

LAMPIRAN

LAMPIRAN 1
(TABEL PERHITUNGAN PROSES PRODUKSI
DAN PEMILIHAN MATERIAL)

Tabel 1 Kecepatan potong untuk proses *frais* untuk pasangan benda kerja dan pisau HSS (Widarto, 2008)

MATERIAL	CUTTING SPEED (sfpm) _{1, 2}			
	PLAIN MILLING CUTTERS		END MILLING CUTTERS	
	Roughing	Finishing	Roughing	Finishing
Aluminum.....	400 to 1,000	400 to 1,000	400 to 1,000	400 to 1,000
Brass, composition.....	125 to 200	90 to 200	90 to 150	90 to 150
Brass, yellow.....	150 to 200	100 to 250	100 to 200	100 to 200
Bronze, phosphor and manganese.....	30 to 80	25 to 100	30 to 80	30 to 80
Cast iron (hard).....	25 to 40	10 to 30	25 to 40	20 to 45
Cast iron (soft and medium).....	40 to 75	25 to 80	35 to 65	30 to 80
Monel metal.....	50 to 75	50 to 75	40 to 60	40 to 60
Steel, hard.....	25 to 50	25 to 70	25 to 50	25 to 70
Steel, soft.....	60 to 120	45 to 110	50 to 85	45 to 100

Tabel 2 Kecepatan potong untuk proses *frais* untuk pasangan benda kerja dan pisau HSS (Widarto, 2008)

MATERIAL	CUTTING SPEED (sfpm) _{1, 2}			
	PLAIN MILLING CUTTERS		END MILLING CUTTERS	
	Roughing	Finishing	Roughing	Finishing
Aluminum.....	400 to 1,000	400 to 1,000	400 to 1,000	400 to 1,000
Brass, composition.....	125 to 200	90 to 200	90 to 150	90 to 150
Brass, yellow.....	150 to 200	100 to 250	100 to 200	100 to 200
Bronze, phosphor and manganese.....	30 to 80	25 to 100	30 to 80	30 to 80
Cast iron (hard).....	25 to 40	10 to 30	25 to 40	20 to 45
Cast iron (soft and medium).....	40 to 75	25 to 80	35 to 65	30 to 80
Monel metal.....	50 to 75	50 to 75	40 to 60	40 to 60
Steel, hard.....	25 to 50	25 to 70	25 to 50	25 to 70
Steel, soft.....	60 to 120	45 to 110	50 to 85	45 to 100

Tabel 1 Tebal beram per gigi untuk beberapa tipe pisau frais dan benda kerja yang dikerjakan (satuan dalam inchi) (Widarto, 2008)

TYPE OF CUTTER	ALUMINUM		BRONZE		CAST IRON		FREE MACHINING STEEL		ALLOY STEEL	
	HSS	CAR BIDE	HSS	CAR BIDE	HSS	CAR BIDE	HSS	CAR BIDE	HSS	CAR BIDE
FACE MILLS	.007	.007	.005	.004	.004	.006	.003	.004	.002	.003
	to	to	to	to	to	to	to	to	to	to
HELICAL MILLS	.022	.020	.014	.012	.016	.020	.012	.016	.008	.014
	to	to	to	to	to	to	to	to	to	to
SIDE CUTTING MILLS	.006	.006	.003	.004	.004	.002	.002	.003	.002	.003
	.018	.016	.011	.010	.018	.018	.010	.013	.007	.012
END MILLS	.004	.004	.003	.003	.002	.003	.002	.003	.001	.002
	.013	.012	.008	.007	.009	.012	.007	.009	.005	.008
FORM RELIEVED CUTTERS	.003	.003	.003	.002	.002	.003	.001	.002	.001	.002
	.011	.010	.007	.006	.008	.010	.006	.008	.004	.007
CIRCULAR SAWS	.002	.002	.001	.001	.002	.002	.001	.002	.001	.001
	.007	.006	.004	.004	.005	.006	.004	.005	.003	.004
CIRCULAR SAWS	.002	.002	.001	.001	.001	.002	.001	.001	.005	.001
	.005	.005	.003	.003	.004	.006	.003	.004	.002	.004

