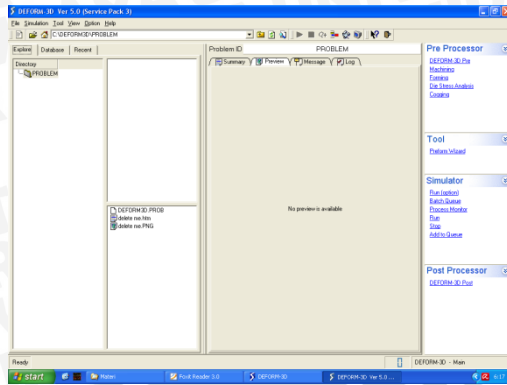
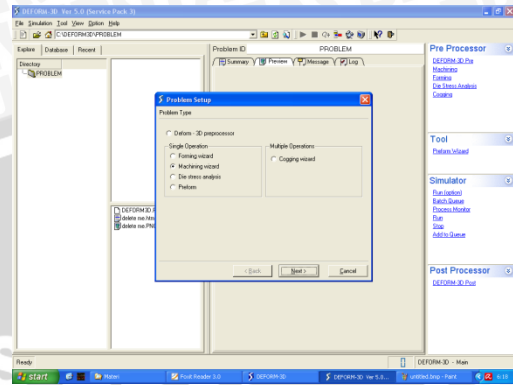


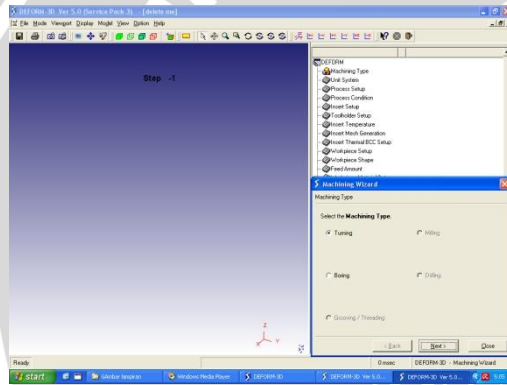
Lampiran 1. Gambar Langkah-langkah Simulasi dengan DEFORM 3D



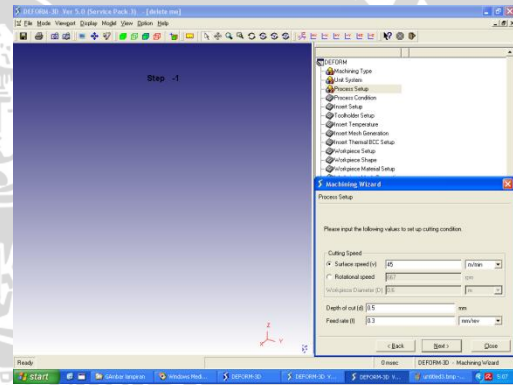
(1)



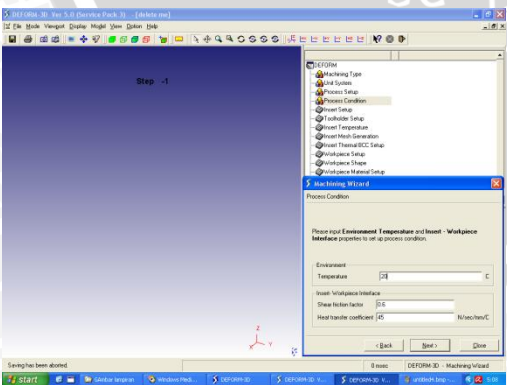
(2)



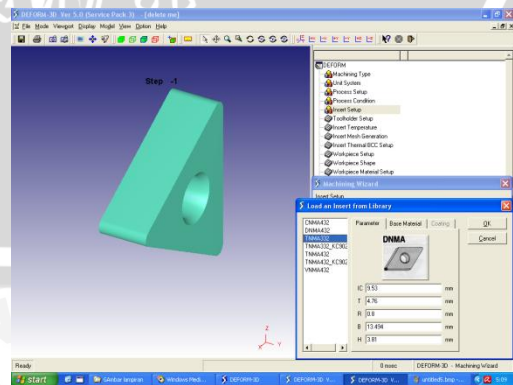
(3)



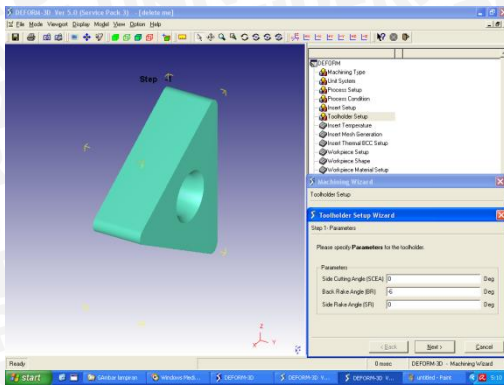
(4)



