

LAMPIRAN PENELITIAN (DOKUMENTASI)

1. Proses Pengambilan Serat



1.1 Tanaman sisal



1.2 Pengambilan Daun Sisal



1.3 Pengupasan Serat sisal



1.4 pemyisiran daun sisal



1.5 Pengeringan serat

2. Proses Mencetak Spesimen



1.6 Pembuatan cetakan



1.7 Pemotongan serat sisal 1cm-5cm



1.8 Menimbang serat sesuai spesifikasi pengujian



1.9.persiapan cetak spesimen



2.0 proses pencetakan



2.1 hasil cetakan

3. Proses Pembuatan Spesimen



2.2 Pembentukan spesimen uji tarik



2.3 spesimen uji tarik 10mm



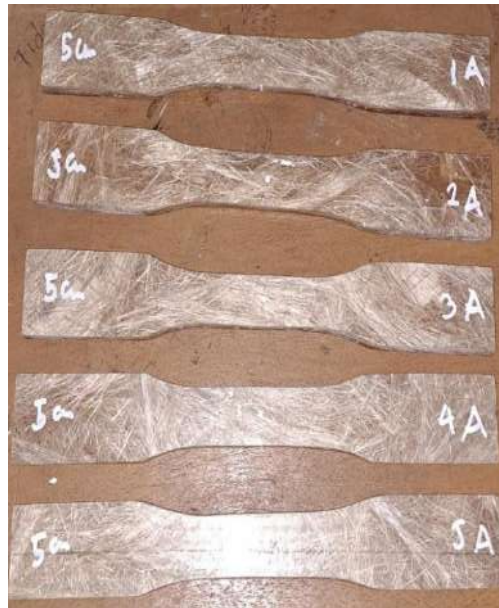
2.4 spesimen uji tarik 20mm



2.5 spesimen uji tarik 30mm



2.6 spesimen uji tarik 40mm



2.7 spesimen uji tarik 50m

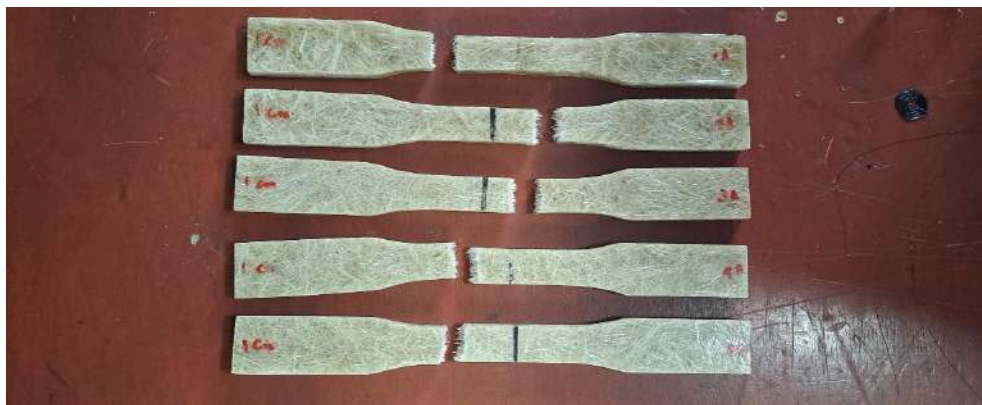
4. Proses Pengujian Tarik



2.8 Mesin Uji Tarik



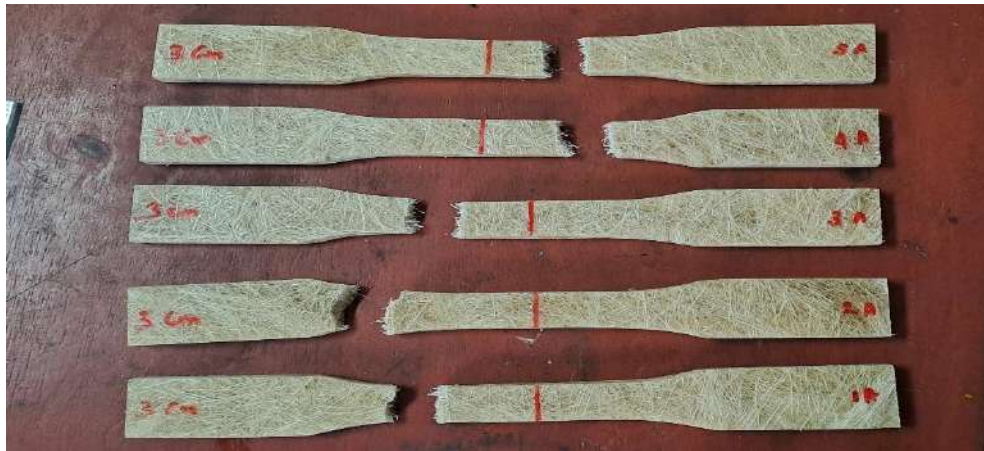
2.9 Proses Uji Tarik



2.9 Spesimen setelah di uji tarik (10mm)



3.0 spesimen setelah di uji tarik (20mm)



3.1 spesimen setelah di uji tarik (30mm)



3.2 spesimen setelah uji tarik (50mm)

5. Proses Pengujian Struktur Makro



3.3 Microscope



3.4 Pengamatan struktur makro



3.5 Hasil pengamatan struktur makro

Jadwal Penelitian

NO	Urutan Penelitian	Bulan-Ke				
		I	II	III	IV	V
1	Proposal					
2	Persiapan					
3	Pembuatan Alat					
4	Pengambilan Data					
5	Pengolahan Data					
6	Seminar Hasil					
7	Ujian Tutup					



**KEMENTERIAN KETENAGAKERJAAN RI
DIREKTORAT JENDERAL
PEMBINAAN PELATIHAN VOKASI DAN PRODUKTIVITAS
BBPVP Makassar**

JL. Taman Makam Pahlawan No. 4 Makassar Telepon (0411) 442322 Faksimile 441558
Laman : <http://www.naker.go.id>

SURAT KETERANGAN

Nomor : B. 91/ WORKSHOP LAS BBPVP - MKS/ VIII/ 2025

Yang bertandatangan dibawah ini :

Nama : Haeruddin Hafid, ST.,MT

NIP : 19770201 200912 1 001

Dengan Ini menerangkan bahwa :

No	Nama Mahasiswa	Judul Tugas Akhir
1	Ones Siporus Toding / 220212105	Pengaruh Presentase Serat Sisal Terhadap Kekuatan Tarik dan Struktur Makro Komposit Serat Sisal Bermatriks Polyster
2	Ignasius Rolan / 1224212005	Dampak Panjang Serat Sisal Terhadap Kekuatan Bending dan Ketangguhan Komposit Serat Sisal Bermatriks Polyester
3	Yusdar Menta / 124212006	Pengaruh Panjang Serat Terhadap Kekuatan Tarik dan Struktur Makro Komposit Serat Sisal Bermatriks Polyester
4	Junaedy Tandepadang / 1224212019	Study Pengaruh Orientasi Sudut Serat Sisal Terhadap Kekuatan Tarik dan Struktur Makro Komposit Serat Sisal Bermatriks Polyester

5	Leonard Alvin / 1224212016	Pengaruh Orientasi Sudut Terhadap Kekuatan Bending dan Ketangguhan Komposit Serat Sisal Bermatriks Polyester
6	Desar Susanto / 1224212007	Pengaruh Lama Perendaman Serat Sisal Terhadap Kekuatan Tarik dan Struktur Makro Komposit Serat Sisal Bermatriks Polyester
7	Arclaus Denni Frissi / 220212107	Efektifitas Presentase Serat Sisal Terhadap Kekuatan Bending dan Ketangguhan Komposit Serat Sisal Bermatriks Polyester

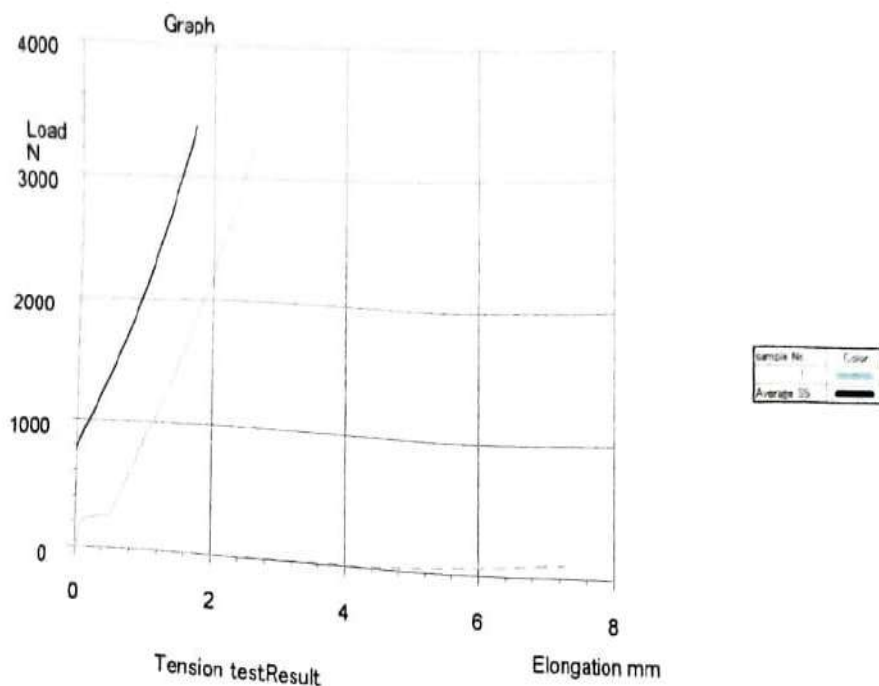
Baliwa benar telah melaksanakan Pengujian di Workshop Las Balai Besar Pelatihan Vokasi dan Produktivitas Makassar pada tanggal 12-13 Agustus 2025

Demikian surat keterangan ini kami berikan, untuk dipergunakan sebagai mana mestinya.

Makassar, 13 Agustus 2025

Haeruddin Hafid, ST.,MT.

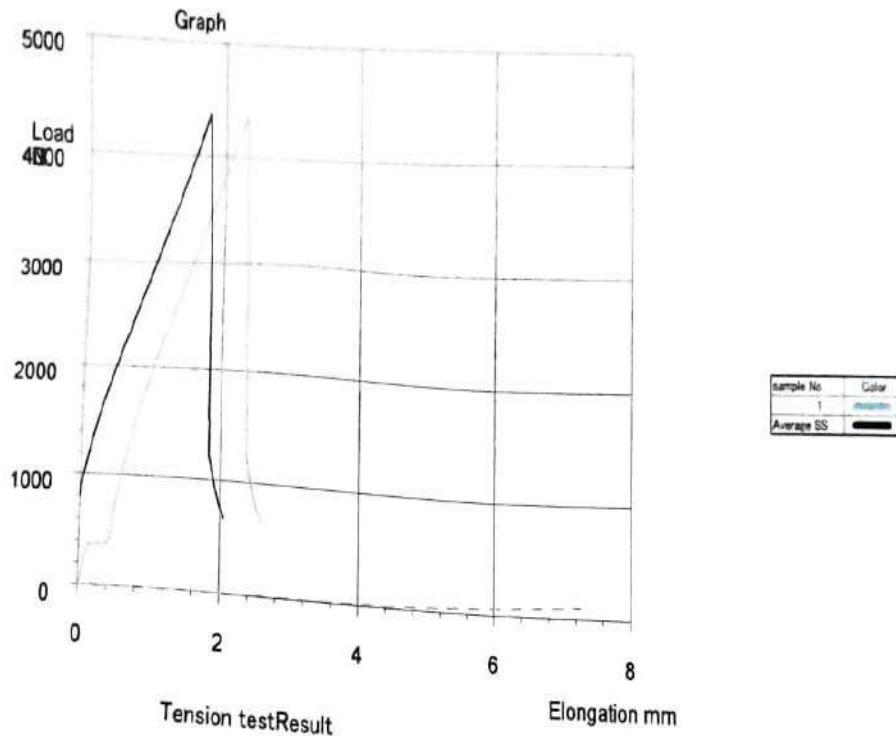
NIP. 19770201 200912 1 001



Machine name	RTF	Test type	Tension
Strain input 1	Not used	Test speed	5.0 mm/min
Chart speed	OFF	Machine rigidity	0 mm/kN
Point data(Load)	0 0 0	Point data(Elong)	0 0 0
Elastic modulus anal.	Interval 0.001 0.1	Initial sample length	Distance 98 mm
Load	Pitch 0.005 kN	Origin of elongation	Init. load 0.3 %RO
Elong adjust	No	Break point measurement	0.0005 kN
Save SS curve	Yes		

