LAMPIRAN

Persiapan alat pengelasan

Persiapan material aluminium 6061

Proses pengelasan

Hasil pengelasan

Pengujian penetran

Pembentukan spesimen uji tarik

Pengujian tarik



Hasil pengujian tarik



KEMENTERIAN PENDIDIKAN, KEBUDAYAAN,
RISET, DAN TEKNOLOGI
POLITEKNIK NEGERI MALANG
JURUSAN TEKNIK MESIN
Jl. Soekarno Hatta No.9 Jatimulyo, Lowokwaru, Malang, 65141
Telp. (0341) 404424 – 404425, Fax (0341) 404420,
http://www.polinema.ac.id

SURAT KETERANGAN

NOMOR : 18/LAB.TM/2023

Yang bertanda tangan dibawah ini :

Nama	:	Rafik Djoenaidi,ST
N I P	:	19780125 200112 1 002
Jabatan	:	Pranata Laboratorium Pendidikan Politeknik Negeri Malang

Menerangkan dengan sesungguhnya bahwa mahasiswa :

Nama	:	Dhoni Waloyo
Nim/NPM	:	1421900057
Prodi	:	S-1 Teknik Mesin
Instansi	:	Universitas 17 Agustus 1945 Surabaya

Benar benar telah melaksanakan pengambilan data di Jurusan Teknik Mesin Politeknik Negeri Malang, guna keperluan penyusunan skripsi.

Demikian surat keterangan ini dibuat untuk dipergunakan sebagaimana mestinya.

Malang, 19 Mei 2023
Pranata Laboratorium Pendidikan
Politeknik Negeri Malang

Rafik Djoenaidi,ST
19780125 200112 1 002

FRM.RME.02.01.00

KEMENTERIAN PENDIDIKAN, KEBUDAYAAN,
RISET, DAN TEKNOLOGI
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SURAT KETERANGAN
NOMOR : 17/LAB.TM/2023

Yang bertanda tangan dibawah ini :

Nama	:	Rafik Djoenaidi,ST
N I P	:	19780125 200112 1 002
Jabatan	:	Pranata Laboratorium Pendidikan Politeknik Negeri Malang

Menerangkan dengan sesungguhnya bahwa mahasiswa :

Nama	:	Yohanes Sigit Setyana
Nim/NPM	:	1421900023
Prodi	:	S-1 Teknik Mesin
Instansi	:	Universitas 17 Agustus 1945 Surabaya

Benar benar telah melaksanakan pengambilan data di Jurusan Teknik Mesin Politeknik Negeri Malang, guna keperluan penyusunan skripsi.

Demikian surat keterangan ini dibuat untuk dipergunakan sebagaimana mestinya.

Malang, 19 Mei 2023
Pranata Laboratorium Pendidikan
Politeknik Negeri Malang

Rafik Djoenaidi,ST
19780125 200112 1 002

FRM.RME.02.01.00

DATA HASIL PENGUJIAN TARIK

Nama Peserta	: Yohanes Sigit Setyana	(1.42.1900023)
	Dhoni Waloyo	(1.42.1900057)
Material	: Aluminium 6061	
Tanggal Pengujian	: 15 Mei 2023	
Perlakuan	: RAW Material	

Dimensi Ukuran Spesimen ASTM-E8

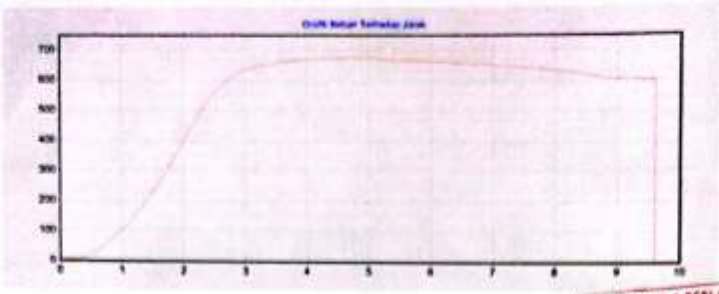
E8/E8M – 09

Dimensions	Standard Specimens		Subsize Specimen
	Plate-Type, 40 mm (1.500 in.) Wide	Sheet-Type, 12.5 mm (0.500 in.) Wide	6 mm (0.250 in.) Wide
	mm [in.]	mm [in.]	mm [in.]
G—Gage length (Note 1 and Note 2)	200.0 ± 0.2 [8.00 ± 0.01]	50.0 ± 0.1 [2.000 ± 0.005]	25.0 ± 0.1 [1.000 ± 0.005]
W—Width (Note 3 and Note 4)	40.0 ± 2.0 [1.500 ± 0.125, -0.250]	12.5 ± 0.2 [0.500 ± 0.010] Thickness of material	6.0 ± 0.1 [0.250 ± 0.005]
T—Thickness (Note 3)	25 [1]	12.5 [0.500]	6 [0.250]
R—Radius of fillet, min (Note 4)	400 [16]	200 [8]	150 [6]
L—Overall length, min (Note 2, Note 7, and Note 8)	225 [9]	57 [2.25]	32 [1.25]
A—Length of reduced section, min	75 [3]	50 [2]	30 [1.25]
B—Length of grip section, min (Note 9)	50 [2]	20 [0.750]	10 [0.375]
C—Width of grip section, approximate (Note 4 and Note 10)			

No.	Spesimen RAW	Keterangan
1	Lebar Beban *i* (mm)	12,5
2	Tebal Beban *t* (mm)	5
3	Panjang Awal L_0 (mm)	200
4	Panjang Akhir L_f (mm)	209,60
5	Pertambahan Panjang ΔL (mm)	9,60
6	Beban Luluh (*Yield Point*) (Kg)	515
7	Beban Maksimum (*Ultimate Stenght*) (Kg)	673,6
8	Beban Putus (*Fracture*) (Kg)	603,6

