LAMPIRAN

Lampiran A

Spesifikasi Sampel Batuan Uji

(Nama, Jenis dan Tebal Sampel Batuan Uji)

Nama Sampel Batuan

No	Sampel	Nama Batuan	Jenis Batuan
1	Sampel 1	Andesit Profirit	Batuan Beku
2	Sampel 2	Old Skorit	Batuan Beku
3	Sampel 3	Breksi Vulkanik	Batuan Beku
4	Sampel 4	Diorit	Batuan Beku
5	Sampel 5	Diorit Piroksit	Batuan Beku
6	Sampel 6	Granidiorit	Batuan Beku
7	Sampel 7	Gabbro	Batuan Beku
8	Sampel 8	Skoria	Batuan Beku
9	Sampel 9	Skoria Karbon	Batuan Beku
10	Sampel 10	Batu Karbonat	Batuan Sedimen
11	Sampel 11	Batu Kapur *(Limestone)*	Batuan Sedimen
12	Sampel 12	Karang *(Coral Rocks)*	Batuan Sedimen
13	Sampel 13	Lanau *(Mudstone)*	Batuan Sedimen
14	Sampel 14	Lempung *(Clayskale)*	Batuan Sedimen
15	Sampel 15	Lempung Merah	Batuan Sedimen
16	Sampel 16	Lempung Tufan	Batuan Sedimen
17	Sampel 17	Batu Pasir *(Sandstone)*	Batuan Sedimen
18	Sampel 18	Chalk	Batuan Sedimen
19	Sampel 19	Pasir Kuning	Batuan Sedimen
20	Sampel 20	Pasir Merah	Batuan Sedimen
21	Sampel 21	Pasir Tufan	Batuan Sedimen
22	Sampel 22	Berea Lanau	Batuan Sedimen
23	Sampel 23	Berea Pasir	Batuan Sedimen
24	Sampel 24	Geolite	Batuan Sedimen
25	Sampel 25	Konglomerat	Batuan Sedimen
26	Sampel 26	Napal	Batuan Sedimen
27	Sampel 27	Napal Merah	Batuan Sedimen
28	Sampel 28	Pookstone	Batuan Sedimen
29	Sampel 29	Shalesand	Batuan Sedimen
30	Sampel 30	Silika	Batuan Sediemn
31	Sampel 31	Silika Merah	Batuan Sedimen
32	Sampel 32	Trass	Batuan Sedimen
33	Sampel 33	Tuff	Batuan Sedimen
34	Sampel 34	Tuff Kuning	Batuan Sedimen
35	Sampel 35	Gneiss	Batuan Metamorf
36	Sampel 36	Kwarsit	Batuan Metamorf
37	Sampel 37	Kwarsit Karbonat	Batuan Metamorf
38	Sampel 38	Marmer	Batuan Metamorf
39	Sampel 39	Skis Mika	Batuan Metamorf
40	Sampel 40	Slate	Batuan Metamorf

Tebal Sampel Batuan Uji

No	No. Sampel	Pengukuran Tebal (cm)				Tebal Rata-rata (cm)
		Peng. I	Peng. II	Peng. III	Peng. IV	
1	Sampel 1	3,03	3,11	3,06	3,01	3,05
2	Sampel 2	5,85	5,91	5,82	5,83	5,85
3	Sampel 3	5,22	4,96	4,68	5,01	4,97
4	Sampel 4	3,01	5,98	5,96	5,98	5,23
5	Sampel 5	6,01	5,96	6,02	6,03	6,00
6	Sampel 6	2,81	2,81	2,82	2,82	2,81
7	Sampel 7	2,01	2,02	2,02	1,96	2,00
8	Sampel 8	5,85	5,91	5,82	5,83	5,85
9	Sampel 9	6,21	6,02	6,08	5,96	6,07
10	Sampel 10	3,05	3,06	3,05	3,05	3,05
11	Sampel 11	5,71	5,83	5,78	5,84	5,79
12	Sampel 12	6,02	6,09	6,03	6,02	6,04
13	Sampel 13	5,85	5,82	5,84	5,83	5,83
14	Sampel 14	5,97	5,88	5,91	5,86	5,90
15	Sampel 15	5,75	5,76	5,73	5,75	5,75
16	Sampel 16	5,82	5,82	5,79	5,82	5,81
17	Sampel 17	5,98	5,96	5,98	5,96	5,97
18	Sampel 18	6,04	6,09	6,09	6,10	6,08
19	Sampel 19	6,13	6,05	6,08	6,03	6,07
20	Sampel 20	3,02	3,32	3,26	3,28	3,22
21	Sampel 21	5,83	5,84	5,86	5,84	5,84
22	Sampel 22	5,84	5,86	5,90	5,91	5,87
23	Sampel 23	6,17	6,11	6,14	6,15	6,14
24	Sampel 24	5,92	5,96	5,93	5,95	5,94
25	Sampel 25	4,72	4,56	4,61	4,58	4,74
26	Sampel 26	3,34	3,48	3,45	3,46	3,43
27	Sampel 27	5,56	5,52	5,68	5,61	5,59
28	Sampel 28	6,16	6,02	6,12	6,17	6,11
29	Sampel 29	5,93	5,86	5,92	5,91	5,90
30	Sampel 30	1,88	1,89	1,86	2,01	1,91
31	Sampel 31	2,11	2,12	2,11	2,06	2,10
32	Sampel 32	1,90	1,79	1,79	1,81	1,82
33	Sampel 33	6,09	6,12	6,14	5,97	6,08
34	Sampel 34	5,98	5,99	5,99	5,99	5,99
35	Sampel 35	2,02	2,01	1,99	1,99	2,00
36	Sampel 36	2,23	2,28	2,42	2,29	2,31
37	Sampel 37	4,97	4,86	4,89	4,26	4,74
38	Sampel 38	2,02	2,01	2,00	2,02	2,01
39	Sampel 39	2,65	2,42	2,32	2,58	2,49
40	Sampel 40	2,01	2,06	2,04	2,02	2,03

Lampiran B

Data Hasil Pengukuran Temperatur T_C, T_2 , T_1, dan T_H

Beserta Rata-ratanya

Sampel 1

Andesit Profirit

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	9	22	60	74
12	9	21	61	74
13	9	21	60	74
14	10	22	61	74
15	10	21	60	73
16	10	21	60	74
17	11	21	60	74
18	10	21	60	74
19	11	22	61	74
20	11	22	61	74
21	10	22	60	75
22	10	22	60	75
23	10	21	59	74
24	10	22	59	75
25	11	21	59	74
26	11	21	60	75
27	11	21	60	75
28	11	22	60	74
29	10	21	61	74
30	10	21	60	75
31	8	21	60	74
32	9	21	59	74
33	9	21	60	74
34	9	22	60	74
35	9	22	59	74
36	9	21	59	73
37	9	21	60	73
38	9	21	61	74
39	10	21	60	74
40	10	21	61	74

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{295}{30} = 9{,}83$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{640}{30} = 21{,}33$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1801}{30} = 60{,}03$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2223}{30} = 74{,}10$

Sampel 2

Old Skorit

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	18	63	74
12	9	19	63	74
13	9	18	64	74
14	9	18	64	74
15	10	18	63	74
16	10	17	64	74
17	10	17	64	74
18	10	17	63	74
19	11	18	63	75
20	11	18	63	75
21	10	18	64	75
22	11	19	64	75
23	10	18	64	74
24	11	19	64	75
25	11	18	64	75
26	10	19	64	75
27	11	19	64	75
28	11	19	65	74
29	9	19	64	75
30	9	19	65	75
31	9	19	64	75
32	9	18	64	75
33	9	18	64	74
34	10	18	64	74
35	10	19	64	75
36	10	19	64	74
37	10	19	63	74
38	10	19	64	74
39	10	18	64	75
40	11	19	64	74

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{300}{30} = 10{,}00$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{551}{30} = 18{,}37$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1915}{30} = 63{,}83$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2234}{30} = 74{,}47$

Sampel 3

Breksi Vulkanik

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	18	64	73
12	10	18	64	73
13	9	19	64	74
14	10	18	65	74
15	10	18	65	73
16	10	18	65	73
17	10	18	64	74
18	10	19	64	74
19	11	18	63	74
20	11	19	64	74
21	11	18	64	73
22	11	19	65	73
23	11	19	64	74
24	11	19	65	74
25	11	19	64	73
26	11	19	64	74
27	10	19	64	74
28	10	19	65	74
29	9	18	65	74
30	9	18	65	73
31	9	18	65	73
32	9	18	65	73
33	9	18	64	74
34	9	18	64	74
35	10	18	64	73
36	10	18	64	72
37	10	18	64	73
38	10	18	65	73
39	10	19	65	74
40	10	19	64	74