Test date	2025/08/12	Temperature	25 C
Humidity	60 %RH	Sample name	Plate Serat Sisal
Lot No.		Preparation	
Operator	Haeruddin Hafid S.T., M.T.	User	Yusdar Menta
Comment 1	10 % Serat, Resin 90 %	Comment 2	Panjang Serat 1cm, (1A)

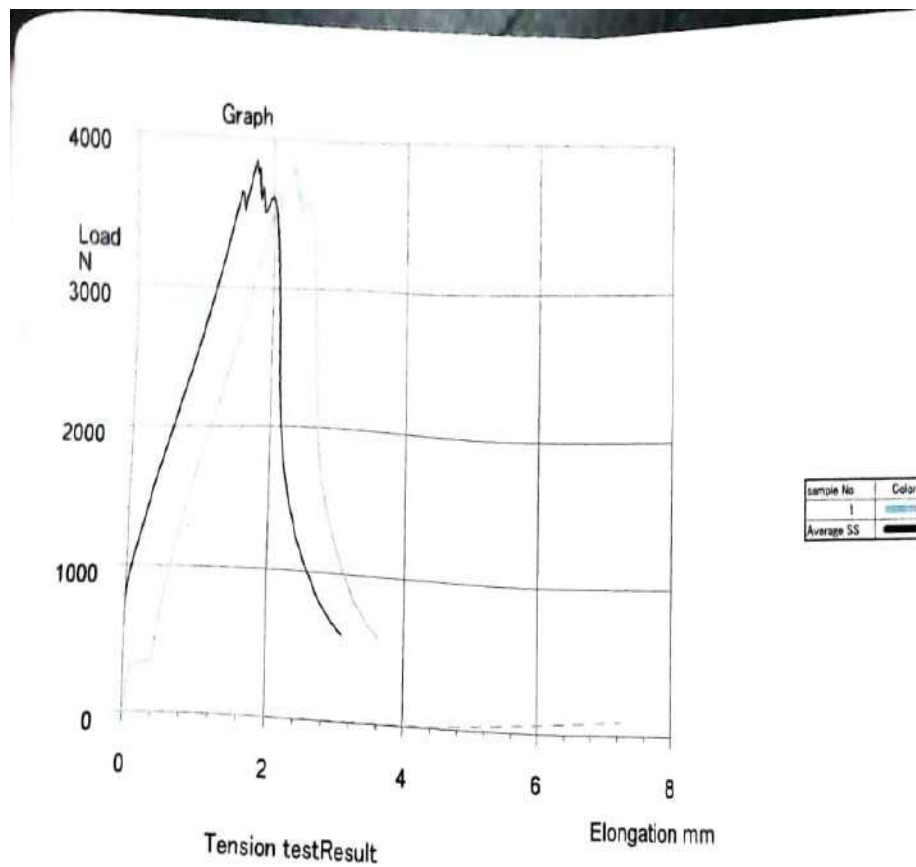
TestID=3787	Width	Thickness	Sectional ar	Maximum point	Break point	Upper yield	Elastic modu	Young
Test No	mm	mm	mm ²	Load	Stress	Load	N/mm ²	N/mm ²
1	20.000	10.000	200.00	3393.4	1.1742	*****	1659.0	1659.0



Machine name	RTF	Test type	Tension
Strain input 1	Not used	Test speed	5.0 mm/min
Chart speed	OFF	Machine rigidity	0 mm/kN
Point data(Load)	0	Point data(Elong)	0
kN	0	mm	0
Elastic modulus anal.	Interval	Initial sample length	Distance
Load	Pitch	Origin of elongation	Init. load
Elong adjust	No	Break point measurem	0.0005 kN
Save SS curve	Yes		

Test date	2025/08/12	Temperature	25 C
Humidity	60 %RH	Sample name	Plate Serat Sisal
Lot No.		Preparation	
Operator	Haeruddin Hafid S.T.,M.T.	User	Yusdar Menta
Comment 1	10 % Serat, Resin 90 %	Comment 2	Panjang Serat 1cm, (2A)

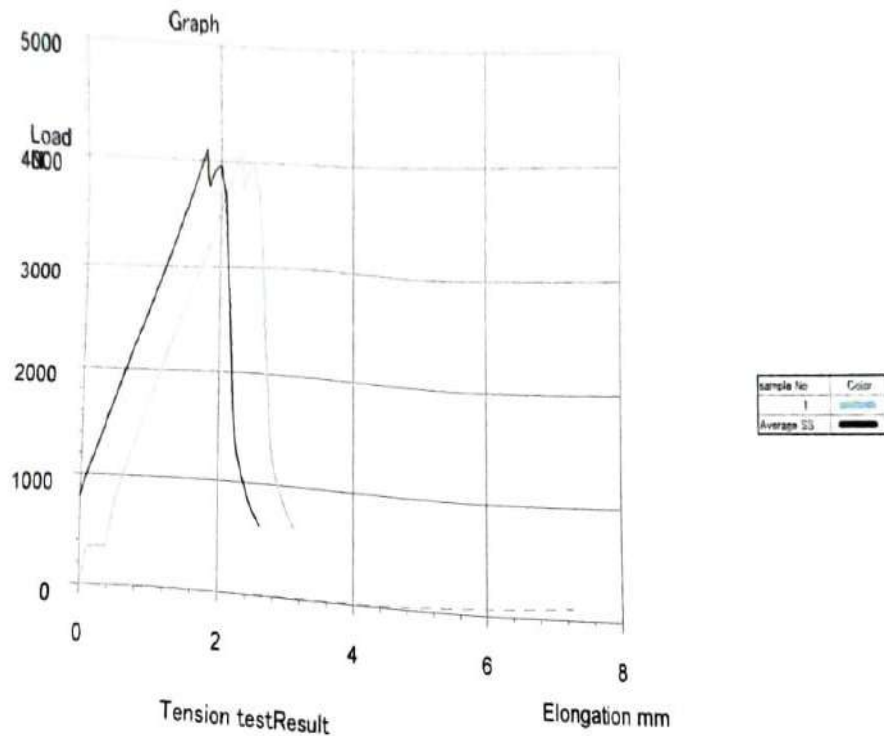
TestID=3788	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Elastic modu	Young
Test No	mm	mm	mm2	Load	Stress	Load	N/mm2	N/mm2
1	20.000	10.000	200.00	4376.7	1.8021	4376.7	472.87	472.87



Machine name	RTF			Test type	Tension		
Strain input 1	Not used			Test speed	5.0 mm/min		
Chart speed OFF				Machine rigidity	0 mm/kN		
Point data(Load)	0	0	0	Point data(Elong)	0	0	
kN	0	0	0	mm	0	0	
Elastic modulus anal.	Interval	0.001	0.1	Initial sample length	Distance	98 mm	
Load	Pitch	0.005 kN		Origin of elongation	Init. load	0.3 %RO	
Elong adjust	No				Break point measurem	0.0005 kN	
Save SS curve	Yes						

Test date	2025/08/12	Temperature	25 C
Humidity	60 %RH	Sample name	Plate Serat Sisal
Lot No		Preparation	
Operator	Haeruddin Hafid.S.T.,M.T.	User	Yusdar Menta
Comment 1	10 % Serat, Resin 90 %	Comment 2	Panjang Serat 1cm, (3A)

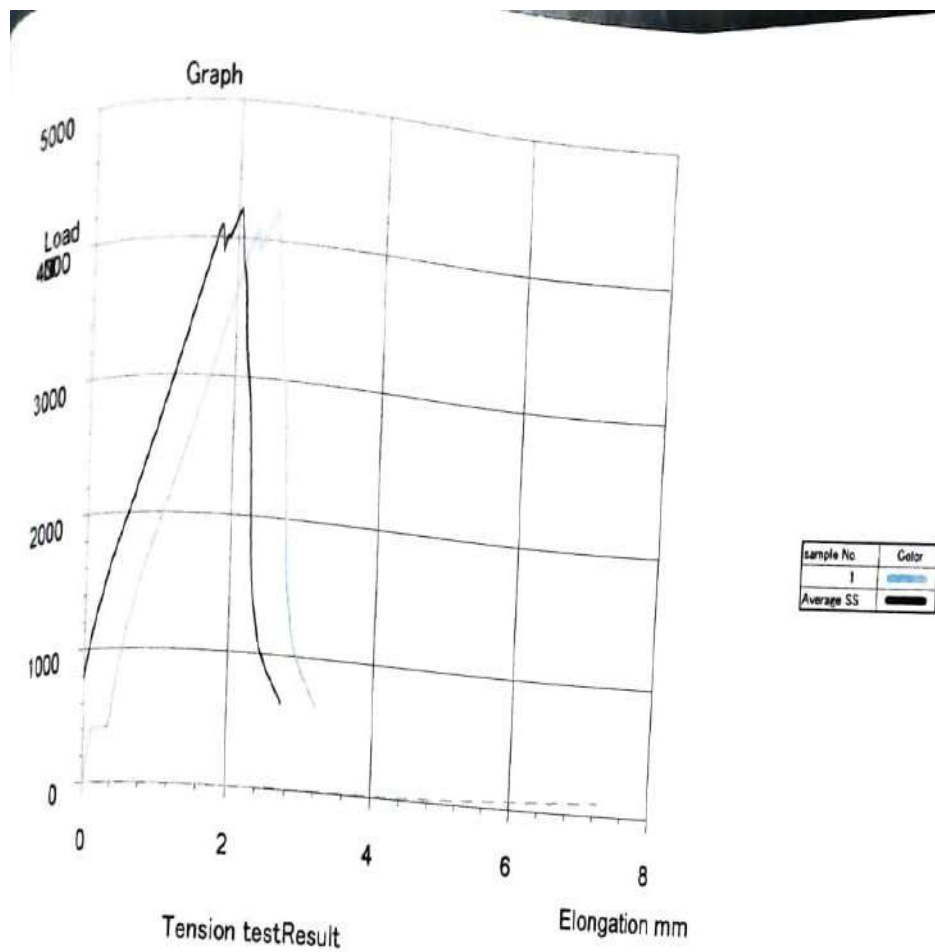
TestID=3789	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Elastic modu	Young
Test No	mm	mm	mm ²	Load	Stress	Load	N/mm ²	N/mm ²
1	20.000	10.000	200.00	3856.3	1.6702	3650.2	613.32	613.32



Machine name	RTF	Test type	Tension
Strain input 1	Not used	Test speed	5.0 mm/min
Chart speed	OFF	Machine rigidity	0 mm/kN
Point data(Load)	0 0 0	Point data(Elong)	0 0 0
kN	0 0 0	mm	0 0 0
Elastic modulus anal.	Interval 0.001	Initial sample length	Distance 98 mm
Load	Pitch 0.005 kN	Origin of elongation	Init. load 0.3 %RO
Elong adjust	No	Break point measure	0.0005 kN
Save SS curve	Yes		

Test date	2025/08/12	Temperature	25 C
Humidity	60 %RH	Sample name	Plate Serat Sisal
Lot No.		Preparation	
Operator	Haeruddin Hafid S.T., M.T.	User	Yusdar Menta
Comment 1	10 % Serat, Resin 90 %	Comment 2	Panjang Serat 1cm, (4A)

