LAMPIRAN

Lampiran 1. Jadwal Penelitian dan Tabel Data

Tabel L 1. 1 Jadwal Penelitian

No	Kegiatan	Bulan					
		I	II	II	IV	V	VI
1.	Perisapan						
2.	Proposal						
3.	Pembuatan spesimen						
4.	Proses pengujian						
5.	Perampungan semua data penilaian						
6.	Pembahasan hasil penelitian						
7.	Seminar hasil peneltian						
8.	Kesimpulan dan saran						

Tabel L 1. 2 Tabel Data

No	Waktu Perendaman (jam)	Spesimen	Lebar Spesimen (w)	Tebal Spesimen (t)	Luas Penampang Awal (A_0)	Elongation (mm)	Beban Maksimum(N)
1	1jam	1	19	12,7	241,3	3,1800	3.974,1
		2	19	12,7	241,3	5,3801	4.523,4
		3	19	12,7	241,3	2,8600	3.808,0
		4	19	12,7	241,3	2,3799	4.163,0
		5	19	12,7	241,3	4,0799	4.674,8
2	2jam	1	19	12,7	241,3	3,4800	4.968,7
		2	19	12,7	241,3	3,8999	6.272,2
		3	19	12,7	241,3	3,8600	5.836,1
		4	19	12,7	241,3	3,8000	5.749,3
		5	19	12,7	241,3	2,8200	4.791,5
3	3jam	1	19	12,7	241,3	3,3800	5.760,9
		2	19	12,7	241,3	6,5200	7.334,6
		3	19	12,7	241,3	3,5000	5.613,2
		4	19	12,7	241,3	4,6999	6.591,8
		5	19	12,7	241,3	6,1200	7.637,2
4	4jam	1	19	12,7	241,3	4,4600	6.118,0
		2	19	12,7	241,3	3,9599	6.752,3
		3	19	12,7	241,3	3,7399	6.278,1
		4	19	12,7	241,3	4,9799	5.982,2
		5	19	12,7	241,3	3,7800	6.000,3
5	5jam	1	19	12,7	241,3	5,0599	5.616,0
		2	19	12,7	241,3	3,6800	5.610,1
		3	19	12,7	241,3	3,7600	4.597,9
		4	19	12,7	241,3	5,0200	5.414,8
		5	19	12,7	241,3	3,5800	5.768,4