PENGUJIAN & PERLAKUAN BAHAN
LAB. BAHAN TEKNIK MESIN
POLITEKNIK NEGERI MALANG

Grafik Uji Tarik



DATA HASIL PENGUJIAN TARIK

Nama Peserta	: Yohanes Sigit Setyana	(1.42.1900023)
	Dhoni Waloyo	(1.42.1900057)
Material	: Aluminium 6061	
Tanggal Pengujian	: 15 Mei 2023	
Perlakuan	: Elektroda 0,8-80A	

Dimensi Ukuran Spesimen ASTM-E8

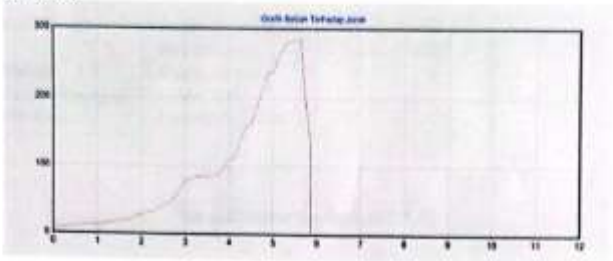
E8/E8M – 09

Dimensions	Standard Specimens		Subsize Specimen
	Plate Type, 40 mm (1.500 in.) Wide	Sheet Type, 12.5 mm (0.500 in.) Wide	6 mm (0.250 in.) Wide
	mm [in.]	mm [in.]	mm [in.]
G—Gage length (Note 1 and Note 2)	200.0 ± 0.2 (8.00 ± 0.01)	50.0 ± 0.1 (2.000 ± 0.005)	25.0 ± 0.1 (1.000 ± 0.005)
W—Width (Note 3 and Note 4)	40.0 ± 2.0 (1.500 + 0.125, −0.250)	12.5 ± 0.2 (0.500 ± 0.010, Thickness of material	6.0 ± 0.1 (0.250 ± 0.005)
T—Thickness (Note 5)			
R—Radius of fillet, min (Note 4)	25 [1]	12.5 [0.500]	6 [0.250]
L—Overall length, min (Note 2, Note 7, and Note 8)	450 [18]	200 [8]	100 [4]
A—Length of reduced section, min	225 [9]	57 [2.25]	32 [1.25]
B—Length of grip section, min (Note 9)	75 [3]	50 [2]	30 [1.25]
C—Width of grip section, approximate (Note 3 and Note 4)	50 [2]	20 [0.750]	10 [0.375]

No.	Keterangan	Spesimen 1	Spesimen 2	Spesimen 3
1	Lebar Beban *i* (mm)	12,5	12,5	12,5
2	Tebal Beban *t* (mm)	5	5	5
3	Panjang Awal Lo (mm)	200	200	200
4	Panjang Akhir Lf (mm)	205,85	200,37	200,23
5	Pertambahan Panjang ΔL (mm)	5,85	0,37	0,23
6	Beban Luluh (*Yield Point*) (Kg)	123,8	43,2	86,2
7	Beban Maksimum (*Ultimate Stength*) (Kg)	284,6	89,6	118,4
8	Beban Putus (*Fracture*) (Kg)	139,6	85, 1	93,8

Grafik Uji Tarik

0,8/80A (1)



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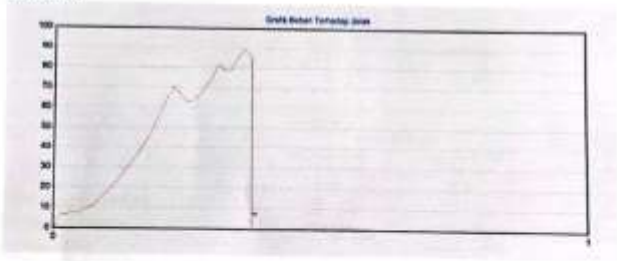

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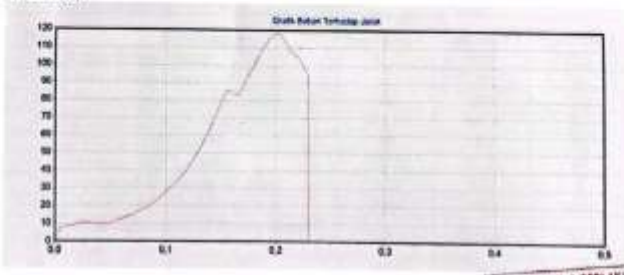


DATA HASIL PENGUJIAN TARIK

Nama Peserta	: Yohanes Sigit Setyana	(1.42.1900023)
	Dhoni Waloyo	(1.42.1900057)
Material	: Aluminium 6061	
Tanggal Pengujian	: 15 Mei 2023	
Perlakuan	: Elektroda 0,8-100A	