HORIZONTAL SPINDLE R.P.M.			
60% 50% POLE 4	A	B	C
HIGH 60%	360	610	1470
HIGH 50%	300	512	1225
LOW 60%	108	180	430
LOW 50%	90	151	358

Gambar 1 Kecepatan *spindle* mesin *frais*

Tabel 4 Kecepatan potong untuk proses bubut

Bahan	Pahat HSS		Pahat Karbida	
	Halus	Kasar	Halus	Kasar
Baja Perkakas	75-100	25-45	185-230	110-140
Baja Karbon Rendah	70-90	25-40	170-215	90-120
Baja Karbon Menengah	60-85	20-40	140-185	75-110
Baja Cor Kelabu	40-45	25-30	110-140	60-75
Kuningan	85-110	45-70	185-215	120-150
Aluminium	70-110	30-45	140-215	60-90

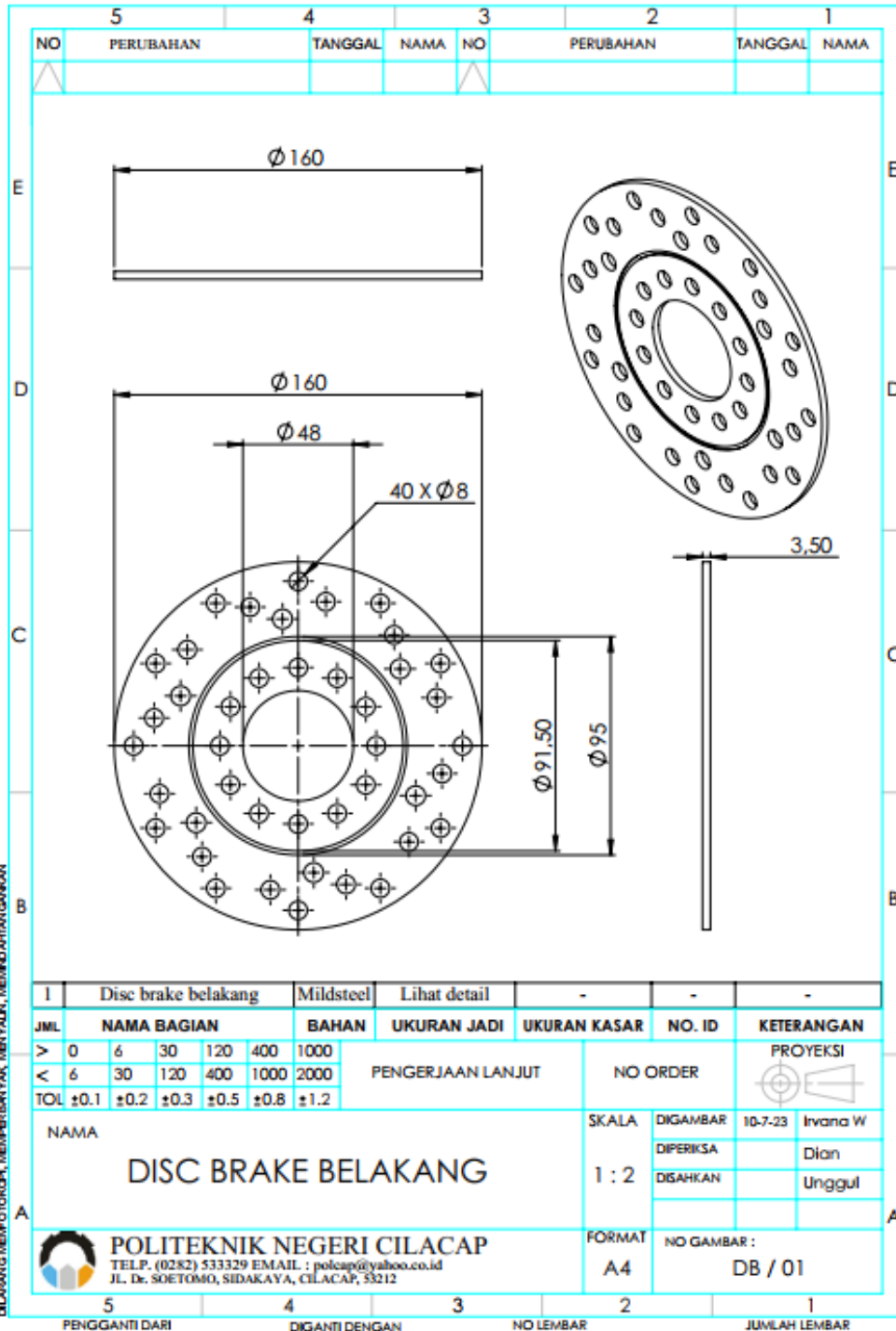
Tabel 5 Unsur kimia material S45C

Pertanyaan	Jenis Baja	Standar	Kode negara	C(%)	Si(%)	M N(%)	P(%)	S(%)
	S45C(SWRH47B)	3828	CNS	0.42-0.48	0.15-0.35	0.6-0.9	≤0.03	≤0.035
	45Mn	699	GB	0.42-0.50	0.17-0.37	0.7-1.0	≤0.035	≤0.035
□	S45C	G4051	JIS	0.42-0.48	0.15-0.35	0.6-0.9	≤0.03	≤0.035
	1043	-	AISI	0.40-0.47		0.7-1.0	≤0.04	≤0.05
□	1045	-	AISI	0.43-0.50		0.6-0.9	≤0.04	≤0.05
	1046	-	AISI	0.43-0.50		0.7-1.0	≤0.04	≤0.05

LAMPIRAN 2
(DOKUMENTASI PROSES PRODUKSI)

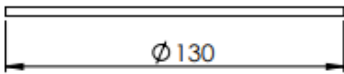


LAMPIRAN 3
(GAMBAR TEKNIK)

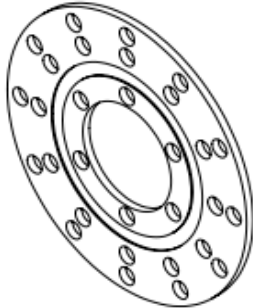


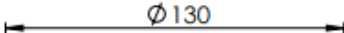
GAMBAR INI TAMBAHAN TERBUKTI DARI POLITEKNIK NEGERI CILACAP
 BAPASIS IBERI FOTOGRAF, REPERENTAK, REPERENTAK, REPERENTAK

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NO	PERUBAHAN	TANGGAL	NAMA	NO	PERUBAHAN
^				^	

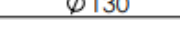


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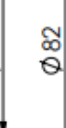