Lampiran 2. Dokumentasi Penelitian



Gambar L 2. 1 Tanaman Sisal



Gambar L 2. 2 Pengambilan Daun Sisal



Gambar L 2. 3 Pengupasan Serat Sisal



Gambar L 2. 4 Pengeringan Serat Sisal



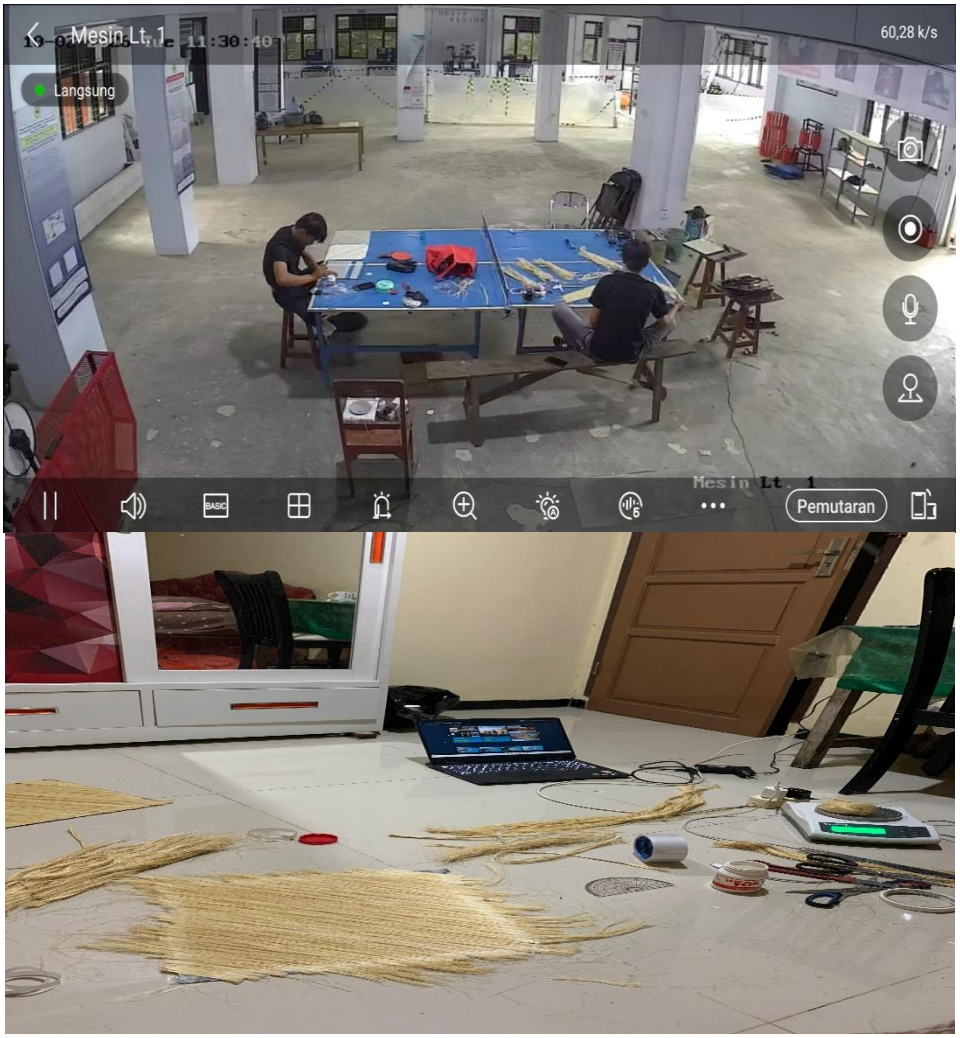
Gambar L 2. 5 Menimbang NaOH



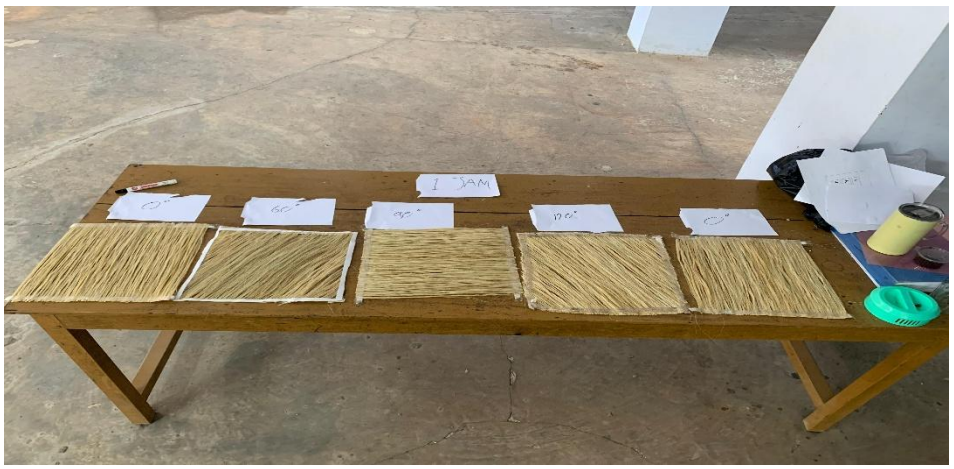
Gambar L 2. 6 Perendaman Serat Dalam Laruran NaOH



Gambar L 2. 7 Pengeringan Serat Setelah di Rendam Dalam Larutan NaOH



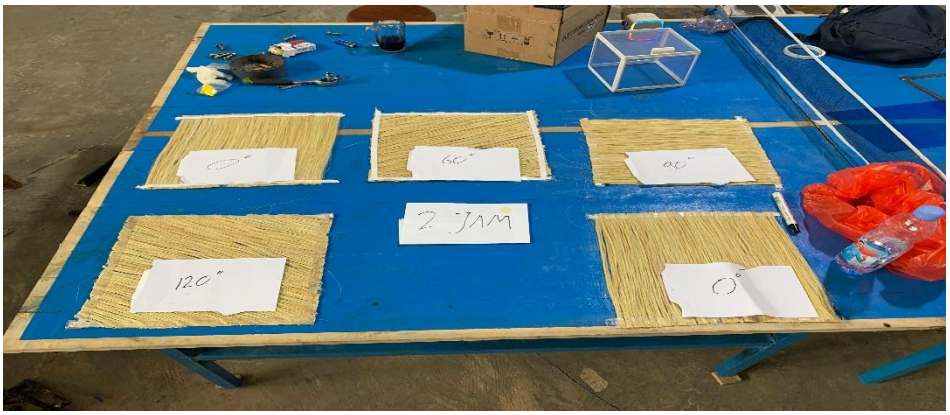
Gambar L 2. 8 Proses Pembuatan Arah Orientasi Laminae Serat Sisal



Gambar L 2. 9 Arah Orientasi Laminae Variasi Perendaman 1 Jam



Gambar L 2. 10 Arah Orientasi Laminae Variasi Perendaman 2 Jam



Gambar L 2. 11 Arah Orientasi Laminae Variasi Perendaman 3 Jam



Gambar L 2. 12 Arah Orientasi Laminae Variasi Perendaman 4 Jam



Gambar L 2. 13 Arah Orientasi Laminae Variasi Perendaman 5 Jam





Gambar L 2. 14 Proses Pengecoran



Gambar L 2. 15 Hasil Cetakan



Gambar L 2. 16 Spesimen Uji Tarik



Gambar L 2. 17 Mesin Uji Tarik



Gambar L 2.18 Pengujian Tarik
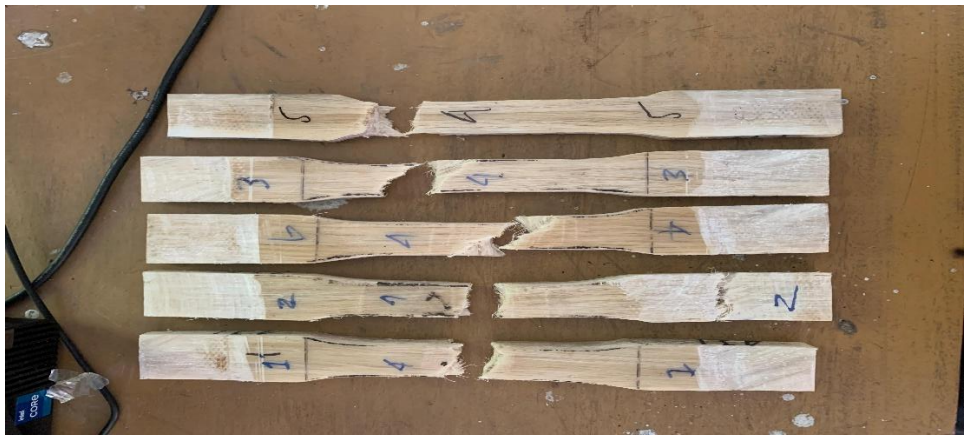


Gambar L 2. 19 Spesimen Setelah Uji Tarik (1 jam)