Dimensi Ukuran Spesimen ASTM-E8

E8/E8M – 09

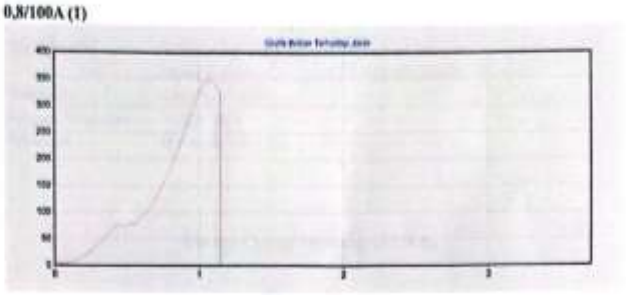
Dimensions	Standard Specimens		Subsize Specimen
	Plate-Type, 40 mm [1 500 in.] Wide	Sheet-Type, 12.5 mm [0.500 in.] Wide	6 mm [0.250 in.] Wide
	mm [in.]	mm [in.]	mm [in.]
G—Gage length (Note 1 and Note 2)	200.0 ± 0.2 [8.00 ± 0.01]	50.0 ± 0.1 [2.000 ± 0.005]	25.0 ± 0.1 [1.000 ± 0.005]
W—Width (Note 3 and Note 4)	40.0 ± 2.0 [1.500 + 0.125 −0.250]	12.5 ± 0.2 [0.500 ± 0.010]	6.0 ± 0.1 [0.250 ± 0.005]
T—Thickness (Note 5)		Thickness of material	
R—Radius of fillet, min (Note 6)	25 [1]	12.5 [0.500]	6 [0.250]
L—Overall length, min (Note 2, Note 7, and Note 8)	450 [18]	200 [8]	100 [4]
A—Length of reduced section, min	225 [9]	57 [2.25]	32 [1.25]
B—Length of grip section, min (Note 9)	75 [3]	50 [2]	32 [1.25]
C—Width of grip section, approximate (Note 4 and Note 9)	50 [2]	20 [0.750]	10 [0.375]

No.	Keterangan	Spesimen 1	Spesimen 2	Spesimen 3
1	Lebar Beban *i* (mm)	12,5	12,5	12,5
2	Tebal Beban *t* (mm)	5	5	4
3	Panjang Awal L_0 (mm)	200	200	200
4	Panjang Akhir L_f (mm)	201,15	206,37	201
5	Pertambahan Panjang ΔL (mm)	1,15	6,37	1
6	Beban Luluh (*Yield Point*) (Kg)	98,6	106,5	220,2
7	Beban Maksimum (*Ultimate Stenght*) (Kg)	364,6	364,6	250,8
8	Beban Putus (*Fracture*) (Kg)	348,8	254,8	215

PENGUJIAN & PERLAKUAN BAHAN
LAB. BAHAN TEKNIK MESIN
POLITEKNIK NEGERI MALANG

Grafik Uji Tarik

0,8/100A (1)



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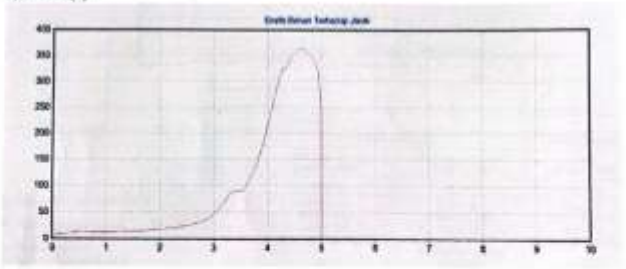

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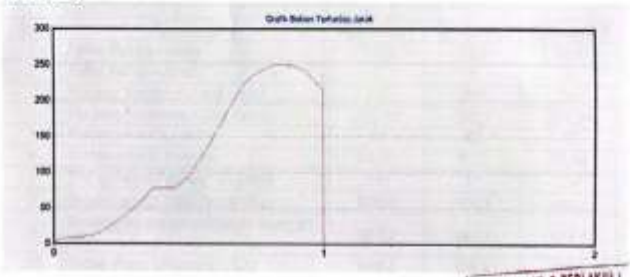
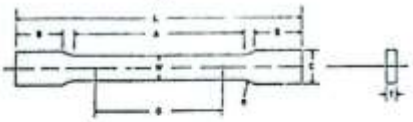


DATA HASIL PENGUJIAN TARIK

Nama Peserta	: Yohanes Sigit Setyana	(1.42.1900023)
	Dhoni Waloyo	(1.42.1900057)
Material	: Aluminium 6061	
Tanggal Pengujian	: 15 Mei 2023	
Perlakuan	: Elektroda 0,8-120A	

Dimensi Ukuran Spesimen ASTM-E8

E8/E8M – 09



Dimensions

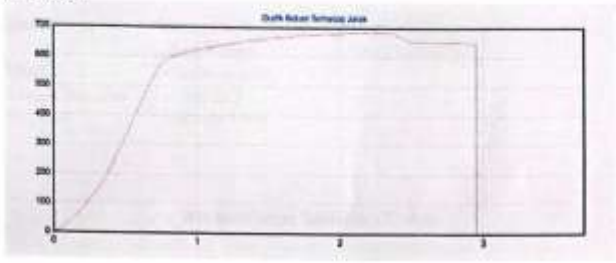
	Standard Specimens		Subsize Specimen
	Plate-Type, 40 mm [1.500 in.] Wide	Sheet-Type, 12.5 mm [0.500 in.] Wide	6 mm [0.250 in.] Wide
	mm [in.]	mm [in.]	mm [in.]
G—Gage length (Note 1 and Note 2)	200.0 ± 0.2 [8.00 ± 0.01]	50.0 ± 0.1 [2.000 ± 0.005]	25.0 ± 0.1 [1.000 ± 0.005]
W—Width (Note 3 and Note 4)	40.0 ± 2.0 [1.500 ± 0.125, -0.250]	12.5 ± 0.2 [0.500 ± 0.010]	6.0 ± 0.1 [0.250 ± 0.005]
T—Thickness (Note 5)		thickness of material	
R—Radius of fillet, min (Note 4)	25 [1]	12.5 [0.500]	6 [0.250]
L—Overall length, min (Note 2, Note 7, and Note 8)	450 [18]	200 [8]	100 [4]
A—Length of reduced section, min	225 [9]	57 [2.25]	32 [1.25]
B—Length of grip section, min (Note 9)	75 [3]	50 [2]	30 [1.25]
C—Width of grip section, approximate (Note 4 and Note 10)	50 [2]	20 [0.750]	10 [0.375]