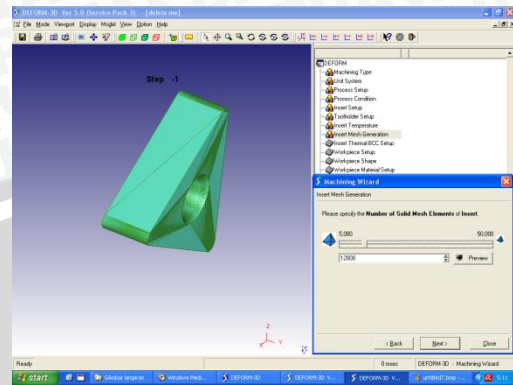
(5)



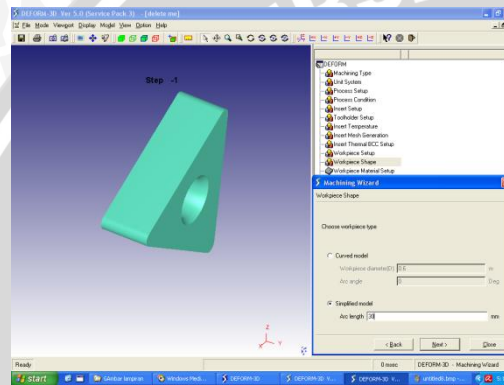
(6)



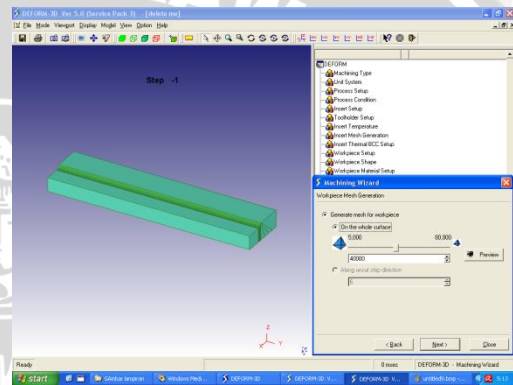
(7)



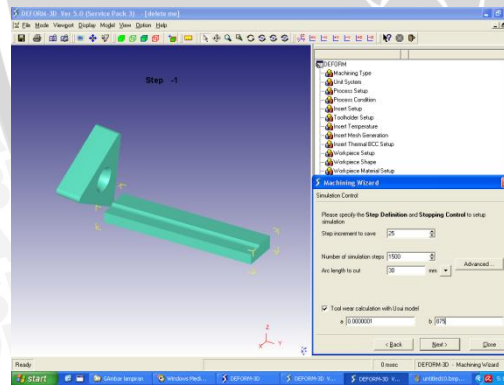
(8)



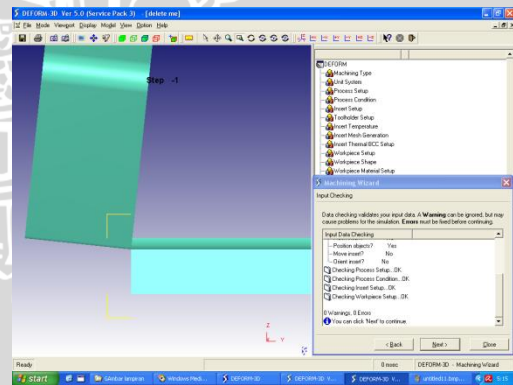
(9)



(10)

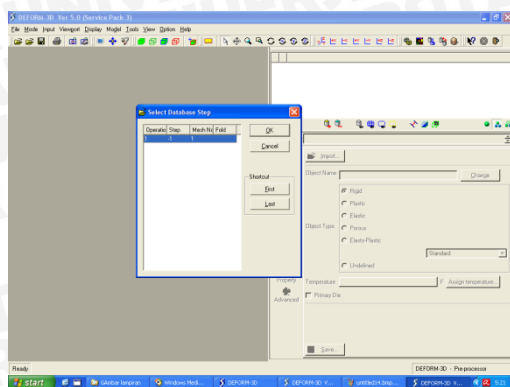


(11)

