

# LAMPIRAN



### Lampiran 1 Contoh Perhitungan Laju Korosi

Unsur	w1	BM	mol	%mol	BmT	Valensi	massa ekuivalen	t
C	13.00%	12	0.010833	0.31662672	3.799520678	2	6	300
Si	4.50%	28.08	0.001603	0.04683827	1.315218696	3	9.36	300
Mn	10.20%	54.94	0.001857	0.05426215	2.981162378	4	13.735	300
P	3.40%	30.97	0.001098	0.03208656	0.993720793	3	10.3233	300
S	0.04%	32.06	1.25E-05	0.00036465	0.011690833	3	10.6867	300
Ni	10.12%	58.71	0.001724	0.0503795	2.957780712	4	14.6775	300
Cr	16.80%	52	0.003231	0.09442596	4.910149799	4	13	300
Mo	2.03%	95.94	0.000212	0.00618418	0.593309767	5	19.188	300
N	12.00%	14	0.008571	0.25051785	3.507249856	2	7	300
Fe	27.91%	55	0.005075	0.14831416	8.157278624	4	13.75	300
	100.00%		0.034215		29.22708214		117.721	

ba (V/dec)	bc (V/dec)	E <sub>corr</sub> , Calc (V)	E <sub>corr</sub> , Obs (V)	j <sub>corr</sub> (A/cm <sup>2</sup> )	i <sub>corr</sub> (A)	Polarization resistanc e (Ω)	E Begin (V)	E End (V)	χ <sup>2</sup>
0.05263	0.12551	-0.156	-0.1496	3.58E-08	1.18E-06	13620	-0.192	-0.087	4.68E-12

Contoh Perhitungan Laju Korosi :

$$d = 7,98 \text{ gr/cm}^3$$

$$F = \text{Tetapan Faraday} = 96.500 \text{ C}$$

$$CR_{(cm/s)} = \frac{I_{corr} \times e}{d F}$$

Untuk merubah menjadi Mils/year dapat dilakukan dengan persamaan dibawah ini :

$$CR_{(mpy)} = \frac{I_{corr} \left( \frac{\mu A}{cm^2} \right) \times e}{d \left( \frac{gr}{cm^3} \right) 96500 \left( \frac{C}{mol} \right) 1cm^2 10^6 \mu A 1jam 1hari 3600s 24jam 365 hari 1inc 1000mil}$$

$$CR_{(mpy)} = \frac{0,129 \times I_{corr} \times e}{d}$$

$$CR_{(mpy)} = \frac{0,129 \times 1.18E - 06 \mu A/cm^2 \times 117.721}{7,98 \frac{gr}{cm^3}}$$

$$CR_{(mpy)} = 0.299967 \text{ mpy}$$

	$\text{mA/cm}^2$	$\text{mm/year}$	$\text{mpy}$	$\text{g}/(\text{m}^2 \times \text{day})$
$\text{mA/cm}^2$	1	$\frac{3.28M}{nd}$	$\frac{129M}{nd}$	$\frac{8.95M}{n}$
$\text{mmpy}$	$\frac{0.306nd}{M}$	1	39.4	$2.74d$
$\text{mpy}$	$\frac{0.00777nd}{M}$	0.0254	1	$0.0694d$
$\text{g}/\text{m}^2/\text{day}$	$\frac{0.112n}{M}$	$\frac{0.365}{d}$	$\frac{14.4}{d}$	1

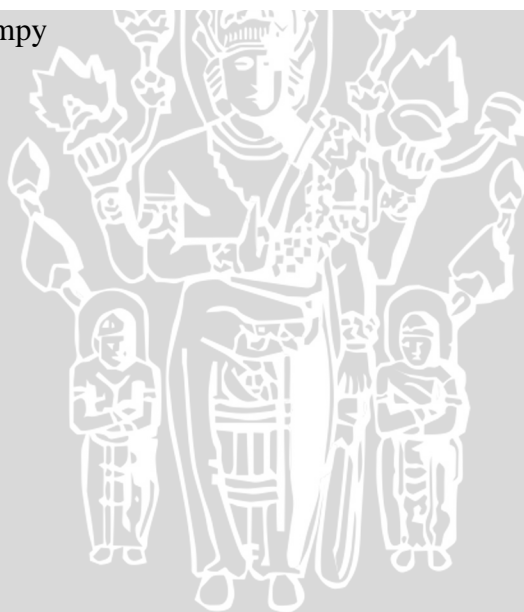
$n$  = Number of electrons freed by the corrosion reaction

$M$  = Atomic mass

$d$  = Density ( $\text{gr}/\text{cm}^3$ )

$$CR_{(\text{mmpy})} = 39,4 \frac{0,129 \times 1.18E - 06 \mu\text{A}/\text{cm}^2 \times 117.721}{7,98 \frac{\text{gr}}{\text{cm}^3}}$$

$$CR_{(\text{mmpy})} = 0.00038596 \text{ mmpy}$$



Lampiran 2 Data hasil Laju korosi pada Sudut 6°

ba (V/dec)	bc (V/dec)	Ecorr, Calc (V)	Ecorr, Obs (V)	jcorr (A/cm <sup>2</sup> )	icorr (A)	Corrosion rate (mm/year)	Polarization resistance (Ω)	E Begin (V)	E End (V)	χ <sup>2</sup>
0.05263	0.12551	-0.156	-0.1496	3.58E-08	1.18E-06	0.0004	13620	0.192	0.087	4.68E-12

Potential applied (V)	Time (s)	WE(1).Current (A)	Index	WE(1).Potential (V)
-0.222	196.92	-2.36E-05	1	-0.222
-0.221	197.92	-2.18E-05	2	-0.221
-0.22	198.92	-2.05E-05	3	-0.22
-0.219	199.92	-1.92E-05	4	-0.218
-0.218	200.92	-1.81E-05	5	-0.217
-0.217	201.92	-1.72E-05	6	-0.216
-0.216	202.92	-1.64E-05	7	-0.215
-0.215	203.92	-1.58E-05	8	-0.214
-0.214	204.92	-1.53E-05	9	-0.213
-0.213	205.92	-1.45E-05	10	-0.212
-0.212	206.92	-1.40E-05	11	-0.211
-0.211	207.92	-1.34E-05	12	-0.21
-0.21	208.92	-1.28E-05	13	-0.209
-0.208	209.92	-1.24E-05	14	-0.208
-0.207	210.92	-1.20E-05	15	-0.207
-0.206	211.92	-1.15E-05	16	-0.206
-0.205	212.92	-1.11E-05	17	-0.205
-0.204	213.92	-1.07E-05	18	-0.204
-0.203	214.92	-1.03E-05	19	-0.202
-0.202	215.92	-9.91E-06	20	-0.201
-0.201	216.92	-9.61E-06	21	-0.2
-0.2	217.92	-9.24E-06	22	-0.199
-0.199	218.92	-8.94E-06	23	-0.198
-0.198	219.92	-8.62E-06	24	-0.197
-0.197	220.92	-8.27E-06	25	-0.196
-0.196	221.92	-7.95E-06	26	-0.195
-0.195	222.92	-7.64E-06	27	-0.194
-0.193	223.92	-7.31E-06	28	-0.193
-0.192	224.92	-6.96E-06	29	-0.192
-0.191	225.92	-6.65E-06	30	-0.191
-0.19	226.92	-6.14E-06	31	-0.19
-0.189	227.92	-5.95E-06	32	-0.189
-0.188	228.92	-5.71E-06	33	-0.188