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{301}{30} = 10{,}03$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{552}{30} = 18{,}40$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1931}{30} = 64{,}37$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2205}{30} = 73{,}50$

Sampel 4

Diorit

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	18	66	73
12	10	18	66	74
13	9	18	66	73
14	10	18	66	74
15	10	17	66	74
16	10	17	65	74
17	11	17	65	74
18	10	17	65	74
19	11	17	66	74
20	11	16	66	74
21	10	17	66	75
22	10	17	66	75
23	10	17	66	74
24	10	17	65	75
25	11	17	65	74
26	11	17	66	74
27	11	17	66	74
28	11	17	66	74
29	11	17	65	74
30	11	18	65	74
31	11	18	66	74
32	11	18	66	74
33	11	18	66	74
34	12	18	66	74
35	12	18	66	74
36	12	17	66	75
37	12	18	65	75
38	11	18	65	74
39	10	17	66	74
40	10	17	65	74

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{320}{30} = 10{,}67$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{521}{30} = 17{,}37$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1970}{30} = 65{,}67$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2223}{30} = 74{,}10$

Sampel 5

Diorit Piroksit

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	19	65	75
12	10	19	65	76
13	9	19	65	76
14	9	18	64	76
15	9	18	64	76
16	9	18	65	75
17	10	17	65	75
18	10	18	65	76
19	10	18	64	76
20	10	18	64	76
21	10	18	64	75
22	10	18	65	75
23	10	18	65	75
24	10	18	65	75
25	11	18	64	75
26	10	18	64	76
27	10	18	64	76
28	11	19	65	76
29	11	19	65	76
30	11	19	65	76
31	9	19	65	76
32	9	18	65	75
33	9	18	65	75
34	10	18	65	76
35	10	18	65	76
36	10	19	64	75
37	10	19	64	75
38	10	19	65	76
39	11	19	64	76
40	11	19	64	75

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{299}{30} = 9{,}97$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{551}{30} = 18{,}37$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1938}{30} = 64{,}60$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2267}{30} = 75{,}57$

Sampel 6

Granidiorit

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	25	56	73
12	10	25	56	73
13	10	25	56	74
14	10	26	56	74
15	10	26	55	74
16	10	26	55	73
17	9	25	56	73
18	10	25	55	73
19	9	26	55	73
20	10	26	56	73
21	10	25	56	73
22	10	25	56	74
23	10	26	57	74
24	10	26	56	73
25	11	26	56	74
26	11	27	56	73
27	11	27	56	74
28	11	27	56	74
29	11	28	55	74
30	11	27	55	73
31	11	27	55	73
32	11	26	55	73
33	11	26	56	73
34	10	26	56	73
35	10	26	55	73
36	9	25	55	72
37	9	25	55	73
38	9	26	56	73
39	9	26	55	74
40	9	26	56	74

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{302}{30} = 10{,}07$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{778}{30} = 25{,}93$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1669}{30} = 55{,}63$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2200}{30} = 73{,}33$

Sampel 7

Gabbro

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	24	54	74
12	10	24	53	74
13	10	24	53	73
14	10	24	54	73
15	10	24	54	73
16	10	24	54	73
17	9	24	55	72
18	9	23	54	73
19	9	23	54	73
20	10	23	55	74
21	9	23	55	74
22	10	23	55	73
23	10	24	55	73
24	10	24	55	74
25	11	24	55	73
26	11	24	55	73
27	10	25	54	73
28	10	25	55	73
29	11	24	55	73
30	10	24	55	74
31	11	25	55	74
32	10	25	54	74
33	10	24	54	73
34	9	24	54	73
35	9	24	54	73
36	9	23	55	73
37	9	24	54	73
38	9	24	54	73
39	10	23	53	74
40	10	24	54	73

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{295}{30} = 9{,}83$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{717}{30} = 23{,}90$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1630}{30} = 54{,}33$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2198}{30} = 73{,}27$

Sampel 8

Skoria

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	18	67	74
12	9	18	66	73
13	9	18	67	74
14	9	17	66	74
15	10	17	66	75
16	10	17	66	75
17	10	18	67	74
18	10	17	67	74
19	10	18	67	74
20	10	18	66	74
21	10	18	66	75
22	10	18	66	75
23	10	19	66	74
24	10	18	66	75
25	11	19	66	74
26	11	18	66	74
27	11	18	67	74
28	11	18	67	73
29	11	18	66	73
30	10	18	67	74
31	10	17	67	74
32	10	17	67	74
33	10	17	68	75
34	10	17	68	74
35	10	17	67	74
36	11	17	67	74
37	11	17	66	74
38	11	17	66	73
39	11	17	66	74
40	11	17	66	74

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{302}{30} = 10{,}23$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{528}{30} = 17{,}60$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1996}{30} = 65{,}53$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2222}{30} = 74{,}07$

Sampel 9

Skoria Karbon

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	18	65	72
12	10	18	65	73
13	10	19	66	73
14	9	18	66	72
15	9	18	66	73
16	9	18	65	72
17	9	18	65	72
18	10	17	65	72
19	10	18	65	73
20	10	18	65	72
21	10	17	66	73
22	10	18	66	73
23	11	18	65	72
24	11	19	65	72
25	11	18	65	73
26	11	19	66	73
27	11	19	65	72
28	11	18	66	73
29	11	18	66	73
30	11	18	65	73
31	11	18	66	73
32	11	18	65	73
33	11	18	65	73
34	11	17	65	73
35	11	17	65	73
36	10	17	65	72
37	10	17	65	72
38	10	18	65	72
39	10	17	66	73
40	10	17	65	72

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{309}{30} = 10{,}30$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{536}{30} = 17{,}87$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1960}{30} = 65{,}33$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2177}{30} = 72{,}57$

Sampel 10

Batu Karbonat

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	27	55	74
12	9	27	55	73
13	9	27	54	73
14	9	28	54	74
15	10	27	55	73
16	10	26	55	73
17	10	26	54	73
18	10	26	54	73
19	11	26	54	72
20	11	27	53	73
21	10	27	54	73
22	10	27	54	73
23	11	26	54	73
24	11	26	55	73
25	11	26	56	73
26	11	26	55	73
27	11	26	55	73
28	11	27	55	73
29	11	27	55	73
30	11	28	54	73
31	10	27	55	72
32	10	28	55	72
33	9	27	55	73
34	9	27	54	73
35	9	27	55	73
36	9	28	54	74
37	9	28	54	73
38	9	27	54	73
39	10	27	55	73
40	10	28	54	73

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{301}{30} = 10{,}03$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{649}{30} = 21{,}63$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1811}{30} = 60{,}37$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2228}{30} = 74{,}27$

Sampel 11

Batu Kapur (Limestone)

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	18	65	74
12	10	18	65	74
13	9	19	65	74
14	10	19	66	74
15	9	18	65	74
16	9	18	65	73
17	9	18	65	74
18	10	18	64	74
19	10	18	65	74
20	10	18	65	74
21	10	18	66	75
22	10	19	65	74
23	11	19	65	74
24	10	18	65	74
25	11	18	65	73
26	11	18	64	73
27	11	18	64	74
28	11	19	65	74
29	11	19	64	75
30	11	19	65	74
31	11	18	64	74
32	11	18	65	74
33	11	18	65	74
34	10	17	65	75
35	10	18	65	74
36	9	18	65	74
37	9	18	65	74
38	9	18	65	73
39	9	19	65	74
40	9	18	65	74

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{301}{30} = 10{,}03$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{547}{30} = 18{,}23$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1947}{30} = 64{,}90$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2219}{30} = 73{,}97$

Sampel 12

Karang (Coral Rocks)

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	9	18	65	72
12	9	18	65	73
13	9	19	64	72
14	9	18	64	72
15	9	18	64	71
16	9	18	64	72
17	10	18	64	72
18	9	18	65	73
19	10	18	65	72
20	10	19	64	72
21	10	19	64	72
22	10	19	64	72
23	10	19	64	72
24	11	19	64	73
25	10	18	64	72
26	11	18	65	72
27	9	18	65	71
28	9	18	65	72
29	9	18	64	72
30	9	18	65	72
31	9	18	64	73
32	9	18	65	73
33	10	18	65	73
34	10	18	64	72
35	10	18	64	72
36	10	18	65	72
37	10	19	64	72
38	10	19	64	72
39	10	18	64	72
40	10	18	65	71