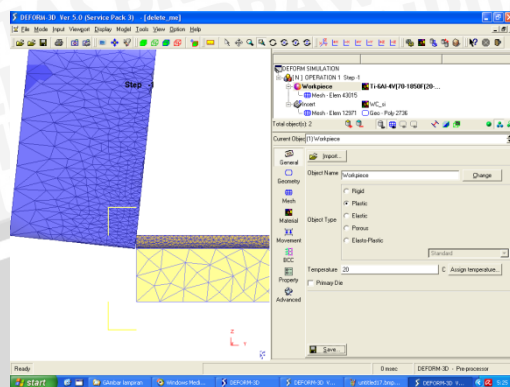


(12)

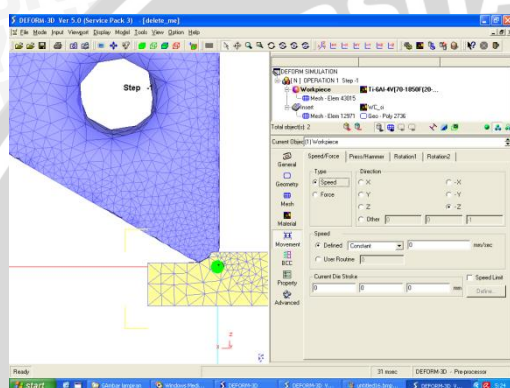
Gambar (1) – (12) Langkah-langkah pada modul *Machining wizard* dengan DEFORM 3D.



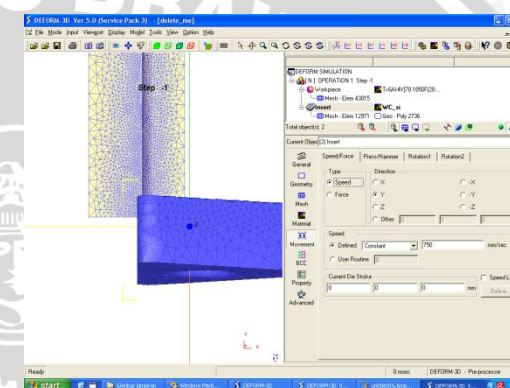
(13)



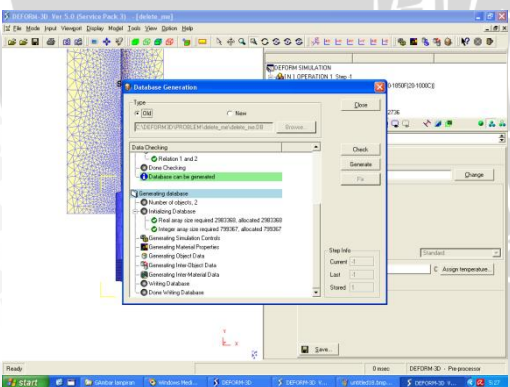
(14)



(15)

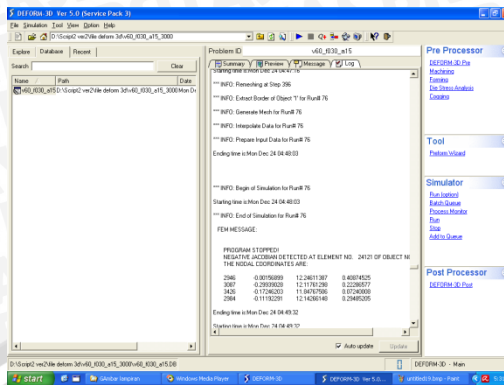


(16)



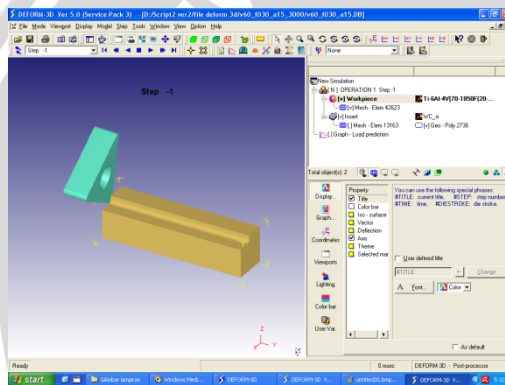
(17)

Gambar (13) – (17) Langkah pengecekan parameter simulasi pada *Pre-processor*

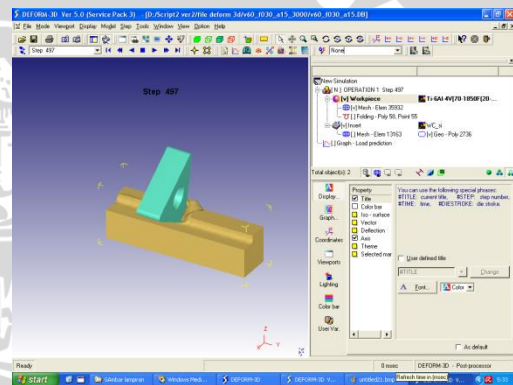


(18)

