

LAMPIRAN

Lampiran 1. Datasheet PCM RT 52

Data sheet



RT52



A new generation of ecological heat storage materials utilising the processes of phase change between solid and liquid (melting and congealing) to store and release large quantities of thermal energy at nearly constant temperature.

The RUBITHERM® phase change materials (PCM's) provide a very effective means for storing heat and cold, even when limited volumes and low operating temperature differences are applicable.

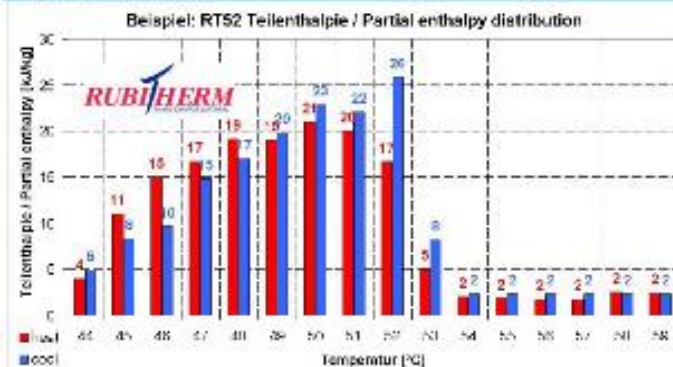
We look forward to discussing your particular questions, needs and interests with you.

Properties:

- High thermal energy storage capacity
- Heat storage and release take place at relatively constant temperatures
- No supercooling effect
- Long life product, with stable performance through the phase change cycles
- chemically inert
- Melting temperature range between approx. -4 °C and 100 °C
- viscosity- and density increasing through additives, this impeded deliquesce at

The most important data:

	Typical Values	
Melting area	49-53	[°C]
	main peak: 52	
Congeeing area	52-48	[°C]
	main peak: 52	
Heat storage capacity ± 7,5% temperatur range 44°C bis 59 °C	173	[kJ/kg]
Specific heat capacity	2	[kJ/kg·K] *
Density solid at 15°C	0,88	[kg/l]
Density liquid at 80°C	0,76	[kg/l]
Heat conductivity (both phases)	0,2	[W/(m·K)]
Flash point (PCM)	>100	[°C]



Rubitherm Technologies GmbH
 Sperenberger Str. 5a
 D-12277 Berlin
 Tel: +49 30 720004-62
 Fax: +49 30 720004-99
 E-Mail: info@rubitherm.com
 Internet: www.rubitherm.com

The product information given is a non-binding planning aid, subject to technical changes without notice. Version: 22.04.2013

*Measured with 3-layer-calorimeter.

Lampiran 2. Saturated Water (Cengel, 2005)

TABLE A-9

Properties of saturated water

Temp. <i>T</i> , °C	Saturation Pressure <i>P</i> _{sat} , kPa	Density ρ , kg/m ³		Enthalpy of Vaporization <i>h</i> _{fg} , kJ/kg		Specific Heat <i>c</i> _p , J/kg · K		Thermal Conductivity <i>k</i> , W/m · K		Dynamic Viscosity μ , kg/m · s		Prandtl Number Pr		Volume Expansion Coefficient β , 1/K
		Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	Liquid	Vapor	Liquid
0.01	0.6113	999.8	0.0048	2501	4217	1854	0.561	0.0171	1.792 × 10 ⁻³	0.922 × 10 ⁻⁶	13.5	1.00	-0.068 × 10 ⁻³	
5	0.8721	999.9	0.0068	2490	4205	1857	0.571	0.0173	1.519 × 10 ⁻³	0.934 × 10 ⁻⁶	11.2	1.00	0.015 × 10 ⁻³	
10	1.2276	999.7	0.0094	2478	4194	1862	0.580	0.0176	1.307 × 10 ⁻³	0.946 × 10 ⁻⁶	9.45	1.00	0.733 × 10 ⁻³	
15	1.7051	999.1	0.0128	2466	4185	1863	0.589	0.0179	1.138 × 10 ⁻³	0.959 × 10 ⁻⁶	8.09	1.00	0.138 × 10 ⁻³	
20	2.339	998.0	0.0173	2454	4182	1867	0.598	0.0182	1.002 × 10 ⁻³	0.973 × 10 ⁻⁶	7.01	1.00	0.195 × 10 ⁻³	
25	3.169	997.0	0.0231	2442	4180	1870	0.607	0.0186	0.891 × 10 ⁻³	0.987 × 10 ⁻⁶	6.14	1.00	0.247 × 10 ⁻³	
30	4.246	996.0	0.0304	2431	4178	1875	0.615	0.0189	0.798 × 10 ⁻³	1.001 × 10 ⁻⁶	5.42	1.00	0.294 × 10 ⁻³	
35	5.628	994.0	0.0397	2419	4178	1880	0.623	0.0192	0.720 × 10 ⁻³	1.016 × 10 ⁻⁶	4.83	1.00	0.337 × 10 ⁻³	
40	7.384	992.1	0.0512	2407	4179	1885	0.631	0.0196	0.653 × 10 ⁻³	1.031 × 10 ⁻⁶	4.32	1.00	0.377 × 10 ⁻³	
45	9.593	990.1	0.0655	2395	4180	1892	0.637	0.0200	0.596 × 10 ⁻³	1.046 × 10 ⁻⁶	3.91	1.00	0.415 × 10 ⁻³	
50	12.35	988.1	0.0831	2383	4181	1900	0.644	0.0204	0.547 × 10 ⁻³	1.062 × 10 ⁻⁶	3.55	1.00	0.451 × 10 ⁻³	
55	15.76	985.2	0.1045	2371	4183	1908	0.649	0.0208	0.504 × 10 ⁻³	1.077 × 10 ⁻⁶	3.25	1.00	0.484 × 10 ⁻³	
60	19.94	983.3	0.1304	2359	4185	1916	0.654	0.0212	0.467 × 10 ⁻³	1.093 × 10 ⁻⁶	2.99	1.00	0.517 × 10 ⁻³	
65	25.03	980.4	0.1614	2346	4187	1926	0.659	0.0216	0.433 × 10 ⁻³	1.110 × 10 ⁻⁶	2.75	1.00	0.548 × 10 ⁻³	
70	31.19	977.5	0.1983	2334	4190	1936	0.663	0.0221	0.404 × 10 ⁻³	1.126 × 10 ⁻⁶	2.55	1.00	0.578 × 10 ⁻³	
75	38.58	974.7	0.2421	2321	4193	1948	0.667	0.0225	0.378 × 10 ⁻³	1.142 × 10 ⁻⁶	2.38	1.00	0.607 × 10 ⁻³	
80	47.39	971.8	0.2935	2309	4197	1962	0.670	0.0230	0.355 × 10 ⁻³	1.159 × 10 ⁻⁶	2.22	1.00	0.653 × 10 ⁻³	
85	57.83	968.1	0.3536	2296	4201	1977	0.673	0.0235	0.333 × 10 ⁻³	1.176 × 10 ⁻⁶	2.08	1.00	0.670 × 10 ⁻³	
90	70.14	965.3	0.4235	2283	4206	1993	0.675	0.0240	0.315 × 10 ⁻³	1.193 × 10 ⁻⁶	1.96	1.00	0.702 × 10 ⁻³	
95	84.55	961.5	0.5045	2270	4212	2010	0.677	0.0246	0.297 × 10 ⁻³	1.210 × 10 ⁻⁶	1.85	1.00	0.716 × 10 ⁻³	
100	101.33	957.9	0.5978	2257	4217	2029	0.679	0.0251	0.282 × 10 ⁻³	1.227 × 10 ⁻⁶	1.75	1.00	0.750 × 10 ⁻³	
110	143.27	950.6	0.8263	2230	4229	2071	0.682	0.0262	0.255 × 10 ⁻³	1.261 × 10 ⁻⁶	1.58	1.00	0.798 × 10 ⁻³	
120	198.53	943.4	1.121	2203	4244	2120	0.683	0.0275	0.232 × 10 ⁻³	1.296 × 10 ⁻⁶	1.44	1.00	0.858 × 10 ⁻³	
130	270.1	934.6	1.496	2174	4263	2177	0.684	0.0288	0.213 × 10 ⁻³	1.330 × 10 ⁻⁶	1.33	1.01	0.913 × 10 ⁻³	
140	361.3	921.7	1.965	2145	4286	2244	0.683	0.0301	0.197 × 10 ⁻³	1.365 × 10 ⁻⁶	1.24	1.02	0.970 × 10 ⁻³	
150	475.8	916.6	2.546	2114	4311	2314	0.682	0.0316	0.183 × 10 ⁻³	1.399 × 10 ⁻⁶	1.16	1.02	1.025 × 10 ⁻³	
160	617.8	907.4	3.256	2083	4340	2420	0.680	0.0331	0.170 × 10 ⁻³	1.434 × 10 ⁻⁶	1.09	1.05	1.145 × 10 ⁻³	
170	791.7	897.7	4.119	2050	4370	2490	0.677	0.0347	0.160 × 10 ⁻³	1.468 × 10 ⁻⁶	1.03	1.05	1.178 × 10 ⁻³	
180	1,002.1	887.3	5.153	2015	4410	2590	0.673	0.0364	0.150 × 10 ⁻³	1.502 × 10 ⁻⁶	0.983	1.07	1.210 × 10 ⁻³	
190	1,254.4	876.4	6.388	1979	4460	2710	0.669	0.0382	0.142 × 10 ⁻³	1.537 × 10 ⁻⁶	0.947	1.09	1.280 × 10 ⁻³	
200	1,553.8	864.3	7.852	1941	4500	2840	0.663	0.0401	0.134 × 10 ⁻³	1.571 × 10 ⁻⁶	0.910	1.11	1.350 × 10 ⁻³	
220	2,318	840.3	11.60	1859	4610	3110	0.650	0.0442	0.122 × 10 ⁻³	1.641 × 10 ⁻⁶	0.865	1.15	1.520 × 10 ⁻³	
240	3,344	813.7	16.73	1767	4760	3520	0.632	0.0487	0.111 × 10 ⁻³	1.712 × 10 ⁻⁶	0.836	1.24	1.720 × 10 ⁻³	
260	4,688	783.7	23.69	1663	4970	4070	0.609	0.0540	0.102 × 10 ⁻³	1.788 × 10 ⁻⁶	0.832	1.35	2.000 × 10 ⁻³	
280	6,412	750.8	33.15	1544	5280	4835	0.581	0.0605	0.094 × 10 ⁻³	1.870 × 10 ⁻⁶	0.854	1.49	2.380 × 10 ⁻³	
300	8,581	713.8	46.15	1405	5790	5980	0.548	0.0695	0.086 × 10 ⁻³	1.965 × 10 ⁻⁶	0.902	1.69	2.950 × 10 ⁻³	
320	11,274	667.1	64.57	1239	6540	7900	0.509	0.0836	0.078 × 10 ⁻³	2.084 × 10 ⁻⁶	1.00	1.97		
340	14,586	610.5	92.62	1028	8240	11,870	0.469	0.110	0.070 × 10 ⁻³	2.295 × 10 ⁻⁶	1.23	2.43		
360	18,651	528.3	144.0	720	14,690	25,800	0.427	0.178	0.060 × 10 ⁻³	2.571 × 10 ⁻⁶	2.06	3.73		
374.14	22,090	317.0	317.0	0	—	—	—	—	0.043 × 10 ⁻³	4.313 × 10 ⁻⁶				

