LAMPIRAN A

CONTOH PERHITUNGAN

Lampiran A. Contoh Perhitungan

1. **Perhitungan persentase penurunan kadar f-CaO**

$$\% \text{ penurunan kadar} = \frac{\text{Kadar f.CaO awal} - \text{Kadar f-CaO akhir}}{\text{Kadar f.CaO awal}} \times 100$$

1. Sampel B = $\frac{0{,}36 - 0{,}31}{0{,}36}$ = 13,8%

2. Sampel C = $\frac{0{,}36 - 0{,}31}{0{,}36}$ = 13,8%

3. Sampel D = $\frac{0{,}36 - 0{,}26}{0{,}36}$ = 27,7%

4. Sampel E = $\frac{0{,}36 - 0{,}26}{0{,}36}$ = 27,7%

5. Sampel F = $\frac{0{,}36 - 0{,}26}{0{,}36}$ = 27,7%

6. Sampel G = $\frac{0{,}36 - 0{,}31}{0{,}36}$ = 13,8%

7. Sampel H = $\frac{0{,}36 - 0{,}26}{0{,}36}$ = 27,7%

8. Sampel I = $\frac{0{,}36 - 0{,}24}{0{,}36}$ = 33,3%

9. Sampel J = $\frac{0{,}36 - 0{,}24}{0{,}36}$ = 33,3%

LAMPIRAN B

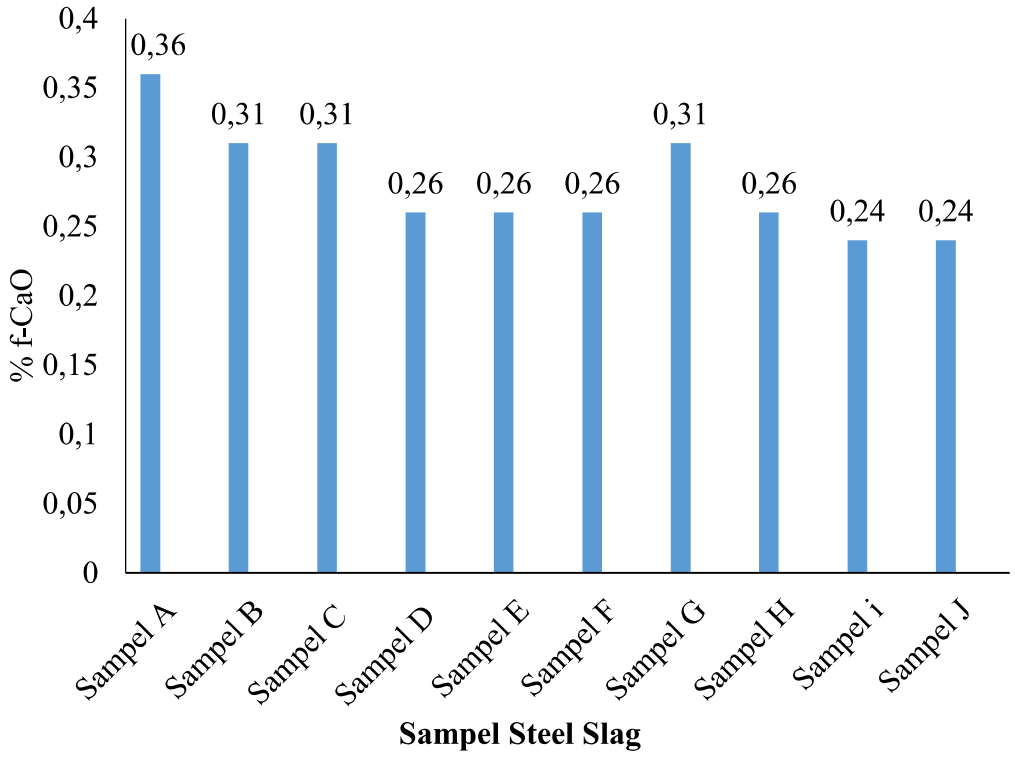
DATA PENELITIAN

Lampiran B. Data Penelitian

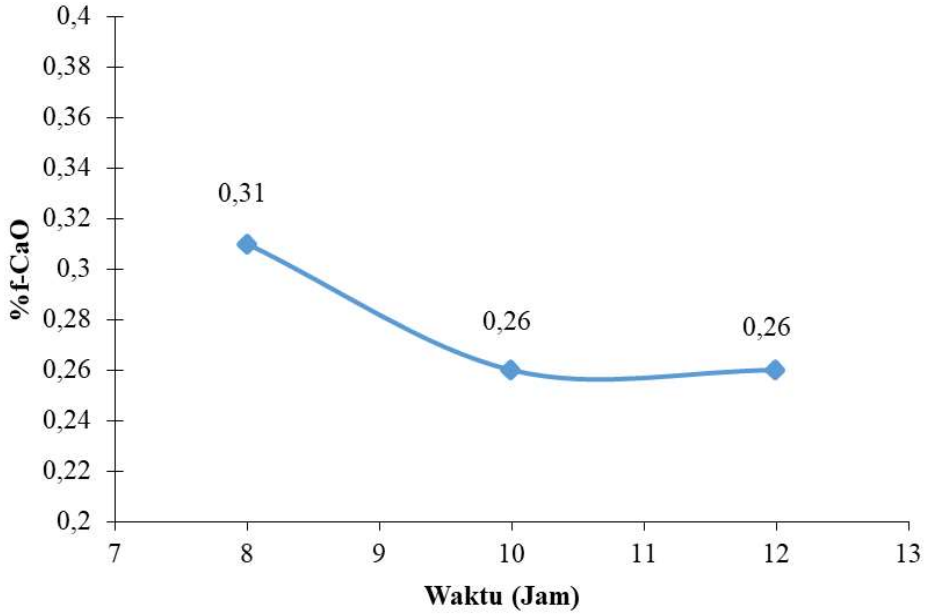
B.1 Data Hasil Pengujian f-CaO

Tabel B.1 Data Hasil Sampel Pengujian f-CaO

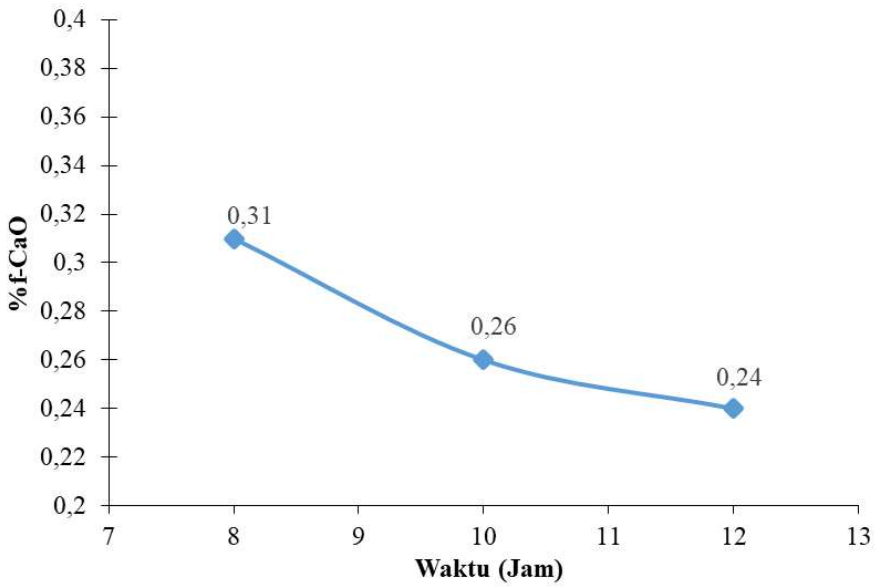
Sampel	Hasil f-CaO %
A 0,5 Non-Treatment	0,36
B 0,3 -20+35# 8Jam	0,31
C 0,3 -35+50# 8Jam	0,31
D 0,1 -50+100# 8Jam	0,26
E 0,1 -20+35# 10 Jam	0,26
F 0,1 -35+50# 10 Jam	0,26
G 0,3 -50+100# 10 Jam	0,31
H 0,3 -20+35# 12 Jam	0,26
I 0,0 -35+50# 12 Jam	0,24
J 0,0 -50+100# 12 Jam	0,24