Gambar (18) Proses *running database* yang telah dibuat pada *pre-processor*



(19)

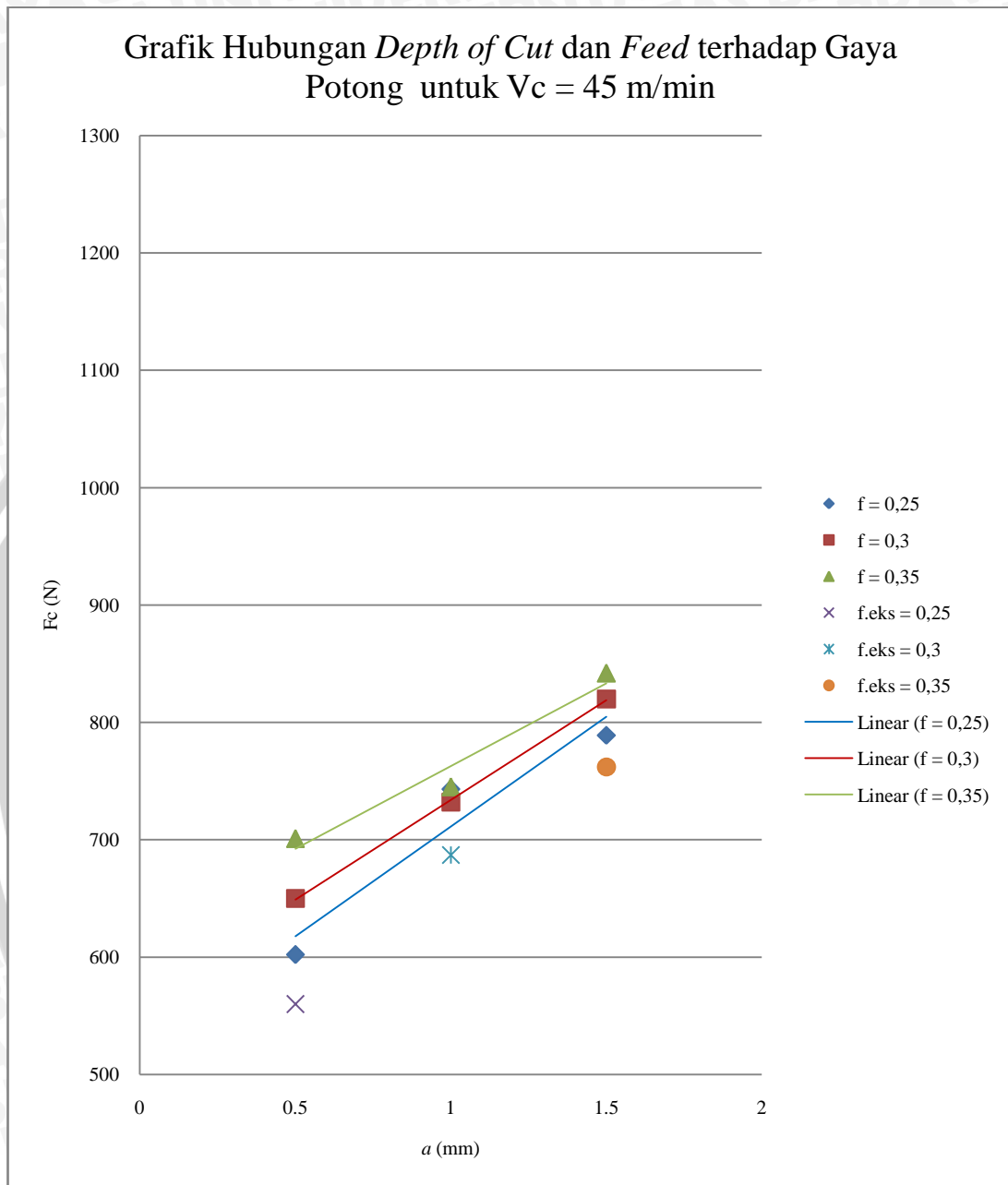


(20)