-0.187	229.92	-5.52E-06	34	-0.187
-0.186	230.92	-5.15E-06	35	-0.186
-0.185	231.92	-4.87E-06	36	-0.184
-0.184	232.92	-4.69E-06	37	-0.183
-0.183	233.92	-4.49E-06	38	-0.182
-0.182	234.92	-4.49E-06	39	-0.181
-0.181	235.92	-4.40E-06	40	-0.18
-0.18	236.92	-4.15E-06	41	-0.179
-0.179	237.92	-3.81E-06	42	-0.178
-0.177	238.92	-3.42E-06	43	-0.177
-0.176	239.92	-3.26E-06	44	-0.176
-0.175	240.92	-3.29E-06	45	-0.175
-0.174	241.92	-3.11E-06	46	-0.174
-0.173	242.92	-2.71E-06	47	-0.173
-0.172	243.92	-2.63E-06	48	-0.172
-0.171	244.92	-2.47E-06	49	-0.171
-0.17	245.92	-2.18E-06	50	-0.17
-0.169	246.92	-1.78E-06	51	-0.168
-0.168	247.92	-7.63E-07	52	-0.167
-0.167	248.92	-1.54E-06	53	-0.166
-0.166	249.92	-1.42E-06	54	-0.165
-0.165	250.92	-1.43E-06	55	-0.164
-0.164	251.92	-1.36E-06	56	-0.163
-0.163	252.92	-1.19E-06	57	-0.162
-0.161	253.92	-9.52E-07	58	-0.161
-0.16	254.92	-7.32E-07	59	-0.16
-0.159	255.92	-7.20E-07	60	-0.159
-0.158	256.92	-2.62E-07	61	-0.158
-0.157	257.92	-3.48E-07	62	-0.157
-0.156	258.92	-4.54E-07	63	-0.155
-0.155	259.92	-2.53E-07	64	-0.155
-0.154	260.92	-3.52E-07	65	-0.154
-0.153	261.92	-2.45E-07	66	-0.152
-0.152	262.92	-2.08E-08	67	-0.152
-0.151	263.92	-2.42E-07	68	-0.15
-0.15	264.92	-5.10E-08	69	-0.149
-0.149	265.92	5.80E-07	70	-0.148
-0.148	266.92	6.74E-08	71	-0.147
-0.146	267.92	4.27E-09	72	-0.146
-0.145	268.92	-1.11E-07	73	-0.145
-0.144	269.92	5.19E-09	74	-0.145
-0.143	270.92	2.75E-08	75	-0.143
-0.142	271.92	2.34E-07	76	-0.141
-0.141	272.92	3.05E-07	77	-0.141
-0.14	273.92	5.09E-07	78	-0.14

-0.139	274.92	4.37E-07	79	-0.139
-0.138	275.92	5.24E-07	80	-0.137
-0.137	276.92	7.67E-07	81	-0.136
-0.136	277.92	6.10E-07	82	-0.135
-0.135	278.92	7.67E-07	83	-0.135
-0.134	279.92	8.49E-07	84	-0.133
-0.133	280.92	9.34E-07	85	-0.133
-0.132	281.92	9.97E-07	86	-0.132
-0.13	282.92	1.14E-06	87	-0.131
-0.129	283.92	1.16E-06	88	-0.129
-0.128	284.92	1.16E-06	89	-0.128
-0.127	285.92	1.13E-06	90	-0.127
-0.126	286.92	1.21E-06	91	-0.126
-0.125	287.92	1.37E-06	92	-0.124
-0.124	288.92	1.52E-06	93	-0.124
-0.123	289.92	1.46E-06	94	-0.123
-0.122	290.92	1.51E-06	95	-0.122
-0.121	291.92	1.68E-06	96	-0.121
-0.12	292.92	1.70E-06	97	-0.12
-0.119	293.92	1.76E-06	98	-0.118
-0.118	294.92	2.04E-06	99	-0.118
-0.117	295.92	1.84E-06	100	-0.116
-0.116	296.92	1.98E-06	101	-0.116
-0.114	297.92	1.91E-06	102	-0.114
-0.113	298.92	1.99E-06	103	-0.114
-0.112	299.92	2.16E-06	104	-0.113
-0.111	300.92	2.22E-06	105	-0.111
-0.11	301.92	2.32E-06	106	-0.11
-0.109	302.92	2.30E-06	107	-0.109
-0.108	303.92	2.33E-06	108	-0.108
-0.107	304.92	2.37E-06	109	-0.107
-0.106	305.92	2.34E-06	110	-0.106
-0.105	306.92	2.41E-06	111	-0.105
-0.104	307.92	2.44E-06	112	-0.104
-0.103	308.92	2.59E-06	113	-0.103
-0.102	309.92	2.66E-06	114	-0.101
-0.101	310.92	2.75E-06	115	-0.101
-0.099	311.92	2.91E-06	116	-0.1
-0.098	312.92	3.07E-06	117	-0.099
-0.097	313.92	2.95E-06	118	-0.097
-0.096	314.92	3.16E-06	119	-0.096
-0.095	315.92	3.43E-06	120	-0.095
-0.094	316.92	3.52E-06	121	-0.094
-0.093	317.92	3.34E-06	122	-0.093
-0.092	318.92	3.46E-06	123	-0.092

-0.091	319.92	3.40E-06	124	-0.091
-0.09	320.92	3.47E-06	125	-0.09
-0.089	321.92	3.39E-06	126	-0.089
-0.088	322.92	3.40E-06	127	-0.087
-0.087	323.92	3.48E-06	128	-0.087
-0.086	324.92	3.55E-06	129	-0.085
-0.085	325.92	3.66E-06	130	-0.084
-0.083	326.92	3.81E-06	131	-0.083
-0.082	327.92	3.77E-06	132	-0.082
-0.081	328.92	3.82E-06	133	-0.081
-0.08	329.92	3.74E-06	134	-0.08
-0.079	330.92	3.91E-06	135	-0.079
-0.078	331.92	3.88E-06	136	-0.078
-0.077	332.92	3.90E-06	137	-0.077
-0.076	333.92	3.94E-06	138	-0.076
-0.075	334.92	4.07E-06	139	-0.075
-0.074	335.92	4.45E-06	140	-0.074
-0.073	336.92	4.71E-06	141	-0.073
-0.072	337.92	4.57E-06	142	-0.071
-0.071	338.92	5.30E-06	143	-0.07
-0.07	339.92	4.75E-06	144	-0.069
-0.069	340.92	4.39E-06	145	-0.068
-0.067	341.92	4.75E-06	146	-0.067
-0.066	342.92	4.71E-06	147	-0.066
-0.065	343.92	4.82E-06	148	-0.065
-0.064	344.92	6.44E-06	149	-0.064
-0.063	345.92	5.58E-06	150	-0.063
-0.062	346.92	6.27E-06	151	-0.062
-0.061	347.92	5.26E-06	152	-0.061
-0.06	348.92	5.77E-06	153	-0.06
-0.059	349.92	5.38E-06	154	-0.059
-0.058	350.92	5.27E-06	155	-0.058
-0.057	351.92	5.25E-06	156	-0.057
-0.056	352.92	5.32E-06	157	-0.055
-0.055	353.92	5.50E-06	158	-0.055
-0.054	354.92	5.54E-06	159	-0.053
-0.052	355.92	5.71E-06	160	-0.052
-0.051	356.92	5.95E-06	161	-0.051
-0.05	357.92	6.06E-06	162	-0.05
-0.049	358.92	6.16E-06	163	-0.049
-0.048	359.92	6.37E-06	164	-0.048
-0.047	360.92	6.85E-06	165	-0.047
-0.046	361.92	7.21E-06	166	-0.046
-0.045	362.92	7.36E-06	167	-0.045
-0.044	363.92	7.54E-06	168	-0.044

-0.043	364.92	7.32E-06	169	-0.043
-0.042	365.92	6.70E-06	170	-0.041
-0.041	366.92	6.22E-06	171	-0.04
-0.04	367.92	6.20E-06	172	-0.039
-0.039	368.92	6.17E-06	173	-0.038
-0.038	369.92	6.13E-06	174	-0.037
-0.036	370.92	6.12E-06	175	-0.036
-0.035	371.92	6.19E-06	176	-0.035
-0.034	372.92	6.56E-06	177	-0.034
-0.033	373.92	5.97E-06	178	-0.033
-0.032	374.92	5.85E-06	179	-0.032
-0.031	375.92	5.80E-06	180	-0.031
-0.03	376.92	5.87E-06	181	-0.03
-0.029	377.92	5.97E-06	182	-0.029
-0.028	378.92	6.09E-06	183	-0.028
-0.027	379.92	6.21E-06	184	-0.027
-0.026	380.92	6.12E-06	185	-0.025
-0.025	381.92	6.06E-06	186	-0.024
-0.024	382.92	6.07E-06	187	-0.023
-0.023	383.92	6.04E-06	188	-0.022





Lampiran 3 Data hasil Laju korosi pada Raw

ba (V/dec)	bc (V/dec)	E <sub>corr</sub> , Calc (V)	E <sub>corr</sub> , Obs (V)	j <sub>corr</sub> (A/cm <sup>2</sup> )	i <sub>corr</sub> (A)	Corrosion rate (mm/year)	Polariza tion resistanc e (Ω)	E Begin (V)	E End (V)	χ <sup>2</sup>
0.1299	0.17371	-0.25277	-0.24217	2.97E-05	2.97E-05	0.31986	1087.1	-0.30289	-0.15549	5.55E-11