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{289}{30} = 9{,}63$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{548}{30} = 18{,}27$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1932}{30} = 64{,}40$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2163}{30} = 72{,}10$

Sampel 13

Lanau (Mudstone)

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	8	17	65	74
12	8	17	65	74
13	8	18	65	74
14	8	18	66	74
15	9	18	65	75
16	9	18	65	75
17	9	17	65	74
18	9	17	65	74
19	9	18	65	74
20	9	18	64	74
21	10	18	64	75
22	10	18	64	75
23	10	18	65	74
24	10	18	65	75
25	10	18	65	74
26	10	18	65	75
27	10	18	65	75
28	10	18	64	75
29	9	18	64	75
30	9	18	65	75
31	9	17	64	75
32	9	17	65	75
33	9	17	65	75
34	9	17	65	74
35	10	17	65	74
36	10	17	64	74
37	10	18	65	74
38	10	18	65	74
39	10	18	65	74
40	10	18	64	74

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{280}{30} = 9{,}33$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{530}{30} = 17{,}67$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1943}{30} = 64{,}77$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2233}{30} = 74{,}43$

Sampel 14

Lempung (Clay Skale)

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	18	64	73
12	10	18	64	73
13	9	19	64	74
14	10	18	65	74
15	10	18	65	73
16	10	18	65	73
17	10	18	64	74
18	10	19	64	74
19	11	18	63	74
20	11	19	64	74
21	11	18	64	73
22	11	19	65	73
23	11	19	64	74
24	11	19	65	74
25	11	19	64	73
26	11	19	64	74
27	10	19	64	74
28	10	19	65	74
29	9	18	65	74
30	9	18	65	73
31	9	18	65	73
32	9	18	65	73
33	9	18	64	74
34	9	18	64	74
35	10	18	64	73
36	10	18	64	72
37	10	18	64	73
38	10	18	65	73
39	10	19	65	74
40	10	19	64	74

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{301}{30} = 10{,}03$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{552}{30} = 18{,}40$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1931}{30} = 64{,}37$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2205}{30} = 73{,}50$

Sampel 15

Lempung Merah

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	17	65	74
12	10	17	65	75
13	9	18	66	75
14	9	18	66	74
15	9	17	66	74
16	9	18	65	74
17	10	17	65	74
18	9	17	65	74
19	10	17	66	74
20	10	17	66	74
21	10	17	66	75
22	10	17	66	75
23	10	17	66	74
24	10	17	65	75
25	11	17	65	74
26	11	18	65	74
27	11	18	65	74
28	11	18	65	74
29	11	18	65	74
30	11	18	65	74
31	11	18	66	74
32	11	17	66	75
33	11	18	66	75
34	12	18	66	74
35	12	18	66	74
36	12	17	66	75
37	12	18	65	75
38	11	18	65	74
39	10	17	65	74
40	10	17	65	74

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{313}{30} = 10{,}43$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{524}{30} = 17{,}47$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1964}{30} = 65{,}47$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2229}{30} = 74{,}30$

Sampel 16

Lempung Tufan

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	19	66	75
12	10	19	66	75
13	9	18	66	75
14	9	19	67	74
15	9	18	66	74
16	9	18	66	74
17	9	17	65	75
18	10	17	65	75
19	10	17	66	75
20	10	17	66	76
21	10	18	64	75
22	10	17	64	75
23	9	18	65	75
24	9	17	65	75
25	10	17	66	74
26	10	18	65	75
27	10	18	66	75
28	10	18	67	75
29	10	18	67	75
30	10	18	67	75
31	11	19	66	75
32	11	19	67	75
33	11	18	67	75
34	11	18	67	75
35	11	19	67	75
36	10	18	66	74
37	10	18	66	74
38	10	18	65	75
39	10	18	66	75
40	10	17	66	75

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{298}{30} = 9{,}93$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{538}{30} = 17{,}93$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1978}{30} = 65{,}93$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2245}{30} = 74{,}83$

Sampel 17

Batu Pasir (Sandstone)

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	18	66	74
12	10	18	65	73
13	10	18	66	73
14	10	19	65	74
15	11	18	66	74
16	11	18	66	74
17	11	18	65	75
18	11	19	65	75
19	11	19	66	74
20	11	19	66	74
21	11	18	65	74
22	10	19	65	74
23	9	18	66	73
24	9	19	65	73
25	9	19	66	74
26	9	18	65	75
27	10	18	66	75
28	10	18	65	74
29	10	18	65	74
30	10	18	65	74
31	11	17	66	74
32	11	17	65	73
33	11	18	66	73
34	11	18	66	74
35	11	19	66	74
36	10	18	65	74
37	10	18	66	74
38	10	19	66	73
39	10	19	66	73
40	10	18	65	73

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{308}{30} = 10{,}27$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{548}{30} = 18{,}27$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1966}{30} = 65{,}53$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2215}{30} = 73{,}83$

Sampel 18

Chalk

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	17	65	74
12	10	17	65	75
13	9	18	65	74
14	9	17	64	74
15	10	18	65	74
16	9	18	65	74
17	10	18	65	75
18	10	17	65	74
19	10	17	65	74
20	10	17	64	74
21	10	18	65	75
22	11	17	65	75
23	11	18	64	75
24	11	17	65	75
25	10	17	64	74
26	10	18	65	75
27	9	18	64	74
28	9	17	65	74
29	9	17	65	74
30	10	18	65	74
31	10	17	65	73
32	10	17	65	74
33	10	18	66	74
34	11	18	65	74
35	11	17	65	73
36	11	18	64	73
37	11	18	64	74
38	11	18	64	74
39	11	17	64	74
40	11	17	65	74

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{304}{30} = 10{,}13$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{524}{30} = 17{,}47$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1942}{30} = 64{,}73$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2224}{30} = 74{,}13$

Sampel 19

Pasir Kuning

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	9	17	65	74
12	9	17	66	75
13	9	18	66	75
14	9	19	65	74
15	9	18	66	74
16	10	18	66	74
17	10	18	65	75
18	10	17	65	75
19	10	17	66	75
20	10	17	66	74
21	10	18	65	75
22	10	17	65	75
23	9	18	64	75
24	9	17	65	75
25	10	17	66	74
26	10	18	65	75
27	10	18	66	75
28	10	18	65	75
29	10	18	65	75
30	10	18	65	74
31	11	17	66	74
32	11	17	65	75
33	11	18	66	75
34	11	18	65	74
35	11	17	65	74
36	10	18	65	74
37	10	18	66	74
38	10	18	65	75
39	10	17	66	75
40	10	17	65	75

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{298}{30} = 9{,}93$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{528}{30} = 17{,}60$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1961}{30} = 65{,}37$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2238}{30} = 74{,}60$

Sampel 20

Pasir Merah

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	9	26	57	73
12	9	26	57	73
13	9	26	56	72
14	10	25	56	72
15	10	25	57	72
16	10	25	56	73
17	10	25	56	73
18	10	26	56	74
19	11	26	57	73
20	11	27	56	73
21	10	26	56	73
22	10	26	57	72
23	10	25	57	73
24	10	25	56	73
25	11	26	56	73
26	11	26	57	73
27	11	26	57	73
28	10	25	56	73
29	10	25	56	73
30	10	25	57	73
31	9	26	56	73
32	9	25	55	72
33	9	25	56	73
34	9	26	56	73
35	10	26	56	73
36	10	26	57	74
37	10	26	56	74
38	10	27	56	73
39	10	26	57	73
40	10	26	56	72

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{298}{30} = 9{,}93$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{771}{30} = 25{,}70$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1690}{30} = 56{,}33$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2187}{30} = 72{,}90$

Sampel 21

Pasir Tufaan

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	9	18	65	75
12	9	18	66	75
13	8	18	66	74
14	8	17	67	75
15	9	18	66	74
16	9	18	66	74
17	9	18	65	75
18	9	18	65	75
19	9	18	66	75
20	9	17	66	75
21	10	18	66	75
22	10	17	66	75
23	10	18	66	74
24	10	17	65	74
25	10	17	66	75
26	10	18	65	75
27	10	17	66	75
28	10	18	65	74
29	11	18	65	74
30	11	18	65	74
31	11	17	66	74
32	11	17	65	75
33	11	18	66	75
34	10	18	66	74
35	10	19	66	74
36	9	18	66	75
37	9	18	66	74
38	9	17	65	75
39	8	17	66	75
40	9	17	65	75

