LAMPIRAN 1

Tabel Dampak Kegagalan (*Severity*)

Akibat	Kriteria *Severity*	Ranking
Hazardous without warning	Tingkat yang sangat tinggi ketika mode kegagalan potensial mempengaruhi keamanan pengoperasian dan atau melibatkan peraturan pemerintah tanpa peringatan	10
Hazardous with warning	Tingkat yang sangat tinggi ketika mode kegagalan potensial mempengaruhi keamanan pengoperasian dan atau melibatkan peraturan pemerintah dengan peringatan	9
Very high	Item tidak beroperasi dengan kehilangan fungsi utama	8
High	Item dapat berfungsi tetapi pada tingkat pengurangan performansi. Konsumen merasa tidak puas	7
Moderate	Item dapat berfungsi tetapi tidak ada kenyamanan. Konsumen yang berpengalaman merasa tidak puas	6
Low	Item dapat berfungsi tetapi kenyamanan berada pada tingkat pengurangan performansi. Konsumen yang berpengalaman sebagian merasa tidak puas	5
Very low	Cocok, penyelesaian dan item tidak ada konfirmasi. Cacat disadari oleh sebagian besar konsumen	4
Minor	Cocok, penyelesaian dan item tidak ada konfirmasi. Cacat disadari oleh sebagian konsumen	3
Very minor	Cocok, penyelesaian dan item tidak ada konfirmasi. Cacat disadari oleh konsumen tertentu	2
None	Tidak ada efek	1

Tabel Kemungkinan Kegagalan (*Occurrence*)

Probilitas Kegagalan	Kemungkinan Kegagalan	Ranking
Very high : kegagalan hampir tidak dapat dihindarkan	≥ 1 in 2	10
	1 in 3	9
High : kegagalan yang berulang-ulang	1 in 8	8
	1 in 20	7
Moderate : kegagalan yang sekali-kali	1 in 80	6
	1 in 400	5
	1 in 2.000	4
Low : kegagalan yang relatif sedikit	1in 15.000	3
	1in 150.000	2
Remote : Kegagalan tidak mungkin	≤ 1 in 15.000.000	1

Tabel Kemudahan Mendeteksi (*Detectability*)

Deteksi	Kriteria Detectability	Ranking
Absolute uncertainty	Kontrol desain tidak dapat mendeteksi penyebab potensial dan mode kegagalan atau tidak ada kontrol desain	10
Very remote	Kesempatan sangat jarang dalam kontrol desain mendeteksi penyebab potensial dan mode kegagalan	9
Remote	Kesempatan jarang dalam kontrol desain mendeteksi penyebab potensial dan mode kegagalan	8
Very low	Kesempatan sangat rendah dalam kontrol desain mendeteksi penyebab potensial dan mode kegagalan	7
Low	Kesempatan rendah dalam kontrol desain mendeteksi penyebab potensial dan mode kegagalan	6
Moderate	Kesempatan tengah-tengah dalam kontrol desain mendeteksi penyebab potensial dan mode kegagalan	5
Moderately high	Kesempatan tengah-tengah sedikit besar dalam kontrol desain mendeteksi penyebab potensial dan mode kegagalan	4
High	Kesempatan besar dalam kontrol desain mendeteksi penyebab potensial dan mode kegagalan	3
Very high	Kesempatan sangat besar dalam kontrol desain mendeteksi penyebab potensial dan mode kegagalan	2
Almost certain	Kesempatan pasti dalam kontrol desain mendeteksi penyebab potensial dan mode kegagalan	1

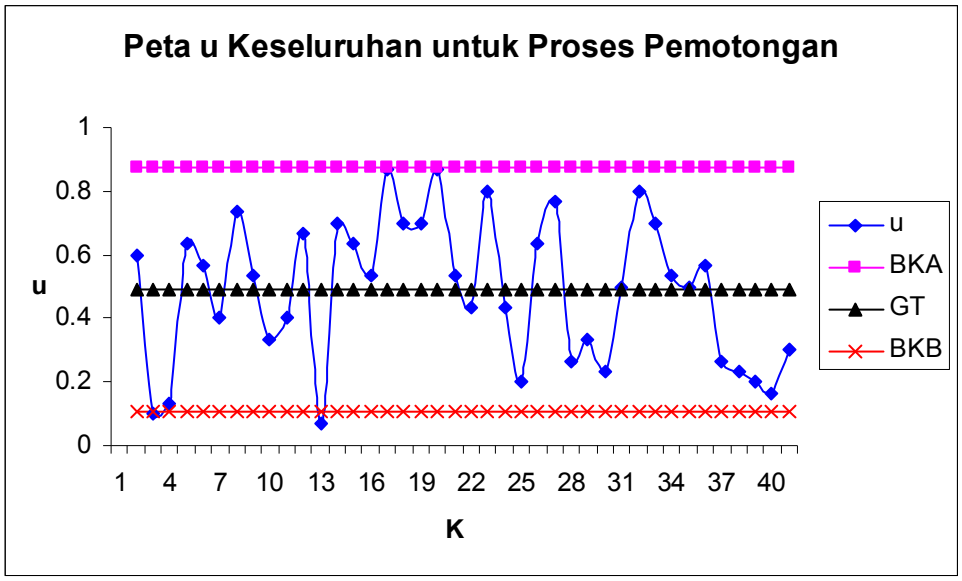
Sumber: Elmar.com (diterjemahkan dari bahasa Inggris)

LAMPIRAN 2

Tabel Peta u Keseluruhan untuk Proses Pemotongan

k	Jumlah Diperiksa	Jumlah Cacat (c)	u	BKA	GT	BKB
1	30	18	0.600	0.872	0.489	0.106
2	30	3	0.100	0.872	0.489	0.106
3	30	4	0.133	0.872	0.489	0.106
4	30	19	0.633	0.872	0.489	0.106
5	30	17	0.567	0.872	0.489	0.106
6	30	12	0.400	0.872	0.489	0.106
7	30	22	0.733	0.872	0.489	0.106
8	30	16	0.533	0.872	0.489	0.106
9	30	10	0.333	0.872	0.489	0.106
10	30	12	0.400	0.872	0.489	0.106
11	30	20	0.667	0.872	0.489	0.106
12	30	2	0.067	0.872	0.489	0.106
13	30	21	0.700	0.872	0.489	0.106
14	30	19	0.633	0.872	0.489	0.106
15	30	16	0.533	0.872	0.489	0.106
16	30	26	0.867	0.872	0.489	0.106
17	30	21	0.700	0.872	0.489	0.106
18	30	21	0.700	0.872	0.489	0.106
19	30	26	0.867	0.872	0.489	0.106
20	30	16	0.533	0.872	0.489	0.106
21	30	13	0.433	0.872	0.489	0.106
22	30	24	0.800	0.872	0.489	0.106
23	30	13	0.433	0.872	0.489	0.106
24	30	6	0.200	0.872	0.489	0.106
25	30	19	0.633	0.872	0.489	0.106
26	30	23	0.767	0.872	0.489	0.106
27	30	8	0.267	0.872	0.489	0.106
28	30	10	0.333	0.872	0.489	0.106
29	30	7	0.233	0.872	0.489	0.106
30	30	15	0.500	0.872	0.489	0.106
31	30	24	0.800	0.872	0.489	0.106
32	30	21	0.700	0.872	0.489	0.106
33	30	16	0.533	0.872	0.489	0.106
34	30	15	0.500	0.872	0.489	0.106
35	30	17	0.567	0.872	0.489	0.106
36	30	8	0.267	0.872	0.489	0.106
37	30	7	0.233	0.872	0.489	0.106
38	30	6	0.200	0.872	0.489	0.106
39	30	5	0.167	0.872	0.489	0.106
40	30	9	0.300	0.872	0.489	0.106

Sumber : hasil perhitungan penulis



Gambar Peta u Keseluruhan untuk Proses Pemotongan

Berdasarkan tabel dan gambar di atas dapat diketahui:

- Titik yang keluar dari BKA (Batas Kendali Atas) adalah tidak ada.
- Titik yang keluar dari BKB (Batas Kendali Bawah) adalah data ke-2 dan 3. Data yang keluar dari BKB tidak dibuang karena produk tersebut diperiksa oleh operator QC dengan teliti dan benar, dimana hasil pemeriksaan menunjukkan kualitas produk yang baik.

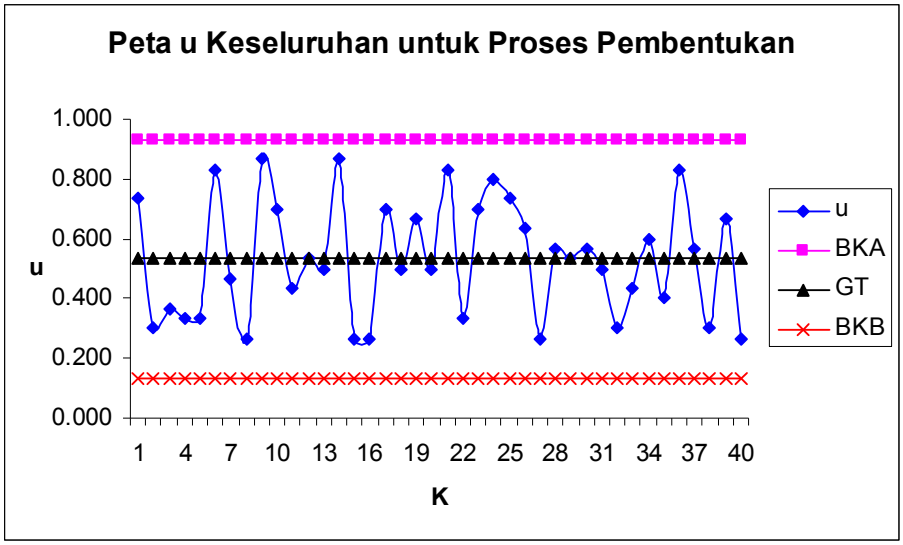
Kesimpulan: proses berada dalam keadaan yang terkendali.

LAMPIRAN 3

Tabel Peta u Keseluruhan untuk Proses Pembentukan

k	Jumlah Diperiksa	Jumlah Cacat (c)	u	BKA	GT	BKB
1	30	22	0.733	0.931	0.532	0.132
2	30	9	0.300	0.931	0.532	0.132
3	30	11	0.367	0.931	0.532	0.132
4	30	10	0.333	0.931	0.532	0.132
5	30	10	0.333	0.931	0.532	0.132
6	30	25	0.833	0.931	0.532	0.132
7	30	14	0.467	0.931	0.532	0.132
8	30	8	0.267	0.931	0.532	0.132
9	30	26	0.867	0.931	0.532	0.132
10	30	21	0.700	0.931	0.532	0.132
11	30	13	0.433	0.931	0.532	0.132
12	30	16	0.533	0.931	0.532	0.132
13	30	15	0.500	0.931	0.532	0.132
14	30	26	0.867	0.931	0.532	0.132
15	30	8	0.267	0.931	0.532	0.132
16	30	8	0.267	0.931	0.532	0.132
17	30	21	0.700	0.931	0.532	0.132
18	30	15	0.500	0.931	0.532	0.132
19	30	20	0.667	0.931	0.532	0.132
20	30	15	0.500	0.931	0.532	0.132
21	30	25	0.833	0.931	0.532	0.132
22	30	10	0.333	0.931	0.532	0.132
23	30	21	0.700	0.931	0.532	0.132
24	30	24	0.800	0.931	0.532	0.132
25	30	22	0.733	0.931	0.532	0.132
26	30	19	0.633	0.931	0.532	0.132
27	30	8	0.267	0.931	0.532	0.132
28	30	17	0.567	0.931	0.532	0.132
29	30	16	0.533	0.931	0.532	0.132
30	30	17	0.567	0.931	0.532	0.132
31	30	15	0.500	0.931	0.532	0.132
32	30	9	0.300	0.931	0.532	0.132
33	30	13	0.433	0.931	0.532	0.132
34	30	18	0.600	0.931	0.532	0.132
35	30	12	0.400	0.931	0.532	0.132
36	30	25	0.833	0.931	0.532	0.132
37	30	17	0.567	0.931	0.532	0.132
38	30	9	0.300	0.931	0.532	0.132
39	30	20	0.667	0.931	0.532	0.132
40	30	8	0.267	0.931	0.532	0.132

Sumber : hasil perhitungan penulis



Gambar Peta u Keseluruhan untuk Proses Pembentukan

Berdasarkan tabel dan gambar di atas dapat diketahui:

- Titik yang keluar dari BKA (Batas Kendali Atas) adalah tidak ada.
- Titik yang keluar dari BKB (Batas Kendali Bawah) adalah tidak ada.

Kesimpulan: proses berada dalam keadaan yang terkendali.

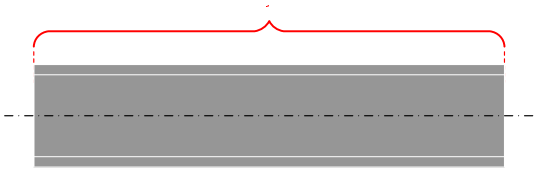
LAMPIRAN 4

Lembar *Check Sheet* untuk Inspeksi Pemotongan

Tanggal : No :

Jumlah Produksi :

Jumlah Periksa (n) Unit :



Keterangan gambar:

1. Tinggi Potong (TP)

No	TP (mm)	Gores Kasar	Gores Halus	Ulir Kasar	Ulir Halus	Gram

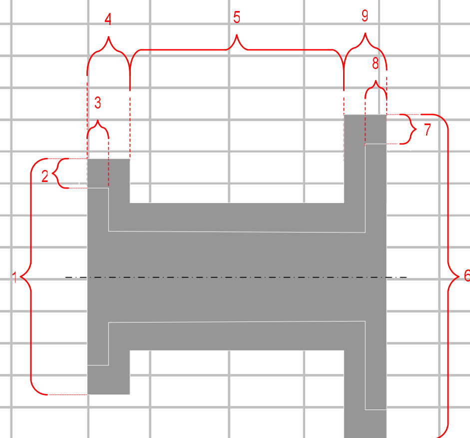
Lembar *Check Sheet* untuk Inspeksi Pembentukan

Tanggal :

No :

Jumlah Produksi :

Jumlah Periksa (n) Unit :



Keterangan gambar:

1. Diameter Luar Kepala Atas (DLKA)
2. Tebal Kepala Atas (TKA)
3. Tinggi Dalam Kepala Atas (TDKA)
4. Tinggi Luar Kepala Atas (TLKA)
5. Tinggi Sambungan (TS)
6. Diameter Luar Kepala Bawah (DLKB)
7. Tebal Kepala Bawah (TKB)
8. Tinggi Dalam Kepala Bawah (TDKB)
9. Tinggi Luar Kepala Bawah (TLKBawah)

No	Kepala Atas (mm)				Kepala Bawah (mm)				TS	Gores	Ulir Kasar	Ulir Halus	Crack
	DLKA	TKA	TDKA	TLKA	DLKB	TKB	TDKB	TLKB					

LAMPIRAN 5

Lembar Kerja Peta Kendali u								
Periode Waktu: Oleh : Nilai GT :								
No	Subgrup (k)	Jumlah Diperiksa (n)	Jumlah Cacat (c)	Nilai u u = c/n	BKA $=GT+3\sqrt{GT/n}$	BKB $=GT-3\sqrt{GT/n}$	Keputusan	Penyebab

Lembar Kerja Peta Kendali $\overline{X}$

Periode Waktu:
Oleh :
Nilai GT :

No	Subgrup (k)	Jumlah Diperiksa (n)	Nilai $\overline{X}$	BKA $= GT + A_3.\overline{s}$	BKB $= GT - A_3.\overline{s}$	Keputusan	Penyebab

Lembar Kerja Peta Kendali s

Periode Waktu:
Oleh :
Nilai GT :

No	Subgrup (k)	Jumlah Diperiksa (n)	Nilai s	BKA $= GT . B_4$	BKB $= GT . B_3$	Keputusan	Penyebab

LAMPIRAN 6

Lembar *Check Sheet* untuk Perawatan Mesin	
Tanggal :	
Mesin :	
No. Mesin :	
Dilakukan oleh :	
Nama Komponen (*Part*) Mesin	Kondisi

Dilakukan oleh : Disetujui oleh :

(Bagian *maintenance*) (Kabag *maintenance*)

LAMPIRAN 7

Tabel Faktor-Faktor Penetapan Batas Kendali 3σ dari Bagan Kendali $\overline{X}$ dan s

Jumlah pengamatan dalam subgrup n	Faktor untuk bagan $\overline{X}$		Faktor untuk bagan s			
	A3	A	B3	B4	B5	B6
2	2.66	2.12	0	3.27	0	2.61
3	1.95	1.73	0	2.57	0	2.28
4	1.63	1.5	0	2.27	0	2.09
5	1.43	1.34	0	2.09	0	1.96
6	1.29	1.22	0.03	1.97	0.03	1.87
7	1.18	1.13	0.12	1.88	0.11	1.81
8	1.1	1.06	0.19	1.81	0.18	1.75
9	1.03	1	0.24	1.76	0.23	1.71
10	0.98	0.95	0.28	1.72	0.28	1.67
11	0.93	0.9	0.32	1.68	0.31	1.64
12	0.89	0.87	0.35	1.65	0.35	1.61
13	0.85	0.83	0.38	1.62	0.37	1.59
14	0.82	0.8	0.41	1.59	0.4	1.56
15	0.79	0.77	0.43	1.57	0.42	1.54
16	0.76	0.75	0.45	1.55	0.44	1.53
17	0.74	0.73	0.47	1.53	0.46	1.51
18	0.72	0.71	0.48	1.52	0.48	1.5
19	0.7	0.69	0.5	1.5	0.49	1.48
20	0.68	0.67	0.51	1.49	0.5	1.47
21	0.66	0.65	0.52	1.48	0.52	1.46
22	0.65	0.64	0.53	1.47	0.53	1.45
23	0.63	0.63	0.54	1.46	0.54	1.44
24	0.62	0.61	0.55	1.45	0.55	1.43
25	0.61	0.6	0.56	1.44	0.56	1.42
30	0.55	0.55	0.6	1.4	0.6	1.38
35	0.51	0.51	0.63	1.37	0.63	1.36
40	0.48	0.47	0.66	1.34	0.66	1.33
45	0.45	0.45	0.68	1.32	0.68	1.31
50	0.43	0.42	0.7	1.3	0.69	1.3
55	0.41	0.4	0.71	1.29	0.71	1.28
60	0.39	0.39	0.72	1.28	0.72	1.27
65	0.37	0.37	0.73	1.27	0.73	1.26
70	0.36	0.36	0.74	1.26	0.74	1.25
75	0.35	0.35	0.75	1.25	0.75	1.24
80	0.34	0.34	0.76	1.24	0.76	1.24
85	0.33	0.33	0.77	1.23	0.77	1.23
90	0.32	0.32	0.77	1.23	0.77	1.22
95	0.31	0.31	0.78	1.22	0.78	1.22
100	0.3	0.3	0.79	1.21	0.78	1.21

LAMPIRAN 8

Pipe frame head

(hasil proses pembentukan)

Pipe frame head

(hasil proses pemotongan)

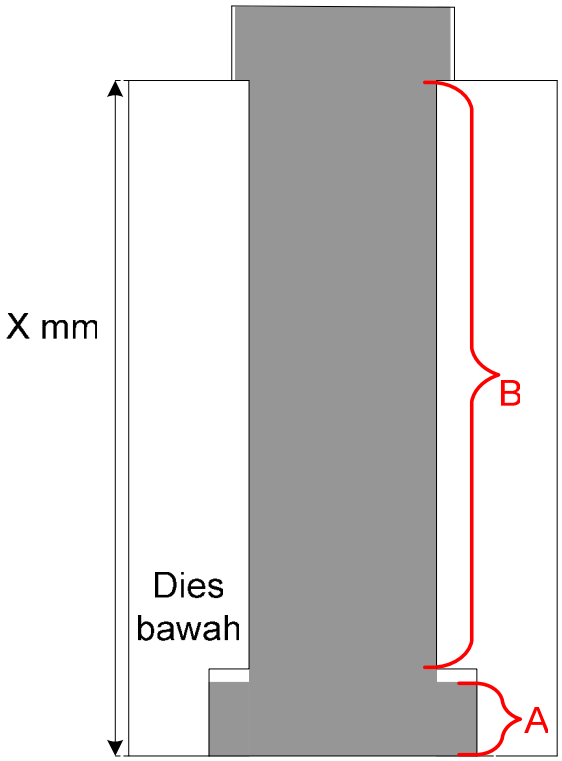
Pipe frame head

(hasil operasi *forming* 1)

Contoh penggunaan jig

LAMPIRAN 9

Proses pembentukan kepala atas :



Pada proses pembentukan kepala atas atau *forming* atas (2), tinggi ukuran dies bawah sudah pasti sebesar X mm, sehingga :

$$A + B = X$$

Keterangan :

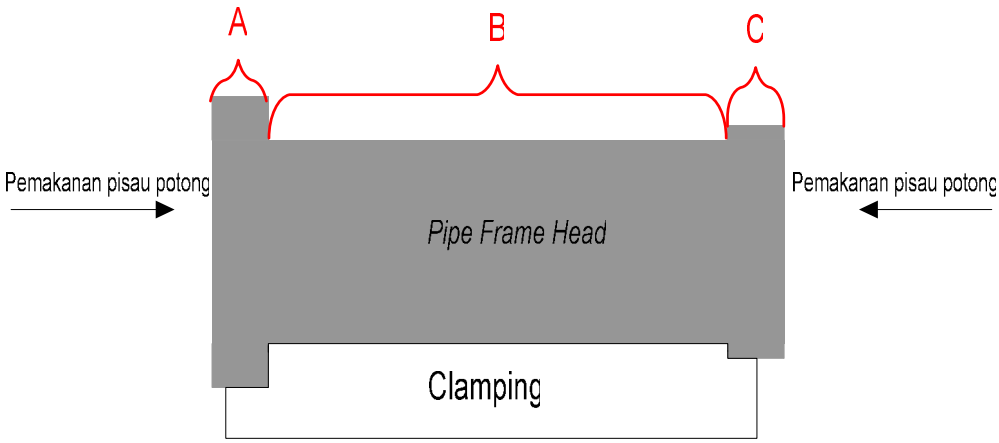
A = Tinggi Luar Kepala Atas

B = Tinggi Sambungan

Tinggi sambungan (B) dibentuk pada saat proses ini, sehingga tinggi sambungan yang dihasilkan akan tergantung dari tinggi luar kepala atas. Misalnya X = 100 mm, maka:

- ✓ Jika A = 10 mm, ukuran daripada B adalah 90 mm
- ✓ Jika A= 12 mm, ukuran daripada B adalah 88 mm

Proses *double boring* atau *finishing*:



Keterangan :

A = Tinggi Luar Kepala Bawah

B = Tinggi Sambungan

C = Tinggi Luar Kepala Atas

Clamping adalah tempat kedudukan benda kerja yang dapat membuka dan menutup. Pemakanan pisau potong bagian kepala bawah tetap, tidak terpengaruh oleh ukuran bagian lain karena adanya pembatas pada clamping. Sedangkan pemakanan pisau potong bagian kepala atas dipengaruhi oleh tinggi sambungan yang dibentuk pada saat *forming* 2, maka:

A → tetap

C → tergantung B

Tetapi jika penyimpanan posisi kepala bawah tidak pas, akan berpengaruh pada tinggi luar kepala atas yang dihasilkan, dimana hasilnya akan lebih tinggi. Selain itu hasil dari tinggi luar kepala bawah akan lebih pendek.

Tabel 4.4

Data Pengukuran Tinggi *Pipe Frame Head* Hasil Pemotongan

k	Sampel ke- (mm)																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	201.735	201.820	201.785	201.865	201.970	201.765	201.880	201.815	201.805	201.830	201.640	201.570	201.735	201.535	201.660	201.695	201.535	201.700	201.660	201.550	201.665	201.810	201.825	201.970	201.645	201.825	201.880	201.785	201.710	201.825
2	201.870	201.830	201.780	201.755	201.880	201.770	201.945	201.670	201.595	201.760	201.480	201.655	201.705	201.940	201.865	201.580	201.835	201.635	201.630	201.715	201.635	201.485	201.820	201.510	201.690	201.615	201.530	201.805	201.840	201.705
3	201.770	201.815	201.785	201.850	201.780	201.775	201.855	201.940	201.700	201.780	201.655	201.700	201.475	201.805	201.520	201.770	201.805	201.810	201.930	201.825	201.515	201.700	201.505	201.745	201.685	201.900	201.815	201.920	201.530	201.595
4	201.715	201.825	201.825	201.770	201.720	201.760	201.865	201.985	201.960	201.715	201.875	201.705	201.850	202.020	201.965	201.925	202.105	201.895	201.960	202.085	201.945	201.955	202.080	201.980	201.995	201.855	202.120	201.835	201.875	201.940
5	201.730	201.740	201.800	201.875	201.775	201.795	201.845	201.760	201.825	201.715	201.910	201.740	201.860	201.725	201.665	201.620	201.805	201.640	201.730	201.805	201.665	201.875	201.905	201.815	201.920	201.580	201.715	201.800	201.740	201.805
6	201.845	201.725	201.770	201.840	201.840	201.715	201.910	201.775	201.770	201.640	201.850	201.810	201.845	201.585	201.500	201.560	201.815	201.660	201.605	201.670	201.740	201.795	201.820	201.915	201.590	201.825	201.880	201.530	201.725	201.800
7	201.695	201.795	201.785	201.865	201.880	201.805	201.740	201.760	201.785	201.775	201.945	201.820	201.855	201.695	201.660	201.600	201.800	201.635	201.580	201.550	201.680	201.810	201.825	201.870	201.855	201.825	201.885	201.730	201.555	201.505
8	201.735	201.820	201.815	201.860	201.755	201.720	201.855	201.710	201.680	201.715	201.915	201.795	201.855	201.705	201.545	201.525	201.785	201.665	201.645	201.575	201.645	201.795	201.790	201.945	201.865	201.865	201.815	201.800	201.665	201.800
9	201.820	201.855	201.805	201.745	201.705	201.770	201.840	201.770	201.770	201.705	201.850	201.825	201.850	201.710	201.520	201.615	201.910	201.845	201.615	201.760	201.640	201.785	201.805	201.655	201.900	201.845	201.865	201.805	201.730	201.580
10	201.720	201.800	201.790	201.865	201.965	201.740	201.835	201.760	201.785	201.800	201.915	201.830	201.875	201.685	201.605	201.710	201.840	201.675	201.780	201.565	201.695	201.815	201.830	201.945	201.950	201.820	201.815	201.805	201.670	201.590
11	201.815	201.770	201.785	201.840	201.785	201.770	201.660	201.805	201.855	201.720	201.645	201.715	201.745	201.725	201.800	201.760	201.820	201.810	201.950	201.810	201.520	201.720	201.685	201.785	201.700	201.885	201.790	201.925	201.875	201.755
12	201.745	201.735	201.805	201.860	201.780	201.805	201.850	201.765	201.810	201.720	201.930	201.755	201.850	201.720	201.655	201.650	201.815	201.655	201.730	201.810	201.660	201.865	201.910	201.815	201.905	201.595	201.715	201.805	201.740	201.815
13	201.795	201.730	201.870	201.750	201.720	201.820	201.735	201.765	201.765	201.850	201.540	201.520	201.810	201.580	201.525	201.780	201.580	201.845	201.760	201.760	201.640	201.790	201.810	201.670	201.905	201.840	201.860	201.805	201.730	201.570
14	201.725	201.770	201.850	201.840	201.840	201.810	201.560	201.815	201.665	201.610	201.665	201.740	201.825	201.585	201.515	201.865	201.530	201.500	201.645	201.585	201.765	201.880	201.690	201.805	201.580	201.825	201.875	201.530	201.725	201.800
15	201.835	201.855	201.805	201.890	201.765	201.775	201.890	201.740	201.775	201.765	201.925	201.685	201.880	201.685	201.680	201.590	201.940	201.655	201.615	201.580	201.660	201.810	201.815	201.925	201.505	201.815	201.860	201.810	201.715	201.830
16	201.785	201.770	201.655	201.805	201.855	201.725	201.645	201.715	201.740	201.725	201.800	201.825	201.585	201.850	201.540	201.510	201.810	201.580	201.525	201.785	201.575	201.860	201.750	201.655	201.920	201.845	201.860	201.790	201.810	201.500
17	201.775	201.725	201.770	201.830	201.840	201.725	201.740	201.805	201.830	201.695	201.810	201.785	201.740	201.535	201.740	201.660	201.830	201.735	201.820	201.815	201.860	201.755	201.720	201.855	201.710	201.680	201.715	201.530	201.730	201.520
18	201.705	201.795	201.785	201.805	201.830	201.695	201.810	201.785	201.760	201.545	201.740	201.660	201.830	201.885	201.910	201.740	201.860	201.725	201.670	201.620	201.815	201.635	201.730	201.805	201.675	201.830	201.880	201.725	201.575	201.550
19	201.735	201.800	201.760	201.785	201.800	201.915	201.830	201.875	201.685	201.605	201.710	201.685	201.650	201.525	201.525	201.730	201.870	201.760	201.725	201.825	201.735	201.695	201.795	201.785	201.865	201.880	201.805	201.740	201.760	201.785
20	201.820	201.830	201.780	201.745	201.875	201.780	201.890	201.660	201.605	201.760	201.790	201.930	201.875	201.755	201.680	201.655	201.525	201.515	201.735	201.835	201.760	201.740	201.840	201.760	201.790	201.795	201.905	201.830	201.865	201.685
21	201.745	201.735	201.810	201.850	201.780	201.800	201.850	201.770	201.815	201.720	201.935	201.760	201.850	201.720	201.660	201.660	201.810	201.660	201.720	201.810	201.655	201.860	201.905	201.815	201.905	201.600	201.715	201.805	201.735	201.820
22	201.725	201.770	201.850	201.840	201.585	201.515	201.865	201.530	201.500	201.645	201.585	201.765	201.880	201.690	201.840	201.810	201.560	201.815	201.665	201.610	201.765	201.880	201.690	201.805	201.595	201.790	201.870	201.530	201.725	201.800
23	201.735	201.755	201.810	201.860	201.750	201.720	201.855	201.710	201.680	201.715	201.915	201.795	201.855	201.705	201.545	201.525	201.785	201.530	201.745	201.580	201.620	201.810	201.585	201.845	201.800	201.875	201.815	201.800	201.665	201.810
24	201.720	201.725	201.770	201.705	201.840	201.715	201.910	201.775	201.775	201.630	201.840	201.810	201.845	201.590	201.505	201.560	201.815	201.660	201.605	201.670	201.740	201.795	201.805	201.910	201.600	201.825	201.880	201.530	201.725	201.800
25	201.795	201.755	201.855	201.680	201.720	201.820	201.735	201.760	201.765	201.850	201.540	201.520	201.815	201.645	201.525	201.780	201.580	201.845	201.760	201.760	201.640	201.790	201.810	201.670	201.905	201.840	201.860	201.805	201.730	201.565
26	201.850	201.815	201.785	201.880	201.965	201.765	201.945	202.010	201.775	202.070	201.925	201.810	201.885	201.680	202.120	201.585	201.970	201.650	201.665	201.580	201.685	201.805	201.835	201.995	201.535	201.850	201.850	201.785	201.710	201.810
27	201.810	201.840	201.790	201.755	201.835	201.770	201.925	201.670	201.595	201.760	201.710	201.655	201.705	201.925	201.865	201.565	201.835	201.635	201.630	201.705	201.635	201.675	201.800	201.510	201.690	201.510	201.530	201.805	201.855	201.710
28	201.770	201.770	201.785	201.840	201.785	201.875	201.660	201.805	201.855	201.920	201.580	201.715	201.800	201.740	201.800	201.760	201.820	201.810	201.950	201.810	201.850	201.720	201.735	201.785	201.700	201.885	201.790	201.925	201.875	201.755
29	201.710	201.740	201.800	201.875	201.775	201.805	201.640	201.660	201.820	201.970	201.880	201.740	201.860	201.725	201.665	201.620	201.805	201.640	201.730	201.805	201.665	201.875	201.905	201.815	201.920	201.580	201.715	201.800	201.740	201.785
30	201.675	201.790	201.795	201.810	201.835	201.685	201.810	201.785	201.760	201.545	201.740	201.660	201.830	201.885	201.910	201.740	201.860	201.725	201.670	201.620	201.815	201.635	201.730	201.805	201.675	201.830	201.850	201.740	201.575	201.820
31	201.725	201.775	201.660	201.805	201.855	201.920	201.580	201.815	201.665	201.610	201.665	201.855	201.710	201.540	201.535	201.795	201.555	201.500	201.645	201.585	201.765	201.880	201.690	201.805	201.580	201.825	201.875	201.530	201.725	201.800
32	201.755	201.760	201.810	201.860	201.750	201.720	201.855	201.710	201.680	201.715	201.915	201.795	201.855	201.705	201.545	201.525	201.785	201.680	201.720	201.820	201.735	201.760	201.585	201.845	201.800	201.875	201.815	201.800	201.665	201.810
33	201.820	201.815	201.805	201.670	201.590	201.745	201.550	201.655	201.715	201.540	201.710	201.830	201.875	201.685	201.605	201.710	201.840	201.675	201.780	201.565	201.695	201.815	201.830	201.945	201.950	201.720	201.800	201.790	201.865	201.965
34	201.780	201.765	201.785	201.875	202.225	201.765	201.945	201.755	201.775	201.735	201.925	201.810	201.765	201.680	201.535	201.585	201.970	201.650	201.665	201.580	201.685	201.805	201.835	201.995	201.535	201.850	201.850	201.745	201.710	201.810
35	201.765	201.835	201.795	201.885	201.980	201.765	201.895	201.820	201.815	201.805	201.670	201.590	201.745	201.550	201.655	201.715	201.540	201.710	201.640	201.575	201.665	201.805	201.835	201.995	201.670	201.850	201.850	201.800	201.715	201.810
36	201.785	201.770	201.655	201.805	201.855	201.725	201.645	201.715	201.740	201.725	201.800	201.825	201.585	201.850	201.540	201.510	201.810	201.580	201.525	201.785	201.575	201.860	201.750	201.655	201.920	201.845	201.860	201.790	201.810	201.500
37	201.695	201.795	201.785	201.865	201.880	201.805	201.740	201.760	201.785	201.775	201.945	201.820	201.855	201.695	201.660	201.600	201.800	201.635	201.580	201.550	201.680	201.810	201.825	201.870	201.855	201.825	201.885	201.730	201.555	201.505
38	201.715	201.535	201.530	201.745	201.580	201.620	201.810	201.585	201.845	201.800	201.850	201.540	201.520	201.810	201.580	201.525	201.780	201.580	201.845	201.760	201.745	201.550	201.655	201.715	201.540	201.710	201.815	201.760	201.830	201.700
39	201.715	201.650	201.525	201.505	201.730	201.870	201.750	201.720	201.820	201.735	201.680	201.710	201.915	201.800	201.855	201.705	201.535	201.520	201.785	201.730	201.770	201.840	201.840	201.715	201.910	201.770	201.775	201.545	201.660	201.725
40	201.795	201.710	201.800	201.855	201.530	201.520	201.645	201.570	201.790	201.865	201.965	201.740	201.740	201.760	201.785	201.775	201.800	201.775	201.785	201.840	201.770	201.770	201.660	201.800	201.850	201.720	201.735	201.730	201.555	201.505