Potential applied (V)	Time (s)	WE(1).Current (A)	Index	WE(1).Potential (V)
-0.32532	196.815	-0.00017	1	-0.32443
-0.32425	197.815	-0.00016	2	-0.3234
-0.32318	198.815	-0.00015	3	-0.32227
-0.32211	199.815	-0.00014	4	-0.32126
-0.32105	200.815	-0.00013	5	-0.32019
-0.31998	201.815	-0.00013	6	-0.31912
-0.31891	202.815	-0.00012	7	-0.31809
-0.31784	203.815	-0.00012	8	-0.31699
-0.31677	204.815	-0.00012	9	-0.31592
-0.3157	205.815	-0.00011	10	-0.31482
-0.31464	206.815	-0.00011	11	-0.31378
-0.31357	207.815	-0.0001	12	-0.31274
-0.3125	208.815	-0.0001	13	-0.31171
-0.31143	209.815	-9.73E-05	14	-0.31058
-0.31036	210.815	-9.43E-05	15	-0.30957
-0.3093	211.815	-9.14E-05	16	-0.3085
-0.30823	212.815	-8.87E-05	17	-0.30737
-0.30716	213.815	-8.60E-05	18	-0.30634
-0.30609	214.815	-8.31E-05	19	-0.30515
-0.30502	215.815	-8.06E-05	20	-0.30411
-0.30396	216.815	-7.82E-05	21	-0.30304
-0.30289	217.815	-7.60E-05	22	-0.30197
-0.30182	218.815	-7.38E-05	23	-0.30093
-0.30075	219.815	-7.16E-05	24	-0.29987
-0.29968	220.815	-6.95E-05	25	-0.2988
-0.29862	221.815	-6.75E-05	26	-0.29773
-0.29755	222.815	-6.55E-05	27	-0.29666
-0.29648	223.815	-6.36E-05	28	-0.29562
-0.29541	224.815	-6.18E-05	29	-0.29456
-0.29434	225.815	-5.99E-05	30	-0.29349
-0.29327	226.815	-5.82E-05	31	-0.29245
-0.29221	227.815	-5.65E-05	32	-0.29132

-0.29114	228.815	-5.49E-05	33	-0.29034
-0.29007	229.815	-5.33E-05	34	-0.28925
-0.289	230.815	-5.16E-05	35	-0.28818
-0.28793	231.815	-5.00E-05	36	-0.28711
-0.28687	232.815	-4.85E-05	37	-0.28604
-0.2858	233.815	-4.69E-05	38	-0.28494
-0.28473	234.815	-4.54E-05	39	-0.28388
-0.28366	235.815	-4.39E-05	40	-0.28284
-0.28259	236.815	-4.25E-05	41	-0.28174
-0.28153	237.815	-4.11E-05	42	-0.28067
-0.28046	238.815	-3.97E-05	43	-0.27969
-0.27939	239.815	-3.81E-05	44	-0.27856
-0.27832	240.815	-3.70E-05	45	-0.2775
-0.27725	241.815	-3.58E-05	46	-0.27646
-0.27618	242.815	-3.44E-05	47	-0.27533
-0.27512	243.815	-3.31E-05	48	-0.27426
-0.27405	244.815	-3.18E-05	49	-0.27325
-0.27298	245.815	-3.05E-05	50	-0.27225
-0.27191	246.815	-2.94E-05	51	-0.27115
-0.27084	247.815	-2.83E-05	52	-0.27011
-0.26978	248.815	-2.72E-05	53	-0.26898
-0.26871	249.815	-2.59E-05	54	-0.26791
-0.26764	250.815	-2.48E-05	55	-0.26688
-0.26657	251.815	-2.36E-05	56	-0.26581
-0.2655	252.815	-2.24E-05	57	-0.26474
-0.26444	253.815	-2.14E-05	58	-0.26367
-0.26337	254.815	-2.03E-05	59	-0.26257
-0.2623	255.815	-1.91E-05	60	-0.26157
-0.26123	256.815	-1.81E-05	61	-0.26047
-0.26016	257.815	-1.70E-05	62	-0.2594
-0.25909	258.815	-1.59E-05	63	-0.25833
-0.25803	259.815	-1.48E-05	64	-0.25726
-0.25696	260.815	-1.38E-05	65	-0.25623
-0.25589	261.815	-1.29E-05	66	-0.25519
-0.25482	262.815	-1.18E-05	67	-0.25403
-0.25375	263.815	-1.07E-05	68	-0.25305
-0.25269	264.815	-9.69E-06	69	-0.25198
-0.25162	265.815	-8.74E-06	70	-0.25085
-0.25055	266.815	-7.71E-06	71	-0.24985
-0.24948	267.815	-6.70E-06	72	-0.24881
-0.24841	268.815	-5.76E-06	73	-0.24771
-0.24735	269.815	-4.70E-06	74	-0.24664
-0.24628	270.815	-3.78E-06	75	-0.24561
-0.24521	271.815	-2.69E-06	76	-0.24454
-0.24414	272.815	-1.78E-06	77	-0.24353

-0.24307	273.815	-7.72E-07	78	-0.2424
-0.242	274.815	1.43E-07	79	-0.2413
-0.24094	275.815	9.49E-07	80	-0.2402
-0.23987	276.815	1.81E-06	81	-0.23935
-0.2388	277.815	2.74E-06	82	-0.2381
-0.23773	278.815	3.81E-06	83	-0.23718
-0.23666	279.815	4.62E-06	84	-0.23612
-0.2356	280.815	5.64E-06	85	-0.23514
-0.23453	281.815	6.60E-06	86	-0.23404
-0.23346	282.815	7.55E-06	87	-0.23303
-0.23239	283.815	8.56E-06	88	-0.23178
-0.23132	284.815	9.47E-06	89	-0.2309
-0.23026	285.815	1.05E-05	90	-0.22989
-0.22919	286.815	1.15E-05	91	-0.22849
-0.22812	287.815	1.26E-05	92	-0.22766
-0.22705	288.815	1.35E-05	93	-0.22665
-0.22598	289.815	1.43E-05	94	-0.22553
-0.22492	290.815	1.52E-05	95	-0.22449
-0.22385	291.815	1.64E-05	96	-0.22342
-0.22278	292.815	1.73E-05	97	-0.22235
-0.22171	293.815	1.81E-05	98	-0.22122
-0.22064	294.815	1.91E-05	99	-0.22025
-0.21957	295.815	2.01E-05	100	-0.21924
-0.21851	296.815	2.12E-05	101	-0.21832
-0.21744	297.815	2.24E-05	102	-0.21707
-0.21637	298.815	2.32E-05	103	-0.2161
-0.2153	299.815	2.41E-05	104	-0.215
-0.21423	300.815	2.52E-05	105	-0.21396
-0.21317	301.815	2.63E-05	106	-0.21292
-0.2121	302.815	2.71E-05	107	-0.21176
-0.21103	303.815	2.79E-05	108	-0.21079
-0.20996	304.815	2.91E-05	109	-0.20978
-0.20889	305.815	3.02E-05	110	-0.20862
-0.20783	306.815	3.12E-05	111	-0.20731
-0.20676	307.815	3.22E-05	112	-0.20615
-0.20569	308.815	3.31E-05	113	-0.20511
-0.20462	309.815	3.41E-05	114	-0.20404
-0.20355	310.815	3.48E-05	115	-0.20297
-0.20248	311.815	3.53E-05	116	-0.20194
-0.20142	312.815	3.61E-05	117	-0.20084
-0.20035	313.815	3.71E-05	118	-0.19977
-0.19928	314.815	3.82E-05	119	-0.19873
-0.19821	315.815	3.93E-05	120	-0.19769
-0.19714	316.815	4.04E-05	121	-0.19663
-0.19608	317.815	4.16E-05	122	-0.1955