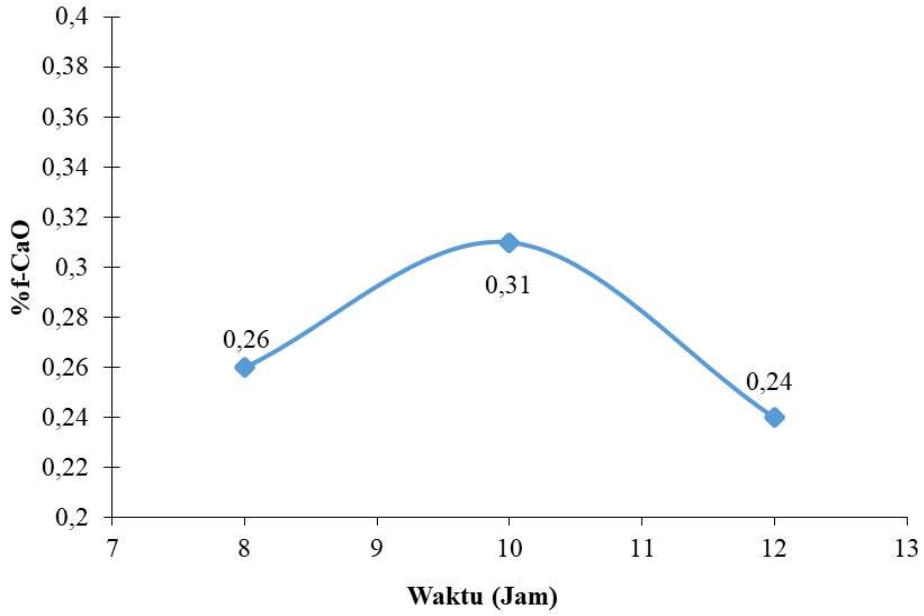
Gambar B.1 Hasil sampel pengujian %f-CaO *steam aging*



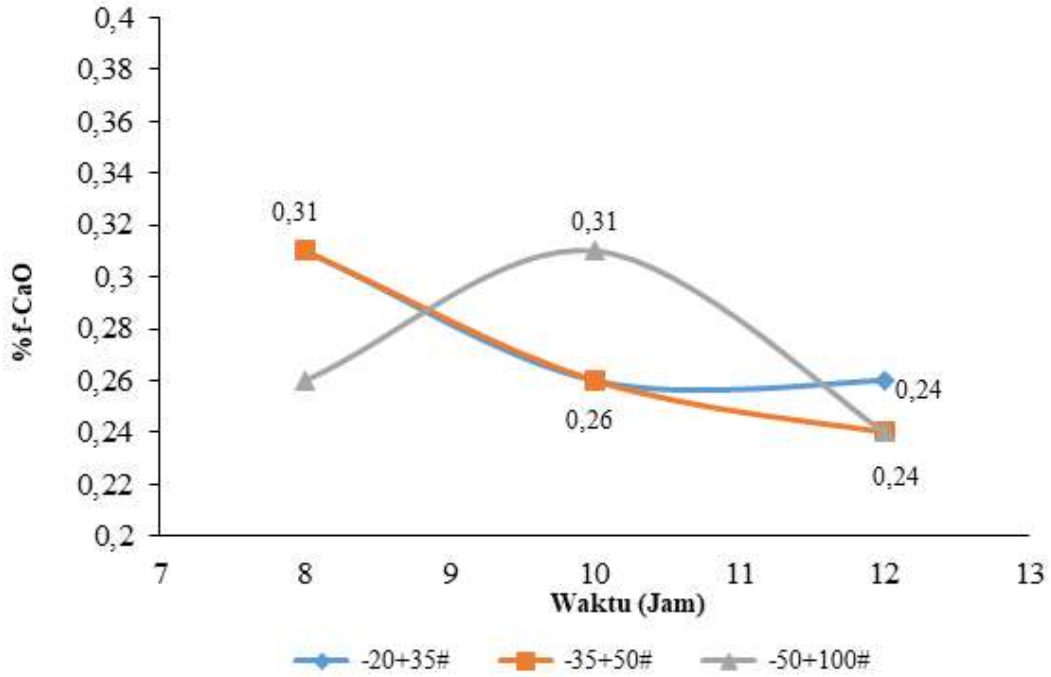
Gambar B.2 Pengaruh waktu steam aging terhadap %f-CaO pada ukuran partikel -20+35#



