

**LAMPIRAN 1**  
**BIODATA PENULIS**



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Motto : “Jangan menyesali masa lalu, jadikan itu sebagai pelajaran untuk hari ini”. (Itachi Uchiha)

Riwayat Pendidikan :

Jenjang	Nama Institusi	Jurusan	Lama Tahun
SD	SD Negeri 1 Ciantra	-	2009-2015
SMP	SMP Negeri 3 Cikarang Selatan	-	2015-2018
SMK	SMK Negeri 1 Cikarang Selatan	Teknik Mesin	2018-2021
Perguruan Tinggi	Politeknik Negeri Cilacap	D3-Teknik Mesin	2021-2024

**LAMPIRAN 2**  
**PROSES PRODUKSI**

**Tabel 3. Kecepatan potong pahat HSS (High Speed Steel)**

KECEPATAN POTONG YANG DIANJURKAN UNTUK PAHAT HSS						
MATERIAL	PEMBUBUTAN DAN PENGEBORAN				PENGULIRAN	
	PEKERJAAN KASAR		PEKERJAAN PENYELESAIAN			
	m/m enit	ft/mi n	m/mi n	ft/min	m/min	ft/min
Baja mesin	27	90	30	100	11	35
Baja perkakas	21	70	27	90	9	30
Besi tuang	18	60	24	80	8	25
Perunggu	27	90	30	100	8	25
Aluminium	61	200	93	300	18	60

Tabel. Data Material, Kecepatan Potong, Sudut Mata Bor HSS, dan Cairan pendingin Proses Gurdi (Widiarto,2008)

MATERIAL	CUTTING SPEEDS L.		POINT ANGLE	LIP CLEARANCE	COOLANTS
	(METERS/MINUTE)	(FEET/MINUTE)			
	MPM	FPM			
Aluminum And Alloys	61.00 - 91.50	200 - 300	90 - 130 deg	12 - 15 deg	Kerosene/Kerosene & Lard Oil/ Soluble Oil
Armor Plate	12.20 - 18.25	40 - 50	135 - 140 deg	6 - 9 deg	Light Machine Oil
Brass	61.00 - 91.50	200 - 300	118 - 118 deg	12 - 15 deg	Dry/ Soluble Oil/Kerosene/Lard Oil
Bronze	61.00 - 91.50	200 - 300	110 - 118 deg	12 - 15 deg	Dry/ Soluble Oil/Mineral Oil/Lard Oil
Bronze, High Tensile	21.35 - 45.75	70 - 150	100 - 110 deg	12 - 15 deg	Dry/ Soluble Oil/Mineral Oil/Lard Oil
Cast Iron, Soft	30.50 - 45.75	100 - 150	90 - 100 deg	12 - 15 deg	Air Jet Dry/ Soluble Oil
Cast Iron, Medium	21.35 - 30.50	70 - 100	100 - 110 deg	12 - 15 deg	Air Jet Dry/ Soluble Oil
Cast Iron, Hard	21.35 - 30.50	70 - 100	100 - 118 deg	8 - 12 deg	Air Jet Dry/ Soluble Oil
Cast Iron, Chilled	9.15 - 12.20	30 - 40	118 - 135 deg	5 - 9 deg	Air Jet Dry/ Soluble Oil
Copper	61.00 - 91.50	200 - 300	100 - 118 deg	12 - 15 deg	Air Jet Dry/ Soluble Oil
Copper Graphite Alloy (Carbon Drills)	18.30 - 21.35	60 - 70	**_**	**_**	Soluble Oil/Dry/Mineral Oil/Kerosene
Glass (Carbon Drills)	6.10 - 9.15	20 - 30	**_**	**_**	Soluble Oil/Dry/Mineral Oil/Kerosene
Iron, Malleable	15.25 - 27.45	50 - 90	90 - 100 deg	12 - 15 deg	Light Machine Oil
Magnesium And Alloys	76.25 - 122.0	250 - 400	70 - 118 deg	12 - 15 deg	Soluble Oil
Monel Nickel	4.15 - 15.28	30 - 50	118 - 125 deg	10 - 12 deg	Compressed Air/Mineral Oil
Nickel Alloys	12.20 - 18.30	40 - 60	135 - 140 deg	5 - 7 deg	Lard Oil/Soluble Oil
Plastic, Hot Set	30.50 - 51.50	100 - 300	60 - 90 deg	10 - 12 deg	Lard Oil/Soluble Oil
Plastic, Cold Set	30.50 - 51.50	100 - 300	118 - 135 deg	12 - 20 deg	Soap Solution
Steel, Low Carbon, 0.2-0.3c	24.40 - 33.55	80 - 110	110 - 118 deg	7 - 9 deg	Soap Solution
Steel, Medium Carbon 0.4-0.5c	21.35 - 24.40	70 - 80	118 - 125 deg	7 - 9 deg	Soluble Oil/Mineral Oil/Sulfur Oil/Lard Oil
Steel (High Carbon 1.2c)	15.25 - 18.30	50 - 60	118 - 145 deg	7 - 9 deg	Soluble Oil/Mineral Oil/Sulfur Oil/Lard Oil
Steel, Forged	15.25 - 18.30	50 - 60	118 - 145 deg	7 - 12 deg	Soluble Oil/Mineral Oil/Sulfur Oil/Lard Oil
Steel, Alloy	15.25 - 21.35	50 - 70	118 - 125 deg	10 - 12 deg	Mineral Lard Oil
Steel, Alloy 300 To 400 Brinell	6.10 - 9.15	20 - 30	130 - 140 deg	7 - 10 deg	Soluble Oil
Steel, Stainless, Free Machining	9.15 - 24.40	30 - 80	110 - 118 deg	8 - 12 deg	Soluble Oil
Steel, Stainless, Hard	4.57 - 15.25	15 - 50	118 - 135 deg	6 - 8 deg	Soluble Oil
Steel, Manganese	3.66 - 4.57	12 - 15	140 - 150 deg	7 - 10 deg	Soluble Oil
Stone (Carbide Drills)	7.63 - 9.15	25 - 30	**_**	**_**	Water Solution
Wood	91.50 - 122.2	300 - 400	60 - 70 deg	10 - 15 deg	Dry