-0.19501	318.815	4.32E-05	123	-0.19446
-0.19394	319.815	4.47E-05	124	-0.19345
-0.19287	320.815	4.62E-05	125	-0.19235
-0.1918	321.815	4.74E-05	126	-0.19135
-0.19074	322.815	4.83E-05	127	-0.19028
-0.18967	323.815	4.93E-05	128	-0.18921
-0.1886	324.815	5.04E-05	129	-0.18817
-0.18753	325.815	5.09E-05	130	-0.18701
-0.18646	326.815	5.19E-05	131	-0.18604
-0.18539	327.815	5.29E-05	132	-0.18497
-0.18433	328.815	5.37E-05	133	-0.1839
-0.18326	329.815	5.49E-05	134	-0.1828
-0.18219	330.815	5.59E-05	135	-0.18182
-0.18112	331.815	5.70E-05	136	-0.18073
-0.18005	332.815	5.81E-05	137	-0.17966
-0.17899	333.815	5.92E-05	138	-0.17853
-0.17792	334.815	6.04E-05	139	-0.17755
-0.17685	335.815	6.16E-05	140	-0.17645
-0.17578	336.815	6.27E-05	141	-0.17535
-0.17471	337.815	6.39E-05	142	-0.17432
-0.17365	338.815	6.50E-05	143	-0.17325
-0.17258	339.815	6.61E-05	144	-0.17218
-0.17151	340.815	6.72E-05	145	-0.17111
-0.17044	341.815	6.84E-05	146	-0.17004
-0.16937	342.815	6.96E-05	147	-0.16895
-0.1683	343.815	7.08E-05	148	-0.16794
-0.16724	344.815	7.19E-05	149	-0.16684
-0.16617	345.815	7.32E-05	150	-0.16574
-0.1651	346.815	7.43E-05	151	-0.16476
-0.16403	347.815	7.55E-05	152	-0.16361
-0.16296	348.815	7.68E-05	153	-0.1626
-0.1619	349.815	7.81E-05	154	-0.16153
-0.16083	350.815	7.95E-05	155	-0.16049
-0.15976	351.815	8.08E-05	156	-0.15939
-0.15869	352.815	8.22E-05	157	-0.15836
-0.15762	353.815	8.44E-05	158	-0.15735
-0.15656	354.815	8.58E-05	159	-0.15619
-0.15549	355.815	8.72E-05	160	-0.15521
-0.15442	356.815	8.90E-05	161	-0.15414
-0.15335	357.815	9.11E-05	162	-0.15305
-0.15228	358.815	9.30E-05	163	-0.15201
-0.15122	359.815	9.48E-05	164	-0.15088
-0.15015	360.815	9.65E-05	165	-0.14981
-0.14908	361.815	9.48E-05	166	-0.14868
-0.14801	362.815	9.63E-05	167	-0.14771

-0.14694	363.815	9.77E-05	168	-0.14661
-0.14587	364.815	9.93E-05	169	-0.14554
-0.14481	365.815	0.000101	170	-0.14453
-0.14374	366.815	0.000102	171	-0.14346
-0.14267	367.815	0.000104	172	-0.1424
-0.1416	368.815	0.000106	173	-0.14133
-0.14053	369.815	0.000107	174	-0.14026
-0.13947	370.815	0.000109	175	-0.13919
-0.1384	371.815	0.00011	176	-0.13815
-0.13733	372.815	0.000112	177	-0.13702
-0.13626	373.815	0.000114	178	-0.13602
-0.13519	374.815	0.000116	179	-0.13489
-0.13413	375.815	0.000118	180	-0.13385
-0.13306	376.815	0.00012	181	-0.13275
-0.13199	377.815	0.000121	182	-0.13171
-0.13092	378.815	0.000123	183	-0.13068
-0.12985	379.815	0.000125	184	-0.12955
-0.12878	380.815	0.000127	185	-0.12854
-0.12772	381.815	0.000129	186	-0.12747
-0.12665	382.815	0.000131	187	-0.1264
-0.12558	383.815	0.000133	188	-0.12531



Lampiran 4 Data hasil Laju korosi pada Sudut 2°

ba (V/dec)	bc (V/dec)	E <sub>corr</sub> , Calc (V)	E <sub>corr</sub> , Obs (V)	j <sub>corr</sub> (A/cm <sup>2</sup> )	i <sub>corr</sub> (A)	Corrosion rate (mm/year)	Polariz ation resista nce (Ω)	E Begin (V)	E End (V)	χ <sup>2</sup>
0.1132	0.1474 5	- 0.3119 4	- 0.3066 5	6.42E -07	2.12E -05	0.006911	1313.6	- 0.3614 8	- 0.2140 8	2.02E- 10

Potential applied (V)	Time (s)	WE(1).Current (A)	Index	WE(1).Potential (V)
-0.39459	196.827	-0.00015	1	-0.393585
-0.39352	197.827	-0.00014	2	-0.392517
-0.39246	198.827	-0.00014	3	-0.391449
-0.39139	199.827	-0.00013	4	-0.390381
-0.39032	200.827	-0.00013	5	-0.389343
-0.38925	201.827	-0.00012	6	-0.388306
-0.38818	202.827	-0.00012	7	-0.387177
-0.38712	203.827	-0.00011	8	-0.386139
-0.38605	204.827	-0.00011	9	-0.385071
-0.38498	205.827	-0.00011	10	-0.384003
-0.38391	206.827	-0.0001	11	-0.382904
-0.38284	207.827	-0.0001	12	-0.381866
-0.38178	208.827	-9.77E-05	13	-0.380768
-0.38071	209.827	-9.46E-05	14	-0.3797
-0.37964	210.827	-9.16E-05	15	-0.378662
-0.37857	211.827	-8.89E-05	16	-0.377655
-0.3775	212.827	-8.63E-05	17	-0.376556
-0.37643	213.827	-8.34E-05	18	-0.375397
-0.37537	214.827	-8.02E-05	19	-0.374329
-0.3743	215.827	-7.36E-05	20	-0.373291
-0.37323	216.827	-7.70E-05	21	-0.372192
-0.37216	217.827	-7.48E-05	22	-0.371124
-0.37109	218.827	-7.28E-05	23	-0.370087
-0.37003	219.827	-7.06E-05	24	-0.369019
-0.36896	220.827	-6.87E-05	25	-0.36792
-0.36789	221.827	-6.67E-05	26	-0.366882
-0.36682	222.827	-6.48E-05	27	-0.365875
-0.36575	223.827	-6.30E-05	28	-0.364716
-0.36469	224.827	-6.13E-05	29	-0.363708
-0.36362	225.827	-5.94E-05	30	-0.36264
-0.36255	226.827	-5.76E-05	31	-0.361572
-0.36148	227.827	-5.60E-05	32	-0.360474

-0.36041	228.827	-5.44E-05	33	-0.359406
-0.35934	229.827	-5.28E-05	34	-0.358429
-0.35828	230.827	-5.13E-05	35	-0.3573
-0.35721	231.827	-4.97E-05	36	-0.356262
-0.35614	232.827	-4.82E-05	37	-0.355225
-0.35507	233.827	-4.67E-05	38	-0.354126
-0.354	234.827	-4.52E-05	39	-0.353119
-0.35294	235.827	-4.38E-05	40	-0.35202
-0.35187	236.827	-4.23E-05	41	-0.350922
-0.3508	237.827	-4.10E-05	42	-0.349854
-0.34973	238.827	-3.98E-05	43	-0.348755
-0.34866	239.827	-3.86E-05	44	-0.347717
-0.3476	240.827	-3.74E-05	45	-0.346649
-0.34653	241.827	-3.56E-05	46	-0.345581
-0.34546	242.827	-3.49E-05	47	-0.344482
-0.34439	243.827	-3.38E-05	48	-0.343414
-0.34332	244.827	-3.25E-05	49	-0.342407
-0.34226	245.827	-3.14E-05	50	-0.341339
-0.34119	246.827	-3.02E-05	51	-0.340271
-0.34012	247.827	-2.92E-05	52	-0.339203
-0.33905	248.827	-2.81E-05	53	-0.338135
-0.33798	249.827	-2.70E-05	54	-0.337036
-0.33691	250.827	-2.59E-05	55	-0.335968
-0.33585	251.827	-2.49E-05	56	-0.334991
-0.33478	252.827	-2.37E-05	57	-0.333893
-0.33371	253.827	-2.27E-05	58	-0.332825
-0.33264	254.827	-2.17E-05	59	-0.331757
-0.33157	255.827	-2.08E-05	60	-0.330688
-0.33051	256.827	-1.98E-05	61	-0.329651
-0.32944	257.827	-1.87E-05	62	-0.328552
-0.32837	258.827	-1.79E-05	63	-0.327484
-0.3273	259.827	-1.69E-05	64	-0.326477
-0.32623	260.827	-1.60E-05	65	-0.325409
-0.32517	261.827	-1.49E-05	66	-0.32428
-0.3241	262.827	-1.40E-05	67	-0.323242
-0.32303	263.827	-1.32E-05	68	-0.322174
-0.32196	264.827	-1.23E-05	69	-0.321167
-0.32089	265.827	-1.13E-05	70	-0.320099
-0.31982	266.827	-1.04E-05	71	-0.319
-0.31876	267.827	-9.57E-06	72	-0.317963
-0.31769	268.827	-8.74E-06	73	-0.316833
-0.31662	269.827	-7.90E-06	74	-0.315796
-0.31555	270.827	-7.08E-06	75	-0.314728
-0.31448	271.827	-6.10E-06	76	-0.31366
-0.31342	272.827	-5.26E-06	77	-0.312561