Sumber : hasil pengamatan penulis

LAMPIRAN 10

Tabel 4.6

Data Pengukuran Diameter Luar Kepala Atas

k	Sampel ke- (mm)																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	50.085	50.115	50.060	50.120	50.135	49.940	50.060	50.115	50.110	50.080	50.190	50.000	50.190	49.950	49.995	50.080	49.990	49.980	50.120	50.080	50.160	50.135	50.015	49.980	50.175	50.010	50.135	50.170	50.130	50.045
2	50.010	50.050	49.975	50.105	50.165	50.115	50.085	49.980	49.935	50.095	50.040	50.110	50.065	50.000	50.190	50.010	50.160	50.125	50.105	50.065	50.180	50.125	50.120	50.160	50.055	50.000	50.135	50.110	50.135	50.000
3	50.045	50.050	50.135	49.990	50.030	50.160	50.160	50.100	50.020	50.075	49.975	50.045	50.095	50.185	49.955	50.195	50.040	49.975	50.005	50.080	50.115	50.155	50.130	49.970	49.995	50.005	50.085	50.145	50.075	50.045
4	50.075	50.050	50.005	50.050	50.130	49.995	50.135	50.025	50.070	49.975	50.010	49.995	50.080	50.015	50.010	50.065	50.120	49.960	50.190	50.070	49.970	50.015	49.995	50.065	50.145	50.060	49.975	49.950	49.990	50.175
5	50.060	50.080	49.938	50.110	50.015	50.010	50.100	50.050	50.080	50.125	49.970	49.975	49.990	50.140	50.145	49.975	49.990	50.160	50.080	50.060	50.060	50.000	49.935	49.985	50.155	50.110	50.085	50.080	50.010	50.165
6	50.020	50.040	50.000	50.100	50.150	50.150	50.070	49.925	50.100	50.015	50.140	50.125	50.055	49.985	50.095	50.140	49.930	50.100	50.100	50.030	49.955	50.115	50.100	49.980	50.050	50.020	50.130	49.965	50.050	50.085
7	50.050	50.055	50.015	50.045	50.115	49.960	50.100	50.105	50.090	50.100	50.150	49.995	50.110	50.020	50.065	50.090	50.000	49.940	50.105	50.075	50.155	50.075	50.060	50.005	50.015	50.140	50.130	50.090	49.975	50.120
8	50.120	50.020	50.035	50.050	49.955	50.040	50.095	49.970	50.050	50.135	50.070	50.140	50.070	50.015	49.975	50.105	50.090	50.110	50.005	50.055	50.185	50.005	50.015	50.125	50.100	50.005	50.100	50.160	50.190	49.965
9	50.020	49.995	50.045	50.090	50.025	50.150	50.045	49.915	50.110	50.115	50.005	50.075	50.050	50.110	50.030	50.085	50.045	50.085	50.060	50.045	50.105	50.030	50.130	49.940	50.120	50.125	50.085	50.060	50.020	50.040
10	50.095	50.030	50.155	50.160	49.995	50.070	50.010	50.065	50.045	50.005	50.060	50.130	50.095	50.195	49.950	50.155	50.040	50.065	49.995	50.000	50.125	50.070	50.030	50.045	50.045	50.000	49.985	50.160	50.195	50.015
11	50.055	49.995	50.035	50.110	50.050	50.105	50.075	50.000	50.035	50.120	49.930	50.025	50.110	50.010	49.995	50.145	50.150	49.980	50.020	50.045	50.120	50.135	50.100	50.025	50.045	50.110	49.950	50.060	50.035	50.060
12	50.005	50.105	50.050	50.110	50.030	49.995	50.065	50.155	50.070	50.075	50.150	50.010	50.020	50.045	50.085	50.095	50.090	50.005	50.105	50.140	50.035	50.155	50.050	50.020	49.960	50.070	50.090	50.015	50.060	50.075
13	49.990	50.075	49.985	50.090	50.020	50.035	50.065	50.050	50.095	50.010	50.165	50.155	50.095	50.000	50.000	50.120	49.995	50.000	50.060	50.055	50.045	49.990	50.030	50.150	50.160	50.080	50.100	50.105	50.010	49.990
14	50.040	50.080	49.990	50.015	50.110	50.105	50.135	50.020	50.075	50.065	50.100	50.175	50.095	50.000	50.030	50.085	50.125	50.025	50.080	50.185	50.000	49.990	50.050	50.050	50.100	50.105	50.015	50.110	50.130	50.150
15	50.065	50.005	50.055	50.085	50.115	50.070	50.085	49.990	50.105	50.050	50.050	50.021	50.085	50.000	50.165	50.105	50.115	50.100	50.100	50.135	50.035	50.015	50.080	50.070	50.075	50.005	50.080	50.140	50.100	49.890
16	50.085	50.065	50.010	50.105	50.105	50.105	50.045	50.070	50.080	50.050	50.115	50.105	50.105	50.020	50.110	50.105	49.970	49.985	49.975	50.020	50.135	50.080	50.120	50.065	50.075	50.040	50.030	50.050	50.080	50.180
17	50.105	50.055	50.000	50.040	50.040	50.020	49.990	50.030	50.145	49.995	50.020	50.100	50.110	49.975	50.005	50.150	50.070	50.070	50.000	49.990	50.115	50.155	50.065	50.060	50.020	50.005	50.025	50.120	50.110	50.180
18	50.080	50.150	50.000	50.105	49.950	50.000	50.050	50.065	50.140	50.095	50.040	50.020	50.000	50.075	49.995	50.080	49.985	50.100	50.110	50.025	50.110	50.125	50.160	49.965	50.035	50.120	50.065	50.080	50.100	50.055
19	50.015	50.020	50.135	50.080	50.120	50.005	50.075	50.040	50.030	50.050	50.080	49.990	50.095	50.105	50.050	50.110	50.030	49.995	50.030	50.165	50.005	50.070	50.010	50.065	50.065	50.005	50.030	50.095	50.095	50.195
20	50.050	50.110	49.975	50.005	50.140	50.005	50.040	50.090	50.100	50.105	50.155	50.000	50.190	50.005	50.000	50.065	50.025	49.970	50.100	50.130	50.075	50.085	50.010	50.070	50.125	50.110	50.135	50.075	50.120	50.060
21	50.040	50.030	50.040	50.080	50.160	49.965	50.050	50.020	50.045	50.020	50.110	50.120	50.070	50.000	50.095	50.140	50.020	50.100	50.100	50.030	49.990	50.100	50.100	50.020	50.035	50.020	50.130	49.975	49.970	50.145
22	50.070	50.065	50.015	50.120	50.110	50.110	50.030	49.970	50.070	50.060	50.115	50.105	50.105	50.020	50.095	50.125	49.995	50.005	50.125	50.025	50.120	50.080	50.120	50.065	50.070	50.050	50.050	49.980	50.080	50.180
23	50.010	50.095	50.035	50.110	50.015	50.020	50.100	50.050	50.090	50.125	49.995	49.945	50.095	50.105	50.145	50.000	50.000	50.130	50.080	50.070	50.025	50.085	50.005	50.010	50.155	50.110	49.950	50.080	50.010	50.085
24	50.090	50.125	49.995	49.965	50.095	50.105	50.145	50.105	50.080	50.075	50.115	50.010	50.020	50.045	50.085	50.095	50.095	50.025	50.110	49.975	50.005	50.140	50.005	50.020	49.990	50.070	50.090	50.035	50.055	50.090
25	50.070	50.150	50.040	50.080	49.950	50.000	50.070	50.120	50.140	50.095	50.040	50.020	50.030	50.075	50.005	50.050	50.145	50.095	50.110	50.025	50.110	50.070	50.115	49.965	50.040	50.120	50.065	50.080	50.100	50.125
26	50.060	50.150	50.000	50.115	49.950	50.045	50.050	50.100	50.120	50.075	50.040	50.010	50.110	50.080	49.995	50.080	50.040	50.100	50.095	50.030	50.100	50.080	50.150	49.970	50.045	50.085	50.055	50.075	50.110	50.055
27	50.025	50.095	49.985	50.090	50.030	50.060	50.065	50.050	50.095	50.010	50.145	50.145	50.095	50.000	50.050	50.120	49.995	50.020	50.060	50.055	50.045	50.010	50.030	50.150	50.130	50.065	50.100	50.105	50.010	50.000
28	50.040	50.030	50.060	50.080	50.150	49.965	50.050	50.020	50.095	50.015	50.120	50.120	50.070	50.000	50.095	50.125	50.020	50.100	50.100	50.030	50.020	50.100	50.100	50.020	50.035	50.045	50.130	49.990	50.000	50.110
29	50.035	50.070	49.970	50.015	49.995	50.065	50.145	50.060	49.975	49.950	49.990	50.175	50.080	50.015	50.010	50.065	50.120	49.960	50.190	50.075	50.050	50.005	50.040	50.130	49.995	50.135	50.025	50.070	49.975	50.175
30	50.050	50.010	50.045	50.045	50.105	50.030	50.130	49.985	50.120	50.125	50.085	50.060	50.020	50.040	50.015	50.020	50.010	50.085	49.995	50.090	50.025	50.150	50.045	50.000	50.110	50.115	50.005	50.075	50.050	50.110
31	50.010	50.100	50.050	50.100	50.015	50.005	50.060	50.145	50.060	50.080	50.150	50.010	50.020	50.000	50.085	50.090	50.095	49.980	50.105	50.135	50.035	50.155	50.095	50.020	49.960	50.070	50.075	50.015	50.105	50.045
32	50.010	50.040	49.985	50.090	50.020	50.035	50.065	50.050	50.095	50.030	50.165	50.155	50.040	49.955	50.050	50.120	50.000	50.000	50.060	50.055	50.045	49.995	50.030	50.150	50.145	50.080	50.100	50.105	50.035	50.060
33	50.040	50.010	50.045	50.080	50.100	49.965	50.050	50.020	50.045	50.020	50.110	50.125	50.085	50.010	50.095	50.130	50.020	50.100	50.100	50.020	50.000	50.100	50.100	50.020	50.035	50.035	50.130	49.975	50.040	50.145
34	50.075	50.020	50.135	50.080	50.120	50.065	50.075	50.040	50.030	50.050	50.080	50.180	50.065	50.010	50.105	50.105	50.140	50.045	50.070	50.080	50.050	50.145	50.105	50.105	50.020	50.110	50.105	49.985	49.990	49.990
35	50.050	50.020	50.035	50.075	49.950	50.040	50.095	50.055	50.180	50.005	50.015	50.125	50.105	50.005	50.115	50.130	50.185	49.965	49.970	50.050	50.115	50.060	50.140	50.070	50.015	49.965	50.125	50.090	50.140	50.000
36	50.020	50.045	50.020	50.045	50.130	49.955	50.105	50.105	50.090	50.100	50.145	50.000	50.075	50.155	50.075	50.060	50.005	50.015	50.140	50.130	50.090	49.975	50.120	50.000	50.015	50.140	50.130	50.090	49.975	50.120
37	50.010	50.055	50.045	49.990	50.030	50.150	50.160	50.080	50.100	50.105	50.100	49.990	50.075	49.985	50.080	50.035	50.035	50.065	50.050	50.095	50.010	50.165	50.155	50.095	50.000	50.010	50.120	50.000	50.000	50.060
38	50.055	50.080	50.130	50.080	50.115	50.155	50.130	49.970	49.995	50.005	50.085	50.145	50.075	50.045	49.990	50.030	50.160	50.145	50.100	50.020	50.075	49.975	50.045	50.095	50.185	49.955	50.195	50.040	49.975	50.005
39	50.065	50.165	50.020	50.030	50.100	50.080	50.150	49.970	50.045	50.085	50.055	50.075	50.100	50.055	50.115	49.995	50.045	50.050	50.100	50.120	50.075	50.040	50.040	50.110	50.085	50.010	50.120	49.995	50.000	50.060
40	50.075	50.040	50.010	50.100	50.020	50.130	50.080	50.120	50.065	50.070	50.040	50.035	50.050	50.080	50.180	50.105	50.105	50.045	50.070	50.080	50.050	50.115	50.105	50.105	50.020	50.110	50.105	50.000	49.990	49.995

Sumber : hasil pengamatan penulis

Tabel 4.8

Data Pengukuran Tebal Kepala Atas

k	Sampel ke- (mm)																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	3.043	3.085	3.190	3.140	3.165	3.163	3.005	3.080	3.105	3.123	3.023	3.155	3.040	2.985	2.993	3.063	3.013	3.105	3.105	3.050	3.018	3.063	3.038	3.030	3.053	3.128	3.035	3.040	2.995	3.168
2	2.928	3.053	3.128	3.103	2.978	3.165	3.090	3.083	3.168	3.120	3.000	3.008	3.150	3.060	3.063	2.988	3.045	3.125	2.935	3.063	3.010	3.083	3.088	3.058	3.038	3.103	3.015	3.040	3.008	3.023
3	3.073	3.068	3.153	3.038	3.005	3.100	3.168	2.983	3.050	3.015	2.998	3.080	3.160	3.048	3.018	3.075	3.018	3.083	3.090	3.090	3.045	3.048	3.065	3.138	3.060	3.000	3.003	3.013	3.085	3.128
4	3.155	3.098	3.020	3.063	3.083	3.113	3.008	3.118	3.035	2.983	3.020	3.020	3.035	3.033	3.083	2.995	3.083	3.133	3.023	3.030	3.020	3.070	3.043	3.128	3.095	2.968	3.108	3.088	2.948	3.075
5	3.060	3.003	2.998	3.028	3.070	3.128	3.020	3.018	3.028	3.058	3.048	3.103	3.040	3.060	3.158	3.125	2.970	3.160	3.028	3.105	3.160	2.985	3.055	3.105	3.098	3.040	3.055	2.988	3.020	3.068
6	3.028	3.060	3.118	3.078	3.013	3.138	3.080	3.080	3.180	3.123	3.010	3.005	2.975	3.068	3.020	2.990	3.045	3.013	3.008	3.100	2.998	3.098	3.080	3.080	3.080	3.100	2.990	3.028	3.105	3.025
7	3.050	2.998	3.078	3.038	3.065	3.063	3.118	3.033	3.078	3.025	3.163	3.053	3.085	3.178	3.093	3.138	3.153	2.998	3.080	3.083	3.105	3.025	3.150	3.035	2.983	3.033	3.075	3.025	3.095	3.098
8	3.100	3.078	3.025	3.075	3.070	3.095	3.000	3.120	3.020	3.000	3.080	3.020	3.030	3.033	3.093	3.013	3.078	3.093	3.015	2.945	3.050	3.093	3.028	3.155	3.035	3.000	3.000	3.095	3.065	3.068
9	3.088	3.088	3.103	3.033	3.055	3.010	3.133	3.053	3.010	2.993	3.015	3.095	3.103	3.048	3.095	3.183	3.113	3.108	3.095	2.998	3.053	3.070	3.105	3.063	3.085	3.033	2.998	3.003	3.068	3.043
10	3.080	3.088	3.180	3.090	3.008	2.998	3.025	3.080	3.018	2.993	3.023	3.158	3.073	3.015	3.025	3.080	2.970	3.078	3.098	3.068	3.090	2.955	3.023	3.115	3.008	3.130	3.090	3.050	3.020	3.028
11	3.083	3.108	3.020	3.135	3.023	2.988	3.033	3.080	3.023	3.093	3.105	3.040	3.005	3.085	3.030	3.065	3.050	3.095	3.020	3.080	3.003	3.140	3.100	3.093	3.170	3.083	3.018	2.988	2.998	3.088
12	3.010	3.010	2.983	3.073	3.020	2.998	3.055	3.013	3.010	3.093	2.998	3.105	3.085	3.070	3.090	3.105	2.993	3.028	3.105	3.040	3.060	2.995	3.078	3.038	3.060	3.093	3.120	3.028	3.080	3.000
13	3.053	3.085	3.033	3.050	3.145	3.113	2.940	3.163	3.020	3.100	3.150	2.995	3.055	3.103	3.093	3.063	3.058	2.983	3.023	3.065	3.070	3.000	2.998	3.020	3.085	3.108	3.025	3.020	3.028	3.068
14	3.083	3.173	3.105	3.108	3.098	2.998	3.053	3.070	3.100	3.063	3.085	3.033	2.938	3.000	3.073	3.040	3.075	3.093	3.103	3.033	3.058	3.013	3.130	3.055	3.003	2.943	3.013	3.095	3.103	3.050
15	3.068	3.063	2.995	3.045	3.125	2.995	3.063	3.010	3.083	3.088	3.070	3.038	3.048	3.015	3.040	3.008	3.023	3.020	3.053	3.115	3.103	2.948	3.165	3.090	3.083	3.168	3.080	3.000	2.993	3.145
16	3.078	3.098	3.068	3.090	3.003	3.023	3.115	3.008	3.130	3.090	3.050	3.020	3.028	3.080	3.088	3.180	3.090	3.008	2.998	3.025	3.080	3.018	2.993	3.023	3.158	3.073	3.015	3.025	3.080	2.983
17	3.028	3.053	3.118	3.103	2.990	3.165	3.090	3.083	3.168	3.120	3.000	3.008	3.150	3.060	3.063	2.995	3.083	3.133	3.023	3.030	3.020	3.070	3.043	3.128	3.095	2.990	3.108	3.088	3.050	3.075
18	3.020	3.053	3.128	3.125	3.165	3.163	2.995	3.105	3.095	3.108	3.010	3.165	3.033	2.993	3.015	3.065	3.013	3.095	3.108	3.048	3.028	3.055	3.063	3.043	3.028	3.110	3.023	3.033	2.998	3.155
19	3.053	3.103	3.175	3.023	3.068	3.113	3.030	3.080	3.033	3.098	3.105	3.025	3.008	3.093	3.038	3.088	3.020	3.098	3.085	3.078	3.085	3.080	3.060	3.045	3.103	3.015	3.040	3.000	3.035	3.105
20	3.110	3.080	3.025	3.085	3.060	3.088	2.998	3.053	3.128	3.005	3.068	3.018	3.045	3.028	3.093	3.055	3.000	3.085	3.103	3.053	3.020	3.018	3.053	2.983	3.053	3.130	3.035	3.000	3.000	3.090
21	3.053	3.085	3.165	3.130	3.023	2.948	3.030	3.075	3.023	3.020	3.053	3.120	3.015	3.088	3.060	3.045	3.013	3.105	3.105	3.043	3.018	3.063	3.038	3.030	3.038	3.140	3.035	3.040	3.003	3.145
22	3.055	3.020	3.003	3.055	3.005	3.003	3.000	3.120	3.020	3.000	3.088	3.025	3.020	3.055	3.110	3.070	3.018	3.083	3.093	3.078	3.088	3.088	3.058	3.038	3.103	3.008	3.053	3.003	3.038	2.990
23	3.050	3.005	3.120	3.035	3.033	2.938	3.033	3.080	3.023	3.093	3.098	3.040	3.013	3.088	3.030	3.000	3.038	3.128	3.105	3.050	3.015	3.063	3.010	3.030	3.033	3.118	3.035	3.035	3.030	3.120
24	2.998	3.005	3.190	3.100	3.078	3.025	3.075	3.070	3.095	3.000	3.120	3.020	3.000	3.080	3.020	3.030	3.033	3.093	3.025	3.053	3.128	3.088	3.058	3.038	3.103	3.015	3.040	3.008	2.998	3.138
25	3.005	3.100	3.078	3.025	3.088	3.070	3.080	3.000	3.120	3.020	3.000	3.070	3.008	3.023	3.003	3.083	3.000	3.105	3.105	3.040	3.018	3.020	3.053	3.118	3.018	3.118	3.030	3.040	2.998	3.160
26	3.023	3.075	3.160	3.118	3.163	3.140	3.003	3.053	3.083	3.128	3.025	3.125	3.033	2.983	3.003	3.063	3.043	3.018	3.105	3.055	3.025	3.040	3.038	3.030	3.020	3.053	3.113	3.058	3.000	3.153
27	3.050	3.103	3.015	3.078	3.025	3.075	3.070	3.095	3.000	3.120	3.020	3.000	3.080	2.965	3.030	3.033	3.093	3.105	3.095	3.090	3.083	3.088	3.058	3.038	3.103	3.005	3.075	3.020	3.053	3.098
28	3.038	3.005	3.100	3.168	2.920	3.163	3.005	3.080	3.105	3.123	3.023	3.155	3.040	2.985	2.993	3.063	3.000	3.103	3.103	3.073	3.005	3.063	3.028	3.030	3.040	3.115	2.983	3.068	3.000	3.108
29	3.130	3.090	3.050	3.020	3.028	3.100	3.168	2.983	3.120	3.163	3.020	3.100	3.150	2.995	3.033	3.093	3.005	3.098	3.105	3.063	3.020	3.035	3.038	3.058	3.053	3.115	2.998	3.040	3.005	3.125
30	3.063	3.100	3.125	3.163	3.020	3.100	3.150	2.995	3.038	3.005	3.100	3.168	2.983	2.985	2.988	3.045	3.125	2.993	3.063	3.010	3.083	3.088	3.058	3.038	3.103	3.015	3.040	3.008	3.023	3.095
31	3.028	3.040	3.125	3.140	3.165	3.163	3.163	3.020	3.100	3.150	2.995	3.130	3.090	3.050	3.020	3.028	3.168	2.983	3.000	3.080	3.020	3.030	3.033	3.093	3.053	3.128	3.035	3.040	2.995	3.078
32	3.068	3.105	3.165	3.100	3.130	3.090	3.050	3.020	3.028	2.955	3.120	3.020	3.000	3.080	3.020	3.030	3.033	3.093	3.090	3.090	3.083	3.088	3.058	3.038	3.103	3.015	3.040	3.008	3.023	3.113
33	3.100	3.078	3.025	3.075	3.070	3.095	2.935	3.120	3.020	3.000	3.080	3.020	3.030	3.033	3.093	3.063	3.013	3.038	3.005	3.100	3.168	2.983	3.038	3.030	3.053	3.128	3.035	3.040	2.995	3.013
34	3.078	3.100	3.135	3.140	3.165	3.163	3.005	3.080	3.105	3.123	3.023	3.155	3.040	2.985	2.993	3.063	3.130	3.090	3.050	3.020	3.028	3.038	3.005	3.100	3.168	2.983	3.035	3.040	2.995	3.158
35	3.065	3.103	3.148	3.135	3.100	3.078	3.025	3.075	3.070	3.095	3.000	3.120	3.020	3.000	3.080	3.020	3.030	3.033	3.093	3.050	3.018	3.063	3.038	3.030	3.053	3.130	3.090	3.050	3.020	3.020
36	3.038	3.103	3.178	3.140	3.165	3.163	3.168	2.983	3.050	3.015	2.998	3.080	3.160	3.048	3.018	3.075	3.018	3.083	3.090	3.090	3.038	3.005	3.100	3.168	2.983	3.128	3.035	3.040	2.995	3.138
37	3.003	3.100	3.078	3.025	3.075	3.070	3.095	3.000	3.120	3.020	3.000	3.080	3.020	3.030	3.033	3.038	3.005	3.100	3.168	2.983	3.083	3.088	3.058	3.038	3.103	3.015	3.040	2.950	3.023	3.163
38	3.070	3.085	3.180	3.140	3.095	3.000	3.120	3.020	3.000	3.080	3.038	3.005	3.100	3.168	2.920	3.063	3.013	3.105	3.105	3.050	3.018	3.063	3.038	3.030	3.053	3.128	3.035	3.040	2.943	3.183
39	3.130	3.090	3.050	3.020	3.028	3.038	3.005	3.100	3.168	2.968	3.020	3.000	3.080	3.020	3.030	3.130	3.090	3.050	3.020	3.028	3.010	3.063	3.043	3.095	3.000	3.120	3.020	3.000	3.080	2.995
40	3.038	3.095	3.000	3.120	3.020	3.000	3.080	3.000	3.120	3.020	3.000	3.080	3.020	3.030	3.033	3.093	3.018	3.083	3.090	3.090	3.083	3.088	3.058	3.038	3.103	3.015	3.040	3.008	3.023	3.128

Sumber : hasil pengamatan penulis

Tabel 4.10

Data Pengukuran Tinggi Dalam Kepala Atas

k	Sampel ke- (mm)																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	7.888	7.860	7.903	7.865	7.970	7.918	7.923	7.873	7.890	7.900	7.863	7.853	7.865	7.853	7.915	7.868	7.883	7.908	7.890	7.878	7.933	7.873	7.905	7.970	7.878	7.855	7.880	7.948	7.888	7.905
2	7.903	7.878	7.898	7.920	7.865	7.900	7.945	7.895	7.865	7.903	7.850	7.860	7.863	7.940	7.885	7.855	7.855	7.850	7.920	7.935	7.968	7.863	7.980	7.855	7.895	7.910	7.913	7.888	7.865	7.915
3	7.858	7.905	7.853	7.850	7.905	7.988	7.860	7.940	7.858	7.865	7.850	7.915	7.900	7.920	7.863	7.870	7.870	7.848	7.900	7.900	7.858	7.858	7.878	7.858	7.868	7.908	7.923	7.933	7.908	7.853
4	7.920	7.835	7.835	7.883	7.925	7.875	7.913	7.970	7.960	7.925	7.893	7.908	7.850	7.913	7.965	7.925	7.848	7.893	7.960	7.823	7.860	7.890	7.913	7.890	7.908	7.840	7.873	7.838	7.910	7.940
5	7.908	7.878	7.873	7.880	7.933	7.903	7.855	7.863	8.013	7.873	7.925	7.923	7.860	7.863	7.888	7.870	7.898	7.863	7.865	7.865	7.893	7.878	7.905	7.903	7.910	7.848	7.868	7.900	7.893	7.900
6	7.910	7.848	7.860	7.845	7.940	7.945	7.855	7.910	7.970	7.880	7.848	7.880	7.858	7.898	7.895	7.840	7.833	7.910	7.905	7.850	7.945	7.900	7.890	7.900	7.835	7.855	7.878	7.903	7.825	7.883
7	7.910	7.900	7.970	7.883	7.845	7.903	7.898	7.895	7.903	7.893	7.945	7.885	7.855	7.868	7.880	7.858	7.918	7.900	7.858	7.900	7.835	7.865	7.825	7.883	7.898	7.838	7.928	7.945	7.883	7.925
8	7.898	7.898	7.835	7.890	7.908	7.838	7.908	7.890	7.835	7.838	7.833	7.838	7.970	7.913	7.905	7.898	7.900	7.940	7.900	7.930	7.838	7.945	7.883	7.890	7.900	7.865	7.910	7.865	7.970	7.903
9	7.843	7.855	7.908	7.918	7.848	7.940	7.900	7.940	7.895	7.855	7.903	7.900	7.903	7.863	7.853	7.848	7.928	7.900	7.918	7.865	7.838	7.900	7.838	7.860	7.908	7.845	7.865	7.905	7.845	7.905
10	7.923	7.848	7.860	7.930	7.940	7.853	7.893	7.948	7.900	7.863	7.838	7.970	7.883	7.903	7.858	7.853	7.840	7.865	7.863	7.850	7.945	7.893	7.890	7.900	7.950	7.850	7.875	7.850	7.928	7.855
11	7.910	7.970	7.898	7.848	7.903	7.828	7.940	7.883	7.888	7.835	7.853	7.833	7.838	7.970	7.933	7.888	7.900	7.888	7.950	7.903	7.850	7.940	7.933	7.880	7.860	7.898	7.783	7.943	7.873	7.875
12	7.970	7.840	7.940	7.918	7.890	7.900	7.910	7.905	7.970	7.940	7.900	7.908	7.990	7.913	7.903	7.883	7.925	7.890	7.910	7.878	7.875	7.880	7.935	7.868	7.905	7.858	7.863	7.863	7.888	7.938
13	7.893	7.848	7.858	7.840	7.878	7.858	7.865	7.908	7.890	7.900	7.928	7.908	7.890	7.838	7.970	7.913	7.833	7.880	7.888	7.878	7.940	7.863	7.848	7.833	7.903	7.920	7.860	7.825	7.885	8.000
14	7.918	7.888	7.883	7.918	7.910	7.875	7.918	7.940	7.885	7.855	7.865	7.970	7.888	7.948	7.903	7.890	7.900	7.863	7.853	7.860	7.853	7.890	7.863	7.865	7.908	7.848	7.875	7.923	7.940	7.898
15	7.855	7.855	7.910	7.903	7.915	7.835	7.903	7.830	7.858	7.970	7.880	7.895	7.900	7.858	7.868	7.885	7.960	7.970	7.913	7.945	7.883	7.890	7.900	7.925	7.850	7.848	7.853	7.870	7.863	7.898
16	7.863	7.900	7.895	7.850	7.903	7.940	7.868	7.855	7.900	7.925	7.985	7.925	7.855	7.850	7.850	7.863	7.945	7.860	7.865	7.905	7.850	7.860	7.900	7.860	7.933	7.845	7.860	7.863	7.925	7.888
17	7.893	7.890	7.920	7.900	7.933	7.920	7.850	7.940	7.863	7.855	7.848	7.898	7.908	7.848	7.890	7.900	7.903	7.940	7.908	7.850	7.913	7.965	7.935	7.940	7.945	7.855	7.838	7.970	7.885	7.845
18	7.895	7.848	7.860	7.905	7.940	7.905	7.848	7.860	7.925	7.908	7.865	7.855	7.830	7.890	7.928	7.895	7.860	7.940	7.860	7.860	7.878	7.860	7.928	7.903	7.908	7.910	7.880	7.860	7.853	7.850
19	7.923	7.945	7.848	7.835	7.928	7.940	7.865	7.855	7.875	7.858	7.875	7.938	7.833	7.968	7.805	7.980	7.855	7.945	7.905	7.988	7.860	7.940	7.903	7.843	7.850	7.820	7.900	7.885	7.863	7.870
20	7.940	7.888	7.838	7.970	7.898	7.840	7.948	7.913	7.953	7.825	7.920	7.930	7.875	7.908	7.813	7.848	7.835	7.850	7.970	7.815	7.945	7.823	7.890	7.900	7.925	7.900	7.905	7.830	7.860	7.830
21	7.953	7.930	7.940	7.873	7.890	7.900	7.895	7.903	7.853	7.905	7.988	7.860	7.940	7.858	7.845	7.850	7.848	7.880	7.905	7.863	7.870	7.860	7.905	7.850	7.905	7.908	7.903	7.848	7.990	7.878
22	7.863	7.903	7.895	7.883	7.908	7.905	7.970	7.923	7.908	8.013	7.840	7.848	7.835	7.913	7.840	7.860	7.850	7.913	7.913	7.888	7.863	7.915	7.915	7.890	7.900	7.938	7.870	7.955	7.880	7.910
23	7.903	7.858	7.903	7.848	7.915	7.885	7.940	7.855	7.988	7.940	7.915	7.940	7.855	7.900	7.895	7.843	7.943	7.910	7.848	7.850	7.850	7.860	7.860	7.845	7.863	7.865	7.873	7.955	7.883	7.905
24	7.923	7.930	7.860	7.863	7.878	7.870	7.880	7.913	7.970	7.960	7.925	7.878	7.840	7.885	7.825	7.903	7.940	7.920	7.890	7.835	7.945	7.898	7.900	7.918	7.855	7.858	7.908	7.878	7.848	7.895
25	7.890	7.850	7.900	7.893	7.928	7.945	7.868	7.865	7.868	7.883	7.903	7.905	7.895	7.970	7.898	7.940	7.878	7.890	7.900	7.868	7.863	7.900	7.900	7.905	7.905	7.863	7.868	7.905	7.903	7.860
26	7.850	7.908	7.870	7.880	7.893	7.863	7.945	7.903	7.903	7.903	7.860	7.903	7.885	7.988	7.840	7.855	7.970	7.880	7.870	7.873	7.883	7.900	7.888	7.860	7.913	7.850	7.940	7.885	7.910	7.940
27	7.905	7.988	7.860	7.940	7.878	7.923	7.855	7.865	7.855	7.878	7.903	7.860	7.940	7.925	7.863	7.855	7.905	7.983	7.860	7.940	7.875	7.848	7.863	7.910	7.905	7.903	7.828	7.860	7.865	7.885
28	7.900	7.925	7.900	7.905	7.848	7.860	7.875	7.883	7.855	7.920	7.855	7.940	7.888	7.863	7.900	7.893	7.908	7.853	7.950	7.890	7.850	7.940	7.885	7.868	7.890	7.900	7.868	7.925	7.875	7.913
29	7.898	7.953	7.920	7.853	7.910	7.920	7.873	7.918	7.828	7.903	7.900	7.860	7.880	7.945	7.900	7.890	7.900	7.860	7.940	7.855	7.905	7.993	7.860	7.940	7.863	7.893	7.850	7.900	7.855	7.920
30	7.863	7.895	7.858	7.883	7.905	7.870	7.970	8.013	7.860	7.900	7.905	7.850	7.895	7.825	7.915	7.933	7.838	7.890	7.900	7.890	7.858	7.970	7.870	7.943	7.878	7.890	7.900	7.910	7.863	7.900
31	7.875	7.910	7.848	7.848	7.853	7.895	7.970	7.885	7.945	7.838	7.853	7.855	7.940	7.928	7.850	7.900	7.890	7.965	7.863	7.855	7.870	7.880	7.883	7.903	7.855	7.860	7.875	7.905	7.988	7.890
32	7.903	7.860	7.868	7.903	7.950	7.863	7.860	7.893	7.930	7.853	7.908	8.000	7.868	7.970	7.878	7.953	7.910	7.955	7.910	7.875	7.870	7.875	7.908	7.903	7.848	7.888	7.850	7.970	7.835	7.935
33	7.875	7.900	7.905	7.848	7.860	7.905	7.940	7.868	7.855	7.865	7.913	7.830	7.875	7.893	7.858	7.940	7.840	7.853	7.905	7.988	7.860	7.940	7.913	7.970	7.960	7.925	7.890	7.908	7.863	7.870
34	7.875	7.988	7.918	7.940	7.890	7.913	7.865	7.838	7.985	7.890	7.858	7.843	7.888	7.860	7.970	7.893	7.860	7.900	7.890	7.858	7.903	7.888	7.873	7.993	7.940	7.903	7.868	7.903	7.898	7.923
35	7.928	7.905	7.905	7.848	7.880	7.885	7.940	7.893	7.855	7.910	7.860	7.870	7.940	7.900	7.925	8.000	7.913	7.903	7.883	7.900	7.853	7.870	7.845	7.958	7.898	7.900	7.855	7.965	7.918	7.898
36	7.870	7.903	7.860	7.865	7.855	7.873	7.893	7.835	7.900	7.865	7.915	7.970	7.878	7.925	7.850	7.850	7.933	7.855	7.850	7.905	7.988	7.860	7.940	7.858	7.875	7.865	7.863	7.868	7.905	7.863
37	7.880	7.863	7.900	7.905	7.848	7.860	7.870	7.940	7.878	7.873	7.890	7.900	7.855	7.905	7.918	7.858	7.888	7.883	7.940	7.865	7.855	7.865	7.970	7.925	7.883	7.888	7.850	7.940	7.965	7.923
38	7.975	7.880	7.913	7.970	7.960	7.925	7.898	7.908	7.970	7.878	7.903	7.905	7.848	7.900	7.943	7.875	7.855	7.898	7.903	7.905	7.858	7.863	7.865	7.970	7.958	7.930	7.860	7.860	7.940	7.875
39	7.840	7.885	7.890	7.853	7.933	7.870	7.838	7.970	7.878	7.938	7.888	7.903	7.915	7.915	7.893	7.870	7.850	7.850	7.970	7.848	7.935	7.880	7.890	7.993	7.923	7.970	7.878	7.855	7.898	7.855
40	7.838	7.970	7.875	7.835	7.880	7.833	7.898	7.860	7.890	7.865	7.965	7.870	7.915	7.930	7.913	7.900	7.838	7.890	7.835	7.910	7.948	7.873	7.890	7.908	7.858	7.853	7.865	7.900	7.970	7.908