Gambar Kecepatan *Spindle* mesin bubut

**SPEED CHART** 31

**CAUTION:** Change speeds only with the machine stopped

SPINDLE		12 SPEEDS				MOTOR	
1	2	3	4	5	6	7	8
50%	60%	BELT POSITION	50%	60%	BELT POSITION		
125	150	4-5	710	850	1-6		
185	225	3-5	1000	1200	2-7		
210	255	4-6	1250	1500	3-8		
300	350	2-5	1350	1800	1-7		
350	400	3-6	1900	2300	2-8		
420	500	4-7	2500	3000	1-8		

Tabel kecepatan *spindle* mesin gurdi

**Tabel 8. Kecepatan pemakanan (*feeding*) per gigi untuk HSS**

<b>Pisau</b>	<b><i>Feed/Tooth</i> (mm)</b>
spiral (slab) mill (up to 30° helix angle of tooth)	0,1 + 0,25
spiral mill (30 + 00° helix angle)	0,05 + 0,2
face mill and shell end mill	0,1 + 0,5
end mill	0,1 + 0,25
saw	0,05 + 0,1
slotting cutter	0,05 + 0,15
form cutter	0,05 + 0,2

**LAMPIRAN 3**  
**DOKUMENTASI PROSES PRODUKSI**

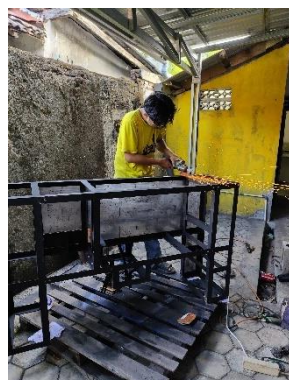
### Dokumentasi proses bubut



### Proses pengelasan, penggerindaan dan pendempulan rangka



### Proses pemotongan, penggerindaan dan perakitan





Proses pengelasan screw



Proses pengefraisan gagang pisau kanan dan dudukan pisau bawah



Proses pengecatan cover



**LAMPIRAN 4**  
**DOKUMENTASI UJI HASIL**



Dokumentasi hasil pengujian mesin pencetak bakso