

LAMPIRAN

Lampiran 1 Biografi penulis



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Riwayat Pendidikan :

1. SD Negeri 04 Kroya : Tahun 2006 – 2012
2. SMP Negeri 2 Kroya : Tahun 2012 – 2015
3. SMA Negeri 1 Kroya : Tahun 2015 – 2018

Riwayat Organisasi :

2012-2014 : OSIS SMP Negeri 2 Kroya
2016-2017 : OSIS SMA Negeri 1 Kroya

Motto Hidup :

Jangan bandingkan prosesmu dengan orang lain karena tak semua bunga tumbuh mekar bersamaan.

Lampiran 2 Dokumentasi proses produksi



Gambar 1 Foto survei dan wawancara narasumber



Gambar 2 Foto proses pemotongan *material*



Gambar 3 Foto *marking* untuk proses gurdi



Gambar 4 Foto penandaan untuk proses gurdi



Gambar 5 Foto proses gurdi

Lampiran 3 Dokumen perhitungan elemen mesin dan proses produksi

Tabel 1 Data Material, Kecepatan Potong, Sudut Mata Bor HSS, dan Cairan Pendingin Proses Gurdi (Widarto, 2008)

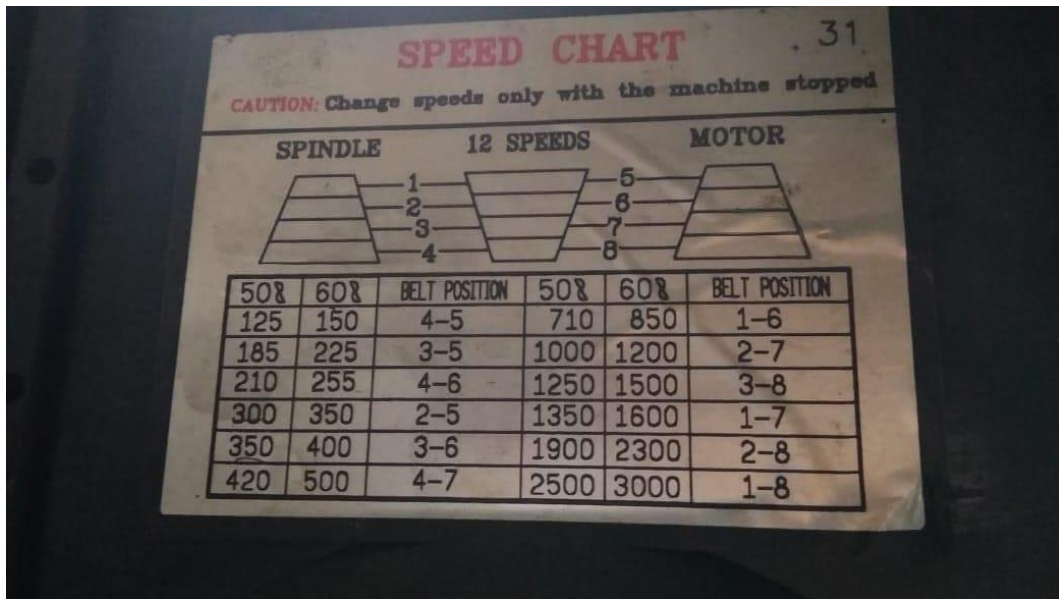
MATERIAL	CUTTING SPEEDS v_c		POINT ANGLE	LIP CLEARANCE	COOLANTS
	(METERS/MINUTE) MPM	(FEET/MINUTE) FPM			
Aluminum And Alloys	61.00 - 91.50	200 - 300	90 - 130 deg	12 - 15 deg	Kerosene/Kerosene & Lard Oil/ Soluble Oil
Armor Plate	12.20 - 18.25	40 - 50	135 - 140 deg	6 - 9 deg	Light Machine Oil
Brass	61.00 - 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