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{287}{30} = 9{,}57$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{530}{30} = 17{,}67$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1970}{30} = 65{,}67$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2238}{30} = 74{,}60$

Sampel 22

Berea Lanau

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	9	18	65	74
12	10	18	66	75
13	10	18	66	74
14	10	19	65	74
15	10	18	65	75
16	10	18	66	75
17	10	19	66	74
18	11	18	65	74
19	11	18	65	75
20	11	18	66	74
21	10	18	65	75
22	10	18	65	75
23	11	19	66	74
24	11	18	66	75
25	11	19	66	74
26	11	18	66	74
27	11	18	66	75
28	11	19	65	75
29	10	19	66	74
30	10	18	66	74
31	10	18	66	74
32	9	18	65	75
33	9	18	65	75
34	9	17	65	74
35	9	17	65	75
36	10	18	66	74
37	10	18	66	74
38	10	18	65	74
39	10	18	65	74
40	10	18	65	74

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{304}{30} = 10{,}13$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{544}{30} = 18{,}13$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{19{,}65}{30} = 65{,}50$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2232}{30} = 74{,}40$

Sampel 23

Berea Pasir

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	18	67	74
12	10	18	66	73
13	10	18	66	74
14	10	19	65	74
15	10	19	65	75
16	11	18	66	75
17	11	18	66	74
18	11	19	67	74
19	11	18	67	74
20	11	18	66	74
21	10	18	66	75
22	10	18	66	75
23	10	19	66	74
24	10	18	66	75
25	11	19	66	74
26	11	18	66	74
27	11	18	66	74
28	11	19	65	73
29	11	19	66	73
30	10	18	66	74
31	10	18	66	74
32	10	18	66	74
33	10	18	67	75
34	10	18	67	74
35	10	18	66	74
36	11	18	66	74
37	11	19	66	74
38	11	19	65	73
39	11	19	65	74
40	11	19	65	74

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{313}{30} = 10{,}50$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{551}{30} = 18{,}37$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1979}{30} = 65{,}97$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2222}{30} = 74{,}07$

Sampel 24

Geolite

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	17	64	73
12	10	16	64	73
13	10	16	64	74
14	10	17	64	73
15	10	17	65	74
16	11	17	65	73
17	11	17	64	74
18	11	17	64	74
19	11	16	65	73
20	11	16	64	73
21	11	16	64	73
22	11	17	63	74
23	11	17	64	74
24	12	17	64	73
25	12	17	65	73
26	12	16	65	74
27	12	17	64	74
28	12	16	64	74
29	11	16	64	74
30	11	17	63	73
31	10	17	63	73
32	10	17	64	73
33	10	17	64	72
34	10	16	64	73
35	10	16	64	73
36	10	16	64	74
37	11	17	64	74
38	11	17	63	73
39	11	17	64	73
40	11	17	64	74

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{324}{30} = 10{,}80$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{499}{30} = 16{,}63$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1921}{30} = 64{,}03$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2202}{30} = 73{,}40$

Sampel 25

Konglomerat

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	22	60	73
12	10	22	60	74
13	10	22	59	73
14	10	21	59	73
15	10	21	60	72
16	10	22	60	73
17	9	22	60	72
18	9	21	60	73
19	9	21	60	73
20	9	21	61	73
21	10	21	61	73
22	10	21	60	73
23	10	21	60	73
24	10	21	60	73
25	10	21	60	74
26	10	22	60	73
27	10	22	60	73
28	9	23	60	73
29	9	22	60	73
30	9	22	60	73
31	9	21	59	73
32	9	21	59	72
33	9	21	59	73
34	10	21	59	73
35	10	22	59	73
36	10	22	60	73
37	10	22	60	74
38	10	22	60	74
39	10	22	59	73
40	10	22	60	73

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{290}{30} = 9{,}67$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{647}{30} = 21{,}57$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1794}{30} = 59{,}80$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2191}{30} = 73{,}03$

Sampel 26

Batu Napal

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	27	56	73
12	10	27	56	73
13	9	26	56	72
14	10	27	56	72
15	9	27	55	72
16	10	27	56	73
17	10	26	56	73
18	10	26	56	74
19	10	26	57	73
20	11	26	56	73
21	10	26	56	73
22	10	26	57	72
23	10	27	57	73
24	10	27	56	73
25	11	26	56	73
26	11	27	57	73
27	11	26	57	73
28	11	27	56	73
29	11	26	56	73
30	11	26	57	73
31	11	26	56	73
32	10	27	55	72
33	10	27	56	73
34	9	26	56	73
35	9	26	56	73
36	9	25	57	74
37	9	26	56	74
38	10	25	56	73
39	10	26	57	73
40	10	26	56	72

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{302}{30} = 10{,}07$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{789}{30} = 26{,}30$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1686}{30} = 56{,}20$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2187}{30} = 72{,}90$

Sampel 27

Napal Merah

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	9	18	65	72
12	9	18	65	73
13	10	19	64	73
14	9	18	64	74
15	9	18	64	73
16	10	18	65	72
17	10	18	65	72
18	10	18	64	73
19	10	18	65	73
20	10	18	65	74
21	10	18	66	73
22	10	18	65	73
23	11	18	65	72
24	11	19	65	72
25	11	18	65	73
26	11	19	66	73
27	11	19	65	72
28	11	18	66	73
29	11	18	66	73
30	12	18	65	73
31	12	18	66	73
32	12	18	65	73
33	12	19	65	74
34	11	19	64	74
35	11	19	64	73
36	10	19	64	73
37	10	18	65	72
38	10	18	65	72
39	10	17	64	73
40	10	18	65	73

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{313}{30} = 10{,}43$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{547}{30} = 18{,}23$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1947}{30} = 64{,}90$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2186}{30} = 72{,}87$

Sampel 28

Pookstone

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	18	64	74
12	10	19	65	73
13	9	19	65	73
14	9	18	64	74
15	9	18	65	74
16	9	18	65	73
17	9	19	65	74
18	10	19	64	74
19	10	19	65	74
20	10	18	65	74
21	10	18	64	75
22	10	19	65	74
23	11	19	65	74
24	11	18	65	74
25	11	18	65	73
26	11	18	64	73
27	10	18	64	74
28	10	19	65	73
29	10	19	64	73
30	10	19	65	74
31	11	19	64	74
32	11	19	65	73
33	11	18	65	73
34	10	19	65	73
35	10	18	65	74
36	9	18	64	74
37	9	19	64	74
38	9	18	64	73
39	9	18	65	74
40	9	18	65	73

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{297}{30} = 7{,}90$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{554}{30} = 18{,}47$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1939}{30} = 64{,}63$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2209}{30} = 73{,}63$

Sampel 29

Shalesand

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	9	19	65	73
12	10	19	65	73
13	9	19	65	72
14	9	18	65	72
15	9	18	64	73
16	9	19	64	72
17	10	19	64	72
18	9	18	65	73
19	10	18	65	72
20	10	19	64	72
21	10	19	64	72
22	10	19	64	72
23	10	19	64	72
24	11	19	64	73
25	11	18	64	72
26	11	18	65	73
27	10	18	65	73
28	9	18	65	73
29	9	18	64	72
30	9	18	64	72
31	9	17	64	73
32	9	18	65	73
33	10	18	65	73
34	10	18	64	72
35	10	18	64	72
36	10	19	65	72
37	10	19	64	72
38	10	19	64	73
39	10	18	65	73
40	11	18	65	73

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{293}{30} = 9{,}77$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{552}{30} = 18{,}40$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1934}{30} = 64{,}47$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2174}{30} = 72{,}47$

Sampel 30

Batu Silika

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	27	59	74
12	9	26	58	75
13	9	27	58	74
14	9	27	59	74
15	10	26	60	74
16	10	26	60	73
17	10	26	59	74
18	10	27	60	73
19	11	27	60	73
20	11	26	60	74
21	10	26	59	75
22	11	25	59	74
23	11	26	60	74
24	11	25	60	74
25	11	26	60	74
26	10	26	59	73
27	10	27	60	74
28	9	26	59	73
29	9	26	59	73
30	9	26	59	73
31	8	26	59	73
32	9	27	58	74
33	9	27	58	73
34	9	27	59	74
35	9	27	59	74
36	9	26	59	75
37	10	26	60	74
38	10	26	60	74
39	10	26	59	74
40	10	27	59	74