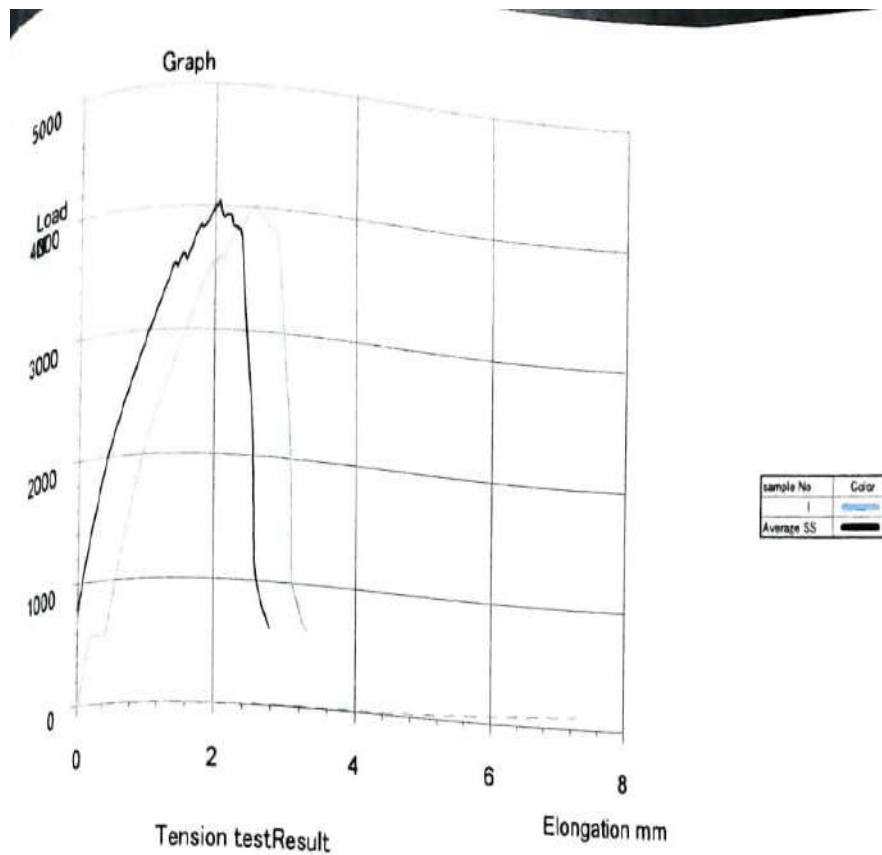
TestID=3790	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Elastic modu	Young
Test No	mm	mm	mm2	Load	Stress	Load	N/mm2	N/mm2
1	20.000	10.000	200.00	4096.4	1.7610	4096.4	589.37	589.37



Machine name	RTF			Test type	Tension		
Strain input 1	Not used			Test speed	5.0 mm/min		
Chart speed	OFF			Machine rigidity	0 mm/kN		
Point data(Load)	0	0	0	Point data(Elong)	0	0	0
kN	0	0	0	mm	0	0	0
Elastic modulus anal.	Interval	0.001	0.1	Initial sample length	Distance	98 mm	
Load	Pitch	0.005 kN		Origin of elongation	Init. load	0.3 %RO	
Elong adjust	No			Break point measurem	0.0005 kN		
Save SS curve	Yes						

Test date	2025/08/12		Temperature	25 C	
Humidity	60 %RH		Sample name	Plate Serat Sisal	
Lot No			Preparation		
Operator	Haeruddin Hafid S.T., M.T.		User	Yusdar Menta	
Comment 1	10 % Serat, Resin 90 %		Comment 2	Panjang Serat 1cm, (5A)	

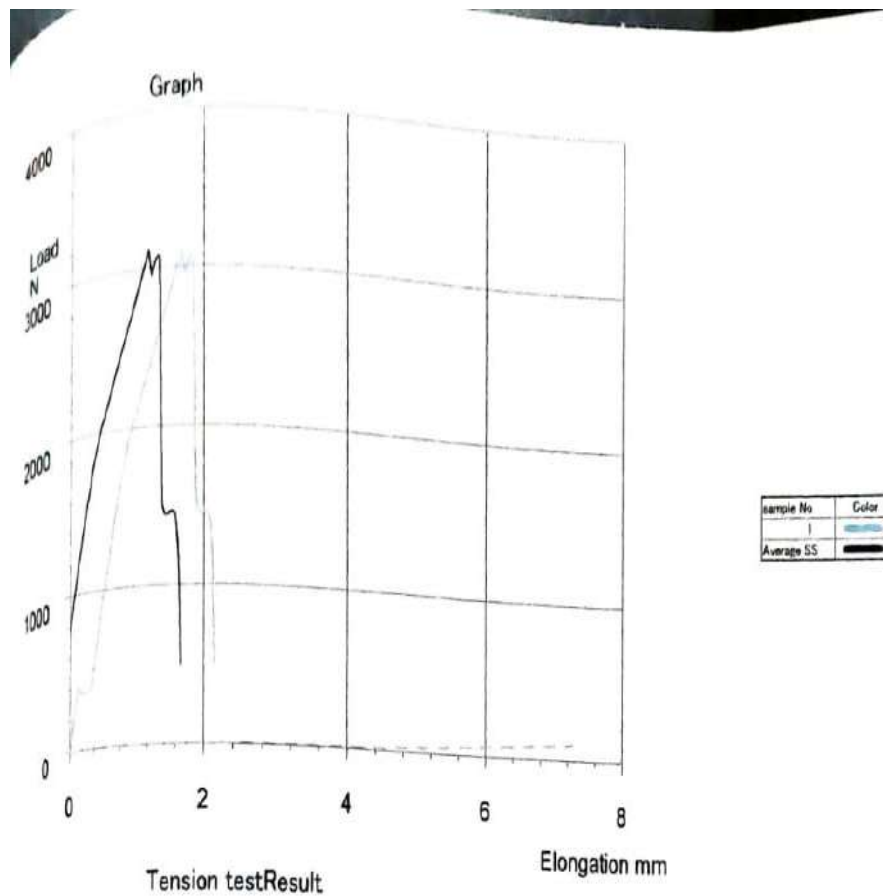
TestID=3791	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Elastic modu	Young
Test No	mm	mm	mm ²	Load	Stress	Load	N/mm ²	N/mm ²
1	20.000	10.000	200.00	4209.3	2.0652	4090.7	640.07	640.07



Machine name	RTF			Test type	Tension		
Strain input 1	Not used			Test speed	5.0 mm/min		
Chart speed OFF				Machine rigidity	0 mm/kN		
Point data(Load)	0	0	0	Point data(Elong)	0	0	0
kN	0	0	0	mm	0	0	0
Elastic modulus anal.	Interval	0.001	0.1	Initial sample length	Distance	98 mm	
Load	Pitch	0.005 kN		Origin of elongation	Init. load	0.3 %RO	
Elong adjust	No			Break point measurem	0.0005 kN		
Save SS curve	Yes						

Test date	2025/08/12	Temperature	25 C
Humidity	60 %RH	Sample name	Plate Serat Sisal
Lot No		Preparation	
Operator	Haeruddin Hafid S.T., M.T.	User	Yusdar Menta
Comment 1	10 % Serat, Resin 90 %	Comment 2	Panjang Serat 2 cm, (1A)

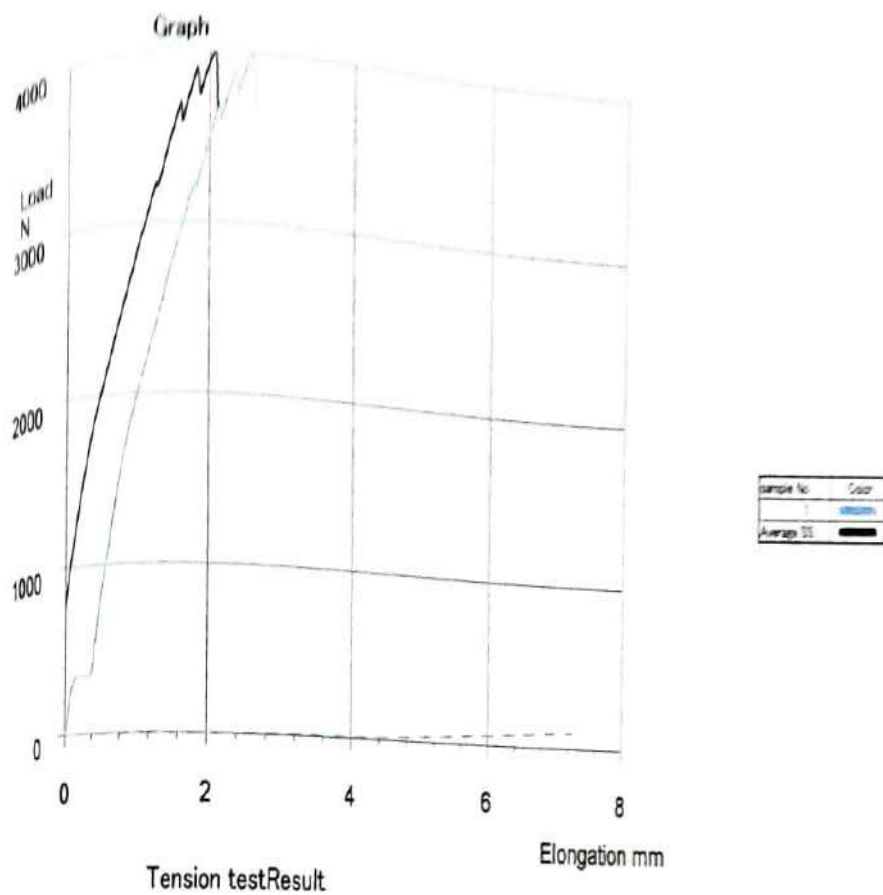
TestID=3792	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Elastic modu	Young
Test No	mm	mm	mm ²	Load N	Stress N/mm ²	Load N	N/mm ²	N/mm ²
1	20.000	10.000	200.00	4043.6	2.8020	4043.6	1607.2	1607.2



Machine name	RTF			Test type	Tension		
Strain input 1	Not used			Test speed	5.0 mm/min		
Chart speed OFF				Machine rigidity	0 mm/kN		
Point data(Load)	0	0	0	Point data(Elong)	0	0	0
kN	0	0	0	mm	0	0	0
Elastic modulus anal.	Interval	0.001	0.1	Initial sample length	Distance	98 mm	
Load	Pitch	0.005 kN		Origin of elongation	Init. load	0.3 %RO	
Elong adjust	No			Break point measurem	0.0005 kN		
Save SS curve	Yes						

Test date	2025/08/12			Temperature	25 C		
Humidity	60 %RH			Sample name	Plate Serat Sisal		
Lot No				Preparation			
Operator	Haeruddin Hafid.S.T.,M.T.			User	Yusdar Menta		
Comment 1	10 % Serat, Resin 90 %			Comment 2	Panjang Serat 2 cm, (2A)		

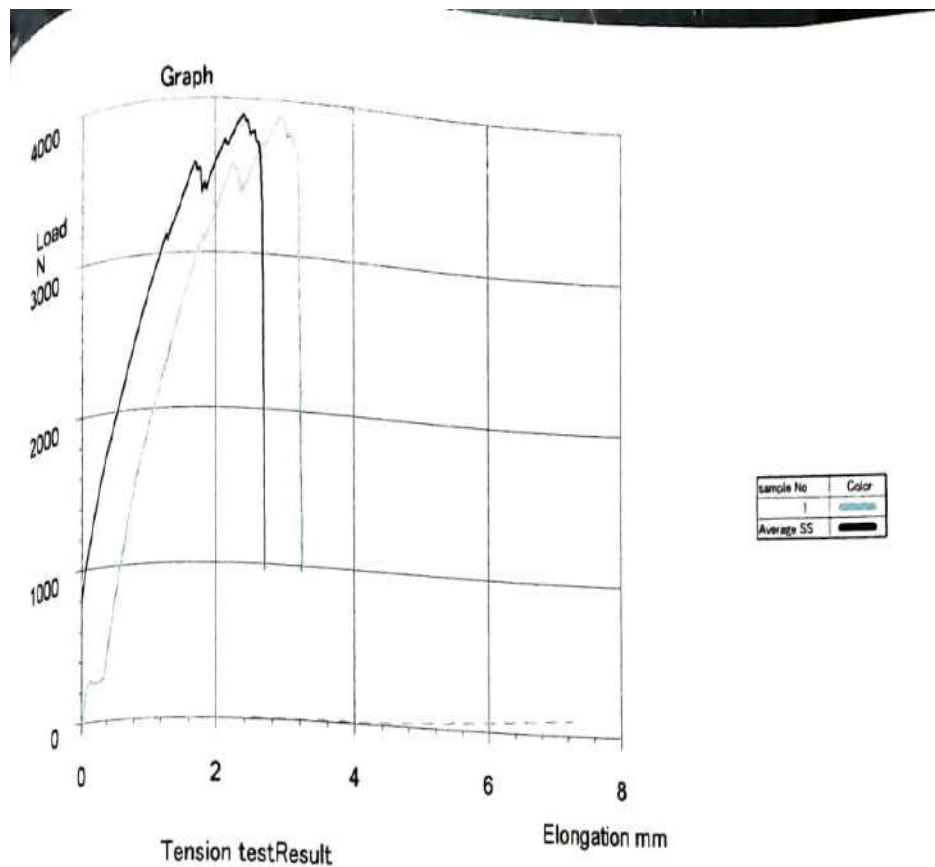
Test ID=3793	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Elastic modu	Young
Test No	mm	mm	mm ²	Load N	Stress N/mm ²	Load N	N/mm ²	N/mm ²
1	20.000	10.000	200.00	3111.9	1.9073	3111.9	1798.3	1798.3