Sumber : hasil pengamatan penulis

Tabel 4.12

Data Pengukuran Tinggi Luar Kepala Atas

k	Sampel ke- (mm)																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	11.318	11.440	11.373	11.358	11.103	11.033	11.220	11.298	11.283	11.348	11.415	11.248	11.255	11.260	11.308	11.393	11.323	11.313	11.333	11.353	11.230	11.458	11.160	11.315	11.278	11.223	11.423	11.183	11.140	11.068
2	11.258	11.150	11.035	11.183	11.388	11.420	11.243	11.223	11.390	11.288	11.188	11.240	11.425	11.313	11.348	11.173	11.130	11.145	11.285	11.250	11.250	11.303	11.278	11.340	11.113	11.233	11.303	11.043	11.313	11.200
3	11.245	11.070	11.105	11.245	11.298	11.488	11.370	11.065	11.298	11.308	11.350	11.078	11.140	11.313	11.188	11.123	11.280	11.080	11.390	11.260	11.428	11.130	11.148	11.295	11.133	11.200	11.250	11.240	11.185	11.200
4	11.195	11.300	11.223	11.403	11.383	11.298	11.235	11.305	11.355	11.258	11.428	11.290	11.355	11.208	11.160	11.100	11.305	11.405	11.080	11.148	11.180	11.303	11.320	11.373	11.315	11.295	11.348	11.235	11.075	11.043
5	11.285	11.280	11.013	11.305	11.380	11.263	11.110	11.165	11.210	11.245	11.330	11.420	11.170	11.380	11.118	11.065	11.320	11.405	11.075	11.290	11.108	11.413	11.203	11.115	11.223	11.308	11.243	11.333	11.108	11.140
6	11.265	11.253	11.320	11.368	11.480	11.198	11.388	11.320	11.315	11.308	11.120	11.090	11.208	11.050	11.195	11.215	11.043	11.280	11.128	11.170	11.283	11.300	11.365	11.468	11.175	11.338	11.153	11.300	11.223	11.313
7	11.288	11.260	11.325	11.373	11.463	11.195	11.428	11.133	11.283	11.235	11.248	11.305	11.263	11.118	11.040	11.085	11.325	11.170	11.165	11.270	11.263	11.305	11.318	11.460	11.178	11.340	11.298	11.143	11.230	11.308
8	11.325	11.188	11.320	11.170	11.103	11.230	11.160	11.170	11.205	11.058	11.240	11.363	11.215	11.235	11.028	11.365	11.360	11.155	11.293	11.088	11.230	11.315	11.330	11.395	11.380	11.228	11.298	11.240	11.273	11.250
9	11.278	11.080	11.320	11.295	11.245	11.238	11.350	11.105	11.220	11.228	11.410	11.295	11.355	11.213	11.095	11.035	11.288	11.165	11.223	11.335	11.240	11.200	11.170	11.388	11.395	11.303	11.315	11.300	11.173	11.268
10	11.163	11.275	11.160	11.290	11.350	11.428	11.175	11.300	11.170	11.113	11.308	11.233	11.210	11.068	11.225	11.295	11.185	11.163	11.410	11.085	11.260	11.388	11.203	11.353	11.218	11.285	11.280	11.253	11.130	11.308
11	11.108	11.198	11.275	11.310	11.305	11.125	11.300	11.140	11.298	11.073	11.243	11.140	11.265	11.210	11.400	11.260	11.295	11.268	11.430	11.070	11.283	11.348	11.415	11.248	11.255	11.260	11.308	11.393	11.323	11.313
12	11.218	11.225	11.290	11.368	11.265	11.255	11.110	11.113	11.323	11.263	11.418	11.243	11.320	11.220	11.125	11.133	11.323	11.065	11.218	11.310	11.173	11.378	11.440	11.298	11.420	11.080	11.203	11.345	11.243	11.290
13	11.270	11.248	11.348	11.415	11.248	11.260	11.260	11.308	11.393	11.323	11.313	11.333	11.353	11.230	11.458	11.160	11.315	11.440	11.373	11.358	11.103	11.033	11.220	11.285	11.200	11.385	11.290	11.425	11.375	11.255
14	11.320	11.390	11.288	11.180	11.240	11.430	11.313	11.348	11.173	11.130	11.145	11.285	11.250	11.250	11.303	11.278	11.340	11.113	11.233	11.303	11.043	11.108	11.200	11.258	11.150	11.035	11.290	11.145	11.420	11.243
15	11.350	11.313	11.188	11.123	11.280	11.080	11.390	11.260	11.448	11.130	11.148	11.295	11.133	11.200	11.250	11.240	11.348	11.208	11.173	11.105	11.245	11.298	11.353	11.370	11.065	11.298	11.308	11.350	11.078	11.153
16	11.305	11.273	11.355	11.180	11.065	11.320	11.405	11.075	11.290	11.108	11.413	11.203	11.115	11.433	11.308	11.243	11.333	11.108	11.140	11.260	11.140	11.305	11.380	11.263	11.110	11.165	11.210	11.245	11.330	11.420
17	11.223	11.170	11.380	11.205	11.340	11.215	11.410	11.170	11.283	11.300	11.365	11.468	11.175	11.338	11.153	11.300	11.223	11.313	11.105	11.253	11.320	11.368	11.468	11.198	11.388	11.320	11.315	11.308	11.120	11.090
18	11.235	11.208	11.193	11.195	11.215	11.043	11.280	11.128	11.215	11.253	11.415	11.375	11.355	11.205	11.215	11.085	11.323	11.150	11.245	11.163	11.440	11.373	11.358	11.103	11.033	11.220	11.193	11.283	11.348	11.415
19	11.255	11.278	11.328	11.340	11.098	11.353	11.230	11.458	11.160	11.315	11.278	11.223	11.423	11.183	11.140	11.068	11.060	11.295	11.175	11.110	11.265	11.425	11.313	11.348	11.173	11.130	11.145	11.310	11.250	11.383
20	11.245	11.108	11.198	11.275	11.310	11.305	11.125	11.270	11.315	11.220	11.435	11.260	11.070	11.283	11.348	11.415	11.248	11.255	11.260	11.308	11.155	11.360	11.405	11.315	11.405	11.100	11.215	11.305	11.235	11.320
21	11.410	11.260	11.428	11.108	11.198	11.275	11.310	11.305	11.125	11.260	11.290	11.430	11.375	11.070	11.283	11.348	11.415	11.248	11.255	11.260	11.308	11.103	11.225	11.295	11.290	11.295	11.405	11.330	11.365	11.185
22	11.220	11.315	11.260	11.285	11.308	11.415	11.330	11.125	11.185	11.105	11.210	11.300	11.140	11.298	11.073	11.243	11.140	11.265	11.210	11.400	11.260	11.438	11.268	11.285	11.365	11.380	11.305	11.240	11.260	11.285
23	11.213	11.310	11.285	11.305	11.330	11.195	11.310	11.285	11.260	11.045	11.240	11.160	11.108	11.198	11.275	11.310	11.098	11.125	11.170	11.420	11.315	11.135	11.243	11.305	11.175	11.330	11.380	11.225	11.258	11.133
24	11.275	11.225	11.300	11.140	11.298	11.073	11.243	11.140	11.265	11.210	11.400	11.260	11.298	11.268	11.220	11.160	11.330	11.235	11.320	11.333	11.348	11.255	11.220	11.355	11.210	11.420	11.215	11.030	11.245	11.020
25	11.285	11.270	11.155	11.305	11.300	11.140	11.298	11.073	11.243	11.140	11.265	11.210	11.400	11.260	11.295	11.268	11.310	11.080	11.030	11.285	11.075	11.360	11.250	11.155	11.420	11.345	11.353	11.370	11.065	11.298
26	11.108	11.198	11.275	11.310	11.305	11.125	11.400	11.263	11.275	11.265	11.408	11.185	11.380	11.185	11.178	11.093	11.448	11.138	11.158	11.420	11.160	11.310	11.315	11.425	11.050	11.140	11.360	11.330	11.215	11.350
27	11.225	11.270	11.350	11.340	11.340	11.300	11.140	11.298	11.073	11.243	11.140	11.265	11.210	11.400	11.260	11.295	11.268	11.300	11.140	11.298	11.073	11.243	11.140	11.265	11.423	11.495	11.355	11.173	11.335	11.375
28	11.390	11.275	11.428	11.130	11.108	11.198	11.275	11.310	11.305	11.125	11.040	11.045	11.310	11.340	11.363	11.285	11.063	11.345	11.260	11.280	11.358	11.315	11.295	11.165	11.405	11.340	11.360	11.303	11.230	11.070
29	11.198	11.220	11.300	11.140	11.298	11.073	11.243	11.140	11.265	11.210	11.400	11.260	11.295	11.268	11.165	11.150	11.305	11.155	11.230	11.323	11.155	11.383	11.433	11.348	11.405	11.093	11.225	11.305	11.240	11.333
30	11.315	11.273	11.108	11.198	11.275	11.310	11.305	11.125	11.355	11.223	11.300	11.140	11.298	11.073	11.243	11.140	11.265	11.210	11.400	11.260	11.295	11.268	11.110	11.285	11.348	11.415	11.248	11.255	11.300	11.323
31	11.243	11.323	11.305	11.365	11.290	11.243	11.323	11.260	11.320	11.308	11.350	11.083	11.140	11.313	11.188	11.123	11.340	11.183	11.293	11.070	11.250	11.320	11.330	11.430	11.410	11.333	11.350	11.300	11.170	11.090
32	11.290	11.300	11.140	11.290	11.105	11.243	11.140	11.283	11.210	11.400	11.260	11.295	11.268	11.125	11.060	11.155	11.388	11.293	11.120	11.235	11.130	11.310	11.380	11.075	11.375	11.348	11.365	11.318	11.230	11.090
33	11.215	11.335	11.255	11.410	11.390	11.260	11.428	11.130	11.148	11.295	11.415	11.260	11.355	11.185	11.065	11.418	11.285	11.165	11.170	11.120	11.145	11.295	11.313	11.435	11.408	11.348	11.173	11.335	11.280	11.440
34	11.220	11.298	11.285	11.365	11.380	11.305	11.240	11.260	11.285	11.275	11.445	11.300	11.140	11.298	11.073	11.243	11.140	11.265	11.210	11.400	11.260	11.295	11.268	11.370	11.355	11.325	11.385	11.230	11.055	11.005
35	11.315	11.390	11.260	11.428	11.130	11.148	11.295	11.353	11.370	11.065	11.298	11.308	11.355	11.078	11.140	11.313	11.188	11.123	11.100	11.170	11.250	11.295	11.340	11.405	11.300	11.300	11.380	11.060	11.225	11.300
36	11.230	11.265	11.305	11.405	11.305	11.295	11.345	11.260	11.325	11.275	11.383	11.240	11.360	11.225	11.165	11.153	11.305	11.140	11.230	11.300	11.170	11.375	11.423	11.465	11.410	11.433	11.173	11.335	11.375	11.410
37	11.200	11.080	11.148	11.180	11.303	11.320	11.373	11.315	11.295	11.348	11.235	11.075	11.043	11.435	11.320	11.425	11.120	11.170	11.120	11.145	11.190	11.473	11.168	11.158	11.445	11.295	11.098	11.335	11.368	11.355
38	11.278	11.295	11.230	11.350	11.280	11.275	11.355	11.450	11.225	11.280	11.330	11.380	11.495	11.240	11.335	11.260	11.285	11.310	11.423	11.325	11.078	11.200	11.318	11.248	11.195	11.403	11.355	11.400	11.030	11.090
39	11.340	11.370	11.065	11.298	11.308	11.350	11.095	11.140	11.313	11.188	11.123	11.295	11.300	11.140	11.298	11.073	11.243	11.140	11.265	11.210	11.400	11.260	11.295	11.435	11.455	11.118	11.033	11.325	11.340	11.180
40	11.230	11.350	11.310	11.128	11.395	11.265	11.365	11.465	11.185	11.200	11.180	11.313	11.205	11.055	11.178	11.195	11.300	11.140	11.298	11.073	11.243	11.140	11.265	11.210	11.110	11.165	11.210	11.245	11.330	11.225

Sumber : hasil pengamatan penulis

Tabel 4.14

Data Pengukuran Tinggi Sambungan

k	Sampel ke- (mm)																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	155.913	155.910	155.763	156.270	156.078	156.200	156.073	155.743	155.823	156.025	156.168	155.690	155.703	155.905	155.730	156.125	156.123	155.955	155.983	155.920	156.015	156.125	156.040	156.148	156.008	156.248	155.915	156.013	156.200	156.058
2	155.963	155.870	156.195	156.363	155.863	155.990	155.690	156.010	156.020	156.050	155.833	155.848	155.780	156.018	155.958	156.025	156.040	156.033	155.890	156.133	156.298	155.925	155.875	155.963	155.825	155.965	156.135	156.273	156.065	156.058
3	155.935	156.313	156.255	155.690	156.183	155.618	156.133	156.005	155.953	156.195	156.260	155.898	155.833	156.098	156.110	156.093	156.028	156.263	156.045	155.953	155.978	156.170	155.723	156.025	156.078	155.745	156.195	155.923	156.423	155.988
4	156.040	155.898	156.110	156.185	156.163	155.918	155.805	156.050	155.925	156.193	155.903	155.803	156.298	156.105	155.865	156.090	155.948	156.145	156.155	155.893	155.875	156.010	156.040	156.100	156.063	156.270	155.830	155.955	156.058	156.280
5	155.918	156.068	155.835	155.793	155.985	156.140	155.968	156.008	156.000	155.863	156.218	156.178	156.195	156.033	155.848	156.183	156.165	156.093	156.040	155.953	155.900	156.145	156.478	156.175	156.143	156.040	156.235	155.948	156.108	155.955
6	155.690	156.103	156.168	155.990	155.965	155.773	155.745	156.143	156.175	155.690	156.005	155.860	156.013	155.698	156.058	155.888	156.025	156.158	156.250	155.990	156.155	156.015	156.273	156.203	156.178	155.930	156.093	156.123	156.020	156.308
7	156.038	156.075	155.770	156.015	156.110	155.825	156.013	156.025	156.303	156.148	155.690	155.776	156.128	156.240	156.040	156.173	156.230	155.998	156.143	156.015	155.818	156.113	155.930	155.733	156.178	155.760	156.100	156.235	156.250	155.748
8	155.975	155.955	155.955	155.640	156.160	156.145	156.075	156.213	156.190	156.215	156.150	156.088	156.105	155.975	156.308	155.745	155.828	156.120	156.080	156.225	156.023	155.968	156.120	155.758	156.165	155.918	156.078	156.075	156.220	156.115
9	155.913	156.035	155.913	155.838	155.783	156.173	156.228	155.803	156.078	156.075	155.935	156.055	155.910	156.093	156.093	155.898	156.018	156.086	155.978	156.090	156.098	155.903	156.040	156.055	156.080	155.990	156.080	156.055	156.140	156.298
10	156.118	156.048	156.080	156.268	155.785	155.770	155.938	156.145	156.073	156.178	156.118	156.075	156.278	156.020	155.880	156.008	156.068	156.260	155.948	156.308	156.113	155.885	156.148	156.073	156.120	156.263	156.013	156.148	156.038	156.395
11	156.020	155.978	155.978	156.200	156.035	156.163	156.200	155.935	155.930	156.030	156.100	156.105	155.823	155.990	156.205	156.033	156.068	156.283	156.223	156.065	155.885	155.988	155.978	156.083	155.853	156.140	156.043	156.118	156.180	156.008
12	156.205	155.930	155.883	156.023	156.005	156.133	156.053	156.130	156.195	155.883	156.110	156.083	155.948	156.025	156.170	156.178	156.113	156.163	156.370	156.180	156.175	155.690	156.163	155.918	155.853	156.153	155.980	156.200	156.200	156.073
13	156.045	156.170	156.180	155.863	156.123	155.918	155.983	155.920	156.053	156.120	156.083	156.158	156.008	156.210	155.910	156.013	156.208	156.058	155.870	156.213	156.363	155.890	155.990	155.715	156.118	156.020	156.095	155.808	156.078	156.185
14	156.090	155.900	156.088	156.293	156.065	156.058	155.780	156.050	156.050	156.025	155.913	156.078	156.023	155.870	156.185	156.068	156.050	156.008	156.033	156.118	156.020	156.075	155.800	155.848	155.780	156.050	156.050	156.293	156.093	156.000
15	156.058	156.110	156.248	156.010	156.040	156.115	156.063	156.245	155.830	155.955	156.058	156.293	156.255	155.690	156.183	155.618	156.133	156.048	155.953	156.195	156.260	156.025	155.848	156.120	156.155	156.168	155.968	155.870	155.998	156.120
16	156.008	155.755	156.168	156.050	155.903	155.803	156.298	156.105	155.865	156.090	155.948	156.145	156.155	155.848	155.858	155.855	155.928	156.050	155.890	155.808	155.908	156.123	155.943	155.948	156.120	156.058	155.930	156.313	155.775	155.805
17	155.965	156.128	156.143	155.990	156.155	156.015	156.273	156.203	156.198	155.930	156.093	156.168	156.020	156.308	156.140	155.968	156.035	156.013	155.863	156.218	156.178	156.103	155.873	155.990	155.993	155.773	155.745	156.080	156.375	156.113
18	155.913	156.035	156.053	155.875	156.068	156.203	156.083	156.233	156.178	155.760	155.800	155.795	156.225	155.748	155.723	156.110	155.825	156.013	155.960	156.273	155.760	155.713	155.776	156.128	156.233	156.103	156.223	156.118	155.958	155.945
19	156.205	156.015	156.050	155.730	155.898	156.123	155.955	155.983	155.920	156.015	156.125	156.040	156.148	156.008	156.248	155.915	156.013	156.200	156.058	155.743	156.025	156.168	155.690	155.703	155.905	156.253	156.270	156.078	156.200	156.073
20	156.143	156.013	156.040	156.093	156.028	156.263	156.045	155.953	155.978	156.195	155.723	156.025	156.068	155.745	156.185	156.163	155.960	155.805	156.050	155.923	156.193	155.903	155.803	156.313	156.090	155.898	156.110	156.185	156.165	155.940
21	155.940	156.000	156.075	156.325	156.205	156.033	156.068	156.283	156.223	156.065	155.885	155.988	155.978	156.083	155.860	156.140	156.043	156.110	156.180	156.008	156.090	156.305	156.173	156.228	155.788	156.078	156.075	155.948	156.055	155.995
22	156.213	156.048	156.295	156.365	155.763	156.013	156.040	155.973	156.148	155.690	155.776	156.128	156.240	156.040	156.173	156.230	155.998	156.143	156.015	156.035	155.928	155.815	155.783	156.173	156.228	155.803	156.078	156.075	155.935	156.043
23	156.063	155.918	156.110	155.863	155.990	156.268	156.020	156.190	156.013	155.758	155.780	156.008	155.990	155.898	156.110	156.185	156.163	155.918	156.020	156.075	155.800	155.848	155.780	156.050	156.050	155.918	156.068	155.830	156.238	156.008
24	156.145	156.035	156.208	156.183	155.618	156.133	156.005	155.953	156.173	156.230	156.008	156.218	156.178	156.195	155.948	155.848	156.183	156.165	156.093	156.040	155.953	155.900	156.145	155.978	155.960	156.143	155.983	155.920	156.015	156.125
25	156.020	155.898	155.988	155.890	155.990	155.715	156.118	156.020	156.095	155.808	156.078	156.185	156.205	155.930	155.883	156.023	156.005	156.133	156.053	156.130	156.195	155.883	156.035	156.163	156.200	155.935	155.930	156.030	156.100	156.105
26	156.020	156.088	155.948	156.180	156.175	156.145	156.163	155.918	155.853	156.153	155.980	156.200	156.200	156.073	155.948	156.308	156.113	156.240	156.148	156.073	155.975	156.263	156.013	156.148	156.045	155.948	156.135	156.023	156.005	156.158
27	156.045	156.213	156.038	156.135	156.240	156.033	156.120	155.758	156.165	155.918	156.078	156.075	156.220	156.115	156.158	156.008	156.098	156.013	156.013	156.208	156.086	155.870	156.213	156.228	155.803	156.078	156.075	155.935	155.898	156.090
28	155.913	156.085	155.755	156.093	156.093	155.898	156.018	156.086	155.978	156.090	156.098	156.323	155.763	155.723	155.668	156.183	156.005	156.133	156.005	156.008	156.030	156.105	155.863	155.990	156.095	155.805	156.050	155.803	156.193	155.903
29	155.915	156.185	156.010	156.075	155.935	156.055	155.930	156.093	156.093	155.898	156.018	156.086	155.978	156.090	156.098	155.903	156.020	155.978	155.978	156.200	156.035	156.163	155.930	155.935	155.930	156.030	156.113	155.975	156.003	156.195
30	156.098	156.025	156.293	155.938	156.145	156.073	156.178	156.118	155.913	156.078	156.135	156.270	156.078	156.200	156.073	156.035	155.928	155.838	156.013	156.173	156.228	155.803	156.078	156.075	156.120	156.055	155.910	156.075	155.770	155.990
31	156.025	156.030	155.763	155.803	155.735	156.105	155.715	156.118	156.020	156.053	155.823	156.078	156.185	155.690	156.100	155.838	155.783	156.173	156.228	155.803	156.078	156.075	155.935	155.803	156.068	156.093	156.093	155.898	156.173	156.230
32	156.163	155.988	156.153	156.335	155.925	155.963	156.013	155.825	155.995	156.110	156.185	155.930	155.918	155.898	156.050	155.925	156.193	155.903	156.030	156.045	156.170	156.180	155.863	156.123	156.183	155.983	156.100	156.053	156.200	155.935
33	156.218	155.760	156.093	155.890	155.990	155.715	156.118	156.020	156.095	155.808	156.078	156.185	155.990	155.990	155.965	155.915	155.745	156.080	156.175	156.040	156.005	156.055	156.013	155.698	156.058	155.888	156.025	156.158	156.250	155.903
34	155.803	156.023	156.000	155.865	156.090	155.948	156.145	155.863	155.990	155.875	156.010	156.040	156.100	156.063	156.270	156.168	155.990	156.040	155.773	155.745	156.040	156.148	156.008	156.005	156.230	156.013	155.698	156.058	155.776	156.128
35	156.158	155.958	156.048	155.930	156.030	156.100	156.143	156.175	155.690	156.005	155.860	156.013	155.698	156.058	155.863	156.025	156.033	156.250	155.990	156.155	156.015	156.273	156.203	156.178	155.930	156.178	155.955	155.955	156.008	156.000
36	156.188	155.650	156.253	156.118	156.048	156.080	155.948	155.785	155.770	156.218	156.178	155.803	156.105	156.118	156.075	156.278	156.020	155.880	156.135	156.068	156.260	155.948	155.913	156.078	156.253	155.645	156.078	155.925	156.193	155.903
37	155.913	156.035	155.845	155.908	155.863	156.045	156.178	156.195	156.033	156.008	156.248	155.918	156.013	156.200	156.060	155.770	156.015	156.110	155.825	156.105	156.025	155.948	156.163	155.980	156.140	156.035	156.083	156.200	155.935	156.298
38	156.035	156.143	155.905	156.143	156.298	156.148	156.073	156.120	156.263	156.013	155.893	156.038	155.950	156.178	156.055	156.140	155.968	156.008	156.000	155.938	156.218	156.178	156.195	156.033	155.848	156.298	156.080	156.268	156.178	155.770
39	155.673	155.778	156.183	156.383	155.975	156.078	156.253	156.270	156.078	156.220	156.090	156.068	155.830	156.303	155.898	156.140	155.968	156.008	156.000	155.863	156.218	156.178	156.195	156.033	156.120	156.183	156.110	155.825	156.013	155.690
40	156.030	156.035	155.975	156.055	155.825	156.033	156.025	155.728	156.148	155.690	155.776	156.128	155.968	156.008	156.000	155.863	156.218	156.145	156.195	156.033	155.848	156.183	156.165	156.240	156.040	155.930	155.900	156.145	155.978	156.250

Sumber : hasil pengamatan penulis

Tabel 4.16

Data Pengukuran Diameter Luar Kepala Bawah

k	Sampel ke- (mm)																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	57.085	57.030	57.040	57.080	57.160	56.965	57.050	57.020	57.045	57.020	57.110	57.120	57.070	57.000	57.095	57.140	57.020	57.100	57.100	57.030	56.990	57.100	57.100	57.020	57.035	57.020	57.130	56.975	56.970	57.145
2	57.070	57.065	57.015	57.120	57.110	57.110	57.030	56.970	57.070	57.095	57.115	57.105	57.100	57.020	57.095	57.125	56.995	57.005	57.125	57.025	57.120	57.080	57.120	57.065	57.070	57.050	57.050	56.980	57.080	57.015
3	57.010	57.095	57.035	57.110	57.015	57.020	57.100	57.050	57.090	57.125	56.990	56.945	57.095	57.105	57.145	57.000	57.000	57.130	57.080	57.070	57.025	57.085	57.005	57.010	57.155	57.110	56.950	57.080	57.010	57.085
4	57.075	57.125	56.995	56.965	57.095	57.105	57.145	57.105	57.080	57.075	57.115	57.010	57.020	57.045	57.085	57.095	57.100	57.025	57.110	56.970	57.005	57.140	57.005	57.020	56.990	57.070	57.090	57.035	57.055	57.110
5	57.070	57.150	57.040	57.080	56.950	57.000	57.070	57.120	57.140	57.095	57.040	57.020	57.030	57.075	57.005	57.050	57.145	57.095	57.110	57.000	57.110	57.070	57.115	56.965	57.040	57.120	57.065	57.080	57.100	57.125
6	57.000	57.150	57.000	57.115	56.950	57.045	57.050	57.100	57.120	57.075	57.040	57.010	57.110	57.080	56.995	57.080	57.040	57.100	57.095	57.030	57.100	57.080	57.150	56.970	57.045	57.085	57.055	57.075	57.125	57.000
7	57.025	57.095	56.985	57.090	57.030	57.060	57.065	57.050	57.095	57.010	57.145	57.145	57.095	57.000	57.050	57.120	56.995	57.020	57.060	57.055	57.045	57.010	57.030	57.150	57.130	57.065	57.100	57.105	57.010	57.000
8	57.040	57.030	57.060	57.080	57.150	56.965	57.050	57.020	57.095	57.015	57.120	57.120	57.070	57.000	57.095	57.125	57.020	57.100	57.100	57.030	57.020	57.100	57.100	57.020	57.035	57.045	57.130	56.990	57.000	57.110
9	57.035	57.095	56.970	57.165	56.995	57.070	57.170	57.060	56.935	57.025	56.990	57.175	57.080	57.015	57.010	57.065	57.120	56.985	57.190	57.075	57.050	57.005	56.930	57.130	56.995	57.170	57.050	57.070	56.975	57.160
10	57.050	57.010	57.045	57.045	57.105	57.030	57.130	56.985	57.120	57.125	57.085	57.060	57.020	57.040	57.015	57.020	57.010	57.085	56.995	57.090	57.025	57.150	57.045	57.000	57.110	57.115	57.005	57.075	57.050	57.110
11	57.010	57.100	57.050	57.100	57.015	57.005	57.060	57.145	57.060	57.080	57.150	57.010	57.020	57.000	57.085	57.090	57.095	56.980	57.105	57.135	57.035	57.155	57.095	57.020	56.960	57.070	57.075	57.015	57.105	57.045
12	57.010	57.040	56.985	57.090	57.020	57.035	57.065	57.050	57.095	57.030	57.165	57.155	57.040	56.955	57.050	57.120	57.000	57.000	57.060	57.055	57.045	56.995	57.030	57.150	57.145	57.080	57.100	57.105	57.035	57.060
13	57.040	57.010	57.045	57.080	57.100	56.965	57.050	57.020	57.045	57.020	57.110	57.125	57.085	57.010	57.095	57.130	57.020	57.100	57.100	57.020	57.000	57.100	57.100	57.020	57.035	57.035	57.130	56.975	57.040	57.135
14	57.075	57.020	57.135	57.080	57.120	57.065	57.075	57.040	57.030	57.050	57.080	57.180	57.065	57.010	57.105	57.105	57.140	57.045	57.070	57.080	57.050	57.145	57.105	57.105	57.020	57.110	57.105	56.985	56.990	56.990
15	57.060	57.020	57.035	57.075	56.950	57.040	57.095	57.055	57.180	57.005	57.015	57.125	57.105	57.005	57.115	57.130	57.185	56.965	56.970	57.050	57.115	57.060	57.140	57.070	57.015	56.965	57.125	57.090	57.140	57.000
16	57.020	57.045	57.020	57.045	57.130	56.955	57.105	57.105	57.090	57.100	57.145	57.000	57.075	57.155	57.075	57.060	57.005	57.015	57.140	57.130	57.090	56.975	57.120	57.000	57.015	57.140	57.130	57.090	56.975	57.120
17	57.010	57.055	57.045	56.990	57.030	57.150	57.160	57.080	57.100	57.105	57.100	56.990	57.075	56.985	57.080	57.035	57.035	57.065	57.050	57.095	57.010	57.165	57.155	57.095	57.000	57.010	57.120	57.000	57.000	57.060
18	57.125	57.080	57.130	57.080	57.115	57.155	56.995	57.050	56.995	57.005	57.085	57.145	57.075	57.045	56.990	57.030	57.160	57.155	57.100	57.020	57.170	56.960	57.045	57.150	57.185	56.950	57.200	57.040	56.975	57.005
19	57.090	57.140	57.020	57.030	57.100	57.080	57.150	56.970	57.045	57.085	57.055	57.075	57.100	57.055	57.115	56.995	57.045	57.050	57.100	57.120	57.075	57.040	57.040	57.110	57.085	57.010	57.120	56.995	57.000	57.060
20	57.075	57.040	57.010	57.100	57.020	57.130	57.080	57.120	57.065	57.070	57.040	57.035	57.050	57.080	57.180	57.105	57.105	57.045	57.070	57.080	57.050	57.115	57.105	57.105	57.020	57.110	57.105	57.000	56.990	56.995
21	57.085	57.115	57.060	57.120	57.135	56.940	57.060	57.115	57.110	57.080	57.190	57.000	57.190	56.950	56.995	57.080	56.990	56.980	57.120	57.080	57.160	57.135	57.015	56.980	57.175	57.010	57.135	57.170	57.130	57.045
22	57.010	57.050	56.975	57.105	57.165	57.115	57.085	56.980	56.935	57.095	57.040	57.110	57.065	57.000	57.190	57.010	57.160	57.110	57.105	57.065	57.180	57.125	57.120	57.160	57.055	57.000	57.135	57.110	57.135	57.000
23	56.905	57.070	57.175	57.030	57.015	57.160	57.180	57.100	56.950	57.075	57.045	57.045	57.120	57.185	56.955	57.195	57.040	57.010	57.050	57.080	57.135	57.165	57.150	57.005	57.015	57.045	57.085	57.170	57.075	57.160
24	57.075	57.050	57.005	57.050	57.130	56.995	57.135	57.025	57.070	56.975	57.010	56.995	57.080	57.015	57.010	57.065	57.120	56.960	57.190	57.070	56.970	57.015	56.995	57.065	57.145	57.060	56.975	56.950	56.990	57.175
25	57.060	57.080	56.938	57.110	57.015	57.010	57.100	57.050	57.080	57.125	56.970	56.975	56.990	57.140	57.145	56.975	56.990	57.160	57.080	57.060	57.060	57.000	56.935	56.985	57.155	57.110	57.085	57.080	57.010	57.165
26	57.020	57.040	57.000	57.100	57.150	57.150	57.070	56.925	57.100	57.015	57.140	57.125	57.055	56.985	57.095	57.140	56.935	57.100	57.100	57.030	56.955	57.115	57.100	56.980	57.050	57.020	57.130	56.965	57.050	57.085
27	57.050	57.055	57.015	57.045	57.115	56.960	57.100	57.105	57.090	57.100	57.150	56.995	57.110	57.020	57.065	57.090	57.000	56.940	57.105	57.075	57.155	57.075	57.060	57.005	57.015	57.140	57.130	57.090	56.975	57.120
28	57.075	56.960	57.035	57.050	56.955	57.040	57.095	56.970	57.050	57.135	57.070	57.140	57.070	57.015	56.975	57.105	57.090	57.110	57.005	57.055	57.185	57.005	57.015	57.125	57.100	57.005	57.100	57.160	57.190	56.965
29	57.020	56.995	57.045	57.090	57.025	57.150	57.045	56.915	57.110	57.115	57.005	57.075	57.050	57.110	57.030	57.085	57.045	57.085	57.060	57.045	57.105	57.030	57.130	56.940	57.120	57.125	57.085	57.060	57.020	57.040
30	57.095	57.030	57.155	57.160	56.995	57.070	57.010	57.065	57.045	57.005	57.060	57.130	57.095	57.195	56.950	57.155	57.040	57.065	56.995	57.000	57.125	57.070	57.030	57.045	57.045	57.000	56.985	57.160	57.195	57.015
31	57.055	56.995	57.035	57.110	57.050	57.105	57.075	57.000	57.035	57.120	56.930	57.025	57.110	57.010	56.995	57.145	57.150	56.980	57.020	57.045	57.120	57.135	57.100	57.025	57.045	57.110	56.950	57.060	57.035	57.060
32	57.005	57.105	57.050	57.110	57.030	56.995	57.065	57.155	57.070	57.075	57.150	57.010	57.020	57.045	57.085	57.095	57.090	57.005	57.105	57.140	57.035	57.155	57.050	57.020	56.960	57.070	57.090	57.015	57.060	57.075
33	56.990	57.075	56.985	57.090	57.020	57.035	57.065	57.050	57.095	57.010	57.165	57.155	57.095	57.000	56.965	57.120	56.995	57.000	57.060	57.055	57.045	56.990	57.030	57.150	57.160	57.080	57.100	57.105	57.010	56.990
34	57.040	57.080	56.990	57.015	57.110	57.105	57.135	57.020	57.075	57.065	57.100	57.175	57.095	57.000	57.030	57.085	57.125	57.025	57.080	57.185	57.000	56.990	57.050	57.050	57.100	57.105	57.015	57.110	57.130	57.150
35	57.065	57.005	57.055	57.085	57.115	57.070	57.085	56.990	57.105	57.050	57.050	57.021	57.085	57.000	57.165	57.105	57.115	57.100	57.100	57.135	57.035	57.015	57.080	57.070	57.075	57.005	57.080	57.140	57.100	56.935
36	57.085	57.065	57.010	57.105	57.105	57.105	57.045	57.070	57.080	57.050	57.115	57.105	57.105	57.020	57.110	57.105	56.970	56.985	56.975	57.020	57.135	57.080	57.120	57.065	57.075	57.040	57.030	57.050	57.080	57.180
37	57.105	57.055	57.000	57.040	57.040	57.020	56.990	57.030	57.145	56.995	57.020	57.100	57.110	56.975	57.005	57.150	57.070	57.070	57.000	56.990	57.115	57.155	57.065	57.060	57.020	57.005	57.025	57.120	57.110	57.180
38	57.080	57.150	57.000	57.105	56.950	57.000	57.050	57.065	57.140	57.095	57.040	57.020	57.000	57.075	56.995	57.080	56.985	57.100	57.110	57.025	57.110	57.125	57.160	56.965	57.035	57.120	57.065	57.080	57.100	57.055
39	57.015	57.020	57.135	57.080	57.120	57.005	57.075	57.040	57.030	57.050	57.080	56.990	57.095	57.105	57.050	57.110	57.030	56.995	57.030	57.165	57.005	57.070	57.010	57.065	57.065	57.005	57.030	57.040	57.095	57.195
40	57.050	57.110	56.975	57.005	57.140	57.005	57.040	57.090	57.100	57.105	57.155	57.000	57.190	57.005	57.000	57.065	57.025	56.970	57.100	57.130	57.075	57.085	57.010	57.070	57.125	57.110	57.135	57.075	57.120	57.090

