

Appendix C

Raw Data of Physical and Mechanical Properties Test

Table C-1 Mean, standard deviation, coefficient of variation (COV) data for moisture content (%) and specific gravity base on superheated steam dried condition of specimens used in shear strength.

No.	Shear Strength (MPa)	MC (% d.b.)	Specific gravity
1	13.31	13.8	0.55
2	14.43	13.9	0.55
3	14.72	13.4	0.55
4	14.38	13.3	0.55
5	16.59	13.6	0.58
6	14.94	13.7	0.57
7	12.60	12.7	0.57
8	11.95	12.8	0.58
9	15.00	13.4	0.58
10	12.77	13.2	0.55
11	13.08	13.8	0.54
12	14.49	13.6	0.55
13	12.54	13.0	0.52
14	13.19	13.8	0.53
15	14.58	12.9	0.52
16	10.83	12.8	0.50
17	11.03	13.2	0.55
18	12.34	13.0	0.56
19	12.72	13.0	0.57
20	13.65	13.4	0.56
Average (MPa)	13.46	13.3	0.55
SD (MPa)	1.439	0.38	0.022
COV (%)	10.7	2.9	4.1

*Tested at Walailak University.

Table C-2 Mean, standard deviation, coefficient of variation (COV) data for moisture content (%) and specific gravity base on conventional dried condition (from Rattapoom Parawood factory) of specimens used in shear strength.

No.	Shear Strength (MPa)	MC (% d.b.)	Specific gravity
1	15.88	9.8	0.67
2	14.91	9.9	0.70
3	14.18	9.8	0.66
4	14.86	9.7	0.70
5	15.96	9.3	0.73
6	16.90	9.7	0.71
7	15.90	9.8	0.68
8	15.48	10.2	0.69
9	14.40	9.2	0.67
10	18.44	9.3	0.68
11	15.81	9.0	0.72
12	14.40	9.5	0.68
13	14.64	9.5	0.73
14	15.93	9.5	0.68
15	14.42	9.4	0.66
16	14.74	8.3	0.72
17	13.93	9.4	0.68
18	16.41	8.8	0.73
19	16.64	8.6	0.73
20	13.07	9.0	0.70
Average (MPa)	15.34	9.4	0.70
SD (MPa)	1.232	0.47	0.020
COV (%)	8.0	5.0	3.5

*Tested at Kasetsart University.

Table C-3 Mean, standard deviation, coefficient of variation (COV) data for moisture content (%) and specific gravity base on superheated steam dried condition of specimens used in compression parallel to grain test.

No.	Compression Parallel to Grain (MPa)	MC (% d.b.)	Specific gravity
1	39.31	13.1	0.61
2	36.59	13.4	0.56
3	38.72	13.1	0.58
4	38.10	13.5	0.56
5	37.50	12.9	0.55
6	35.75	13.4	0.55
7	34.10	13.2	0.52
8	38.46	13.4	0.56
9	38.32	13.2	0.58
10	39.86	13.2	0.57
11	38.66	13.2	0.57
12	39.00	13.0	0.57
13	37.45	13.0	0.58
14	31.32	13.4	0.56
15	35.66	13.1	0.52
16	38.90	13.2	0.58
17	38.43	13.2	0.56
18	34.89	13.2	0.56
19	35.30	13.1	0.57
20	35.79	12.8	0.60
Average (MPa)	37.10	13.2	0.56
SD (MPa)	2.143	0.18	0.022
COV(%)	5.8	1.4	3.8

*Tested at Walailak University.

Table C-4 Mean, standard deviation, coefficient of variation (COV) data for moisture content (%) and specific gravity base on conventional dried condition

(from Rattapoom Parawood factory) of specimens used in compression parallel to grain test.