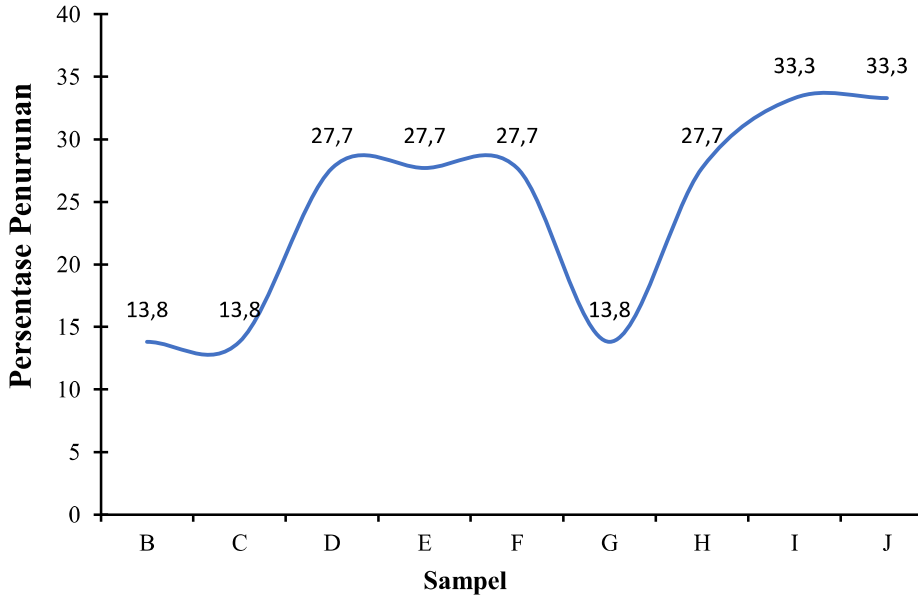
Gambar B.3 Pengaruh waktu steam aging terhadap %f-CaO pada ukuran partikel -35+50#



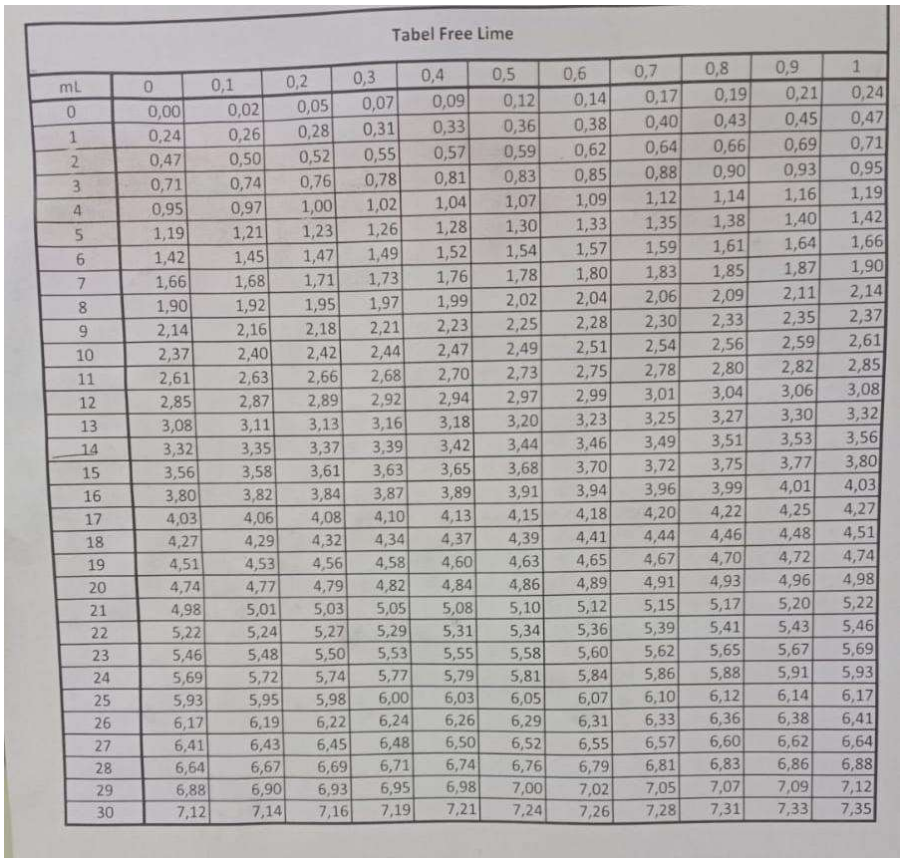
Gambar B.4 Pengaruh waktu steam aging terhadap %f-CaO pada ukuran partikel -50+100#