Sumber : hasil pengamatan penulis

Tabel 4.18

Data Pengukuran Tebal Kepala Bawah

k	Sampel ke- (mm)																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	3.005	3.120	3.015	3.088	3.060	3.045	3.013	3.105	3.105	3.043	3.018	3.063	3.038	3.030	3.038	3.140	3.035	3.040	3.003	3.145	3.053	3.085	3.165	3.130	3.023	2.978	3.030	3.075	3.023	3.020
2	3.078	3.088	3.088	3.058	3.038	3.103	3.008	3.053	3.003	3.038	2.950	3.055	3.020	3.003	3.055	3.005	3.003	3.000	3.120	3.020	3.000	3.088	3.025	3.020	3.055	3.110	3.070	3.018	3.083	3.093
3	3.013	3.088	3.030	3.000	3.038	3.128	3.105	3.050	3.015	3.063	3.010	3.030	3.033	3.118	3.035	3.035	3.030	3.120	3.050	3.005	3.120	3.035	3.033	2.990	3.033	3.080	3.023	3.093	3.098	3.040
4	3.020	3.030	3.033	3.093	3.025	3.053	3.128	3.088	3.058	3.038	3.103	3.015	3.040	3.008	2.998	3.138	2.938	3.005	3.190	3.100	3.078	3.025	3.075	3.070	3.095	2.948	3.120	3.020	2.928	3.080
5	3.105	3.105	3.040	3.018	3.020	3.053	3.118	3.018	3.118	3.030	3.040	2.998	3.160	3.005	3.100	3.078	3.025	3.088	3.070	3.080	3.000	3.120	3.020	3.000	3.070	3.008	3.023	3.003	3.083	3.000
6	3.025	3.040	3.038	3.030	3.020	3.053	3.113	3.058	3.000	3.153	3.023	3.075	3.160	3.118	3.163	3.140	3.003	3.053	3.083	3.128	3.025	3.125	3.033	2.983	3.003	3.063	3.043	3.018	3.105	3.055
7	3.088	3.058	3.038	3.103	3.005	3.075	3.020	3.053	3.098	3.050	3.103	3.015	3.078	3.025	3.075	3.070	3.095	3.000	3.120	3.020	3.000	3.080	3.000	3.030	3.033	3.093	3.105	3.095	3.090	3.083
8	3.040	2.945	2.993	3.063	3.000	3.103	3.103	3.073	3.005	3.063	3.028	3.030	3.040	3.115	2.983	3.068	3.000	3.108	3.038	2.940	3.100	3.168	2.983	3.163	3.005	3.080	3.105	3.123	3.023	3.155
9	3.120	3.163	3.020	3.100	3.150	2.930	3.033	3.093	3.005	3.098	3.105	3.063	3.020	3.035	3.038	3.058	3.053	3.115	2.998	3.040	3.005	3.125	3.130	3.090	3.050	3.020	3.028	3.100	3.168	2.983
10	3.045	3.125	2.963	3.063	3.010	3.083	3.088	3.058	3.038	3.103	3.015	3.040	3.008	2.955	3.095	3.063	3.100	3.125	3.163	3.020	3.100	3.150	2.995	3.038	3.005	3.100	3.168	2.983	2.985	2.988
11	3.030	3.033	3.093	3.053	3.128	3.035	3.040	2.995	3.078	3.028	3.040	3.125	3.140	3.165	3.163	3.163	3.020	3.100	3.150	2.995	3.130	3.090	3.050	3.020	3.028	3.168	2.983	3.000	3.080	3.020
12	3.000	3.080	3.020	3.030	3.033	3.093	3.090	3.090	3.083	3.088	3.058	3.038	3.103	3.015	3.040	3.008	3.023	3.113	3.068	3.105	3.165	3.100	3.130	3.090	3.050	3.020	3.028	3.000	3.120	3.020
13	3.020	2.958	3.080	3.020	3.030	3.033	3.093	3.063	3.088	3.038	2.973	3.100	3.168	2.970	3.038	3.030	3.053	3.128	3.035	3.040	2.933	3.013	3.100	3.078	3.025	3.075	3.070	3.095	2.968	3.120
14	3.063	3.130	3.090	3.050	3.020	3.028	3.038	3.005	3.100	3.168	2.983	3.035	3.040	2.995	3.158	3.078	3.100	3.135	3.140	3.165	3.163	3.005	3.080	3.105	3.123	2.945	3.155	3.040	2.985	2.993
15	3.000	3.120	3.020	2.940	3.080	3.020	3.030	2.948	3.093	3.050	3.018	3.063	3.038	3.030	3.053	3.130	3.090	3.050	3.020	3.020	3.065	3.103	3.148	3.135	3.100	3.078	3.025	3.075	3.070	3.095
16	3.018	3.075	3.018	3.083	3.090	3.090	3.038	3.005	3.100	3.168	2.983	3.128	3.035	3.040	2.995	3.138	3.038	3.103	3.178	3.140	3.165	3.163	3.168	2.983	3.050	3.015	2.998	3.080	3.160	3.048
17	3.120	3.020	3.000	3.080	3.020	3.030	3.033	3.038	3.005	3.100	3.168	2.983	3.083	3.088	3.058	3.038	3.103	3.015	3.040	3.008	3.023	3.163	3.003	3.100	3.078	3.025	3.075	3.070	3.095	3.000
18	3.005	3.100	3.168	2.983	3.063	3.013	3.105	3.105	3.050	3.018	3.063	3.038	3.030	3.053	3.128	3.035	3.040	2.935	3.183	3.070	3.085	3.180	3.140	3.095	3.000	3.120	3.020	3.000	3.080	3.038
19	3.095	3.000	3.120	3.020	3.000	3.080	2.995	3.030	3.130	3.090	3.050	3.020	3.028	3.010	3.063	3.043	3.130	3.090	3.050	3.020	3.028	3.038	3.005	3.100	3.168	2.955	3.020	3.000	3.080	3.020
20	3.080	3.020	3.030	3.033	3.093	3.018	3.083	3.090	3.090	3.083	3.088	3.058	3.038	3.103	3.015	3.040	3.008	3.023	3.128	3.038	3.095	3.000	3.120	3.020	3.000	3.080	3.000	3.120	3.020	3.000
21	3.023	3.155	3.040	2.985	2.993	3.063	3.013	3.105	3.105	3.050	3.018	3.063	3.038	3.030	3.053	3.128	3.035	3.040	2.940	3.168	3.043	3.085	3.190	3.140	3.165	3.163	3.005	3.080	3.105	3.123
22	3.000	3.008	3.150	3.060	3.063	2.988	3.045	3.125	2.993	3.063	3.010	3.083	3.088	3.058	3.038	3.103	3.015	3.040	3.008	3.023	3.020	3.053	3.128	3.103	2.978	3.165	3.090	3.083	3.168	3.120
23	3.090	3.090	3.045	3.048	3.065	3.138	3.060	3.000	3.003	3.013	3.085	3.128	3.073	3.068	3.153	3.038	3.005	3.100	3.168	2.938	3.050	3.015	2.998	3.080	3.160	3.048	3.018	3.075	3.018	3.083
24	3.023	3.030	3.020	3.070	3.043	3.128	3.095	2.990	3.108	3.088	3.050	3.075	3.155	3.098	3.020	3.063	3.083	3.113	3.008	3.118	3.035	2.983	3.020	3.020	3.035	3.033	3.083	2.995	3.083	3.133
25	3.040	3.060	3.158	3.125	2.970	3.160	3.028	3.105	3.160	2.950	3.055	3.060	2.945	2.998	3.028	3.070	3.128	3.020	3.105	3.098	3.040	3.055	2.988	3.020	3.068	3.018	3.028	3.058	3.048	3.103
26	3.068	3.020	2.990	3.045	3.013	3.008	3.100	2.998	3.098	3.080	3.080	3.080	3.100	2.990	3.028	3.105	3.025	3.028	3.060	3.118	3.078	3.013	3.138	3.080	3.080	3.180	3.123	3.010	3.005	2.975
27	3.138	3.153	2.940	3.080	3.083	3.105	3.025	3.150	3.035	2.983	3.033	3.075	3.025	3.095	3.098	3.050	2.943	3.078	3.038	3.065	3.063	3.118	3.033	3.078	3.025	3.163	3.053	3.085	3.178	3.093
28	3.120	3.020	3.000	3.080	3.020	3.030	3.033	3.093	3.013	3.078	3.093	3.015	3.028	3.050	3.093	3.028	3.155	3.035	3.000	2.950	3.095	3.065	3.068	3.100	3.078	3.025	3.075	3.070	3.095	3.000
29	3.010	2.993	3.015	3.095	3.103	3.048	3.095	3.183	3.113	3.105	3.063	3.085	3.033	2.998	3.003	3.068	3.043	3.108	3.095	2.998	3.053	3.070	3.088	3.088	3.103	3.033	3.055	3.010	3.133	3.053
30	3.015	3.025	3.080	2.983	3.078	3.098	3.068	3.090	3.003	3.023	3.115	3.008	3.130	3.090	3.050	3.020	3.028	3.080	3.088	3.180	3.090	3.008	2.998	3.025	3.080	3.018	2.993	3.023	3.158	3.073
31	3.170	3.083	3.018	2.988	2.998	3.088	3.030	3.065	3.050	3.095	3.020	3.080	3.003	3.140	3.100	3.093	2.938	3.033	3.080	3.023	3.093	3.105	3.040	3.005	3.085	3.083	3.108	3.020	3.135	3.023
32	3.040	3.060	2.995	3.078	3.038	3.060	3.093	3.120	3.028	3.080	3.000	3.013	2.975	3.093	2.998	3.105	3.085	3.070	3.090	3.105	2.993	3.028	3.105	3.010	2.980	2.983	3.073	3.020	2.998	3.055
33	2.995	3.055	3.103	3.093	3.063	3.058	2.925	3.023	3.065	3.070	3.000	2.998	3.053	3.085	3.033	3.050	3.145	3.113	2.975	3.163	3.020	3.100	3.150	3.020	3.085	3.108	3.025	3.020	3.028	3.068
34	2.943	3.013	3.095	3.103	3.050	3.100	3.063	3.085	3.033	3.000	3.000	3.073	3.040	3.075	3.093	3.103	3.033	3.058	3.013	3.130	3.055	3.003	3.083	3.173	3.105	3.108	3.098	2.998	3.053	3.070
35	3.165	3.090	3.083	3.168	3.080	3.000	3.008	3.145	3.045	3.125	2.995	3.063	3.010	3.083	3.088	3.070	3.038	3.103	3.015	3.040	3.008	3.023	3.020	3.053	3.115	3.103	2.978	3.068	3.063	2.995
36	3.028	3.080	3.088	3.180	3.090	3.008	2.998	3.025	3.080	3.018	2.993	3.023	3.158	3.090	3.003	3.023	3.115	3.008	3.130	3.090	3.050	3.020	3.073	3.015	3.025	3.080	2.983	3.078	3.098	3.068
37	3.063	2.995	3.083	3.133	3.023	3.030	3.020	3.070	3.043	3.128	3.095	3.165	3.090	3.083	3.168	3.120	3.000	3.008	3.150	3.060	2.990	3.108	3.088	3.050	3.075	3.028	3.053	3.118	3.103	2.990
38	3.108	3.048	3.028	3.055	3.063	3.043	3.028	3.110	3.023	3.033	2.985	3.155	3.095	3.108	3.010	3.165	3.033	2.993	3.015	3.065	3.013	3.095	3.020	3.053	3.128	3.125	3.165	3.163	2.918	3.105
39	3.045	3.103	3.015	3.040	3.000	3.035	3.105	3.068	3.113	3.030	3.080	3.033	3.098	3.105	3.025	3.008	3.093	3.038	3.088	3.020	3.098	3.085	3.078	3.085	3.080	3.060	3.053	3.103	3.175	3.023
40	3.068	3.018	3.045	3.028	3.093	3.055	3.000	3.085	3.103	3.053	3.020	3.018	3.053	2.983	3.053	3.130	3.035	3.025	3.000	3.090	3.110	3.080	3.025	3.085	3.060	3.088	2.998	3.053	3.128	3.005

Sumber : hasil pengamatan penulis

Tabel 4.20

Data Pengukuran Tinggi Dalam Kepala Bawah

k	Sampel ke- (mm)																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	11.420	11.365	11.400	11.470	11.408	11.408	11.470	11.360	11.405	11.398	11.360	11.390	11.365	11.465	11.370	11.415	11.430	11.413	11.400	11.338	11.390	11.335	11.410	11.448	11.373	11.390	11.408	11.358	11.353	11.403
2	11.403	11.408	11.385	11.390	11.353	11.433	11.370	11.338	11.470	11.408	11.438	11.388	11.403	11.415	11.415	11.393	11.400	11.438	11.370	11.405	11.470	11.348	11.435	11.380	11.390	11.493	11.423	11.470	11.378	11.355
3	11.398	11.355	11.405	11.408	11.475	11.400	11.413	11.470	11.460	11.425	11.398	11.408	11.470	11.378	11.403	11.405	11.348	11.400	11.443	11.375	11.355	11.398	11.403	11.405	11.358	11.363	11.403	11.408	11.458	11.430
4	11.470	11.425	11.383	11.388	11.350	11.440	11.465	11.423	11.380	11.363	11.400	11.405	11.348	11.360	11.370	11.440	11.378	11.373	11.390	11.400	11.355	11.405	11.418	11.358	11.388	11.383	11.440	11.365	11.355	11.365
5	11.370	11.403	11.360	11.365	11.355	11.373	11.393	11.335	11.400	11.365	11.415	11.470	11.378	11.425	11.350	11.350	11.433	11.355	11.370	11.405	11.488	11.428	11.405	11.405	11.348	11.380	11.385	11.440	11.393	11.355
6	11.440	11.400	11.425	11.500	11.403	11.403	11.408	11.403	11.410	11.395	11.470	11.385	11.445	11.448	11.353	11.355	11.440	11.428	11.403	11.400	11.390	11.465	11.363	11.355	11.370	11.380	11.383	11.470	11.380	11.410
7	11.383	11.408	11.398	11.435	11.405	11.400	11.360	11.440	11.413	11.408	11.460	11.395	11.390	11.408	11.388	11.370	11.375	11.400	11.405	11.348	11.403	11.405	11.440	11.470	11.378	11.453	11.410	11.425	11.408	11.375
8	11.400	11.358	11.440	11.340	11.353	11.405	11.488	11.360	11.440	11.413	11.470	11.460	11.425	11.390	11.408	11.363	11.370	11.400	11.425	11.400	11.405	11.375	11.400	11.405	11.480	11.360	11.405	11.440	11.440	11.408
9	11.390	11.400	11.390	11.358	11.470	11.398	11.443	11.378	11.453	11.420	11.410	11.363	11.400	11.440	11.393	11.405	11.488	11.353	11.410	11.420	11.373	11.418	11.400	11.403	11.400	11.360	11.380	11.445	11.405	11.390
10	11.393	11.440	11.363	11.393	11.350	11.400	11.355	11.420	11.390	11.400	11.400	11.425	11.400	11.405	11.348	11.360	11.375	11.383	11.355	11.420	11.355	11.440	11.388	11.363	11.400	11.393	11.408	11.353	11.450	11.390
11	11.350	11.440	11.385	11.368	11.390	11.400	11.368	11.425	11.375	11.413	11.395	11.470	11.405	11.488	11.360	11.440	11.378	11.423	11.355	11.365	11.355	11.378	11.403	11.360	11.440	11.425	11.363	11.355	11.405	11.483
12	11.410	11.440	11.375	11.348	11.363	11.410	11.405	11.403	11.328	11.360	11.365	11.385	11.350	11.435	11.450	11.408	11.370	11.380	11.393	11.363	11.445	11.403	11.403	11.403	11.360	11.403	11.385	11.488	11.340	11.355
13	11.413	11.400	11.388	11.420	11.378	11.355	11.380	11.448	11.388	11.405	11.403	11.440	11.378	11.373	11.380	11.433	11.403	11.355	11.368	11.453	11.373	11.363	11.405	11.410	11.470	11.398	11.370	11.470	11.395	11.368
14	11.470	11.380	11.370	11.373	11.383	11.400	11.388	11.360	11.413	11.350	11.440	11.385	11.410	11.440	11.390	11.440	11.400	11.400	11.393	11.428	11.445	11.368	11.365	11.368	11.383	11.403	11.405	11.395	11.470	11.398
15	11.390	11.400	11.368	11.363	11.400	11.400	11.405	11.405	11.363	11.368	11.405	11.403	11.360	11.378	11.408	11.470	11.423	11.430	11.360	11.363	11.378	11.370	11.380	11.413	11.470	11.460	11.425	11.378	11.340	11.385
16	11.403	11.440	11.420	11.390	11.355	11.445	11.398	11.400	11.418	11.355	11.358	11.413	11.403	11.358	11.403	11.348	11.415	11.385	11.440	11.355	11.488	11.440	11.415	11.440	11.355	11.400	11.395	11.343	11.443	11.410
17	11.455	11.395	11.405	11.403	11.395	11.383	11.408	11.405	11.470	11.423	11.408	11.495	11.340	11.348	11.335	11.413	11.340	11.360	11.350	11.413	11.413	11.388	11.363	11.415	11.415	11.390	11.400	11.438	11.370	11.455
18	11.380	11.410	11.405	11.470	11.460	11.425	11.453	11.430	11.440	11.373	11.390	11.400	11.395	11.403	11.353	11.405	11.488	11.360	11.440	11.358	11.345	11.350	11.348	11.380	11.405	11.363	11.370	11.360	11.405	11.350
19	11.405	11.408	11.403	11.348	11.495	11.378	11.440	11.388	11.365	11.470	11.398	11.340	11.448	11.413	11.453	11.395	11.420	11.430	11.375	11.408	11.378	11.348	11.403	11.375	11.470	11.403	11.445	11.345	11.390	11.400
20	11.415	11.425	11.400	11.405	11.370	11.423	11.445	11.348	11.335	11.428	11.440	11.365	11.355	11.375	11.358	11.375	11.438	11.333	11.468	11.353	11.480	11.355	11.445	11.405	11.488	11.360	11.440	11.403	11.343	11.350
21	11.400	11.385	11.403	11.365	11.470	11.398	11.430	11.395	11.348	11.360	11.405	11.440	11.405	11.403	11.408	11.425	11.408	11.365	11.355	11.330	11.390	11.428	11.395	11.360	11.440	11.360	11.360	11.378	11.360	11.428
22	11.440	11.410	11.405	11.380	11.398	11.420	11.393	11.390	11.420	11.400	11.433	11.420	11.350	11.440	11.363	11.355	11.348	11.398	11.408	11.348	11.390	11.400	11.403	11.440	11.408	11.350	11.413	11.465	11.435	11.440
23	11.400	11.445	11.355	11.393	11.470	11.385	11.403	11.408	11.363	11.400	11.395	11.350	11.403	11.440	11.368	11.355	11.400	11.425	11.475	11.425	11.355	11.350	11.350	11.363	11.445	11.360	11.365	11.405	11.350	11.360
24	11.400	11.360	11.433	11.345	11.360	11.363	11.425	11.388	11.410	11.403	11.415	11.335	11.403	11.330	11.358	11.470	11.380	11.395	11.400	11.358	11.368	11.385	11.460	11.470	11.413	11.445	11.383	11.390	11.400	11.425
25	11.363	11.398	11.425	11.423	11.418	11.388	11.383	11.418	11.410	11.375	11.418	11.440	11.385	11.355	11.365	11.470	11.388	11.448	11.403	11.390	11.400	11.363	11.353	11.360	11.353	11.390	11.363	11.365	11.408	11.348
26	11.375	11.423	11.440	11.398	11.473	11.393	11.348	11.358	11.403	11.403	11.358	11.365	11.408	11.390	11.400	11.428	11.408	11.390	11.338	11.470	11.413	11.333	11.380	11.388	11.378	11.440	11.363	11.348	11.333	11.403
27	11.420	11.360	11.325	11.385	11.500	11.420	11.470	11.340	11.440	11.418	11.390	11.400	11.410	11.405	11.470	11.440	11.400	11.408	11.490	11.413	11.403	11.383	11.425	11.390	11.410	11.378	11.375	11.380	11.435	11.368
28	11.408	11.405	11.358	11.363	11.363	11.388	11.438	11.410	11.470	11.398	11.348	11.403	11.328	11.440	11.383	11.388	11.335	11.353	11.333	11.338	11.470	11.433	11.388	11.400	11.388	11.450	11.403	11.350	11.440	11.433
29	11.380	11.440	11.398	11.415	11.443	11.373	11.403	11.423	11.348	11.360	11.430	11.440	11.353	11.393	11.448	11.400	11.363	11.338	11.470	11.383	11.403	11.358	11.353	11.340	11.365	11.363	11.350	11.445	11.393	11.390
30	11.400	11.438	11.400	11.375	11.390	11.428	11.343	11.370	11.408	11.418	11.363	11.440	11.405	11.440	11.395	11.355	11.403	11.400	11.403	11.363	11.395	11.383	11.428	11.400	11.418	11.365	11.338	11.400	11.410	11.435
31	11.395	11.400	11.408	11.398	11.398	11.335	11.390	11.408	11.338	11.408	11.390	11.335	11.338	11.403	11.365	11.470	11.413	11.405	11.398	11.400	11.440	11.400	11.430	11.338	11.445	11.383	11.390	11.400	11.365	11.410
32	11.423	11.470	11.398	11.403	11.410	11.385	11.405	11.410	11.400	11.470	11.383	11.345	11.403	11.398	11.395	11.403	11.393	11.445	11.385	11.355	11.368	11.380	11.358	11.418	11.400	11.358	11.400	11.360	11.365	11.360
33	11.383	11.398	11.338	11.428	11.445	11.383	11.425	11.410	11.348	11.360	11.345	11.440	11.445	11.355	11.410	11.470	11.380	11.348	11.380	11.358	11.398	11.395	11.340	11.333	11.410	11.405	11.350	11.445	11.400	11.390
34	11.400	11.335	11.355	11.378	11.403	11.325	11.383	11.400	11.408	11.378	11.373	11.380	11.433	11.403	11.355	11.363	11.498	11.373	11.425	11.423	11.360	11.363	11.388	11.370	11.398	11.363	11.365	11.365	11.393	11.378
35	11.405	11.403	11.410	11.348	11.368	11.400	11.393	11.400	11.420	11.335	11.335	11.383	11.425	11.375	11.413	11.470	11.460	11.425	11.393	11.408	11.350	11.413	11.465	11.425	11.348	11.393	11.460	11.413	11.360	11.390
36	11.390	11.405	11.383	11.408	11.400	11.373	11.408	11.410	11.440	11.430	11.423	11.358	11.405	11.353	11.350	11.405	11.488	11.360	11.440	11.358	11.365	11.400	11.415	11.400	11.420	11.363	11.370	11.370	11.348	11.400
37	11.395	11.400	11.358	11.358	11.378	11.358	11.368	11.408	11.423	11.433	11.408	11.353	11.440	11.490	11.403	11.378	11.398	11.420	11.365	11.400	11.445	11.395	11.365	11.403	11.350	11.360	11.363	11.440	11.385	11.355
38	11.400	11.420	11.435	11.468	11.363	11.480	11.355	11.395	11.410	11.413	11.388	11.365	11.415	11.388	11.360	11.403	11.365	11.470	11.418	11.423	11.373	11.390	11.400	11.363	11.353	11.365	11.353	11.415	11.368	11.383
39	11.408	11.390	11.378	11.433	11.373	11.405	11.470	11.378	11.355	11.380	11.448	11.388	11.405	11.403	11.403	11.435	11.365	11.380	11.393	11.363	11.445	11.403	11.403	11.403	11.360	11.403	11.385	11.448	11.405	11.480
40	11.393	11.405	11.488	11.360	11.440	11.358	11.375	11.365	11.363	11.390	11.405	11.400	11.400	11.445	11.465	11.370	11.415	11.430	11.413	11.400	11.470	11.378	11.388	11.448	11.408	11.395	11.403	11.420	11.430	11.388