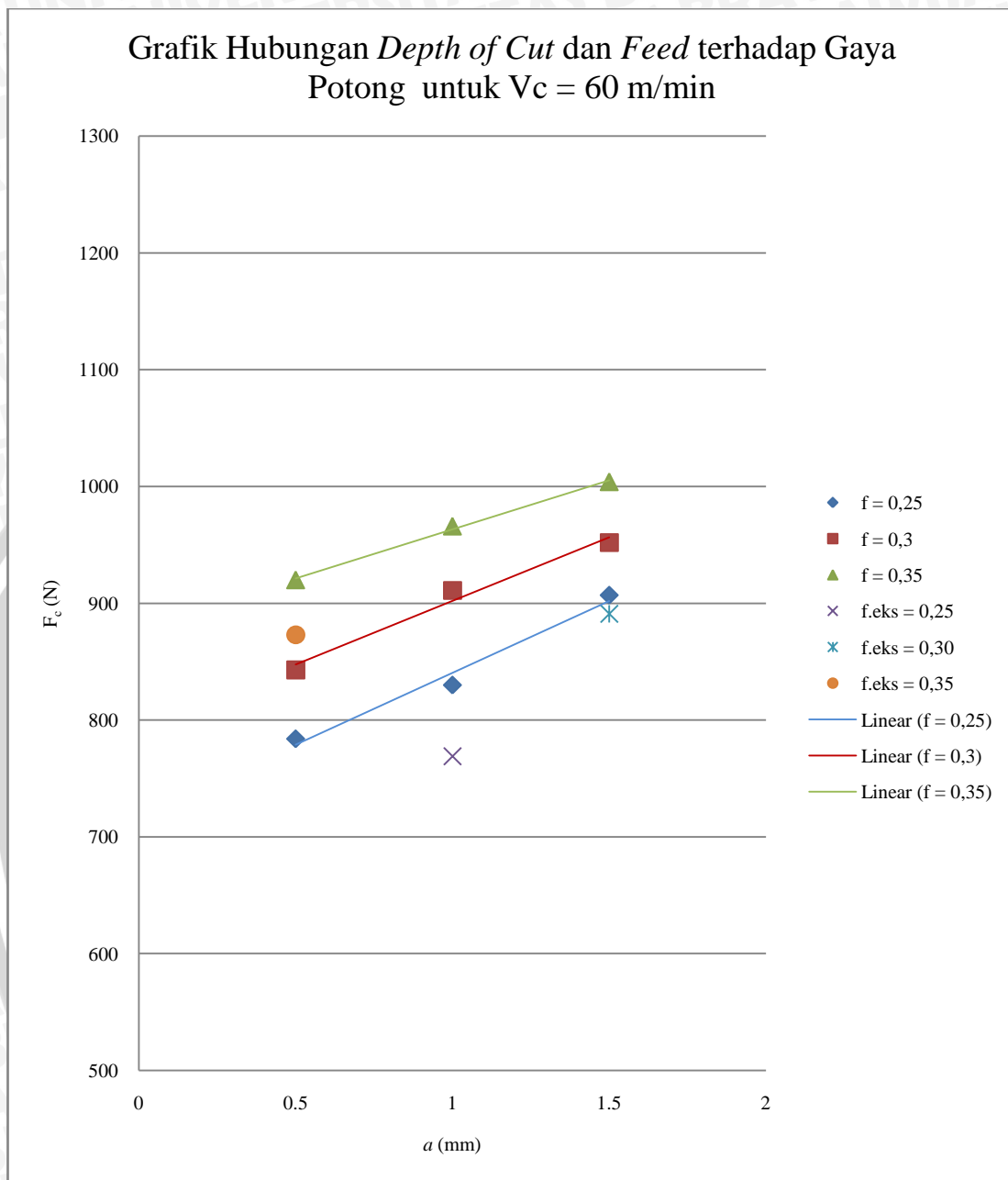
Gambar (19) – (20) Animasi simulasi hasil *running* dari *database* yang dibuat