Gambar B.5 Perbandingan hasil kandungan %f-CaO Setiap Variabel Percobaan



Gambar B.6 Peresentase penurunan f-CaO pada Sampel Hasil *Steam aging*



Tabel Free Lime

mL	0	0,1	0,2	0,3	0,4	0,5	0,6	0,7	0,8	0,9	1
0	0,00	0,02	0,05	0,07	0,09	0,12	0,14	0,17	0,19	0,21	0,24
1	0,24	0,26	0,28	0,31	0,33	0,36	0,38	0,40	0,43	0,45	0,47
2	0,47	0,50	0,52	0,55	0,57	0,59	0,62	0,64	0,66	0,69	0,71
3	0,71	0,74	0,76	0,78	0,81	0,83	0,85	0,88	0,90	0,93	0,95
4	0,95	0,97	1,00	1,02	1,04	1,07	1,09	1,12	1,14	1,16	1,19
5	1,19	1,21	1,23	1,26	1,28	1,30	1,33	1,35	1,38	1,40	1,42
6	1,42	1,45	1,47	1,49	1,52	1,54	1,57	1,59	1,61	1,64	1,66
7	1,66	1,68	1,71	1,73	1,76	1,78	1,80	1,83	1,85	1,87	1,90
8	1,90	1,92	1,95	1,97	1,99	2,02	2,04	2,06	2,09	2,11	2,14
9	2,14	2,16	2,18	2,21	2,23	2,25	2,28	2,30	2,33	2,35	2,37
10	2,37	2,40	2,42	2,44	2,47	2,49	2,51	2,54	2,56	2,59	2,61
11	2,61	2,63	2,66	2,68	2,70	2,73	2,75	2,78	2,80	2,82	2,85
12	2,85	2,87	2,89	2,92	2,94	2,97	2,99	3,01	3,04	3,06	3,08
13	3,08	3,11	3,13	3,16	3,18	3,20	3,23	3,25	3,27	3,30	3,32
14	3,32	3,35	3,37	3,39	3,42	3,44	3,46	3,49	3,51	3,53	3,56
15	3,56	3,58	3,61	3,63	3,65	3,68	3,70	3,72	3,75	3,77	3,80
16	3,80	3,82	3,84	3,87	3,89	3,91	3,94	3,96	3,99	4,01	4,03
17	4,03	4,06	4,08	4,10	4,13	4,15	4,18	4,20	4,22	4,25	4,27
18	4,27	4,29	4,32	4,34	4,37	4,39	4,41	4,44	4,46	4,48	4,51
19	4,51	4,53	4,56	4,58	4,60	4,63	4,65	4,67	4,70	4,72	4,74
20	4,74	4,77	4,79	4,82	4,84	4,86	4,89	4,91	4,93	4,96	4,98
21	4,98	5,01	5,03	5,05	5,08	5,10	5,12	5,15	5,17	5,20	5,22
22	5,22	5,24	5,27	5,29	5,31	5,34	5,36	5,39	5,41	5,43	5,46
23	5,46	5,48	5,50	5,53	5,55	5,58	5,60	5,62	5,65	5,67	5,69
24	5,69	5,72	5,74	5,77	5,79	5,81	5,84	5,86	5,88	5,91	5,93
25	5,93	5,95	5,98	6,00	6,03	6,05	6,07	6,10	6,12	6,14	6,17
26	6,17	6,19	6,22	6,24	6,26	6,29	6,31	6,33	6,36	6,38	6,41
27	6,41	6,43	6,45	6,48	6,50	6,52	6,55	6,57	6,60	6,62	6,64
28	6,64	6,67	6,69	6,71	6,74	6,76	6,79	6,81	6,83	6,86	6,88
29	6,88	6,90	6,93	6,95	6,98	7,00	7,02	7,05	7,07	7,09	7,12
30	7,12	7,14	7,16	7,19	7,21	7,24	7,26	7,28	7,31	7,33	7,35