Lampiran 3. Data riil temperatur inlet dan outlet variasi heat flux 800 W/m²

No.Data	Tanggal/Waktu	Menit ke	Thhf_input	Thhf_output	°C	°C	°C	kJ/kg.C	kg/m ³	kg/det	°C	WATT	MJ
			T1	T2	T1,r	T2,r	Taverage	cp	rho	m	DT	Q	Kum
1	8/4/2019 14:33	1	28.50	28.40	28.00	28.14	28.07	4.18	996.01	0.03	-0.14	-19.52	0.00
46	8/4/2019 14:34	2	28.60	28.60	28.10	28.35	28.22	4.18	996.01	0.03	-0.25	-34.11	0.00
106	8/4/2019 14:35	3	28.40	28.60	27.91	28.35	28.26	4.18	996.01	0.03	-0.44	-61.23	0.00
166	8/4/2019 14:36	4	29.00	28.50	28.49	28.24	28.29	4.18	996.01	0.03	0.25	34.22	0.00
226	8/4/2019 14:37	5	32.10	28.50	31.52	28.24	28.28	4.18	996.01	0.03	3.28	454.64	0.01
286	8/4/2019 14:38	6	36.90	28.60	36.21	28.35	28.28	4.18	996.01	0.03	7.87	1091.54	0.06
346	8/4/2019 14:39	7	38.70	29.00	37.97	28.75	28.29	4.18	996.01	0.03	9.22	1279.35	0.13
406	8/4/2019 14:40	8	39.30	29.60	38.56	29.36	28.28	4.18	996.01	0.03	9.20	1276.27	0.21
466	8/4/2019 14:41	9	39.80	30.10	39.05	29.87	28.28	4.18	996.01	0.03	9.18	1273.70	0.28
526	8/4/2019 14:42	10	40.10	30.10	39.34	29.87	28.28	4.18	996.01	0.03	9.47	1314.39	0.36
586	8/4/2019 14:43	11	40.70	30.60	39.93	30.38	28.28	4.18	996.01	0.03	9.55	1325.38	0.44
646	8/4/2019 14:44	12	41.30	31.00	40.51	30.78	28.28	4.18	996.01	0.03	9.73	1350.45	0.52
706	8/4/2019 14:45	13	41.80	31.40	41.00	31.19	28.28	4.18	996.01	0.03	9.82	1361.96	0.60
766	8/4/2019 14:46	14	42.20	31.60	41.39	31.39	28.28	4.18	996.01	0.03	10.00	1388.06	0.68
826	8/4/2019 14:47	15	42.80	31.90	41.98	31.69	28.28	4.18	996.01	0.03	10.29	1427.20	0.77
886	8/4/2019 14:48	16	43.30	32.40	42.47	32.20	28.28	4.18	996.01	0.03	10.27	1424.64	0.85
946	8/4/2019 14:49	17	43.80	32.80	42.96	32.61	28.28	4.18	996.01	0.03	10.35	1436.15	0.94
1006	8/4/2019 14:50	18	44.30	33.10	43.45	32.91	28.28	4.18	996.01	0.03	10.53	1461.73	1.03
1066	8/4/2019 14:51	19	44.80	33.40	43.93	33.22	28.28	4.18	996.01	0.03	10.72	1487.31	1.12
1126	8/4/2019 14:52	20	45.30	33.80	44.42	33.62	28.28	4.18	996.01	0.03	10.80	1498.82	1.21
1186	8/4/2019 14:53	21	45.70	34.20	44.81	34.03	28.28	4.18	996.01	0.03	10.79	1496.77	1.30
1246	8/4/2019 14:54	22	46.10	34.50	45.21	34.33	28.28	4.18	996.01	0.03	10.87	1508.79	1.39
1306	8/4/2019 14:55	23	46.40	34.70	45.50	34.53	28.28	4.18	996.01	0.03	10.96	1521.32	1.48
1366	8/4/2019 14:56	24	46.90	35.20	45.99	35.04	28.28	4.18	996.01	0.03	10.95	1518.76	1.57
1426	8/4/2019 14:57	25	47.40	35.60	46.48	35.45	28.28	4.18	996.01	0.03	11.03	1530.27	1.66
1486	8/4/2019 14:58	26	47.80	35.80	46.87	35.65	28.28	4.18	996.01	0.03	11.22	1556.36	1.75
1546	8/4/2019 14:59	27	48.30	36.20	47.36	36.06	28.28	4.18	996.01	0.03	11.30	1567.87	1.85
1606	8/4/2019 15:00	28	48.50	36.40	47.55	36.26	28.28	4.18	996.01	0.03	11.29	1566.84	1.94
1666	8/4/2019 15:01	29	49.00	36.90	48.04	36.77	28.28	4.18	996.01	0.03	11.27	1564.28	2.03
1726	8/4/2019 15:02	30	49.40	37.20	48.43	37.07	28.28	4.18	996.01	0.03	11.36	1576.30	2.13
1786	8/4/2019 15:03	31	49.70	37.40	48.72	37.27	28.28	4.18	996.01	0.03	11.45	1588.83	2.22
1846	8/4/2019 15:04	32	50.10	37.80	49.11	37.68	28.28	4.18	996.01	0.03	11.44	1586.78	2.32
1906	8/4/2019 15:05	33	50.50	38.10	49.51	37.98	28.28	4.18	996.01	0.03	11.52	1598.80	2.41
1966	8/4/2019 15:06	34	50.70	38.30	49.70	38.19	28.28	4.18	996.01	0.03	11.52	1597.78	2.51
2026	8/4/2019 15:07	35	51.10	38.60	50.09	38.49	28.28	4.18	996.01	0.03	11.60	1609.80	2.61
2086	8/4/2019 15:08	36	51.40	38.80	50.39	38.69	28.28	4.18	996.01	0.03	11.69	1622.33	2.70
2146	8/4/2019 15:09	37	51.70	39.30	50.68	39.20	28.28	4.18	996.01	0.03	11.48	1592.64	2.80
2206	8/4/2019 15:10	38	52.00	39.60	50.97	39.50	28.28	4.18	996.01	0.03	11.47	1591.10	2.89
2266	8/4/2019 15:11	39	52.40	40.10	51.36	40.01	28.28	4.18	996.01	0.03	11.35	1574.97	2.99
2326	8/4/2019 15:12	40	52.60	40.40	51.56	40.32	28.28	4.18	996.01	0.03	11.24	1559.87	3.08
2386	8/4/2019 15:13	41	53.10	40.80	52.05	40.72	28.28	4.18	996.01	0.03	11.32	1571.38	3.18
2446	8/4/2019 15:14	42	53.20	41.20	52.14	41.13	28.28	4.18	996.01	0.03	11.02	1528.64	3.27
2506	8/4/2019 15:15	43	53.70	41.40	52.63	41.33	28.28	4.18	996.01	0.03	11.30	1568.30	3.36
2566	8/4/2019 15:16	44	53.80	41.50	52.73	41.43	28.28	4.18	996.01	0.03	11.30	1567.79	3.46
2626	8/4/2019 15:17	45	54.20	42.00	53.12	41.94	28.28	4.18	996.01	0.03	11.18	1551.66	3.55
2686	8/4/2019 15:18	46	54.60	42.50	53.51	42.45	28.28	4.18	996.01	0.03	11.07	1535.53	3.65
2746	8/4/2019 15:19	47	54.90	42.70	53.81	42.65	28.28	4.18	996.01	0.03	11.16	1548.06	3.74
2806	8/4/2019 15:20	48	55.10	42.90	54.00	42.85	28.28	4.18	996.01	0.03	11.15	1547.04	3.83
2866	8/4/2019 15:21	49	55.60	43.40	54.49	43.36	28.28	4.18	996.01	0.03	11.13	1544.47	3.92
2926	8/4/2019 15:22	50	56.00	43.70	54.88	43.66	28.28	4.18	996.01	0.03	11.22	1556.49	4.02
2986	8/4/2019 15:23	51	56.30	44.00	55.17	43.97	28.28	4.18	996.01	0.03	11.21	1554.95	4.11
3046	8/4/2019 15:24	52	56.60	44.30	55.47	44.27	28.28	4.18	996.01	0.03	11.20	1553.41	4.20
3106	8/4/2019 15:25	53	57.10	44.80	55.96	44.78	28.28	4.18	996.01	0.03	11.18	1550.84	4.30
3166	8/4/2019 15:26	54	57.30	45.00	56.15	44.98	28.28	4.18	996.01	0.03	11.17	1549.82	4.39
3226	8/4/2019 15:27	55	57.70	45.20	56.54	45.19	28.28	4.18	996.01	0.03	11.36	1575.91	4.49
3286	8/4/2019 15:28	56	58.00	45.50	56.84	45.49	28.28	4.18	996.01	0.03	11.35	1574.37	4.58
3346	8/4/2019 15:29	57	58.30	45.80	57.13	45.79	28.28	4.18	996.01	0.03	11.34	1572.83	4.67
3406	8/4/2019 15:30	58	58.60	45.90	57.42	45.90	28.28	4.18	996.01	0.03	11.53	1599.44	4.77
3466	8/4/2019 15:31	59	59.10	46.30	57.91	46.30	28.28	4.18	996.01	0.03	11.61	1610.95	4.87
3526	8/4/2019 15:32	60	59.40	46.60	58.20	46.61	28.28	4.18	996.01	0.03	11.60	1609.41	4.96
3586	8/4/2019 15:33	61	59.70	46.80	58.50	46.81	28.28	4.18	996.01	0.03	11.69	1621.95	5.06
3646	8/4/2019 15:34	62	60.00	47.10	58.79	47.11	28.28	4.18	996.01	0.03	11.68	1620.41	5.16
3706	8/4/2019 15:35	63	60.20	47.20	58.99	47.21	28.28	4.18	996.01	0.03	11.77	1633.46	5.25
3766	8/4/2019 15:36	64	60.60	47.30	59.38	47.32	28.28	4.18	996.01	0.03	12.06	1673.63	5.35
3826	8/4/2019 15:37	65	60.80	47.60	59.57	47.62	28.28	4.18	996.01	0.03	11.95	1658.53	5.45
3886	8/4/2019 15:38	66	61.10	47.80	59.87	47.82	28.28	4.18	996.01	0.03	12.04	1671.06	5.55
3946	8/4/2019 15:39	67	61.50	48.10	60.26	48.13	28.28	4.18	996.01	0.03	12.13	1683.08	5.65
4006	8/4/2019 15:40	68	61.60	48.10	60.35	48.13	28.28	4.18	996.01	0.03	12.23	1696.64	5.76
4066	8/4/2019 15:41	69	61.80	48.20	60.55	48.23	28.28	4.18	996.01	0.03	12.32	1709.69	5.86
4126	8/4/2019 15:42	70	62.10	48.60	60.84	48.63	28.28	4.18	996.01	0.03	12.21	1694.08	5.96
4186	8/4/2019 15:43	71	62.40	48.90	61.14	48.94	28.28	4.18	996.01	0.03	12.20	1692.54	6.06
4246	8/4/2019 15:44	72	62.90	49.10	61.63	49.14	28.28	4.18	996.01	0.03	12.48	1732.20	6.16
4306	8/4/2019 15:45	73	63.20	49.30	61.92	49.34	28.28	4.18	996.01	0.03	12.57	1744.73	6.27
4366	8/4/2019 15:46	74	63.30	49.20	62.02	49.24	28.28	4.18	996.01	0.03	12.77	1772.37	6.38
4426	8/4/2019 15:47	75	63.60	49.50	62.31	49.55	28.28	4.18	996.01	0.03	12.76	1770.83	6.48
4486	8/4/2019 15:48	76	64.00	49.70	62.70	49.75	28.28	4.18	996.01	0.03	12.95	1796.93	6.59
4546	8/4/2019 15:49	77	64.10	49.80	62.80	49.85	28.28	4.18	996.01	0.03	12.95	1796.41	6.70
4606	8/4/2019 15:50	78	64.40	49.90	63.09	49.95	28.28	4.18	996.01	0.03	13.14	1823.02	6.81
4666	8/4/2019 15:51	79	64.50	49.90	63.19	49.95	28.28	4.18	996.01	0.03	13.24	1836.58	6.92
4726	8/4/2019 15:52	80	64.90	50.20	63.58	50.26	28.28	4.18	996.01	0.03	13.32	1848.61	7.03
4786	8/4/2019 15:53	81	64.90	50.30									

Lampiran 4. Data riil temperatur inlet dan outlet variasi heat flux 1000 W/m²

No.Data	Tanggal/Waktu	Menit ke	Ththf_input		Ththf_output		°C			kJ/kg.C	kg/m ³	kg/det	°C		WATT	MJ
			T1	T2	T1,r	T2,r	Taverage	cp	rho				m	DT		
1	7/26/2019 9:50	1	33,70	27,50	33,09	27,23	30,16	4,18	988,94	0,03	5,85	806,55	0,00			
45	7/26/2019 9:51	2	36,30	27,50	35,63	27,23	31,43	4,18	988,94	0,03	8,40	1156,58	0,05			
105	7/26/2019 9:52	3	37,60	28,10	36,90	27,84	32,37	4,18	988,94	0,03	9,06	1247,74	0,12			
165	7/26/2019 9:53	4	38,20	28,40	37,48	28,14	32,81	4,18	988,94	0,03	9,34	1286,59	0,19			
225	7/26/2019 9:54	5	36,80	28,80	36,12	28,55	32,33	4,18	988,94	0,03	7,57	1042,22	0,26			
285	7/26/2019 9:55	6	39,00	29,10	38,27	28,85	33,56	4,18	988,94	0,03	9,41	1296,47	0,33			
345	7/26/2019 9:56	7	39,80	29,30	39,05	29,06	34,05	4,18	988,94	0,03	9,99	1376,23	0,41			
405	7/26/2019 9:57	8	39,90	29,90	39,15	29,67	34,41	4,18	988,94	0,03	9,48	1305,85	0,50			
465	7/26/2019 9:58	9	40,80	30,20	40,02	29,97	35,00	4,18	988,94	0,03	10,06	1385,10	0,58			
525	7/26/2019 9:59	10	41,20	30,50	40,42	30,27	35,34	4,18	988,94	0,03	10,14	1397,03	0,66			
585	7/26/2019 10:00	11	41,70	30,70	40,90	30,48	35,69	4,18	988,94	0,03	10,43	1436,40	0,74			
645	7/26/2019 10:01	12	42,10	31,00	41,30	30,78	36,04	4,18	988,94	0,03	10,51	1448,33	0,83			
705	7/26/2019 10:02	13	42,40	31,30	41,59	31,09	36,34	4,18	988,94	0,03	10,50	1446,81	0,92			
765	7/26/2019 10:03	14	42,90	31,60	42,08	31,39	36,73	4,18	988,94	0,03	10,69	1472,21	1,00			
825	7/26/2019 10:04	15	43,40	32,10	42,57	31,90	37,23	4,18	988,94	0,03	10,67	1469,66	1,09			
885	7/26/2019 10:05	16	43,70	32,50	42,86	32,30	37,58	4,18	988,94	0,03	10,56	1454,17	1,18			
945	7/26/2019 10:06	17	44,00	33,00	43,15	32,81	37,98	4,18	988,94	0,03	10,34	1424,70	1,27			
1005	7/26/2019 10:07	18	44,40	33,10	43,54	32,91	38,23	4,18	988,94	0,03	10,63	1464,59	1,35			
1065	7/26/2019 10:08	19	44,80	33,40	43,93	33,22	38,57	4,18	988,94	0,03	10,72	1476,53	1,44			
1125	7/26/2019 10:09	20	45,20	33,80	44,33	33,62	38,97	4,18	988,94	0,03	10,70	1474,50	1,53			
1185	7/26/2019 10:10	21	45,50	33,90	44,62	33,72	39,17	4,18	988,94	0,03	10,90	1500,93	1,62			
1245	7/26/2019 10:11	22	46,00	34,40	45,11	34,23	39,67	4,18	988,94	0,03	10,88	1498,39	1,71			
1305	7/26/2019 10:12	23	46,40	34,80	45,50	34,64	40,07	4,18	988,94	0,03	10,86	1496,37	1,80			
1365	7/26/2019 10:13	24	46,80	35,00	45,89	34,84	40,36	4,18	988,94	0,03	11,05	1522,29	1,89			
1425	7/26/2019 10:14	25	47,60	35,70	46,67	35,55	41,11	4,18	988,94	0,03	11,12	1532,22	1,98			
1485	7/26/2019 10:15	26	48,00	35,90	47,06	35,75	41,41	4,18	988,94	0,03	11,31	1558,14	2,07			
1545	7/26/2019 10:16	27	48,10	36,10	47,16	35,95	41,56	4,18	988,94	0,03	11,21	1543,67	2,17			
1605	7/26/2019 10:17	28	48,60	36,50	47,65	36,36	42,00	4,18	988,94	0,03	11,29	1555,11	2,26			
1665	7/26/2019 10:18	29	49,00	37,00	48,04	36,87	42,45	4,18	988,94	0,03	11,17	1539,13	2,35			
1725	7/26/2019 10:19	30	49,20	37,20	48,23	37,07	42,65	4,18	988,94	0,03	11,16	1538,12	2,45			
1785	7/26/2019 10:20	31	49,50	37,50	48,53	37,37	42,95	4,18	988,94	0,03	11,15	1536,61	2,54			
1845	7/26/2019 10:21	32	50,00	38,00	49,02	37,88	43,45	4,18	988,94	0,03	11,14	1534,09	2,63			
1905	7/26/2019 10:22	33	50,50	38,30	49,51	38,19	43,85	4,18	988,94	0,03	11,32	1559,52	2,72			
1965	7/26/2019 10:23	34	50,80	38,50	49,80	38,39	44,09	4,18	988,94	0,03	11,41	1571,98	2,82			
2025	7/26/2019 10:24	35	50,90	38,80	49,90	38,69	44,29	4,18	988,94	0,03	11,20	1543,53	2,91			
2085	7/26/2019 10:25	36	51,20	39,10	50,19	39,00	44,59	4,18	988,94	0,03	11,19	1542,03	3,00			
2145	7/26/2019 10:26	37	51,70	39,60	50,68	39,50	45,09	4,18	988,94	0,03	11,17	1539,51	3,10			
2205	7/26/2019 10:27	38	52,30	40,10	51,26	40,01	45,64	4,18	988,94	0,03	11,25	1550,48	3,19			
2265	7/26/2019 10:28	39	52,60	40,30	51,56	40,21	45,89	4,18	988,94	0,03	11,34	1562,94	3,28			
2325	7/26/2019 10:29	40	53,10	40,80	52,05	40,72	46,38	4,18	988,94	0,03	11,32	1560,44	3,37			
2385	7/26/2019 10:30	41	53,30	40,90	52,24	40,82	46,53	4,18	988,94	0,03	11,42	1573,41	3,47			
2445	7/26/2019 10:31	42	53,60	41,10	52,54	41,03	46,78	4,18	988,94	0,03	11,51	1585,88	3,56			
2505	7/26/2019 10:32	43	53,90	41,50	52,83	41,43	47,13	4,18	988,94	0,03	11,40	1570,40	3,66			
2565	7/26/2019 10:33	44	54,30	41,70	53,22	41,63	47,43	4,18	988,94	0,03	11,58	1596,35	3,75			
2625	7/26/2019 10:34	45	54,60	42,00	53,51	41,94	47,73	4,18	988,94	0,03	11,57	1594,85	3,85			
2685	7/26/2019 10:35	46	54,90	42,30	53,81	42,24	48,02	4,18	988,94	0,03	11,56	1593,35	3,94			
2745	7/26/2019 10:36	47	55,10	42,60	54,00	42,55	48,27	4,18	988,94	0,03	11,45	1578,37	4,04			
2805	7/26/2019 10:37	48	55,60	42,90	54,49	42,85	48,67	4,18	988,94	0,03	11,64	1603,82	4,13			
2865	7/26/2019 10:38	49	56,00	43,40	54,88	43,36	49,12	4,18	988,94	0,03	11,52	1587,85	4,23			
2925	7/26/2019 10:39	50	55,90	43,50	54,78	43,46	49,12	4,18	988,94	0,03	11,32	1560,40	4,33			
2985	7/26/2019 10:40	51	56,30	43,90	55,17	43,87	49,52	4,18	988,94	0,03	11,31	1558,40	4,42			
3045	7/26/2019 10:41	52	56,60	44,20	55,47	44,17	49,82	4,18	988,94	0,03	11,30	1556,90	4,51			
3105	7/26/2019 10:42	53	56,90	44,30	55,76	44,27	50,02	4,18	988,94	0,03	11,49	1583,36	4,61			
3165	7/26/2019 10:43	54	57,20	44,50	56,05	44,48	50,26	4,18	988,94	0,03	11,58	1595,84	4,70			
3225	7/26/2019 10:44	55	57,70	44,90	56,54	44,88	50,71	4,18	988,94	0,03	11,66	1607,32	4,80			
3285	7/26/2019 10:45	56	57,80	45,10	56,64	45,08	50,86	4,18	988,94	0,03	11,56	1592,85	4,89			
3345	7/26/2019 10:46	57	58,30	45,40	57,13	45,39	51,26	4,18	988,94	0,03	11,74	1618,31	4,99			
3405	7/26/2019 10:47	58	58,80	45,70	57,62	45,69	51,66	4,18	988,94	0,03	11,93	1643,77	5,09			
3465	7/26/2019 10:48	59	59,70	46,00	58,50	46,00	52,25	4,18	988,94	0,03	12,50	1723,15	5,19			
3525	7/26/2019 10:49	60	59,80	46,30	58,60	46,30	52,45	4,18	988,94	0,03	12,29	1694,71	5,29			
3585	7/26/2019 10:50	61	59,80	46,70	58,60	46,71	52,65	4,18	988,94	0,03	11,89	1638,80	5,39			
3645	7/26/2019 10:51	62	59,60	46,70	58,40	46,71	52,55	4,18	988,94	0,03	11,69	1611,84	5,49			
3705	7/26/2019 10:52	63	60,00	47,00	58,79	47,01	52,90	4,18	988,94	0,03	11,78	1623,83	5,59			
3765	7/26/2019 10:53	64	60,20	47,20	58,99	47,21	53,10	4,18	988,94	0,03	11,77	1622,84	5,69			
3825	7/26/2019 10:54	65	60,60	47,50	59,38	47,52	53,45	4,18	988,94	0,03	11,86	1634,83	5,78			
3885	7/26/2019 10:55	66	61,00	47,70	59,77	47,72	53,74	4,18	988,94	0,03	12,05	1660,80	5,88			
3945	7/26/2019 10:56	67	61,10	47,90	59,87	47,92	53,90	4,18	988,94	0,03	11,94	1646,32	5,98			
4005	7/26/2019 10:57	68	61,20	47,90	59,96	47,92	53,94	4,18	988,94	0,03	12,04	1659,81	6,08			
4065	7/26/2019 10:58	69	61,50	48,20	60,26	48,23	54,24	4,18	988,94	0,03	12,03	1658,32	6,18			
4125	7/26/2019 10:59	70	61,50	48,30	60,26	48,33	54,29	4,18	988,94	0,03	11,93	1644,34	6,28			
4185	7/26/2019 11:00	71	61,80	48,60	60,55	48,63	54,59	4,18	988,94	0,03	11,92	1642,85	6,38			
4245	7/26/2019 11:01	72	61,90	48,80	60,65	48,84	54,74	4,18	988,94	0,03	11,81	1628,38	6,47			
4305	7/26/2019 11:02	73	62,10	48,90	60,84	48,94	54,89	4,18	988,94	0,03	11,90	1641,37	6,57			
4365	7/26/2019 11:03	74	62,40	49,10	61,14	49,14	55,14	4,18	988,94	0,03	12,00	1653,86	6,67			
4425	7/26/2019 11:04	75	62,60	49,30	61,33	49,34	55,34	4,18	988,94	0,03	11,99	1652,87	6,77			
4485	7/26/2019 11:05	76	63,20	49,60	61,92	49,65	55,78	4,18	988,94	0,03	12,27	1691,84	6,87			
4545	7/26/2019 11:06	77	63,40	49,60	62,11	49,65	55,88	4,18	988,94	0,03	12,47	1718,81	6,98			
4605	7/26/2019 11:07	78	64,00	50,10	62,70	50,16	56,43	4,18	988,94	0,03	12,54	1729,82	7,08			
4665	7/26/2019 11:08	79	64,10	50,30	62,80	50,36	56,58	4,18	988,94	0,03	12,44	1715,35	7,18			
4725	7/26/2019 11:09	80	64,00	50,50	62,70	50,56	56,63	4,18	988,94	0,03	12,14					