Sumber : hasil pengamatan penulis

Tabel 4.22

Data Pengukuran Tinggi Luar Kepala Bawah

k	Sampel ke- (mm)																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	14.793	14.790	14.930	14.870	14.570	14.783	14.848	14.915	14.748	14.755	14.760	14.808	14.568	14.725	14.795	14.790	14.795	14.905	14.830	14.865	14.685	14.910	14.760	14.928	14.608	14.698	14.775	14.810	14.805	14.625
2	14.800	14.640	14.793	14.575	14.743	14.640	14.765	14.710	14.900	14.760	14.795	14.768	14.785	14.865	14.880	14.805	14.740	14.760	14.785	14.720	14.645	14.760	14.785	14.808	14.915	14.830	14.875	14.685	14.605	14.710
3	14.608	14.685	14.775	14.810	14.805	14.625	14.670	14.920	14.815	14.635	14.743	14.805	14.675	14.830	14.880	14.725	14.575	14.550	14.713	14.810	14.785	14.805	14.830	14.695	14.810	14.785	14.760	14.545	14.483	14.660
4	14.573	14.743	14.640	14.765	14.710	14.900	14.760	14.798	14.768	14.720	14.660	14.830	14.735	14.820	14.833	14.848	14.755	14.720	14.855	14.710	14.920	14.715	14.530	14.745	14.520	14.775	14.725	14.800	14.640	14.798
5	14.860	14.750	14.655	14.990	14.845	14.853	14.870	14.565	14.798	14.798	14.573	14.743	14.640	14.765	14.710	14.900	14.760	14.795	14.768	14.810	14.580	14.530	14.785	14.575	14.785	14.770	14.655	14.805	14.800	14.640
6	14.765	14.908	14.685	14.880	14.685	14.678	14.593	14.948	14.638	14.658	14.920	14.660	14.810	14.815	14.925	14.550	14.813	14.860	14.830	14.715	14.850	14.810	14.805	14.625	14.900	14.763	14.775	14.608	14.698	14.775
7	14.800	14.640	14.798	14.573	14.743	14.640	14.765	14.710	14.900	14.760	14.795	14.768	14.800	14.640	14.798	14.573	14.743	14.640	14.765	14.923	14.620	14.855	14.673	14.835	14.875	14.725	14.770	14.850	14.840	14.840
8	14.625	14.540	14.545	14.810	14.558	14.525	14.785	14.563	14.845	14.733	14.780	14.640	14.815	14.795	14.665	14.905	14.840	14.860	14.803	14.730	14.570	14.890	14.775	14.928	14.630	14.608	14.698	14.775	14.810	14.805
9	14.698	14.720	14.800	14.640	14.798	14.573	14.743	14.640	14.765	14.710	14.900	14.760	14.795	14.768	14.665	14.650	14.805	14.655	14.730	14.823	14.655	14.883	14.933	14.848	14.905	14.593	14.725	14.805	14.740	14.833
10	14.775	14.810	14.805	14.625	14.855	14.688	14.800	14.640	14.798	14.573	14.743	14.640	14.765	14.710	14.900	14.760	14.795	14.768	14.610	14.633	14.848	14.915	14.748	14.755	14.800	14.823	14.815	14.773	14.608	14.698
11	14.743	14.823	14.805	14.865	14.928	14.743	14.823	14.760	14.820	14.808	14.850	14.583	14.640	14.813	14.688	14.623	14.840	14.683	14.793	14.570	14.750	14.820	14.830	14.930	14.910	14.833	14.850	14.800	14.670	14.590
12	14.760	14.795	14.768	14.625	14.560	14.655	14.888	14.793	14.620	14.735	14.630	14.810	14.880	14.575	14.875	14.848	14.865	14.818	14.730	14.590	14.790	14.800	14.640	14.790	14.605	14.743	14.640	14.783	14.710	14.900
13	14.620	14.645	14.795	14.813	14.935	14.908	14.848	14.673	14.835	14.875	14.940	14.715	14.835	14.755	14.910	14.890	14.760	14.928	14.630	14.648	14.795	14.915	14.760	14.855	14.685	14.565	14.550	14.785	14.665	14.670
14	14.798	14.573	14.743	14.640	14.765	14.710	14.900	14.760	14.795	14.768	14.870	14.855	14.825	14.885	14.730	14.555	14.505	14.880	14.805	14.740	14.760	14.785	14.775	14.945	14.800	14.640	14.720	14.730	14.785	14.865
15	14.798	14.808	14.855	14.578	14.640	14.813	14.688	14.623	14.578	14.670	14.750	14.795	14.840	14.905	14.800	14.800	14.880	14.560	14.725	14.800	14.815	14.890	14.760	14.928	14.630	14.648	14.795	14.853	14.870	14.565
16	14.795	14.845	14.760	14.825	14.775	14.883	14.740	14.860	14.725	14.665	14.653	14.805	14.640	14.730	14.800	14.670	14.875	14.923	14.965	14.910	14.903	14.673	14.835	14.875	14.910	14.730	14.740	14.805	14.905	14.805
17	14.873	14.815	14.795	14.848	14.735	14.575	14.543	14.935	14.965	14.925	14.620	14.670	14.620	14.645	14.690	14.973	14.668	14.658	14.945	14.795	14.598	14.835	14.788	14.855	14.700	14.580	14.648	14.680	14.803	14.820
18	14.785	14.810	14.923	14.825	14.578	14.753	14.818	14.748	14.695	14.903	14.875	14.900	14.530	14.590	14.850	14.780	14.775	14.855	14.950	14.645	14.785	14.890	14.880	14.620	14.740	14.835	14.760	14.778	14.795	14.730
19	14.623	14.795	14.800	14.640	14.798	14.573	14.743	14.640	14.765	14.710	14.900	14.760	14.795	14.935	14.955	14.618	14.533	14.825	14.840	14.680	14.798	14.808	14.850	14.595	14.640	14.813	14.688	14.815	14.870	14.565
20	14.665	14.710	14.745	14.830	14.920	14.678	14.695	14.800	14.640	14.798	14.573	14.743	14.640	14.765	14.710	14.610	14.895	14.765	14.865	14.965	14.685	14.700	14.680	14.813	14.705	14.555	14.730	14.850	14.810	14.628
21	14.760	14.808	14.893	14.760	14.813	14.833	14.853	14.730	14.833	14.660	14.815	14.778	14.723	14.923	14.683	14.640	14.568	14.818	14.940	14.873	14.858	14.603	14.533	14.720	14.570	14.783	14.848	14.915	14.748	14.755
22	14.723	14.890	14.788	14.688	14.740	14.925	14.813	14.973	14.673	14.758	14.650	14.535	14.778	14.888	14.920	14.743	14.630	14.645	14.785	14.750	14.750	14.803	14.778	14.840	14.613	14.733	14.803	14.543	14.608	14.700
23	14.813	14.688	14.623	14.780	14.580	14.890	14.760	14.928	14.630	14.905	14.795	14.633	14.700	14.750	14.740	14.848	14.700	14.745	14.798	14.853	14.870	14.565	14.798	14.808	14.850	14.578	14.640	14.745	14.595	14.740
24	14.805	14.855	14.758	14.928	14.790	14.855	14.708	14.660	14.600	14.805	14.905	14.580	14.648	14.680	14.803	14.820	14.873	14.815	14.795	14.848	14.735	14.575	14.543	14.695	14.800	14.723	14.903	14.883	14.798	14.735
25	14.618	14.565	14.820	14.905	14.575	14.790	14.608	14.913	14.703	14.615	14.723	14.808	14.743	14.833	14.608	14.640	14.880	14.763	14.610	14.665	14.710	14.745	14.830	14.920	14.670	14.880	14.785	14.780	14.610	14.805
26	14.808	14.620	14.590	14.708	14.550	14.735	14.715	14.543	14.780	14.628	14.670	14.783	14.800	14.865	14.843	14.675	14.838	14.653	14.800	14.723	14.813	14.765	14.753	14.820	14.868	14.915	14.698	14.888	14.820	14.815
27	14.748	14.805	14.763	14.618	14.540	14.585	14.825	14.670	14.665	14.770	14.763	14.805	14.818	14.930	14.678	14.840	14.798	14.643	14.730	14.808	14.788	14.760	14.825	14.873	14.838	14.695	14.928	14.633	14.783	14.735
28	14.680	14.558	14.740	14.863	14.715	14.708	14.590	14.773	14.838	14.650	14.778	14.710	14.715	14.815	14.968	14.895	14.880	14.728	14.798	14.740	14.538	14.680	14.825	14.685	14.820	14.670	14.590	14.730	14.550	14.670
29	14.595	14.535	14.788	14.665	14.723	14.835	14.740	14.700	14.670	14.888	14.895	14.803	14.815	14.800	14.673	14.768	14.778	14.580	14.820	14.795	14.745	14.738	14.850	14.605	14.720	14.728	14.910	14.795	14.855	14.713
30	14.710	14.568	14.725	14.795	14.518	14.663	14.910	14.585	14.760	14.888	14.703	14.853	14.570	14.785	14.780	14.530	14.630	14.808	14.663	14.775	14.660	14.790	14.850	14.905	14.588	14.800	14.670	14.613	14.808	14.733
31	14.900	14.760	14.795	14.768	14.930	14.570	14.783	14.848	14.915	14.748	14.755	14.760	14.808	14.893	14.823	14.813	14.608	14.698	14.775	14.810	14.805	14.625	14.800	14.640	14.798	14.573	14.743	14.640	14.765	14.710
32	14.718	14.725	14.790	14.868	14.765	14.755	14.610	14.613	14.823	14.763	14.918	14.743	14.820	14.720	14.658	14.633	14.823	14.565	14.718	14.810	14.673	14.878	14.940	14.798	14.920	14.580	14.703	14.845	14.743	14.790
33	14.770	14.748	14.848	14.915	14.748	14.755	14.760	14.808	14.893	14.823	14.813	14.833	14.853	14.730	14.833	14.660	14.815	14.940	14.873	14.858	14.603	14.533	14.720	14.785	14.700	14.885	14.790	14.925	14.708	14.755
34	14.803	14.778	14.840	14.613	14.733	14.803	14.543	14.608	14.700	14.758	14.650	14.535	14.790	14.888	14.920	14.743	14.820	14.890	14.788	14.680	14.740	14.930	14.813	14.848	14.673	14.630	14.645	14.785	14.750	14.750
35	14.605	14.745	14.798	14.853	14.870	14.565	14.798	14.808	14.850	14.578	14.653	14.850	14.813	14.688	14.623	14.780	14.580	14.890	14.760	14.928	14.630	14.648	14.795	14.633	14.700	14.750	14.740	14.848	14.708	14.673
36	14.703	14.935	14.723	14.808	14.743	14.833	14.608	14.640	14.760	14.640	14.805	14.880	14.763	14.610	14.665	14.710	14.745	14.830	14.920	14.805	14.773	14.855	14.680	14.565	14.820	14.905	14.575	14.790	14.608	14.913
37	14.910	14.670	14.783	14.800	14.865	14.843	14.675	14.838	14.653	14.800	14.723	14.813	14.605	14.753	14.720	14.868	14.855	14.698	14.888	14.820	14.815	14.808	14.620	14.583	14.723	14.670	14.880	14.705	14.840	14.715
38	14.735	14.708	14.550	14.695	14.715	14.543	14.780	14.628	14.715	14.753	14.915	14.830	14.580	14.705	14.545	14.585	14.823	14.555	14.745	14.818	14.940	14.873	14.858	14.603	14.533	14.720	14.570	14.783	14.848	14.915
39	14.923	14.683	14.640	14.568	14.560	14.795	14.675	14.610	14.765	14.925	14.813	14.848	14.673	14.630	14.645	14.810	14.750	14.883	14.755	14.778	14.828	14.840	14.598	14.853	14.730	14.833	14.660	14.815	14.778	14.723
40	14.625	14.770	14.815	14.720	14.935	14.760	14.570	14.803	14.848	14.915	14.748	14.755	14.760	14.808	14.655	14.905	14.600	14.715	14.805	14.735	14.820	14.860	14.905	14.815	14.745	14.608	14.698	14.775	14.810	14.695

Sumber : hasil pengamatan penulis

Tabel 5.22

Data Hasil Perhitungan Xk dan Sk untuk Tinggi *Pipe Frame Head* Hasil Pemotongan

k	Sampel ke- (mm)																													Xk	Sk
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
1	201.735	201.820	201.785	201.865	201.970	201.765	201.880	201.815	201.805	201.830	201.640	201.570	201.735	201.535	201.660	201.695	201.535	201.700	201.660	201.550	201.665	201.810	201.825	201.970	201.645	201.825	201.880	201.785	201.710	201.825	201.750	0.118
2	201.870	201.830	201.780	201.755	201.880	201.770	201.945	201.670	201.595	201.760	201.480	201.655	201.705	201.940	201.865	201.580	201.835	201.635	201.630	201.715	201.635	201.485	201.820	201.510	201.690	201.615	201.530	201.805	201.840	201.705	201.718	0.132
3	201.770	201.815	201.785	201.850	201.780	201.775	201.855	201.940	201.700	201.780	201.655	201.700	201.475	201.805	201.520	201.770	201.805	201.810	201.930	201.825	201.515	201.700	201.505	201.745	201.685	201.900	201.815	201.920	201.530	201.595	201.742	0.132
4	201.715	201.825	201.825	201.770	201.720	201.760	201.865	201.985	201.960	201.715	201.875	201.705	201.850	202.020	201.965	201.925	202.105	201.895	201.960	202.085	201.945	201.955	202.080	201.980	201.995	201.855	202.120	201.835	201.875	201.940	201.904	0.119
5	201.730	201.740	201.800	201.875	201.775	201.795	201.845	201.760	201.825	201.715	201.910	201.740	201.860	201.725	201.665	201.620	201.805	201.640	201.730	201.805	201.665	201.875	201.905	201.815	201.920	201.580	201.715	201.800	201.740	201.805	201.773	0.087
6	201.845	201.725	201.770	201.840	201.840	201.715	201.910	201.775	201.770	201.640	201.850	201.810	201.845	201.585	201.500	201.560	201.815	201.660	201.605	201.670	201.740	201.795	201.820	201.915	201.590	201.825	201.880	201.530	201.725	201.800	201.745	0.116
7	201.695	201.795	201.785	201.865	201.880	201.805	201.740	201.760	201.785	201.775	201.945	201.820	201.855	201.695	201.660	201.600	201.800	201.635	201.580	201.550	201.680	201.810	201.825	201.870	201.855	201.825	201.885	201.730	201.555	201.505	201.752	0.114
8	201.735	201.820	201.815	201.860	201.755	201.720	201.855	201.710	201.680	201.715	201.915	201.795	201.855	201.705	201.545	201.525	201.785	201.685	201.645	201.575	201.645	201.795	201.790	201.945	201.865	201.865	201.815	201.800	201.665	201.800	201.755	0.105
9	201.820	201.855	201.805	201.745	201.705	201.770	201.840	201.770	201.770	201.705	201.850	201.825	201.850	201.710	201.520	201.615	201.910	201.845	201.615	201.760	201.640	201.785	201.805	201.655	201.900	201.845	201.865	201.805	201.730	201.580	201.763	0.098
10	201.720	201.800	201.790	201.865	201.965	201.740	201.835	201.760	201.785	201.800	201.915	201.830	201.875	201.685	201.605	201.710	201.840	201.675	201.780	201.565	201.695	201.815	201.830	201.945	201.950	201.820	201.815	201.805	201.670	201.590	201.783	0.103
11	201.815	201.770	201.785	201.840	201.785	201.770	201.660	201.805	201.855	201.720	201.645	201.715	201.745	201.725	201.800	201.760	201.820	201.810	201.950	201.810	201.520	201.720	201.685	201.785	201.700	201.885	201.790	201.925	201.875	201.755	201.774	0.086
12	201.745	201.735	201.805	201.860	201.780	201.805	201.850	201.765	201.810	201.720	201.930	201.755	201.850	201.720	201.655	201.650	201.815	201.655	201.730	201.810	201.660	201.865	201.910	201.815	201.905	201.595	201.715	201.805	201.740	201.815	201.776	0.083
13	201.795	201.730	201.870	201.750	201.720	201.820	201.735	201.765	201.765	201.850	201.540	201.520	201.810	201.580	201.525	201.780	201.580	201.845	201.760	201.760	201.640	201.790	201.810	201.670	201.905	201.840	201.860	201.805	201.730	201.570	201.737	0.110
14	201.725	201.770	201.850	201.840	201.840	201.810	201.560	201.815	201.665	201.610	201.665	201.740	201.825	201.585	201.515	201.865	201.530	201.500	201.645	201.585	201.765	201.880	201.690	201.805	201.580	201.825	201.875	201.530	201.725	201.800	201.714	0.123
15	201.835	201.855	201.805	201.890	201.765	201.775	201.890	201.740	201.775	201.765	201.925	201.685	201.880	201.685	201.680	201.590	201.940	201.655	201.615	201.580	201.660	201.810	201.815	201.925	201.505	201.815	201.860	201.810	201.715	201.830	201.769	0.112
16	201.785	201.770	201.655	201.805	201.855	201.725	201.645	201.715	201.740	201.725	201.800	201.825	201.585	201.850	201.540	201.510	201.810	201.580	201.525	201.785	201.575	201.860	201.750	201.655	201.920	201.845	201.860	201.790	201.810	201.500	201.727	0.121
17	201.775	201.725	201.770	201.830	201.840	201.725	201.740	201.805	201.830	201.695	201.810	201.785	201.740	201.535	201.740	201.660	201.830	201.735	201.820	201.815	201.860	201.755	201.720	201.855	201.710	201.680	201.715	201.530	201.730	201.520	201.743	0.090
18	201.705	201.795	201.785	201.805	201.830	201.695	201.810	201.785	201.760	201.545	201.740	201.660	201.830	201.885	201.910	201.740	201.860	201.725	201.670	201.620	201.815	201.635	201.730	201.805	201.675	201.830	201.880	201.725	201.575	201.550	201.746	0.098
19	201.735	201.800	201.760	201.785	201.800	201.915	201.830	201.875	201.685	201.605	201.710	201.685	201.650	201.525	201.525	201.730	201.870	201.760	201.725	201.825	201.735	201.695	201.795	201.785	201.865	201.880	201.805	201.740	201.760	201.785	201.755	0.095
20	201.820	201.830	201.780	201.745	201.875	201.780	201.890	201.660	201.605	201.760	201.790	201.930	201.875	201.755	201.680	201.655	201.525	201.515	201.735	201.835	201.760	201.740	201.840	201.760	201.790	201.795	201.905	201.830	201.865	201.685	201.767	0.103
21	201.745	201.735	201.810	201.850	201.780	201.800	201.850	201.770	201.815	201.720	201.935	201.760	201.850	201.720	201.660	201.660	201.810	201.660	201.720	201.810	201.655	201.860	201.905	201.815	201.905	201.600	201.715	201.805	201.735	201.820	201.776	0.082
22	201.725	201.770	201.850	201.840	201.585	201.515	201.865	201.530	201.500	201.645	201.585	201.765	201.880	201.690	201.840	201.810	201.560	201.815	201.665	201.610	201.765	201.880	201.690	201.805	201.595	201.790	201.870	201.530	201.725	201.800	201.717	0.124
23	201.735	201.755	201.810	201.860	201.750	201.720	201.855	201.710	201.680	201.715	201.915	201.795	201.855	201.705	201.545	201.525	201.785	201.530	201.745	201.580	201.620	201.810	201.585	201.845	201.800	201.875	201.815	201.800	201.665	201.810	201.740	0.108
24	201.720	201.725	201.770	201.705	201.840	201.715	201.910	201.775	201.775	201.630	201.840	201.810	201.845	201.590	201.505	201.560	201.815	201.660	201.605	201.670	201.740	201.795	201.805	201.910	201.600	201.825	201.880	201.530	201.725	201.800	201.736	0.111
25	201.795	201.755	201.855	201.680	201.720	201.820	201.735	201.760	201.765	201.850	201.540	201.520	201.815	201.645	201.525	201.780	201.580	201.845	201.760	201.760	201.640	201.790	201.810	201.670	201.905	201.840	201.860	201.805	201.730	201.565	201.737	0.108
26	201.850	201.815	201.785	201.880	201.965	201.765	201.945	202.010	201.775	202.070	201.925	201.810	201.885	201.680	202.120	201.585	201.970	201.650	201.665	201.580	201.685	201.805	201.835	201.995	201.535	201.850	201.850	201.785	201.710	201.810	201.820	0.144
27	201.810	201.840	201.790	201.755	201.835	201.770	201.925	201.670	201.595	201.760	201.710	201.655	201.705	201.925	201.865	201.565	201.835	201.635	201.630	201.705	201.635	201.675	201.800	201.510	201.690	201.510	201.530	201.805	201.855	201.710	201.723	0.116
28	201.770	201.770	201.785	201.840	201.785	201.875	201.660	201.805	201.855	201.920	201.580	201.715	201.800	201.740	201.800	201.760	201.820	201.810	201.950	201.810	201.850	201.720	201.735	201.785	201.700	201.885	201.790	201.925	201.875	201.755	201.796	0.080
29	201.710	201.740	201.800	201.875	201.775	201.805	201.640	201.660	201.820	201.970	201.880	201.740	201.860	201.725	201.665	201.620	201.805	201.640	201.730	201.805	201.665	201.875	201.905	201.815	201.920	201.580	201.715	201.800	201.740	201.785	201.769	0.097
30	201.675	201.790	201.795	201.810	201.835	201.685	201.810	201.785	201.760	201.545	201.740	201.660	201.830	201.885	201.910	201.740	201.860	201.725	201.670	201.620	201.815	201.635	201.730	201.805	201.675	201.830	201.850	201.740	201.575	201.820	201.754	0.092
31	201.725	201.775	201.660	201.805	201.855	201.920	201.580	201.815	201.665	201.610	201.665	201.855	201.710	201.540	201.535	201.795	201.555	201.500	201.645	201.585	201.765	201.880	201.690	201.805	201.580	201.825	201.875	201.530	201.725	201.800	201.709	0.123
32	201.755	201.760	201.810	201.860	201.750	201.720	201.855	201.710	201.680	201.715	201.915	201.795	201.855	201.705	201.545	201.525	201.785	201.680	201.720	201.820	201.735	201.760	201.585	201.845	201.800	201.875	201.815	201.800	201.665	201.810	201.755	0.094
33	201.820	201.815	201.805	201.670	201.590	201.745	201.550	201.655	201.715	201.540	201.710	201.830	201.875	201.685	201.605	201.710	201.840	201.675	201.780	201.565	201.695	201.815	201.830	201.945	201.950	201.720	201.800	201.790	201.865	201.965	201.752	0.117
34	201.780	201.765	201.785	201.875	202.225	201.765	201.945	201.755	201.775	201.735	201.925	201.810	201.765	201.680	201.535	201.585	201.970	201.650	201.665	201.580	201.685	201.805	201.835	201.995	201.535	201.850	201.850	201.745	201.710	201.810	201.780	0.145
35	201.765	201.835	201.795	201.885	201.980	201.765	201.895	201.820	201.815	201.805	201.670	201.590	201.745	201.550	201.655	201.715	201.540	201.710	201.640	201.575	201.665	201.805	201.835	201.995	201.670	201.850	201.850	201.800	201.715	201.810	201.758	0.117
36	201.785	201.770	201.655	201.805	201.855	201.725	201.645	201.715	201.740	201.725	201.800	201.825	201.585	201.850	201.540	201.510	201.810	201.580	201.525	201.785	201.575	201.860	201.750	201.655	201.920	201.845	201.860	201.790	201.810	201.500	201.727	0.121
37	201.695	201.795	201.785	201.865	201.880	201.805	201.740	201.760	201.785	201.775	201.945	201.820	201.855	201.695	201.660	201.600	201.800	201.635	201.580	201.550	201.680	201.810	201.825	201.870	201.855	201.825	201.885	201.730	201.555	201.505	201.752	0.114
38	201.715	201.535	201.530	201.745	201.580	201.620	201.810	201.585	201.845	201.800	201.850	201.540	201.520	201.810	201.580	201.525	201.780	201.580	201.845	201.760	201.745	201.550	201.655	201.715	201.540	201.710	201.815	201.760	201.830	201.700	201.686	0.117
39	201.715	201.650	201.525	201.505	201.730	201.870	201.750	201.720	201.820	201.735	201.680	201.710	201.915	201.800	201.855	201.705	201.535	201.520	201.785	201.730	201.770	201.840	201.840	201.715	201.910	201.770	201.775	201.545	201.660	201.725	201.727	0.113
40	201.795	201.710	201.800	201.855	201.530	201.520	201.645	201.570	201.790	201.865	201.965	201.740	201.740	201.760	201.785	201.775	201.800	201.775	201.785	201.840	201.770	201.770	201.660	201.800	201.850	201.720	201.735	201.730	201.555	201.505	201.738	0.111
																														Jumlah	8070.140	4.377
																														Rata-rata	201.753	0.1094

Sumber : hasil perhitungan penulis

LAMPIRAN 11

Tabel 5.27

Data Hasil Perhitungan Xk dan Sk untuk Diameter Luar Kepala Atas

k	Sampel ke- (mm)																														Xk	Sk
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
1	50.085	50.115	50.060	50.120	50.135	49.940	50.060	50.115	50.110	50.080	50.190	50.000	50.190	49.950	49.995	50.080	49.990	49.980	50.120	50.080	50.160	50.135	50.015	49.980	50.175	50.010	50.135	50.170	50.130	50.045	50.078	0.073
2	50.010	50.050	49.975	50.105	50.165	50.115	50.085	49.980	49.935	50.095	50.040	50.110	50.065	50.000	50.190	50.010	50.160	50.125	50.105	50.065	50.180	50.125	50.120	50.160	50.055	50.000	50.135	50.110	50.135	50.000	50.080	0.068
3	50.045	50.050	50.135	49.990	50.030	50.160	50.160	50.100	50.020	50.075	49.975	50.045	50.095	50.185	49.955	50.195	50.040	49.975	50.005	50.080	50.115	50.155	50.130	49.970	49.995	50.005	50.085	50.145	50.075	50.045	50.068	0.069
4	50.075	50.050	50.005	50.050	50.130	49.995	50.135	50.025	50.070	49.975	50.010	49.995	50.080	50.015	50.010	50.065	50.120	49.960	50.190	50.070	49.970	50.015	49.995	50.065	50.145	50.060	49.975	49.950	49.990	50.175	50.046	0.065
5	50.060	50.080	49.938	50.110	50.015	50.010	50.100	50.050	50.080	50.125	49.970	49.975	49.990	50.140	50.145	49.975	49.990	50.160	50.080	50.060	50.060	50.000	49.935	49.985	50.155	50.110	50.085	50.080	50.010	50.165	50.055	0.068
6	50.020	50.040	50.000	50.100	50.150	50.150	50.070	49.925	50.100	50.015	50.140	50.125	50.055	49.985	50.095	50.140	49.930	50.100	50.100	50.030	49.955	50.115	50.100	49.980	50.050	50.020	50.130	49.965	50.050	50.085	50.057	0.067
7	50.050	50.055	50.015	50.045	50.115	49.960	50.100	50.105	50.090	50.100	50.150	49.995	50.110	50.020	50.065	50.090	50.000	49.940	50.105	50.075	50.155	50.075	50.060	50.005	50.015	50.140	50.130	50.090	49.975	50.120	50.065	0.057
8	50.120	50.020	50.035	50.050	49.955	50.040	50.095	49.970	50.050	50.135	50.070	50.140	50.070	50.015	49.975	50.105	50.090	50.110	50.005	50.055	50.185	50.005	50.015	50.125	50.100	50.005	50.100	50.160	50.190	49.965	50.065	0.065
9	50.020	49.995	50.045	50.090	50.025	50.150	50.045	49.915	50.110	50.115	50.005	50.075	50.050	50.110	50.030	50.085	50.045	50.085	50.060	50.045	50.105	50.030	50.130	49.940	50.120	50.125	50.085	50.060	50.020	50.040	50.059	0.054
10	50.095	50.030	50.155	50.160	49.995	50.070	50.010	50.065	50.045	50.005	50.060	50.130	50.095	50.195	49.950	50.155	50.040	50.065	49.995	50.000	50.125	50.070	50.030	50.045	50.045	50.000	49.985	50.160	50.195	50.015	50.066	0.067
11	50.055	49.995	50.035	50.110	50.050	50.105	50.075	50.000	50.035	50.120	49.930	50.025	50.110	50.010	49.995	50.145	50.150	49.980	50.020	50.045	50.120	50.135	50.100	50.025	50.045	50.110	49.950	50.060	50.035	50.060	50.054	0.057
12	50.005	50.105	50.050	50.110	50.030	49.995	50.065	50.155	50.070	50.075	50.150	50.010	50.020	50.045	50.085	50.095	50.090	50.005	50.105	50.140	50.035	50.155	50.050	50.020	49.960	50.070	50.090	50.015	50.060	50.075	50.065	0.050
13	49.990	50.075	49.985	50.090	50.020	50.035	50.065	50.050	50.095	50.010	50.165	50.155	50.095	50.000	50.000	50.120	49.995	50.000	50.060	50.055	50.045	49.990	50.030	50.150	50.160	50.080	50.100	50.105	50.010	49.990	50.057	0.057
14	50.040	50.080	49.990	50.015	50.110	50.105	50.135	50.020	50.075	50.065	50.100	50.175	50.095	50.000	50.030	50.085	50.125	50.025	50.080	50.185	50.000	49.990	50.050	50.050	50.100	50.105	50.015	50.110	50.130	50.150	50.075	0.054
15	50.065	50.005	50.055	50.085	50.115	50.070	50.085	49.990	50.105	50.050	50.050	50.021	50.085	50.000	50.165	50.105	50.115	50.100	50.100	50.135	50.035	50.015	50.080	50.070	50.075	50.005	50.080	50.140	50.100	49.890	50.066	0.055
16	50.085	50.065	50.010	50.105	50.105	50.105	50.045	50.070	50.080	50.050	50.115	50.105	50.105	50.020	50.110	50.105	49.970	49.985	49.975	50.020	50.135	50.080	50.120	50.065	50.075	50.040	50.030	50.050	50.080	50.180	50.070	0.049
17	50.105	50.055	50.000	50.040	50.040	50.020	49.990	50.030	50.145	49.995	50.020	50.100	50.110	49.975	50.005	50.150	50.070	50.070	50.000	49.990	50.115	50.155	50.065	50.060	50.020	50.005	50.025	50.120	50.110	50.180	50.059	0.058
18	50.080	50.150	50.000	50.105	49.950	50.000	50.050	50.065	50.140	50.095	50.040	50.020	50.000	50.075	49.995	50.080	49.985	50.100	50.110	50.025	50.110	50.125	50.160	49.965	50.035	50.120	50.065	50.080	50.100	50.055	50.063	0.056
19	50.015	50.020	50.135	50.080	50.120	50.005	50.075	50.040	50.030	50.050	50.080	49.990	50.095	50.105	50.050	50.110	50.030	49.995	50.030	50.165	50.005	50.070	50.010	50.065	50.065	50.005	50.030	50.095	50.095	50.195	50.062	0.051
20	50.050	50.110	49.975	50.005	50.140	50.005	50.040	50.090	50.100	50.105	50.155	50.000	50.190	50.005	50.000	50.065	50.025	49.970	50.100	50.130	50.075	50.085	50.010	50.070	50.125	50.110	50.135	50.075	50.120	50.060	50.071	0.057
21	50.040	50.030	50.040	50.080	50.160	49.965	50.050	50.020	50.045	50.020	50.110	50.120	50.070	50.000	50.095	50.140	50.020	50.100	50.100	50.030	49.990	50.100	50.100	50.020	50.035	50.020	50.130	49.975	49.970	50.145	50.057	0.055
22	50.070	50.065	50.015	50.120	50.110	50.110	50.030	49.970	50.070	50.060	50.115	50.105	50.105	50.020	50.095	50.125	49.995	50.005	50.125	50.025	50.120	50.080	50.120	50.065	50.070	50.050	50.050	49.980	50.080	50.180	50.071	0.050
23	50.010	50.095	50.035	50.110	50.015	50.020	50.100	50.050	50.090	50.125	49.995	49.945	50.095	50.105	50.145	50.000	50.000	50.130	50.080	50.070	50.025	50.085	50.005	50.010	50.155	50.110	49.950	50.080	50.010	50.085	50.058	0.056
24	50.090	50.125	49.995	49.965	50.095	50.105	50.145	50.105	50.080	50.075	50.115	50.010	50.020	50.045	50.085	50.095	50.095	50.025	50.110	49.975	50.005	50.140	50.005	50.020	49.990	50.070	50.090	50.035	50.055	50.090	50.062	0.051
25	50.070	50.150	50.040	50.080	49.950	50.000	50.070	50.120	50.140	50.095	50.040	50.020	50.030	50.075	50.005	50.050	50.145	50.095	50.110	50.025	50.110	50.070	50.115	49.965	50.040	50.120	50.065	50.080	50.100	50.125	50.070	0.051
26	50.060	50.150	50.000	50.115	49.950	50.045	50.050	50.100	50.120	50.075	50.040	50.010	50.110	50.080	49.995	50.080	50.040	50.100	50.095	50.030	50.100	50.080	50.150	49.970	50.045	50.085	50.055	50.075	50.110	50.055	50.066	0.048
27	50.025	50.095	49.985	50.090	50.030	50.060	50.065	50.050	50.095	50.010	50.145	50.145	50.095	50.000	50.050	50.120	49.995	50.020	50.060	50.055	50.045	50.010	50.030	50.150	50.130	50.065	50.100	50.105	50.010	50.000	50.061	0.049
28	50.040	50.030	50.060	50.080	50.150	49.965	50.050	50.020	50.095	50.015	50.120	50.120	50.070	50.000	50.095	50.125	50.020	50.100	50.100	50.030	50.020	50.100	50.100	50.020	50.035	50.045	50.130	49.990	50.000	50.110	50.061	0.049
29	50.035	50.070	49.970	50.015	49.995	50.065	50.145	50.060	49.975	49.950	49.990	50.175	50.080	50.015	50.010	50.065	50.120	49.960	50.190	50.075	50.050	50.005	50.040	50.130	49.995	50.135	50.025	50.070	49.975	50.175	50.052	0.068
30	50.050	50.010	50.045	50.045	50.105	50.030	50.130	49.985	50.120	50.125	50.085	50.060	50.020	50.040	50.015	50.020	50.010	50.085	49.995	50.090	50.025	50.150	50.045	50.000	50.110	50.115	50.005	50.075	50.050	50.110	50.058	0.047
31	50.010	50.100	50.050	50.100	50.015	50.005	50.060	50.145	50.060	50.080	50.150	50.010	50.020	50.000	50.085	50.090	50.095	49.980	50.105	50.135	50.035	50.155	50.095	50.020	49.960	50.070	50.075	50.015	50.105	50.045	50.062	0.052
32	50.010	50.040	49.985	50.090	50.020	50.035	50.065	50.050	50.095	50.030	50.165	50.155	50.040	49.955	50.050	50.120	50.000	50.000	50.060	50.055	50.045	49.995	50.030	50.150	50.145	50.080	50.100	50.105	50.035	50.060	50.059	0.053
33	50.040	50.010	50.045	50.080	50.100	49.965	50.050	50.020	50.045	50.020	50.110	50.125	50.085	50.010	50.095	50.130	50.020	50.100	50.100	50.020	50.000	50.100	50.100	50.020	50.035	50.035	50.130	49.975	50.040	50.145	50.058	0.049
34	50.075	50.020	50.135	50.080	50.120	50.065	50.075	50.040	50.030	50.050	50.080	50.180	50.065	50.010	50.105	50.105	50.140	50.045	50.070	50.080	50.050	50.145	50.105	50.105	50.020	50.110	50.105	49.985	49.990	49.990	50.073	0.049
35	50.050	50.020	50.035	50.075	49.950	50.040	50.095	50.055	50.180	50.005	50.015	50.125	50.105	50.005	50.115	50.130	50.185	49.965	49.970	50.050	50.115	50.060	50.140	50.070	50.015	49.965	50.125	50.090	50.140	50.000	50.063	0.065
36	50.020	50.045	50.020	50.045	50.130	49.955	50.105	50.105	50.090	50.100	50.145	50.000	50.075	50.155	50.075	50.060	50.005	50.015	50.140	50.130	50.090	49.975	50.120	50.000	50.015	50.140	50.130	50.090	49.975	50.120	50.069	0.059
37	50.010	50.055	50.045	49.990	50.030	50.150	50.160	50.080	50.100	50.105	50.100	49.990	50.075	49.985	50.080	50.035	50.035	50.065	50.050	50.095	50.010	50.165	50.155	50.095	50.000	50.010	50.120	50.000	50.000	50.060	50.062	0.055
38	50.055	50.080	50.130	50.080	50.115	50.155	50.130	49.970	49.995	50.005	50.085	50.145	50.075	50.045	49.990	50.030	50.160	50.145	50.100	50.020	50.075	49.975	50.045	50.095	50.185	49.955	50.195	50.040	49.975	50.005	50.069	0.068
39	50.065	50.165	50.020	50.030	50.100	50.080	50.150	49.970	50.045	50.085	50.055	50.075	50.100	50.055	50.115	49.995	50.045	50.050	50.100	50.120	50.075	50.040	50.040	50.110	50.085	50.010	50.120	49.995	50.000	50.060	50.065	0.047
40	50.075	50.040	50.010	50.100	50.020	50.130	50.080	50.120	50.065	50.070	50.040	50.035	50.050	50.080	50.180	50.105	50.105	50.045	50.070	50.080	50.050	50.115	50.105	50.105	50.020	50.110	50.105	50.000	49.990	49.995	50.070	0.045
																														Jumlah	2002.545	2.262
																														Rata-rata	50.064	0.0566