No.	Keterangan	Spesimen 1	Spesimen 2	Spesimen 3
1	Lebar Beban *i* (mm)	12,5	12,5	12,5
2	Tebal Beban *t* (mm)	5	5	4
3	Panjang Awal Lo (mm)	200	200	200
4	Panjang Akhir L_f (mm)	202,95	205,5	205,94
5	Pertambahan Panjang ΔL (mm)	2,95	5,5	5,94
6	Beban Luluh (*Yield Point*) (Kg)	668,6	658,8	480,2
7	Beban Maksimum (*Ultimate Stenght*) (Kg)	687,2	687,2	623,4
8	Beban Putus (*Fracture*) (Kg)	649,2	655,8	356,8

PENGUJIAN & PERLAKUAN PANAS
LAB. BAHAN TEKNIK MESIN
POLITEKNIK NEGERI MALANG

Grafik Uji Tarik

0,8/120A (1)



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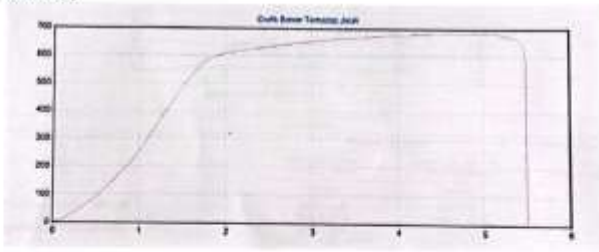

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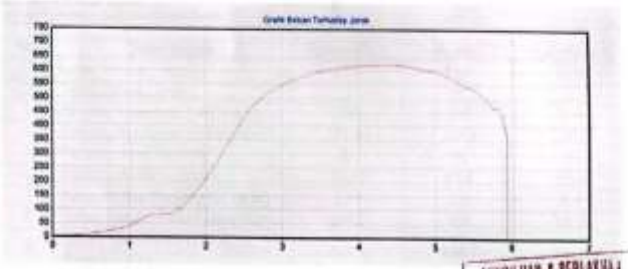
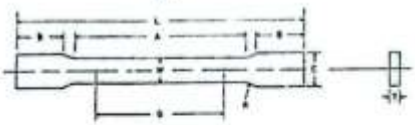


DATA HASIL PENGUJIAN TARIK

Nama Peserta	: Yohanes Sigit Setyana	(1.42.1900023)
	Dhoni Waloyo	(1.42.1900057)
Material	: Aluminium 6061	
Tanggal Pengujian	: 15 Mei 2023	
Perlakuan	: Elektroda 1-80A	

Dimensi Ukuran Spesimen ASTM-E8

E8/E8M – 09

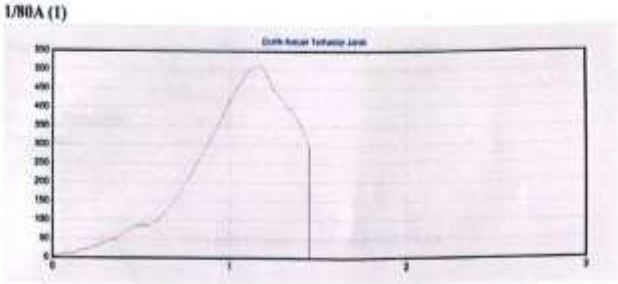


Dimensions	Standard Specimens		Subsize Specimen
	Plate-Type, 40 mm [1 ½ in.] Wide	Sheet-Type, 12.5 mm [½ in.] Wide	6 mm [¼ in.] Wide
	mm [in.]	mm [in.]	mm [in.]
G—Gage length (Note 1 and Note 2)	200.0 ± 0.2 [8.00 ± 0.01]	50.0 ± 0.1 [2.000 ± 0.005]	25.0 ± 0.1 [1.000 ± 0.005]
W—Width (Note 3 and Note 4)	40.0 ± 2.0 [1.500 ± 0.125 -0.250]	12.5 ± 0.2 [0.500 ± 0.010]	6.0 ± 0.1 [0.250 ± 0.005]
T—Thickness (Note 5)		thickness of material	
R—Radius of fillet, min (Note 6)	25 [1]	12.5 [0.500]	6 [0.250]
L—Overall length, min (Note 2, Note 7, and Note 8)	450 [18]	200 [8]	100 [4]
A—Length of reduced section, min	225 [9]	57 [2.25]	32 [1.25]
B—Length of grip section, min (Note 9)	75 [3]	50 [2]	30 [1.25]
C—Width of grip section, approximate (Note 4 and Note 9)	50 [2]	20 [0.750]	10 [0.375]

No.	Keterangan	Spesimen 1	Spesimen 2	Spesimen 3
1	Lebar Beban *l* (mm)	12,5	12,5	12,5
2	Tebal Beban *t* (mm)	5	5	5
3	Panjang Awal L_0 (mm)	200	200	200
4	Panjang Akhir L_f (mm)	201,45	205,8	208,4
5	Pertambahan Panjang ΔL (mm)	1,45	5,8	8,4
6	Beban Luluh (*Yield Point*) (Kg)	264,2	420	122,8
7	Beban Maksimum (*Ultimate Stenght*) (Kg)	513,2	636,2	423,6
8	Beban Putus (*Fracture*) (Kg)	297,6	486,4	286,8

Grafik Uji Tarik

1/80A (1)