Lampiran 5. Data riil temperatur inlet dan outlet variasi heat flux 1200 W/m²

No.Data	Tanggal/Waktu	Menit ke-	Thff_input	Thff_output	°C	°C	°C	k/kg.C	kg/m3	kg/det	°C	WATT	MJ
			T1	T2	T1,r	T2,r	Taverage	cp	rho	m	DT	Q	Kum
1	7/28/2019 11:39	1	26,20	26,20	25,75	25,91	25,83	4,18	988,75	0,03	-0,16	-21,63	0,00
20	7/28/2019 11:41	2	26,40	26,20	25,95	25,91	25,93	4,18	988,75	0,03	0,04	5,30	0,00
80	7/28/2019 11:42	3	32,00	26,20	31,42	25,91	28,67	4,18	988,75	0,03	5,51	759,22	0,02
140	7/28/2019 11:43	4	35,50	26,20	34,84	25,91	30,38	4,18	988,75	0,03	8,93	1230,34	0,08
200	7/28/2019 11:44	5	36,70	26,90	36,02	26,62	31,32	4,18	988,75	0,03	9,40	1294,04	0,16
260	7/28/2019 11:45	6	37,20	27,10	36,51	26,82	31,67	4,18	988,75	0,03	9,68	1333,39	0,24
320	7/28/2019 11:46	7	37,90	27,50	37,19	27,23	32,21	4,18	988,75	0,03	9,96	1371,72	0,32
380	7/28/2019 11:47	8	38,50	27,70	37,78	27,43	32,61	4,18	988,75	0,03	10,34	1424,54	0,40
440	7/28/2019 11:48	9	39,10	28,10	38,36	27,84	33,10	4,18	988,75	0,03	10,52	1449,41	0,49
500	7/28/2019 11:49	10	39,80	28,50	39,05	28,24	33,65	4,18	988,75	0,03	10,80	1487,74	0,58
560	7/28/2019 11:50	11	40,30	28,90	39,54	28,65	34,09	4,18	988,75	0,03	10,89	1499,16	0,67
620	7/28/2019 11:51	12	40,70	29,20	39,93	28,95	34,44	4,18	988,75	0,03	10,97	1511,08	0,76
680	7/28/2019 11:52	13	41,20	29,50	40,42	29,26	34,84	4,18	988,75	0,03	11,16	1536,47	0,85
740	7/28/2019 11:53	14	41,70	29,90	40,90	29,67	35,28	4,18	988,75	0,03	11,24	1547,89	0,94
800	7/28/2019 11:54	15	42,20	30,20	41,39	29,97	35,68	4,18	988,75	0,03	11,42	1573,29	1,03
860	7/28/2019 11:55	16	42,60	30,60	41,78	30,38	36,08	4,18	988,75	0,03	11,41	1571,25	1,13
920	7/28/2019 11:56	17	43,10	30,90	42,27	30,68	36,48	4,18	988,75	0,03	11,59	1596,64	1,22
980	7/28/2019 11:57	18	43,80	31,20	42,96	30,98	36,97	4,18	988,75	0,03	11,97	1648,96	1,32
1040	7/28/2019 11:58	19	44,00	31,50	43,15	31,29	37,22	4,18	988,75	0,03	11,86	1633,98	1,42
1100	7/28/2019 11:59	20	44,40	31,90	43,54	31,69	37,62	4,18	988,75	0,03	11,85	1631,95	1,52
1160	7/28/2019 12:00	21	45,00	32,30	44,13	32,10	38,11	4,18	988,75	0,03	12,03	1656,84	1,61
1220	7/28/2019 12:01	22	45,40	32,80	44,52	32,61	38,56	4,18	988,75	0,03	11,91	1640,84	1,71
1280	7/28/2019 12:02	23	45,80	33,10	44,91	32,91	38,91	4,18	988,75	0,03	12,00	1652,79	1,81
1340	7/28/2019 12:03	24	46,30	33,40	45,40	33,22	39,31	4,18	988,75	0,03	12,19	1678,19	1,91
1400	7/28/2019 12:04	25	46,80	33,90	45,89	33,72	39,81	4,18	988,75	0,03	12,17	1675,66	2,01
1460	7/28/2019 12:05	26	47,10	34,10	46,18	33,93	40,05	4,18	988,75	0,03	12,26	1688,12	2,11
1520	7/28/2019 12:06	27	47,60	34,50	46,67	34,33	40,50	4,18	988,75	0,03	12,34	1699,56	2,22
1580	7/28/2019 12:07	28	47,80	34,70	46,87	34,53	40,70	4,18	988,75	0,03	12,33	1698,55	2,32
1640	7/28/2019 12:08	29	48,30	35,20	47,36	35,04	41,20	4,18	988,75	0,03	12,31	1696,03	2,42
1700	7/28/2019 12:09	30	48,80	35,50	47,84	35,35	41,59	4,18	988,75	0,03	12,50	1721,44	2,52
1760	7/28/2019 12:10	31	49,10	35,90	48,14	35,75	41,94	4,18	988,75	0,03	12,39	1705,96	2,62
1820	7/28/2019 12:11	32	49,50	36,30	48,53	36,16	42,34	4,18	988,75	0,03	12,37	1703,95	2,73
1880	7/28/2019 12:12	33	50,00	36,70	49,02	36,56	42,79	4,18	988,75	0,03	12,45	1715,40	2,83
1940	7/28/2019 12:13	34	50,70	37,00	49,70	36,87	43,28	4,18	988,75	0,03	12,83	1767,76	2,94
2000	7/28/2019 12:14	35	51,20	37,30	50,19	37,17	43,68	4,18	988,75	0,03	13,02	1793,19	3,04
2060	7/28/2019 12:15	36	51,60	37,60	50,58	37,48	44,03	4,18	988,75	0,03	13,10	1805,15	3,15
2120	7/28/2019 12:16	37	52,00	38,10	50,97	37,98	44,48	4,18	988,75	0,03	12,99	1789,17	3,26
2180	7/28/2019 12:17	38	52,50	38,50	51,46	38,39	44,92	4,18	988,75	0,03	13,07	1800,64	3,37
2240	7/28/2019 12:18	39	52,90	38,80	51,85	38,69	45,27	4,18	988,75	0,03	13,16	1812,60	3,47
2300	7/28/2019 12:19	40	53,30	39,10	52,24	39,00	45,62	4,18	988,75	0,03	13,24	1824,57	3,58
2360	7/28/2019 12:20	41	53,70	39,50	52,63	39,40	46,02	4,18	988,75	0,03	13,23	1822,57	3,69
2420	7/28/2019 12:21	42	54,00	39,80	52,93	39,71	46,32	4,18	988,75	0,03	13,22	1821,07	3,80
2480	7/28/2019 12:22	43	54,40	40,10	53,32	40,01	46,66	4,18	988,75	0,03	13,31	1833,04	3,91
2540	7/28/2019 12:23	44	54,80	40,40	53,71	40,32	47,01	4,18	988,75	0,03	13,39	1845,01	4,02
2600	7/28/2019 12:24	45	55,10	40,90	54,00	40,82	47,41	4,18	988,75	0,03	13,18	1815,58	4,13
2660	7/28/2019 12:25	46	55,40	41,10	54,29	41,03	47,66	4,18	988,75	0,03	13,27	1828,05	4,24
2720	7/28/2019 12:26	47	55,70	41,30	54,59	41,23	47,91	4,18	988,75	0,03	13,36	1840,52	4,35
2780	7/28/2019 12:27	48	55,90	41,70	54,78	41,63	48,21	4,18	988,75	0,03	13,15	1811,59	4,46
2840	7/28/2019 12:28	49	56,30	42,10	55,17	42,04	48,61	4,18	988,75	0,03	13,13	1809,59	4,57
2900	7/28/2019 12:29	50	56,50	42,30	55,37	42,24	48,81	4,18	988,75	0,03	13,13	1808,60	4,68
2960	7/28/2019 12:30	51	57,00	42,80	55,86	42,75	49,30	4,18	988,75	0,03	13,11	1806,11	4,79
3020	7/28/2019 12:31	52	57,40	42,90	56,25	42,85	49,55	4,18	988,75	0,03	13,40	1846,03	4,90
3080	7/28/2019 12:32	53	57,80	43,40	56,64	43,36	50,00	4,18	988,75	0,03	13,28	1830,07	5,01
3140	7/28/2019 12:33	54	58,10	43,60	56,93	43,56	50,25	4,18	988,75	0,03	13,37	1842,55	5,12
3200	7/28/2019 12:34	55	58,70	44,00	57,52	43,97	50,74	4,18	988,75	0,03	13,55	1867,52	5,23
3260	7/28/2019 12:35	56	59,00	44,40	57,81	44,37	51,09	4,18	988,75	0,03	13,44	1852,06	5,34
3320	7/28/2019 12:36	57	59,30	44,30	58,11	44,27	51,19	4,18	988,75	0,03	13,83	1906,46	5,45
3380	7/28/2019 12:37	58	59,70	44,60	58,50	44,58	51,54	4,18	988,75	0,03	13,92	1918,45	5,57
3440	7/28/2019 12:38	59	59,90	45,30	58,69	45,29	51,99	4,18	988,75	0,03	13,41	1847,60	5,68
3500	7/28/2019 12:39	60	60,40	45,80	59,18	45,79	52,49	4,18	988,75	0,03	13,39	1845,12	5,79
3560	7/28/2019 12:40	61	60,80	46,00	59,57	46,00	52,78	4,18	988,75	0,03	13,58	1871,09	5,90
3620	7/28/2019 12:41	62	61,30	46,40	60,06	46,40	53,23	4,18	988,75	0,03	13,66	1882,59	6,01
3680	7/28/2019 12:42	63	61,60	46,60	60,35	46,61	53,48	4,18	988,75	0,03	13,75	1895,08	6,12
3740	7/28/2019 12:43	64	62,00	47,00	60,75	47,01	53,88	4,18	988,75	0,03	13,73	1893,10	6,24
3800	7/28/2019 12:44	65	62,20	47,10	60,94	47,11	54,03	4,18	988,75	0,03	13,83	1906,40	6,35
3860	7/28/2019 12:45	66	62,40	47,36	61,14	47,37	54,25	4,18	988,75	0,03	13,76	1897,30	6,47
3920	7/28/2019 12:46	67	62,70	47,61	61,43	47,63	54,53	4,18	988,75	0,03	13,80	1901,69	6,58
3980	7/28/2019 12:47	68	63,20	47,87	61,92	47,90	54,91	4,18	988,75	0,03	14,02	1933,05	6,70
4040	7/28/2019 12:48	69	63,50	48,13	62,21	48,16	55,18	4,18	988,75	0,03	14,05	1937,44	6,81
4100	7/28/2019 12:49	70	63,71	48,39	62,42	48,42	55,42	4,18	988,75	0,03	14,00	1929,78	6,93
4160	7/28/2019 12:50	71	63,94	48,65	62,65	48,68	55,66	4,18	988,75	0,03	13,97	1925,27	7,05
4220	7/28/2019 12:51	72	64,18	48,90	62,88	48,94	55,91	4,18	988,75	0,03	13,93	1920,76	7,16
4280	7/28/2019 12:52	73	64,41	49,16	63,10	49,20	56,15	4,18	988,75	0,03	13,90	1916,26	7,28
4340	7/28/2019 12:53	74	64,65	49,42	63,33	49,47	56,40	4,18	988,75	0,03	13,87	1911,75	7,39
4400	7/28/2019 12:54	75	64,88	49,68	63,56	49,73	56,64	4,18	988,75	0,03	13,83	1907,25	7,51
4460	7/28/2019 12:55	76	65,11	49,94	63,79	49,99	56,89	4,18	988,75	0,03	13,80	1902,74	7,62
4520	7/28/2019 12:56	77	65,35	50,19	64,02	50,25	57,13	4,18	988,75	0,03	13,77	1898,24	7,73
4580	7/28/2019 12:57	78	65,58	50,45	64,25	50,51	57,38	4,18	988,75	0,03	13,73	1893,73	7,85
4640	7/28/2019 12:58	79	65,82	50,71	64,48	50,77	57,63	4,18	988,75	0,03	13,70	1889,23	7,96
4700	7/28/2019 12:59	80	66,05	50,97	64,70	51,04	57,87	4,18	988,75	0,03	13,67		