Sumber : hasil perhitungan penulis

Tabel 5.30

Data Hasil Perhitungan Xk dan Sk untuk Tebal Kepala Atas

k	Sampel ke- (mm)																														Xk	Sk
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
1	3.043	3.085	3.190	3.140	3.165	3.163	3.005	3.080	3.105	3.123	3.023	3.155	3.040	2.985	2.993	3.063	3.013	3.105	3.105	3.050	3.018	3.063	3.038	3.030	3.053	3.128	3.035	3.040	2.995	3.168	3.073	0.059
2	2.928	3.053	3.128	3.103	2.978	3.165	3.090	3.083	3.168	3.120	3.000	3.008	3.150	3.060	3.063	2.988	3.045	3.125	2.935	3.063	3.010	3.083	3.088	3.058	3.038	3.103	3.015	3.040	3.008	3.023	3.057	0.062
3	3.073	3.068	3.153	3.038	3.005	3.100	3.168	2.983	3.050	3.015	2.998	3.080	3.160	3.048	3.018	3.075	3.018	3.083	3.090	3.090	3.045	3.048	3.065	3.138	3.060	3.000	3.003	3.013	3.085	3.128	3.063	0.051
4	3.155	3.098	3.020	3.063	3.083	3.113	3.008	3.118	3.035	2.983	3.020	3.020	3.035	3.033	3.083	2.995	3.083	3.133	3.023	3.030	3.020	3.070	3.043	3.128	3.095	2.968	3.108	3.088	2.948	3.075	3.056	0.052
5	3.060	3.003	2.998	3.028	3.070	3.128	3.020	3.018	3.028	3.058	3.048	3.103	3.040	3.060	3.158	3.125	2.970	3.160	3.028	3.105	3.160	2.985	3.055	3.105	3.098	3.040	3.055	2.988	3.020	3.068	3.059	0.053
6	3.028	3.060	3.118	3.078	3.013	3.138	3.080	3.080	3.180	3.123	3.010	3.005	2.975	3.068	3.020	2.990	3.045	3.013	3.008	3.100	2.998	3.098	3.080	3.080	3.080	3.100	2.990	3.028	3.105	3.025	3.057	0.051
7	3.050	2.998	3.078	3.038	3.065	3.063	3.118	3.033	3.078	3.025	3.163	3.053	3.085	3.178	3.093	3.138	3.153	2.998	3.080	3.083	3.105	3.025	3.150	3.035	2.983	3.033	3.075	3.025	3.095	3.098	3.073	0.050
8	3.100	3.078	3.025	3.075	3.070	3.095	3.000	3.120	3.020	3.000	3.080	3.020	3.030	3.033	3.093	3.013	3.078	3.093	3.015	2.945	3.050	3.093	3.028	3.155	3.035	3.000	3.000	3.095	3.065	3.068	3.052	0.045
9	3.088	3.088	3.103	3.033	3.055	3.010	3.133	3.053	3.010	2.993	3.015	3.095	3.103	3.048	3.095	3.183	3.113	3.108	3.095	2.998	3.053	3.070	3.105	3.063	3.085	3.033	2.998	3.003	3.068	3.043	3.064	0.046
10	3.080	3.088	3.180	3.090	3.008	2.998	3.025	3.080	3.018	2.993	3.023	3.158	3.073	3.015	3.025	3.080	2.970	3.078	3.098	3.068	3.090	2.955	3.023	3.115	3.008	3.130	3.090	3.050	3.020	3.028	3.055	0.053
11	3.083	3.108	3.020	3.135	3.023	2.988	3.033	3.080	3.023	3.093	3.105	3.040	3.005	3.085	3.030	3.065	3.050	3.095	3.020	3.080	3.003	3.140	3.100	3.093	3.170	3.083	3.018	2.988	2.998	3.088	3.061	0.048
12	3.010	3.010	2.983	3.073	3.020	2.998	3.055	3.013	3.010	3.093	2.998	3.105	3.085	3.070	3.090	3.105	2.993	3.028	3.105	3.040	3.060	2.995	3.078	3.038	3.060	3.093	3.120	3.028	3.080	3.000	3.048	0.042
13	3.053	3.085	3.033	3.050	3.145	3.113	2.940	3.163	3.020	3.100	3.150	2.995	3.055	3.103	3.093	3.063	3.058	2.983	3.023	3.065	3.070	3.000	2.998	3.020	3.085	3.108	3.025	3.020	3.028	3.068	3.057	0.052
14	3.083	3.173	3.105	3.108	3.098	2.998	3.053	3.070	3.100	3.063	3.085	3.033	2.938	3.000	3.073	3.040	3.075	3.093	3.103	3.033	3.058	3.013	3.130	3.055	3.003	2.943	3.013	3.095	3.103	3.050	3.059	0.052
15	3.068	3.063	2.995	3.045	3.125	2.995	3.063	3.010	3.083	3.088	3.070	3.038	3.048	3.015	3.040	3.008	3.023	3.020	3.053	3.115	3.103	2.948	3.165	3.090	3.083	3.168	3.080	3.000	2.993	3.145	3.058	0.053
16	3.078	3.098	3.068	3.090	3.003	3.023	3.115	3.008	3.130	3.090	3.050	3.020	3.028	3.080	3.088	3.180	3.090	3.008	2.998	3.025	3.080	3.018	2.993	3.023	3.158	3.073	3.015	3.025	3.080	2.983	3.057	0.050
17	3.028	3.053	3.118	3.103	2.990	3.165	3.090	3.083	3.168	3.120	3.000	3.008	3.150	3.060	3.063	2.995	3.083	3.133	3.023	3.030	3.020	3.070	3.043	3.128	3.095	2.990	3.108	3.088	3.050	3.075	3.071	0.052
18	3.020	3.053	3.128	3.125	3.165	3.163	2.995	3.105	3.095	3.108	3.010	3.165	3.033	2.993	3.015	3.065	3.013	3.095	3.108	3.048	3.028	3.055	3.063	3.043	3.028	3.110	3.023	3.033	2.998	3.155	3.068	0.055
19	3.053	3.103	3.175	3.023	3.068	3.113	3.030	3.080	3.033	3.098	3.105	3.025	3.008	3.093	3.038	3.088	3.020	3.098	3.085	3.078	3.085	3.080	3.060	3.045	3.103	3.015	3.040	3.000	3.035	3.105	3.066	0.040
20	3.110	3.080	3.025	3.085	3.060	3.088	2.998	3.053	3.128	3.005	3.068	3.018	3.045	3.028	3.093	3.055	3.000	3.085	3.103	3.053	3.020	3.018	3.053	2.983	3.053	3.130	3.035	3.000	3.000	3.090	3.052	0.041
21	3.053	3.085	3.165	3.130	3.023	2.948	3.030	3.075	3.023	3.020	3.053	3.120	3.015	3.088	3.060	3.045	3.013	3.105	3.105	3.043	3.018	3.063	3.038	3.030	3.038	3.140	3.035	3.040	3.003	3.145	3.058	0.049
22	3.055	3.020	3.003	3.055	3.005	3.003	3.000	3.120	3.020	3.000	3.088	3.025	3.020	3.055	3.110	3.070	3.018	3.083	3.093	3.078	3.088	3.088	3.058	3.038	3.103	3.008	3.053	3.003	3.038	2.990	3.046	0.039
23	3.050	3.005	3.120	3.035	3.033	2.938	3.033	3.080	3.023	3.093	3.098	3.040	3.013	3.088	3.030	3.000	3.038	3.128	3.105	3.050	3.015	3.063	3.010	3.030	3.033	3.118	3.035	3.035	3.030	3.120	3.049	0.044
24	2.998	3.005	3.190	3.100	3.078	3.025	3.075	3.070	3.095	3.000	3.120	3.020	3.000	3.080	3.020	3.030	3.033	3.093	3.025	3.053	3.128	3.088	3.058	3.038	3.103	3.015	3.040	3.008	2.998	3.138	3.057	0.049
25	3.005	3.100	3.078	3.025	3.088	3.070	3.080	3.000	3.120	3.020	3.000	3.070	3.008	3.023	3.003	3.083	3.000	3.105	3.105	3.040	3.018	3.020	3.053	3.118	3.018	3.118	3.030	3.040	2.998	3.160	3.053	0.046
26	3.023	3.075	3.160	3.118	3.163	3.140	3.003	3.053	3.083	3.128	3.025	3.125	3.033	2.983	3.003	3.063	3.043	3.018	3.105	3.055	3.025	3.040	3.038	3.030	3.020	3.053	3.113	3.058	3.000	3.153	3.064	0.052
27	3.050	3.103	3.015	3.078	3.025	3.075	3.070	3.095	3.000	3.120	3.020	3.000	3.080	2.965	3.030	3.033	3.093	3.105	3.095	3.090	3.083	3.088	3.058	3.038	3.103	3.005	3.075	3.020	3.053	3.098	3.059	0.040
28	3.038	3.005	3.100	3.168	2.920	3.163	3.005	3.080	3.105	3.123	3.023	3.155	3.040	2.985	2.993	3.063	3.000	3.103	3.103	3.073	3.005	3.063	3.028	3.030	3.040	3.115	2.983	3.068	3.000	3.108	3.056	0.060
29	3.130	3.090	3.050	3.020	3.028	3.100	3.168	2.983	3.120	3.163	3.020	3.100	3.150	2.995	3.033	3.093	3.005	3.098	3.105	3.063	3.020	3.035	3.038	3.058	3.053	3.115	2.998	3.040	3.005	3.125	3.067	0.053
30	3.063	3.100	3.125	3.163	3.020	3.100	3.150	2.995	3.038	3.005	3.100	3.168	2.983	2.985	2.988	3.045	3.125	2.993	3.063	3.010	3.083	3.088	3.058	3.038	3.103	3.015	3.040	3.008	3.023	3.095	3.059	0.055
31	3.028	3.040	3.125	3.140	3.165	3.163	3.163	3.020	3.100	3.150	2.995	3.130	3.090	3.050	3.020	3.028	3.168	2.983	3.000	3.080	3.020	3.030	3.033	3.093	3.053	3.128	3.035	3.040	2.995	3.078	3.071	0.059
32	3.068	3.105	3.165	3.100	3.130	3.090	3.050	3.020	3.028	2.955	3.120	3.020	3.000	3.080	3.020	3.030	3.033	3.093	3.090	3.090	3.083	3.088	3.058	3.038	3.103	3.015	3.040	3.008	3.023	3.113	3.062	0.046
33	3.100	3.078	3.025	3.075	3.070	3.095	2.935	3.120	3.020	3.000	3.080	3.020	3.030	3.033	3.093	3.063	3.013	3.038	3.005	3.100	3.168	2.983	3.038	3.030	3.053	3.128	3.035	3.040	2.995	3.013	3.049	0.049
34	3.078	3.100	3.135	3.140	3.165	3.163	3.005	3.080	3.105	3.123	3.023	3.155	3.040	2.985	2.993	3.063	3.130	3.090	3.050	3.020	3.028	3.038	3.005	3.100	3.168	2.983	3.035	3.040	2.995	3.158	3.073	0.061
35	3.065	3.103	3.148	3.135	3.100	3.078	3.025	3.075	3.070	3.095	3.000	3.120	3.020	3.000	3.080	3.020	3.030	3.033	3.093	3.050	3.018	3.063	3.038	3.030	3.053	3.130	3.090	3.050	3.020	3.020	3.062	0.041
36	3.038	3.103	3.178	3.140	3.165	3.163	3.168	2.983	3.050	3.015	2.998	3.080	3.160	3.048	3.018	3.075	3.018	3.083	3.090	3.090	3.038	3.005	3.100	3.168	2.983	3.128	3.035	3.040	2.995	3.138	3.076	0.063
37	3.003	3.100	3.078	3.025	3.075	3.070	3.095	3.000	3.120	3.020	3.000	3.080	3.020	3.030	3.033	3.038	3.005	3.100	3.168	2.983	3.083	3.088	3.058	3.038	3.103	3.015	3.040	2.950	3.023	3.163	3.053	0.051
38	3.070	3.085	3.180	3.140	3.095	3.000	3.120	3.020	3.000	3.080	3.038	3.005	3.100	3.168	2.920	3.063	3.013	3.105	3.105	3.050	3.018	3.063	3.038	3.030	3.053	3.128	3.035	3.040	2.943	3.183	3.063	0.063
39	3.130	3.090	3.050	3.020	3.028	3.038	3.005	3.100	3.168	2.968	3.020	3.000	3.080	3.020	3.030	3.130	3.090	3.050	3.020	3.028	3.010	3.063	3.043	3.095	3.000	3.120	3.020	3.000	3.080	2.995	3.050	0.049
40	3.038	3.095	3.000	3.120	3.020	3.000	3.080	3.000	3.120	3.020	3.000	3.080	3.020	3.030	3.033	3.093	3.018	3.083	3.090	3.090	3.083	3.088	3.058	3.038	3.103	3.015	3.040	3.008	3.023	3.128	3.054	0.041
																														Jumlah	122.384	2.016
																														Rata-rata	3.060	0.050

Sumber : hasil perhitungan penulis

Tabel 5.33

Data Hasil Perhitungan Xk dan Sk untuk Tinggi Dalam Kepala Atas

k	Sampel ke- (mm)																														Xk	Sk
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
1	7.888	7.860	7.903	7.865	7.970	7.918	7.923	7.873	7.890	7.900	7.863	7.853	7.865	7.853	7.915	7.868	7.883	7.908	7.890	7.878	7.933	7.873	7.905	7.970	7.878	7.855	7.880	7.948	7.888	7.905	7.893	0.032
2	7.903	7.878	7.898	7.920	7.865	7.900	7.945	7.895	7.865	7.903	7.850	7.860	7.863	7.940	7.885	7.855	7.855	7.850	7.920	7.935	7.968	7.863	7.980	7.855	7.895	7.910	7.913	7.888	7.865	7.915	7.894	0.035
3	7.858	7.905	7.853	7.850	7.905	7.988	7.860	7.940	7.858	7.865	7.850	7.915	7.900	7.920	7.863	7.870	7.870	7.848	7.900	7.900	7.858	7.858	7.878	7.858	7.868	7.908	7.923	7.933	7.908	7.853	7.885	0.034
4	7.920	7.835	7.835	7.883	7.925	7.875	7.913	7.970	7.960	7.925	7.893	7.908	7.850	7.913	7.965	7.925	7.848	7.893	7.960	7.823	7.860	7.890	7.913	7.890	7.908	7.840	7.873	7.838	7.910	7.940	7.896	0.042
5	7.908	7.878	7.873	7.880	7.933	7.903	7.855	7.863	8.013	7.873	7.925	7.923	7.860	7.863	7.888	7.870	7.898	7.863	7.865	7.865	7.893	7.878	7.905	7.903	7.910	7.848	7.868	7.900	7.893	7.900	7.890	0.032
6	7.910	7.848	7.860	7.845	7.940	7.945	7.855	7.910	7.970	7.880	7.848	7.880	7.858	7.898	7.895	7.840	7.833	7.910	7.905	7.850	7.945	7.900	7.890	7.900	7.835	7.855	7.878	7.903	7.825	7.883	7.883	0.037
7	7.910	7.900	7.970	7.883	7.845	7.903	7.898	7.895	7.903	7.893	7.945	7.885	7.855	7.868	7.880	7.858	7.918	7.900	7.858	7.900	7.835	7.865	7.825	7.883	7.898	7.838	7.928	7.945	7.883	7.925	7.890	0.034
8	7.898	7.898	7.835	7.890	7.908	7.838	7.908	7.890	7.835	7.838	7.833	7.838	7.970	7.913	7.905	7.898	7.900	7.940	7.900	7.930	7.838	7.945	7.883	7.890	7.900	7.865	7.910	7.865	7.970	7.903	7.891	0.039
9	7.843	7.855	7.908	7.918	7.848	7.940	7.900	7.940	7.895	7.855	7.903	7.900	7.903	7.863	7.853	7.848	7.928	7.900	7.918	7.865	7.838	7.900	7.838	7.860	7.908	7.845	7.865	7.905	7.845	7.905	7.883	0.032
10	7.923	7.848	7.860	7.930	7.940	7.853	7.893	7.948	7.900	7.863	7.838	7.970	7.883	7.903	7.858	7.853	7.840	7.865	7.863	7.850	7.945	7.893	7.890	7.900	7.950	7.850	7.875	7.850	7.928	7.855	7.887	0.039
11	7.910	7.970	7.898	7.848	7.903	7.828	7.940	7.883	7.888	7.835	7.853	7.833	7.838	7.970	7.933	7.888	7.900	7.888	7.950	7.903	7.850	7.940	7.933	7.880	7.860	7.898	7.783	7.943	7.873	7.875	7.890	0.045
12	7.970	7.840	7.940	7.918	7.890	7.900	7.910	7.905	7.970	7.940	7.900	7.908	7.990	7.913	7.903	7.883	7.925	7.890	7.910	7.878	7.875	7.880	7.935	7.868	7.905	7.858	7.863	7.863	7.888	7.938	7.905	0.035
13	7.893	7.848	7.858	7.840	7.878	7.858	7.865	7.908	7.890	7.900	7.928	7.908	7.890	7.838	7.970	7.913	7.833	7.880	7.888	7.878	7.940	7.863	7.848	7.833	7.903	7.920	7.860	7.825	7.885	8.000	7.884	0.041
14	7.918	7.888	7.883	7.918	7.910	7.875	7.918	7.940	7.885	7.855	7.865	7.970	7.888	7.948	7.903	7.890	7.900	7.863	7.853	7.860	7.853	7.890	7.863	7.865	7.908	7.848	7.875	7.923	7.940	7.898	7.893	0.032
15	7.855	7.855	7.910	7.903	7.915	7.835	7.903	7.830	7.858	7.970	7.880	7.895	7.900	7.858	7.868	7.885	7.960	7.970	7.913	7.945	7.883	7.890	7.900	7.925	7.850	7.848	7.853	7.870	7.863	7.898	7.889	0.038
16	7.863	7.900	7.895	7.850	7.903	7.940	7.868	7.855	7.900	7.925	7.985	7.925	7.855	7.850	7.850	7.863	7.945	7.860	7.865	7.905	7.850	7.860	7.900	7.860	7.933	7.845	7.860	7.863	7.925	7.888	7.886	0.036
17	7.893	7.890	7.920	7.900	7.933	7.920	7.850	7.940	7.863	7.855	7.848	7.898	7.908	7.848	7.890	7.900	7.903	7.940	7.908	7.850	7.913	7.965	7.935	7.940	7.945	7.855	7.838	7.970	7.885	7.845	7.898	0.038
18	7.895	7.848	7.860	7.905	7.940	7.905	7.848	7.860	7.925	7.908	7.865	7.855	7.830	7.890	7.928	7.895	7.860	7.940	7.860	7.860	7.878	7.860	7.928	7.903	7.908	7.910	7.880	7.860	7.853	7.850	7.883	0.031
19	7.923	7.945	7.848	7.835	7.928	7.940	7.865	7.855	7.875	7.858	7.875	7.938	7.833	7.968	7.805	7.980	7.855	7.945	7.905	7.988	7.860	7.940	7.903	7.843	7.850	7.820	7.900	7.885	7.863	7.870	7.890	0.049
20	7.940	7.888	7.838	7.970	7.898	7.840	7.948	7.913	7.953	7.825	7.920	7.930	7.875	7.908	7.813	7.848	7.835	7.850	7.970	7.815	7.945	7.823	7.890	7.900	7.925	7.900	7.905	7.830	7.860	7.830	7.886	0.049
21	7.953	7.930	7.940	7.873	7.890	7.900	7.895	7.903	7.853	7.905	7.988	7.860	7.940	7.858	7.845	7.850	7.848	7.880	7.905	7.863	7.870	7.860	7.905	7.850	7.905	7.908	7.903	7.848	7.990	7.878	7.893	0.040
22	7.863	7.903	7.895	7.883	7.908	7.905	7.970	7.923	7.908	8.013	7.840	7.848	7.835	7.913	7.840	7.860	7.850	7.913	7.913	7.888	7.863	7.915	7.915	7.890	7.900	7.938	7.870	7.955	7.880	7.910	7.897	0.040
23	7.903	7.858	7.903	7.848	7.915	7.885	7.940	7.855	7.988	7.940	7.915	7.940	7.855	7.900	7.895	7.843	7.943	7.910	7.848	7.850	7.850	7.860	7.860	7.845	7.863	7.865	7.873	7.955	7.883	7.905	7.890	0.039
24	7.923	7.930	7.860	7.863	7.878	7.870	7.880	7.913	7.970	7.960	7.925	7.878	7.840	7.885	7.825	7.903	7.940	7.920	7.890	7.835	7.945	7.898	7.900	7.918	7.855	7.858	7.908	7.878	7.848	7.895	7.893	0.037
25	7.890	7.850	7.900	7.893	7.928	7.945	7.868	7.865	7.868	7.883	7.903	7.905	7.895	7.970	7.898	7.940	7.878	7.890	7.900	7.868	7.863	7.900	7.900	7.905	7.905	7.863	7.868	7.905	7.903	7.860	7.893	0.027
26	7.850	7.908	7.870	7.880	7.893	7.863	7.945	7.903	7.903	7.903	7.860	7.903	7.885	7.988	7.840	7.855	7.970	7.880	7.870	7.873	7.883	7.900	7.888	7.860	7.913	7.850	7.940	7.885	7.910	7.940	7.894	0.035
27	7.905	7.988	7.860	7.940	7.878	7.923	7.855	7.865	7.855	7.878	7.903	7.860	7.940	7.925	7.863	7.855	7.905	7.983	7.860	7.940	7.875	7.848	7.863	7.910	7.905	7.903	7.828	7.860	7.865	7.885	7.891	0.040
28	7.900	7.925	7.900	7.905	7.848	7.860	7.875	7.883	7.855	7.920	7.855	7.940	7.888	7.863	7.900	7.893	7.908	7.853	7.950	7.890	7.850	7.940	7.885	7.868	7.890	7.900	7.868	7.925	7.875	7.913	7.891	0.029
29	7.898	7.953	7.920	7.853	7.910	7.920	7.873	7.918	7.828	7.903	7.900	7.860	7.880	7.945	7.900	7.890	7.900	7.860	7.940	7.855	7.905	7.993	7.860	7.940	7.863	7.893	7.850	7.900	7.855	7.920	7.896	0.037
30	7.863	7.895	7.858	7.883	7.905	7.870	7.970	8.013	7.860	7.900	7.905	7.850	7.895	7.825	7.915	7.933	7.838	7.890	7.900	7.890	7.858	7.970	7.870	7.943	7.878	7.890	7.900	7.910	7.863	7.900	7.895	0.041
31	7.875	7.910	7.848	7.848	7.853	7.895	7.970	7.885	7.945	7.838	7.853	7.855	7.940	7.928	7.850	7.900	7.890	7.965	7.863	7.855	7.870	7.880	7.883	7.903	7.855	7.860	7.875	7.905	7.988	7.890	7.889	0.040
32	7.903	7.860	7.868	7.903	7.950	7.863	7.860	7.893	7.930	7.853	7.908	8.000	7.868	7.970	7.878	7.953	7.910	7.955	7.910	7.875	7.870	7.875	7.908	7.903	7.848	7.888	7.850	7.970	7.835	7.935	7.900	0.042
33	7.875	7.900	7.905	7.848	7.860	7.905	7.940	7.868	7.855	7.865	7.913	7.830	7.875	7.893	7.858	7.940	7.840	7.853	7.905	7.988	7.860	7.940	7.913	7.970	7.960	7.925	7.890	7.908	7.863	7.870	7.894	0.040
34	7.875	7.988	7.918	7.940	7.890	7.913	7.865	7.838	7.985	7.890	7.858	7.843	7.888	7.860	7.970	7.893	7.860	7.900	7.890	7.858	7.903	7.888	7.873	7.993	7.940	7.903	7.868	7.903	7.898	7.923	7.900	0.042
35	7.928	7.905	7.905	7.848	7.880	7.885	7.940	7.893	7.855	7.910	7.860	7.870	7.940	7.900	7.925	8.000	7.913	7.903	7.883	7.900	7.853	7.870	7.845	7.958	7.898	7.900	7.855	7.965	7.918	7.898	7.900	0.037
36	7.870	7.903	7.860	7.865	7.855	7.873	7.893	7.835	7.900	7.865	7.915	7.970	7.878	7.925	7.850	7.850	7.933	7.855	7.850	7.905	7.988	7.860	7.940	7.858	7.875	7.865	7.863	7.868	7.905	7.863	7.884	0.037
37	7.880	7.863	7.900	7.905	7.848	7.860	7.870	7.940	7.878	7.873	7.890	7.900	7.855	7.905	7.918	7.858	7.888	7.883	7.940	7.865	7.855	7.865	7.970	7.925	7.883	7.888	7.850	7.940	7.965	7.923	7.893	0.034
38	7.975	7.880	7.913	7.970	7.960	7.925	7.898	7.908	7.970	7.878	7.903	7.905	7.848	7.900	7.943	7.875	7.855	7.898	7.903	7.905	7.858	7.863	7.865	7.970	7.958	7.930	7.860	7.860	7.940	7.875	7.906	0.040
39	7.840	7.885	7.890	7.853	7.933	7.870	7.838	7.970	7.878	7.938	7.888	7.903	7.915	7.915	7.893	7.870	7.850	7.850	7.970	7.848	7.935	7.880	7.890	7.993	7.923	7.970	7.878	7.855	7.898	7.855	7.896	0.043
40	7.838	7.970	7.875	7.835	7.880	7.833	7.898	7.860	7.890	7.865	7.965	7.870	7.915	7.930	7.913	7.900	7.838	7.890	7.835	7.910	7.948	7.873	7.890	7.908	7.858	7.853	7.865	7.900	7.970	7.908	7.889	0.040
																														Jumlah	315.677	1.512
																														Rata-rata	7.892	0.038

Sumber : hasil perhitungan penulis

Tabel 5.36

Data Hasil Perhitungan Xk dan Sk untuk Tinggi Luar Kepala Atas

k	Sampel ke- (mm)																														Xk	Sk
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
1	11.318	11.440	11.373	11.358	11.103	11.033	11.220	11.298	11.283	11.348	11.415	11.248	11.255	11.260	11.308	11.393	11.323	11.313	11.333	11.353	11.230	11.458	11.160	11.315	11.278	11.223	11.423	11.183	11.140	11.068	11.281	0.107
2	11.258	11.150	11.035	11.183	11.388	11.420	11.243	11.223	11.390	11.288	11.188	11.240	11.425	11.313	11.348	11.173	11.130	11.145	11.285	11.250	11.250	11.303	11.278	11.340	11.113	11.233	11.303	11.043	11.313	11.200	11.248	0.101
3	11.245	11.070	11.105	11.245	11.298	11.488	11.370	11.065	11.298	11.308	11.350	11.078	11.140	11.313	11.188	11.123	11.280	11.080	11.390	11.260	11.428	11.130	11.148	11.295	11.133	11.200	11.250	11.240	11.185	11.200	11.230	0.112
4	11.195	11.300	11.223	11.403	11.383	11.298	11.235	11.305	11.355	11.258	11.428	11.290	11.355	11.208	11.160	11.100	11.305	11.405	11.080	11.148	11.180	11.303	11.320	11.373	11.315	11.295	11.348	11.235	11.075	11.043	11.264	0.105
5	11.285	11.280	11.013	11.305	11.380	11.263	11.110	11.165	11.210	11.245	11.330	11.420	11.170	11.380	11.118	11.065	11.320	11.405	11.075	11.290	11.108	11.413	11.203	11.115	11.223	11.308	11.243	11.333	11.108	11.140	11.234	0.115
6	11.265	11.253	11.320	11.368	11.480	11.198	11.388	11.320	11.315	11.308	11.120	11.090	11.208	11.050	11.195	11.215	11.043	11.280	11.128	11.170	11.283	11.300	11.365	11.468	11.175	11.338	11.153	11.300	11.223	11.313	11.254	0.110
7	11.288	11.260	11.325	11.373	11.463	11.195	11.428	11.133	11.283	11.235	11.248	11.305	11.263	11.118	11.040	11.085	11.325	11.170	11.165	11.270	11.263	11.305	11.318	11.460	11.178	11.340	11.298	11.143	11.230	11.308	11.260	0.103
8	11.325	11.188	11.320	11.170	11.103	11.230	11.160	11.170	11.205	11.058	11.240	11.363	11.215	11.235	11.028	11.365	11.360	11.155	11.293	11.088	11.230	11.315	11.330	11.395	11.380	11.228	11.298	11.240	11.273	11.250	11.240	0.097
9	11.278	11.080	11.320	11.295	11.245	11.238	11.350	11.105	11.220	11.228	11.410	11.295	11.355	11.213	11.095	11.035	11.288	11.165	11.223	11.335	11.240	11.200	11.170	11.388	11.395	11.303	11.315	11.300	11.173	11.268	11.251	0.095
10	11.163	11.275	11.160	11.290	11.350	11.428	11.175	11.300	11.170	11.113	11.308	11.233	11.210	11.068	11.225	11.295	11.185	11.163	11.410	11.085	11.260	11.388	11.203	11.353	11.218	11.285	11.280	11.253	11.130	11.308	11.243	0.093
11	11.108	11.198	11.275	11.310	11.305	11.125	11.300	11.140	11.298	11.073	11.243	11.140	11.265	11.210	11.400	11.260	11.295	11.268	11.430	11.070	11.283	11.348	11.415	11.248	11.255	11.260	11.308	11.393	11.323	11.313	11.262	0.096
12	11.218	11.225	11.290	11.368	11.265	11.255	11.110	11.113	11.323	11.263	11.418	11.243	11.320	11.220	11.125	11.133	11.323	11.065	11.218	11.310	11.173	11.378	11.440	11.298	11.420	11.080	11.203	11.345	11.243	11.290	11.256	0.102
13	11.270	11.248	11.348	11.415	11.248	11.260	11.260	11.308	11.393	11.323	11.313	11.333	11.353	11.230	11.458	11.160	11.315	11.440	11.373	11.358	11.103	11.033	11.220	11.285	11.200	11.385	11.290	11.425	11.375	11.255	11.299	0.097
14	11.320	11.390	11.288	11.180	11.240	11.430	11.313	11.348	11.173	11.130	11.145	11.285	11.250	11.250	11.303	11.278	11.340	11.113	11.233	11.303	11.043	11.108	11.200	11.258	11.150	11.035	11.290	11.145	11.420	11.243	11.240	0.102
15	11.350	11.313	11.188	11.123	11.280	11.080	11.390	11.260	11.448	11.130	11.148	11.295	11.133	11.200	11.250	11.240	11.348	11.208	11.173	11.105	11.245	11.298	11.353	11.370	11.065	11.298	11.308	11.350	11.078	11.153	11.239	0.105
16	11.305	11.273	11.355	11.180	11.065	11.320	11.405	11.075	11.290	11.108	11.413	11.203	11.115	11.433	11.308	11.243	11.333	11.108	11.140	11.260	11.140	11.305	11.380	11.263	11.110	11.165	11.210	11.245	11.330	11.420	11.250	0.110
17	11.223	11.170	11.380	11.205	11.340	11.215	11.410	11.170	11.283	11.300	11.365	11.468	11.175	11.338	11.153	11.300	11.223	11.313	11.105	11.253	11.320	11.368	11.468	11.198	11.388	11.320	11.315	11.308	11.120	11.090	11.276	0.103
18	11.235	11.208	11.193	11.195	11.215	11.043	11.280	11.128	11.215	11.253	11.415	11.375	11.355	11.205	11.215	11.085	11.323	11.150	11.245	11.163	11.440	11.373	11.358	11.103	11.033	11.220	11.193	11.283	11.348	11.415	11.242	0.110
19	11.255	11.278	11.328	11.340	11.098	11.353	11.230	11.458	11.160	11.315	11.278	11.223	11.423	11.183	11.140	11.068	11.060	11.295	11.175	11.110	11.265	11.425	11.313	11.348	11.173	11.130	11.145	11.310	11.250	11.383	11.250	0.109
20	11.245	11.108	11.198	11.275	11.310	11.305	11.125	11.270	11.315	11.220	11.435	11.260	11.070	11.283	11.348	11.415	11.248	11.255	11.260	11.308	11.155	11.360	11.405	11.315	11.405	11.100	11.215	11.305	11.235	11.320	11.269	0.094
21	11.410	11.260	11.428	11.108	11.198	11.275	11.310	11.305	11.125	11.260	11.290	11.430	11.375	11.070	11.283	11.348	11.415	11.248	11.255	11.260	11.308	11.103	11.225	11.295	11.290	11.295	11.405	11.330	11.365	11.185	11.282	0.097
22	11.220	11.315	11.260	11.285	11.308	11.415	11.330	11.125	11.185	11.105	11.210	11.300	11.140	11.298	11.073	11.243	11.140	11.265	11.210	11.400	11.260	11.438	11.268	11.285	11.365	11.380	11.305	11.240	11.260	11.285	11.264	0.090
23	11.213	11.310	11.285	11.305	11.330	11.195	11.310	11.285	11.260	11.045	11.240	11.160	11.108	11.198	11.275	11.310	11.098	11.125	11.170	11.420	11.315	11.135	11.243	11.305	11.175	11.330	11.380	11.225	11.258	11.133	11.238	0.090
24	11.275	11.225	11.300	11.140	11.298	11.073	11.243	11.140	11.265	11.210	11.400	11.260	11.298	11.268	11.220	11.160	11.330	11.235	11.320	11.333	11.348	11.255	11.220	11.355	11.210	11.420	11.215	11.030	11.245	11.020	11.244	0.096
25	11.285	11.270	11.155	11.305	11.300	11.140	11.298	11.073	11.243	11.140	11.265	11.210	11.400	11.260	11.295	11.268	11.310	11.080	11.030	11.285	11.075	11.360	11.250	11.155	11.420	11.345	11.353	11.370	11.065	11.298	11.243	0.107
26	11.108	11.198	11.275	11.310	11.305	11.125	11.400	11.263	11.275	11.265	11.408	11.185	11.380	11.185	11.178	11.093	11.448	11.138	11.158	11.420	11.160	11.310	11.315	11.425	11.050	11.140	11.360	11.330	11.215	11.350	11.259	0.112
27	11.225	11.270	11.350	11.340	11.340	11.300	11.140	11.298	11.073	11.243	11.140	11.265	11.210	11.400	11.260	11.295	11.268	11.300	11.140	11.298	11.073	11.243	11.140	11.265	11.423	11.495	11.355	11.173	11.335	11.375	11.268	0.101
28	11.390	11.275	11.428	11.130	11.108	11.198	11.275	11.310	11.305	11.125	11.040	11.045	11.310	11.340	11.363	11.285	11.063	11.345	11.260	11.280	11.358	11.315	11.295	11.165	11.405	11.340	11.360	11.303	11.230	11.070	11.257	0.113
29	11.198	11.220	11.300	11.140	11.298	11.073	11.243	11.140	11.265	11.210	11.400	11.260	11.295	11.268	11.165	11.150	11.305	11.155	11.230	11.323	11.155	11.383	11.433	11.348	11.405	11.093	11.225	11.305	11.240	11.333	11.252	0.094
30	11.315	11.273	11.108	11.198	11.275	11.310	11.305	11.125	11.355	11.223	11.300	11.140	11.298	11.073	11.243	11.140	11.265	11.210	11.400	11.260	11.295	11.268	11.110	11.285	11.348	11.415	11.248	11.255	11.300	11.323	11.255	0.086
31	11.243	11.323	11.305	11.365	11.290	11.243	11.323	11.260	11.320	11.308	11.350	11.083	11.140	11.313	11.188	11.123	11.340	11.183	11.293	11.070	11.250	11.320	11.330	11.430	11.410	11.333	11.350	11.300	11.170	11.090	11.268	0.096
32	11.290	11.300	11.140	11.290	11.105	11.243	11.140	11.283	11.210	11.400	11.260	11.295	11.268	11.125	11.060	11.155	11.388	11.293	11.120	11.235	11.130	11.310	11.380	11.075	11.375	11.348	11.365	11.318	11.230	11.090	11.241	0.103
33	11.215	11.335	11.255	11.410	11.390	11.260	11.428	11.130	11.148	11.295	11.415	11.260	11.355	11.185	11.065	11.418	11.285	11.165	11.170	11.120	11.145	11.295	11.313	11.435	11.408	11.348	11.173	11.335	11.280	11.440	11.282	0.110
34	11.220	11.298	11.285	11.365	11.380	11.305	11.240	11.260	11.285	11.275	11.445	11.300	11.140	11.298	11.073	11.243	11.140	11.265	11.210	11.400	11.260	11.295	11.268	11.370	11.355	11.325	11.385	11.230	11.055	11.005	11.266	0.103
35	11.315	11.390	11.260	11.428	11.130	11.148	11.295	11.353	11.370	11.065	11.298	11.308	11.355	11.078	11.140	11.313	11.188	11.123	11.100	11.170	11.250	11.295	11.340	11.405	11.300	11.300	11.380	11.060	11.225	11.300	11.256	0.109
36	11.230	11.265	11.305	11.405	11.305	11.295	11.345	11.260	11.325	11.275	11.383	11.240	11.360	11.225	11.165	11.153	11.305	11.140	11.230	11.300	11.170	11.375	11.423	11.465	11.410	11.433	11.173	11.335	11.375	11.410	11.303	0.091
37	11.200	11.080	11.148	11.180	11.303	11.320	11.373	11.315	11.295	11.348	11.235	11.075	11.043	11.435	11.320	11.425	11.120	11.170	11.120	11.145	11.190	11.473	11.168	11.158	11.445	11.295	11.098	11.335	11.368	11.355	11.251	0.124
38	11.278	11.295	11.230	11.350	11.280	11.275	11.355	11.450	11.225	11.280	11.330	11.380	11.495	11.240	11.335	11.260	11.285	11.310	11.423	11.325	11.078	11.200	11.318	11.248	11.195	11.403	11.355	11.400	11.030	11.090	11.291	0.105
39	11.340	11.370	11.065	11.298	11.308	11.350	11.095	11.140	11.313	11.188	11.123	11.295	11.300	11.140	11.298	11.073	11.243	11.140	11.265	11.210	11.400	11.260	11.295	11.435	11.455	11.118	11.033	11.325	11.340	11.180	11.246	0.115
40	11.230	11.350	11.310	11.128	11.395	11.265	11.365	11.465	11.185	11.200	11.180	11.313	11.205	11.055	11.178	11.195	11.300	11.140	11.298	11.073	11.243	11.140	11.265	11.210	11.110	11.165	11.210	11.245	11.330	11.225	11.232	0.095
																														Jumlah	450.283	4.102
																														Rata-rata	11.257	0.103