Machine name	RTF	Test type	Tension
Strain input 1	Not used	Test speed	5.0 mm/min
Chart speed	OFF	Machine rigidity	0 mm/kN
Point data(Load)	0 0 0	Point data(Elong)	0 0 0
kN	0 0 0	mm	0 0 0
Elastic modulus anal.	Interval 0.001 0.1	Initial sample length	Distance 98 mm
Load	Pitch 0.005 kN	Origin of elongation	Init. load 0.3 %RO
Elong adjust	No	Break point measurem	0.0005 kN
Save SS curve	Yes		

Test date	2025/08/12	Temperature	25 C
Humidity	60 %RH	Sample name	Plate Serat Sisai
Lot No		Preparation	
Operator	Haeruddin Hafid S.T., M.T	User	Yusdar Menta
Comment 1	10 % Serat, Resin 90 %	Comment 2	Panjang Serat 2 cm, (3A)

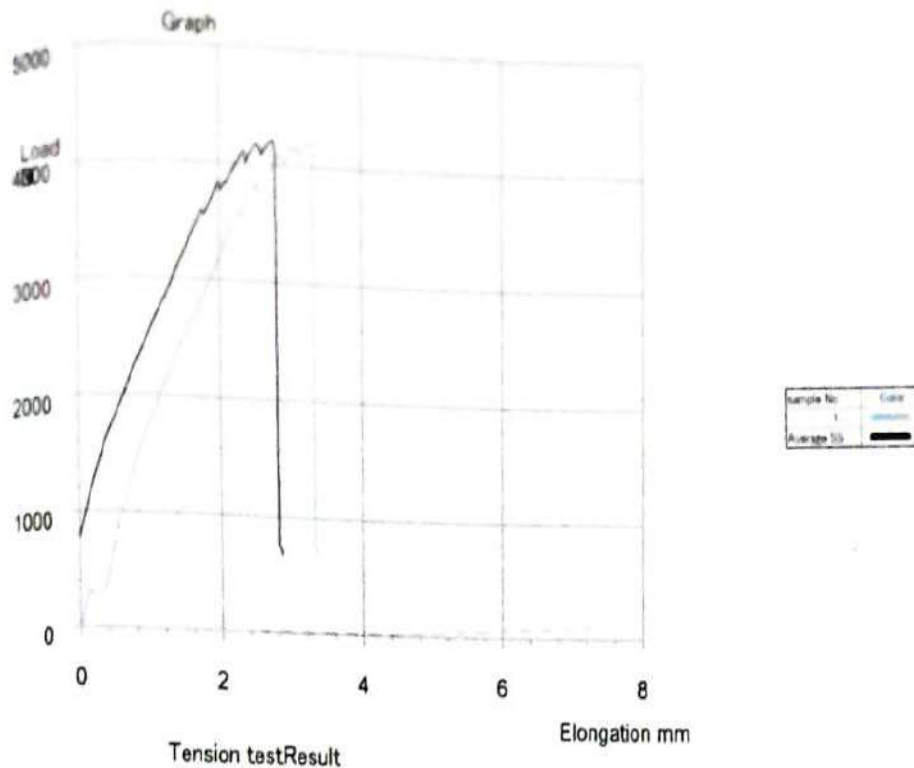
TestID=3794	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Elastic modu	Young
Test No	mm	mm	mm ²	Load N	Stress N/mm ²	Load N	N/mm ²	N/mm ²
1	20.000	10.000	200.00	3983.9	17011	3903.8	1797.4	1797.4



Machine name	RTF			Test type	Tension		
Strain input 1	Not used			Test speed	5.0 mm/min		
Chart speed OFF				Machine rigidity	0 mm/kN		
Point data(Load)	0	0	0	Point data(Elong)	0	0	0
kN	0	0	0	mm	0	0	0
Elastic modulus anal.	Interval	0.001	0.1	Initial sample length	Distance	98 mm	
Load	Pitch	0.005 kN		Origin of elongation	Init. load	0.3 %RO	
Elong adjust	No			Break point measurem	0.0005 kN		
Save SS curve	Yes						

Test date	2025/08/12			Temperature	25 C		
Humidity	60 %RH			Sample name	Plate Serat Sisal		
Lot No.				Preparation			
Operator	Haeruddin Hafid S.T.,M.T.			User	Yusdar Menta		
Comment 1	10 % Serat, Resin 90 %			Comment 2	Panjang Serat 2 cm, (4A)		

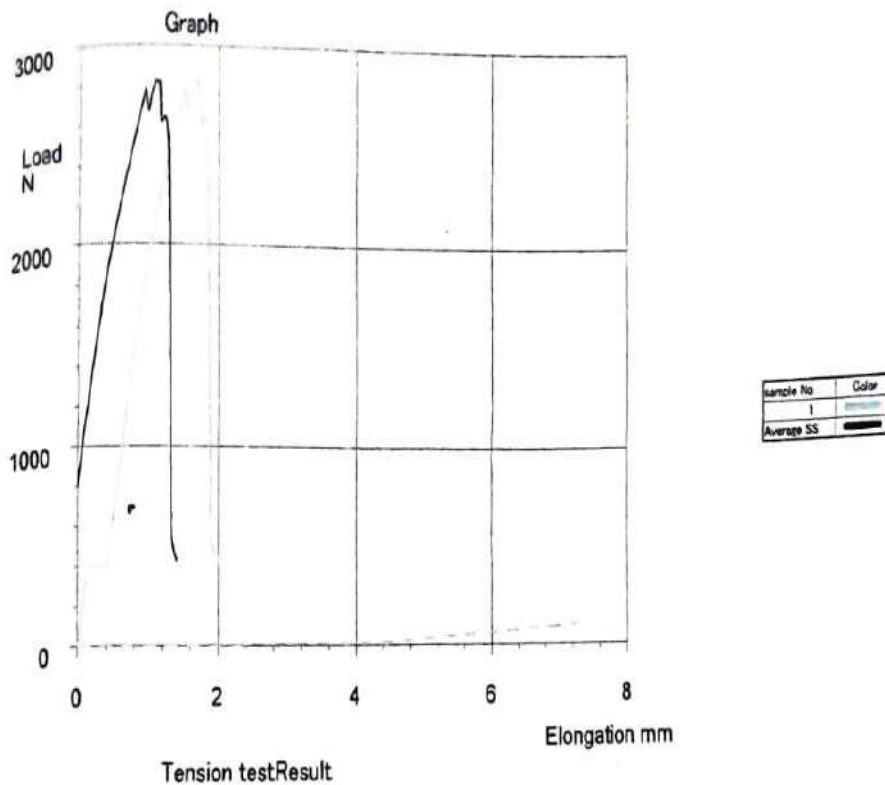
TestID=3795	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Elastic modu	Young
Test No	mm	mm	mm ²	Load N	Stress N/mm ²	Load N	N/mm ²	N/mm ²
1	20.000	10.000	200.00	3897.6	1.3635	3584.7	1682.5	1682.5



Machine name	RTF	Test type	Tension
Strain input 1	Not used	Test speed	5.0 mm/min
Chart speed	OFF	Machine rigidity	0 mm/kN
Point data(Load)	0 0 0	Point data(Elong)	0 0 0
	0 0 0		0 0 0
Elastic modulus anal.	Interval 0.001 0.1	Initial sample length	Distance 98 mm
Load	Pitch 0.005 kN	Origin of elongation	Init. load 0.3 %RO
Elong adjust	No	Break point measurem	0.0005 kN
Save SS curve	Yes		

Test date	2025/08/12	Temperature	25 C
Humidity	60 %RH	Sample name	Plate Serat Sisal
Lot No		Preparation	
Operator	Haeruddin Hafid S.T., M.T.	User	Yusdar Menta
Comment 1	10 % Serat, Resin 90 %	Comment 2	Panjang Serat 2 cm, (5A)

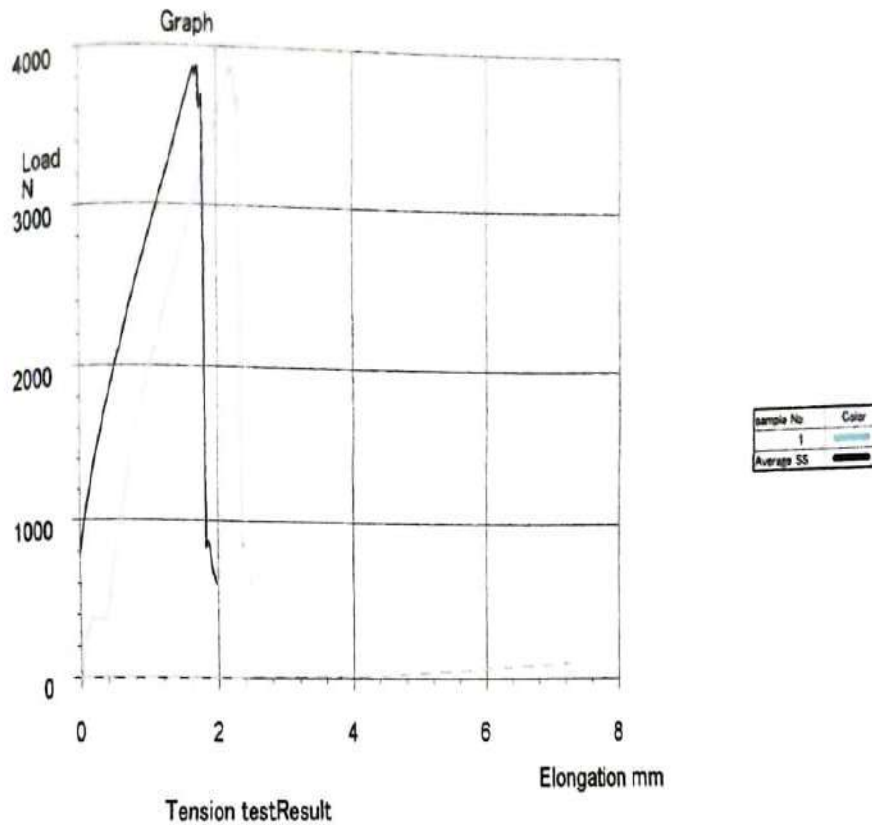
TestID=3796	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Elastic modu	Young
Test No	mm	mm	mm ²	Load	Stress	Load	N/mm ²	N/mm ²
1	20.000	10.000	200.00	4209.5	1.5771	3834.6	1675.8	1675.8



Machine name	RTF	Test type	Tension
Strain input 1	Not used	Test speed	5.0 mm/min
Chart speed	OFF	Machine rigidity	0 mm/kN
Point data(Load)	0 0 0	Point data(Elong)	0 0 0
	0 0 0	mm	0 0 0
Elastic modulus anal.	Interval 0.001 0.1	Initial sample length	Distance 98 mm
Load	Pitch 0.005 kN	Origin of elongation	Init. load 0.3 %RO
Elong adjust	No	Break point measurem	0.0005 kN
Save SS curve	Yes		

Test date	2025/08/12	Temperature	25 C
Humidity	60 %RH	Sample name	Plate Serat Sisal
Lot No.		Preparation	
Operator	Haeruddin Hafid S.T., M.T.	User	Yusdar Menta
Comment 1	10 % Serat, Resin 90 %	Comment 2	Panjang Serat 3 cm, (1A)