No.	Compression Parallel to Grain (MPa)	MC(%d.b.)	Specific gravity
1	47.16	9.6	0.70
2	51.91	9.8	0.68
3	50.59	9.5	0.67
4	54.10	9.9	0.72
5	64.09	9.7	0.73
6	50.49	9.9	0.68
7	50.23	9.6	0.68
8	50.83	10.0	0.67
9	50.83	9.6	0.65
10	53.49	9.7	0.69
11	46.74	9.8	0.66
12	59.67	9.4	0.69
13	52.47	9.5	0.69
14	50.67	9.7	0.66
15	51.87	9.6	0.70
16	49.78	9.8	0.67
17	53.86	9.5	0.68
18	53.40	9.8	0.69
19	51.23	9.7	0.68
20	59.684	9.7	0.70
Average (MPa)	52.66	9.7	0.68
SD (MPa)	4.207	0.16	0.020
COV(%)	8.0	1.7	2.8

*Tested at Department of Mining and Materials, Faculty of Engineering, PSU.

Table C-5 Mean, standard deviation, coefficient of variation (COV) data for moisture content (%) and specific gravity base on superheated steam dried condition of specimens used in static bending test.

No.	MOR (MPa)	MOE (MPa)	MC (%d.b.)	Specific gravity
1	97.9	9069.1	13.2	0.67
2	94.3	7565.7	13.5	0.68
3	86.7	7153.2	13.6	0.67
4	108.5	9815.2	13.9	0.68
5	80.5	7824.0	13.6	0.57
6	96.3	6989.5	13.7	0.63
7	84.1	6487.0	13.3	0.57
8	82.6	6963.9	13.6	0.55
9	78.6	6162.6	13.5	0.53
10	87.7	5063.5	13.4	0.60
11	97.9	6958.4	13.7	0.65
12	93.8	7908.4	14.0	0.63
13	95.7	6910.8	13.3	0.67
14	97.0	7851.3	13.2	0.66
15	100.8	7703.3	13.5	0.68
16	93.3	9277.6	13.8	0.68
17	80.6	7439.7	13.7	0.64
18	95.2	6357.8	14.0	0.66
19	85.8	6217.7	13.8	0.67
20	91.0	8034.2	13.7	0.66
Average(MPa)	91.4	7387.6	13.6	0.64
SD (MPa)	7.85	1134.80	0.23	0.048
COV (%)	8.6	15.4	1.7	7.5

*Tested at Faculty of Agro-Industry, PSU.

Table C-6 Mean, standard deviation, coefficient of variation (COV) data for moisture content (%) and specific gravity base on conventional dried condition (from Rattapoom Parawood factory) of specimens used in static bending test.

No.	MOR (MPa)	MOE (MPa)	MC (%d.b.)	Specific gravity
1	102.2	7875.5	9.2	0.65
2	115.5	10538.4	9.0	0.72
3	114.7	9985.9	9.3	0.67
4	104.7	8736.3	8.9	0.67
5	80.6	7930.8	9.1	0.64
6	115.6	9334.0	9.0	0.69
7	114.4	10217.0	9.3	0.69
8	102.9	8930.3	9.3	0.68
9	113.6	9311.8	9.2	0.70
10	111.9	9775.6	9.0	0.68
11	125.2	14904.4	9.3	0.73
12	117.7	10543.7	9.2	0.71
13	91.9	8749.3	9.2	0.70
14	92.3	8294.5	9.1	0.66
15	96.7	8159.6	9.1	0.64
16	112.8	9701.5	9.1	0.74
17	106.8	10299.3	9.0	0.68
18	108.4	9064.5	9.5	0.67
19	118.7	11085.4	9.0	0.70
20	105.7	10259.9	8.8	0.69
Average(MPa)	107.0	9721.4	9.148	0.69
SD (MPa)	11.42	1605.56	0.153	0.026
COV (%)	10.7	16.512	1.669	3.8

*Tested at Faculty of Agro-Industry, PSU.

Table C-7 Mean, standard deviation, coefficient of variation (COV) data for moisture content (%) and specific gravity base on superheated steam dried condition of specimens used in compression perpendicular to grain test.