Sumber : hasil perhitungan penulis

Tabel 5.39

Data Hasil Perhitungan Xk dan Sk untuk Tinggi Sambungan

k	Sampel ke- (mm)																														Xk	Sk
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
1	155.913	155.910	155.763	156.270	156.078	156.200	156.073	155.743	155.823	156.025	156.168	155.690	155.703	155.905	155.730	156.125	156.123	155.955	155.983	155.920	156.015	156.125	156.040	156.148	156.008	156.248	155.915	156.013	156.200	156.058	155.995	0.164
2	155.963	155.870	156.195	156.363	155.863	155.990	155.690	156.010	156.020	156.050	155.833	155.848	155.780	156.018	155.958	156.025	156.040	156.033	155.890	156.133	156.298	155.925	155.875	155.963	155.825	155.965	156.135	156.273	156.065	156.058	155.998	0.154
3	155.935	156.313	156.255	155.690	156.183	155.618	156.133	156.005	155.953	156.195	156.260	155.898	155.833	156.098	156.110	156.093	156.028	156.263	156.045	155.953	155.978	156.170	155.723	156.025	156.078	155.745	156.195	155.923	156.423	155.988	156.037	0.192
4	156.040	155.898	156.110	156.185	156.163	155.918	155.805	156.050	155.925	156.193	155.903	155.803	156.298	156.105	155.865	156.090	155.948	156.145	156.155	155.893	155.875	156.010	156.040	156.100	156.063	156.270	155.830	155.955	156.058	156.280	156.032	0.143
5	155.918	156.068	155.835	155.793	155.985	156.140	155.968	156.008	156.000	155.863	156.218	156.178	156.195	156.033	155.848	156.183	156.165	156.093	156.040	155.953	155.900	156.145	156.478	156.175	156.143	156.040	156.235	155.948	156.108	155.955	156.053	0.148
6	155.690	156.103	156.168	155.990	155.965	155.773	155.745	156.143	156.175	155.690	156.005	155.860	156.013	155.698	156.058	155.888	156.025	156.158	156.250	155.990	156.155	156.015	156.273	156.203	156.178	155.930	156.093	156.123	156.020	156.308	156.023	0.176
7	156.038	156.075	155.770	156.015	156.110	155.825	156.013	156.025	156.303	156.148	155.690	155.776	156.128	156.240	156.040	156.173	156.230	155.998	156.143	156.015	155.818	156.113	155.930	155.733	156.178	155.760	156.100	156.235	156.250	155.748	156.020	0.179
8	155.975	155.955	155.955	155.640	156.160	156.145	156.075	156.213	156.190	156.215	156.150	156.088	156.105	155.975	156.308	155.745	155.828	156.120	156.080	156.225	156.023	155.968	156.120	155.758	156.165	155.918	156.078	156.075	156.220	156.115	156.053	0.157
9	155.913	156.035	155.913	155.838	155.783	156.173	156.228	155.803	156.078	156.075	155.935	156.055	155.910	156.093	156.093	155.898	156.018	156.086	155.978	156.090	156.098	155.903	156.040	156.055	156.080	155.990	156.080	156.055	156.140	156.298	156.024	0.119
10	156.118	156.048	156.080	156.268	155.785	155.770	155.938	156.145	156.073	156.178	156.118	156.075	156.278	156.020	155.880	156.008	156.068	156.260	155.948	156.308	156.113	155.885	156.148	156.073	156.120	156.263	156.013	156.148	156.038	156.395	156.085	0.148
11	156.020	155.978	155.978	156.200	156.035	156.163	156.200	155.935	155.930	156.030	156.100	156.105	155.823	155.990	156.205	156.033	156.068	156.283	156.223	156.065	155.885	155.988	155.978	156.083	155.853	156.140	156.043	156.118	156.180	156.008	156.054	0.114
12	156.205	155.930	155.883	156.023	156.005	156.133	156.053	156.130	156.195	155.883	156.110	156.083	155.948	156.025	156.170	156.178	156.113	156.163	156.370	156.180	156.175	155.690	156.163	155.918	155.853	156.153	155.980	156.200	156.200	156.073	156.073	0.141
13	156.045	156.170	156.180	155.863	156.123	155.918	155.983	155.920	156.053	156.120	156.083	156.158	156.008	156.210	155.910	156.013	156.208	156.058	155.870	156.213	156.363	155.890	155.990	155.715	156.118	156.020	156.095	155.808	156.078	156.185	156.045	0.142
14	156.090	155.900	156.088	156.293	156.065	156.058	155.780	156.050	156.050	156.025	155.913	156.078	156.023	155.870	156.185	156.068	156.050	156.008	156.033	156.118	156.020	156.075	155.800	155.848	155.780	156.050	156.050	156.293	156.093	156.000	156.025	0.126
15	156.058	156.110	156.248	156.010	156.040	156.115	156.063	156.245	155.830	155.955	156.058	156.293	156.255	155.690	156.183	155.618	156.133	156.048	155.953	156.195	156.260	156.025	155.848	156.120	156.155	156.168	155.968	155.870	155.998	156.120	156.054	0.164
16	156.008	155.755	156.168	156.050	155.903	155.803	156.298	156.105	155.865	156.090	155.948	156.145	156.155	155.848	155.858	155.855	155.928	156.050	155.890	155.808	155.908	156.123	155.943	155.948	156.120	156.058	155.930	156.313	155.775	155.805	155.982	0.151
17	155.965	156.128	156.143	155.990	156.155	156.015	156.273	156.203	156.198	155.930	156.093	156.168	156.020	156.308	156.140	155.968	156.035	156.013	155.863	156.218	156.178	156.103	155.873	155.990	155.993	155.773	155.745	156.080	156.375	156.113	156.068	0.148
18	155.913	156.035	156.053	155.875	156.068	156.203	156.083	156.233	156.178	155.760	155.800	155.795	156.225	155.748	155.723	156.110	155.825	156.013	155.960	156.273	155.760	155.713	155.776	156.128	156.233	156.103	156.223	156.118	155.958	155.945	155.994	0.181
19	156.205	156.015	156.050	155.730	155.898	156.123	155.955	155.983	155.920	156.015	156.125	156.040	156.148	156.008	156.248	155.915	156.013	156.200	156.058	155.743	156.025	156.168	155.690	155.703	155.905	156.253	156.270	156.078	156.200	156.073	156.025	0.162
20	156.143	156.013	156.040	156.093	156.028	156.263	156.045	155.953	155.978	156.195	155.723	156.025	156.068	155.745	156.185	156.163	155.960	155.805	156.050	155.923	156.193	155.903	155.803	156.313	156.090	155.898	156.110	156.185	156.165	155.940	156.033	0.149
21	155.940	156.000	156.075	156.325	156.205	156.033	156.068	156.283	156.223	156.065	155.885	155.988	155.978	156.083	155.860	156.140	156.043	156.110	156.180	156.008	156.090	156.305	156.173	156.228	155.788	156.078	156.075	155.948	156.055	155.995	156.074	0.129
22	156.213	156.048	156.295	156.365	155.763	156.013	156.040	155.973	156.148	155.690	155.776	156.128	156.240	156.040	156.173	156.230	155.998	156.143	156.015	156.035	155.928	155.815	155.783	156.173	156.228	155.803	156.078	156.075	155.935	156.043	156.039	0.172
23	156.063	155.918	156.110	155.863	155.990	156.268	156.020	156.190	156.013	155.758	155.780	156.008	155.990	155.898	156.110	156.185	156.163	155.918	156.020	156.075	155.800	155.848	155.780	156.050	156.050	155.918	156.068	155.830	156.238	156.008	155.997	0.140
24	156.145	156.035	156.208	156.183	155.618	156.133	156.005	155.953	156.173	156.230	156.008	156.218	156.178	156.195	155.948	155.848	156.183	156.165	156.093	156.040	155.953	155.900	156.145	155.978	155.960	156.143	155.983	155.920	156.015	156.125	156.056	0.137
25	156.020	155.898	155.988	155.890	155.990	155.715	156.118	156.020	156.095	155.808	156.078	156.185	156.205	155.930	155.883	156.023	156.005	156.133	156.053	156.130	156.195	155.883	156.035	156.163	156.200	155.935	155.930	156.030	156.100	156.105	156.025	0.123
26	156.020	156.088	155.948	156.180	156.175	156.145	156.163	155.918	155.853	156.153	155.980	156.200	156.200	156.073	155.948	156.308	156.113	156.240	156.148	156.073	155.975	156.263	156.013	156.148	156.045	155.948	156.135	156.023	156.005	156.158	156.088	0.112
27	156.045	156.213	156.038	156.135	156.240	156.033	156.120	155.758	156.165	155.918	156.078	156.075	156.220	156.115	156.158	156.008	156.098	156.013	156.013	156.208	156.086	155.870	156.213	156.228	155.803	156.078	156.075	155.935	155.898	156.090	156.064	0.125
28	155.913	156.085	155.755	156.093	156.093	155.898	156.018	156.086	155.978	156.090	156.098	156.323	155.763	155.723	155.668	156.183	156.005	156.133	156.005	156.008	156.030	156.105	155.863	155.990	156.095	155.805	156.050	155.803	156.193	155.903	155.992	0.154
29	155.915	156.185	156.010	156.075	155.935	156.055	155.930	156.093	156.093	155.898	156.018	156.086	155.978	156.090	156.098	155.903	156.020	155.978	155.978	156.200	156.035	156.163	155.930	155.935	155.930	156.030	156.113	155.975	156.003	156.195	156.028	0.090
30	156.098	156.025	156.293	155.938	156.145	156.073	156.178	156.118	155.913	156.078	156.135	156.270	156.078	156.200	156.073	156.035	155.928	155.838	156.013	156.173	156.228	155.803	156.078	156.075	156.120	156.055	155.910	156.075	155.770	155.990	156.057	0.129
31	156.025	156.030	155.763	155.803	155.735	156.105	155.715	156.118	156.020	156.053	155.823	156.078	156.185	155.690	156.100	155.838	155.783	156.173	156.228	155.803	156.078	156.075	155.935	155.803	156.068	156.093	156.093	155.898	156.173	156.230	155.984	0.167
32	156.163	155.988	156.153	156.335	155.925	155.963	156.013	155.825	155.995	156.110	156.185	155.930	155.918	155.898	156.050	155.925	156.193	155.903	156.030	156.045	156.170	156.180	155.863	156.123	156.183	155.983	156.100	156.053	156.200	155.935	156.044	0.125
33	156.218	155.760	156.093	155.890	155.990	155.715	156.118	156.020	156.095	155.808	156.078	156.185	155.990	155.990	155.965	155.915	155.745	156.080	156.175	156.040	156.005	156.055	156.013	155.698	156.058	155.888	156.025	156.158	156.250	155.903	155.997	0.147
34	155.803	156.023	156.000	155.865	156.090	155.948	156.145	155.863	155.990	155.875	156.010	156.040	156.100	156.063	156.270	156.168	155.990	156.040	155.773	155.745	156.040	156.148	156.008	156.005	156.230	156.013	155.698	156.058	155.776	156.128	155.997	0.143
35	156.158	155.958	156.048	155.930	156.030	156.100	156.143	156.175	155.690	156.005	155.860	156.013	155.698	156.058	155.863	156.025	156.033	156.250	155.990	156.155	156.015	156.273	156.203	156.178	155.930	156.178	155.955	155.955	156.008	156.000	156.029	0.141
36	156.188	155.650	156.253	156.118	156.048	156.080	155.948	155.785	155.770	156.218	156.178	155.803	156.105	156.118	156.075	156.278	156.020	155.880	156.135	156.068	156.260	155.948	155.913	156.078	156.253	155.645	156.078	155.925	156.193	155.903	156.030	0.177
37	155.913	156.035	155.845	155.908	155.863	156.045	156.178	156.195	156.033	156.008	156.248	155.918	156.013	156.200	156.060	155.770	156.015	156.110	155.825	156.105	156.025	155.948	156.163	155.980	156.140	156.035	156.083	156.200	155.935	156.298	156.036	0.132
38	156.035	156.143	155.905	156.143	156.298	156.148	156.073	156.120	156.263	156.013	155.893	156.038	155.950	156.178	156.055	156.140	155.968	156.008	156.000	155.938	156.218	156.178	156.195	156.033	155.848	156.298	156.080	156.268	156.178	155.770	156.079	0.135
39	155.673	155.778	156.183	156.383	155.975	156.078	156.253	156.270	156.078	156.220	156.090	156.068	155.830	156.303	155.898	156.140	155.968	156.008	156.000	155.863	156.218	156.178	156.195	156.033	156.120	156.183	156.110	155.825	156.013	155.690	156.054	0.180
40	156.030	156.035	155.975	156.055	155.825	156.033	156.025	155.728	156.148	155.690	155.776	156.128	155.968	156.008	156.000	155.863	156.218	156.145	156.195	156.033	155.848	156.183	156.165	156.240	156.040	155.930	155.900	156.145	155.978	156.250	156.018	0.150
																														Jumlah	6241.361	5.865
																														Rata-rata	156.034	0.147

Sumber : hasil perhitungan penulis

Tabel 5.42

Data Hasil Perhitungan Xk dan Sk untuk Diameter Luar Kepala Bawah

k	Sampel ke- (mm)																														Xk	Sk
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
1	57.085	57.030	57.040	57.080	57.160	56.965	57.050	57.020	57.045	57.020	57.110	57.120	57.070	57.000	57.095	57.140	57.020	57.100	57.100	57.030	56.990	57.100	57.100	57.020	57.035	57.020	57.130	56.975	56.970	57.145	57.059	0.055
2	57.070	57.065	57.015	57.120	57.110	57.110	57.030	56.970	57.070	57.095	57.115	57.105	57.100	57.020	57.095	57.125	56.995	57.005	57.125	57.025	57.120	57.080	57.120	57.065	57.070	57.050	57.050	56.980	57.080	57.015	57.067	0.047
3	57.010	57.095	57.035	57.110	57.015	57.020	57.100	57.050	57.090	57.125	56.990	56.945	57.095	57.105	57.145	57.000	57.000	57.130	57.080	57.070	57.025	57.085	57.005	57.010	57.155	57.110	56.950	57.080	57.010	57.085	57.058	0.057
4	57.075	57.125	56.995	56.965	57.095	57.105	57.145	57.105	57.080	57.075	57.115	57.010	57.020	57.045	57.085	57.095	57.100	57.025	57.110	56.970	57.005	57.140	57.005	57.020	56.990	57.070	57.090	57.035	57.055	57.110	57.062	0.051
5	57.070	57.150	57.040	57.080	56.950	57.000	57.070	57.120	57.140	57.095	57.040	57.020	57.030	57.075	57.005	57.050	57.145	57.095	57.110	57.000	57.110	57.070	57.115	56.965	57.040	57.120	57.065	57.080	57.100	57.125	57.069	0.052
6	57.000	57.150	57.000	57.115	56.950	57.045	57.050	57.100	57.120	57.075	57.040	57.010	57.110	57.080	56.995	57.080	57.040	57.100	57.095	57.030	57.100	57.080	57.150	56.970	57.045	57.085	57.055	57.075	57.125	57.000	57.062	0.052
7	57.025	57.095	56.985	57.090	57.030	57.060	57.065	57.050	57.095	57.010	57.145	57.145	57.095	57.000	57.050	57.120	56.995	57.020	57.060	57.055	57.045	57.010	57.030	57.150	57.130	57.065	57.100	57.105	57.010	57.000	57.061	0.049
8	57.040	57.030	57.060	57.080	57.150	56.965	57.050	57.020	57.095	57.015	57.120	57.120	57.070	57.000	57.095	57.125	57.020	57.100	57.100	57.030	57.020	57.100	57.100	57.020	57.035	57.045	57.130	56.990	57.000	57.110	57.061	0.049
9	57.035	57.095	56.970	57.165	56.995	57.070	57.170	57.060	56.935	57.025	56.990	57.175	57.080	57.015	57.010	57.065	57.120	56.985	57.190	57.075	57.050	57.005	56.930	57.130	56.995	57.170	57.050	57.070	56.975	57.160	57.059	0.075
10	57.050	57.010	57.045	57.045	57.105	57.030	57.130	56.985	57.120	57.125	57.085	57.060	57.020	57.040	57.015	57.020	57.010	57.085	56.995	57.090	57.025	57.150	57.045	57.000	57.110	57.115	57.005	57.075	57.050	57.110	57.058	0.047
11	57.010	57.100	57.050	57.100	57.015	57.005	57.060	57.145	57.060	57.080	57.150	57.010	57.020	57.000	57.085	57.090	57.095	56.980	57.105	57.135	57.035	57.155	57.095	57.020	56.960	57.070	57.075	57.015	57.105	57.045	57.062	0.052
12	57.010	57.040	56.985	57.090	57.020	57.035	57.065	57.050	57.095	57.030	57.165	57.155	57.040	56.955	57.050	57.120	57.000	57.000	57.060	57.055	57.045	56.995	57.030	57.150	57.145	57.080	57.100	57.105	57.035	57.060	57.059	0.053
13	57.040	57.010	57.045	57.080	57.100	56.965	57.050	57.020	57.045	57.020	57.110	57.125	57.085	57.010	57.095	57.130	57.020	57.100	57.100	57.020	57.000	57.100	57.100	57.020	57.035	57.035	57.130	56.975	57.040	57.135	57.058	0.048
14	57.075	57.020	57.135	57.080	57.120	57.065	57.075	57.040	57.030	57.050	57.080	57.180	57.065	57.010	57.105	57.105	57.140	57.045	57.070	57.080	57.050	57.145	57.105	57.105	57.020	57.110	57.105	56.985	56.990	56.990	57.073	0.049
15	57.060	57.020	57.035	57.075	56.950	57.040	57.095	57.055	57.180	57.005	57.015	57.125	57.105	57.005	57.115	57.130	57.185	56.965	56.970	57.050	57.115	57.060	57.140	57.070	57.015	56.965	57.125	57.090	57.140	57.000	57.063	0.065
16	57.020	57.045	57.020	57.045	57.130	56.955	57.105	57.105	57.090	57.100	57.145	57.000	57.075	57.155	57.075	57.060	57.005	57.015	57.140	57.130	57.090	56.975	57.120	57.000	57.015	57.140	57.130	57.090	56.975	57.120	57.069	0.059
17	57.010	57.055	57.045	56.990	57.030	57.150	57.160	57.080	57.100	57.105	57.100	56.990	57.075	56.985	57.080	57.035	57.035	57.065	57.050	57.095	57.010	57.165	57.155	57.095	57.000	57.010	57.120	57.000	57.000	57.060	57.062	0.055
18	57.125	57.080	57.130	57.080	57.115	57.155	56.995	57.050	56.995	57.005	57.085	57.145	57.075	57.045	56.990	57.030	57.160	57.155	57.100	57.020	57.170	56.960	57.045	57.150	57.185	56.950	57.200	57.040	56.975	57.005	57.074	0.073
19	57.090	57.140	57.020	57.030	57.100	57.080	57.150	56.970	57.045	57.085	57.055	57.075	57.100	57.055	57.115	56.995	57.045	57.050	57.100	57.120	57.075	57.040	57.040	57.110	57.085	57.010	57.120	56.995	57.000	57.060	57.065	0.046
20	57.075	57.040	57.010	57.100	57.020	57.130	57.080	57.120	57.065	57.070	57.040	57.035	57.050	57.080	57.180	57.105	57.105	57.045	57.070	57.080	57.050	57.115	57.105	57.105	57.020	57.110	57.105	57.000	56.990	56.995	57.070	0.045
21	57.085	57.115	57.060	57.120	57.135	56.940	57.060	57.115	57.110	57.080	57.190	57.000	57.190	56.950	56.995	57.080	56.990	56.980	57.120	57.080	57.160	57.135	57.015	56.980	57.175	57.010	57.135	57.170	57.130	57.045	57.078	0.073
22	57.010	57.050	56.975	57.105	57.165	57.115	57.085	56.980	56.935	57.095	57.040	57.110	57.065	57.000	57.190	57.010	57.160	57.110	57.105	57.065	57.180	57.125	57.120	57.160	57.055	57.000	57.135	57.110	57.135	57.000	57.080	0.067
23	56.905	57.070	57.175	57.030	57.015	57.160	57.180	57.100	56.950	57.075	57.045	57.045	57.120	57.185	56.955	57.195	57.040	57.010	57.050	57.080	57.135	57.165	57.150	57.005	57.015	57.045	57.085	57.170	57.075	57.160	57.080	0.077
24	57.075	57.050	57.005	57.050	57.130	56.995	57.135	57.025	57.070	56.975	57.010	56.995	57.080	57.015	57.010	57.065	57.120	56.960	57.190	57.070	56.970	57.015	56.995	57.065	57.145	57.060	56.975	56.950	56.990	57.175	57.046	0.065
25	57.060	57.080	56.938	57.110	57.015	57.010	57.100	57.050	57.080	57.125	56.970	56.975	56.990	57.140	57.145	56.975	56.990	57.160	57.080	57.060	57.060	57.000	56.935	56.985	57.155	57.110	57.085	57.080	57.010	57.165	57.055	0.068
26	57.020	57.040	57.000	57.100	57.150	57.150	57.070	56.925	57.100	57.015	57.140	57.125	57.055	56.985	57.095	57.140	56.935	57.100	57.100	57.030	56.955	57.115	57.100	56.980	57.050	57.020	57.130	56.965	57.050	57.085	57.058	0.066
27	57.050	57.055	57.015	57.045	57.115	56.960	57.100	57.105	57.090	57.100	57.150	56.995	57.110	57.020	57.065	57.090	57.000	56.940	57.105	57.075	57.155	57.075	57.060	57.005	57.015	57.140	57.130	57.090	56.975	57.120	57.065	0.057
28	57.075	56.960	57.035	57.050	56.955	57.040	57.095	56.970	57.050	57.135	57.070	57.140	57.070	57.015	56.975	57.105	57.090	57.110	57.005	57.055	57.185	57.005	57.015	57.125	57.100	57.005	57.100	57.160	57.190	56.965	57.062	0.067
29	57.020	56.995	57.045	57.090	57.025	57.150	57.045	56.915	57.110	57.115	57.005	57.075	57.050	57.110	57.030	57.085	57.045	57.085	57.060	57.045	57.105	57.030	57.130	56.940	57.120	57.125	57.085	57.060	57.020	57.040	57.059	0.054
30	57.095	57.030	57.155	57.160	56.995	57.070	57.010	57.065	57.045	57.005	57.060	57.130	57.095	57.195	56.950	57.155	57.040	57.065	56.995	57.000	57.125	57.070	57.030	57.045	57.045	57.000	56.985	57.160	57.195	57.015	57.066	0.067
31	57.055	56.995	57.035	57.110	57.050	57.105	57.075	57.000	57.035	57.120	56.930	57.025	57.110	57.010	56.995	57.145	57.150	56.980	57.020	57.045	57.120	57.135	57.100	57.025	57.045	57.110	56.950	57.060	57.035	57.060	57.054	0.057
32	57.005	57.105	57.050	57.110	57.030	56.995	57.065	57.155	57.070	57.075	57.150	57.010	57.020	57.045	57.085	57.095	57.090	57.005	57.105	57.140	57.035	57.155	57.050	57.020	56.960	57.070	57.090	57.015	57.060	57.075	57.065	0.050
33	56.990	57.075	56.985	57.090	57.020	57.035	57.065	57.050	57.095	57.010	57.165	57.155	57.095	57.000	56.965	57.120	56.995	57.000	57.060	57.055	57.045	56.990	57.030	57.150	57.160	57.080	57.100	57.105	57.010	56.990	57.056	0.058
34	57.040	57.080	56.990	57.015	57.110	57.105	57.135	57.020	57.075	57.065	57.100	57.175	57.095	57.000	57.030	57.085	57.125	57.025	57.080	57.185	57.000	56.990	57.050	57.050	57.100	57.105	57.015	57.110	57.130	57.150	57.075	0.054
35	57.065	57.005	57.055	57.085	57.115	57.070	57.085	56.990	57.105	57.050	57.050	57.021	57.085	57.000	57.165	57.105	57.115	57.100	57.100	57.135	57.035	57.015	57.080	57.070	57.075	57.005	57.080	57.140	57.100	56.935	57.068	0.050
36	57.085	57.065	57.010	57.105	57.105	57.105	57.045	57.070	57.080	57.050	57.115	57.105	57.105	57.020	57.110	57.105	56.970	56.985	56.975	57.020	57.135	57.080	57.120	57.065	57.075	57.040	57.030	57.050	57.080	57.180	57.070	0.049
37	57.105	57.055	57.000	57.040	57.040	57.020	56.990	57.030	57.145	56.995	57.020	57.100	57.110	56.975	57.005	57.150	57.070	57.070	57.000	56.990	57.115	57.155	57.065	57.060	57.020	57.005	57.025	57.120	57.110	57.180	57.059	0.058
38	57.080	57.150	57.000	57.105	56.950	57.000	57.050	57.065	57.140	57.095	57.040	57.020	57.000	57.075	56.995	57.080	56.985	57.100	57.110	57.025	57.110	57.125	57.160	56.965	57.035	57.120	57.065	57.080	57.100	57.055	57.063	0.056
39	57.015	57.020	57.135	57.080	57.120	57.005	57.075	57.040	57.030	57.050	57.080	56.990	57.095	57.105	57.050	57.110	57.030	56.995	57.030	57.165	57.005	57.070	57.010	57.065	57.065	57.005	57.030	57.040	57.095	57.195	57.060	0.051
40	57.050	57.110	56.975	57.005	57.140	57.005	57.040	57.090	57.100	57.105	57.155	57.000	57.190	57.005	57.000	57.065	57.025	56.970	57.100	57.130	57.075	57.085	57.010	57.070	57.125	57.110	57.135	57.075	57.120	57.090	57.072	0.057
																														Jumlah	2282.557	2.279
																														Rata-rata	57.064	0.057

Sumber : hasil perhitungan penulis

Tabel 5.45

Data Hasil Perhitungan Xk dan Sk untuk Tebal Kepala Bawah

k	Sampel ke- (mm)																														Xk	Sk
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
1	3.005	3.120	3.015	3.088	3.060	3.045	3.013	3.105	3.105	3.043	3.018	3.063	3.038	3.030	3.038	3.140	3.035	3.040	3.003	3.145	3.053	3.085	3.165	3.130	3.023	2.978	3.030	3.075	3.023	3.020	3.058	0.048
2	3.078	3.088	3.088	3.058	3.038	3.103	3.008	3.053	3.003	3.038	2.950	3.055	3.020	3.003	3.055	3.005	3.003	3.000	3.120	3.020	3.000	3.088	3.025	3.020	3.055	3.110	3.070	3.018	3.083	3.093	3.045	0.041
3	3.013	3.088	3.030	3.000	3.038	3.128	3.105	3.050	3.015	3.063	3.010	3.030	3.033	3.118	3.035	3.035	3.030	3.120	3.050	3.005	3.120	3.035	3.033	2.990	3.033	3.080	3.023	3.093	3.098	3.040	3.051	0.040
4	3.020	3.030	3.033	3.093	3.025	3.053	3.128	3.088	3.058	3.038	3.103	3.015	3.040	3.008	2.998	3.138	2.938	3.005	3.190	3.100	3.078	3.025	3.075	3.070	3.095	2.948	3.120	3.020	2.928	3.080	3.051	0.059
5	3.105	3.105	3.040	3.018	3.020	3.053	3.118	3.018	3.118	3.030	3.040	2.998	3.160	3.005	3.100	3.078	3.025	3.088	3.070	3.080	3.000	3.120	3.020	3.000	3.070	3.008	3.023	3.003	3.083	3.000	3.053	0.046
6	3.025	3.040	3.038	3.030	3.020	3.053	3.113	3.058	3.000	3.153	3.023	3.075	3.160	3.118	3.163	3.140	3.003	3.053	3.083	3.128	3.025	3.125	3.033	2.983	3.003	3.063	3.043	3.018	3.105	3.055	3.064	0.052
7	3.088	3.058	3.038	3.103	3.005	3.075	3.020	3.053	3.098	3.050	3.103	3.015	3.078	3.025	3.075	3.070	3.095	3.000	3.120	3.020	3.000	3.080	3.000	3.030	3.033	3.093	3.105	3.095	3.090	3.083	3.060	0.037
8	3.040	2.945	2.993	3.063	3.000	3.103	3.103	3.073	3.005	3.063	3.028	3.030	3.040	3.115	2.983	3.068	3.000	3.108	3.038	2.940	3.100	3.168	2.983	3.163	3.005	3.080	3.105	3.123	3.023	3.155	3.055	0.061
9	3.120	3.163	3.020	3.100	3.150	2.930	3.033	3.093	3.005	3.098	3.105	3.063	3.020	3.035	3.038	3.058	3.053	3.115	2.998	3.040	3.005	3.125	3.130	3.090	3.050	3.020	3.028	3.100	3.168	2.983	3.064	0.057
10	3.045	3.125	2.963	3.063	3.010	3.083	3.088	3.058	3.038	3.103	3.015	3.040	3.008	2.955	3.095	3.063	3.100	3.125	3.163	3.020	3.100	3.150	2.995	3.038	3.005	3.100	3.168	2.983	2.985	2.988	3.056	0.059
11	3.030	3.033	3.093	3.053	3.128	3.035	3.040	2.995	3.078	3.028	3.040	3.125	3.140	3.165	3.163	3.163	3.020	3.100	3.150	2.995	3.130	3.090	3.050	3.020	3.028	3.168	2.983	3.000	3.080	3.020	3.071	0.059
12	3.000	3.080	3.020	3.030	3.033	3.093	3.090	3.090	3.083	3.088	3.058	3.038	3.103	3.015	3.040	3.008	3.023	3.113	3.068	3.105	3.165	3.100	3.130	3.090	3.050	3.020	3.028	3.000	3.120	3.020	3.063	0.043
13	3.020	2.958	3.080	3.020	3.030	3.033	3.093	3.063	3.088	3.038	2.973	3.100	3.168	2.970	3.038	3.030	3.053	3.128	3.035	3.040	2.933	3.013	3.100	3.078	3.025	3.075	3.070	3.095	2.968	3.120	3.048	0.054
14	3.063	3.130	3.090	3.050	3.020	3.028	3.038	3.005	3.100	3.168	2.983	3.035	3.040	2.995	3.158	3.078	3.100	3.135	3.140	3.165	3.163	3.005	3.080	3.105	3.123	2.945	3.155	3.040	2.985	2.993	3.070	0.064
15	3.000	3.120	3.020	2.940	3.080	3.020	3.030	2.948	3.093	3.050	3.018	3.063	3.038	3.030	3.053	3.130	3.090	3.050	3.020	3.020	3.065	3.103	3.148	3.135	3.100	3.078	3.025	3.075	3.070	3.095	3.057	0.050
16	3.018	3.075	3.018	3.083	3.090	3.090	3.038	3.005	3.100	3.168	2.983	3.128	3.035	3.040	2.995	3.138	3.038	3.103	3.178	3.140	3.165	3.163	3.168	2.983	3.050	3.015	2.998	3.080	3.160	3.048	3.076	0.063
17	3.120	3.020	3.000	3.080	3.020	3.030	3.033	3.038	3.005	3.100	3.168	2.983	3.083	3.088	3.058	3.038	3.103	3.015	3.040	3.008	3.023	3.163	3.003	3.100	3.078	3.025	3.075	3.070	3.095	3.000	3.055	0.048
18	3.005	3.100	3.168	2.983	3.063	3.013	3.105	3.105	3.050	3.018	3.063	3.038	3.030	3.053	3.128	3.035	3.040	2.935	3.183	3.070	3.085	3.180	3.140	3.095	3.000	3.120	3.020	3.000	3.080	3.038	3.065	0.060
19	3.095	3.000	3.120	3.020	3.000	3.080	2.995	3.030	3.130	3.090	3.050	3.020	3.028	3.010	3.063	3.043	3.130	3.090	3.050	3.020	3.028	3.038	3.005	3.100	3.168	2.955	3.020	3.000	3.080	3.020	3.049	0.049
20	3.080	3.020	3.030	3.033	3.093	3.018	3.083	3.090	3.090	3.083	3.088	3.058	3.038	3.103	3.015	3.040	3.008	3.023	3.128	3.038	3.095	3.000	3.120	3.020	3.000	3.080	3.000	3.120	3.020	3.000	3.054	0.041
21	3.023	3.155	3.040	2.985	2.993	3.063	3.013	3.105	3.105	3.050	3.018	3.063	3.038	3.030	3.053	3.128	3.035	3.040	2.940	3.168	3.043	3.085	3.190	3.140	3.165	3.163	3.005	3.080	3.105	3.123	3.071	0.063
22	3.000	3.008	3.150	3.060	3.063	2.988	3.045	3.125	2.993	3.063	3.010	3.083	3.088	3.058	3.038	3.103	3.015	3.040	3.008	3.023	3.020	3.053	3.128	3.103	2.978	3.165	3.090	3.083	3.168	3.120	3.062	0.054
23	3.090	3.090	3.045	3.048	3.065	3.138	3.060	3.000	3.003	3.013	3.085	3.128	3.073	3.068	3.153	3.038	3.005	3.100	3.168	2.938	3.050	3.015	2.998	3.080	3.160	3.048	3.018	3.075	3.018	3.083	3.062	0.054
24	3.023	3.030	3.020	3.070	3.043	3.128	3.095	2.990	3.108	3.088	3.050	3.075	3.155	3.098	3.020	3.063	3.083	3.113	3.008	3.118	3.035	2.983	3.020	3.020	3.035	3.033	3.083	2.995	3.083	3.133	3.060	0.046
25	3.040	3.060	3.158	3.125	2.970	3.160	3.028	3.105	3.160	2.950	3.055	3.060	2.945	2.998	3.028	3.070	3.128	3.020	3.105	3.098	3.040	3.055	2.988	3.020	3.068	3.018	3.028	3.058	3.048	3.103	3.056	0.058
26	3.068	3.020	2.990	3.045	3.013	3.008	3.100	2.998	3.098	3.080	3.080	3.080	3.100	2.990	3.028	3.105	3.025	3.028	3.060	3.118	3.078	3.013	3.138	3.080	3.080	3.180	3.123	3.010	3.005	2.975	3.057	0.051
27	3.138	3.153	2.940	3.080	3.083	3.105	3.025	3.150	3.035	2.983	3.033	3.075	3.025	3.095	3.098	3.050	2.943	3.078	3.038	3.065	3.063	3.118	3.033	3.078	3.025	3.163	3.053	3.085	3.178	3.093	3.069	0.058
28	3.120	3.020	3.000	3.080	3.020	3.030	3.033	3.093	3.013	3.078	3.093	3.015	3.028	3.050	3.093	3.028	3.155	3.035	3.000	2.950	3.095	3.065	3.068	3.100	3.078	3.025	3.075	3.070	3.095	3.000	3.053	0.044
29	3.010	2.993	3.015	3.095	3.103	3.048	3.095	3.183	3.113	3.105	3.063	3.085	3.033	2.998	3.003	3.068	3.043	3.108	3.095	2.998	3.053	3.070	3.088	3.088	3.103	3.033	3.055	3.010	3.133	3.053	3.064	0.046
30	3.015	3.025	3.080	2.983	3.078	3.098	3.068	3.090	3.003	3.023	3.115	3.008	3.130	3.090	3.050	3.020	3.028	3.080	3.088	3.180	3.090	3.008	2.998	3.025	3.080	3.018	2.993	3.023	3.158	3.073	3.057	0.050
31	3.170	3.083	3.018	2.988	2.998	3.088	3.030	3.065	3.050	3.095	3.020	3.080	3.003	3.140	3.100	3.093	2.938	3.033	3.080	3.023	3.093	3.105	3.040	3.005	3.085	3.083	3.108	3.020	3.135	3.023	3.060	0.052
32	3.040	3.060	2.995	3.078	3.038	3.060	3.093	3.120	3.028	3.080	3.000	3.013	2.975	3.093	2.998	3.105	3.085	3.070	3.090	3.105	2.993	3.028	3.105	3.010	2.980	2.983	3.073	3.020	2.998	3.055	3.046	0.044
33	2.995	3.055	3.103	3.093	3.063	3.058	2.925	3.023	3.065	3.070	3.000	2.998	3.053	3.085	3.033	3.050	3.145	3.113	2.975	3.163	3.020	3.100	3.150	3.020	3.085	3.108	3.025	3.020	3.028	3.068	3.056	0.053
34	2.943	3.013	3.095	3.103	3.050	3.100	3.063	3.085	3.033	3.000	3.000	3.073	3.040	3.075	3.093	3.103	3.033	3.058	3.013	3.130	3.055	3.003	3.083	3.173	3.105	3.108	3.098	2.998	3.053	3.070	3.061	0.048
35	3.165	3.090	3.083	3.168	3.080	3.000	3.008	3.145	3.045	3.125	2.995	3.063	3.010	3.083	3.088	3.070	3.038	3.103	3.015	3.040	3.008	3.023	3.020	3.053	3.115	3.103	2.978	3.068	3.063	2.995	3.061	0.052
36	3.028	3.080	3.088	3.180	3.090	3.008	2.998	3.025	3.080	3.018	2.993	3.023	3.158	3.090	3.003	3.023	3.115	3.008	3.130	3.090	3.050	3.020	3.073	3.015	3.025	3.080	2.983	3.078	3.098	3.068	3.057	0.050
37	3.063	2.995	3.083	3.133	3.023	3.030	3.020	3.070	3.043	3.128	3.095	3.165	3.090	3.083	3.168	3.120	3.000	3.008	3.150	3.060	2.990	3.108	3.088	3.050	3.075	3.028	3.053	3.118	3.103	2.990	3.071	0.052
38	3.108	3.048	3.028	3.055	3.063	3.043	3.028	3.110	3.023	3.033	2.985	3.155	3.095	3.108	3.010	3.165	3.033	2.993	3.015	3.065	3.013	3.095	3.020	3.053	3.128	3.125	3.165	3.163	2.918	3.105	3.065	0.060
39	3.045	3.103	3.015	3.040	3.000	3.035	3.105	3.068	3.113	3.030	3.080	3.033	3.098	3.105	3.025	3.008	3.093	3.038	3.088	3.020	3.098	3.085	3.078	3.085	3.080	3.060	3.053	3.103	3.175	3.023	3.066	0.040
40	3.068	3.018	3.045	3.028	3.093	3.055	3.000	3.085	3.103	3.053	3.020	3.018	3.053	2.983	3.053	3.130	3.035	3.025	3.000	3.090	3.110	3.080	3.025	3.085	3.060	3.088	2.998	3.053	3.128	3.005	3.053	0.040
																														Jumlah	122.369	2.047
																														Rata-rata	3.059	0.051