Gambar L 2. 20 Spesimen Setelah Uji Tarik (2 jam)



Gambar L 2. 21 Spesimen Setelah Uji Tarik (3 jam)



Gambar L 2. 22 Spesimen Setelah Uji Tarik (4 jam)



Gambar L 2. 23 Spesimen Setelah Uji Tarik (5 jam)



Gambar L 2. 24 Pengamatan Struktur Makro

UNIVERSITAS KRISTEN INDONESIA TORAJA
FAKULTAS TEKNIK
(FT - UKI TORAJA)
Alamat : Jl. Poros Sa'dan Telp. (0423) 292043 , Kakondongan Rantepao
Website: http://ukitoraja.ac.id ; e mail: [redacted]@ukitoraja.ac.id

Nomor : FT.01.04/162 /UKI Toraja.DFT/2026
Lampiran : -
Hal : ***Permohonan Izin Penelitian/Pengambilan Data (Sample)***

Yang terhormat,
Kepala Balai Latihan Kerja (BLK) Makassar
di-
Tempat

Dengan Hormat,

Perkenankan kami menyampaikan bahwa salah satu tugas akhir yang harus diselesaikan mahasiswa Fakultas Teknik UKI Toraja adalah penyusunan skripsi. Sehubungan dengan itu maka melalui surat ini kami mohon kesediaan Bapak/Ibu menerima mahasiswa tersebut yang namanya di bawah ini untuk melakukan penelitian/pengambilan data (sample) pada Instansi / Lembaga / Jawatan / Perusahaan yang Bapak/Ibu.

Adapun nama mahasiswa tersebut adalah :

No.	Nama Mahasiswa / Nim	Judul Penelitian Tugas Akhir	Dosen Pembimbing
1.	Obed Lelepadang / 222212063	Studi Experiment Pengaruh Lama Perendaman Serat terhadap Kekuatan Tarik dan Struktur Makro Laminae Komposit Sesat Sisal	Dr. Ir.Nitha, ST., MT,IPM.,ASEAN Eng.

Demikian permohonan kami, atas perhatian dan kerjasamanya diucapkan terima kasih.

Rantepao, 23 Februari 2026
Dekan Fakultas Teknik,

Dr. Ir. Nitha, ST., MT., IPM, ASEAN Eng.
NIDN: 0902117802

Tembusan :
1. Ketua Program Studi Teknik Mesin UKI Toraja
2. Arsip

KEMENTERIAN KETENAGAKERJAAN RI
DIREKTORAT JENDERAL
PEMBINAAN PELATIHAN VOKASI DAN PRODUKTIVITAS
BALAI BESAR PELATIHAN VOKASI DAN PRODUKTIVITAS
JL. Taman Makam Pahlawan No. 4 Makassar, Telepon (0411) 442322 Faksimile 441558
Laman : http://www.naker.go.id

SURAT KETERANGAN

Nomor : B. 028 / WORKSHOP LAS/ BBPVP - MKS/ II/ 2026

Yang bertandatangan dibawah ini :

Nama : Epafroditus Pakiding, ST

NIP : 19840330 200901 1 004

Alamat : Kompleks BLK Blok D31 Makassar Jalan Taman Makam Pahlawan no.4

Dengan Ini menerangkan bahwa :

Nama : OBED LELEPADANG

NIM : 222212063

Fakultas : Teknik

Program Studi : Teknik Mesin

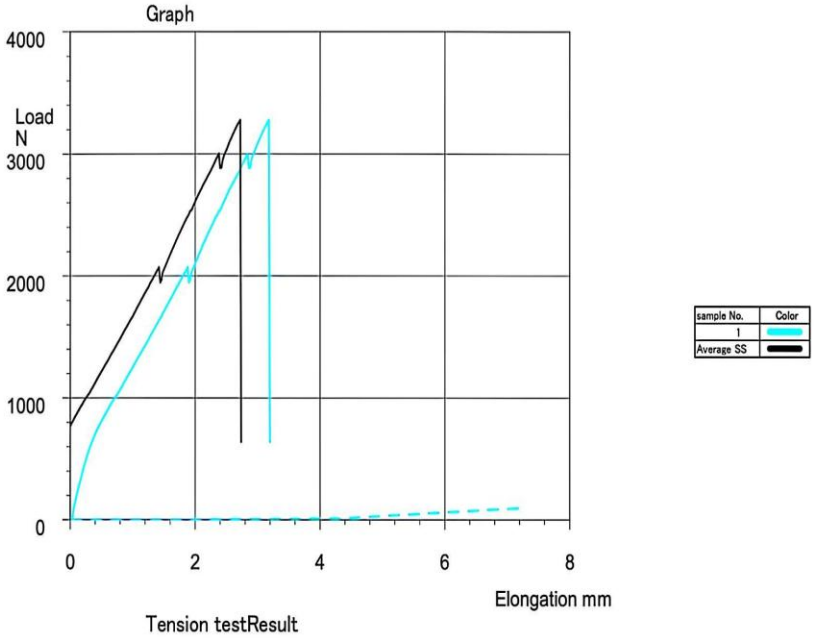
Bahwa benar telah melaksanakan penelitian di Workshop Las Balai Besar Pelatihan Vokasi dan Produktivitas Makassar dengan judul "**4. STUDI EXPERIMEN PENGARUH LAMA PERENDAMAN SERAT TERHADAP KEKUATAN TARIK DAN STRUKTUR MAKRO LAMINAE KOMPOSIT SERAT SISAL".**