- Untuk baja

$$f = 0,084\sqrt[3]{d}; mm / put \dots\dots\dots(8.2)$$
- Untuk besi tuang

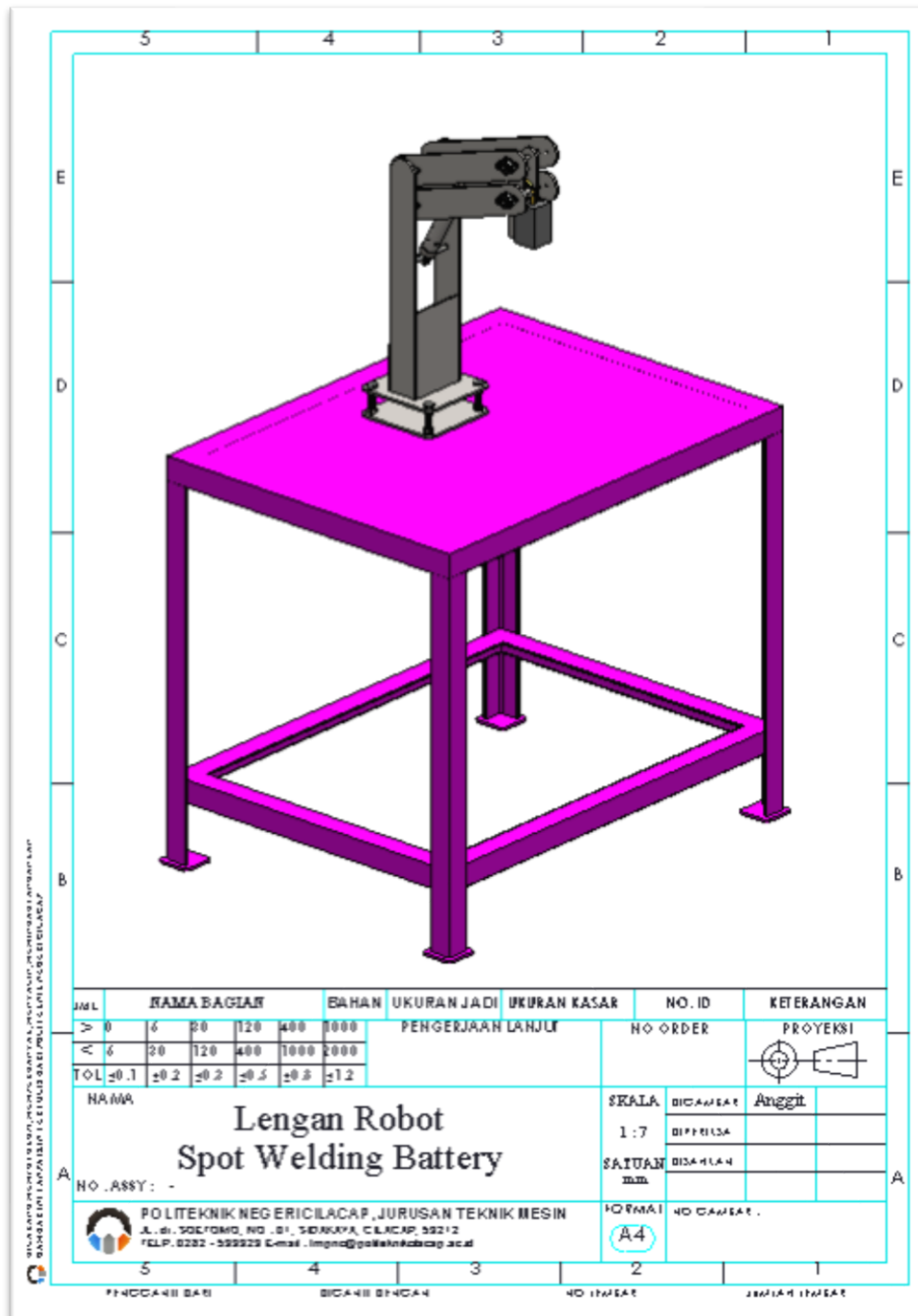
$$f = 0,1\sqrt[3]{d}; mm / put \dots\dots\dots(8.3)$$

Gambar 6 Rumus Empiris Gerak Makan Per Mata Potong Gurdi (Widarto, 2008)