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{293}{30} = 9{,}77$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{789}{30} = 26{,}30$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1777}{30} = 59{,}23$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2214}{30} = 73{,}80$

Sampel 31

Silika Merah

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	29	52	73
12	10	30	52	73
13	9	29	53	74
14	9	30	53	73
15	9	29	53	73
16	10	29	53	74
17	9	29	53	74
18	10	30	53	73
19	10	30	52	73
20	11	29	52	73
21	10	29	52	73
22	10	29	52	73
23	10	30	52	73
24	10	29	52	73
25	11	29	52	73
26	11	29	52	74
27	9	29	52	74
28	9	29	52	73
29	9	28	52	74
30	9	28	52	73
31	10	28	51	73
32	9	29	52	72
33	10	29	52	73
34	10	29	52	73
35	10	29	52	73
36	11	28	53	74
37	11	29	53	73
38	11	29	52	73
39	11	29	52	72
40	11	30	53	73

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{299}{30} = 9{,}97$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{872}{30} = 29{,}07$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1568}{30} = 52{,}27$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2195}{30} = 73{,}17$

Sampel 32

Batu Trass

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	27	56	73
12	9	27	56	73
13	9	26	56	73
14	10	27	56	72
15	10	27	55	72
16	10	27	56	73
17	10	26	56	73
18	10	26	56	74
19	11	26	57	73
20	11	26	56	73
21	10	26	56	73
22	10	26	57	72
23	10	27	57	73
24	10	27	56	73
25	11	26	56	73
26	11	27	57	73
27	11	26	57	73
28	11	27	56	73
29	11	26	56	73
30	11	26	57	73
31	11	26	56	73
32	10	27	55	72
33	10	27	56	73
34	9	26	56	73
35	9	26	56	73
36	9	25	57	74
37	9	26	56	74
38	10	26	56	73
39	9	26	57	73
40	10	27	56	72

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{302}{30} = 10{,}07$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{791}{30} = 26{,}37$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1686}{30} = 56{,}20$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2188}{30} = 72{,}93$

Sampel 33

Batu Tuff

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	9	16	67	74
12	10	16	66	73
13	10	16	66	74
14	10	15	67	74
15	10	15	66	74
16	10	15	67	75
17	11	15	67	75
18	10	15	66	74
19	11	15	66	74
20	11	16	66	74
21	10	16	66	73
22	10	15	67	73
23	10	15	67	74
24	10	15	67	74
25	11	15	67	74
26	10	15	66	74
27	10	15	67	75
28	10	15	66	75
29	11	15	66	75
30	11	15	66	74
31	11	15	67	74
32	11	16	67	74
33	11	16	67	74
34	11	15	67	75
35	11	16	67	75
36	10	15	66	74
37	10	15	66	74
38	10	15	66	74
39	10	15	67	74
40	10	15	66	75

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{310}{30} = 10{,}33$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{458}{30} = 15{,}27$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1995}{30} = 66{,}50$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2225}{30} = 74{,}17$

Sampel 34

Tuff Kuning

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	18	65	73
12	10	18	64	73
13	9	19	64	74
14	9	18	65	74
15	10	18	65	73
16	10	18	65	73
17	10	18	64	74
18	10	19	64	74
19	10	18	63	74
20	11	19	64	74
21	11	18	64	73
22	11	19	65	73
23	11	19	64	74
24	11	19	65	74
25	11	19	64	73
26	11	19	64	74
27	10	19	64	74
28	10	19	65	74
29	9	18	65	74
30	9	18	65	73
31	9	18	65	73
32	9	18	65	73
33	9	18	64	74
34	9	18	64	74
35	10	18	64	73
36	10	18	64	72
37	10	18	64	73
38	10	18	65	73
39	10	19	65	74
40	10	19	64	74

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{299}{30} = 9{,}97$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{553}{30} = 18{,}40$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1933}{30} = 64{,}40$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2205}{30} = 73{,}50$

Sampel 35

Batu Gneiss

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	26	59	73
12	10	25	60	73
13	9	26	59	74
14	9	25	60	73
15	9	25	60	74
16	10	25	59	74
17	10	26	59	74
18	10	26	60	73
19	10	26	59	73
20	11	27	60	73
21	10	27	60	73
22	10	26	61	73
23	10	26	60	73
24	10	26	60	73
25	11	25	59	73
26	11	25	59	74
27	9	26	60	74
28	9	26	60	73
29	9	25	59	74
30	9	26	59	73
31	10	26	60	73
32	10	25	59	72
33	10	26	59	73
34	10	26	60	73
35	10	27	59	73
36	11	26	59	74
37	11	25	60	73
38	11	25	59	73
39	11	26	60	72
40	11	27	60	73

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{301}{30} = 10{,}03$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{774}{30} = 25{,}80$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1787}{30} = 59{,}57$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2196}{30} = 73{,}20$

Sampel 36

Kwarsit

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	11	23	60	73
12	11	23	61	74
13	11	24	61	74
14	10	23	60	73
15	10	24	60	74
16	10	23	60	74
17	10	23	61	73
18	10	22	61	73
19	10	22	60	72
20	10	23	60	72
21	11	23	60	73
22	11	23	61	73
23	11	24	60	73
24	11	23	60	73
25	11	22	59	74
26	11	22	60	73
27	11	23	60	74
28	12	24	60	74
29	12	24	61	73
30	12	23	61	73
31	12	23	60	73
32	12	22	60	72
33	12	22	59	73
34	11	22	60	73
35	11	22	59	72
36	11	22	60	73
37	10	23	60	73
38	10	23	61	73
39	11	23	61	74
40	11	23	60	73

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{327}{30} = 10{,}90$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{686}{30} = 22{,}87$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1806}{30} = 60{,}20$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2194}{30} = 73{,}13$

Sampel 37

Kwarsit Karbonat

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	25	60	73
12	9	25	61	74
13	9	24	61	74
14	9	25	60	73
15	9	26	60	73
16	9	26	61	74
17	10	25	60	73
18	10	25	61	73
19	10	25	60	73
20	10	26	60	73
21	10	25	60	73
22	10	26	61	74
23	10	25	60	74
24	10	25	60	73
25	11	25	60	73
26	11	25	60	74
27	9	24	61	74
28	9	24	61	73
29	9	25	61	74
30	9	26	60	73
31	10	25	60	73
32	10	24	60	72
33	10	25	60	73
34	10	25	60	73
35	10	24	60	73
36	10	24	61	74
37	10	25	61	73
38	11	26	60	73
39	11	25	60	74
40	11	25	60	73

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{296}{30} = 9{,}87$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{750}{30} = 25{,}00$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1810}{30} = 60{,}33$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2199}{30} = 73{,}30$

Sampel 38

Marmer

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	30	55	73
12	9	30	55	74
13	9	29	54	74
14	10	29	54	73
15	10	30	55	73
16	10	29	54	72
17	10	29	55	72
18	10	29	55	73
19	11	29	55	73
20	11	28	55	73
21	10	28	55	73
22	10	29	55	74
23	10	29	54	73
24	10	28	54	73
25	11	29	54	73
26	11	29	54	74
27	11	28	54	74
28	11	28	54	73
29	11	29	54	73
30	11	29	54	73
31	10	29	53	73
32	10	30	53	73
33	9	30	53	73
34	9	29	53	72
35	9	29	53	73
36	9	29	54	73
37	10	29	54	74
38	10	30	54	73
39	10	29	55	73
40	10	29	54	73

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{302}{30} = 10{,}07$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{871}{30} = 29{,}03$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1625}{30} = 54{,}17$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2193}{30} = 73{,}10$

Sampel 39

Skiss Mika

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	11	24	61	73
12	11	23	62	72
13	10	23	61	72
14	10	23	62	73
15	10	22	62	72
16	10	22	61	72
17	10	23	61	73
18	11	22	61	73
19	11	23	61	72
20	11	23	62	72
21	11	23	62	73
22	11	24	62	73
23	11	23	61	73
24	11	24	61	73
25	11	24	61	72
26	11	23	61	73
27	11	23	61	72
28	12	23	62	72
29	11	24	62	72
30	12	24	62	73
31	12	24	61	73
32	12	23	61	72
33	12	23	62	73
34	12	23	61	73
35	11	22	61	72
36	11	22	62	73
37	11	22	62	73
38	10	23	61	73
39	11	23	61	72
40	11	23	61	73

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{330}{30} = 11{,}00$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{691}{30} = 23{,}03$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1842}{30} = 61{,}40$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2177}{30} = 72{,}57$