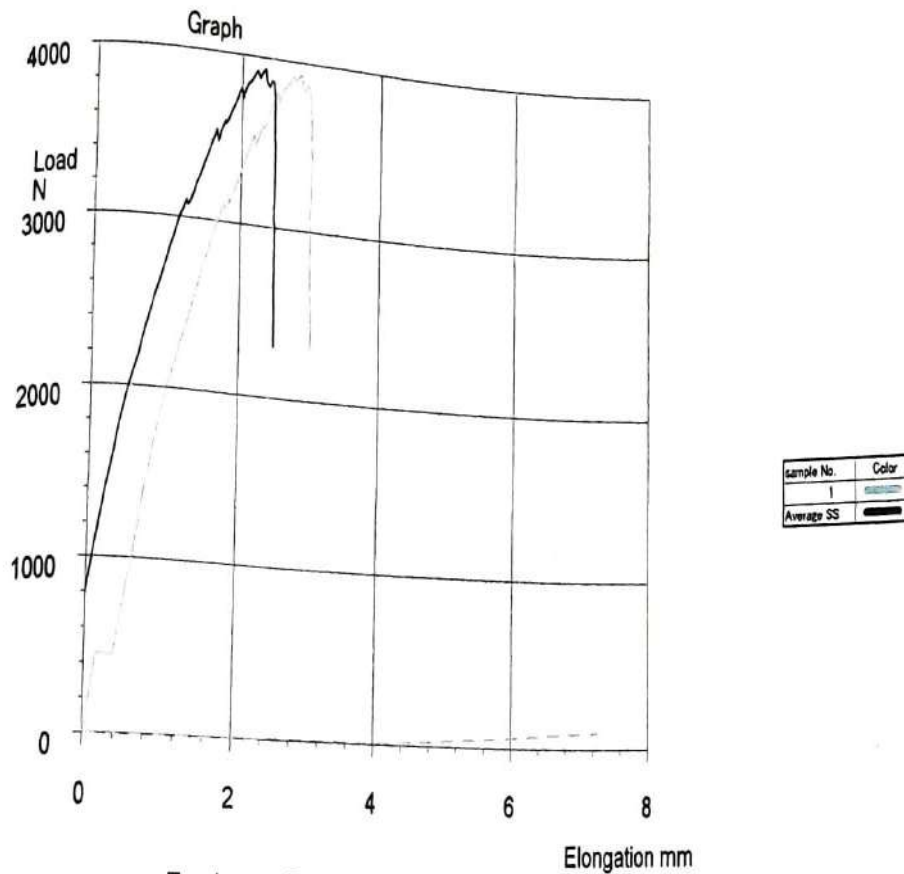
TestID=3797	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Elastic modu	Young
Test No	mm	mm	mm2	Load	Stress	Load	N/mm2	N/mm2
1	20.000	10.000	200.00	2822.6	1.9955	2782.3	1735.6	1735.6



Machine name	RTF	Test type	Tension
Strain input 1	Not used	Test speed	5.0 mm/min
Chart speed	OFF	Machine rigidity	0 mm/kN
Point data(Load)	0 0 0	Point data(Elong)	0 0 0
	kN		mm
Elastic modulus anal.	Interval 0.001 0.1	Initial sample length	Distance 98 mm
Load	Pitch 0.005 kN	Origin of elongation	Init load 0.3 %RO
Elong adjust	No	Break point measure	0.0005 kN
Save SS curve	Yes		

Test date	2025/08/12	Temperature	25 C
Humidity	60 %RH	Sample name	Plate Serat Sisal
Lot No		Preparation	
Operator	Haeruddin Hafid S.T. M.T.	User	Yusdar Menta
Comment 1	10 % Serat, Resin 90 %	Comment 2	Panjang Serat 3 cm, (2A)

TestID=3798	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Elastic modu	Young
Test No	mm	mm	mm ²	Load N	Stress N/mm ²	Load N	N/mm ²	N/mm ²
1	20.000	10.000	200.00	3871.0	1.8568	3871.0	1847.5	1847.5

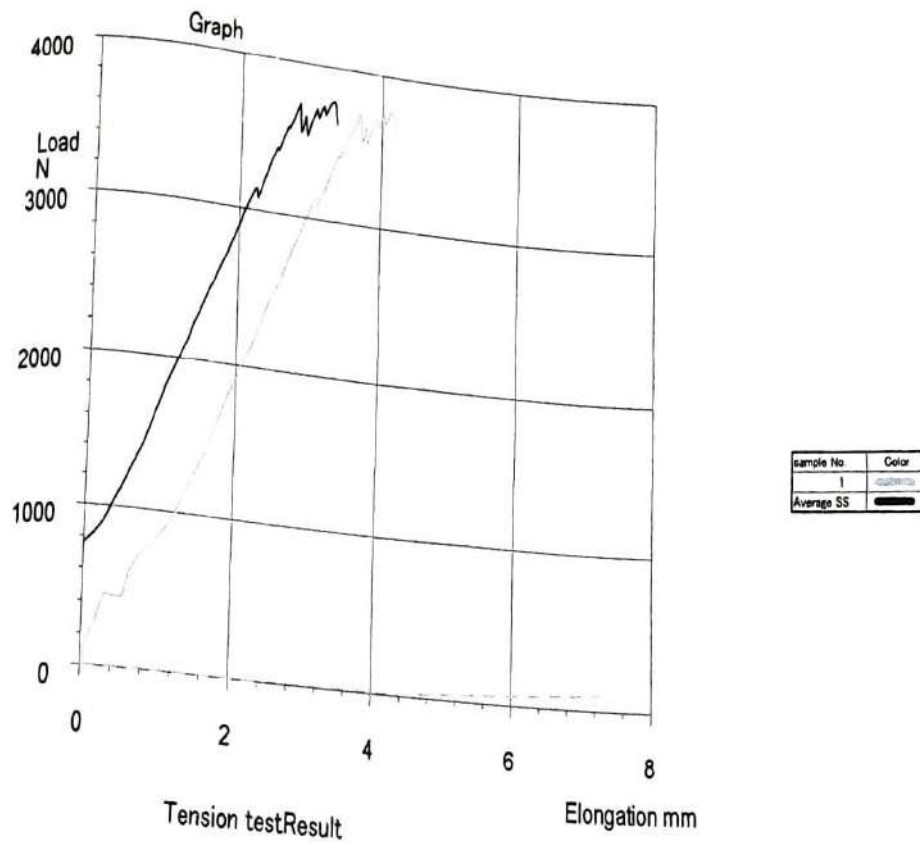


Tension testResult

Machine name	RTF			Test type	Tension		
Strain input 1	Not used			Test speed	5.0 mm/min		
Chart speed OFF				Machine rigidity	0 mm/kN		
Point data(Load)	0	0	0	Point data(Elong)	0	0	0
	kN	0	0		0	mm	0
Elastic modulus anal.	Interval	0.001	0.1	Initial sample length	Distance	98 mm	
	Load	Pitch	0.005 kN	Origin of elongation	Init. load	0.3 %RO	
Elong adjust	No			Break point measure	0.0005 kN		
Save SS curve	Yes						

Test date	2025/08/12	Temperature	25 C
Humidity	60 %RH	Sample name	Plate Serat Sisal
Lot No.		Preparation	
Operator	Haeruddin Hafid S.T., M.T.	User	Yusdar Menta
Comment 1	10 % Serat, Resin 90 %	Comment 2	Panjang Serat 3 cm, (3A)

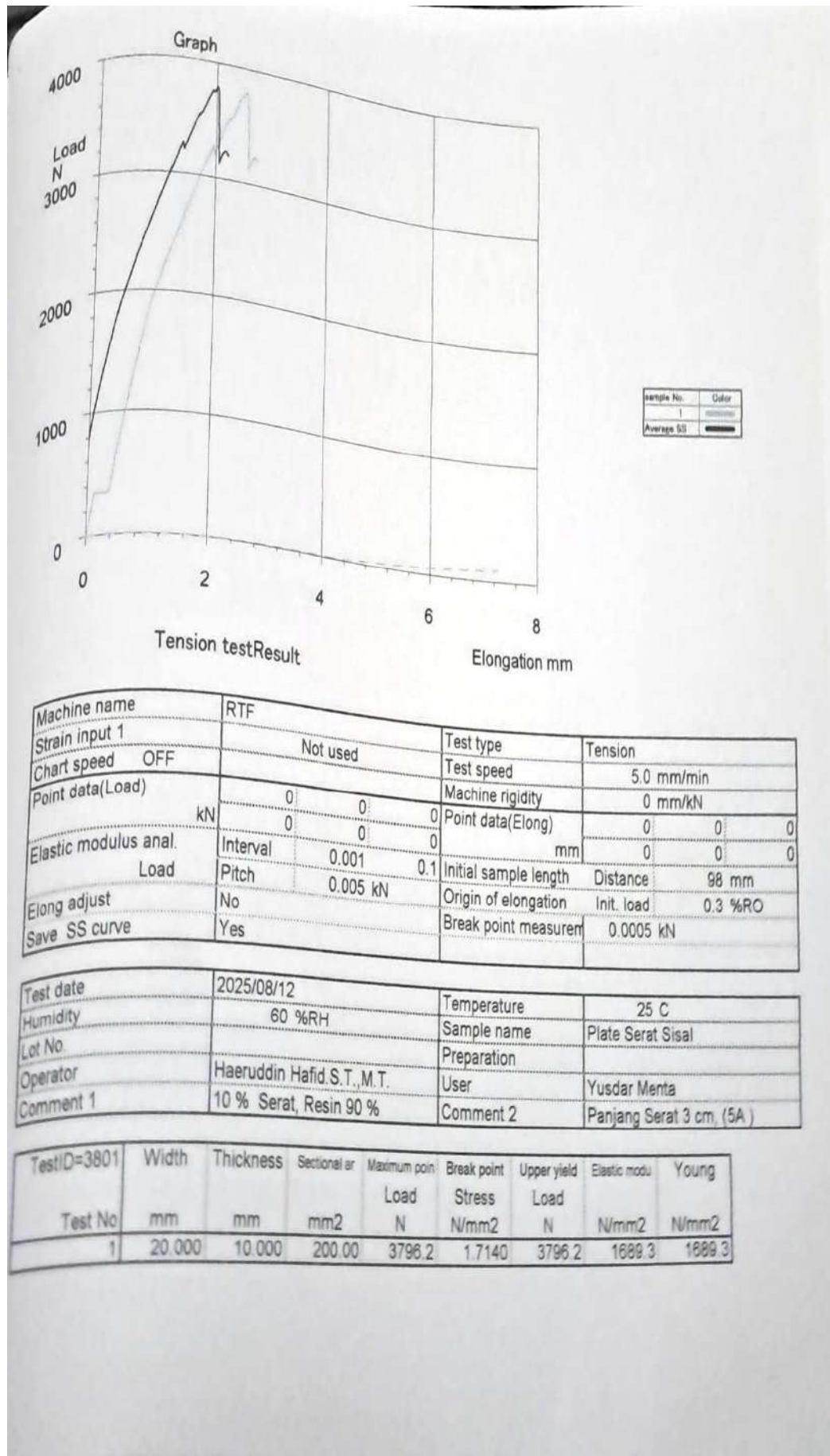
TestID=3799	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Elastic modu	Young
Test No	mm	mm	mm ²	Load N	Stress N/mm ²	Load N	N/mm ²	N/mm ²
1	20.000	10.000	200.00	3931.4	2.2526	3931.4	1633.3	1633.3