-0.31235	273.827	-4.28E-06	78	-0.311493
-0.31128	274.827	-3.52E-06	79	-0.310486
-0.31021	275.827	-2.65E-06	80	-0.309448
-0.30914	276.827	-1.82E-06	81	-0.308319
-0.30808	277.827	-9.37E-07	82	-0.30722
-0.30701	278.827	-2.87E-07	83	-0.306061
-0.30594	279.827	5.80E-07	84	-0.305023
-0.30487	280.827	1.32E-06	85	-0.303955
-0.3038	281.827	2.14E-06	86	-0.303162
-0.30273	282.827	2.97E-06	87	-0.301941
-0.30167	283.827	3.60E-06	88	-0.300903
-0.3006	284.827	4.64E-06	89	-0.299866
-0.29953	285.827	5.40E-06	90	-0.298889
-0.29846	286.827	6.17E-06	91	-0.297791
-0.29739	287.827	7.03E-06	92	-0.296661
-0.29633	288.827	7.63E-06	93	-0.295654
-0.29526	289.827	8.52E-06	94	-0.294678
-0.29419	290.827	9.27E-06	95	-0.293518
-0.29312	291.827	1.01E-05	96	-0.292572
-0.29205	292.827	1.08E-05	97	-0.291534
-0.29099	293.827	1.15E-05	98	-0.290253
-0.28992	294.827	1.22E-05	99	-0.289429
-0.28885	295.827	1.33E-05	100	-0.2883
-0.28778	296.827	1.39E-05	101	-0.287079
-0.28671	297.827	1.45E-05	102	-0.286072
-0.28565	298.827	1.52E-05	103	-0.285187
-0.28458	299.827	1.63E-05	104	-0.283997
-0.28351	300.827	1.80E-05	105	-0.28299
-0.28244	301.827	1.94E-05	106	-0.281921
-0.28137	302.827	2.21E-05	107	-0.280945
-0.2803	303.827	2.01E-05	108	-0.279785
-0.27924	304.827	2.08E-05	109	-0.278839
-0.27817	305.827	2.09E-05	110	-0.277649
-0.2771	306.827	2.21E-05	111	-0.276672
-0.27603	307.827	2.29E-05	112	-0.275604
-0.27496	308.827	2.37E-05	113	-0.274445
-0.2739	309.827	2.48E-05	114	-0.273438
-0.27283	310.827	2.59E-05	115	-0.272369
-0.27176	311.827	2.69E-05	116	-0.271423
-0.27069	312.827	2.78E-05	117	-0.270233
-0.26962	313.827	2.87E-05	118	-0.269196
-0.26856	314.827	2.94E-05	119	-0.26825
-0.26749	315.827	3.09E-05	120	-0.267212
-0.26642	316.827	3.11E-05	121	-0.265747
-0.26535	317.827	3.19E-05	122	-0.264618



-0.26428	318.827	3.37E-05	123	-0.263611
-0.26321	319.827	3.43E-05	124	-0.262573
-0.26215	320.827	3.49E-05	125	-0.261444
-0.26108	321.827	3.59E-05	126	-0.260406
-0.26001	322.827	3.75E-05	127	-0.259338
-0.25894	323.827	3.75E-05	128	-0.258209
-0.25787	324.827	3.82E-05	129	-0.257233
-0.25681	325.827	3.73E-05	130	-0.256134
-0.25574	326.827	3.85E-05	131	-0.255035
-0.25467	327.827	3.94E-05	132	-0.254028
-0.2536	328.827	4.02E-05	133	-0.25293
-0.25253	329.827	4.11E-05	134	-0.251892
-0.25147	330.827	4.19E-05	135	-0.250854
-0.2504	331.827	4.30E-05	136	-0.249725
-0.24933	332.827	4.42E-05	137	-0.248657
-0.24826	333.827	4.53E-05	138	-0.24765
-0.24719	334.827	4.79E-05	139	-0.246582
-0.24612	335.827	4.73E-05	140	-0.245544
-0.24506	336.827	4.96E-05	141	-0.244476
-0.24399	337.827	5.09E-05	142	-0.243408
-0.24292	338.827	5.02E-05	143	-0.24231
-0.24185	339.827	5.26E-05	144	-0.241272
-0.24078	340.827	5.36E-05	145	-0.240234
-0.23972	341.827	5.66E-05	146	-0.239136
-0.23865	342.827	5.64E-05	147	-0.238129
-0.23758	343.827	5.79E-05	148	-0.237
-0.23651	344.827	5.86E-05	149	-0.235962
-0.23544	345.827	5.80E-05	150	-0.234894
-0.23438	346.827	5.92E-05	151	-0.233795
-0.23331	347.827	6.00E-05	152	-0.232788
-0.23224	348.827	6.13E-05	153	-0.231659
-0.23117	349.827	6.36E-05	154	-0.230591
-0.2301	350.827	6.36E-05	155	-0.229553
-0.22903	351.827	6.51E-05	156	-0.228546
-0.22797	352.827	6.64E-05	157	-0.227417
-0.2269	353.827	6.81E-05	158	-0.22641
-0.22583	354.827	6.92E-05	159	-0.225281
-0.22476	355.827	7.05E-05	160	-0.224243
-0.22369	356.827	7.24E-05	161	-0.223206
-0.22263	357.827	7.47E-05	162	-0.222137
-0.22156	358.827	7.69E-05	163	-0.221039
-0.22049	359.827	7.95E-05	164	-0.220001
-0.21942	360.827	7.97E-05	165	-0.218933
-0.21835	361.827	8.30E-05	166	-0.217865
-0.21729	362.827	9.22E-05	167	-0.216766

-0.21622	363.827	8.27E-05	168	-0.215759
-0.21515	364.827	8.38E-05	169	-0.21463
-0.21408	365.827	8.41E-05	170	-0.213593
-0.21301	366.827	8.53E-05	171	-0.212555
-0.21195	367.827	8.74E-05	172	-0.211487
-0.21088	368.827	8.90E-05	173	-0.210388
-0.20981	369.827	9.18E-05	174	-0.209381
-0.20874	370.827	9.34E-05	175	-0.208282
-0.20767	371.827	9.55E-05	176	-0.207214
-0.2066	372.827	9.81E-05	177	-0.206177
-0.20554	373.827	9.82E-05	178	-0.205109
-0.20447	374.827	9.96E-05	179	-0.203979
-0.2034	375.827	0.000101	180	-0.203003
-0.20233	376.827	0.000104	181	-0.201904
-0.20126	377.827	0.000106	182	-0.200806
-0.2002	378.827	0.000106	183	-0.199738
-0.19913	379.827	0.000107	184	-0.1987
-0.19806	380.827	0.000109	185	-0.197662
-0.19699	381.827	0.000111	186	-0.196564
-0.19592	382.827	0.000112	187	-0.195526
-0.19486	383.827	0.000112	188	-0.194489



Lampiran 5 Data hasil Laju korosi pada Sudut 0°

ba (V/dec)	bc (V/dec)	Ecorr, Calc (V)	Ecorr, Obs (V)	jcorr (A/cm <sup>2</sup> )	icorr (A)	Corrosion rate (mm/year)	Polarization resistance (Ω)	E Begin (V)	E End (V)
0.059613	0.1186	-0.1625	-0.15766	2.34E-06	2.34E-06	0.025226	7356.6	-0.19699	-0.08