Sampel 40

Slate

t (menit)	T_C (^{0}C)	T_2 (^{0}C)	T_1 (^{0}C)	T_H (^{0}C)
11	10	24	54	73
12	10	24	54	74
13	10	24	53	73
14	10	24	54	73
15	9	23	54	73
16	10	23	54	73
17	9	24	55	72
18	9	23	54	73
19	9	23	54	73
20	10	23	55	74
21	9	23	55	74
22	10	23	55	73
23	10	24	55	73
24	10	24	55	74
25	11	24	55	73
26	11	24	55	73
27	10	25	54	73
28	10	25	55	73
29	11	24	55	73
30	10	24	55	74
31	11	25	55	74
32	10	25	54	74
33	10	24	54	73
34	9	24	54	73
35	9	24	54	73
36	9	23	55	73
37	9	24	54	73
38	9	24	54	73
39	10	23	53	74
40	10	24	54	73

Nilai rata-rata T_C, T_2, T_1, dan T_H

- $\overline{T_C} = \frac{\sum_{11}^{40} T_C}{30} = \frac{294}{30} = 9{,}80$
- $\overline{T_2} = \frac{\sum_{11}^{40} T_2}{30} = \frac{715}{30} = 23{,}83$
- $\overline{T_1} = \frac{\sum_{11}^{40} T_1}{30} = \frac{1631}{30} = 54{,}37$
- $\overline{T_H} = \frac{\sum_{11}^{40} T_H}{30} = \frac{2197}{30} = 73{,}23$

Lampiran C

Perhitungan Konduktivitas Panas Batuan (λ_r)

A. Batuan Beku *(Igneous Rocks)*

No	d(cm)	λ_b(W m^{-1} °C^{-1})	l(cm)	T_H(°C)	T_1(°C)	T_2(°C)	λ_c(W m^{-1} °C^{-1})	$\delta(cm)$	$\frac{d\lambda_b}{l}$	$\left(\frac{T_H - T_1}{T_1 - T_2}\right)$	$\frac{d\lambda_c}{2\delta}$	λ_r(W m^{-1} °C^{-1})
1	3,05	14,5	3,46	74,10	60,03	21,33	0,024	0,020	23,231	0,244	2,472	2,7397
2	5,85	45,3	5,95	74,47	63,83	17,37	0,024	0,010	44,548	0,240	7,109	3,5690
3	4,97	14,5	3,46	73,50	64,37	18,40	0,024	0,030	37,820	0,208	4,024	2,3149
4	5,23	45,3	5,95	74,10	65,67	17,37	0,024	0,015	39,837	0,159	4,238	2,9128
5	6,00	45,3	5,95	75,57	64,60	18,37	0,024	0,010	45,690	0,232	7,292	3,3080
6	2,81	14,5	3,46	73,33	55,63	25,93	0,024	0,010	11,781	0,568	3,416	3,2777
7	2,00	14,5	3,46	73,27	54,33	23,90	0,024	0,010	8,3920	0,626	2,433	2,8189
8	5,85	45,3	5,95	74,07	65,53	17,60	0,024	0,015	44,548	0,169	4,740	2,7874
9	6,07	45,3	5,95	72,57	65,33	17,87	0,024	0,020	46,204	0,148	3,687	3,1343

B. Batuan Sedimen *(Sedimentary Rocks)*

No	d(cm)	λ_b(W m^{-1} ^{0}C^{-1})	l(cm)	T_H(^{0}C)	T_1(^{0}C)	T_2(^{0}C)	λ_c(W m^{-1} ^{0}C^{-1})	$\delta(cm)$	$\frac{d\lambda_b}{l}$	$\left(\frac{T_H - T_1}{T_1 - T_2}\right)$	$\frac{d\lambda_c}{2\delta}$	λ_r(W m^{-1} ^{0}C^{-1})
10	3,05	14,5	3,46	74,27	60,37	21,63	0,024	0,02	12,787	0,359	1,854	2,7397
11	5,79	45,3	5,95	73,97	64,90	18,23	0,024	0,01	44,053	0,188	7,030	1,2622
12	6,04	45,3	5,95	72,10	64,40	18,27	0,024	0,02	45,966	0,171	4,890	2,9684
13	5,83	45,3	5,95	74,43	64,77	17,67	0,024	0,02	44,405	0,188	4,724	3,6119
14	5,90	45,3	5,95	73,50	64,37	18,40	0,024	0,01	44,938	0,208	7,172	2,1686
15	5,75	45,3	5,95	74,30	65,47	17,47	0,024	0,02	43,758	0,180	4,655	3,2185
16	5,81	45,3	5,95	74,83	65,93	17,93	0,024	0,02	44,244	0,200	4,707	4,1241
17	5,97	45,3	5,95	73,83	65,53	18,27	0,024	0,02	45,443	0,188	4,835	3,6946
18	6,08	45,3	5,95	74,13	64,73	17,47	0,024	0,01	46,261	0,208	7,383	2,2180
19	6,07	45,3	5,95	74,60	65,37	17,60	0,024	0,01	46,223	0,189	7,377	1,8373
20	3,22	14,5	3,46	72,90	56,33	25,70	0,024	0,02	13,489	0,509	2,607	4,2593
21	5,84	45,3	5,95	74,60	65,67	17,67	0,024	0,02	44,472	0,182	4,731	3,3836
22	5,87	45,3	5,95	74,40	65,50	18,13	0,024	0,01	44,719	0,190	7,137	1,8631
23	6,14	45,3	5,95	74,07	66,97	18,37	0,024	0,02	46,756	0,166	4,974	2,7999
24	5,94	45,3	5,95	73,40	64,03	16,63	0,024	0,02	45,214	0,186	4,810	3,6114
25	4,74	14,5	3,46	73,03	69,80	21,57	0,024	0,02	19,866	0,322	2,880	3,5209
26	3,43	14,5	3,46	72,90	56,20	26,30	0,024	0,01	14,380	0,575	4,169	4,0982
27	5,59	45,3	5,95	72,87	64,90	18,23	0,024	0,02	42,578	0,170	4,530	2,7073
28	6,11	45,3	5,95	73,63	64,63	18,47	0,024	0,01	46,547	0,199	7,428	1,8509
29	5,90	45,3	5,95	72,47	64,47	18,40	0,024	0,02	44,948	0,169	4,782	2,8068
30	1,91	14,5	3,46	73,80	59,23	26,30	0,024	0,02	7,9991	0,442	1,160	2,3742
31	2,10	14,5	3,46	73,17	52,27	29,07	0,024	0,01	8,7901	0,913	5,097	2,9314
32	1,82	14,5	3,46	72,93	56,20	26,37	0,024	0,01	7,6324	0,576	2,213	2,1850
33	6,08	45,3	5,95	74,17	66,50	15,27	0,024	0,02	46,261	0,141	3,691	2,8307
34	5,99	45,3	5,95	73,50	64,40	18,40	0,024	0,01	45,576	0,203	7,273	1,9621

C. Batuan Metamorf *(Metamorphic Rocks)*

No	d(cm)	λ_b(W m^{-1} ^{0}C^{-1})	l(cm)	T_H(^{0}C)	T_1(^{0}C)	T_2(^{0}C)	λ_c(W m^{-1} ^{0}C^{-1})	$\delta(cm)$	$\frac{d\lambda_b}{l}$	$\left(\frac{T_H - T_1}{T_1 - T_2}\right)$	$\frac{d\lambda_c}{2\delta}$	λ_r(W m^{-1} ^{0}C^{-1})
35	2,00	14,5	3,46	73,20	59,57	25,80	0,024	0,15	8,387	0,412	0,162	3,2962
36	2,31	14,5	3,46	73,13	60,20	22,87	0,024	0,15	9,665	0,350	0,187	3,1966
37	2,62	14,5	3,46	73,30	60,33	25,00	0,024	0,05	10,97	0,369	0,636	3,4117
38	2,01	14,5	3,46	73,10	54,17	29,03	0,024	0,02	8,429	0,683	1,629	4,1262
39	2,49	14,5	3,46	72,57	61,40	23,03	0,024	0,10	10,45	0,282	0,303	2,6445
40	2,03	14,5	3,46	73,23	54,37	23,83	0,024	0,03	8,502	0,583	0,986	3,9732