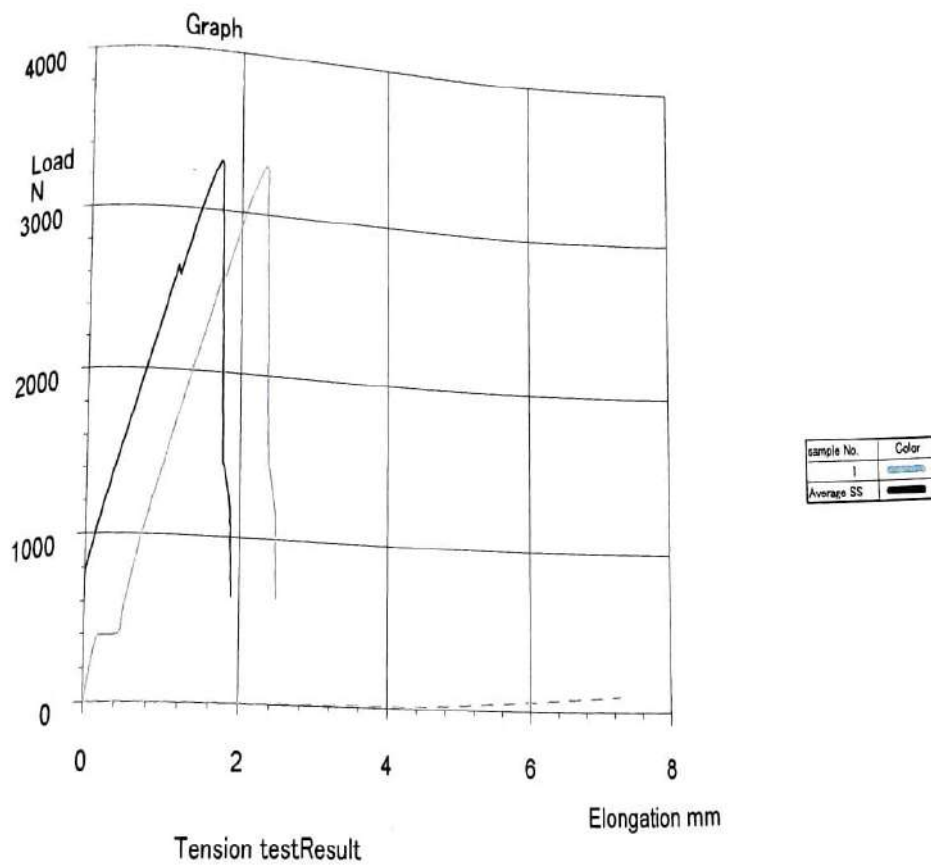


Machine name	RTF	Test type	Tension
Strain input 1	Not used	Test speed	5.0 mm/min
Chart speed	OFF	Machine rigidity	0 mm/kN
Point data(Load)	0 0 0	Point data(Elong)	0 0 0
kN	0 0 0	mm	0 0 0
Elastic modulus anal.	Interval 0.001 0.1	Initial sample length	Distance 98 mm
Load	Pitch 0.005 kN	Origin of elongation	Init. load 0.3 %RO
Elong adjust	No	Break point measure	0.0005 kN
Save SS curve	Yes		

Test date	2025/08/12	Temperature	25 C
Humidity	60 %RH	Sample name	Plate Serat Sisal
Lot No.		Preparation	
Operator	Haeruddin Hafid S.T., M.T.	User	Yusdar Menta
Comment 1	10 % Serat, Resin 90 %	Comment 2	Panjang Serat 3 cm, (4A)

TestID=3800	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Elastic modu	Young
Test No	mm	mm	mm2	Load N	Stress N/mm2	Load N	N/mm2	N/mm2
1	20.000	10.000	200.00	3772.5	2.2472	3726.0	1359.6	1359.6

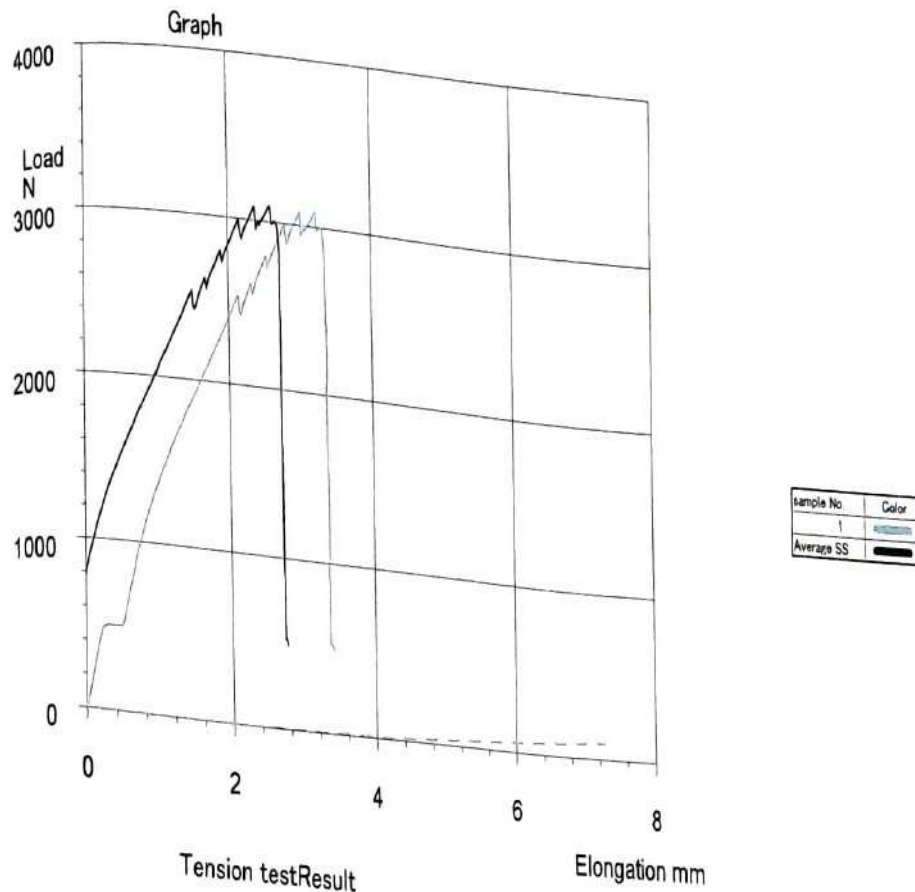




Machine name	RTF			Test type	Tension		
Strain input 1	Not used			Test speed	5.0 mm/min		
Chart speed	OFF			Machine rigidity	0 mm/kN		
Point data(Load)	0	0	0	Point data(Elong)	0	0	0
	kN	0	0		mm	0	0
Elastic modulus anal.	Interval	0.001	0.1	Initial sample length	Distance	98 mm	
Load	Pitch	0.005 kN		Origin of elongation	Init. load	0.3 %RO	
Elong adjust	No			Break point measurem	0.0005 kN		
Save SS curve	Yes						

Test date	2025/08/12	Temperature	25 C
Humidity	60 %RH	Sample name	Plate Serat Sisal
Lot No.		Preparation	
Operator	Haeruddin Hafid S.T., M.T.	User	Yusdar Menta
Comment 1	10 % Serat, Resin 90 %	Comment 2	Panjang Serat 4 cm, (1A)

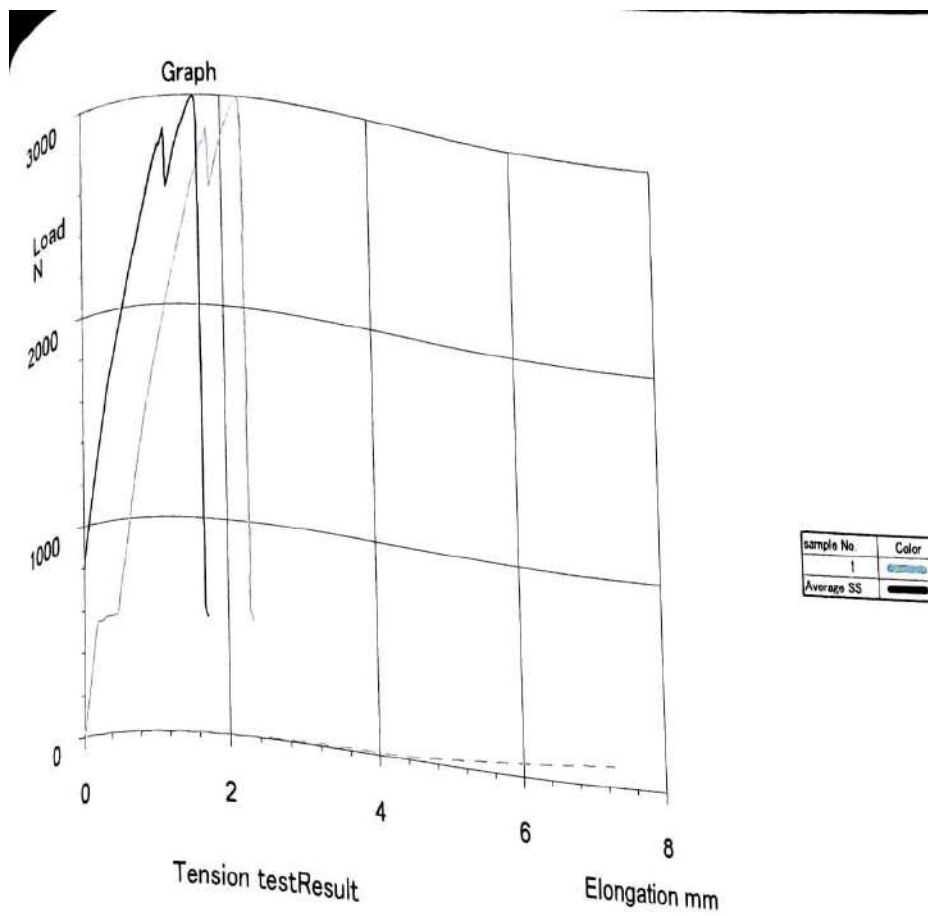
TestID=3802	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Elastic modu	Young
Test No	mm	mm	mm ²	Load N	Stress N/mm ²	Load N	N/mm ²	N/mm ²
1	20.000	10.000	200.00	3307.6	1.9543	3307.6	1568.3	1568.3



Machine name	RTF	Test type	Tension
Strain input 1	Not used	Test speed	5.0 mm/min
Chart speed	OFF	Machine rigidity	0 mm/kN
Point data(Load)	0: 0: 0	Point data(Elong)	0: 0: 0
Elastic modulus anal.	Interval 0.001	Initial sample length	Distance 98 mm
Load	Pitch 0.005 kN	Origin of elongation	Init. load 0.3 %RO
Elong adjust	No	Break point measure	0.0005 kN
Save SS curve	Yes		

Test date	2025/08/12	Temperature	25 C
Humidity	60 %RH	Sample name	Plate Serat Sisal
Lot No.		Preparation	
Operator	Haeruddin Hafid S.T, M.T.	User	Yusdar Menta
Comment 1	10 % Serat, Resin 90 %	Comment 2	Panjang Serat 4 cm, (2A)

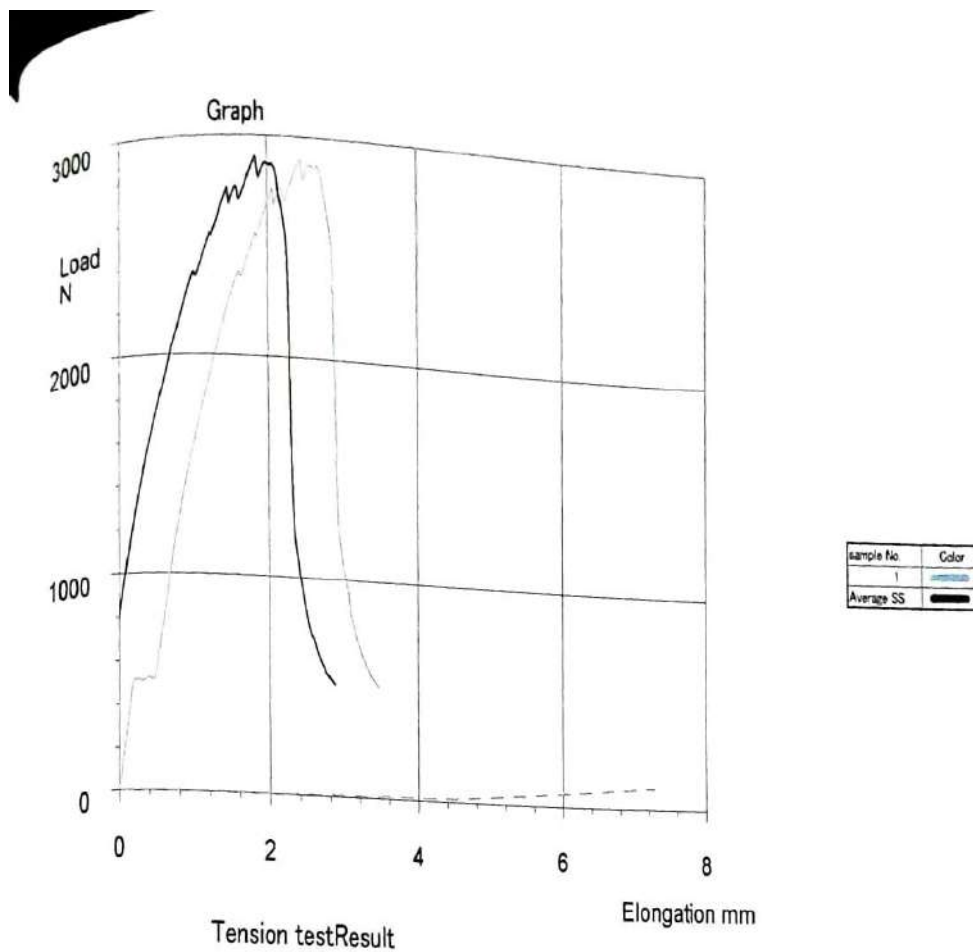
TestID=3803	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Elastic modu	Young
Test No	mm	mm	mm2	Load	Stress	Load	N/mm2	N/mm2
1	20 000	10 000	200.00	3092.7	2 4649	2536.0	1186.1	1186.1