Lampiran 2

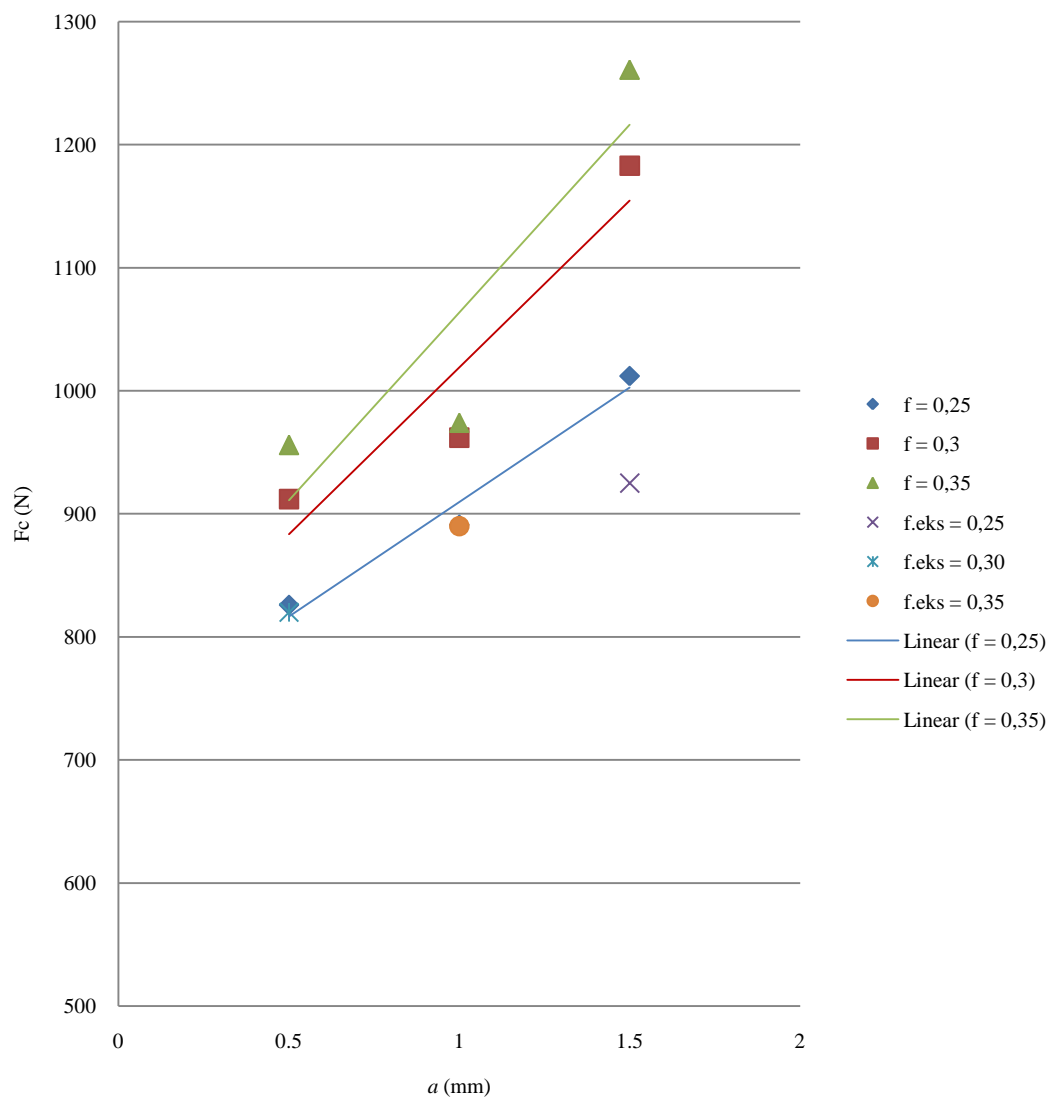
Grafik Hubungan *Depth of Cut* dan *Feed* terhadap Gaya Potong untuk $V_c = 45 \text{ m/min}$



Grafik Hubungan *Depth of Cut* dan *Feed* terhadap Gaya Potong untuk $V_c = 60 \text{ m/min}$



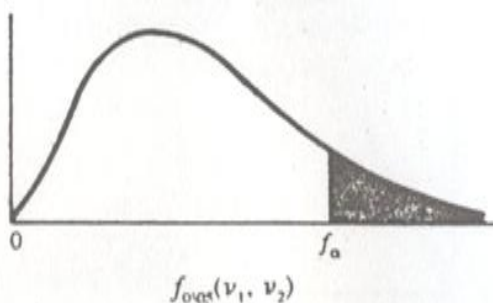
Grafik Hubungan *Depth of Cut* dan *Feed* terhadap Gaya Potong untuk $V_c = 75 \text{ m/min}$



