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APPENDICES

APPENDIX A

Table A-1 Percent linear shrinkage of specimens

Temp.	(%)	Formula										
		T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11
1075°C	Shrinkage	2.36	2.92	2.26	2.59	3.77	10.77	8.99	11.84	6.36	6.33	3.66
	S.D.	0.16	0.11	0.10	0.18	0.33	0.79	0.68	0.57	0.27	0.21	0.07
1100°C	Shrinkage	3.73	5.07	3.77	5.25	8.67	14.55	13.61	13.73	8.91	12.00	6.91
	S.D.	0.30	0.22	0.08	0.35	0.47	0.07	0.04	0.18	1.01	2.20	1.43
1125°C	Shrinkage	7.41	7.90	5.27	9.63	11.76	13.96	12.15	13.15	11.92	13.03	10.82
	S.D.	0.12	0.43	0.20	2.29	0.04	0.20	0.29	0.26	0.07	0.10	0.20
1150°C	Shrinkage	10.93	11.64	8.60	11.60	11.91	8.45	10.54	11.59	11.67	12.48	12.73
	S.D.	0.48	0.25	0.40	0.12	0.04	0.58	0.34	0.21	0.09	0.26	0.23
1175°C	Shrinkage	12.55	11.38	10.29	10.42	*	*	*	*	*	*	*
	S.D.	0.03	0.34	0.24	0.38	*	*	*	*	*	*	*

Table A-2 Bulk density of specimens

Temp.		Formula										
		T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11
1075°C	B.D. (g/cm^3)	1.72	1.81	1.81	1.76	1.88	2.27	2.22	2.35	1.92	1.88	1.73
	S.D. (%)	0.01	0.01	-	0.01	0.02	0.06	0.04	0.03	0.01	0.01	0.07
1100°C	B.D. (g/cm^3)	1.82	1.94	1.86	1.93	2.18	2.54	2.50	2.50	2.14	2.17	1.80
	S.D. (%)	0.02	0.02	0.08	0.02	0.04	0.01	-	0.01	0.05	0.06	0.07
1125°C	B.D. (g/cm^3)	2.04	2.14	2.00	2.19	2.44	2.46	2.43	2.44	2.34	2.36	2.22
	S.D. (%)	0.03	0.03	0.02	0.07	0.01	0.02	0.02	0.03	0.01	0.01	0.02
1150°C	B.D. (g/cm^3)	2.31	2.45	2.15	2.42	2.35	1.96	2.09	2.20	2.28	2.41	2.31
	S.D. (%)	0.04	0.02	0.04	-	0.01	0.03	0.02	0.01	0.01	-	0.02
1175°C	B.D. (g/cm^3)	2.44	2.39	2.36	2.28	*	*	*	*	*	*	*
	S.D. (%)	0.01	0.03	0.02	0.03	*	*	*	*	*	*	*

The specimens were shape distortion and bloating.

Table A-3 Percent water absorption of specimens

Temp.	(%)	Formula										
		T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11
1075°C	W.A.	20.32	17.63	17.79	19.58	16.52	5.83	8.35	5.26	16.38	17.86	23.55
	S.D.	0.35	0.25	0.13	0.30	0.62	2.04	1.40	0.81	0.32	0.16	0.34
1100°C	W.A.	16.84	13.89	16.28	14.04	7.62	0.11	0.14	0.10	9.78	9.64	20.98
	S.D.	0.62	0.58	0.25	0.85	1.39	0.05	0.02	0.04	1.39	1.63	2.31
1125°C	W.A.	10.14	7.68	11.35	3.63	0.09	0.06	0.09	0.16	0.14	2.84	9.66
	S.D.	0.79	1.05	0.50	0.87	0.03	0.03	0.06	0.11	0.03	0.96	0.05
1150°C	W.A.	2.13	0.14	3.01	0.08	0.17	0.78	0.65	1.25	1.24	0.18	5.47
	S.D.	1.04	0.09	1.17	0.02	0.06	0.62	0.39	0.39	0.15	0.01	1.24
1175°C	W.A.	0.09	0.09	0.10	0.08	*	*	*	*	*	*	*
	S.D.	0.03	0.04	0.05	0.02	*	*	*	*	*	*	*

Table A-4 Percent apparent porosity of specimens

Temp.	(%)	Formula										
		T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11
1075°C	A.P.	35.01	32.01	32.35	34.63	31.19	13.18	18.59	12.35	31.53	33.63	40.93
	S.D.	0.039	0.017	0.32	0.85	0.35	4.27	2.88	1.74	0.41	0.17	2.22
1100°C	A.P.	30.73	26.98	30.41	27.22	16.64	0.29	0.34	0.26	20.95	20.92	37.69
	S.D.	0.80	0.84	0.34	1.34	2.71	0.12	0.05	0.10	2.16	2.96	2.82
1125°C	A.P.	20.78	16.46	22.82	7.95	0.22	0.15	0.21	0.38	0.32	6.73	21.52
	S.D.	1.47	1.97	0.83	1.65	0.08	0.07	0.14	0.26	0.07	2.26	0.95
1150°C	A.P.	4.91	0.35	6.60	0.20	0.39	1.54	1.36	2.75	2.83	0.43	12.65
	S.D.	2.78	0.22	2.48	0.05	0.15	1.23	0.81	0.84	0.35	0.03	2.78
1175°C	A.P.	0.23	0.22	0.24	0.18	*	*	*	*	*	*	*
	S.D.	0.08	0.09	0.12	0.04	*	*	*	*	*	*	*

The specimens were shape distortion and bloating.

APPENDIX B

Table B-1 Bending strength of Specimens

Temp.		Formula					
		T1	T4	T5	T6	T7	T8
1100°C	MOR (MPa)	24.33	43.94	60.36	94.70	101.94	107.26
	S.D. (%)	2.58	3.73	11.49	16.82	10.08	22.86
1125°C	MOR (MPa)	33.11	57.15	84.09	82.42	95.51	101.61
	S.D. (%)	6.73	4.76	3.26	14.79	11.12	20.87
1150°C	MOR (MPa)	36.43	61.60	64.06	30.12	42.71	49.17
	S.D. (%)	4.57	12.58	15.49	2.62	7.29	5.75
1175°C	MOR (MPa)	21.55	43.67	*	*	*	*
	S.D. (%)	6.70	9.72	*	*	*	*

*The specimens were shape distortion and bloating.

BIOGRAPHY

Miss Laksana Kreethawate was born in Nakhon Sawan on 22 th November 1976. In 2002, after she had finished her Bachelor's Degree from Department of Physic, Faculty of Science, Chiang Mai University, she continued to study in Master's Degee in the field of Ceramic Technology at Chula longkorn University. In 2003-2004, she had recived a scholarship from Thailand Graduate Institute of Science and Technology (TGIST), National Science and Technology Development Agency (NSTDA).