Lampiran 6. Data riil temperatur HTF variasi *heat flux* 800 W/m²

No.Data	Tanggal/Waktu	Menit ke-	Temperatur riil HTF (°C)									Trata-rata (°C)			
			T18	T19	T20	T21	T22	T23	T24	T25	HTF	a (25 cm)	at (17 cm)	bt (9 cm)	b (1cm)
1	8/4/2019 14:33	1	27,09	26,92	26,89	26,81	26,78	26,82	26,95	26,81	26,89	27,00	26,85	26,80	26,88
46	8/4/2019 14:34	2	28,16	27,72	27,09	26,92	26,99	26,82	26,95	26,71	27,17	27,94	27,01	26,90	26,83
106	8/4/2019 14:35	3	28,65	28,62	27,39	27,12	27,31	26,82	26,95	26,81	27,46	28,63	27,26	27,06	26,88
166	8/4/2019 14:36	4	28,94	28,82	28,39	28,05	27,52	26,82	27,05	27,01	27,82	28,88	28,22	27,17	27,03
226	8/4/2019 14:37	5	29,24	29,21	28,99	28,36	27,52	27,12	26,95	26,91	28,04	29,22	28,67	27,32	26,93
286	8/4/2019 14:38	6	29,63	29,41	29,19	28,77	27,62	27,12	27,15	27,01	28,24	29,52	28,98	27,37	27,08
346	8/4/2019 14:39	7	30,11	30,01	29,39	29,08	27,73	27,33	26,95	26,91	28,44	30,06	29,23	27,53	26,93
406	8/4/2019 14:40	8	30,60	30,71	29,89	29,39	28,04	27,64	27,15	27,01	28,80	30,66	29,64	27,84	27,08
466	8/4/2019 14:41	9	30,99	30,81	30,29	29,90	28,36	27,74	27,15	27,01	29,03	30,90	30,09	28,05	27,08
526	8/4/2019 14:42	10	31,48	31,21	30,69	30,31	28,46	27,94	27,24	27,21	29,32	31,34	30,50	28,20	27,23
586	8/4/2019 14:43	11	31,97	31,50	30,79	30,62	28,57	28,25	27,24	27,11	29,51	31,74	30,70	28,41	27,18
646	8/4/2019 14:44	12	32,07	32,00	31,28	31,04	28,88	28,66	27,24	27,21	29,80	32,04	31,16	28,77	27,23
706	8/4/2019 14:45	13	32,46	32,30	31,68	31,34	29,19	28,76	27,24	27,21	30,03	32,38	31,51	28,98	27,23
766	8/4/2019 14:46	14	32,75	32,80	31,98	31,86	29,40	28,97	27,34	27,21	30,29	32,78	31,92	29,19	27,28
826	8/4/2019 14:47	15	33,14	33,10	32,48	32,17	29,51	29,17	27,34	27,11	30,50	33,12	32,32	29,34	27,23
886	8/4/2019 14:48	16	33,63	33,60	32,78	32,68	29,72	29,38	27,34	27,11	30,78	33,61	32,73	29,55	27,23
946	8/4/2019 14:49	17	33,93	33,99	33,18	32,89	29,93	29,79	27,34	27,11	31,02	33,96	33,03	29,86	27,23
1006	8/4/2019 14:50	18	34,12	34,29	33,48	33,51	30,03	29,59	27,34	27,11	31,18	34,21	33,49	29,81	27,23
1066	8/4/2019 14:51	19	34,71	34,49	33,78	33,82	30,45	30,10	27,44	27,21	31,50	34,60	33,80	30,28	27,33
1126	8/4/2019 14:52	20	35,10	35,09	34,28	34,12	30,45	30,30	27,44	27,11	31,74	35,09	34,20	30,38	27,28
1186	8/4/2019 14:53	21	35,49	35,39	34,58	34,64	29,82	30,51	27,44	27,21	31,88	35,44	34,61	30,17	27,33
1246	8/4/2019 14:54	22	35,78	35,89	35,08	35,05	30,24	30,71	27,54	27,21	32,19	35,83	35,06	30,48	27,38
1306	8/4/2019 14:55	23	36,27	36,18	35,38	35,36	30,56	30,82	27,64	27,31	32,44	36,23	35,37	30,69	27,47
1366	8/4/2019 14:56	24	36,47	36,48	35,57	35,87	30,77	31,33	27,64	27,31	32,68	36,48	35,72	31,05	27,47
1426	8/4/2019 14:57	25	37,15	36,88	36,07	36,18	31,08	31,33	27,73	27,41	32,98	37,02	36,13	31,21	27,57
1486	8/4/2019 14:58	26	37,44	37,28	36,37	36,49	31,50	31,64	27,73	27,41	33,23	37,36	36,43	31,57	27,57
1546	8/4/2019 14:59	27	37,44	37,68	36,67	36,90	31,71	31,94	27,83	27,51	33,46	37,56	36,79	31,83	27,67
1606	8/4/2019 15:00	28	38,03	38,18	37,07	37,32	32,24	31,94	28,03	27,71	33,81	38,10	37,19	32,09	27,87
1666	8/4/2019 15:01	29	38,52	38,57	37,67	37,83	32,55	32,15	28,03	27,71	34,13	38,55	37,75	32,35	27,87
1726	8/4/2019 15:02	30	39,01	38,97	38,07	38,04	32,97	32,46	27,93	27,61	34,38	38,99	38,05	32,71	27,77
1786	8/4/2019 15:03	31	39,30	39,37	38,47	38,55	33,49	32,66	28,12	27,81	34,72	39,34	38,51	33,08	27,97
1846	8/4/2019 15:04	32	39,69	39,77	38,77	38,96	33,60	32,97	28,22	27,81	34,97	39,73	38,87	33,28	28,02
1906	8/4/2019 15:05	33	40,28	40,17	39,27	39,38	33,60	33,17	28,22	28,01	35,26	40,22	39,32	33,39	28,12
1966	8/4/2019 15:06	34	40,38	40,47	39,57	39,89	33,91	33,38	28,52	28,21	35,54	40,42	39,73	33,65	28,36
2026	8/4/2019 15:07	35	40,57	40,86	39,96	40,20	34,02	33,48	28,52	28,21	35,73	40,72	40,08	33,75	28,36
2086	8/4/2019 15:08	36	41,06	41,16	40,26	40,61	34,23	33,79	28,61	28,31	36,01	41,11	40,44	34,01	28,46
2146	8/4/2019 15:09	37	41,26	41,56	40,76	40,92	34,33	33,89	28,71	28,41	36,23	41,41	40,84	34,11	28,56
2206	8/4/2019 15:10	38	41,84	42,06	41,16	41,33	34,54	34,30	28,91	28,51	36,58	41,95	41,25	34,42	28,71
2266	8/4/2019 15:11	39	42,33	42,26	41,36	41,64	34,75	34,20	28,91	28,51	36,75	42,29	41,50	34,48	28,71
2326	8/4/2019 15:12	40	42,53	42,76	41,76	42,05	34,75	34,71	29,00	28,71	37,03	42,64	41,91	34,73	28,86
2386	8/4/2019 15:13	41	42,82	43,05	42,16	42,46	34,86	34,92	29,00	28,91	37,27	42,94	42,31	34,89	28,96
2446	8/4/2019 15:14	42	43,31	43,35	42,26	42,88	34,96	35,12	29,20	28,91	37,50	43,33	42,57	35,04	29,05
2506	8/4/2019 15:15	43	43,50	43,75	42,76	43,08	35,17	35,33	29,20	28,91	37,71	43,63	42,92	35,25	29,05
2566	8/4/2019 15:16	44	43,70	44,15	43,06	43,49	35,28	35,64	29,30	29,01	37,95	43,92	43,28	35,46	29,15
2626	8/4/2019 15:17	45	44,09	44,35	43,46	43,91	35,38	35,84	29,49	29,21	38,22	44,22	43,68	35,61	29,35
2686	8/4/2019 15:18	46	44,29	44,75	43,76	44,42	35,49	36,15	29,69	29,31	38,48	44,52	44,09	35,82	29,50
2746	8/4/2019 15:19	47	44,77	45,15	44,16	44,63	35,59	36,35	29,79	29,51	38,74	44,96	44,39	35,97	29,65
2806	8/4/2019 15:20	48	45,07	45,44	44,45	45,04	35,80	36,56	29,88	29,61	38,98	45,26	44,75	36,18	29,75
2866	8/4/2019 15:21	49	45,56	45,84	44,85	45,35	35,91	36,66	29,98	29,71	39,23	45,70	45,10	36,28	29,85
2926	8/4/2019 15:22	50	45,85	45,94	44,95	45,66	36,01	36,87	30,08	29,71	39,38	45,90	45,31	36,44	29,89
2986	8/4/2019 15:23	51	46,14	46,24	45,35	46,07	36,12	37,07	30,18	29,81	39,62	46,19	45,71	36,59	29,99
3046	8/4/2019 15:24	52	46,53	46,64	45,85	46,38	36,53	37,17	30,18	30,01	39,91	46,59	46,11	36,85	30,09
3106	8/4/2019 15:25	53	46,73	46,84	45,95	46,58	36,64	37,38	30,28	30,01	40,05	46,78	46,27	37,01	30,14
3166	8/4/2019 15:26	54	46,92	47,04	46,15	46,89	36,85	37,79	30,47	30,11	40,28	46,98	46,52	37,32	30,29
3226	8/4/2019 15:27	55	47,12	47,44	46,55	47,20	37,06	38,00	30,57	30,21	40,52	47,28	46,88	37,53	30,39
3286	8/4/2019 15:28	56	47,71	47,64	46,65	47,61	37,48	38,20	30,76	30,31	40,79	47,67	47,13	37,84	30,54
3346	8/4/2019 15:29	57	47,80	48,13	47,15	48,03	37,48	38,61	30,96	30,61	41,10	47,97	47,59	38,04	30,78
3406	8/4/2019 15:30	58	48,29	48,43	47,55	48,33	37,69	38,82	31,06	30,81	41,37	48,36	47,94	38,25	30,93
3466	8/4/2019 15:31	59	48,39	48,73	47,85	48,64	38,21	38,82	31,16	30,91	41,59	48,56	48,24	38,51	31,03
3526	8/4/2019 15:32	60	48,78	49,13	48,25	49,16	38,63	39,12	31,45	31,11	41,95	48,95	48,70	38,88	31,28
3586	8/4/2019 15:33	61	49,37	49,53	48,74	49,47	39,26	39,23	31,45	31,21	42,28	49,45	49,11	39,24	31,33
3646	8/4/2019 15:34	62	49,27	49,63	48,94	49,88	39,78	39,64	31,64	31,31	42,51	49,45	49,41	39,71	31,47
3706	8/4/2019 15:35	63	49,66	49,93	49,14	50,19	39,99	40,05	31,94	31,60	42,81	49,79	49,67	40,02	31,77
3766	8/4/2019 15:36	64	50,15	50,22	49,34	50,39	40,41	40,25	31,94	31,80	43,06	50,19	49,87	40,33	31,87
3826	8/4/2019 15:37	65	50,34	50,52	49,84	50,70	40,83	40,56	32,13	31,80	43,34	50,43	50,27	40,70	31,97
3886	8/4/2019 15:38	66	50,64	50,82	50,04	50,91	41,04	40,76	32,03	31,80	43,51	50,73	50,47	40,90	31,92
3946	8/4/2019 15:39	67	50,93	51,02	50,14	51,32	41,46	40,87	32,33	32,10	43,77	50,98	50,73	41,16	32,22
4006	8/4/2019 15:40	68	51,03	51,32	50,24	51,42	41,67	41,28	32,43	32,10	43,94	51,17	50,83	41,47	32,26
4066	8/4/2019 15:41	69	51,22	51,42	50,54	51,83	41,78	41,48	32,72	32,30	44,16	51,32	51,19	41,63	32,51
4126	8/4/2019 15:42	70	51,62	51,62	50,74	51,94	42,09	41,48	32,72	32,40	44,33	51,62	51,34	41,79	32,56
4186	8/4/2019 15:43	71	51,71	51,92	51,04	52,25	42,20	41,99	32,82	32,50	44,55	51,81	51,64	42,10	32,66

