Lampiran 1

DATA RATA-RATA KEKERASAN MIKRO BAJA KARBON RENDAH

a. Variasi Tekanan pada Suhu 300^{0}C dengan Waktu Karbonasi 180 Menit

No	Tekanan (Torr)	$\overline{KHN}$
1	Tanpa karbonasi	201,10 $\pm$ 3,18
2	0,2	279,43 $\pm$ 3,33
3	0,4	287,03 $\pm$ 4,84
4	0,6	271,33 $\pm$ 2,74
5	0,8	256,93 $\pm$ 2,65
6	1,0	251,20 $\pm$ 2,10

b. Variasi Suhu Substrat dan Waktu Pendeposisian pada Tekanan 0,4 Torr

No	Suhu substrat (^{0}C)	Lama karbonasi (menit)	$\overline{KHN}$
1	Tanpa karbonasi		201,10 $\pm$ 3,18
2	100	30	209,97 $\pm$ 2,13
3	100	60	228,37 $\pm$ 4,78
4	100	120	248,23 $\pm$ 9,54
5	100	180	287,03 $\pm$ 4,84
6	100	240	322,73 $\pm$ 5,31

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No	Suhu substrat (^{0}C)	Lama karbonasi (menit)	$\overline{KHN}$
7	200	30	217,73 ± 3,45
8	200	60	263,63 ± 4,17
9	200	120	290,50 ± 4,81
10	200	180	349,87 ± 4,12
11	200	240	379,27 ± 2,63
12	300	30	245,77 ± 4,75
13	300	60	308,77 ± 2,56
14	300	120	379,37 ± 4,68
15	300	180	406,87 ± 2,52
16	300	240	425,00 ± 7,17

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Lampiran 2

Contoh Perhitungan Ralat KHN Rata-rata :

Substrat yang dikarbonasi pada tekanan 0,4 Torr, suhu 300^{0}C dan lama pendeposisian 3 jam diperoleh hasil perhitungan sebagai berikut:

No	KHN_n	$KHN_n - \overline{KHN}$	$(KHN_n - \overline{KHN})^2$
1	281,0	- 6,03	36,36
2	296,6	9,57	91,58
3	283,5	- 3,53	12,46

$$\overline{KHN} = \frac{1}{n}\sum_{i=1}^{n}(KHN)_i = \frac{861,1}{3} = 287,03$$

$$\sigma KHN = \sqrt{\frac{1}{n(n-1)}\sum_{i=1}^{n}\left[(KHN)_i - \overline{KHN}\right]^2} = \sqrt{\frac{140,40}{3(3-1)}} = 4,84$$

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Lampiran 3

DATA HASIL UJI KEKERASAN MIKRO

a. Kekerasan Baja Karbon Rendah Sebelum Dikarbonasi

d	KHN
27,0	195,0
26,5	202,6
26,3	205,7

b. Kekerasan Baja Karbon Rendah Setelah Dikarbonasi dengan Variasi Tekanan (Suhu 300^{0}C, Lama Pendeposisian 180 Menit)

No	Tekanan (Torr)	d	KHN
1	0.2	22,7	276,1
		22,3	286,1
		22, 7	276,1
2	0,4	22,5	281,0
		21,9	296,6
		22,4	283,5
3	0,6	23,1	266,6
		22,7	276,1
		22,9	271,3

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No	Tekanan (Torr)	d	KHN
4	0,8	23,6	262,1
		23,8	253,3
		23,7	255,4
5	1,0	24,0	247,0
		23,7	253,3
		23,7	253,3

c. Kekerasan Baja Karbon Rendah Setelah Dikarbonasi dengan Variasi Suhu pada Tekanan 0,4 Torr

No	Suhu (°C)	Lama Pendeposisian (menit)	d	KHN
1	100	30	25,9	212,1
			26,3	205,7
			25,9	212,1
.2	100	60	25,0	227,6
			24,5	237,0
			25,4	220,5
3	100	120	23,2	264,3
			23,9	249,1
			24,8	231,3

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No	Suhu (°C)	Lama Pendeposisian (menit)	d	KHN
4	100	180	22,5	281,0
			21,9	296,6
			22,4	283,5
5	200	30	25,9	212,1
			25,6	217,1
			25,2	224,0
6	200	60	23,6	255,4
			23,1	266,6
			23,0	268,9
7	200	120	22,0	293,9
			22,5	281,0
			21,9	296,6
8	200	180	20,1	352,0
			20,0	355,7
			20,4	341,9
9	200	240	19,4	381,9
			19,7	374,0
			19,4	381,9

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No	Suhu (°C)	Lama Pendeposisian (menit)	d	KHN
10	300	30	2 3,7	253,3
			24,0	247,0
			24,5	237,0
11	300	60	21,6	304,9
			21,3	313,6
			21,5	307,8
12	300	120	19,2	385,9
			19,7	370,3
			19,4	381,9
13	300	180	18,8	402,5
			18,7	406,9
			18,6	411,2
14	300	240	18,0	439,1
			18,4	420,2
			18,5	415,7

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