No.	Compression Perpendicular to Grain (MPa)	MC (%d.b.)	Specific gravity
1	1.82	13.4	0.69
2	1.72	13.2	0.66
3	1.79	13.5	0.69
4	1.89	13.1	0.54
5	1.88	13.4	0.69
6	1.87	13.3	0.58
7	1.68	13.2	0.64
8	1.73	13.6	0.64
9	1.79	13.4	0.68
10	2.54	13.0	0.66
11	1.76	13.3	0.67
12	1.69	13.0	0.65
13	2.66	13.5	0.65
14	1.80	13.3	0.68
15	1.94	13.3	0.67
16	2.49	13.4	0.69
17	1.76	13.3	0.54
18	1.84	13.0	0.65
19	1.84	13.1	0.66
20	1.69	13.2	0.66
Average(MPa)	1.93	13.3	0.64
SD (MPa)	0.310	0.17	0.048
COV (%)	16.1	1.2	7.4

*Tested at Department of Mining and Materials, Faculty of Engineering, PSU.

Table C-8 Mean, standard deviation, coefficient of variation (COV) data for moisture content (%) and specific gravity base on conventional dried condition (from Rattapoom Parawood factory) of specimens used in compression perpendicular to grain test.

No.	Compression Perpendicular to Grain (MPa)	MC (%d.b.)	Specific gravity
1	1.98	9.7	0.67
2	2.48	9.1	0.70
3	2.03	9.4	0.72
4	1.91	9.7	0.68
5	1.91	9.3	0.69
6	1.88	9.3	0.66
7	2.03	9.7	0.67
8	2.26	9.6	0.72
9	1.98	9.5	0.69
10	1.90	9.1	0.70
11	2.26	9.4	0.70
12	2.06	9.4	0.69
13	2.06	9.2	0.68
14	2.03	9.2	0.70
15	1.96	9.3	0.69
16	2.56	9.8	0.67
17	2.10	9.2	0.72
18	1.88	9.3	0.68
19	2.29	9.2	0.75
20	1.94	9.1	0.71
Average(MPa)	2.06	9.4	0.69
SD (MPa)	0.179	0.22	0.021
COV (%)	8.7	2.3	3.0

*Tested at Department of Mining and Materials, Faculty of Engineering, PSU.

Table C-9 Mean, standard deviation, coefficient of variation (COV) data for moisture content (%) and specific gravity base on superheated steam dried condition of specimens used in hardness test.

No.	Hardness (MPa)	MC (%d.b.)	Specific gravity
1	4579.7	12.1	0.67
2	4530.7	12.1	0.62
3	4413.0	12.0	0.59
4	3726.5	12.1	0.55
5	4805.2	12.0	0.65
6	4432.6	12.0	0.60
7	4609.1	12.2	0.62
8	3922.7	12.1	0.61
9	3824.6	11.9	0.54
10	3530.4	12.0	0.55
11	3285.2	11.9	0.55
12	3550.0	11.7	0.54
13	4020.7	12.0	0.60
14	5001.4	12.0	0.67
15	5197.5	12.1	0.71
16	3824.6	12.0	0.60
17	3981.5	11.9	0.62
18	3942.3	12.0	0.56
19	5050.4	12.1	0.64
20	4952.4	12.0	0.60
Average(MPa)	4259.0	12.0	0.60
SD (MPa)	570.34	0.11	0.050
COV (%)	13.4	0.9	7.9

*Tested at Kasetsart University.

Table C-10 Mean, standard deviation, coefficient of variation (COV) data for moisture content (%) and specific gravity base on conventional dried condition (from Rattapoom Parawood factory) of specimens used in hardness test.

No.	Hardness (MPa)	MC (%d.b.)	Specific gravity
1	3236.2	9.6	0.65
2	4511.0	9.4	0.68
3	5099.4	9.3	0.68
4	5021.0	9.5	0.68
5	4942.6	9.9	0.66
6	5236.8	9.5	0.68
7	5393.6	9.4	0.73
8	5119.1	9.4	0.71
9	4903.3	9.4	0.68
10	5001.4	9.2	0.67
11	5050.4	9.3	0.68
12	4530.7	9.4	0.68
13	4373.8	9.3	0.68
14	5540.8	9.5	0.67
15	4981.8	9.4	0.68
16	5099.4	9.2	0.70
17	4756.2	9.7	0.68
18	5001.4	9.7	0.69
19	4805.2	9.0	0.65
20	5197.5	9.9	0.69
Average(MPa)	4890.1	9.4	0.68
SD (MPa)	481.81	0.23	0.020
COV (%)	9.8	2.4	2.7

*Tested at Kasetsart University.