Lampiran 7. Data riil temperatur HTF variasi *heat flux* 1000 W/m²

No.Data	Tanggal/Waktu	Menit ke-	Temperatur riil HTF (°C)							Trata-rata (°C)					
			T18	T19	T20	T21	T22	T23	T24	T25	HTF	a (25 cm)	at (17 cm)	bt (9 cm)	b (1cm)
1	7/26/2019 9:50	1	27,09	26,92	26,89	26,81	26,78	26,82	26,95	26,81	26,89	27,00	26,85	26,80	26,88
45	7/26/2019 9:51	2	28,16	27,72	27,09	26,92	26,99	26,82	26,95	26,71	27,17	27,94	27,01	26,90	26,83
105	7/26/2019 9:52	3	28,65	28,62	27,39	27,12	27,31	26,82	26,95	26,81	27,46	28,63	27,26	27,06	26,88
165	7/26/2019 9:53	4	28,94	28,82	28,39	28,05	27,52	26,82	27,05	27,01	27,82	28,88	28,22	27,17	27,03
225	7/26/2019 9:54	5	29,24	29,21	28,99	28,36	27,52	27,12	26,95	26,91	28,04	29,22	28,67	27,32	26,93
285	7/26/2019 9:55	6	29,63	29,41	29,19	28,77	27,62	27,12	27,15	27,01	28,24	29,52	28,98	27,37	27,08
345	7/26/2019 9:56	7	30,11	30,01	29,39	29,08	27,73	27,33	26,95	26,91	28,44	30,06	29,23	27,53	26,93
405	7/26/2019 9:57	8	30,60	30,71	29,89	29,39	28,04	27,64	27,15	27,01	28,80	30,66	29,64	27,84	27,08
465	7/26/2019 9:58	9	30,99	30,81	30,29	29,90	28,36	27,74	27,15	27,01	29,03	30,90	30,09	28,05	27,08
525	7/26/2019 9:59	10	31,48	31,21	30,69	30,31	28,46	27,94	27,24	27,21	29,32	31,34	30,50	28,20	27,23
585	7/26/2019 10:00	11	31,97	31,50	30,79	30,62	28,57	28,25	27,24	27,11	29,51	31,74	30,70	28,41	27,18
645	7/26/2019 10:01	12	32,07	32,00	31,28	31,04	28,88	28,66	27,24	27,21	29,80	32,04	31,16	28,77	27,23
705	7/26/2019 10:02	13	32,46	32,30	31,68	31,34	29,19	28,76	27,24	27,21	30,03	32,38	31,51	28,98	27,23
765	7/26/2019 10:03	14	32,75	32,80	31,98	31,86	29,40	28,97	27,34	27,21	30,29	32,78	31,92	29,19	27,28
825	7/26/2019 10:04	15	33,14	33,10	32,48	32,17	29,51	29,17	27,34	27,11	30,50	33,12	32,32	29,34	27,23
885	7/26/2019 10:05	16	33,63	33,60	32,78	32,68	29,72	29,38	27,34	27,11	30,78	33,61	32,73	29,55	27,23
945	7/26/2019 10:06	17	33,93	33,99	33,18	32,89	29,93	29,79	27,34	27,11	31,02	33,96	33,03	29,86	27,23
1005	7/26/2019 10:07	18	34,12	34,29	33,48	33,51	30,03	29,59	27,34	27,11	31,18	34,21	33,49	29,81	27,23
1065	7/26/2019 10:08	19	34,71	34,49	33,78	33,82	30,45	30,10	27,44	27,21	31,50	34,60	33,80	30,28	27,33
1125	7/26/2019 10:09	20	35,10	35,09	34,28	34,12	30,45	30,30	27,44	27,11	31,74	35,09	34,20	30,38	27,28
1185	7/26/2019 10:10	21	35,49	35,39	34,58	34,64	29,82	30,51	27,44	27,21	31,88	35,44	34,61	30,17	27,33
1245	7/26/2019 10:11	22	35,78	35,89	35,08	35,05	30,24	30,71	27,54	27,21	32,19	35,83	35,06	30,48	27,38
1305	7/26/2019 10:12	23	36,27	36,18	35,38	35,36	30,56	30,82	27,64	27,31	32,44	36,23	35,37	30,69	27,47
1365	7/26/2019 10:13	24	36,47	36,48	35,57	35,87	30,77	31,33	27,64	27,31	32,68	36,48	35,72	31,05	27,47
1425	7/26/2019 10:14	25	37,15	36,88	36,07	36,18	31,08	31,33	27,73	27,41	32,98	37,02	36,13	31,21	27,57
1485	7/26/2019 10:15	26	37,44	37,28	36,37	36,49	31,50	31,64	27,73	27,41	33,23	37,36	36,43	31,57	27,57
1545	7/26/2019 10:16	27	37,44	37,68	36,67	36,90	31,71	31,94	27,83	27,51	33,46	37,56	36,79	31,83	27,67
1605	7/26/2019 10:17	28	38,03	38,18	37,07	37,32	32,24	31,94	28,03	27,71	33,81	38,10	37,19	32,09	27,87
1665	7/26/2019 10:18	29	38,52	38,57	37,67	37,83	32,55	32,15	28,03	27,71	34,13	38,55	37,75	32,35	27,87
1725	7/26/2019 10:19	30	39,01	38,97	38,07	38,04	32,97	32,46	27,93	27,61	34,38	38,99	38,05	32,71	27,77
1785	7/26/2019 10:20	31	39,30	39,37	38,47	38,55	33,49	32,66	28,12	27,81	34,72	39,34	38,51	33,08	27,97
1845	7/26/2019 10:21	32	39,69	39,77	38,77	38,96	33,60	32,97	28,22	27,81	34,97	39,73	38,87	33,28	28,02
1905	7/26/2019 10:22	33	40,28	40,17	39,27	39,38	33,60	33,17	28,22	28,01	35,26	40,22	39,32	33,39	28,12
1965	7/26/2019 10:23	34	40,38	40,47	39,57	39,89	33,91	33,38	28,52	28,21	35,54	40,42	39,73	33,65	28,36
2025	7/26/2019 10:24	35	40,57	40,86	39,96	40,20	34,02	33,48	28,52	28,21	35,73	40,72	40,08	33,75	28,36
2085	7/26/2019 10:25	36	41,06	41,16	40,26	40,61	34,23	33,79	28,61	28,31	36,01	41,11	40,44	34,01	28,46
2145	7/26/2019 10:26	37	41,26	41,56	40,76	40,92	34,33	33,89	28,71	28,41	36,23	41,41	40,84	34,11	28,56
2205	7/26/2019 10:27	38	41,84	42,06	41,16	41,33	34,54	34,30	28,91	28,51	36,58	41,95	41,25	34,42	28,71
2265	7/26/2019 10:28	39	42,33	42,26	41,36	41,64	34,75	34,20	28,91	28,51	36,75	42,29	41,50	34,48	28,71
2325	7/26/2019 10:29	40	42,53	42,76	41,76	42,05	34,75	34,71	29,00	28,71	37,03	42,64	41,91	34,73	28,86
2385	7/26/2019 10:30	41	42,82	43,05	42,16	42,46	34,86	34,92	29,00	28,91	37,27	42,94	42,31	34,89	28,96
2445	7/26/2019 10:31	42	43,31	43,35	42,26	42,88	34,96	35,12	29,20	28,91	37,50	43,33	42,57	35,04	29,05
2505	7/26/2019 10:32	43	43,50	43,75	42,76	43,08	35,17	35,33	29,20	28,91	37,71	43,63	42,92	35,25	29,05
2565	7/26/2019 10:33	44	43,70	44,15	43,06	43,49	35,28	35,64	29,30	29,01	37,95	43,92	43,28	35,46	29,15
2625	7/26/2019 10:34	45	44,09	44,35	43,46	43,91	35,38	35,84	29,49	29,21	38,22	44,22	43,68	35,61	29,35
2685	7/26/2019 10:35	46	44,29	44,75	43,76	44,42	35,49	36,15	29,69	29,31	38,48	44,52	44,09	35,82	29,50
2745	7/26/2019 10:36	47	44,77	45,15	44,16	44,63	35,59	36,35	29,79	29,51	38,74	44,96	44,39	35,97	29,65
2805	7/26/2019 10:37	48	45,07	45,44	44,45	45,04	35,80	36,56	29,88	29,61	38,98	45,26	44,75	36,18	29,75
2865	7/26/2019 10:38	49	45,56	45,84	44,85	45,35	35,91	36,66	29,98	29,71	39,23	45,70	45,10	36,28	29,85
2925	7/26/2019 10:39	50	45,85	45,94	44,95	45,66	36,01	36,87	30,08	29,71	39,38	45,90	45,31	36,44	29,89
2985	7/26/2019 10:40	51	46,14	46,24	45,35	46,07	36,12	37,07	30,18	29,81	39,62	46,19	45,71	36,59	29,99
3045	7/26/2019 10:41	52	46,53	46,64	45,85	46,38	36,53	37,17	30,18	30,01	39,91	46,59	46,11	36,85	30,09
3105	7/26/2019 10:42	53	46,73	46,84	45,95	46,58	36,64	37,38	30,28	30,01	40,05	46,78	46,27	37,01	30,14
3165	7/26/2019 10:43	54	46,92	47,04	46,15	46,89	36,85	37,79	30,47	30,11	40,28	46,98	46,52	37,32	30,29
3225	7/26/2019 10:44	55	47,12	47,44	46,55	47,20	37,06	38,00	30,57	30,21	40,52	47,28	46,88	37,53	30,39
3285	7/26/2019 10:45	56	47,71	47,64	46,65	47,61	37,48	38,20	30,76	30,31	40,79	47,67	47,13	37,84	30,54
3345	7/26/2019 10:46	57	47,80	48,13	47,15	48,03	37,48	38,61	30,96	30,61	41,10	47,97	47,59	38,04	30,78
3405	7/26/2019 10:47	58	48,29	48,43	47,55	48,33	37,69	38,82	31,06	30,81	41,37	48,36	47,94	38,25	30,93
3465	7/26/2019 10:48	59	48,39	48,73	47,85	48,64	38,21	38,82	31,16	30,91	41,59	48,56	48,24	38,51	31,03
3525	7/26/2019 10:49	60	48,78	49,13	48,25	49,16	38,63	39,12	31,45	31,11	41,95	48,95	48,70	38,88	31,28
3585	7/26/2019 10:50	61	49,37	49,53	48,74	49,47	39,26	39,23	31,45	31,21	42,28	49,45	49,11	39,24	31,33
3645	7/26/2019 10:51	62	49,27	49,63	48,94	49,88	39,78	39,64	31,64	31,31	42,51	49,45	49,41	39,71	31,47
3705	7/26/2019 10:52	63	49,66	49,93	49,14	50,19	39,99	40,05	31,94	31,60	42,81	49,79	49,67	40,02	31,77
3765	7/26/2019 10:53	64	50,15	50,22	49,34	50,39	40,41	40,25	31,94	31,80	43,06	50,19	49,87	40,33	31,87
3825	7/26/2019 10:54	65	50,34	50,52	49,84	50,70	40,83	40,56	32,13	31,80	43,34	50,43	50,27	40,70	31,97
3885	7/26/2019 10:55	66	50,64	50,82	50,04	50,91	41,04	40,76	32,03	31,80	43,51	50,73	50,47	40,90	31,92
3945	7/26/2019 10:56	67	50,93	51,02	50,14	51,32	41,46	40,87	32,33	32,10	43,77	50,98	50,73	41,16	32,22
4005	7/26/2019 10:57	68	51,03	51,32	50,24	51,42	41,67	41,28	32,43	32,10	43,94	51,17	50,83	41,47	32,26
4065	7/26/2019 10:58	69	51,22	51,42	50,54	51,83	41,78	41,48	32,72	32,30	44,16	51,32	51,19	41,63	32,51
4125	7/26/2019 10:59	70	51,62	51,62	50,74	51,94	42,09	41,48	32,72	32,40	44,33	51,62	51,34	41,79	32,56
4185	7/26/2019 11:00	71	51,71	51,92	51,04	52,25	42,20	41,99	32,82	32,					