Lampiran 3. Tabel distribusi $F(\alpha; \nu_1; \nu_2)$ untuk $\alpha = 5\%$



TABEL A.7
 Nilai Kritik Sebaran F



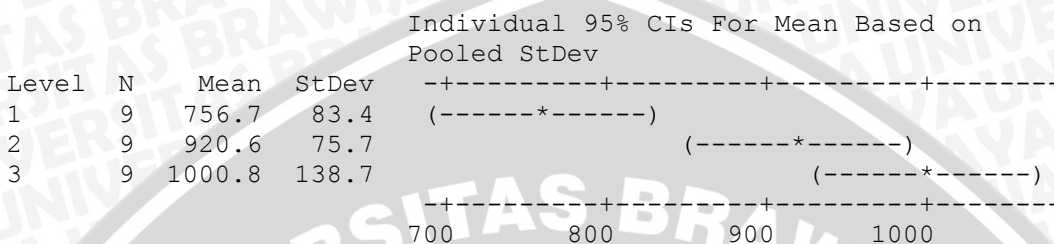
v_2	v_1								
	1	2	3	4	5	6	7	8	9
1	161.4	199.5	215.7	224.6	230.2	234.0	236.8	238.9	240.5
2	18.51	19.00	19.16	19.25	19.30	19.33	19.35	19.37	19.38
3	10.13	9.55	9.28	9.12	9.01	8.94	8.89	8.85	8.81
4	7.71	6.94	6.59	6.39	6.26	6.16	6.09	6.04	6.00
5	6.61	5.79	5.41	5.19	5.05	4.95	4.88	4.82	4.77
6	5.99	5.14	4.76	4.53	4.39	4.28	4.21	4.15	4.10
7	5.59	4.74	4.35	4.12	3.97	3.87	3.79	3.73	3.68
8	5.32	4.46	4.07	3.84	3.69	3.58	3.50	3.44	3.39
9	5.12	4.26	3.86	3.63	3.48	3.37	3.29	3.23	3.18
10	4.96	4.10	3.71	3.48	3.33	3.22	3.14	3.07	3.02
11	4.84	3.98	3.59	3.36	3.20	3.09	3.01	2.95	2.90
12	4.75	3.89	3.49	3.26	3.11	3.00	2.91	2.85	2.80
13	4.67	3.81	3.41	3.18	3.03	2.92	2.83	2.77	2.71
14	4.60	3.74	3.34	3.11	2.96	2.85	2.76	2.70	2.65
15	4.54	3.68	3.29	3.06	2.90	2.79	2.71	2.64	2.59
16	4.49	3.63	3.24	3.01	2.85	2.74	2.66	2.59	2.54
17	4.45	3.59	3.20	2.96	2.81	2.70	2.61	2.55	2.49
18	4.41	3.55	3.16	2.93	2.77	2.66	2.58	2.51	2.46
19	4.38	3.52	3.13	2.90	2.74	2.63	2.54	2.48	2.42
20	4.35	3.49	3.10	2.87	2.71	2.60	2.51	2.45	2.39
21	4.32	3.47	3.07	2.84	2.68	2.57	2.49	2.42	2.37
22	4.30	3.44	3.05	2.82	2.66	2.55	2.46	2.40	2.34
23	4.28	3.42	3.03	2.80	2.64	2.53	2.44	2.37	2.32
24	4.26	3.40	3.01	2.78	2.62	2.51	2.42	2.36	2.30
25	4.24	3.39	2.99	2.76	2.60	2.49	2.40	2.34	2.28
26	4.23	3.37	2.98	2.74	2.59	2.47	2.39	2.32	2.27
27	4.21	3.35	2.96	2.73	2.57	2.46	2.37	2.31	2.25
28	4.20	3.34	2.95	2.71	2.56	2.45	2.36	2.29	2.24
29	4.18	3.33	2.93	2.70	2.55	2.43	2.35	2.28	2.22
30	4.17	3.32	2.92	2.69	2.53	2.42	2.33	2.27	2.21
40	4.08	3.23	2.84	2.61	2.45	2.34	2.25	2.18	2.12
60	4.00	3.15	2.76	2.53	2.37	2.25	2.17	2.10	2.04
120	3.92	3.07	2.68	2.45	2.29	2.17	2.09	2.02	1.96
∞	3.84	3.00	2.60	2.37	2.21	2.10	2.01	1.94	1.88

Lampiran 5. Hasil Perhitungan ANOVA dengan Minitab 16

One-way ANOVA: Fc versus Vc

Source	DF	SS	MS	F	P
Vc	2	278656	139328	13.09	0.000
Error	24	255516	10646		
Total	26	534172			