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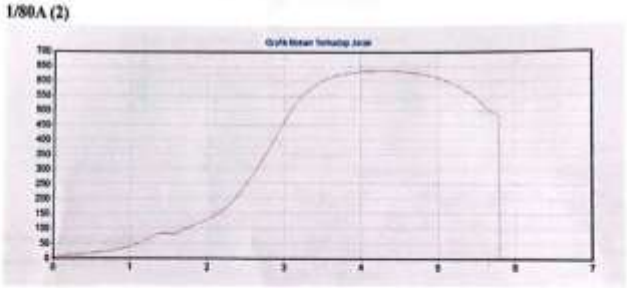
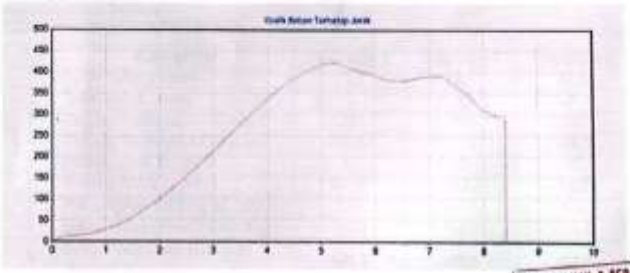


1/80A (3)

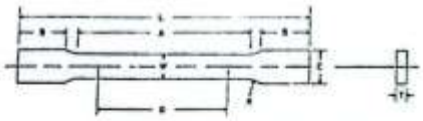


DATA HASIL PENGUJIAN TARIK

Nama Peserta	: Yohanes Sigit Setyana	(1.42.1900023)
	Dhoni Waloyo	(1.42.1900057)
Material	: Aluminium 6061	
Tanggal Pengujian	: 15 Mei 2023	
Perlakuan	: Elektroda 1-100A	

Dimensi Ukuran Spesimen ASTM-E8

E8/E8M – 09



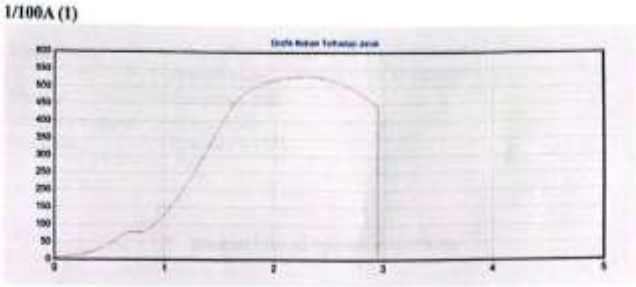
Dimensions	Standard Specimens		Subsize Specimen
	Plate-Type, 40 mm [1 ½0 in.] Wide	Sheet-Type, 12.5 mm [½ in.] Wide	6 mm [¼ in.] Wide
	mm [in.]	mm [in.]	mm [in.]
G—Gage length (Note 1 and Note 2)	200.0 ± 0.2 [8.00 ± 0.01]	50.0 ± 0.1 [2.000 ± 0.005]	25.0 ± 0.1 [1.000 ± 0.003]
W—Width (Note 3 and Note 4)	40.0 ± 3.0 [1.500 ± 0.125, -0.250]	12.5 ± 0.2 [0.500 ± 0.010] Thickness of material	6.0 ± 0.1 [0.250 ± 0.005]
T—Thickness (Note 5)			
R—Radius of fillet, min (Note 6)	25 [1]	12.5 [0.500]	6 [0.250]
L—Overall length, min (Note 7, Note 8, and Note 9)	450 [18]	200 [8]	100 [4]
A—Length of reduced section, min	225 [9]	57 [2.25]	32 [1.25]
B—Length of grip section, min (Note 10)	75 [3]	50 [2]	30 [1.25]
C—Width of grip section, approximate (Note 4 and Note 11)	50 [2]	20 [0.750]	10 [0.375]

No.	Keterangan	Spesimen 1	Spesimen 2	Spesimen 3
1	Lebar Beban *i* (mm)	12,5	12,5	12,5
2	Tebal Beban *t* (mm)	5	5	5
3	Panjang Awal L_o (mm)	200	200	200
4	Panjang Akhir L_f (mm)	202,95	206,37	206,9
5	Pertambahan Panjang ΔL (mm)	2,95	6,37	6,9
6	Beban Luluh (*Yield Point*) (Kg)	450,4	560,2	552,4
7	Beban Maksimum (*Ultimate Stenght*) (Kg)	532,2	681,8	653,8
8	Beban Putus (*Fracture*) (Kg)	447,6	638,6	572,6

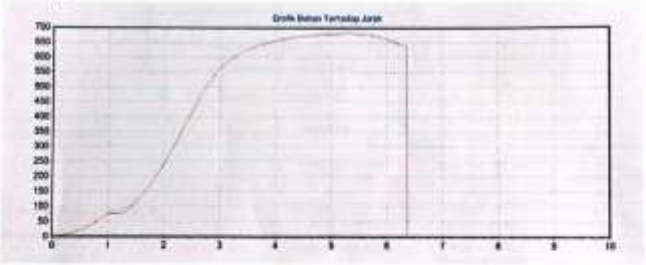
PENGUJIAN & PERLAKUAN BAHAN
LAB. BAHAN TEKNIK MESIN
POLITEKNIK NEGERI MALANG

Grafik Uji Tarik

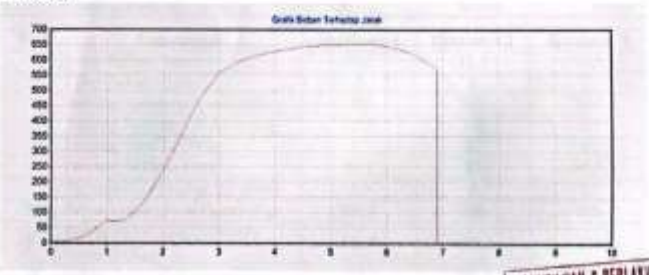
1/100A (1)



1/100A(2)



1/100A(3)