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

Makassar, 27 Februari 2026

EPAFRODITUS PAKIDING, ST

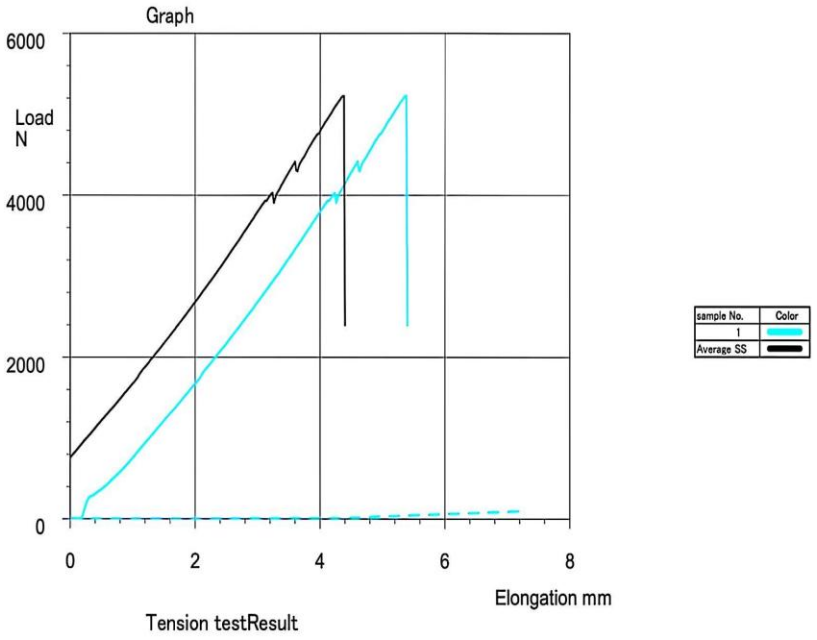
NIP. 19840330 200901 1 004



Machine name	RTF			Test type	Tension		
Strain input 1	Not used			Test speed	10.0 mm/min		
Chart speed OFF				Machine rigidity	0 mm/kN		
Point data(Stress)	0	0	0	Point data(Strain)	0	0	0
MPa	0	0	0	%GL	0	0	0
Elastic modulus anal.	Interval	1E-006	0.0001	Initial sample length	Distance	75 mm	
Stress	Pitch	5E-006	MPa	Origin of elongation	Init. load	0.3 %RO	
Elong adjust	No			Break point measurem	0.5 N		
Save SS curve	Yes						

Test date	2026/02/28	Temperature	25 C
Humidity	60 %RH	Sample name	Komposit Serat Sisal
Lot No.		Preparation	
Operator	Epafroditus Pakiding, S.T	User	Obed
Comment 1	Perendaman 1 Jam	Comment 2	Sample 1

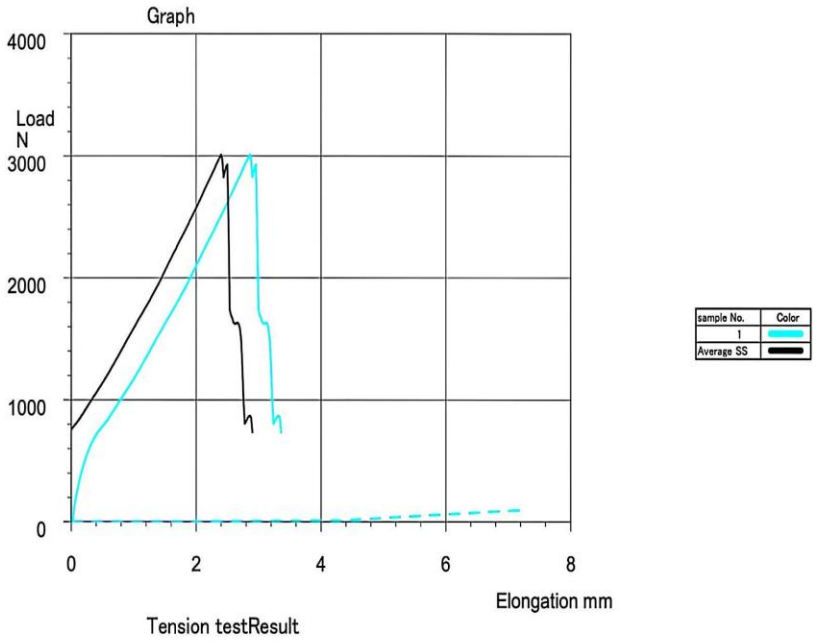
TestID=4320	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Lower yield	Elastic modu
				Load	Strain	Stress	Stress	
Test No	mm	mm	mm2	N	%GL	N/mm2	N/mm2	N/mm2
1	19.000	12.000	228.00	3974.6	1.8933	9.0687	8.5329	1111.8