Lampiran 8. Data riil temperatur HTF variasi *heat flux* 1200 W/m²

No.Data	Tanggal/Waktu	Menit ke-	Temperatur riil HTF (°C)							Trata-rata (°C)					
			T18	T19	T20	T21	T22	T23	T24	T25	HTF	h (25 cm)	a (17 cm)	b (9 cm)	b (1cm)
1	7/28/2019 11:39	1	27,09	26,92	26,89	26,81	26,78	26,82	26,95	26,81	26,89	27,00	26,85	26,80	26,88
20	7/28/2019 11:41	2	28,16	27,72	27,09	26,92	26,99	26,82	26,95	26,71	27,17	27,94	27,01	26,90	26,83
80	7/28/2019 11:42	3	28,65	28,62	27,39	27,12	27,31	26,82	26,95	26,81	27,46	28,63	27,26	27,06	26,88
140	7/28/2019 11:43	4	28,94	28,82	28,39	28,05	27,52	26,82	27,05	27,01	27,82	28,88	28,22	27,17	27,03
200	7/28/2019 11:44	5	29,24	29,21	28,99	28,36	27,52	27,12	26,95	26,91	28,04	29,22	28,67	27,32	26,93
260	7/28/2019 11:45	6	29,63	29,41	29,19	28,77	27,62	27,12	27,15	27,01	28,24	29,52	28,98	27,37	27,08
320	7/28/2019 11:46	7	30,11	30,01	29,39	29,08	27,73	27,33	26,95	26,91	28,44	30,06	29,23	27,53	26,93
380	7/28/2019 11:47	8	30,60	30,71	29,89	29,39	28,04	27,64	27,15	27,01	28,80	30,66	29,64	27,84	27,08
440	7/28/2019 11:48	9	30,99	30,81	30,29	29,90	28,36	27,74	27,15	27,01	29,03	30,90	30,09	28,05	27,08
500	7/28/2019 11:49	10	31,48	31,21	30,69	30,31	28,46	27,94	27,24	27,21	29,32	31,34	30,50	28,20	27,23
560	7/28/2019 11:50	11	31,97	31,50	30,79	30,62	28,57	28,25	27,24	27,11	29,51	31,74	30,70	28,41	27,18
620	7/28/2019 11:51	12	32,07	32,00	31,28	31,04	28,88	28,66	27,24	27,21	29,80	32,04	31,16	28,77	27,23
680	7/28/2019 11:52	13	32,46	32,30	31,68	31,34	29,19	28,76	27,24	27,21	30,03	32,38	31,51	28,98	27,23
740	7/28/2019 11:53	14	32,75	32,80	31,98	31,86	29,40	28,97	27,34	27,21	30,29	32,78	31,92	29,19	27,28
800	7/28/2019 11:54	15	33,14	33,10	32,48	32,17	29,51	29,17	27,34	27,11	30,50	33,12	32,32	29,34	27,23
860	7/28/2019 11:55	16	33,63	33,60	32,78	32,68	29,72	29,38	27,34	27,11	30,78	33,61	32,73	29,55	27,23
920	7/28/2019 11:56	17	33,93	33,99	33,18	32,89	29,93	29,79	27,34	27,11	31,02	33,96	33,03	29,86	27,23
980	7/28/2019 11:57	18	34,12	34,29	33,48	33,51	30,03	29,59	27,34	27,11	31,18	34,21	33,49	29,81	27,23
1040	7/28/2019 11:58	19	34,71	34,49	33,78	33,82	30,45	30,10	27,44	27,21	31,50	34,60	33,80	30,28	27,33
1100	7/28/2019 11:59	20	35,10	35,09	34,28	34,12	30,45	30,30	27,44	27,11	31,74	35,09	34,20	30,38	27,28
1160	7/28/2019 12:00	21	35,49	35,39	34,58	34,64	29,82	30,51	27,44	27,21	31,88	35,44	34,61	30,17	27,33
1220	7/28/2019 12:01	22	35,78	35,89	35,08	35,05	30,24	30,71	27,54	27,21	32,19	35,83	35,06	30,48	27,38
1280	7/28/2019 12:02	23	36,27	36,18	35,38	35,36	30,56	30,82	27,64	27,31	32,44	36,23	35,37	30,69	27,47
1340	7/28/2019 12:03	24	36,47	36,48	35,57	35,87	30,77	31,33	27,64	27,31	32,68	36,48	35,72	31,05	27,47
1400	7/28/2019 12:04	25	37,15	36,88	36,07	36,18	31,08	31,33	27,73	27,41	32,98	37,02	36,13	31,21	27,57
1460	7/28/2019 12:05	26	37,44	37,28	36,37	36,49	31,50	31,64	27,73	27,41	33,23	37,36	36,43	31,57	27,57
1520	7/28/2019 12:06	27	37,44	37,68	36,67	36,90	31,71	31,94	27,83	27,51	33,46	37,56	36,79	31,83	27,67
1580	7/28/2019 12:07	28	38,03	38,18	37,07	37,32	32,24	31,94	28,03	27,71	33,81	38,10	37,19	32,09	27,87
1640	7/28/2019 12:08	29	38,52	38,57	37,67	37,83	32,55	32,15	28,03	27,71	34,13	38,55	37,75	32,35	27,87
1700	7/28/2019 12:09	30	39,01	38,97	38,07	38,04	32,97	32,46	27,93	27,61	34,38	38,99	38,05	32,71	27,77
1760	7/28/2019 12:10	31	39,30	39,37	38,47	38,55	33,49	32,66	28,12	27,81	34,72	39,34	38,51	33,08	27,97
1820	7/28/2019 12:11	32	39,69	39,77	38,77	38,96	33,60	32,97	28,22	27,81	34,97	39,73	38,87	33,28	28,02
1880	7/28/2019 12:12	33	40,28	40,17	39,27	39,38	33,60	33,17	28,22	28,01	35,26	40,22	39,32	33,39	28,12
1940	7/28/2019 12:13	34	40,38	40,47	39,57	39,89	33,91	33,38	28,52	28,21	35,54	40,42	39,73	33,65	28,36
2000	7/28/2019 12:14	35	40,57	40,86	39,96	40,20	34,02	33,48	28,52	28,21	35,73	40,72	40,08	33,75	28,36
2060	7/28/2019 12:15	36	41,06	41,16	40,26	40,61	34,23	33,79	28,61	28,31	36,01	41,11	40,44	34,01	28,46
2120	7/28/2019 12:16	37	41,26	41,56	40,76	40,92	34,33	33,89	28,71	28,41	36,23	41,41	40,84	34,11	28,56
2180	7/28/2019 12:17	38	41,84	42,06	41,16	41,33	34,54	34,30	28,91	28,51	36,58	41,95	41,25	34,42	28,71
2240	7/28/2019 12:18	39	42,33	42,26	41,36	41,64	34,75	34,20	28,91	28,51	36,75	42,29	41,50	34,48	28,71
2300	7/28/2019 12:19	40	42,53	42,76	41,76	42,05	34,75	34,71	29,00	28,71	37,03	42,64	41,91	34,73	28,86
2360	7/28/2019 12:20	41	42,82	43,05	42,16	42,46	34,86	34,92	29,00	28,91	37,27	42,94	42,31	34,89	28,96
2420	7/28/2019 12:21	42	43,31	43,35	42,26	42,88	34,96	35,12	29,20	28,91	37,50	43,33	42,57	35,04	29,05
2480	7/28/2019 12:22	43	43,50	43,75	42,76	43,08	35,17	35,33	29,20	28,91	37,71	43,63	42,92	35,25	29,05
2540	7/28/2019 12:23	44	43,70	44,15	43,06	43,49	35,28	35,64	29,30	29,01	37,95	43,92	43,28	35,46	29,15
2600	7/28/2019 12:24	45	44,09	44,35	43,46	43,91	35,38	35,84	29,49	29,21	38,22	44,22	43,68	35,61	29,35
2660	7/28/2019 12:25	46	44,29	44,75	43,76	44,42	35,49	36,15	29,69	29,31	38,48	44,52	44,09	35,82	29,50
2720	7/28/2019 12:26	47	44,77	45,15	44,16	44,63	35,59	36,35	29,79	29,51	38,74	44,96	44,39	35,97	29,65
2780	7/28/2019 12:27	48	45,07	45,44	44,45	45,04	35,80	36,56	29,88	29,61	38,98	45,26	44,75	36,18	29,75
2840	7/28/2019 12:28	49	45,56	45,84	44,85	45,35	35,91	36,66	29,98	29,71	39,23	45,70	45,10	36,28	29,85
2900	7/28/2019 12:29	50	45,85	45,94	44,95	45,66	36,01	36,87	30,08	29,71	39,38	45,90	45,31	36,44	29,89
2960	7/28/2019 12:30	51	46,14	46,24	45,35	46,07	36,12	37,07	30,18	29,81	39,62	46,19	45,71	36,59	29,99
3020	7/28/2019 12:31	52	46,53	46,64	45,85	46,38	36,53	37,17	30,18	30,01	39,91	46,59	46,11	36,85	30,09
3080	7/28/2019 12:32	53	46,73	46,84	45,95	46,58	36,64	37,38	30,28	30,01	40,05	46,78	46,27	37,01	30,14
3140	7/28/2019 12:33	54	46,92	47,04	46,15	46,89	36,85	37,79	30,47	30,11	40,28	46,98	46,52	37,32	30,29
3200	7/28/2019 12:34	55	47,12	47,44	46,55	47,20	37,06	38,00	30,57	30,21	40,52	47,28	46,88	37,53	30,39
3260	7/28/2019 12:35	56	47,71	47,64	46,65	47,61	37,48	38,20	30,76	30,31	40,79	47,67	47,13	37,84	30,54
3320	7/28/2019 12:36	57	47,80	48,13	47,15	48,03	37,48	38,61	30,96	30,61	41,10	47,97	47,59	38,04	30,78
3380	7/28/2019 12:37	58	48,29	48,43	47,55	48,33	37,69	38,82	31,06	30,81	41,37	48,36	47,94	38,25	30,93
3440	7/28/2019 12:38	59	48,39	48,73	47,85	48,64	38,21	38,82	31,16	30,91	41,59	48,56	48,24	38,51	31,03
3500	7/28/2019 12:39	60	48,78	49,13	48,25	49,16	38,63	39,12	31,45	31,11	41,95	48,95	48,70	38,88	31,28
3560	7/28/2019 12:40	61	49,37	49,53	48,74	49,47	39,26	39,23	31,45	31,21	42,28	49,45	49,11	39,24	31,33
3620	7/28/2019 12:41	62	49,27	49,63	48,94	49,88	39,78	39,64	31,64	31,31	42,51	49,45	49,41	39,71	31,47
3680	7/28/2019 12:42	63	49,66	49,93	49,14	50,19	39,99	40,05	31,94	31,60	42,81	49,79	49,67	40,02	31,77
3740	7/28/2019 12:43	64	50,15	50,22	49,34	50,39	40,41	40,25	31,94	31,80	43,06	50,19	49,87	40,33	31,87
3800	7/28/2019 12:44	65	50,34	50,52	49,84	50,70	40,83	40,56	32,13	31,80	43,34	50,43	50,27	40,70	31,97
3860	7/28/2019 12:45	66	50,64	50,82	50,04	50,91	41,04	40,76	32,03	31,80	43,51	50,73	50,47	40,90	31,92
3920	7/28/2019 12:46	67	50,93	51,02	50,14	51,32	41,46	40,87	32,33	32,10	43,77	50,98	50,73	41,16	32,22
3980	7/28/2019 12:47	68	51,03	51,32	50,24	51,42	41,67	41,28	32,43	32,10	43,94	51,17	50,83	41,47	32,26
4040	7/28/2019 12:48	69	51,22	51,42	50,54	51,83	41,78	41,48	32,72	32,30	44,16	51,32	51,19	41,63	32,51
4100	7/28/2019 12:49	70	51,62	51,62	50,74	51,94	42,09	41,48	32,72	32,40	44,33	51,62	51,34	41,79	32,56
4160	7/28/2019 12:50	71	51,71	51,92	51,04	52,25	42,20	41,99							