DATA HASIL PENGUJIAN TARIK

Nama Peserta	: Yohanes Sigit Setyana	(1.42.1900023)
	Dhoni Waloyo	(1.42.1900057)
Material	: Aluminium 6061	
Tanggal Pengujian	: 15 Mei 2023	
Perlakuan	: Elektroda 1-120A	

Dimensi Ukuran Spesimen ASTM-E8

E8/E8M – 09

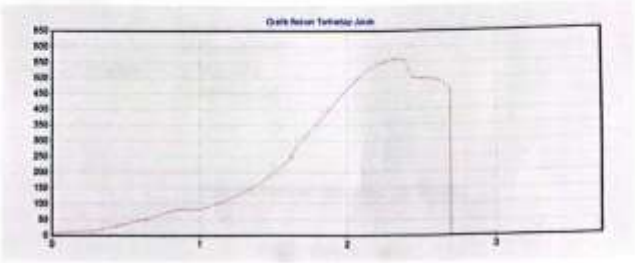
Dimensions	Standard Specimens		Subsize Specimen
	Plate-Type, 40 mm (1 500 in.) Wide	Sheet-Type, 12.5 mm (0.500 in.) Wide	6 mm (0.250 in.) Wide
	mm [in.]	mm [in.]	mm [in.]
G—Gage length (Note 1 and Note 2)	200.0 ± 0.2 [8.00 ± 0.01]	50.0 ± 0.1 [2.000 ± 0.005]	25.0 ± 0.1 [1.000 ± 0.005]
W—Width (Note 3 and Note 4)	40.0 ± 2.0 [1.500 + 0.125, -0.250]	12.5 ± 0.2 [0.500 ± 0.010] thickness of material	6.0 ± 0.1 [0.250 ± 0.005]
T—Thickness (Note 5)			
R—Radius of fillet, min (Note 6)	25 [1]	12.5 [0.500]	6 [0.250]
L—Overall length, min (Note 7, Note 8, and Note 9)	450 [18]	200 [8]	100 [4]
A—Length of reduced section, min	225 [9]	57 [2.25]	32 [1.25]
B—Length of grip section, min (Note 9)	75 [3]	50 [2]	30 [1.25]
C—Width of grip section, approximate (Note 4 and Note 9)	50 [2]	20 [0.750]	10 [0.375]

No.	Keterangan	Spesimen 1	Spesimen 2	Spesimen 3
1	Lebar Beban *i* (mm)	12,5	12,5	12,5
2	Tebal Beban *t* (mm)	5	5	5
3	Panjang Awal L_0 (mm)	200	200	200
4	Panjang Akhir Lr (mm)	202,7	206	207
5	Pertambahan Panjang ΔL (mm)	2,7	6	5,7
6	Beban Luluh (*Yield Point*) (Kg)	281,4	556	375
7	Beban Maksimum (*Ultimate Stenght*) (Kg)	560,4	677,2	628
8	Beban Putus (*Fracture*) (Kg)	462,2	644,8	602,4

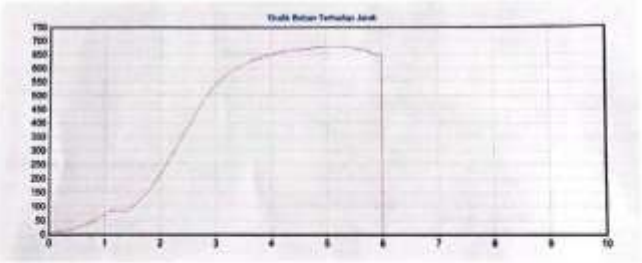
PENGUJIAN & PERLAKUAN BAHAN
LAB. BAHAN TEKNIK MESIN POLITEKNIK NEGERI MALANG

Grafik Uji Tarik

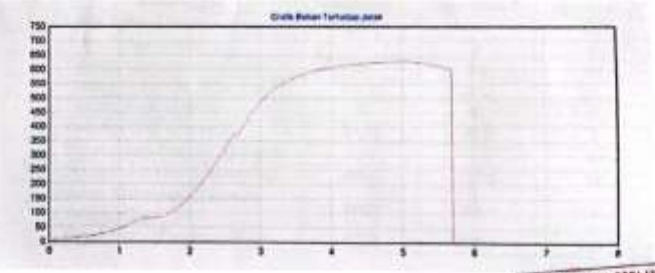
1/120A (1)



1/120A (2)



1/120A (1)



DATA HASIL PENGUJIAN TARIK

Nama Peserta	: Yohanes Sigit Setyana	(1.42.1900023)
	Dhoni Waloyo	(1.42.1900057)
Material	: Aluminium 6061	
Tanggal Pengujian	: 15 Mei 2023	
Perlakuan	: Elektroda 1,2-8A	