Gambar B.7 Tabel f-CaO PT.Cemindo

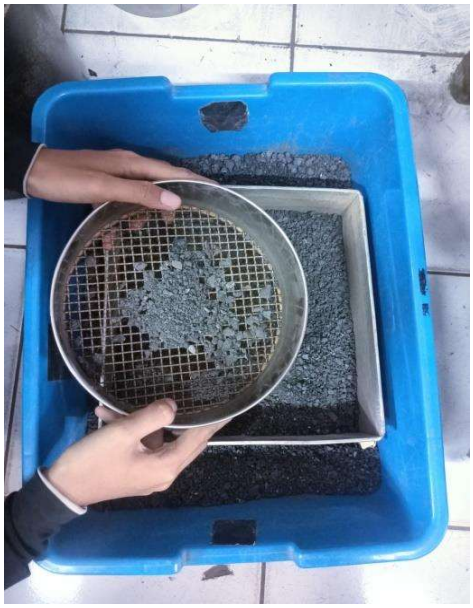
Tabel B.2 SNI 15-6514-2001

No.	Jenis Uji	Satuan	Persyaratan
1.	Bagian tak larut	%	Maks. 0,5
2.	f-CaO / Kapur bebas / CaO Bebas	%	Maks. 1,5
3.	MgO	%	Maks. 5,0
4.	Alkali	%	Maks. 0,6
5.	Hilang Pijar	%	Maks. 1,0