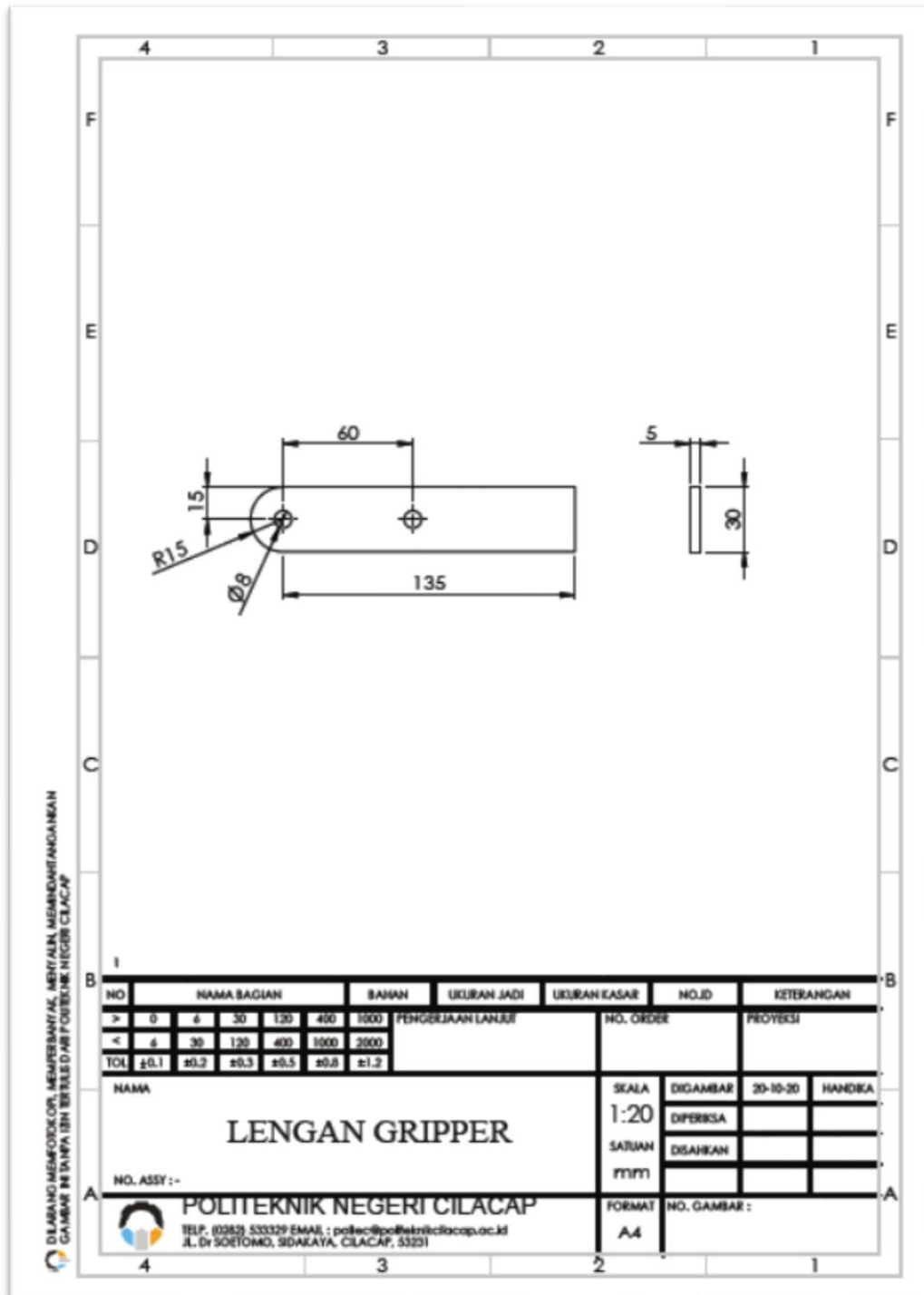


Gambar 7 Tabel kecepatan mesin gurdi