Dimensi Ukuran Spesimen ASTM-E8

E8/E8M – 09

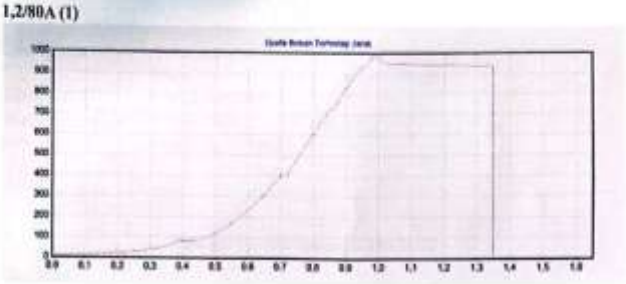
Dimensions

	Standard Specimens		Subsize Specimen
	Plate-Type, 40 mm [1 500 in.] Wide	Sheet-Type, 12.5 mm [0.500 in.] Wide	6 mm [0.250 in.] Wide
	mm [in.]	mm [in.]	mm [in.]
G—Gage length (Note 1 and Note 2)	200.0 ± 0.2 [8.00 ± 0.01]	50.0 ± 0.1 [2.000 ± 0.005]	25.0 ± 0.1 [1.000 ± 0.003]
W—Width (Note 3 and Note 4)	40.0 ± 2.0 [1.500 ± 0.125, -0.250]	12.5 ± 0.2 [0.500 ± 0.010]	6.0 ± 0.1 [0.250 ± 0.005]
T—Thickness (Note 5)		Thickness of material	
R—Radius of fillet, min (Note 6)	25 [1]	12.5 [0.500]	6 [0.250]
L—Overall length, min (Note 7, Note 8, and Note 9)	450 [18]	200 [8]	100 [4]
A—Length of reduced section, min	225 [9]	57 [2¼]	32 [1.25]
B—Length of grip section, min (Note 3)	75 [3]	50 [2]	30 [1.25]
C—Width of grip section, approximate (Note 3 and Note 4)	50 [2]	20 [0.750]	10 [0.375]

No.	Keterangan	Spesimen 1	Spesimen 2	Spesimen 3
1	Lebar Beban *i* (mm)	12,5	12,5	12,5
2	Tebal Beban *t* (mm)	5	5	5
3	Panjang Awal Lo (mm)	200	200	200
4	Panjang Akhir Lf (mm)	201,35	201,5	208,4
5	Pertambahan Panjang ΔL (mm)	1,35	1,5	8,4
6	Beban Luluh (*Yield Point*) (Kg)	408,6	397,6	733
7	Beban Maksimum (*Ultimate Stenght*) (Kg)	999,8	995,4	1334,4
8	Beban Putus (*Fracture*) (Kg)	935,2	976,2	910,4

Grafik Uji Tarik

1,2/80A (1)



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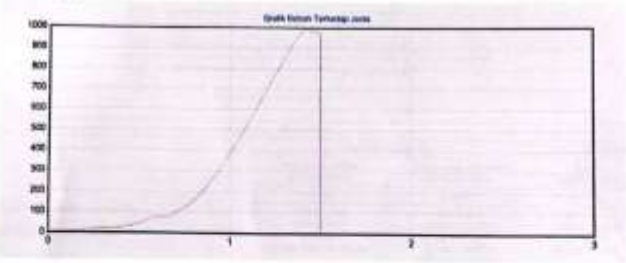
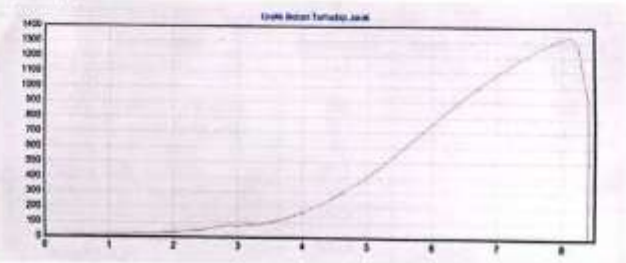


1,2/80A (3)



DATA HASIL PENGUJIAN TARIK

Nama Peserta	: Yohanes Sigit Setyana	(1.42.1900023)
	Dhoni Waloyo	(1.42.1900057)
Material	: Aluminium 6061	
Tanggal Pengujian	: 15 Mei 2023	
Perlakuan	: Elektroda 1,2-100A	

Dimensi Ukuran Spesimen ASTM-E8

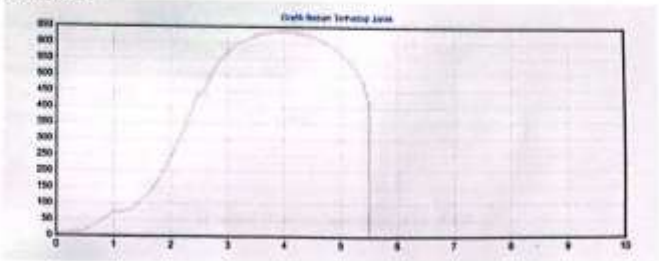
E8/E8M – 09

Dimensions	Standard Specimens		Subsize Specimen
	Plate-Type, 40 mm [1 1/2 in.] Wide	Sheet-Type, 12.5 mm [0.500 in.] Wide	6 mm [0.250 in.] Wide
	mm [in.]	mm [in.]	mm [in.]
G—Gage length (Note 1 and Note 2)	200.0 ± 0.2 [8.00 ± 0.01]	50.0 ± 0.1 [2.000 ± 0.005]	25.0 ± 0.1 [1.000 ± 0.003]
W—Width (Note 3 and Note 4)	40.0 ± 2.0 [1.500 ± 0.125, -0.250]	12.5 ± 0.2 [0.500 ± 0.010]	6.0 ± 0.1 [0.250 ± 0.005]
T—Thickness (Note 5)		thickness of material	
R—Radius of fillet, min (Note 4)	25 [1]	12.5 [0.500]	6 [0.250]
L—Overall length, min (Note 2, Note 7, and Note 8)	450 [18]	200 [8]	100 [4]
A—Length of reduced section, min	225 [9]	57 [2.25]	32 [1.25]
B—Length of grip section, min (Note 9)	75 [3]	50 [2]	30 [1.25]
C—Width of grip section, approximate (Note 4 and Note 9)	50 [2]	20 [0.750]	10 [0.375]