Potential applied (V)	Time (s)	WE(1).Current (A)	Index	WE(1).Potential (V)
-0.238	197.17	-4.82E-05	1	-0.2368
-0.237	198.17	-4.48E-05	2	-0.2358
-0.235	199.17	-4.20E-05	3	-0.2347
-0.234	200.17	-3.97E-05	4	-0.2337
-0.233	201.17	-3.76E-05	5	-0.2325
-0.232	202.17	-3.56E-05	6	-0.2315
-0.231	203.17	-3.40E-05	7	-0.2305
-0.23	204.17	-3.23E-05	8	-0.2293
-0.229	205.17	-3.09E-05	9	-0.2283
-0.228	206.17	-2.96E-05	10	-0.2272
-0.227	207.17	-2.83E-05	11	-0.2262
-0.226	208.17	-2.72E-05	12	-0.2251
-0.225	209.17	-2.61E-05	13	-0.2241
-0.224	210.17	-2.51E-05	14	-0.2231
-0.223	211.17	-2.41E-05	15	-0.2219
-0.222	212.17	-2.32E-05	16	-0.2209
-0.22	213.17	-2.23E-05	17	-0.2198
-0.219	214.17	-2.15E-05	18	-0.2187
-0.218	215.17	-2.06E-05	19	-0.2177
-0.217	216.17	-1.98E-05	20	-0.2166
-0.216	217.17	-1.91E-05	21	-0.2155
-0.215	218.17	-1.83E-05	22	-0.2145
-0.214	219.17	-1.77E-05	23	-0.2134
-0.213	220.17	-1.70E-05	24	-0.2123
-0.212	221.17	-1.64E-05	25	-0.2113
-0.211	222.17	-1.58E-05	26	-0.2102
-0.21	223.17	-1.52E-05	27	-0.2092
-0.209	224.17	-1.47E-05	28	-0.2081
-0.208	225.17	-1.41E-05	29	-0.2071
-0.207	226.17	-1.35E-05	30	-0.206
-0.206	227.17	-1.29E-05	31	-0.2049
-0.204	228.17	-1.24E-05	32	-0.2039

-0.203	229.17	-1.19E-05	33	-0.2028
-0.202	230.17	-1.15E-05	34	-0.2017
-0.201	231.17	-1.10E-05	35	-0.2007
-0.2	232.17	-1.06E-05	36	-0.1996
-0.199	233.17	-1.01E-05	37	-0.1985
-0.198	234.17	-9.61E-06	38	-0.1974
-0.197	235.17	-9.20E-06	39	-0.1964
-0.196	236.17	-8.88E-06	40	-0.1953
-0.195	237.17	-8.58E-06	41	-0.1943
-0.194	238.17	-8.15E-06	42	-0.1932
-0.193	239.17	-7.77E-06	43	-0.192
-0.192	240.17	-7.49E-06	44	-0.1911
-0.191	241.17	-7.07E-06	45	-0.19
-0.19	242.17	-6.77E-06	46	-0.1889
-0.188	243.17	-6.51E-06	47	-0.1877
-0.187	244.17	-6.19E-06	48	-0.1867
-0.186	245.17	-5.91E-06	49	-0.1856
-0.185	246.17	-5.62E-06	50	-0.1847
-0.184	247.17	-5.34E-06	51	-0.1835
-0.183	248.17	-5.08E-06	52	-0.1826
-0.182	249.17	-4.82E-06	53	-0.1815
-0.181	250.17	-4.54E-06	54	-0.1804
-0.18	251.17	-4.22E-06	55	-0.1793
-0.179	252.17	-4.02E-06	56	-0.1783
-0.178	253.17	-3.67E-06	57	-0.1771
-0.177	254.17	-3.47E-06	58	-0.1761
-0.176	255.17	-3.24E-06	59	-0.175
-0.175	256.17	-2.95E-06	60	-0.1741
-0.173	257.17	-2.73E-06	61	-0.1731
-0.172	258.17	-2.48E-06	62	-0.172
-0.171	259.17	-2.18E-06	63	-0.1707
-0.17	260.17	-2.11E-06	64	-0.1697
-0.169	261.17	-1.88E-06	65	-0.1688
-0.168	262.17	-1.77E-06	66	-0.1677
-0.167	263.17	-1.60E-06	67	-0.1666
-0.166	264.17	-1.43E-06	68	-0.1655
-0.165	265.17	-1.22E-06	69	-0.1646
-0.164	266.17	-1.03E-06	70	-0.1633
-0.163	267.17	-9.70E-07	71	-0.1623
-0.162	268.17	-7.08E-07	72	-0.1613
-0.161	269.17	-5.04E-07	73	-0.1602
-0.16	270.17	-3.42E-07	74	-0.1591
-0.159	271.17	-1.46E-07	75	-0.1579
-0.157	272.17	3.08E-08	76	-0.1574
-0.156	273.17	2.26E-07	77	-0.1557

-0.155	274.17	4.29E-07	78	-0.155
-0.154	275.17	5.93E-07	79	-0.1544
-0.153	276.17	7.21E-07	80	-0.1533
-0.152	277.17	9.12E-07	81	-0.1518
-0.151	278.17	1.10E-06	82	-0.1512
-0.15	279.17	1.29E-06	83	-0.1497
-0.149	280.17	1.49E-06	84	-0.1488
-0.148	281.17	1.65E-06	85	-0.1472
-0.147	282.17	1.76E-06	86	-0.1465
-0.146	283.17	1.85E-06	87	-0.1457
-0.145	284.17	1.94E-06	88	-0.1448
-0.144	285.17	2.01E-06	89	-0.1433
-0.143	286.17	2.06E-06	90	-0.142
-0.141	287.17	1.89E-06	91	-0.1412
-0.14	288.17	2.35E-06	92	-0.1407
-0.139	289.17	2.90E-06	93	-0.1398
-0.138	290.17	2.20E-06	94	-0.1379
-0.137	291.17	2.31E-06	95	-0.137
-0.136	292.17	2.38E-06	96	-0.136
-0.135	293.17	2.54E-06	97	-0.1355
-0.134	294.17	2.52E-06	98	-0.134
-0.133	295.17	2.56E-06	99	-0.1331
-0.132	296.17	2.63E-06	100	-0.1321
-0.131	297.17	2.76E-06	101	-0.1307
-0.13	298.17	2.95E-06	102	-0.1299
-0.129	299.17	3.03E-06	103	-0.1285
-0.128	300.17	3.01E-06	104	-0.1272
-0.126	301.17	3.03E-06	105	-0.126
-0.125	302.17	3.24E-06	106	-0.1251
-0.124	303.17	4.33E-06	107	-0.124
-0.123	304.17	3.73E-06	108	-0.123
-0.122	305.17	3.90E-06	109	-0.122
-0.121	306.17	4.06E-06	110	-0.1207
-0.12	307.17	4.16E-06	111	-0.1198
-0.119	308.17	4.25E-06	112	-0.1188
-0.118	309.17	4.36E-06	113	-0.1176
-0.117	310.17	4.48E-06	114	-0.1166
-0.116	311.17	4.72E-06	115	-0.1155
-0.115	312.17	4.80E-06	116	-0.1144
-0.114	313.17	4.91E-06	117	-0.1134
-0.113	314.17	5.15E-06	118	-0.1123
-0.112	315.17	5.37E-06	119	-0.1113
-0.11	316.17	5.52E-06	120	-0.1103
-0.109	317.17	5.66E-06	121	-0.1091
-0.108	318.17	5.81E-06	122	-0.1081

