

## LAMPIRAN 1

Tabel Data Material, Kecepatan Potong, Sudut Mata Bor HSS, dan Cairan Pendingin Proses Gurdi (Widarto, 2008)

MATERIAL	CUTTING SPEEDS $v_c$		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 - 91.50	100 - 300	60 - 90 deg	10 - 12 deg	Lard Oil/Soluble Oil
Plastic, Cold Set	30.50 - 91.50	100 - 300	118 - 135 deg	12 - 20 deg	Soap Solution
Steel, Low Carbon, 0.2-0.3ct	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

## LAMPIRAN 2

Tabel sifat mekanis baja (<https://mengerjakantugas.blogspot.com/2017/08/sifat-mekanis-baja-teknik-struktur.html>) (diakses tanggal 21 juli 2021)

SNI 03 – 1729 – 2002

**Tabel 5.3 Sifat mekanis baja struktural**

Jenis Baja	Tegangan putus minimum, $f_u$ (MPa)	Tegangan leleh minimum, $f_y$ (MPa)	Peregangan minimum (%)
BJ 34	340	210	22
BJ 37	370	240	20
BJ 41	410	250	18
BJ 50	500	290	16
BJ 55	550	410	13

Tabel Harga  $Sf_1$  dan  $Sf_2$  (Sularso, 2008)

Jenis bahan	$Sf_1$	$Sf_2$
Bahan SF dengan kekuatan yang dijamin	5,6	1,3 – 3,0
Bahan S-C dan baja paduan	6,0	1,3 – 3,0

### LAMPIRAN 3

#### *Bill Of Material (BOM) Mesin Pengerol Plat dan Besi Beton*

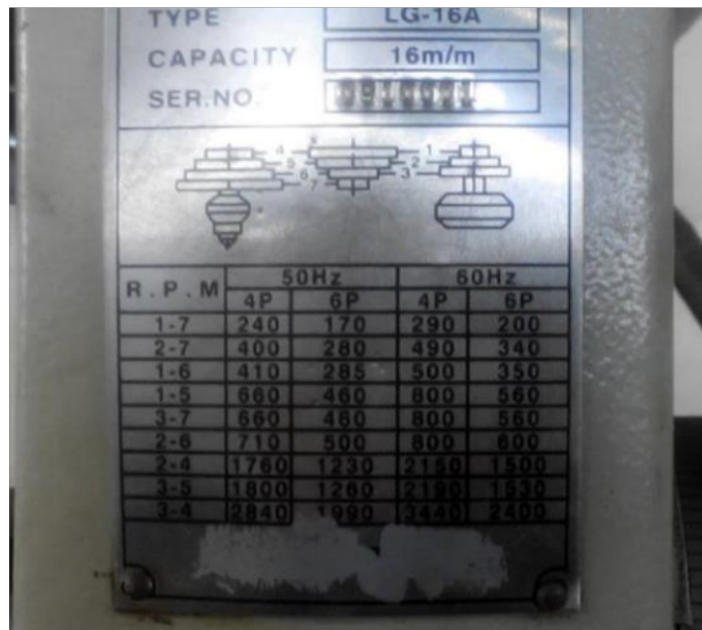
No	Nama Komponen	No.id	Spesifikasi	Satuan	Ukuran (mm)	Jumlah
<b>A</b>	<b>Rangka</b>					
1	Dudukan pneumatik	A1	ST 37	pcs	300 x 150 x 5	2
2	Tempat bearing tengah	A2	ST 37	pcs	450 x 100 x 5	2
3	Tempat bearing kiri	A3	ST 37	pcs	350 x 100 x 5	2
4	Rel bearing	A4	ST 37	pcs	900 x 10 x 10	12
5	Rangka bawah (lebar)	A5	ST 37	pcs	710 x 50 x 5	2
6	Rangka bawah (panjang)	A6	ST 37	pcs	1450 x 50 x 5	2
7	Dudukan motoran	A7	ST 37	pcs	710 x 50 x 5	2
8	Dudukan reducer	A8	ST 37	pcs	200 x 50 x 5	1
9	Dudukan reducer	A9	ST 37	pcs	710 x 50 x 5	2
10	Kaki rangka	A10	ST 37	pcs	2150 x 50 x 5	4
11	Tempat bearing kanan	A11	ST 37	pcs	410 x 100 x 5	2
12	Rangka atas (panjang)	A12	ST 37	pcs	1450 x 50 x 5	2
13	Rangka atas (lebar)	A13	ST 37	pcs	710 x 50 x 5	2

**Bill Of Material (BOM) Mesin Pengerol Plat dan Besi Beton**

No	Nama Komponen	Spesifikasi	Satuan	Ukuran (mm)	Jumlah	Harga
<b>A</b>	<b>Rangka</b>					
1	Besi siku	ST 37	pcs	50 x 50 x 5 (Panjang 6 m)	2	Rp. 325.000
2	Besu letter U	ST 37	pcs	100 x 50 x 5 (Panjang 1,5 m)	1	Rp. 200.000
3	Besi pejal kotak	ST 37	pcs	10 x 10 (Panjang 50 cm)	1	Rp. 15.000
4	Plat	ST 37	pcs	500 x 100 x 5	1	Rp. 50.000
TOTAL						Rp. 587.000

## LAMPIRAN 4

Tabel kecepatan mesin gurdi



R . P . M	50Hz		60Hz	
	4P	6P	4P	6P
1-7	240	170	290	200
2-7	400	280	490	340
1-6	410	285	500	350
1-5	660	460	800	560
3-7	660	460	800	560
2-6	710	500	800	600
2-4	1760	1230	2160	1500
3-5	1800	1260	2180	1530
3-4	2840	1990	3440	2400