Machine name	RTF	Test type	Tension
Strain input 1	Not used	Test speed	5.0 mm/min
Chart speed	OFF	Machine rigidity	0 mm/kN
Point data(Load)	0 0 0	Point data(Elong)	0 0 0
Elastic modulus anal.	Interval 0.001 0.1	Initial sample length	Distance 98 mm
Load	Pitch 0.005 kN	Origin of elongation	Init. load 0.3 %RO
Elong adjust	No	Break point measurem	0.0005 kN
Save SS curve	Yes		

Test date	2025/08/12	Temperature	25 C
Humidity	60 %RH	Sample name	Plate Serat Sisal
Lot No.		Preparation	
Operator	Haeruddin Hafid S.T., M.T.	User	Yusdar Menta
Comment 1	10 % Serat, Resin 90 %	Comment 2	Panjang Serat 4 cm, (3A)

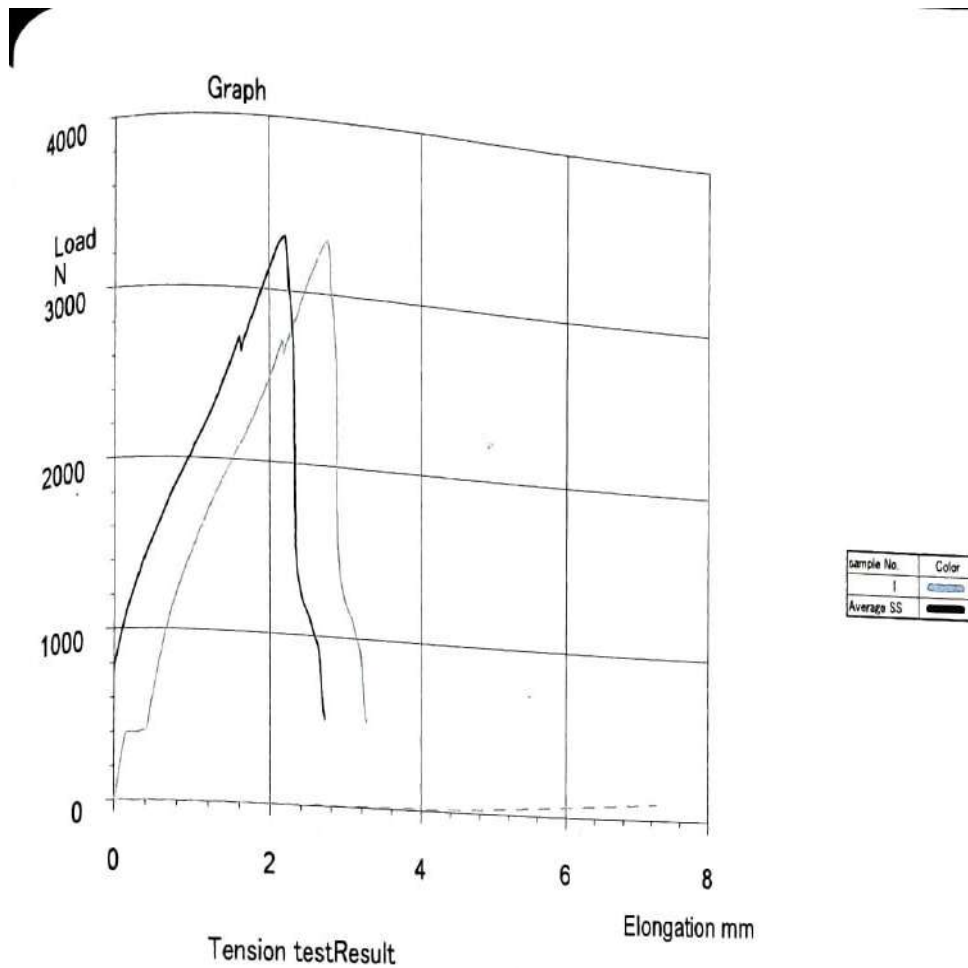
TestID=3804	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Elastic modu	Young
Test No	mm	mm	mm2	Load N	Stress N/mm2	Load N	N/mm2	N/mm2
1	20.000	10.000	200.00	2991.6	14.196	2839.3	1357.9	1357.9



Machine name	RTF	Test type	Tension
Strain input 1	Not used	Test speed	5.0 mm/min
Chart speed	OFF	Machine rigidity	0 mm/kN
Point data(Load)	0: 0: 0	Point data(Elong)	0: 0: 0
kN	0: 0: 0	mm	0: 0: 0
Elastic modulus anal.	Interval 0.001 0.1	Initial sample length	Distance 98 mm
Load	Pitch 0.005 kN	Origin of elongation	Init. load 0.3 %RO
Elong adjust	No	Break point measurement	0.0005 kN
Save SS curve	Yes		

Test date	2025/08/12	Temperature	25 C
Humidity	60 %RH	Sample name	Plate Serat Sisal
Lot No.		Preparation	
Operator	Haeruddin Hafid S.T., M.T.	User	Yusdar Menta
Comment 1	10 % Serat, Resin 90 %	Comment 2	Panjang Serat 4 cm, (4A)

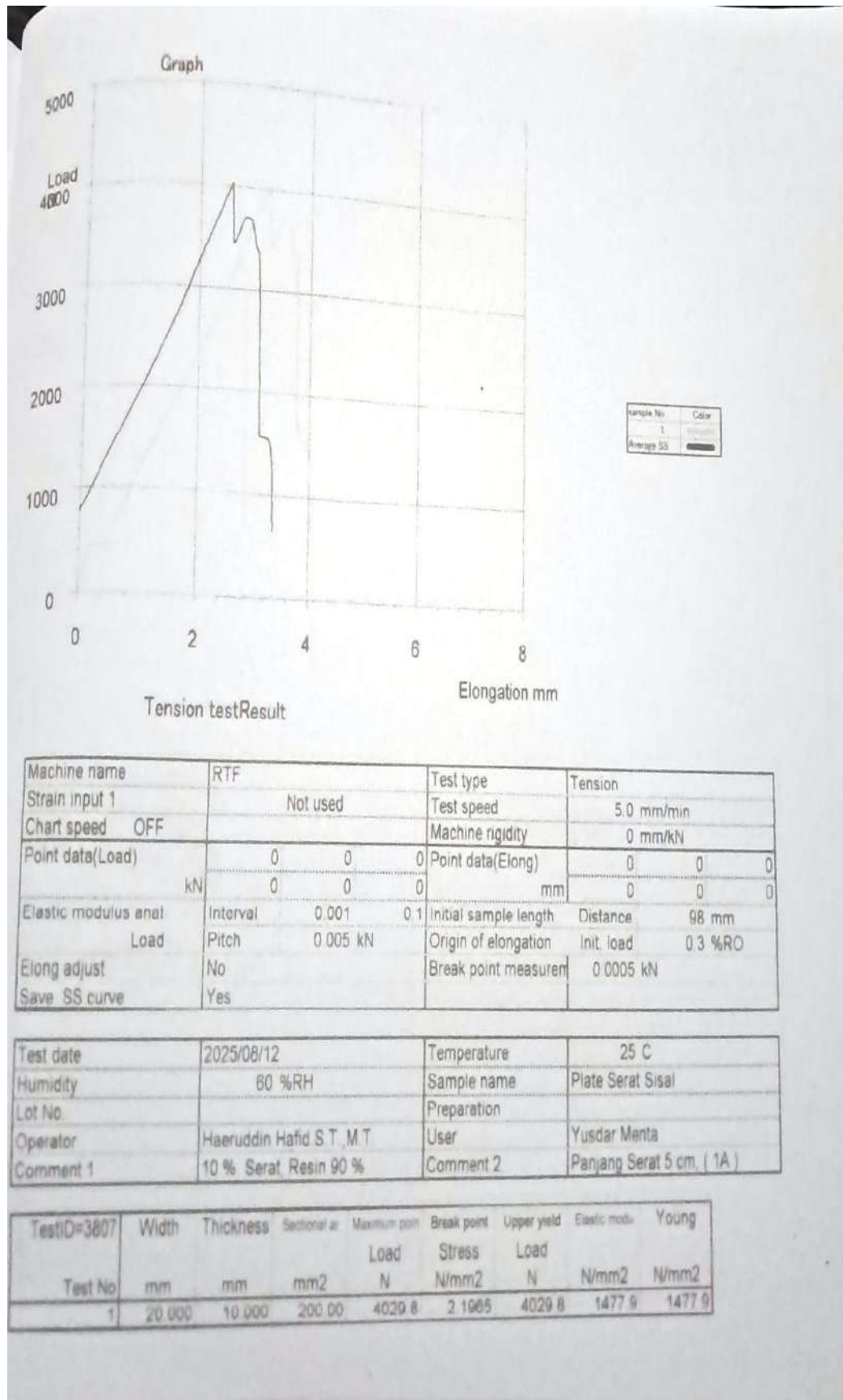
TestID=3805	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Elastic modu	Young
Test No	mm	mm	mm2	Load N	Stress N/mm2	Load N	N/mm2	N/mm2
1	20.000	10.000	200.00	2899.6	2.5341	2765.6	1472.4	1472.4

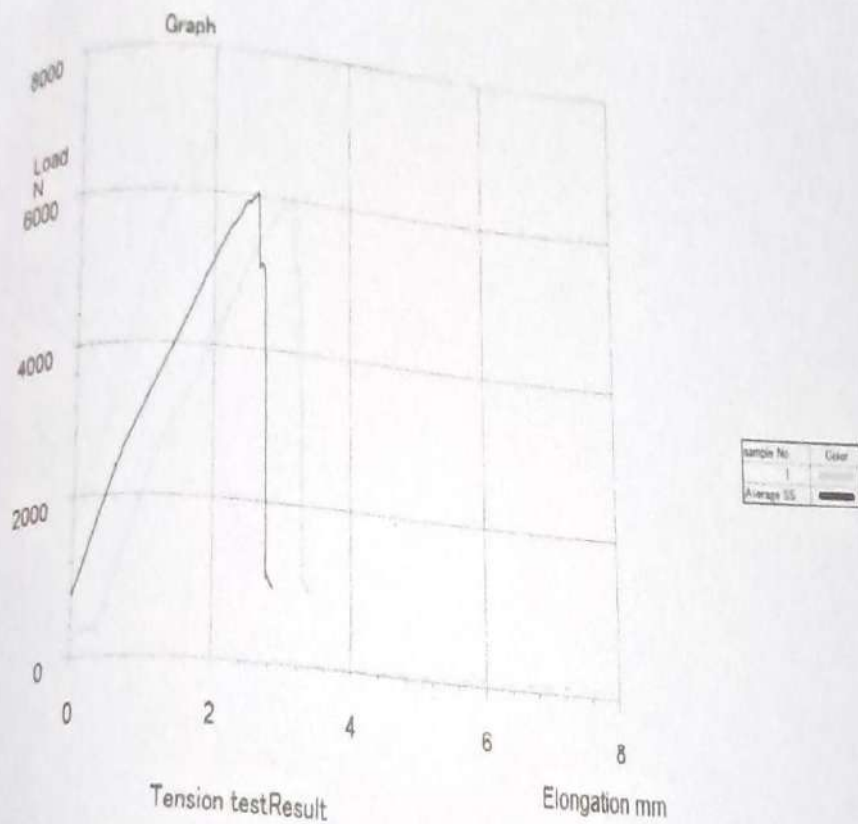


Machine name	RTF	Test type	Tension
Strain input 1	Not used	Test speed	5.0 mm/min
Chart speed	OFF	Machine rigidity	0 mm/kN
Point data(Load)	0: 0: 0	Point data(Elong)	0: 0: 0
kN	0: 0: 0	mm	0: 0: 0
Elastic modulus anal.	Interval 0.001 0.1	Initial sample length	Distance 98 mm
Load	Pitch 0.005 kN	Origin of elongation	Init. load 0.3 %RO
Elong adjust	No	Break point measurement	0.0005 kN
Save SS curve	Yes		