Machine name	RTF			Test type	Tension			
Strain input 1	Not used			Test speed	10.0 mm/min			
Chart speed OFF				Machine rigidity	0 mm/kN			
Point data(Stress)	0	0	0	Point data(Strain)	0	0	0	
MPa	0	0	0	%GL	0	0	0	
Elastic modulus anal.	Interval	1E-006	0.0001	Initial sample length	Distance	75 mm		
Stress	Pitch	5E-006	MPa	Origin of elongation	Init. load	0.3 %RO		
Elong adjust	No			Break point measurem	0.5 N			
Save SS curve	Yes							

Test date	2026/02/28	Temperature	25 C
Humidity	60 %RH	Sample name	Komposit Serat Sisal
Lot No.		Preparation	
Operator	Epafroditus Pakiding, S.T	User	Obed
Comment 1	Perendaman 1 Jam	Comment 2	Sample 2

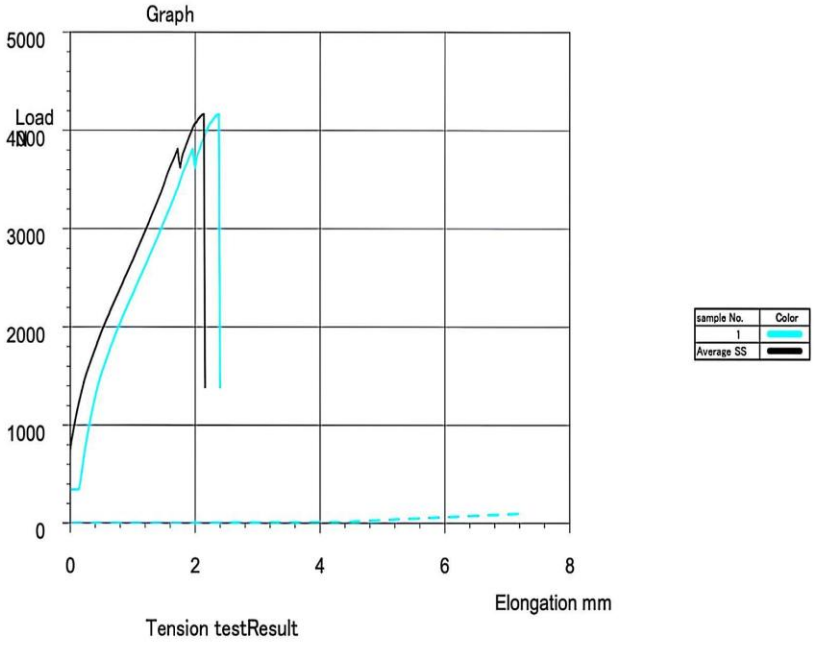
TestID=4321	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Lower yield	Elastic modu
				Load	Strain	Stress	Stress	
Test No	mm	mm	mm2	N	%GL	N/mm2	N/mm2	N/mm2
1	19.000	12.000	228.00	4523.4	-1.2533	19.361	18.836	32.229



Machine name	RTF			Test type	Tension		
Strain input 1	Not used			Test speed	10.0	mm/min	
Chart speed OFF				Machine rigidity	0	mm/kN	
Point data(Stress)	0	0	0	Point data(Strain)	0	0	0
MPa	0	0	0	%GL	0	0	0
Elastic modulus anal.	Interval	1E-006	0.0001	Initial sample length	Distance	75	mm
Stress	Pitch	5E-006	MPa	Origin of elongation	Init. load	0.3	%RO
Elong adjust	No			Break point measurem	0.5	N	
Save SS curve	Yes						

Test date	2026/02/28	Temperature	25 C
Humidity	60 %RH	Sample name	Komposit Serat Sisal
Lot No.		Preparation	
Operator	Epafroditus Pakiding, S.T	User	Obed
Comment 1	Perendaman 1 Jam	Comment 2	Sample 3

TestID=4322	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Lower yield	Elastic modu
				Load	Strain	Stress	Stress	
Test No	mm	mm	mm2	N	%GL	N/mm2	N/mm2	N/mm2
1	19.000	12.000	228.00	3808.0	3.2001	13.193	*******	1309.6

