco ID	Specimen Size (in)	Force (2) 0.01" (lbs)	Force @ 0.015" (lbs)	Force @ 0.05" (lbs)	(lbs)	(bs)	(ibs)	(ibs)	(ibs)
37434	1-1	0.000	113.449	150.375	480.194	947.876	1,513.367	1,819.992	489.960	2,114.716
37435	1-2	0.000	5.264	5.264	171.738	616.608	1,146.927	1,577.988	597.076	1,924.057
37436	1.3	0.000	5.035	5.035	5.035	1,062.241	1,683.502	1,936.111	383.606	1,940.613
37437	1-4	0.000	5.035	5.035	5.035	5.035	1,254.196	1,526.337	1,935.349	1,947.632
37438	1-5	0.000	155.029	182.571	402.222	760.880	1,281.815	1,533.813	1,786.957	1,877.136
141144	Meen	0.000	58.763	69.656	212.845	678.528	1,375.961	1,678.848	1,038.589	1,960.831
	Median Std Dev	0.000	72.238	89.112 182.571	221.020 480.194	413.519 1,062.241	217.720 1 ,68 3.502	187. 466 1,936.111	756.499 1,935.349	90.306 2,114.716
	Minimum Range	0.000	5.035 149.994	5.035 177.536	5.035 475.159	5.035 1,057.205	1,146.927 536.575	1,526.337 409.775	383.606 1,551.743	1,877.136 237.579

Date: 6/20 By:

RADCO, INC. 3220 5,59th Street Long Beach, CA 90805 Tel (562)272-7231 FAX (562)529-7513









Jun 21, 2012

Report No. 9198

Fanta

Pocket hole joint

Test Date 21-Jun-12 Testing Machine STM-20

 Customer Name:
 Kreg tools
 Work Order:
 C-2310A

 Operator:
 Javier Camacho
 Fastener type:
 #14 X 2 1/2" #3PH-SQ RWH

 Size of Specimen:
 2" X 4"
 Species of Wood:
 ACQ

 Direction:
 Joint type 3
 Template:
 270

Load Cell (01457) Capacity (Lbs) 20000 Preload Value (Lbs) 5 Crosshead Speed (Inches / min) or Rate 0.1 Extension or Position Measured by XHD_100 (XHD100)

Notes Bottom pressure w/two fasteners.

	Once ID	Specimen Size (in)	Force @ 0.01" (lbs)	Force @ 0.015" (ibs)	Force @ 0.05" (lbs)	Force @ 0.1" (lbs)	Force @ 0.2" (lbs)	Force @ 0.3" (lbs)	(lbs)	(ibs)
I est NO	Specito	0.000	5.035	5.035	5.035	5.035	1,629.715		1,822.052	1,827.621
37439	1-1	0.000	0.000	400 700	477 500	1 031 342	1 682 892	2.207.489	2,624,741	2,696.228
37440	1-2	0.000	95.444	138.702	4/1.000	1,001.042	1,002.002	0.000.004	2 255 402	2 912 674
37441	1-3	0.000	124.054	175.400	548,630	1,126.633	1,924.057	2,535.324	2,200.402	2,312.014
97449	1.4	0.000	5.035	5.035	5.035	5.035	1,736.755	2,449.493	2,784.653	3,527.603
37443	1-5	0.000	5.188	5,188	487.900	998.611	1,590.347	1,833.572	415.421	2,097.397
	Meen	0.000	46.951	65.872	304.840	633.331	1,712.753	2,256.470	1,980.454	2,612.305
	Median Std Dev	0.000	58.212	84.240	275.025	575. 478	130.380	314.25C	950.245	673.775
	Maximum	0.000	124.054	175.400	548.630	1,126.633	1,924.057	2,535.324	2,784.653	3,527.603
	Minimum	0.000	5.035	5.035	5.035	5.035	1,590.347	1,833.572	415.421	1,827.821
	Range	0.000	119.019	170.364	543.594	1,121.597	333.710	701.752	2,369.232	1,699.962

By: Jacier Date: 6/21 12

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