No.	Keterangan	Spesimen 1	Spesimen 2	Spesimen 3
1	Lebar Beban *i* (mm)	12,5	12,5	12,5
2	Tebal Beban *t* (mm)	5	5	5
3	Panjang Awal L_0 (mm)	200	200	200
4	Panjang Akhir L_t (mm)	205,5	207,1	206,7
5	Pertambahan Panjang ΔL (mm)	5,5	7,1	6,7
6	Beban Luluh (*Yield Point*) (Kg)	493,4	502,4	332,6
7	Beban Maksimum (*Ultimate Stenght*) (Kg)	636,8	631,4	525
8	Beban Putus (*Fracture*) (Kg)	418,8	451,4	381,4

Grafik Uji Tarik

1,2/100A (1)



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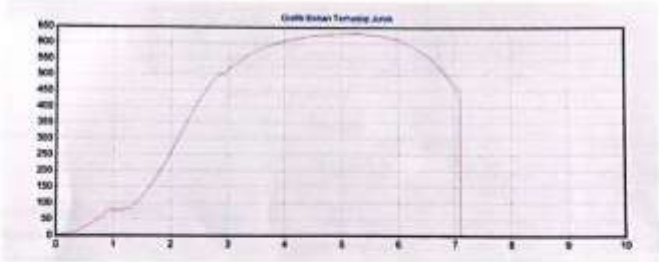
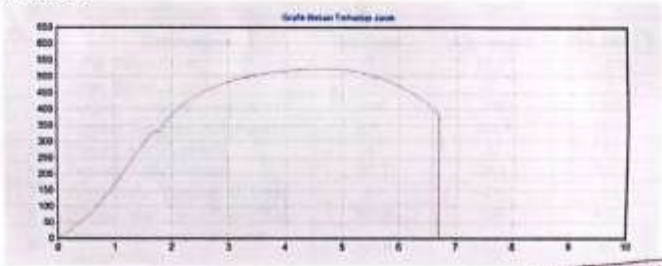


1,2/100A (3)



PENGUJIAN & PERLAKUAN BAHAN
LAB. BAHAN TEKNIK MESIN
POLITEKNIK NEGERI MALANG

Dipindai dengan CamScanner

DATA HASIL PENGUJIAN TARIK

Nama Peserta	: Yohanes Sigit Setyana	(1.42.1900023)
	Dhoni Waloyo	(1.42.1900057)
Material	: Aluminium 6061	
Tanggal Pengujian	: 15 Mei 2023	
Perlakuan	: Elektroda 1,2-100A	

Dimensi Ukuran Spesimen ASTM-E8

E8/E8M – 09

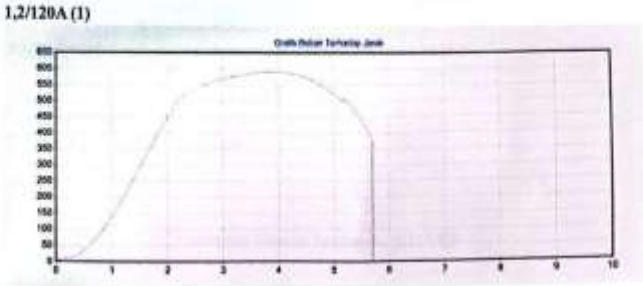
Dimensions

	Standard Specimens		Subsize Specimen
	Plate-Type, 40 mm [1 1/2 in.] Wide	Sheet-Type, 12.5 mm [0.500 in.] Wide	6 mm [0.250 in.] Wide
	mm [in.]	mm [in.]	mm [in.]
G—Gage length (Note 1 and Note 2)	200.0 ± 0.2 [8.00 ± 0.01]	50.0 ± 0.1 [2.000 ± 0.005]	25.0 ± 0.1 [1.000 ± 0.005]
W—Width (Note 3 and Note 4)	40.0 ± 2.0 [1.500 ± 0.125, -0.250]	12.5 ± 0.2 [0.500 ± 0.010]	6.0 ± 0.1 [0.250 ± 0.005]
T—Thickness (Note 5)		Thickness of material	
R—Radius of fillet, min (Note 6)	25 [1]	12.5 [0.500]	6 [0.250]
L—Overall length, min (Note 2, Note 7, and Note 8)	450 [18]	200 [8]	100 [4]
A—Length of reduced section, min	225 [9]	57 [2.25]	32 [1.25]
B—Length of grip section, min (Note 9)	75 [3]	50 [2]	30 [1.25]
C—Width of grip section, approximate (Note 4 and Note 8)	50 [2]	20 [0.750]	10 [0.375]

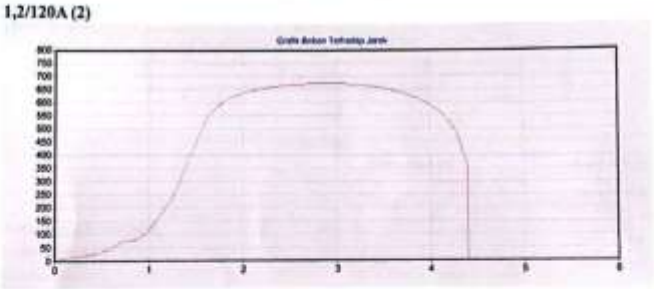
No.	Keterangan	Spesimen 1	Spesimen 2	Spesimen 3
1	Lebar Beban *i* (mm)	12,5	12,5	12,5
2	Tebal Beban *t* (mm)	5	5	5
3	Panjang Awal L_0 (mm)	200	200	200
4	Panjang Akhir L_f (mm)	205,7	204,4	206,5
5	Pertambahan Panjang ΔL (mm)	5,7	4,4	6,5
6	Beban Luluh (*Yield Point*) (Kg)	501,6	562	452,2
7	Beban Maksimum (*Ultimate Stenght*) (Kg)	591,4	673,4	657
8	Beban Putus (*Fracture*) (Kg)	377,8	352,8	453,4

Grafik Uji Tarik

1,2/120A (1)



1,2/120A (2)



1,2/120A (3)