Lampiran D

Perbandingan Konduktivitas Panas Batuan (λ_r) Eksperimen

dengan Konduktivitas Panas Batuan (λ_r) Referensi

A. Perbandingan Konduktivitas Panas Sampel Batuan Beku *(Igneous Rocks)* Hasil Eksperimen dengan Referensi

No	Sampel	Nama Sampel Batuan	Temperatur Eksperimen (^{0}C)	Kond, Panas (λ) Eksperimen (W m^{-1} ^{0}C^{-1})	Batuan Referensi	Temperatur (^{0}C)	Kond, Panas (λ) Referensi (W m^{-1} ^{0}C^{-1})
1	Sampel 1	Andesit Profirit	25	2,74	Andesit Profirit	20-30	2,40-2,96
2	Sampel 2	Old Skorit	27	3,57	Old Skorit	30	2,74
3	Sampel 3	Breksi Vulkanik	26	2,31	Breksi Vulkanik	-	1,84-2,88
4	Sampel 4	Diorit	27	2,91	Diorit	20-30	2,80-3,60
5	Sampel 5	Diorit Piroksit	26	3,30	Diorit Piroksit	20-30	2,94-3,78
6	Sampel 6	Granidiorit	26	3,28	Granidiorit	30	2,60-3,50
7	Sampel 7	Gabbro	27	2,82	Gabbro	20-30	1,90-2,30
8	Sampel 8	Skoria	25	2,79	Skoria	20-30	2,74
9	Sampel 9	Skoria Karbon	27	3,13	Skoria Karbon	20-100	3,18

B. Perbandingan Konduktivitas Panas Sampel Batuan Sedimen *(Sedimentary Rocks)* Hasil Eksperimen dengan Referensi

No	Sampel	Nama Sampel Batuan	Temperatur Eksperimen (^{0}C)	Kond, Panas (λ) Eksperimen (W m^{-1} ^{0}C^{-1})	Batuan Referensi	Temperatur (^{0}C)	Kond, Panas (λ) Referensi (W m^{-1} ^{0}C^{-1})
1	Sampel 10	Batu Karbonat	25	2,74	Batu Karbonat	20-30	2,71-2,90
2	Sampel 11	Batu Kapur *(Limestone)*	27	1,26	Batu Kapur *(Limestone)*	0-200	1,26-1,33
3	Sampel 12	Karang *(Coral Rocks)*	27	2,97	Karang *(Coral Rocks)*	20-30	2,17-3,02
4	Sampel 13	Lanau *(Mudstone)*	26	3,61	Lanau *(Mudstone)*	-	2,77-2,90
5	Sampel 14	Lempung *(Clay Skale)*	26	2,17	Lempung *(Clay Skale)*	27	2,02-2,24
6	Sampel 15	Lempung Merah	26	3,22	Lempung *(Clay Skale)*	27	2,02-2,24
7	Sampel 16	Lempung Tufaan	26	4,12	LempungTufaan	27	2,28
8	Sampel 17	Batu Pasir *(Sandstone)*	27	3,69	Batu Pasir *(Sandstone)*	20-40	1,50-4,20
9	Sampel 18	Chalk	27	2,22	Chalk	20-30	1,56-4,23
10	Sampel 19	Pasir Kuning	26	1,84	Batu Pasir *(Sandstone)*	20-40	1,50-4,20
11	Sampel 20	Pasir Merah	24	4,26	Batu Pasir *(Sandstone)*	20-40	1,50-4,20
12	Sampel 21	Pasir Tufaan	25	3,38	Batu Pasir Tufaan	20-30	1,73-3,48
13	Sampel 22	Berea Lanau	27	1,86	Berea	27	1,85-2,90
14	Sampel 23	Berea Pasir	26	2,80	Berea Pasir	27	2,00-2,90
15	Sampel 24	Geolite	26	3,61	Geolite	20-30	2,44-2,86
16	Sampel 25	Konglomerat	25	3,52	Konglomerat	20-50	2,21-2,30
17	Sampel 26	Napal	28	4,10	Napal	20-30	2,23-2,71
18	Sampel 27	Napal Merah	25	2,71	Napal	20-30	2,23-2,71
19	Sampel 28	Pookstone	25	1,85	Pookstone	-	1,83
20	Sampel 29	Shalesand	26	2,81	Shalesand	-	1,20-3,00
21	Sampel 30	Silika	24	2,37	Silika	30	2,36-2,94
22	Sampel 31	Silika Merah	26	2,93	Silika	30	2,36-2,94
23	Sampel 32	Trass	26	2,19	Trass	20-30	2,16-2,78
24	Sampel 33	Tuff	27	2,83	Tuff	20-100	2,15-2,48
25	Sampel 34	Tuff Kuning	25	1,96	Tuff Marlay Kuning	-	2,10

C. Perbandingan Konduktivitas Panas Sampel Batuan Metamorf *(Metamorphic Rocks)* Hasil Eksperimen dengan Referensi

No	Sampel	Nama Sampel Batuan	Temperatur Eksperimen (^{0}C)	Kond, Panas (λ) Eksperimen (W m^{-1} ^{0}C^{-1})	Batuan Referensi	Temperatur (^{0}C)	Kond, Panas (λ) Referensi (W m^{-1} ^{0}C^{-1})
1	Sampel 35	Gneiss	27	3,30	Gneiss	20-30	2,09-4,20
2	Sampel 36	Kwarsit	28	3,20	Kwarsit	20-50	2,64-2,87
3	Sampel 37	Kwarsit Karbonat	25	3,41	Kwarsit Karbonat	20-50	3,04-3,46
4	Sampel 38	Marmer	26	4,13	Marmer	20-50	2,07-2,94
5	Sampel 39	Skis Mika	26	2,64	Skis Mika	-	2,99
6	Sampel 40	Slate	25	3,97	Slate	-	3,20

Lampiran E

Konduktivitas Panas (λ) Berbagai Batuan

A. Batuan Beku *(Igneous Rocks)*

No	Nama Batuan	Rapat Massa (Kg/m^{-3})	Temperatur (^0C)	Kond, Panas (λ) ($Wm^{-1}\ ^0C^{-1}$)	Sumber
1	Andesit	2.200-2.700	20-30	2,42-3,02	1,3
2	Andesit Piroksit	2.800	30	2,88-3,42	1
3	Andesit Profirit	2.600	20-30	2,40-2,96	1
4	Anorthosit	2.750	-	1,75-2,10	2
5	Old Skorit	2.800-3.200	30	2,74	1
6	Basalt	2.950	-	1,30-2,90	1,2,3
7	Basalt Felspar	2.800	-	2,08	1
8	Basalt Olivit	3.100	-	2,60	1
9	Batu Apung *(Fumice)*	1500-1550	20	1,64-2,10	1,3
10	Breksi Lava	2.100-3.000	-	1,96-2,90	1
11	Breksi Vulkanik	2.100-2.900	-	1,84-2,88	1
12	Busalt	2.900-3.300	20	1,90-3,01	3
13	Diabas	2.800-3.200	-	1,79-2,50	2,3
14	Diorit	2.800	20-30	2,80-3,60	1,2
15	Diorit Biotit	2.800-3.000	-	2,95	3
16	Diorit Olivit	3.300	-	3,04	3
17	Diorit Ortoklasit	3.000	20-30	2,48-3,20	3
18	Diorit Piroksit	2.800-3.200	20-30	2,94-3,78	3
19	Gabbro	2.950	20-30	1,90-2,30	1,2,3
20	Gabbro Olivin	3,300	-	2,60	3
21	Granit	2,640	20	1,73-3,98	4
22	Granidiorit	2,700	30	2,60-3,50	2
23	Labrodirit	-	30	2,28	3
24	Piroksenit	3,250	-	3,10-4,01	2
25	Pofiris	2,800	30	2,82-2,90	3
26	Pofiris Kwartz	2,700-2,900	30	2,74-2,88	1
27	Skoria	2,800-3,100	30	2,74	3
28	Skoria Karbon	3,000	20-100	3,18	3
29	Syenit	2,900	30	2,67-3,20	3
30	Tracheit	2,700	20-30	2,40-2,96	3
31	Tuff Lava	1,900-2,600	-	1,65-2,84	1
32	Tuff Vulkanis	1,800-2,600	-	1,60-2,79	1