S = 103.2 R-Sq = 52.17% R-Sq(adj) = 48.18%

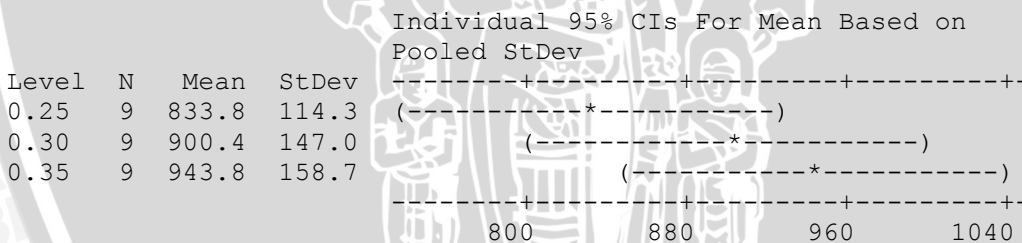


Pooled StDev = 103.2

One-way ANOVA: Fc versus f

Source	DF	SS	MS	F	P
f	2	55267	27633	1.38	0.270
Error	24	478905	19954		
Total	26	534172			

S = 141.3 R-Sq = 10.35% R-Sq(adj) = 2.88%

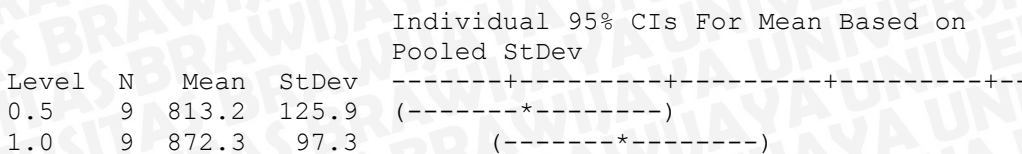


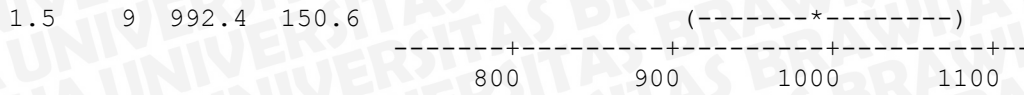
Pooled StDev = 141.3

One-way ANOVA: Fc versus a

Source	DF	SS	MS	F	P
a	2	150124	75062	4.69	0.019
Error	24	384048	16002		
Total	26	534172			

S = 126.5 R-Sq = 28.10% R-Sq(adj) = 22.11%





Pooled StDev = 126.5

General Linear Model: Fc versus Vc, f, a

Factor	Type	Levels	Values
Vc	fixed	3	1, 2, 3
f	fixed	3	0.25, 0.30, 0.35
a	fixed	3	0.5, 1.0, 1.5

Analysis of Variance for Fc, using Adjusted SS for Tests

Source	DF	Seq SS	Adj SS	Adj MS	F	P
Vc	2	278656	278656	139328	55.59	0.000
f	2	55267	55267	27633	11.03	0.001
a	2	150124	150124	75062	29.95	0.000
Error	20	50125	50125	2506		
Total	26	534172				

S = 50.0624 R-Sq = 90.62% R-Sq(adj) = 87.80%

Unusual Observations for Fc

Obs	Fc	Fit	SE Fit	Residual	St Resid
2	767.00	677.44	25.49	89.56	2.08 R
27	1261.00	1151.67	25.49	109.33	2.54 R

R denotes an observation with a large standardized residual.

Lampiran 4. Hasil Eksperimen Nyata Kosaraju, S.(2012)



TABLE III. ORTHOGONAL ARRAY L9 OF THE EXPERIMENTAL RUNS, RESULTS AND CORRESPONDING S/N RATIOS

Run No.	Parameter level			Experimental results		S/N Ratio	
	<i>v</i>	<i>f</i>	<i>d</i>	F_z (N)	θ ($^{\circ}$ C)	F_z (N)	θ ($^{\circ}$ C)
1	1	1	1	560	213	-54.96	-46.568
2	1	2	2	687	217	-56.74	-46.729
3	1	3	3	762	190	-57.64	-45.575
4	2	1	2	769	215	-57.72	-46.649
5	2	2	3	919	279	-58.99	-48.912
6	2	3	1	873	273	-58.82	-48.723
7	3	1	3	963	299	-59.33	-49.513
8	3	2	1	867	290	-58.28	-49.248
9	3	3	2	908	315	-58.99	-49.966

TABLE VI. RESULTS OF ANOVA FOR F_z

Symbol	Parameter	DOF	SS	MS	F	P (%)
<i>v</i>	Speed	2	11.335	5.668	12.85463	8.887
<i>f</i>	Feed	2	2.464	1.232	2.794	13.885
<i>d</i>	Depth of cut	2	3.062	1.531	3.472	17.257
Error		2	0.882	0.441		4.971
Total		8	17.743			100