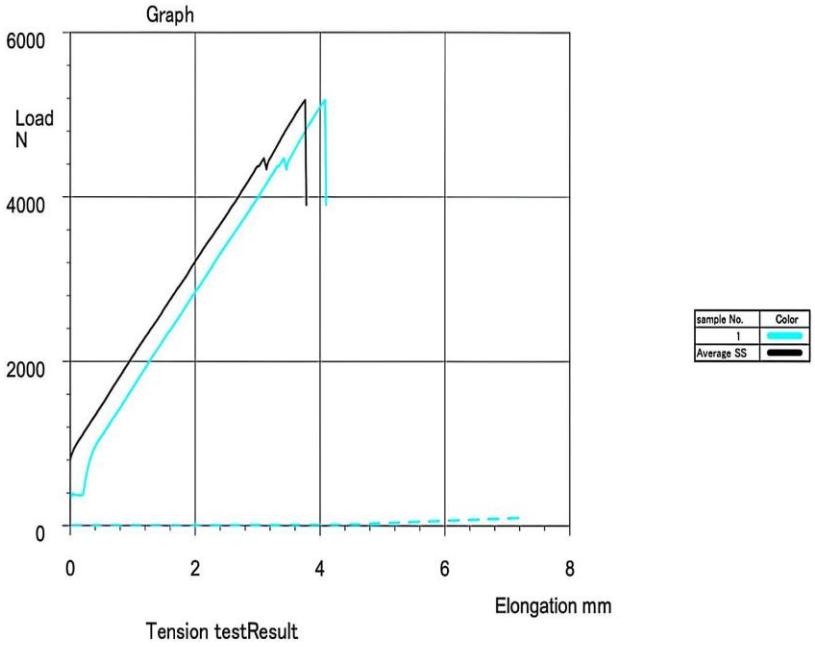


Tension testResult

Machine name	RTF			Test type	Tension			
Strain input 1	Not used			Test speed	10.0 mm/min			
Chart speed OFF				Machine rigidity	0 mm/kN			
Point data(Stress)	0	0	0	Point data(Strain)	0	0	0	
MPa	0	0	0	%GL	0	0	0	
Elastic modulus anal.	Interval	1E-006	0.0001	Initial sample length	Distance	75 mm		
Stress	Pitch	5E-006	MPa	Origin of elongation	Init. load	0.3 %RO		
Elong adjust	No			Break point measurem	0.5 N			
Save SS curve	Yes							

Test date	2026/02/28	Temperature	25 C
Humidity	60 %RH	Sample name	Komposit Serat Sisal
Lot No.		Preparation	
Operator	Epafroditus Pakiding, S.T	User	Obed
Comment 1	Perendaman 1 Jam	Comment 2	Sample 4

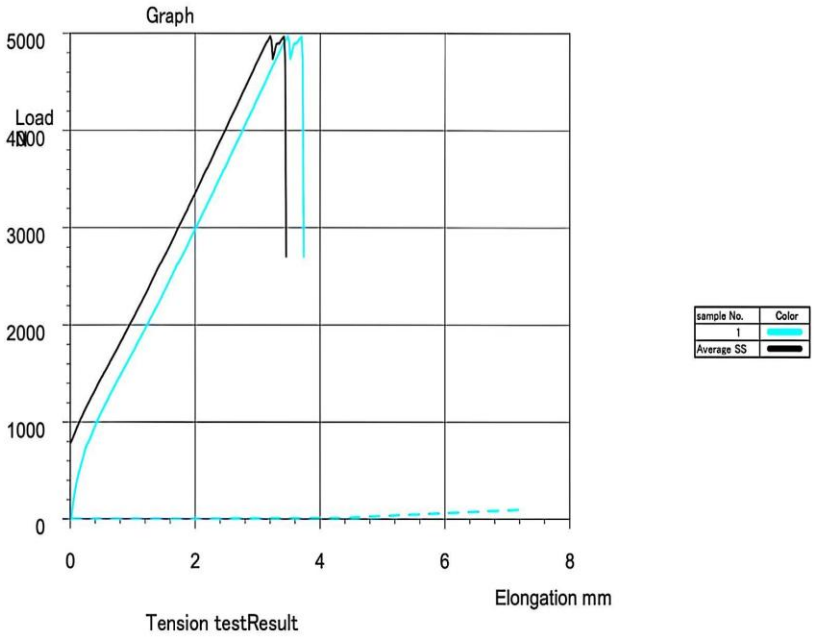
TestID=4323	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Lower yield	Elastic modu
				Load	Strain	Stress	Stress	
Test No	mm	mm	mm2	N	%GL	N/mm2	N/mm2	N/mm2
1	19.000	12.000	228.00	4163.0	-0.24	16.701	15.884	0.9843



Machine name	RTF			Test type	Tension				
Strain input 1	Not used			Test speed	10.0	mm/min			
Chart speed OFF				Machine rigidity	0	mm/kN			
Point data(Stress)	0	0	0	Point data(Strain)	0	0	0		
MPa	0	0	0	%GL	0	0	0		
Elastic modulus anal.	Interval	1E-006	0.0001	Initial sample length	Distance	75	mm		
Stress	Pitch	5E-006	MPa	Origin of elongation	Init. load	0.3	%RO		
Elong adjust	No			Break point measurem	0.5	N			
Save SS curve	Yes								

Test date	2026/02/28	Temperature	25 C
Humidity	60 %RH	Sample name	Komposit Serat Sisal
Lot No.		Preparation	
Operator	Epafroditus Pakiding, S.T	User	Obed
Comment 1	Perendaman 1 Jam	Comment 2	Sample 5

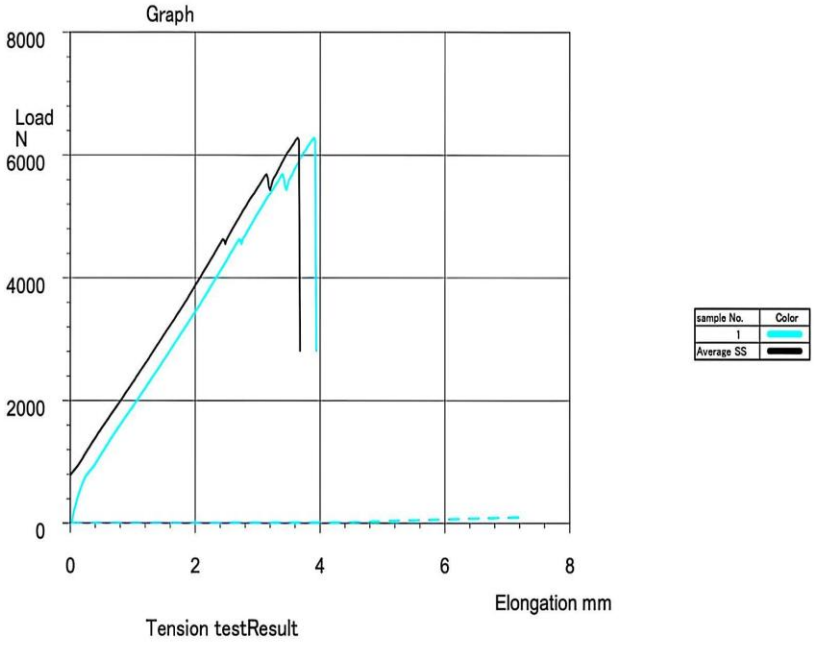
TestID=4324	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Lower yield	Elastic modu
				Load	Strain	Stress	Stress	
Test No	mm	mm	mm2	N	%GL	N/mm2	N/mm2	N/mm2
1	19.000	12.000	228.00	4674.8	-0.3467	19.598	19.005	212.49