Lampiran 9. Data riil temperatur PCM variasi *heat flux* 800 W/m²

No Data	Tanggal/Waktu	Mentri	Temperatur di PCM K5 (°C)			Trata-rata K4	Temperatur di PCM K6 (°C)			Trata-rata K6	Temperatur di PCM K7 (°C)			Trata-rata K7	Temperatur di PCM K8 (°C)			Trata-rata K8	Temperatur di PCM K12 (°C)			Trata-rata K12	Trata-rata PCM
			T3	T4	T5		T6	T7	T8		T9	T10	T11		T12	T13	T14		T15	T16	T17		
1	7/26/2019 9:50	1	28.51	26.87	26.95	27.44	26.90	26.76	26.87	26.84	27.29	26.33	26.71	26.77	26.75	26.19	26.54	26.49	26.53	26.49	26.57	26.53	26.82
45	7/26/2019 9:51	2	28.91	27.08	26.95	27.64	27.00	26.86	26.87	26.91	27.39	26.33	26.81	26.84	26.75	26.19	26.74	26.56	26.73	26.68	26.67	26.69	26.99
105	7/26/2019 9:52	3	29.61	27.59	27.25	28.15	27.10	26.96	26.97	27.01	27.49	26.43	26.81	26.91	26.85	26.59	26.74	26.63	26.73	26.68	26.67	26.69	27.08
165	7/26/2019 9:53	4	30.00	28.10	27.66	28.59	27.00	27.06	27.17	27.08	27.59	26.43	27.01	26.94	27.04	26.39	26.74	26.72	26.73	26.68	26.77	26.69	27.21
225	7/26/2019 9:54	5	30.40	28.62	28.16	29.06	27.61	27.58	27.57	27.59	27.80	26.94	27.22	27.32	27.44	26.58	27.04	27.02	26.93	26.78	26.97	26.89	27.58
285	7/26/2019 9:55	6	30.70	28.82	28.37	29.30	27.91	27.88	27.88	27.89	28.10	27.14	27.52	27.59	27.73	26.78	27.44	27.32	26.83	26.78	26.87	26.83	27.78
345	7/26/2019 9:56	7	31.10	29.13	28.77	29.67	28.22	28.19	28.08	28.16	28.41	27.44	27.83	27.89	27.92	27.08	27.74	27.58	26.83	26.78	26.97	26.86	28.03
405	7/26/2019 9:57	8	31.50	29.74	29.18	30.14	28.52	28.60	28.38	28.50	28.81	27.85	28.34	28.33	28.22	27.47	28.23	27.97	27.13	26.98	27.16	27.09	28.41
465	7/26/2019 9:58	9	31.90	30.05	29.48	30.48	28.83	29.11	28.79	28.91	29.12	28.15	28.54	28.60	28.61	27.77	28.53	28.30	27.13	27.07	27.16	27.12	28.68
525	7/26/2019 9:59	10	32.20	30.46	29.99	30.82	29.23	29.31	29.09	29.21	29.42	28.35	28.85	28.88	28.90	27.96	28.83	28.57	27.13	27.07	27.26	27.16	28.92
585	7/26/2019 10:00	11	32.40	30.67	29.99	31.02	29.43	29.52	29.19	29.38	29.63	28.56	29.15	29.11	29.00	28.26	29.03	28.76	27.13	27.17	27.36	27.22	29.10
645	7/26/2019 10:01	12	32.69	30.87	30.29	31.29	29.94	29.93	29.49	29.79	29.83	28.76	29.36	29.32	29.29	28.46	29.33	29.03	27.23	27.17	27.26	27.22	29.33
705	7/26/2019 10:02	13	32.99	31.28	30.50	31.59	30.24	30.23	29.70	30.06	30.24	29.06	29.56	29.62	29.49	28.65	29.43	29.19	27.23	27.17	27.36	27.26	29.54
765	7/26/2019 10:03	14	33.29	31.59	30.80	31.89	30.45	30.54	29.90	30.30	30.44	29.26	29.87	29.86	29.68	28.95	29.73	29.45	27.23	27.37	27.46	27.56	29.77
825	7/26/2019 10:04	15	33.69	32.10	31.11	32.30	30.83	30.93	30.10	30.63	30.75	29.57	30.17	30.16	29.88	29.15	30.03	29.68	27.43	27.37	27.66	27.49	30.05
885	7/26/2019 10:05	16	33.99	32.41	31.41	32.60	31.16	31.26	30.30	30.91	30.95	29.77	30.17	30.30	30.07	29.24	30.23	29.85	27.43	27.56	27.66	27.55	30.24
945	7/26/2019 10:06	17	34.49	32.92	31.82	33.08	31.46	31.56	30.81	31.28	31.46	30.07	30.48	30.67	30.56	29.54	30.53	30.21	27.53	27.66	27.76	27.65	30.58
1005	7/26/2019 10:07	18	34.59	33.13	32.02	33.24	31.76	31.87	30.91	31.51	31.56	30.28	30.68	30.84	30.66	29.74	30.63	30.34	27.53	27.56	27.76	27.62	30.71
1065	7/26/2019 10:08	19	34.99	33.43	32.32	33.58	32.17	32.28	31.21	31.89	31.97	30.68	30.99	31.21	30.95	29.93	30.82	30.57	27.53	27.66	27.86	27.69	30.99
1125	7/26/2019 10:09	20	35.39	33.84	32.73	33.99	32.68	32.79	31.52	32.33	32.37	31.09	31.19	31.55	31.24	30.13	31.12	30.83	27.74	27.86	27.86	27.92	31.32
1185	7/26/2019 10:10	21	35.68	34.15	32.93	34.26	32.78	33.00	31.72	32.50	32.68	31.29	31.50	31.82	31.44	30.43	31.42	31.10	27.74	27.86	28.26	27.95	31.52
1245	7/26/2019 10:11	22	36.28	34.56	33.54	34.79	33.28	33.51	32.22	33.00	33.08	31.90	31.80	32.26	31.93	30.72	31.72	31.46	27.94	28.05	28.26	28.08	31.92
1305	7/26/2019 10:12	23	36.58	35.07	33.95	35.20	33.79	33.81	32.53	33.38	33.39	32.40	32.01	32.60	32.22	30.92	31.92	31.69	27.94	28.15	28.36	28.15	32.20
1365	7/26/2019 10:13	24	36.88	35.28	34.15	35.44	33.99	34.12	32.83	33.65	33.69	32.31	31.84	32.84	32.52	31.84	32.12	31.82	28.14	28.33	28.16	28.31	32.43
1425	7/26/2019 10:14	25	37.48	35.89	34.66	36.01	34.40	34.73	33.33	34.16	34.10	33.21	32.72	33.35	33.00	31.51	33.23	32.41	28.24	28.34	28.66	28.41	32.87
1485	7/26/2019 10:15	26	37.88	36.30	34.96	36.38	34.80	35.04	33.64	34.49	34.41	33.62	33.03	33.68	33.30	31.81	33.02	32.71	28.24	28.34	28.76	28.45	33.14
1545	7/26/2019 10:16	27	38.08	36.41	35.26	36.58	35.11	35.35	33.84	34.77	34.71	33.92	33.33	33.95	33.49	32.00	33.22	32.90	28.24	28.44	28.76	28.48	33.34
1605	7/26/2019 10:17	28	38.68	36.92	35.77	37.12	35.41	35.65	34.24	35.10	35.02	34.22	33.64	34.29	33.88	32.40	33.71	33.53	28.44	28.64	28.96	28.68	33.71
1665	7/26/2019 10:18	29	39.07	37.33	36.28	37.56	35.92	36.06	34.75	35.58	35.42	34.73	34.65	34.73	34.65	32.63	34.76	33.82	28.74	28.83	29.16	28.91	34.13
1725	7/26/2019 10:19	30	39.47	37.84	36.79	38.03	36.32	36.58	35.15	36.02	35.93	35.24	34.56	35.24	34.76	33.29	34.71	34.25	28.84	28.93	29.26	29.01	34.51
1785	7/26/2019 10:20	31	39.87	38.15	37.09	38.37	36.63	36.88	35.36	36.29	36.13	35.74	34.97	35.61	34.96	33.58	35.11	34.55	28.84	29.31	29.46	29.08	34.78
1845	7/26/2019 10:21	32	40.37	38.66	37.60	38.88	37.13	37.39	35.86	36.80	36.54	36.05	35.37	35.99	35.45	34.07	35.71	35.08	29.04	29.22	29.46	29.24	35.19
1905	7/26/2019 10:22	33	40.77	39.17	38.10	39.35	37.54	37.80	36.16	37.17	36.95	36.35	35.88	36.39	35.74	34.47	36.10	35.44	29.14	29.32	29.66	29.37	35.54
1965	7/26/2019 10:23	34	41.17	39.28	38.41	39.62	37.84	38.11	36.67	37.54	37.25	36.45	36.19	36.63	36.23	34.76	36.50	35.83	29.24	29.42	29.76	29.44	35.81
2025	7/26/2019 10:24	35	41.67	39.79	39.02	40.16	38.25	38.42	36.97	37.88	37.66	36.86	36.70	37.07	36.62	35.26	37.20	36.33	29.24	29.42	29.76	29.47	36.18
2085	7/26/2019 10:25	36	41.96	40.10	39.52	40.53	38.55	38.93	37.28	38.25	38.07	37.36	37.01	37.48	36.81	35.65	37.80	36.75	29.34	29.52	29.96	29.60	36.52
2145	7/26/2019 10:26	37	42.56	40.61	40.03	41.07	39.16	39.34	37.78	38.76	38.68	37.77	37.72	38.05	37.30	36.34	38.49	37.38	29.54	29.81	30.06	29.80	37.01
2205	7/26/2019 10:27	38	43.16	41.23	40.54	41.64	39.46	39.75	38.19	39.13	39.08	38.07	38.33	38.49	37.69	36.83	38.99	37.84	29.74	29.91	30.36	30.00	37.42
2265	7/26/2019 10:28	39	43.86	41.53	40.94	41.98	39.77	40.05	38.69	39.44	39.29	38.37	38.64	38.83	37.98	37.33	39.59	38.23	29.74	29.91	30.56	30.00	37.70
2325	7/26/2019 10:29	40	43.96	42.05	41.35	42.45	40.28	40.46	38.79	39.84	39.69	38.58	39.35	39.21	38.28	37.82	39.89	38.66	29.94	30.10	30.56	30.00	38.07
2385	7/26/2019 10:30	41	44.26	42.25	41.65	42.72	40.38	40.87	39.20	40.15	40.10	38.68	39.86	39.55	38.67	38.31	40.09	39.02	29.94	30.20	30.56	30.23	38.33
2445	7/26/2019 10:31	42	44.56	42.46	41.96	42.99	40.78	41.08	39.50	40.45	40.41	39.08	40.37	39.95	38.96	38.81	40.59	39.45	30.04	30.20	30.65	30.30	38.63
2505	7/26/2019 10:32	43	45.15	42.97	42.47	43.53	41.39	41.59	39.90	40.90	40.91	39.69	40.68	40.43	39.35	39.10	40.89	39.78	30.14	30.40	30.75	30.43	39.03
2565	7/26/2019 10:33	44	45.55	43.38	42.77	43.83	41.49	41.69	40.21	41.13	41.22	40.20	41.59	40.87	39.65	39.69	41.28	40.21	30.34	30.59	30.95	30.63	39.33
2625	7/26/2019 10:34	45	45.63	43.69	43.07	44.14	42.00	42.10	40.41	41.50	41.63	40.70	41.49	41.27	39.84	40.09	41.58	40.50	30.44	30.69	31.05	30.73	39.63
2685	7/26/2019 10:35	46	46.05	43.99	43.48	44.51	42.40	42.51	40.81	41.91	42.03	40.90	41.80	41.58	40.23	40.38	41.88	40.83	30.54	30.69	31.15	30.79	39.92
2745	7/26/2019 10:36	47	46.35	44.40	43.89	44.88	42.71	42.81	41.12	42.21	42.44	41.51	42.21	42.05	40.52	40.78	42.18	41.16	30.54	30.98	31.35	30.96	40.25
2805	7/26/2019 10:37	48	46.75	44.81	44.19	45.25	42.91	43.22	41.42	42.52	42.74	41.82	42.61	42.39	40.82	41.27	42.58	41.56					

Lampiran 10. Data riil temperatur PCM variasi *heat flux* 1000 W/m²

No Data	Tanggal/Waktu	Membri ke	Temperatur riil PCM K2 (°C)			Temperatur riil PCM K6 (°C)			Temperatur riil PCM K7 (°C)			Temperatur riil PCM K8 (°C)			Temperatur riil PCM K12 (°C)									
			T1	T2	T3	T6	T7	T8	T9	T10	T11	T12	T13	T14	T15	T16	T17							
1	7/26/2019 9:50	1	28.51	26.87	26.95	27.44	26.90	26.76	26.87	26.84	27.29	26.33	26.71	26.77	26.75	26.19	26.54	26.49	26.53	26.49	26.17	26.53	26.82	
45	7/26/2019 9:51	2	28.91	27.08	26.95	27.64	27.00	26.86	26.87	26.91	27.39	26.33	26.81	26.84	26.75	26.19	26.74	26.56	26.53	26.68	26.67	26.69	26.69	26.91
105	7/26/2019 9:52	3	29.61	27.59	27.25	28.15	27.10	26.96	26.97	27.01	27.49	26.43	26.81	26.91	26.85	26.29	26.74	26.63	26.73	26.68	26.67	26.69	26.69	27.08
165	7/26/2019 9:53	4	30.00	28.10	27.66	28.59	27.00	27.06	27.17	27.08	27.39	26.43	27.01	26.94	27.04	26.39	26.74	26.72	26.73	26.58	26.77	26.69	26.69	27.21
225	7/26/2019 9:54	5	30.40	28.62	28.16	29.06	27.61	27.58	27.57	27.59	27.80	26.44	27.22	27.32	27.44	26.58	27.04	27.02	26.93	26.78	26.97	26.89	26.89	27.58
285	7/26/2019 9:55	6	30.70	28.82	28.37	29.30	27.91	27.88	27.87	27.89	28.10	27.14	27.52	27.59	27.73	26.78	27.44	27.32	26.83	26.78	26.87	26.83	27.78	
345	7/26/2019 9:56	7	31.10	29.13	28.77	29.67	28.22	28.19	28.08	28.16	28.41	27.44	27.83	27.89	27.92	27.08	27.74	27.58	26.83	26.78	26.97	26.86	28.03	
405	7/26/2019 9:57	8	31.50	29.74	29.18	30.14	28.52	28.60	28.38	28.50	28.81	27.85	28.34	28.33	28.22	27.47	28.23	27.97	27.13	26.98	27.16	27.69	28.41	
465	7/26/2019 9:58	9	31.90	30.05	29.48	30.48	28.83	29.11	28.79	28.91	28.91	28.54	28.54	28.60	28.61	27.77	28.53	28.30	27.13	27.07	27.16	27.12	28.68	
525	7/26/2019 9:59	10	32.20	30.46	29.79	30.82	29.23	29.31	29.09	29.21	29.42	28.35	28.85	28.88	28.90	27.96	28.83	28.57	27.13	27.07	27.26	27.16	28.92	
585	7/26/2019 10:00	11	32.40	30.67	29.99	31.02	29.43	29.52	29.19	29.38	29.63	28.56	29.15	29.11	29.00	28.26	29.03	28.76	27.13	27.17	27.36	27.22	29.10	
645	7/26/2019 10:01	12	32.69	30.87	30.29	31.29	29.94	29.93	29.49	29.79	29.83	28.76	29.36	29.32	29.29	28.46	29.33	29.03	27.23	27.17	27.36	27.22	29.33	
705	7/26/2019 10:02	13	32.99	31.28	30.50	31.59	30.24	30.23	29.70	30.06	30.24	29.06	29.56	29.62	29.49	28.65	29.43	29.19	27.23	27.17	27.36	27.26	29.54	
765	7/26/2019 10:03	14	33.29	31.59	30.80	31.89	30.45	30.54	29.90	30.30	30.44	29.26	29.87	29.86	29.68	28.95	29.73	29.45	27.23	27.37	27.46	27.36	29.77	
825	7/26/2019 10:04	15	33.69	32.10	31.11	32.30	30.85	30.95	30.10	30.63	30.75	29.57	30.17	30.16	29.88	29.15	30.03	29.68	27.43	27.37	27.66	27.49	30.05	
885	7/26/2019 10:05	16	33.99	32.41	31.41	32.60	31.16	31.26	30.30	30.91	30.95	29.27	30.17	30.30	30.07	29.24	30.23	29.85	27.43	27.56	27.66	27.55	30.24	
945	7/26/2019 10:06	17	34.49	32.92	31.82	33.08	31.46	31.56	30.81	31.28	31.46	30.07	30.48	30.67	30.56	29.54	30.53	30.21	27.53	27.66	27.76	27.65	30.58	
1005	7/26/2019 10:07	18	34.49	33.13	32.02	33.24	31.76	31.87	30.91	31.51	31.56	30.28	30.68	30.84	30.66	29.74	30.63	30.34	27.53	27.56	27.76	27.62	30.71	
1065	7/26/2019 10:08	19	34.99	33.43	32.32	33.58	32.17	32.28	31.21	31.89	31.97	30.68	30.99	31.21	30.95	29.93	30.82	30.57	27.53	27.66	27.86	27.69	30.99	
1125	7/26/2019 10:09	20	35.39	33.84	32.73	33.99	32.68	32.79	31.52	32.33	32.37	31.09	31.19	31.55	31.24	30.13	31.12	30.83	27.74	27.86	27.86	27.92	31.32	
1185	7/26/2019 10:10	21	35.68	34.15	32.93	34.26	32.78	33.00	31.72	32.50	32.68	31.29	31.50	31.82	31.44	30.43	31.42	31.10	27.74	27.86	28.26	27.95	31.52	
1245	7/26/2019 10:11	22	36.28	34.56	33.54	34.79	33.29	33.51	32.22	33.00	33.08	31.90	31.80	32.46	31.93	30.72	31.72	31.46	27.94	28.03	28.36	28.03	31.92	
1305	7/26/2019 10:12	23	36.58	35.07	33.95	35.20	33.79	33.81	32.53	33.38	33.39	32.40	32.01	32.60	32.22	30.92	31.92	31.69	27.94	28.15	28.36	28.15	32.20	
1365	7/26/2019 10:13	24	36.88	35.28	34.15	35.44	33.99	34.12	32.83	33.65	33.69	32.81	32.21	32.90	32.51	31.02	32.12	31.88	28.04	28.15	28.46	28.22	32.42	
1425	7/26/2019 10:14	25	37.48	35.89	34.66	36.01	34.40	34.73	33.33	34.16	34.10	33.21	32.72	33.35	33.00	31.51	32.72	32.41	28.24	28.34	28.66	28.41	32.87	
1485	7/26/2019 10:15	26	37.88	36.30	34.96	36.38	34.80	35.04	33.64	34.49	34.41	33.62	33.03	33.68	33.30	31.81	33.02	33.71	28.24	28.34	28.76	28.45	33.14	
1545	7/26/2019 10:16	27	38.08	36.41	35.26	36.58	35.11	35.35	33.84	34.77	34.71	33.92	33.23	33.95	33.49	32.00	33.22	32.90	28.24	28.44	28.76	28.48	33.34	
1605	7/26/2019 10:17	28	38.68	36.92	35.77	37.12	35.41	35.65	34.24	35.10	35.02	34.22	33.64	34.29	33.88	32.40	33.71	33.33	28.44	28.64	28.96	28.68	33.71	
1665	7/26/2019 10:18	29	39.07	37.33	36.28	37.56	35.82	36.09	34.75	35.96	35.92	34.75	34.08	34.70	34.27	32.80	34.21	34.45	28.74	28.63	29.46	29.60	34.02	
1725	7/26/2019 10:19	30	39.47	37.74	36.79	38.03	36.32	36.58	35.15	36.02	35.93	35.20	34.56	35.28	34.76	33.29	34.71	34.25	28.84	28.93	29.26	29.01	34.51	
1785	7/26/2019 10:20	31	39.87	38.15	37.09	38.37	36.63	36.88	35.36	36.29	36.13	35.74	34.97	35.61	34.96	33.58	35.11	34.55	28.84	28.93	29.46	29.08	34.78	
1845	7/26/2019 10:21	32	40.17	38.66	37.60	38.88	37.13	37.39	35.86	36.80	36.54	36.05	35.37	35.99	35.45	34.07	35.71	35.08	29.04	29.22	29.46	29.24	35.19	
1905	7/26/2019 10:22	33	40.77	39.17	38.10	39.35	37.54	37.80	36.16	37.17	36.95	36.35	35.88	36.39	35.74	34.47	36.10	35.44	29.14	29.32	29.66	29.37	35.54	
1965	7/26/2019 10:23	34	41.17	39.28	38.41	39.62	37.84	38.11	36.67	37.54	37.25	36.45	36.19	36.63	36.23	34.76	36.50	35.83	29.14	29.26	29.76	29.44	35.81	
2025	7/26/2019 10:24	35	41.67	39.79	39.02	40.16	38.25	38.42	36.97	37.88	37.66	36.86	36.70	37.07	36.52	35.26	37.20	36.33	29.24	29.42	29.76	29.47	36.18	
2085	7/26/2019 10:25	36	42.07	40.29	42.47	41.35	41.29	41.59	39.90	40.96	40.91	39.69	40.08	41.33	39.10	38.10	40.89	39.78	30.14	30.40	30.65	30.43	36.83	
2145	7/26/2019 10:26	37	42.56	40.81	40.03	41.07	39.14	39.34	37.78	38.76	38.68	37.73	37.72	38.05	37.30	36.34	38.49	37.38	29.54	29.81	30.66	29.80	37.01	
2205	7/26/2019 10:27	38	43.16	41.23	40.54	41.64	39.46	39.75	38.19	39.13	39.08	38.07	38.33	38.49	37.69	36.83	38.99	37.84	29.74	29.91	30.36	30.00	37.42	
2265	7/26/2019 10:28	39	43.46	41.53	40.94	41.98	39.77	40.05	38.49	39.44	39.29	38.37	38.84	38.83	37.98	37.33	39.39	38.23	29.74	29.91	30.36	30.00	37.42	
2325	7/26/2019 10:29	40	43.96	42.05	41.35	42.45	40.28	40.46	38.79	39.84	39.69	38.58	39.35	39.21	38.28	37.82	39.89	38.66	29.94	30.10	30.46	30.17	38.07	
2385	7/26/2019 10:30	41	44.26	42.25	41.65	42.72	40.38	40.87	39.20	40.15	40.10	38.68	39.86	39.55	38.67	38.31	40.09	39.02	29.94	30.20	30.56	30.23	38.33	
2445	7/26/2019 10:31	42	44.56	42.46	41.96	42.99	40.78	41.08	39.50	40.45	40.41	39.08	40.37	39.95	38.96	38.81	40.59	39.45	30.04	30.20	30.65	30.30	38.63	
2505	7/26/2019 10:32	43	45.15	42.97	42.47	43.59	41.29	41.59	39.90	40.96	40.91	39.69	40.08	41.33	39.10	38.10	40.89	39.78	30.14	30.40	30.65	30.43	39.03	
2565	7/26/2019 10:33	44	45.56	4																				