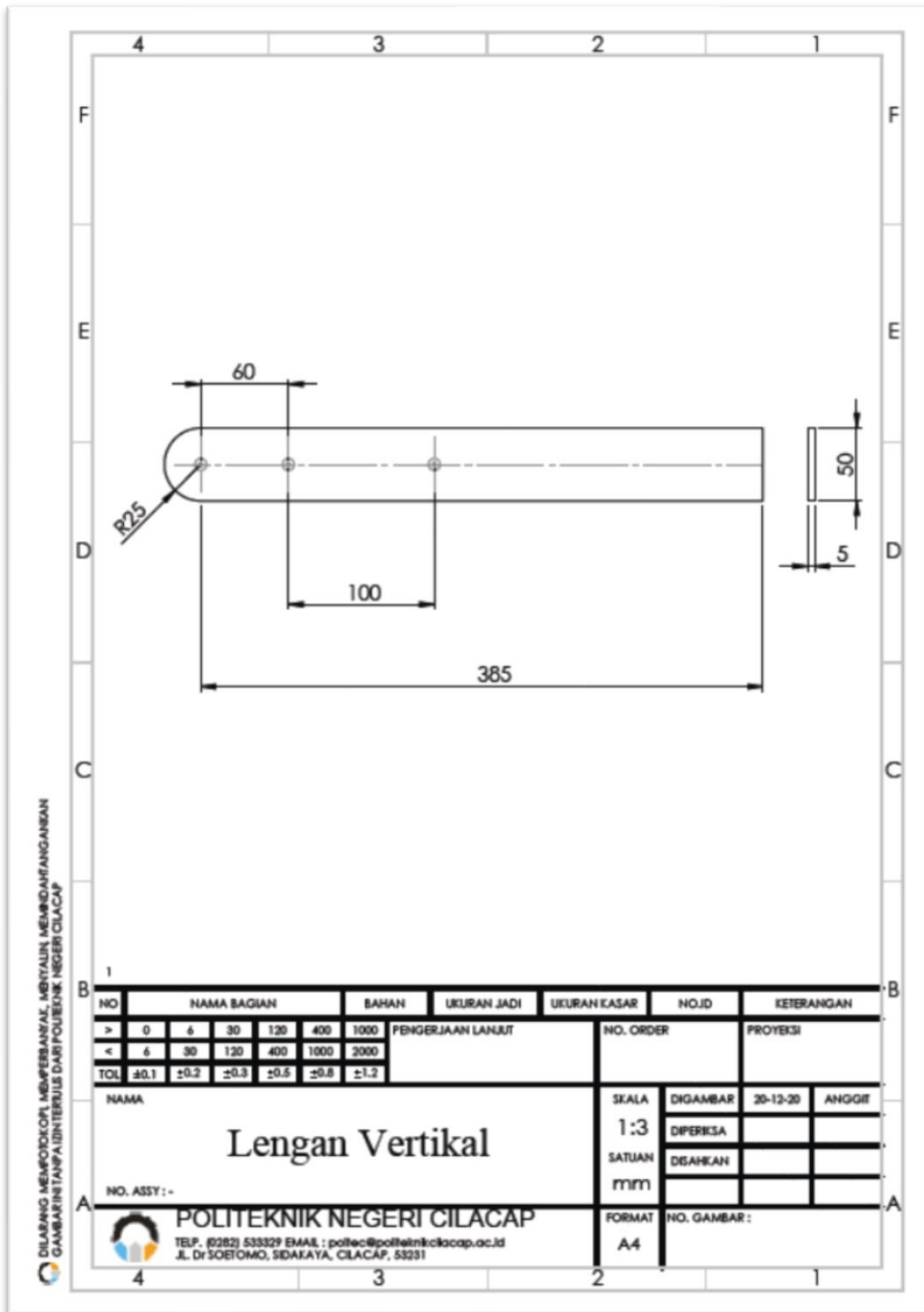
Lampiran 4 *Detail drawing*