Machine name	RTF			Test type	Tension			
Strain input 1	Not used			Test speed	10.0	mm/min		
Chart speed OFF				Machine rigidity	0	mm/kN		
Point data(Stress)	0	0	0	Point data(Strain)	0	0	0	
MPa	0	0	0	%GL	0	0	0	
Elastic modulus anal.	Interval	1E-006	0.0001	Initial sample length	Distance	75	mm	
Stress	Pitch	5E-006	MPa	Origin of elongation	Init. load	0.3	%RO	
Elong adjust	No			Break point measurem	0.5	N		
Save SS curve	Yes							

Test date	2026/02/28	Temperature	25 C
Humidity	60 %RH	Sample name	Komposit Serat Sisal
Lot No.		Preparation	
Operator	Epafroditus Pakiding, S.T	User	Obed
Comment 1	Perendaman 2 Jam	Comment 2	Sample 1

TestID=4315	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Lower yield	Elastic modu
				Load	Strain	Stress	Stress	
Test No	mm	mm	mm2	N	%GL	N/mm2	N/mm2	N/mm2
1	19.000	12.000	228.00	4968.7	4.2667	21.792	*******	1738.8

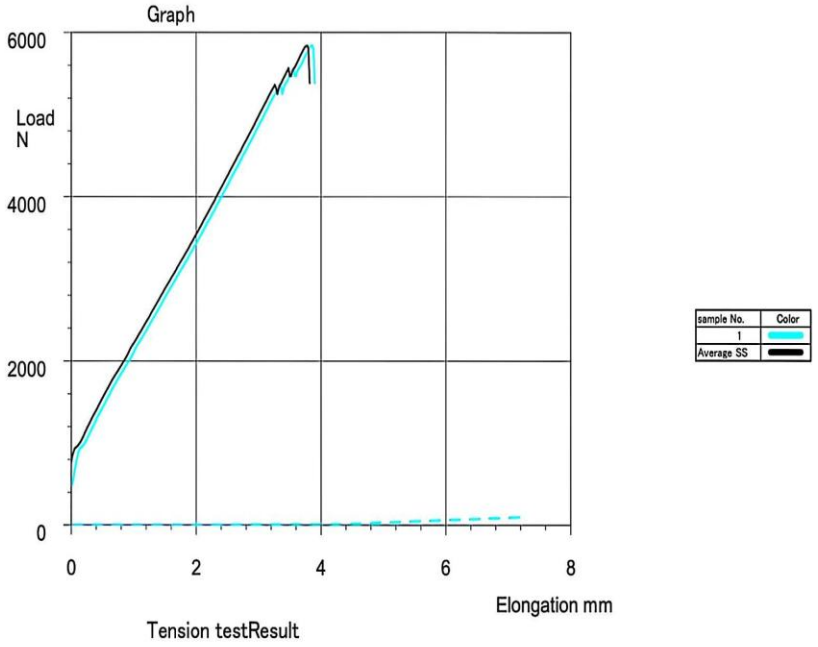


Tension testResult

Machine name	RTF			Test type	Tension				
Strain input 1	Not used			Test speed	10.0	mm/min			
Chart speed OFF				Machine rigidity	0	mm/kN			
Point data(Stress)	0	0	0	Point data(Strain)	0	0	0		
MPa	0	0	0	%GL	0	0	0		
Elastic modulus anal.	Interval	1E-006	0.0001	Initial sample length	Distance	75	mm		
Stress	Pitch	5E-006	MPa	Origin of elongation	Init. load	0.3	%RO		
Elong adjust	No			Break point measurem	0.5	N			
Save SS curve	Yes								

Test date	2026/02/28	Temperature	25 C
Humidity	60 %RH	Sample name	Komposit Serat Sisal
Lot No.		Preparation	
Operator	Epafroditus Pakiding, S.T	User	Obed
Comment 1	Perendaman 2 Jam	Comment 2	Sample 2