Sumber : hasil perhitungan penulis

Tabel 5.48

Data Hasil Perhitungan Xk dan Sk untuk Tinggi Dalam Kepala Bawah

k	Sampel ke- (mm)																														Xk	Sk
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
1	11.420	11.365	11.400	11.470	11.408	11.408	11.470	11.360	11.405	11.398	11.360	11.390	11.365	11.465	11.370	11.415	11.430	11.413	11.400	11.338	11.390	11.335	11.410	11.448	11.373	11.390	11.408	11.358	11.353	11.403	11.397	0.036
2	11.403	11.408	11.385	11.390	11.353	11.433	11.370	11.338	11.470	11.408	11.438	11.388	11.403	11.415	11.415	11.393	11.400	11.438	11.370	11.405	11.470	11.348	11.435	11.380	11.390	11.493	11.423	11.470	11.378	11.355	11.405	0.038
3	11.398	11.355	11.405	11.408	11.475	11.400	11.413	11.470	11.460	11.425	11.398	11.408	11.470	11.378	11.403	11.405	11.348	11.400	11.443	11.375	11.355	11.398	11.403	11.405	11.358	11.363	11.403	11.408	11.458	11.430	11.407	0.035
4	11.470	11.425	11.383	11.388	11.350	11.440	11.465	11.423	11.380	11.363	11.400	11.405	11.348	11.360	11.370	11.440	11.378	11.373	11.390	11.400	11.355	11.405	11.418	11.358	11.388	11.383	11.440	11.365	11.355	11.365	11.393	0.034
5	11.370	11.403	11.360	11.365	11.355	11.373	11.393	11.335	11.400	11.365	11.415	11.470	11.378	11.425	11.350	11.350	11.433	11.355	11.370	11.405	11.488	11.428	11.405	11.405	11.348	11.380	11.385	11.440	11.393	11.355	11.390	0.037
6	11.440	11.400	11.425	11.500	11.403	11.403	11.408	11.403	11.410	11.395	11.470	11.385	11.445	11.448	11.353	11.355	11.440	11.428	11.403	11.400	11.390	11.465	11.363	11.355	11.370	11.380	11.383	11.470	11.380	11.410	11.409	0.037
7	11.383	11.408	11.398	11.435	11.405	11.400	11.360	11.440	11.413	11.408	11.460	11.395	11.390	11.408	11.388	11.370	11.375	11.400	11.405	11.348	11.403	11.405	11.440	11.470	11.378	11.453	11.410	11.425	11.408	11.375	11.405	0.029
8	11.400	11.358	11.440	11.340	11.353	11.405	11.488	11.360	11.440	11.413	11.470	11.460	11.425	11.390	11.408	11.363	11.370	11.400	11.425	11.400	11.405	11.375	11.400	11.405	11.480	11.360	11.405	11.440	11.440	11.408	11.407	0.038
9	11.390	11.400	11.390	11.358	11.470	11.398	11.443	11.378	11.453	11.420	11.410	11.363	11.400	11.440	11.393	11.405	11.488	11.353	11.410	11.420	11.373	11.418	11.400	11.403	11.400	11.360	11.380	11.445	11.405	11.390	11.405	0.032
10	11.393	11.440	11.363	11.393	11.350	11.400	11.355	11.420	11.390	11.400	11.400	11.425	11.400	11.405	11.348	11.360	11.375	11.383	11.355	11.420	11.355	11.440	11.388	11.363	11.400	11.393	11.408	11.353	11.450	11.390	11.390	0.029
11	11.350	11.440	11.385	11.368	11.390	11.400	11.368	11.425	11.375	11.413	11.395	11.470	11.405	11.488	11.360	11.440	11.378	11.423	11.355	11.365	11.355	11.378	11.403	11.360	11.440	11.425	11.363	11.355	11.405	11.483	11.399	0.039
12	11.410	11.440	11.375	11.348	11.363	11.410	11.405	11.403	11.328	11.360	11.365	11.385	11.350	11.435	11.450	11.408	11.370	11.380	11.393	11.363	11.445	11.403	11.403	11.403	11.360	11.403	11.385	11.488	11.340	11.355	11.391	0.036
13	11.413	11.400	11.388	11.420	11.378	11.355	11.380	11.448	11.388	11.405	11.403	11.440	11.378	11.373	11.380	11.433	11.403	11.355	11.368	11.453	11.373	11.363	11.405	11.410	11.470	11.398	11.370	11.470	11.395	11.368	11.399	0.032
14	11.470	11.380	11.370	11.373	11.383	11.400	11.388	11.360	11.413	11.350	11.440	11.385	11.410	11.440	11.390	11.440	11.400	11.400	11.393	11.428	11.445	11.368	11.365	11.368	11.383	11.403	11.405	11.395	11.470	11.398	11.400	0.031
15	11.390	11.400	11.368	11.363	11.400	11.400	11.405	11.405	11.363	11.368	11.405	11.403	11.360	11.378	11.408	11.470	11.423	11.430	11.360	11.363	11.378	11.370	11.380	11.413	11.470	11.460	11.425	11.378	11.340	11.385	11.395	0.033
16	11.403	11.440	11.420	11.390	11.355	11.445	11.398	11.400	11.418	11.355	11.358	11.413	11.403	11.358	11.403	11.348	11.415	11.385	11.440	11.355	11.488	11.440	11.415	11.440	11.355	11.400	11.395	11.343	11.443	11.410	11.401	0.036
17	11.455	11.395	11.405	11.403	11.395	11.383	11.408	11.405	11.470	11.423	11.408	11.495	11.340	11.348	11.335	11.413	11.340	11.360	11.350	11.413	11.413	11.388	11.363	11.415	11.415	11.390	11.400	11.438	11.370	11.455	11.400	0.039
18	11.380	11.410	11.405	11.470	11.460	11.425	11.453	11.430	11.440	11.373	11.390	11.400	11.395	11.403	11.353	11.405	11.488	11.360	11.440	11.358	11.345	11.350	11.348	11.380	11.405	11.363	11.370	11.360	11.405	11.350	11.397	0.040
19	11.405	11.408	11.403	11.348	11.495	11.378	11.440	11.388	11.365	11.470	11.398	11.340	11.448	11.413	11.453	11.395	11.420	11.430	11.375	11.408	11.378	11.348	11.403	11.375	11.470	11.403	11.445	11.345	11.390	11.400	11.404	0.039
20	11.415	11.425	11.400	11.405	11.370	11.423	11.445	11.348	11.335	11.428	11.440	11.365	11.355	11.375	11.358	11.375	11.438	11.333	11.468	11.353	11.480	11.355	11.445	11.405	11.488	11.360	11.440	11.403	11.343	11.350	11.397	0.045
21	11.400	11.385	11.403	11.365	11.470	11.398	11.430	11.395	11.348	11.360	11.405	11.440	11.405	11.403	11.408	11.425	11.408	11.365	11.355	11.330	11.390	11.428	11.395	11.360	11.440	11.360	11.360	11.378	11.360	11.428	11.393	0.033
22	11.440	11.410	11.405	11.380	11.398	11.420	11.393	11.390	11.420	11.400	11.433	11.420	11.350	11.440	11.363	11.355	11.348	11.398	11.408	11.348	11.390	11.400	11.403	11.440	11.408	11.350	11.413	11.465	11.435	11.440	11.402	0.032
23	11.400	11.445	11.355	11.393	11.470	11.385	11.403	11.408	11.363	11.400	11.395	11.350	11.403	11.440	11.368	11.355	11.400	11.425	11.475	11.425	11.355	11.350	11.350	11.363	11.445	11.360	11.365	11.405	11.350	11.360	11.392	0.037
24	11.400	11.360	11.433	11.345	11.360	11.363	11.425	11.388	11.410	11.403	11.415	11.335	11.403	11.330	11.358	11.470	11.380	11.395	11.400	11.358	11.368	11.385	11.460	11.470	11.413	11.445	11.383	11.390	11.400	11.425	11.396	0.037
25	11.363	11.398	11.425	11.423	11.418	11.388	11.383	11.418	11.410	11.375	11.418	11.440	11.385	11.355	11.365	11.470	11.388	11.448	11.403	11.390	11.400	11.363	11.353	11.360	11.353	11.390	11.363	11.365	11.408	11.348	11.392	0.031
26	11.375	11.423	11.440	11.398	11.473	11.393	11.348	11.358	11.403	11.403	11.358	11.365	11.408	11.390	11.400	11.428	11.408	11.390	11.338	11.470	11.413	11.333	11.380	11.388	11.378	11.440	11.363	11.348	11.333	11.403	11.391	0.037
27	11.420	11.360	11.325	11.385	11.500	11.420	11.470	11.340	11.440	11.418	11.390	11.400	11.410	11.405	11.470	11.440	11.400	11.408	11.490	11.413	11.403	11.383	11.425	11.390	11.410	11.378	11.375	11.380	11.435	11.368	11.408	0.040
28	11.408	11.405	11.358	11.363	11.363	11.388	11.438	11.410	11.470	11.398	11.348	11.403	11.328	11.440	11.383	11.388	11.335	11.353	11.333	11.338	11.470	11.433	11.388	11.400	11.388	11.450	11.403	11.350	11.440	11.433	11.393	0.041
29	11.380	11.440	11.398	11.415	11.443	11.373	11.403	11.423	11.348	11.360	11.430	11.440	11.353	11.393	11.448	11.400	11.363	11.338	11.470	11.383	11.403	11.358	11.353	11.340	11.365	11.363	11.350	11.445	11.393	11.390	11.392	0.037
30	11.400	11.438	11.400	11.375	11.390	11.428	11.343	11.370	11.408	11.418	11.363	11.440	11.405	11.440	11.395	11.355	11.403	11.400	11.403	11.363	11.395	11.383	11.428	11.400	11.418	11.365	11.338	11.400	11.410	11.435	11.397	0.028
31	11.395	11.400	11.408	11.398	11.398	11.335	11.390	11.408	11.338	11.408	11.390	11.335	11.338	11.403	11.365	11.470	11.413	11.405	11.398	11.400	11.440	11.400	11.430	11.338	11.445	11.383	11.390	11.400	11.365	11.410	11.393	0.033
32	11.423	11.470	11.398	11.403	11.410	11.385	11.405	11.410	11.400	11.470	11.383	11.345	11.403	11.398	11.395	11.403	11.393	11.445	11.385	11.355	11.368	11.380	11.358	11.418	11.400	11.358	11.400	11.360	11.365	11.360	11.395	0.031
33	11.383	11.398	11.338	11.428	11.445	11.383	11.425	11.410	11.348	11.360	11.345	11.440	11.445	11.355	11.410	11.470	11.380	11.348	11.380	11.358	11.398	11.395	11.340	11.333	11.410	11.405	11.350	11.445	11.400	11.390	11.390	0.038
34	11.400	11.335	11.355	11.378	11.403	11.325	11.383	11.400	11.408	11.378	11.373	11.380	11.433	11.403	11.355	11.363	11.498	11.373	11.425	11.423	11.360	11.363	11.388	11.370	11.398	11.363	11.365	11.365	11.393	11.378	11.384	0.033
35	11.405	11.403	11.410	11.348	11.368	11.400	11.393	11.400	11.420	11.335	11.335	11.383	11.425	11.375	11.413	11.470	11.460	11.425	11.393	11.408	11.350	11.413	11.465	11.425	11.348	11.393	11.460	11.413	11.360	11.390	11.399	0.037
36	11.390	11.405	11.383	11.408	11.400	11.373	11.408	11.410	11.440	11.430	11.423	11.358	11.405	11.353	11.350	11.405	11.488	11.360	11.440	11.358	11.365	11.400	11.415	11.400	11.420	11.363	11.370	11.370	11.348	11.400	11.394	0.032
37	11.395	11.400	11.358	11.358	11.378	11.358	11.368	11.408	11.423	11.433	11.408	11.353	11.440	11.490	11.403	11.378	11.398	11.420	11.365	11.400	11.445	11.395	11.365	11.403	11.350	11.360	11.363	11.440	11.385	11.355	11.393	0.034
38	11.400	11.420	11.435	11.468	11.363	11.480	11.355	11.395	11.410	11.413	11.388	11.365	11.415	11.388	11.360	11.403	11.365	11.470	11.418	11.423	11.373	11.390	11.400	11.363	11.353	11.365	11.353	11.415	11.368	11.383	11.396	0.035
39	11.408	11.390	11.378	11.433	11.373	11.405	11.470	11.378	11.355	11.380	11.448	11.388	11.405	11.403	11.403	11.435	11.365	11.380	11.393	11.363	11.445	11.403	11.403	11.403	11.360	11.403	11.385	11.448	11.405	11.480	11.403	0.032
40	11.393	11.405	11.488	11.360	11.440	11.358	11.375	11.365	11.363	11.390	11.405	11.400	11.400	11.445	11.465	11.370	11.415	11.430	11.413	11.400	11.470	11.378	11.388	11.448	11.408	11.395	11.403	11.420	11.430	11.388	11.407	0.034
																														Jumlah	455.901	1.410
																														Rata-rata	11.398	0.035

Sumber : hasil perhitungan penulis

Tabel 5.51

Data Hasil Perhitungan Xk dan Sk untuk Tinggi Luar Kepala Bawah

k	Sampel ke- (mm)																														Xk	Sk
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
1	14.793	14.790	14.930	14.870	14.570	14.783	14.848	14.915	14.748	14.755	14.760	14.808	14.568	14.725	14.795	14.790	14.795	14.905	14.830	14.865	14.685	14.910	14.760	14.928	14.608	14.698	14.775	14.810	14.805	14.625	14.781	0.099
2	14.800	14.640	14.793	14.575	14.743	14.640	14.765	14.710	14.900	14.760	14.795	14.768	14.785	14.865	14.880	14.805	14.740	14.760	14.785	14.720	14.645	14.760	14.785	14.808	14.915	14.830	14.875	14.685	14.605	14.710	14.762	0.085
3	14.608	14.685	14.775	14.810	14.805	14.625	14.670	14.920	14.815	14.635	14.743	14.805	14.675	14.830	14.880	14.725	14.575	14.550	14.713	14.810	14.785	14.805	14.830	14.695	14.810	14.785	14.760	14.545	14.483	14.660	14.727	0.107
4	14.573	14.743	14.640	14.765	14.710	14.900	14.760	14.798	14.768	14.720	14.660	14.830	14.735	14.820	14.833	14.848	14.755	14.720	14.855	14.710	14.920	14.715	14.530	14.745	14.520	14.775	14.725	14.800	14.640	14.798	14.744	0.096
5	14.860	14.750	14.655	14.990	14.845	14.853	14.870	14.565	14.798	14.798	14.573	14.743	14.640	14.765	14.710	14.900	14.760	14.795	14.768	14.810	14.580	14.530	14.785	14.575	14.785	14.770	14.655	14.805	14.800	14.640	14.746	0.112
6	14.765	14.908	14.685	14.880	14.685	14.678	14.593	14.948	14.638	14.658	14.920	14.660	14.810	14.815	14.925	14.550	14.813	14.860	14.830	14.715	14.850	14.810	14.805	14.625	14.900	14.763	14.775	14.608	14.698	14.775	14.765	0.110
7	14.800	14.640	14.798	14.573	14.743	14.640	14.765	14.710	14.900	14.760	14.795	14.768	14.800	14.640	14.798	14.573	14.743	14.640	14.765	14.923	14.620	14.855	14.673	14.835	14.875	14.725	14.770	14.850	14.840	14.840	14.755	0.095
8	14.625	14.540	14.545	14.810	14.558	14.525	14.785	14.563	14.845	14.733	14.780	14.640	14.815	14.795	14.665	14.905	14.840	14.860	14.803	14.730	14.570	14.890	14.775	14.928	14.630	14.608	14.698	14.775	14.810	14.805	14.728	0.121
9	14.698	14.720	14.800	14.640	14.798	14.573	14.743	14.640	14.765	14.710	14.900	14.760	14.795	14.768	14.665	14.650	14.805	14.655	14.730	14.823	14.655	14.883	14.933	14.848	14.905	14.593	14.725	14.805	14.740	14.833	14.752	0.094
10	14.775	14.810	14.805	14.625	14.855	14.688	14.800	14.640	14.798	14.573	14.743	14.640	14.765	14.710	14.900	14.760	14.795	14.768	14.610	14.633	14.848	14.915	14.748	14.755	14.800	14.823	14.815	14.773	14.608	14.698	14.749	0.089
11	14.743	14.823	14.805	14.865	14.928	14.743	14.823	14.760	14.820	14.808	14.850	14.583	14.640	14.813	14.688	14.623	14.840	14.683	14.793	14.570	14.750	14.820	14.830	14.930	14.910	14.833	14.850	14.800	14.670	14.590	14.773	0.101
12	14.760	14.795	14.768	14.625	14.560	14.655	14.888	14.793	14.620	14.735	14.630	14.810	14.880	14.575	14.875	14.848	14.865	14.818	14.730	14.590	14.790	14.800	14.640	14.790	14.605	14.743	14.640	14.783	14.710	14.900	14.741	0.103
13	14.620	14.645	14.795	14.813	14.935	14.908	14.848	14.673	14.835	14.875	14.940	14.715	14.835	14.755	14.910	14.890	14.760	14.928	14.630	14.648	14.795	14.915	14.760	14.855	14.685	14.565	14.550	14.785	14.665	14.670	14.773	0.117
14	14.798	14.573	14.743	14.640	14.765	14.710	14.900	14.760	14.795	14.768	14.870	14.855	14.825	14.885	14.730	14.555	14.505	14.880	14.805	14.740	14.760	14.785	14.775	14.945	14.800	14.640	14.720	14.730	14.785	14.865	14.764	0.103
15	14.798	14.808	14.855	14.578	14.640	14.813	14.688	14.623	14.578	14.670	14.750	14.795	14.840	14.905	14.800	14.800	14.880	14.560	14.725	14.800	14.815	14.890	14.760	14.928	14.630	14.648	14.795	14.853	14.870	14.565	14.755	0.111
16	14.795	14.845	14.760	14.825	14.775	14.883	14.740	14.860	14.725	14.665	14.653	14.805	14.640	14.730	14.800	14.670	14.875	14.923	14.965	14.910	14.903	14.673	14.835	14.875	14.910	14.730	14.740	14.805	14.905	14.805	14.801	0.090
17	14.873	14.815	14.795	14.848	14.735	14.575	14.543	14.935	14.965	14.925	14.620	14.670	14.620	14.645	14.690	14.973	14.668	14.658	14.945	14.795	14.598	14.835	14.788	14.855	14.700	14.580	14.648	14.680	14.803	14.820	14.753	0.128
18	14.785	14.810	14.923	14.825	14.578	14.753	14.818	14.748	14.695	14.903	14.875	14.900	14.530	14.590	14.850	14.780	14.775	14.855	14.950	14.645	14.785	14.890	14.880	14.620	14.740	14.835	14.760	14.778	14.795	14.730	14.780	0.106
19	14.623	14.795	14.800	14.640	14.798	14.573	14.743	14.640	14.765	14.710	14.900	14.760	14.795	14.935	14.955	14.618	14.533	14.825	14.840	14.680	14.798	14.808	14.850	14.595	14.640	14.813	14.688	14.815	14.870	14.565	14.746	0.114
20	14.665	14.710	14.745	14.830	14.920	14.678	14.695	14.800	14.640	14.798	14.573	14.743	14.640	14.765	14.710	14.610	14.895	14.765	14.865	14.965	14.685	14.700	14.680	14.813	14.705	14.555	14.730	14.850	14.810	14.628	14.739	0.101
21	14.760	14.808	14.893	14.760	14.813	14.833	14.853	14.730	14.833	14.660	14.815	14.778	14.723	14.923	14.683	14.640	14.568	14.818	14.940	14.873	14.858	14.603	14.533	14.720	14.570	14.783	14.848	14.915	14.748	14.755	14.768	0.109
22	14.723	14.890	14.788	14.688	14.740	14.925	14.813	14.973	14.673	14.758	14.650	14.535	14.778	14.888	14.920	14.743	14.630	14.645	14.785	14.750	14.750	14.803	14.778	14.840	14.613	14.733	14.803	14.543	14.608	14.700	14.749	0.109
23	14.813	14.688	14.623	14.780	14.580	14.890	14.760	14.928	14.630	14.905	14.795	14.633	14.700	14.750	14.740	14.848	14.700	14.745	14.798	14.853	14.870	14.565	14.798	14.808	14.850	14.578	14.640	14.745	14.595	14.740	14.745	0.104
24	14.805	14.855	14.758	14.928	14.790	14.855	14.708	14.660	14.600	14.805	14.905	14.580	14.648	14.680	14.803	14.820	14.873	14.815	14.795	14.848	14.735	14.575	14.543	14.695	14.800	14.723	14.903	14.883	14.798	14.735	14.764	0.105
25	14.618	14.565	14.820	14.905	14.575	14.790	14.608	14.913	14.703	14.615	14.723	14.808	14.743	14.833	14.608	14.640	14.880	14.763	14.610	14.665	14.710	14.745	14.830	14.920	14.670	14.880	14.785	14.780	14.610	14.805	14.737	0.109
26	14.808	14.620	14.590	14.708	14.550	14.735	14.715	14.543	14.780	14.628	14.670	14.783	14.800	14.865	14.843	14.675	14.838	14.653	14.800	14.723	14.813	14.765	14.753	14.820	14.868	14.915	14.698	14.888	14.820	14.815	14.749	0.099
27	14.748	14.805	14.763	14.618	14.540	14.585	14.825	14.670	14.665	14.770	14.763	14.805	14.818	14.930	14.678	14.840	14.798	14.643	14.730	14.808	14.788	14.760	14.825	14.873	14.838	14.695	14.928	14.633	14.783	14.735	14.755	0.095
28	14.680	14.558	14.740	14.863	14.715	14.708	14.590	14.773	14.838	14.650	14.778	14.710	14.715	14.815	14.968	14.895	14.880	14.728	14.798	14.740	14.538	14.680	14.825	14.685	14.820	14.670	14.590	14.730	14.550	14.670	14.730	0.106
29	14.595	14.535	14.788	14.665	14.723	14.835	14.740	14.700	14.670	14.888	14.895	14.803	14.815	14.800	14.673	14.768	14.778	14.580	14.820	14.795	14.745	14.738	14.850	14.605	14.720	14.728	14.910	14.795	14.855	14.713	14.751	0.095
30	14.710	14.568	14.725	14.795	14.518	14.663	14.910	14.585	14.760	14.888	14.703	14.853	14.570	14.785	14.780	14.530	14.630	14.808	14.663	14.775	14.660	14.790	14.850	14.905	14.588	14.800	14.670	14.613	14.808	14.733	14.721	0.113
31	14.900	14.760	14.795	14.768	14.930	14.570	14.783	14.848	14.915	14.748	14.755	14.760	14.808	14.893	14.823	14.813	14.608	14.698	14.775	14.810	14.805	14.625	14.800	14.640	14.798	14.573	14.743	14.640	14.765	14.710	14.762	0.096
32	14.718	14.725	14.790	14.868	14.765	14.755	14.610	14.613	14.823	14.763	14.918	14.743	14.820	14.720	14.658	14.633	14.823	14.565	14.718	14.810	14.673	14.878	14.940	14.798	14.920	14.580	14.703	14.845	14.743	14.790	14.757	0.100
33	14.770	14.748	14.848	14.915	14.748	14.755	14.760	14.808	14.893	14.823	14.813	14.833	14.853	14.730	14.833	14.660	14.815	14.940	14.873	14.858	14.603	14.533	14.720	14.785	14.700	14.885	14.790	14.925	14.708	14.755	14.789	0.093
34	14.803	14.778	14.840	14.613	14.733	14.803	14.543	14.608	14.700	14.758	14.650	14.535	14.790	14.888	14.920	14.743	14.820	14.890	14.788	14.680	14.740	14.930	14.813	14.848	14.673	14.630	14.645	14.785	14.750	14.750	14.748	0.104
35	14.605	14.745	14.798	14.853	14.870	14.565	14.798	14.808	14.850	14.578	14.653	14.850	14.813	14.688	14.623	14.780	14.580	14.890	14.760	14.928	14.630	14.648	14.795	14.633	14.700	14.750	14.740	14.848	14.708	14.673	14.738	0.103
36	14.703	14.935	14.723	14.808	14.743	14.833	14.608	14.640	14.760	14.640	14.805	14.880	14.763	14.610	14.665	14.710	14.745	14.830	14.920	14.805	14.773	14.855	14.680	14.565	14.820	14.905	14.575	14.790	14.608	14.913	14.754	0.108
37	14.910	14.670	14.783	14.800	14.865	14.843	14.675	14.838	14.653	14.800	14.723	14.813	14.605	14.753	14.720	14.868	14.855	14.698	14.888	14.820	14.815	14.808	14.620	14.583	14.723	14.670	14.880	14.705	14.840	14.715	14.764	0.091
38	14.735	14.708	14.550	14.695	14.715	14.543	14.780	14.628	14.715	14.753	14.915	14.830	14.580	14.705	14.545	14.585	14.823	14.555	14.745	14.818	14.940	14.873	14.858	14.603	14.533	14.720	14.570	14.783	14.848	14.915	14.719	0.126
39	14.923	14.683	14.640	14.568	14.560	14.795	14.675	14.610	14.765	14.925	14.813	14.848	14.673	14.630	14.645	14.810	14.750	14.883	14.755	14.778	14.828	14.840	14.598	14.853	14.730	14.833	14.660	14.815	14.778	14.723	14.746	0.103
40	14.625	14.770	14.815	14.720	14.935	14.760	14.570	14.803	14.848	14.915	14.748	14.755	14.760	14.808	14.655	14.905	14.600	14.715	14.805	14.735	14.820	14.860	14.905	14.815	14.745	14.608	14.698	14.775	14.810	14.695	14.766	0.094
																														Jumlah	590.141	4.146
																														Rata-rata	14.754	0.104

Sumber : hasil perhitungan penulis

LAMPIRAN 12

Contoh *Work Check List*

Work Check List untuk Operator *Chamfer*		
Alat bantu: Jig V : Sesuai X : Tidak sesuai		
No	Keterangan	Kondisi
Barang 1/2 jadi		
1	Tinggi Potong	
Mesin		
2	Kondisi pisau potong	

Work Check List untuk Operator *Forming* Bawah		
Alat bantu: Jig V : Sesuai X : Tidak sesuai		
No	Keterangan	Kondisi
Barang 1/2 jadi		
1	Tinggi Kepala	
2	Diameter luar	
3	Tinggi Total	

Work Check List untuk Operator *Forming* Atas		
Alat bantu: Jig V : Sesuai X : Tidak sesuai		
No	Keterangan	Kondisi
Barang 1/2 jadi		
1	Tinggi Kepala	
2	Diameter luar	
3	Tinggi Total	

Work Check List untuk Operator *Double Boring*		
Alat bantu: Jig V : Sesuai X : Tidak sesuai		
No	Keterangan	Kondisi
Barang 1/2 jadi		
1	Tinggi Kepala Atas	
2	Diameter Luar Kepala Atas	
3	Tinggi Total	
4	Tinggi Kepala Bawah	
5	Diameter Luar Kepala Bawah	

KOMENTAR DOSEN PENGUJI

Nama Mahasiswa : Desy Arisanty

NRP : 0223127

Judul Tugas Akhir : Analisis Kualitas Dan Usulan Perbaikan Kualitas Di PT. Sinar Terang Logamjaya (Stallion) Dengan Menggunakan *Six Sigma* Metode DMAIC

Komentar-Komentar Dosen Penguji:

1. Alasan pemilihan mesin yang diteliti.
2. Cek kembali FTA.
3. Cek kembali Usulan.
4. Baik.

DATA PENULIS

Nama	: Desy Arisanty
Alamat	: Jalan Pamoyanan no. 19A, Bandung - 40173
No. Handphone	: 081320062087
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Pendidikan	: TK Pandu, Bandung
	SD Pandu, Bandung
	SLTP Pandu, Bandung
	SMU Trinitas, Bandung
	Jurusan Teknik Industri, Universitas Kristen Maranatha, Bandung
Nilai Tugas Akhir	: A
Tanggal USTA	: 7 Agustus 2006