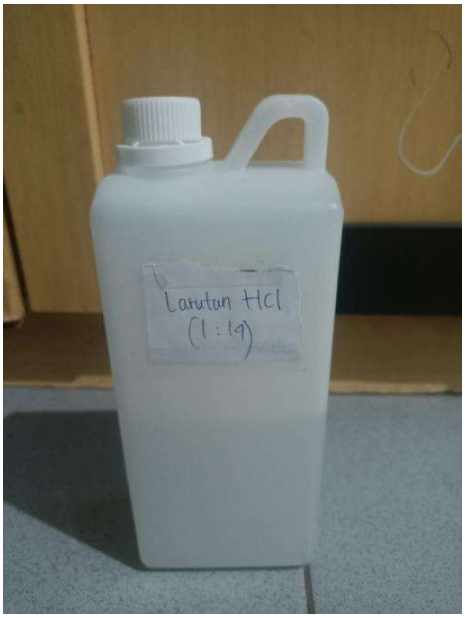
LAMPIRAN C

ALAT DAN BAHAN

LAMPIRAN C.1 BAHAN



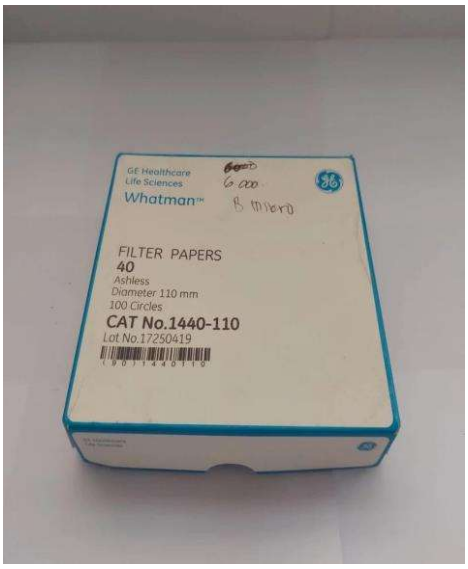
GAMBAR C.1 Sampel *Steel slag*



GAMBAR C.2 Larutan Hcl

GAMBAR C.3 Indikator Phenolphthalein

GAMBAR C.4 *Ethylene Glycol*



GAMBAR C.5 Kertas Saring No.40 Whatman

LAMPIRAN C.2 GAMBAR ALAT

GAMBAR C.6 *THERMOGUN*

GAMBAR C.7 PANCI

GAMBAR C.8 TIMBANGAN

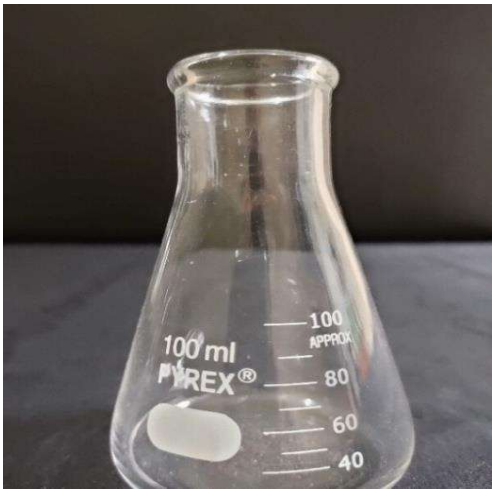
GAMBAR C.9 Steamer

GAMBAR C.10 *Sieve* test

GAMBAR C.11 *Ball Mill*

GAMBAR C.12 *Magnetic Separator*

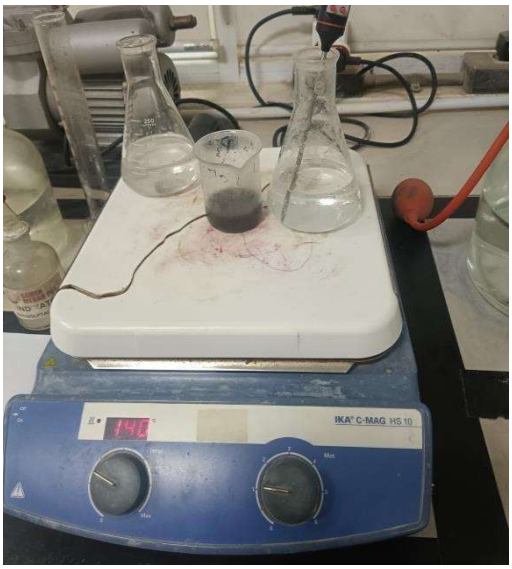
GAMBAR C.13 *Roll Crusher*



GAMBAR C.14 Labu Erlenmeyer 100ml

GAMBAR C.15 Labu Erlenmeyer 250ml

GAMBAR C.16 *Buchner funnel*



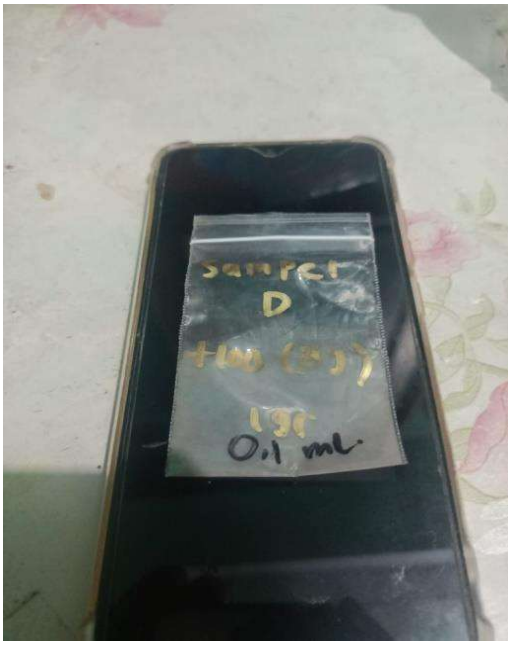
GAMBAR C.17 *Water bath*

LAMPIRAN C.3 Bukti Penelitian

GAMBAR C.18 Temperatur 107,4°C

GAMBAR C.19 Sampel *Steam Aging*

GAMBAR C.20 Sampel Pengujian f-CaO



GAMBAR C.21 Sampel Hasil f-CaO