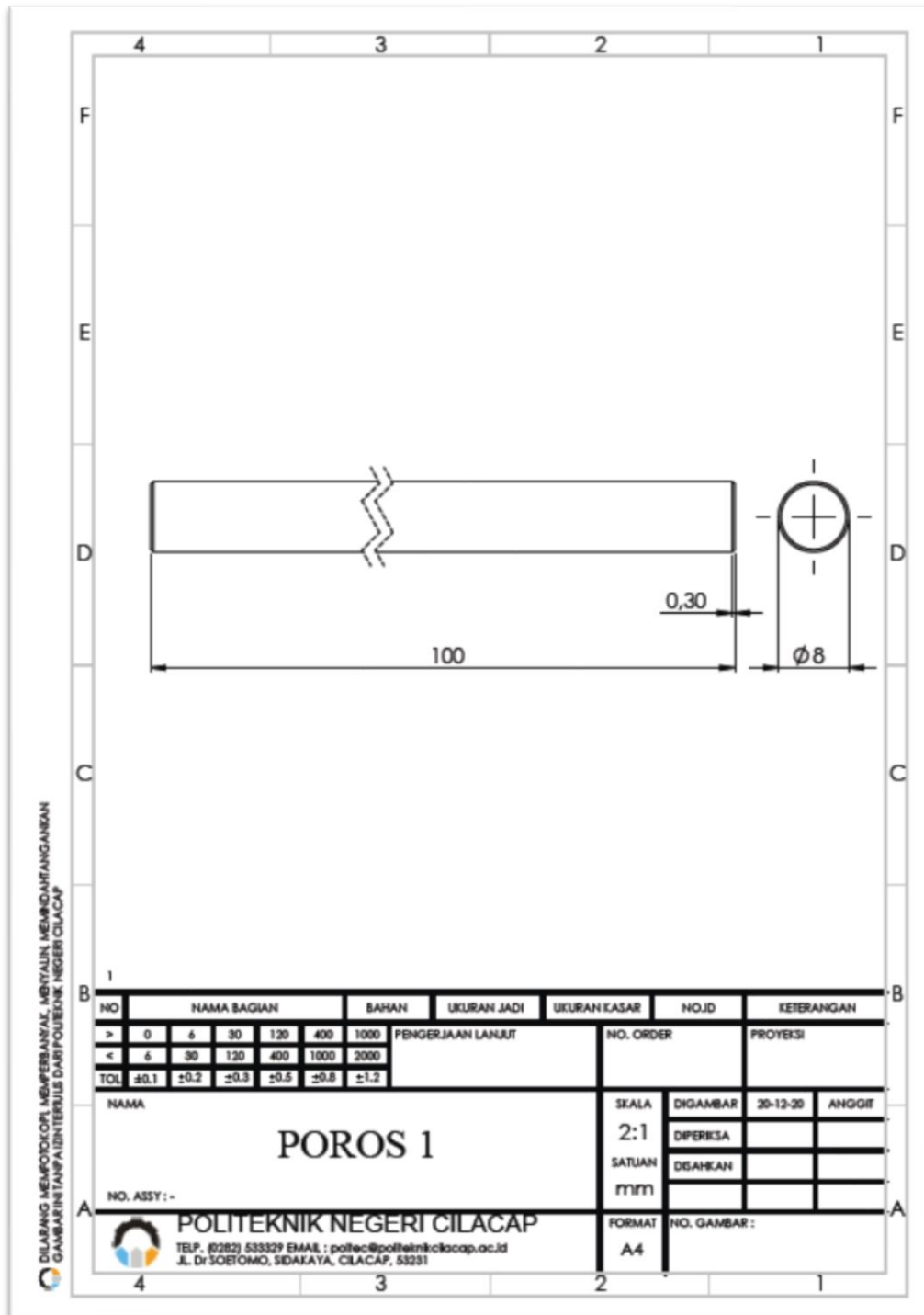
Gambar 8 Lengan robot *spot welding battery*