Lampiran 11. Data riil temperatur PCM variasi *heat flux* 1200 W/m²

No. Data	Tanggal Waktu	Mencet ke	Temperatur riil PCM K8 (°C)			Trata-rata K8	Temperatur riil PCM K6 (°C)			Trata-rata K6	Temperatur riil PCM K7 (°C)			Trata-rata K7	Temperatur riil PCM K8 (°C)			Trata-rata K8	Temperatur riil PCM K12 (°C)			Trata-rata K12	Trata-rata PCM
			T1	T2	T3		T1	T2	T3		T1	T2	T3		T1	T2	T3		T1	T2	T3		
1	7/26/2019 9:50	1	28.51	28.87	28.95	27.44	26.90	26.76	26.87	26.84	27.29	26.33	26.71	26.77	26.75	26.19	26.54	26.49	26.53	26.68	26.57	26.53	26.82
45	7/26/2019 9:51	2	28.91	27.08	26.95	27.64	27.00	26.86	26.87	26.91	27.39	26.33	26.81	26.84	26.75	26.19	26.74	26.56	26.73	26.68	26.67	26.69	26.69
105	7/26/2019 9:52	3	29.61	27.59	27.25	28.15	27.10	26.96	26.97	27.01	27.49	26.43	26.81	26.91	26.85	26.29	26.74	26.63	26.73	26.68	26.67	26.69	27.08
165	7/26/2019 9:53	4	30.00	28.10	27.66	28.59	27.00	27.06	27.17	27.08	27.39	26.43	27.01	26.94	27.04	26.39	26.74	26.72	26.73	26.58	26.77	26.69	27.21
225	7/26/2019 9:54	5	30.40	28.62	28.18	29.06	27.61	27.58	27.57	27.59	27.80	26.94	27.22	27.32	27.44	26.58	27.04	27.02	26.93	26.78	26.97	26.89	27.58
285	7/26/2019 9:55	6	30.70	28.82	28.37	29.30	27.91	27.88	27.88	27.89	28.10	27.14	27.52	27.59	27.73	26.78	27.44	27.32	26.83	26.78	26.87	26.83	27.78
345	7/26/2019 9:56	7	31.10	29.13	28.77	29.67	28.22	28.19	28.08	28.16	28.41	27.44	27.83	27.89	27.97	27.08	27.74	27.58	26.93	26.78	26.97	26.86	28.08
405	7/26/2019 9:57	8	31.50	29.74	29.18	30.14	28.52	28.60	28.38	28.50	28.81	27.85	28.34	28.33	28.22	27.47	28.23	27.97	27.13	26.98	27.16	27.09	28.41
465	7/26/2019 9:58	9	31.90	30.05	29.48	30.48	28.83	29.11	28.79	28.91	29.12	28.15	28.54	28.60	28.61	27.77	28.53	28.30	27.13	27.07	27.16	27.12	28.68
525	7/26/2019 9:59	10	32.20	30.46	29.79	30.82	29.23	29.31	29.09	29.21	29.42	28.35	28.85	28.88	28.90	27.96	28.83	28.57	27.13	27.07	27.26	27.16	28.92
585	7/26/2019 10:00	11	32.40	30.67	29.99	31.02	29.43	29.55	29.19	29.18	29.63	28.56	29.15	29.11	29.00	28.26	29.03	28.36	27.13	27.17	27.36	27.22	29.10
645	7/26/2019 10:01	12	32.69	30.87	30.29	31.29	29.94	29.93	29.49	29.79	29.83	28.76	29.36	29.32	29.29	28.46	29.33	29.03	27.23	27.17	27.26	27.22	29.33
705	7/26/2019 10:02	13	32.99	31.28	30.50	31.59	30.24	30.23	29.70	30.06	30.24	29.06	29.56	29.62	29.49	28.65	29.43	29.19	27.23	27.17	27.36	27.26	29.54
765	7/26/2019 10:03	14	33.29	31.59	30.80	31.89	30.45	30.54	29.90	30.30	30.44	29.26	29.87	29.86	29.68	28.95	29.73	29.45	27.23	27.37	27.46	27.36	29.77
825	7/26/2019 10:04	15	33.69	32.10	31.11	32.30	30.85	30.95	30.10	30.63	30.75	29.57	30.17	30.16	29.88	29.15	30.03	30.68	27.43	27.37	27.66	27.49	30.05
885	7/26/2019 10:05	16	33.99	32.41	31.41	32.60	31.16	31.26	30.30	30.91	30.95	29.77	30.17	30.30	30.07	29.24	30.23	30.85	27.43	27.56	27.66	27.65	30.24
945	7/26/2019 10:06	17	34.49	32.92	31.82	33.08	31.46	31.56	30.82	31.28	31.46	30.07	30.48	30.67	30.56	29.54	30.53	30.27	27.53	27.66	27.76	27.65	30.68
1005	7/26/2019 10:07	18	34.59	33.13	32.02	33.24	31.76	31.87	30.91	31.51	31.56	30.28	30.68	30.84	30.66	29.74	30.63	30.34	27.53	27.56	27.76	27.62	30.71
1065	7/26/2019 10:08	19	34.99	33.43	32.32	33.58	32.17	32.28	31.21	31.89	31.97	30.68	30.99	31.21	30.95	29.93	30.82	30.57	27.53	27.66	27.86	27.69	30.99
1125	7/26/2019 10:09	20	35.39	33.84	32.73	33.99	32.68	32.79	31.52	32.33	32.37	31.09	31.19	31.55	31.24	30.13	31.12	30.83	27.74	27.86	28.16	27.92	31.32
1185	7/26/2019 10:10	21	35.68	34.15	32.99	34.26	32.78	33.00	31.72	32.50	32.68	31.29	31.50	31.82	31.44	30.43	31.42	31.10	27.74	27.88	28.26	27.95	31.52
1245	7/26/2019 10:11	22	36.28	34.56	33.54	34.79	33.28	34.56	34.79	33.28	34.79	33.28	31.89	31.89	31.89	31.89	31.89	31.89	27.94	28.81	28.81	28.43	31.84
1305	7/26/2019 10:12	23	36.58	35.07	33.95	35.20	33.79	33.81	32.53	33.38	33.39	32.40	32.01	32.60	32.22	30.92	31.92	31.69	27.94	28.15	28.36	28.15	32.20
1365	7/26/2019 10:13	24	36.88	35.28	34.15	35.44	33.99	34.12	32.83	33.65	33.69	32.81	32.21	32.90	32.51	31.02	32.12	31.88	28.04	28.15	28.46	28.22	32.42
1425	7/26/2019 10:14	25	37.48	35.89	34.66	36.01	34.40	34.73	33.33	34.16	34.10	33.21	32.72	33.35	33.00	31.51	32.72	32.41	28.24	28.34	28.66	28.41	32.87
1485	7/26/2019 10:15	26	37.88	36.30	34.96	36.38	34.80	35.04	33.64	34.49	34.41	33.62	33.03	33.68	33.30	31.81	33.02	32.71	28.24	28.34	28.76	28.45	33.14
1545	7/26/2019 10:16	27	38.68	36.91	35.56	36.58	35.11	35.35	33.84	34.77	34.71	33.69	33.23	33.85	33.49	32.10	33.22	32.90	28.24	28.34	29.18	28.43	33.34
1605	7/26/2019 10:17	28	38.68	36.92	35.77	37.12	35.41	35.65	34.24	35.10	35.02	34.22	33.64	34.29	33.88	32.40	33.71	33.33	28.44	28.44	28.96	28.68	33.71
1665	7/26/2019 10:18	29	39.07	37.33	36.28	37.56	35.92	36.06	34.75	35.58	35.42	34.73	34.05	34.73	34.37	32.89	34.21	33.82	28.74	28.63	29.16	28.91	34.12
1725	7/26/2019 10:19	30	39.47	37.84	36.79	38.03	36.32	36.58	35.15	36.02	35.93	35.24	34.56	35.24	34.84	33.29	34.71	34.25	28.84	28.93	29.26	29.01	34.51
1785	7/26/2019 10:20	31	39.87	38.15	37.09	38.37	36.63	36.88	35.36	36.29	36.13	35.74	34.97	35.61	34.96	33.58	35.11	34.55	28.84	28.93	29.46	29.08	34.78
1845	7/26/2019 10:21	32	40.37	38.66	37.60	38.88	37.13	37.39	35.88	36.80	36.54	36.05	35.37	35.99	35.45	34.07	35.71	35.08	29.04	29.23	29.46	29.24	35.39
1905	7/26/2019 10:22	33	40.77	39.17	38.10	39.35	37.54	37.80	36.16	37.17	36.95	36.35	35.88	36.39	35.74	34.47	36.10	35.44	29.14	29.32	29.66	29.37	35.54
1965	7/26/2019 10:23	34	41.17	39.28	38.41	39.62	37.84	38.11	36.67	37.54	37.25	36.45	36.19	36.63	36.23	34.76	36.50	35.83	29.14	29.42	29.76	29.44	35.81
2025	7/26/2019 10:24	35	41.67	39.79	39.02	40.16	38.25	38.42	36.97	37.88	37.66	36.86	36.70	37.07	36.52	35.26	37.20	36.33	29.24	29.42	29.76	29.47	36.18
2085	7/26/2019 10:25	36	41.96	40.10	39.52	40.53	38.55	38.93	37.28	38.25	38.07	37.36	37.01	37.48	36.81	35.65	37.80	36.75	29.34	29.52	29.96	29.60	36.52
2145	7/26/2019 10:26	37	42.56	40.61	40.03	41.07	39.16	39.34	37.78	38.76	38.68	37.77	37.72	38.05	37.20	36.54	38.49	37.28	29.54	29.81	30.06	29.80	37.01
2205	7/26/2019 10:27	38	43.16	41.23	40.54	41.64	39.46	39.75	38.18	39.13	39.08	38.07	38.21	38.49	37.69	36.83	38.99	37.84	29.74	29.81	30.36	30.09	37.42
2265	7/26/2019 10:28	39	43.46	41.53	40.94	41.98	39.77	40.05	38.49	39.44	39.29	38.77	38.84	38.83	37.98	37.33	39.39	38.23	29.74	29.91	30.36	30.00	37.70
2325	7/26/2019 10:29	40	43.96	42.05	41.35	42.45	40.28	40.46	38.79	39.84	39.69	38.58	39.35	39.21	38.28	37.82	39.89	38.66	29.94	30.10	30.46	30.17	38.07
2385	7/26/2019 10:30	41	44.26	42.25	41.65	42.72	40.38	40.87	39.20	40.15	40.10	38.88	39.86	39.55	38.67	38.31	40.09	39.02	29.94	30.20	30.56	30.23	38.33
2445	7/26/2019 10:31	42	44.56	42.46	41.96	42.99	40.78	41.08	39.50	40.45	40.41	39.08	40.37	39.95	38.96	38.81	40.59	39.45	30.40	30.20	30.65	30.30	38.63
2505	7/26/2019 10:32	43	45.15	42.97	42.47	43.53	41.39	41.59	39.90	40.96	40.91	39.69	40.68	40.43	39.35	39.10	40.89	39.78	30.14	30.40	30.75	30.43	39.03
2565	7/26/2019 10:33	44	45.35	43.38	42.77	43.83	41.49	41.69	40.21	41.13	41.22	40.20	41.19	40.87	39.65	39.69	41.28	40.21	30.34	30.59	30.95	30.63	39.33
2625	7/26/2019 10:34	45	45.65	43.69	43.07	44.14	42.00	42.10	40.41	41.50	41.63	40.70	41.49	41.27	39.84	40.09	41.58	40.50	30.44	30.69	31.05	30.73	39.63
2685	7/26/2019 10:35	46	46.05	43.99	43.48	44.51	42.40	42.51	40.81	41.91	42.03	40.90	41.80	41.58	40.23	40.38	41.88	40.83	30.54	30.69	31.15	30.79	39.92
2745	7/26/2019 10:36	47	46.35	44.40	43.89	44.88	42.71	42.81	41.12	42.21	42.44	41.51	42.21	42.05	40.52	40.78	42.18	41.16	30.54	30.98	31.35	30.96	40.25
2805	7/26/2019 10:37	48	46.75	44.81	44.19	45.25	42.91	43.22	41.42	42.52	42.74	41											