Test date	2025/08/12	Temperature	25 C
Humidity	60 %RH	Sample name	Plate Serat Sisal
Lot No		Preparation	
Operator	Haeruddin Hafid.S.T.,M.T.	User	Yusdar Menta
Comment 1	10 % Serat, Resin 90 %	Comment 2	Panjang Serat 4 cm, (5A)

TestID=3806	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Elastic modu	Young
Test No	mm	mm	mm2	Load N	Stress N/mm2	Load N	N/mm2	N/mm2
1	20 000	10 000	200 00	3310 3	1 9859	3310 3	1617 5	1617 5

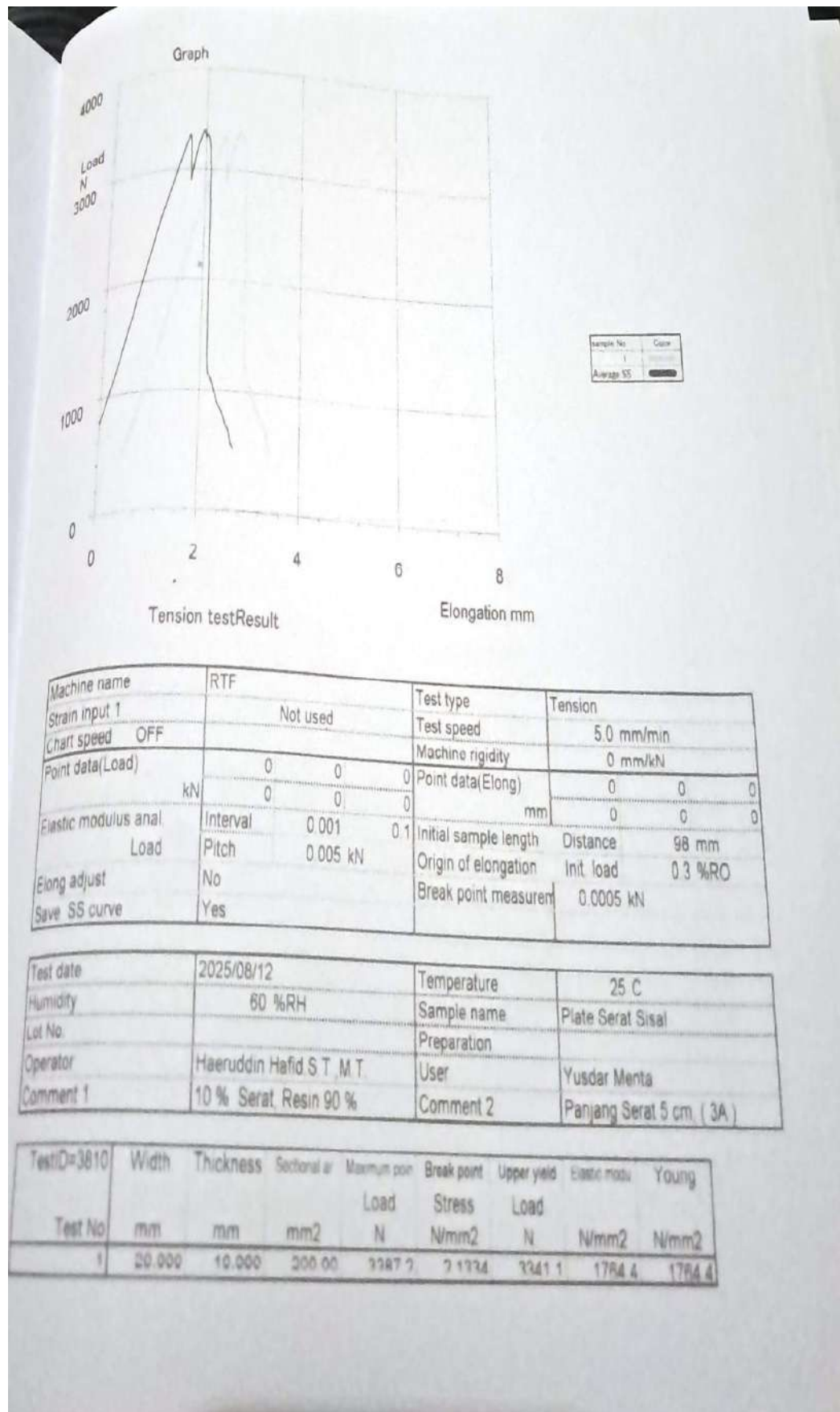


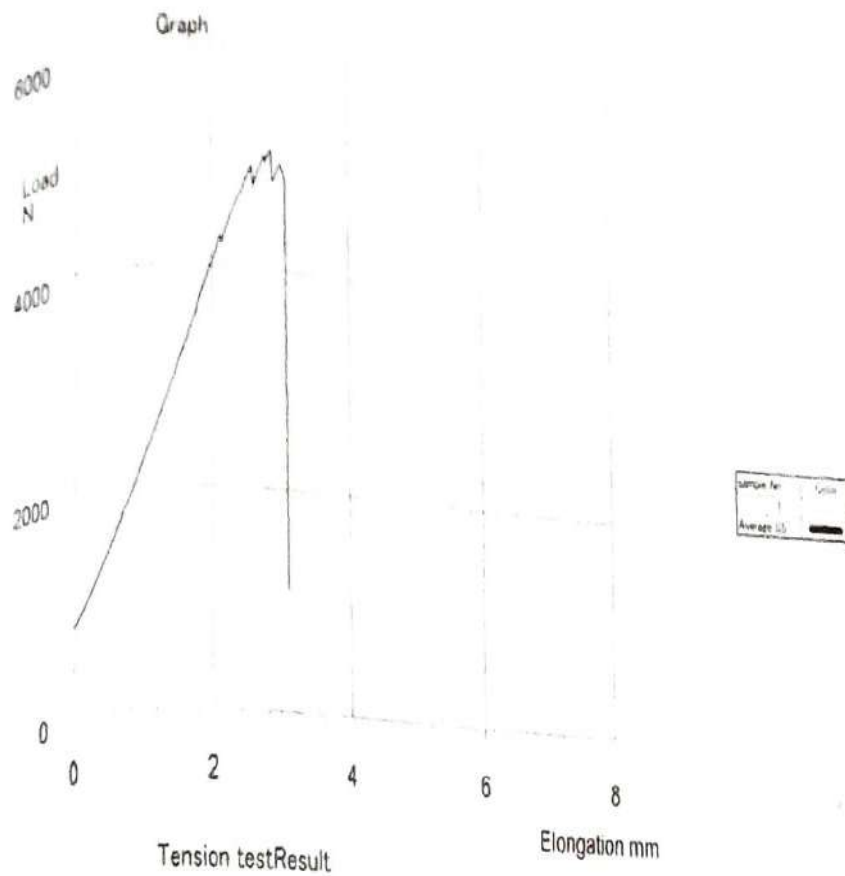


Machine name	RTF			Test type	Tension		
Strain input 1	Not used			Test speed	5.0 mm/min		
Chart speed	OFF			Machine rigidity	0 mm/kN		
Point data(Load)	0	0	0	Point data(Elong)	0	0	0
kN	0	0	0	mm	0	0	0
Elastic modulus anal.	Interval	0.001	0.1	Initial sample length	Distance	98 mm	
Load	Pitch	0.005 kN		Origin of elongation	Init. load	0.3 %RO	
Elong adjust	No			Break point measurem	0.0005 kN		
Save SS curve	Yes						

Test date	2025/08/12		Temperature	25 C	
Humidity	60 %RH		Sample name	Plate Serat Sisal	
Lot No			Preparation		
Operator	Haeruddin Hafid S.T., M.T		User	Yusdar Menta	
Comment 1	10 % Serat, Resin 90 %		Comment 2	Panjang Serat 5 cm, (2A)	

Test/D=3813	Width	Thickness	Sectional ar	Maximum pon	Break point	Upper yield	Elastic modu	Young
Test No	mm	mm	mm ²	Load	Stress	Load	N/mm ²	N/mm ²
1	20.000	10.000	200.00	6056.3	29.555	6056.3	605.33	605.33

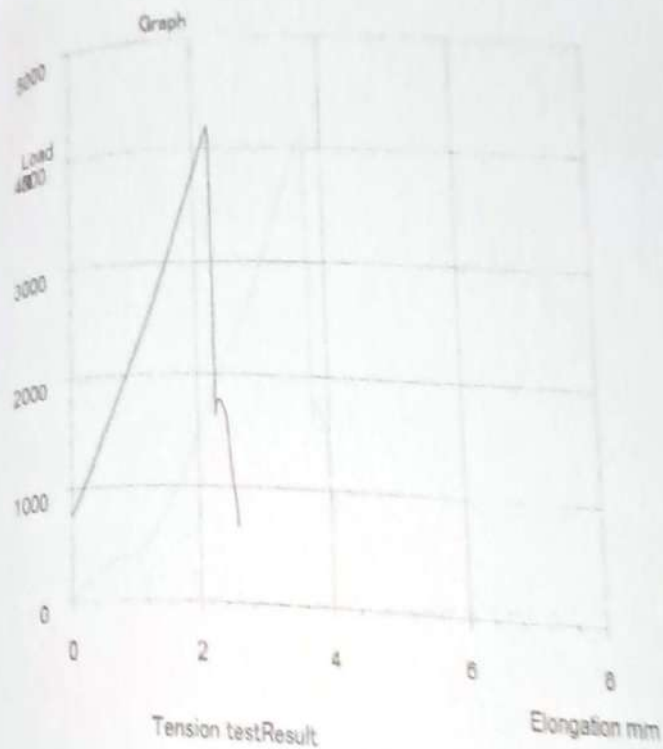




Machine name	RTF	Test type	Tension
Strain input 1	Not used	Test speed	50 mm/min
Chart speed	OFF	Machine rigidity	0 mm/kN
Point data(Load)	0 0 0	Point data(Elong)	0 0 0
kN	0 0 0	mm	0 0 0
Elastic modulus anal	Interval 0.001 0.1	Initial sample length	Distance 98 mm
Load	Pitch 0.005 kN	Origin of elongation	Init load 0.3 %RO
Elong adjust	No	Break point measurem	0.0005 kN
Save SS curve	Yes		

Test date	2025/08/12	Temperature	25 C
Humidity	60 %RH	Sample name	Plate Serat Sisai
Lot No		Preparation	
Operator	Haeruddin Hatid S.T.M.T	User	Yusdar Menta
Comment 1	10 % Serat, Resin 90 %	Comment 2	Panjang Serat 5 cm, (4A)

TestID=3818	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Elastic modu	Young
Test No	mm	mm	mm2	Load N	Stress N/mm2	Load N	N/mm2	N/mm2
1	20.000	10.000	200.00	5104.2	1.2772	4026.0	1351.5	1351.5



Machine name	RTF	Test type	Tension
Strain input 1	Not used	Test speed	5.0 mm/min
Chart speed	OFF	Machine rigidity	0 mm/kN
Point data(Load)	0 0	Point data(Elong)	0 0 0
kN	0 0	mm	0 0 0
Elastic modulus anal	Interval 0.001	Initial sample length	Distance 98 mm
Load	Pitch 0.005 kN	Origin of elongation	Init load 0.3 %RO
Elong adjust	No	Break point measurement	0.0005 kN
Save SS curve	Yes		

Test date	2025/08/12	Temperature	25 C
Humidity	60 %RH	Sample name	Plate Serat Sisal
Lot No		Preparation	
Operator	Haeruddin Hafid S.T. MT	User	Yusdar Menta
Comment 1	10 % Serat Resin 90 %	Comment 2	Panjang Serat 5 cm. (5A)

TestID=3809	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Elasti modu	Young
Test No	mm	mm	mm ²	Load	Stress	Load	N/mm ²	N/mm ²
1	20.000	10.000	200.00	4204.8	1.8943	4204.8	587.11	587.11