Gambar 9 Lengan gripper



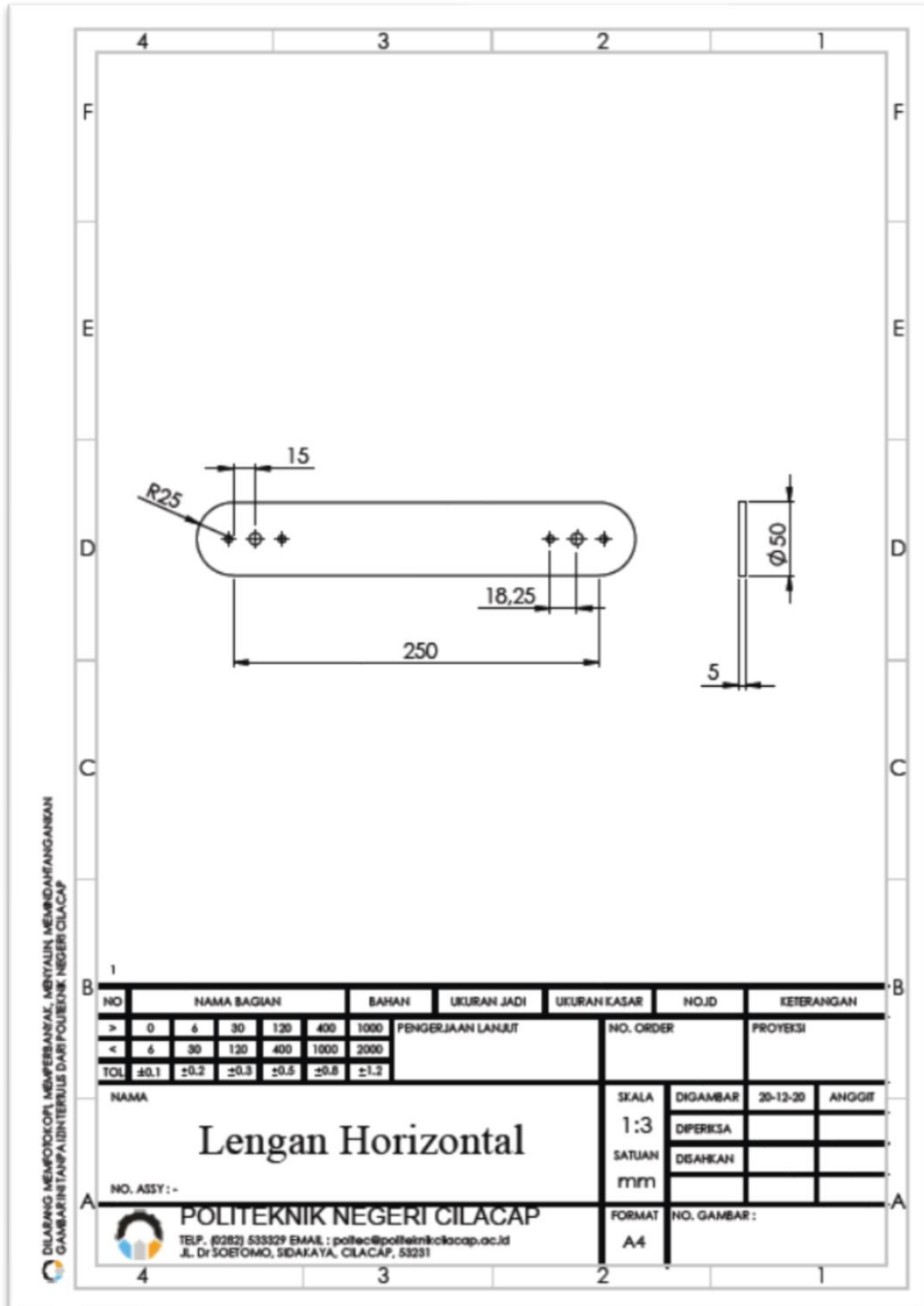
Gambar 10 Lengan vertical



DILARANG MEMFOKUSI, MEMPERBESKAN, MENYALIN, MEMODIFIKASIKAN
 GAMBAR INI TANPA IZIN TERDARI POLITEKNIK NEGERI CILACAP

NO	NAMA BAGIAN					BAHAN	UKURAN JADI	UKURAN KASAR	NO. JD	KETERANGAN	
>	0	6	30	120	400	1000	FENGERJAAN LANJUT		NO. ORDER	PROYEKSI	
<	6	30	120	400	1000	2000					
TOL	±0.1	±0.2	±0.3	±0.5	±0.8	±1.2					
NAMA								SKALA	DIGAMBAR	20-12-20	ANGGOT
POROS 1								2:1	DIPERIKSA		
								SATUAN	DISAHKAN		
NO. ASSY: -								mm			
POLITEKNIK NEGERI CILACAP								FORMAT	NO. GAMBAR :		
 TELP. (0282) 533329 EMAIL : poltec@politeknikcilacap.ac.id J. DR SOETOMO, SIDAKATA, CLACAP, 53251								A4			

Gambar 11 Poros



Gambar 12 Lengan horizontal