-0.107	319.17	6.43E-06	123	-0.1069
-0.106	320.17	6.04E-06	124	-0.1058
-0.105	321.17	6.16E-06	125	-0.1047
-0.104	322.17	6.30E-06	126	-0.1039
-0.103	323.17	6.55E-06	127	-0.1027
-0.102	324.17	6.72E-06	128	-0.1017
-0.101	325.17	6.84E-06	129	-0.1005
-0.1	326.17	6.95E-06	130	-0.0996
-0.099	327.17	7.05E-06	131	-0.0985
-0.098	328.17	7.16E-06	132	-0.0974
-0.097	329.17	7.36E-06	133	-0.0963
-0.096	330.17	7.63E-06	134	-0.0953
-0.094	331.17	7.79E-06	135	-0.0943
-0.093	332.17	7.99E-06	136	-0.0933
-0.092	333.17	8.11E-06	137	-0.0921
-0.091	334.17	8.32E-06	138	-0.0912
-0.09	335.17	8.54E-06	139	-0.0899
-0.089	336.17	8.78E-06	140	-0.0889
-0.088	337.17	8.92E-06	141	-0.0879
-0.087	338.17	9.06E-06	142	-0.0869
-0.086	339.17	9.43E-06	143	-0.0858
-0.085	340.17	9.54E-06	144	-0.0847
-0.084	341.17	9.69E-06	145	-0.0836
-0.083	342.17	1.00E-05	146	-0.0826
-0.082	343.17	1.02E-05	147	-0.0814
-0.081	344.17	1.04E-05	148	-0.0804
-0.079	345.17	1.08E-05	149	-0.0793
-0.078	346.17	1.12E-05	150	-0.0784
-0.077	347.17	1.14E-05	151	-0.0773
-0.076	348.17	1.15E-05	152	-0.0762
-0.075	349.17	1.18E-05	153	-0.075
-0.074	350.17	1.22E-05	154	-0.074
-0.073	351.17	1.23E-05	155	-0.073
-0.072	352.17	1.25E-05	156	-0.0721
-0.071	353.17	1.28E-05	157	-0.071
-0.07	354.17	1.30E-05	158	-0.0698
-0.069	355.17	1.38E-05	159	-0.0688
-0.068	356.17	1.48E-05	160	-0.0677
-0.067	357.17	1.50E-05	161	-0.0665
-0.066	358.17	1.54E-05	162	-0.0656
-0.065	359.17	1.56E-05	163	-0.0644
-0.063	360.17	1.59E-05	164	-0.0632
-0.062	361.17	1.63E-05	165	-0.0623
-0.061	362.17	1.66E-05	166	-0.0612
-0.06	363.17	1.69E-05	167	-0.0603

-0.059	364.17	1.72E-05	168	-0.0592
-0.058	365.17	1.74E-05	169	-0.0581
-0.057	366.17	1.77E-05	170	-0.057
-0.056	367.17	1.79E-05	171	-0.0559
-0.055	368.17	1.76E-05	172	-0.0549
-0.054	369.17	1.72E-05	173	-0.0539
-0.053	370.17	1.73E-05	174	-0.0527
-0.052	371.17	1.75E-05	175	-0.0517
-0.051	372.17	1.79E-05	176	-0.0506
-0.05	373.17	1.84E-05	177	-0.0496
-0.049	374.17	1.89E-05	178	-0.0483
-0.047	375.17	1.93E-05	179	-0.0472
-0.046	376.17	1.98E-05	180	-0.046
-0.045	377.17	2.05E-05	181	-0.045
-0.044	378.17	2.10E-05	182	-0.0439
-0.043	379.17	2.15E-05	183	-0.0429
-0.042	380.17	2.20E-05	184	-0.0418
-0.041	381.17	2.26E-05	185	-0.0409
-0.04	382.17	2.32E-05	186	-0.0396
-0.039	383.17	2.38E-05	187	-0.0387
-0.038	384.17	2.44E-05	188	-0.0374



Lampiran 6 Data hasil Laju korosi pada Sudut 4°

ba (V/dec)	bc (V/dec)	Ecorr, Calc (V)	Ecorr, Obs (V)	jcorr (A/cm <sup>2</sup> )	icorr (A)	Corrosion rate (mm/year)	Polarization resistance (Ω)	E Begin (V)	E End (V)	χ <sup>2</sup>
0.1638	0.0601	-0.186	-0.18135	4.70E-08	1.55E-06	0.0005062	12313	-0.265	-0.08362	4.67E-08

Potential applied (V)	Time (s)	WE(1).Current (A)	Index	WE(1).Potential (V)
-0.2802	196.6	-5.28E-05	1	-0.2793
-0.2791	197.6	-4.93E-05	2	-0.2783
-0.278	198.6	-4.60E-05	3	-0.2772
-0.2769	199.6	-4.43E-05	4	-0.2762
-0.2759	200.6	-4.14E-05	5	-0.2751
-0.2748	201.6	-3.99E-05	6	-0.274
-0.2737	202.6	-3.91E-05	7	-0.2729
-0.2727	203.6	-3.72E-05	8	-0.2719
-0.2716	204.6	-3.56E-05	9	-0.2708
-0.2705	205.6	-3.43E-05	10	-0.2697
-0.2695	206.6	-3.31E-05	11	-0.2687
-0.2684	207.6	-3.17E-05	12	-0.2676
-0.2673	208.6	-3.08E-05	13	-0.2666
-0.2663	209.6	-2.91E-05	14	-0.2655
-0.2652	210.6	-2.83E-05	15	-0.2644
-0.2641	211.6	-2.71E-05	16	-0.2634
-0.2631	212.6	-2.63E-05	17	-0.2623
-0.262	213.6	-2.52E-05	18	-0.2612
-0.2609	214.6	-2.44E-05	19	-0.2602
-0.2599	215.6	-2.19E-05	20	-0.2591
-0.2588	216.6	-2.11E-05	21	-0.258
-0.2577	217.6	-2.21E-05	22	-0.257
-0.2567	218.6	-2.13E-05	23	-0.2559
-0.2556	219.6	-2.07E-05	24	-0.2549
-0.2545	220.6	-1.97E-05	25	-0.2538
-0.2534	221.6	-1.90E-05	26	-0.2527
-0.2524	222.6	-1.81E-05	27	-0.2516
-0.2513	223.6	-1.55E-05	28	-0.2505
-0.2502	224.6	-1.70E-05	29	-0.2495
-0.2492	225.6	-1.66E-05	30	-0.2484
-0.2481	226.6	-1.26E-05	31	-0.2474



-0.247	227.6	-1.25E-05	32	-0.2463
-0.246	228.6	-1.53E-05	33	-0.2452
-0.2449	229.6	-1.47E-05	34	-0.2442
-0.2438	230.6	-1.58E-05	35	-0.2431
-0.2428	231.6	-1.53E-05	36	-0.2421
-0.2417	232.6	-1.49E-05	37	-0.241
-0.2406	233.6	-1.42E-05	38	-0.2399
-0.2396	234.6	-1.36E-05	39	-0.2389
-0.2385	235.6	-1.33E-05	40	-0.2377
-0.2374	236.6	-1.30E-05	41	-0.2367
-0.2364	237.6	-1.26E-05	42	-0.2357
-0.2353	238.6	-1.22E-05	43	-0.2346
-0.2342	239.6	-1.14E-05	44	-0.2335
-0.2332	240.6	-1.07E-05	45	-0.2325
-0.2321	241.6	-1.03E-05	46	-0.2314
-0.231	242.6	-1.00E-05	47	-0.2303
-0.23	243.6	-9.75E-06	48	-0.2293
-0.2289	244.6	-9.37E-06	49	-0.2282
-0.2278	245.6	-9.41E-06	50	-0.2271
-0.2267	246.6	-9.26E-06	51	-0.226
-0.2257	247.6	-8.42E-06	52	-0.225
-0.2246	248.6	-8.45E-06	53	-0.224
-0.2235	249.6	-8.53E-06	54	-0.2228
-0.2225	250.6	-7.93E-06	55	-0.2218
-0.2214	251.6	-7.74E-06	56	-0.2207
-0.2203	252.6	-7.54E-06	57	-0.2197
-0.2193	253.6	-7.35E-06	58	-0.2186
-0.2182	254.6	-7.14E-06	59	-0.2174
-0.2171	255.6	-6.78E-06	60	-0.2165
-0.2161	256.6	-6.70E-06	61	-0.2154
-0.215	257.6	-6.22E-06	62	-0.2142
-0.2139	258.6	-5.71E-06	63	-0.2132
-0.2129	259.6	-1.58E-06	64	-0.2123
-0.2118	260.6	-2.50E-06	65	-0.211
-0.2107	261.6	-2.29E-06	66	-0.21
-0.2097	262.6	-2.83E-06	67	-0.209
-0.2086	263.6	-2.58E-06	68	-0.2081
-0.2075	264.6	-2.23E-06	69	-0.2069
-0.2065	265.6	-2.08E-06	70	-0.2058
-0.2054	266.6	-2.10E-06	71	-0.2048
-0.2043	267.6	-1.91E-06	72	-0.2036
-0.2032	268.6	-1.70E-06	73	-0.2026
-0.2022	269.6	-3.56E-06	74	-0.2015
-0.2011	270.6	-3.54E-06	75	-0.2006
-0.2	271.6	-3.28E-06	76	-0.1995