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
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
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
Ø 82




6 X Ø 8



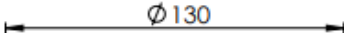
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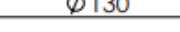
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3,50



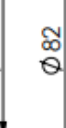
Ø 130




Ø 48



Ø 70



Ø 82

2	Disc brake depan	Mildsteel	Lihat detail	-	-	-
JML	NAMA BAGIAN	BAHAN	UKURAN JADI	UKURAN KASAR	NO. ID	KETERANGAN
> 0	6 30 120 400 1000					PROYEKSI
< 6	30 120 400 1000 2000		Pengerjaan Lanjut		NO ORDER	
TOL ±0.1	±0.2 ±0.3 ±0.5 ±0.8 ±1.2					
NAMA				SKALA	DIGAMBAR	10-7-23
DISC BRAKE DEPAN				1 : 2	DIPERIKSA	Irvana W
				DISAHKAN	Unggul	
				FORMAT	NO GAMBAR :	
				A4	DB / 02	

GAMBAR INI TANPA IZIN TERTULIS DARI POLITEKNIK NEGERI CILACAP
 DILARANG MEMFOTOKOPI, MEMPERBANYAK, MENYALIN, MEMINDAH/TANGKANKAN

LAMPIRAN 4
(BIODATA PENULIS)

BIODATA PENULIS



Nama : Irvana Wahyuwardana
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Prodi : D3-Teknik Mesin
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Alamat : Jl.Gerilya No 94 RT 03 RW 07 Kuripan Kidul, Kec.
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Telephone/HP : 085643106096
e-mail : irfanwahyu243@gmail.com
Hobi : futsal dan bermain bola
Motto : Jadilah manusia yang berguna bagi sekitar

Riwayat Pendidikan:

1. SMP Negeri 2 Maos : Tahun 2014-2017
2. SMK Negeri 2 Cilacap : Tahun 2017-2020