B. Batuan Sedimen *(Sedimentary Rocks)*

No	Nama Batuan	Rapat Massa (Kg/m^{-3})	T (^0C)	Kond, Panas (λ) ($Wm^{-1}\,^0C^{-1}$)	Sumber
1	Anhidrit	2.300-2.500	20-30	2,84-2,88	1
2	Anhidrit Gips	2.100-2.600	20-30	2,78-2,98	1
3	Barre	2.630	27	2,55-2,79	5
4	Batu Karbonat	-	20-30	2,71-2,90	3
5	Kapur *(Limestone)*	2.400-2.500	100-200	1,26-1,33	1,3,4
6	Karang *(Coral Rocks)*	1.950	20-30	2,17-3,02	3
7	Lanau *(Mudstone)*	2.700-2.900	-	2,77-2,90	2
8	Lempung *(Clay Skale)*	2.100-2.900	27	2,02-2,24	5
9	Lempung Tufaan	2.100-3.100	27	2,28	3
10	Batu Pasir *(Sandstone)*	2.200-2.700	20-30	1,50-4,26	2,4
11	Pasir Kuning	2.350	20-30	1,88-3,35	1
12	Pasir Tufaan	2.400	20-30	1,73-3,48	1
13	Berea	2.250	27	1,85-2,90	3,5
14	Breakstone	2.400-3.200	30	2,88	1
15	Chalk	2.350	20-30	2,40-2,66	1,3
16	Diatomite	3.500-3.900	-	3,22-3,40	2
17	Dolomite	2.200-2.800	-	3,20-5,00	2
18	Felspar Ortoklas	2.400	50-100	2,32	3
19	Geolite	2.600	20-30	2,44-2,86	1
20	Gips	2.000-2.600	20-30	2,84-2,96	1,3
21	Gips Tua (Kaolinit)	2.900	-	3,02	3
22	Kapur Salem	2.300-2.500	20-30	2,15-2,20	5
23	Konglomerat	2.800-3.200	20-50	2,21-2,30	1,3
24	Marlay Limestone	2.200	20-100	2,32	3
25	Magnesit	2.400-2.800	30-50	2,84-3,22	1
26	Marbel	2.800	20	2,52-3,04	2,3
27	Napal	2.200	20-30	2,23-2,71	3
28	Napal Marlay	2.200	30	2,58	3
29	Pasir Berea	2.150	27	2,00-2,90	3,5
30	Shalesand	2.100-2.700	-	1,20-3,00	2
31	Silika	2.700-3.100	30	2,36-2,94	1,2,5
32	Trass	2.450	20-30	2,16-2,78	3
33	Tuff	2.100-2.800	20-100	2,15-2,48	1,3
34	Tuff Marlay Kuning	1.900-2.700	-	2,10	1,3

C. Batuan Metamorf *(Metamorphic Rocks)*

No	Nama Batuan	Rapat Massa (Kg/m^{-3})	Temperatur (^0C)	Kond, Panas (λ) ($Wm^{-1}\ ^0C^{-1}$)	Sumber
1	Amphibol	2.900-3.200	-	2,50-3,80	2
2	Clay Skale Kristal	2.400	30	2,28	3
3	Gneiss	2.700-2.800	20	2,09-4,20	1,2
4	Gneiss Schistose	2.800	-	2,10-4,10	2
5	Kwarsa Kilap (Kwartz)	2.700	20-50	2,52-2,70	1
6	Kwarsa Muda	2.600	20-50	2,50-2,64	1
7	Kwarsit	2.700-3.300	20-50	2,64-3,27	1
8	Kwarsit Karbonat	3.400-4.200	20-50	3,04-3,46	1
9	Marblo	2.700	27	2,22-2,76	2,5
10	Marmer	2.500-2.700	20-50	2,07-2,94	1,3,4
11	Marmer Halston	2.800	27	2,82	5
12	Pualam	2.400-2.800	20-30	2,88-3,04	1,3
13	Schistose	2.900	-	2,60-4,38	1
14	Slate	2.950	-	3,20	3
15	Skis Mika	2.900	-	2,99	3

Sumber :
1. Mursid, 1989
2. Turcotte, 1982
3. Suhandoyo, 1991
4. Holman, 1988
5. Agra, 1988

Lampiran F

Penurunan rumus untuk menentukan Konduktivitas Panas Batuan (λ_r)

pada Konduktivitasmeter

❇ Persamaan fluks perpindahan panas (q) dalam sistem kondisi *steady state* pada konduktivitasmeter (Fauzi, 1998) :

$$q_1 = q_2 = q_3,$$

$$q_1 = \frac{\lambda_b (T_H - T_1)}{l},$$

$$q_2 = \frac{\lambda_r (T_1 - T_2)}{d} + \frac{\lambda_c (T_1 - T_2)}{2\delta},$$

$$q_2 = (T_1 - T_2)\left(\frac{\lambda_r}{d} + \frac{\lambda_c}{2\delta}\right),$$

$$q_3 = \frac{\lambda_b (T_2 - T_c)}{l}.$$

Sehingga :

$$\frac{\lambda_b (T_H - T_1)}{l} = (T_1 - T_2)\left(\frac{\lambda_r}{d} + \frac{\lambda_c}{2\delta}\right) = \frac{\lambda_b (T_2 - T_c)}{l}.$$

❇ Perbandingan antara $(T_1 - T_2)$ dengan $(T_H - T_1)$ (Fauzi, 1988) :

$$q_1 = q_2,$$

$$\frac{\lambda_b (T_H - T_1)}{l} = (T_1 - T_2)\left(\frac{\lambda_r}{d} + \frac{\lambda_c}{2\delta}\right),$$

$$(T_1 - T_2)\left(\frac{\lambda_r}{d} + \frac{\lambda_c}{2\delta}\right) = \frac{\lambda_b}{l}(T_H - T_1),$$

$$\frac{(T_1 - T_2)}{(T_H - T_1)} = \frac{\lambda_b / l}{\left(\frac{\lambda r}{d} + \frac{\lambda_c}{2\delta}\right)},$$

$$\left(\frac{T_1 - T_2}{T_H - T_1}\right) = \left[\frac{(d\lambda_c + 2\delta\lambda_r)/(\lambda_r.\lambda_c)}{l/\lambda_b}\right],$$

$$\left(\frac{T_1 - T_2}{T_H - T_1}\right) = \left[\frac{(d\lambda_c + 2\delta\lambda_r)\lambda_b}{l\lambda_r\lambda_c}\right],$$

$$\left(\frac{T_1 - T_2}{T_H - T_1}\right) = \left[\frac{(d\lambda_c\lambda_b + 2\delta\lambda\lambda_b)}{l\lambda_r\lambda_c}\right],$$

$$\left(\frac{T_1 - T_2}{T_H - T_1}\right) = \left(\frac{d\lambda_b}{l\lambda_r} + \frac{2\delta\lambda_b}{l\lambda_c}\right).$$

❖ Penentuan besarnya nilai konduktivitas panas batuan (λ_r) (Fauzi, 1998) :

Dari persamaan :

$$q_1 = q_2,$$

$$\frac{\lambda_b(T_H - T_1)}{l} = (T_1 - T_2)\left(\frac{\lambda_r}{d} + \frac{\lambda_c}{2\delta}\right),$$

$$\left(\frac{\lambda_r}{d} + \frac{\lambda_c}{2\delta}\right) = \frac{\lambda_b(T_H - T_1)}{l} / (T_1 - T_2)$$

$$\frac{\lambda_r}{d} = \frac{\lambda_b}{l}\left(\frac{T_H - T_1}{T_1 - T_2}\right) - \frac{\lambda_c}{2\delta},$$

$$\lambda_r = d\left[\frac{\lambda_b}{l}\left(\frac{T_H - T_1}{T_1 - T_2}\right) - \frac{\lambda_c}{2\delta}\right],$$

$$\lambda_r = \left[\frac{d\lambda_b}{l}\left(\frac{T_H - T_1}{T_1 - T_2}\right) - \frac{d\lambda_c}{2\delta}\right].$$

dengan :

λ_r : konduktivitas panas batuan (W/m ^{0}C);

λ_c : konduktivitas panas udara (ruang antara logam dan sampel batuan yang besarnya 0,24 W/m ^{0}C)Please do not use illegal software...;

λ_b : konduktivitas panas logam (W/m ^{0}C);

d : tebal sampel batuan (m);

l : tebal sampel logam pembanding (m);

δ : celah bidang kontak antara logam dan sampel batuan (m);

T_H : temperatur antara reservoir panas dan logam atas (^{0}C);

T_1 : temperatur antara logam atas dan sampel batuan (^{0}C);

T_2 : temperatur antara sampel batuan dan logam bawah (^{0}C);

T_c : temperatur antara logam bawah dan reservoir dingin (^{0}C).