-0.199	272.6	-2.52E-06	77	-0.1984
-0.1979	273.6	-2.95E-06	78	-0.1974
-0.1968	274.6	-2.60E-06	79	-0.1963
-0.1958	275.6	-2.44E-06	80	-0.1952
-0.1947	276.6	-2.39E-06	81	-0.1942
-0.1936	277.6	-2.10E-06	82	-0.193
-0.1926	278.6	-1.61E-06	83	-0.1921
-0.1915	279.6	-1.07E-06	84	-0.1911
-0.1904	280.6	-7.45E-07	85	-0.1898
-0.1894	281.6	-5.62E-07	86	-0.1889
-0.1883	282.6	-1.02E-06	87	-0.1877
-0.1872	283.6	-7.02E-07	88	-0.1866
-0.1862	284.6	-1.17E-06	89	-0.1856
-0.1851	285.6	-4.06E-07	90	-0.1846
-0.184	286.6	-6.90E-07	91	-0.1836
-0.183	287.6	-2.17E-07	92	-0.1824
-0.1819	288.6	-4.55E-07	93	-0.1813
-0.1808	289.6	4.52E-07	94	-0.1803
-0.1797	290.6	-1.02E-07	95	-0.179
-0.1787	291.6	-1.34E-07	96	-0.1785
-0.1776	292.6	9.00E-08	97	-0.1773
-0.1765	293.6	3.80E-07	98	-0.176
-0.1755	294.6	-1.42E-06	99	-0.1751
-0.1744	295.6	2.15E-06	100	-0.1739
-0.1733	296.6	1.02E-06	101	-0.1728
-0.1723	297.6	5.47E-07	102	-0.1723
-0.1712	298.6	5.49E-07	103	-0.1705
-0.1701	299.6	2.35E-07	104	-0.1693
-0.1691	300.6	2.29E-07	105	-0.169
-0.168	301.6	3.37E-07	106	-0.1677
-0.1669	302.6	7.28E-07	107	-0.1666
-0.1659	303.6	1.19E-06	108	-0.1651
-0.1648	304.6	1.64E-06	109	-0.1647
-0.1637	305.6	2.02E-06	110	-0.1637
-0.1627	306.6	2.63E-06	111	-0.1629
-0.1616	307.6	2.68E-06	112	-0.1612
-0.1605	308.6	6.89E-06	113	-0.161
-0.1595	309.6	5.22E-06	114	-0.1591
-0.1584	310.6	8.02E-06	115	-0.1578
-0.1573	311.6	1.90E-06	116	-0.1568
-0.1563	312.6	1.58E-06	117	-0.1558
-0.1552	313.6	1.35E-06	118	-0.155
-0.1541	314.6	2.04E-06	119	-0.1537
-0.153	315.6	1.79E-06	120	-0.1526
-0.152	316.6	4.12E-06	121	-0.1516

-0.1509	317.6	1.66E-06	122	-0.1504
-0.1498	318.6	1.43E-06	123	-0.1494
-0.1488	319.6	1.56E-06	124	-0.1483
-0.1477	320.6	1.71E-06	125	-0.1472
-0.1466	321.6	1.63E-06	126	-0.1462
-0.1456	322.6	1.56E-06	127	-0.1452
-0.1445	323.6	1.89E-06	128	-0.1442
-0.1434	324.6	1.83E-06	129	-0.1429
-0.1424	325.6	2.32E-06	130	-0.142
-0.1413	326.6	2.71E-06	131	-0.1409
-0.1402	327.6	3.99E-06	132	-0.1397
-0.1392	328.6	4.64E-06	133	-0.1389
-0.1381	329.6	3.99E-06	134	-0.1375
-0.137	330.6	4.38E-06	135	-0.1367
-0.136	331.6	4.56E-06	136	-0.1356
-0.1349	332.6	4.48E-06	137	-0.1347
-0.1338	333.6	2.89E-06	138	-0.1335
-0.1328	334.6	3.00E-06	139	-0.1323
-0.1317	335.6	2.75E-06	140	-0.1312
-0.1306	336.6	3.64E-06	141	-0.1304
-0.1295	337.6	5.05E-06	142	-0.1292
-0.1285	338.6	5.89E-06	143	-0.1282
-0.1274	339.6	2.97E-06	144	-0.1271
-0.1263	340.6	3.56E-06	145	-0.1261
-0.1253	341.6	3.49E-06	146	-0.1249
-0.1242	342.6	3.43E-06	147	-0.1239
-0.1231	343.6	4.87E-06	148	-0.1229
-0.1221	344.6	4.87E-06	149	-0.1218
-0.121	345.6	4.51E-06	150	-0.1207
-0.1199	346.6	5.22E-06	151	-0.1197
-0.1189	347.6	5.31E-06	152	-0.1185
-0.1178	348.6	7.02E-06	153	-0.1175
-0.1167	349.6	8.02E-06	154	-0.1164
-0.1157	350.6	6.21E-06	155	-0.1154
-0.1146	351.6	5.96E-06	156	-0.1143
-0.1135	352.6	6.25E-06	157	-0.1133
-0.1125	353.6	6.09E-06	158	-0.1121
-0.1114	354.6	4.67E-06	159	-0.1111
-0.1103	355.6	4.62E-06	160	-0.1101
-0.1093	356.6	4.80E-06	161	-0.109
-0.1082	357.6	4.85E-06	162	-0.108
-0.1071	358.6	5.18E-06	163	-0.1068
-0.106	359.6	5.32E-06	164	-0.1058
-0.105	360.6	5.86E-06	165	-0.1047
-0.1039	361.6	4.92E-06	166	-0.1036

-0.1028	362.6	5.06E-06	167	-0.1024
-0.1018	363.6	4.90E-06	168	-0.1015
-0.1007	364.6	4.93E-06	169	-0.1004
-0.0996	365.6	4.37E-06	170	-0.0994
-0.0986	366.6	4.35E-06	171	-0.0983
-0.0975	367.6	3.85E-06	172	-0.0972
-0.0964	368.6	4.11E-06	173	-0.0962
-0.0954	369.6	4.69E-06	174	-0.0951
-0.0943	370.6	4.99E-06	175	-0.094
-0.0932	371.6	4.43E-06	176	-0.093
-0.0922	372.6	4.69E-06	177	-0.0918
-0.0911	373.6	5.45E-06	178	-0.0909
-0.09	374.6	4.92E-06	179	-0.0898
-0.089	375.6	4.53E-06	180	-0.0888
-0.0879	376.6	5.04E-06	181	-0.0877
-0.0868	377.6	5.11E-06	182	-0.0867
-0.0858	378.6	6.40E-06	183	-0.0857
-0.0847	379.6	6.91E-06	184	-0.0846
-0.0836	380.6	5.41E-06	185	-0.0835
-0.0826	381.6	5.29E-06	186	-0.0822
-0.0815	382.6	5.53E-06	187	-0.0812
-0.0804	383.6	5.70E-06	188	-0.0802

Lampiran 7 Data Hasil Pengujian Kekerasan

Data hasil Pengujian kekerasan *Micro Vickers* pada sudut 2°

No	Spesimen	Sudut	VHN
1			277.8
2			266.3
3			262.8
4			256.1
5	A	2°	258.4
6			252.1
7			250
8			249.2

Data hasil Pengujian kekerasan *Micro Vickers* pada sudut 4°

No	Spesimen	Sudut	HV
1			280.6
2			276.9
3			267.2
4			258.3
5	B	4°	253.2
6			257.9
7			255.3
8			252.9

Data hasil Pengujian kekerasan *Micro Vickers* pada sudut 6°

No	Spesimen	Sudut	HV
1			289.6
2			285.3
3			270.6
4			260.8
5	C	6°	263.4
6			260.8
7			256.7
8			254.9

Data hasil Pengujian kekerasan *Micro Vickers* pada Raw Material

No	Spesimen	Sudut	HV
1	Raw		256.2
2		252.4	
3		246.8	
4		245.6	
5		246.8	
6		243.1	
7		245.2	
8		238.5	

Data hasil Pengujian kekerasan *Micro Vickers* pada sudut 0°(datar)

No	Spesimen	Sudut	HV
1	0	0°	266.2
2		262.3	
3		256.8	
4		253.6	
5		250.8	
6		250.1	
7		247.2	
8		248.5	