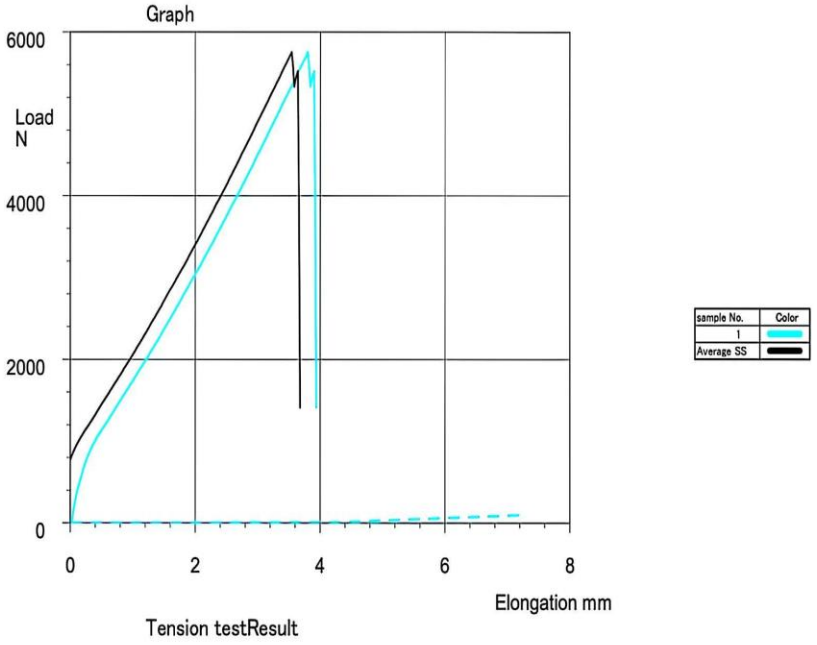
TestID=4316	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Lower yield	Elastic modu
				Load	Strain	Stress	Stress	
Test No	mm	mm	mm2	N	%GL	N/mm2	N/mm2	N/mm2
1	19.000	12.000	228.00	6272.2	3.2801	24.920	23.809	1789.9



Machine name	RTF			Test type	Tension			
Strain input 1	Not used			Test speed	10.0	mm/min		
Chart speed OFF				Machine rigidity	0	mm/kN		
Point data(Stress)	0	0	0	Point data(Strain)	0	0	0	
MPa	0	0	0	%GL	0	0	0	
Elastic modulus anal.	Interval	1E-006	0.0001	Initial sample length	Distance	75	mm	
Stress	Pitch	5E-006	MPa	Origin of elongation	Init. load	0.3	%RO	
Elong adjust	No			Break point measurem	0.5	N		
Save SS curve	Yes							

Test date	2026/02/28	Temperature	25 C
Humidity	60 %RH	Sample name	Komposit Serat Sisal
Lot No.		Preparation	
Operator	Epafroditus Pakiding, S.T	User	Obed
Comment 1	Perendaman 2 Jam	Comment 2	Sample 3

TestID=4317	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Lower yield	Elastic modu
				Load	Strain	Stress	Stress	
Test No	mm	mm	mm2	N	%GL	N/mm2	N/mm2	N/mm2
1	19.000	12.000	228.00	5836.1	4.3467	23.502	23.015	184.28

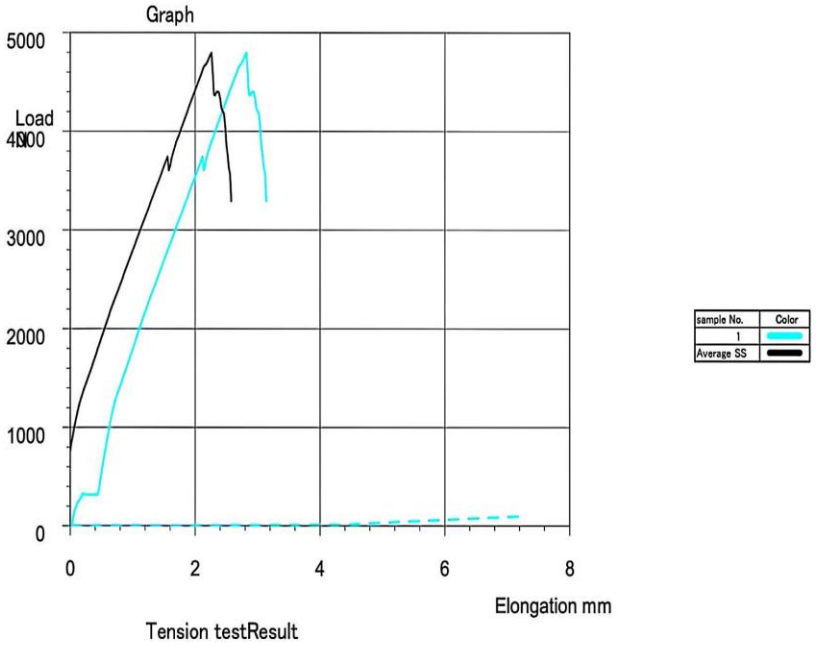


Tension testResult

Machine name	RTF			Test type	Tension			
Strain input 1	Not used			Test speed	10.0 mm/min			
Chart speed OFF				Machine rigidity	0 mm/kN			
Point data(Stress)	0	0	0	Point data(Strain)	0	0	0	
MPa	0	0	0	%GL	0	0	0	
Elastic modulus anal.	Interval	1E-006	0.0001	Initial sample length	Distance	75 mm		
Stress	Pitch	5E-006	MPa	Origin of elongation	Init. load	0.3 %RO		
Elong adjust	No			Break point measurem	0.5 N			
Save SS curve	Yes							

Test date	2026/02/28	Temperature	25 C
Humidity	60 %RH	Sample name	Komposit Serat Sisal
Lot No.		Preparation	
Operator	Epafroditus Pakiding, S.T	User	Obed
Comment 1	Perendaman 2 Jam	Comment 2	Sample 4

TestID=4318	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Lower yield	Elastic modu
				Load	Strain	Stress	Stress	
Test No	mm	mm	mm2	N	%GL	N/mm2	N/mm2	N/mm2
1	19.000	12.000	228.00	5749.3	4.7201	25.216	*******	1713.9

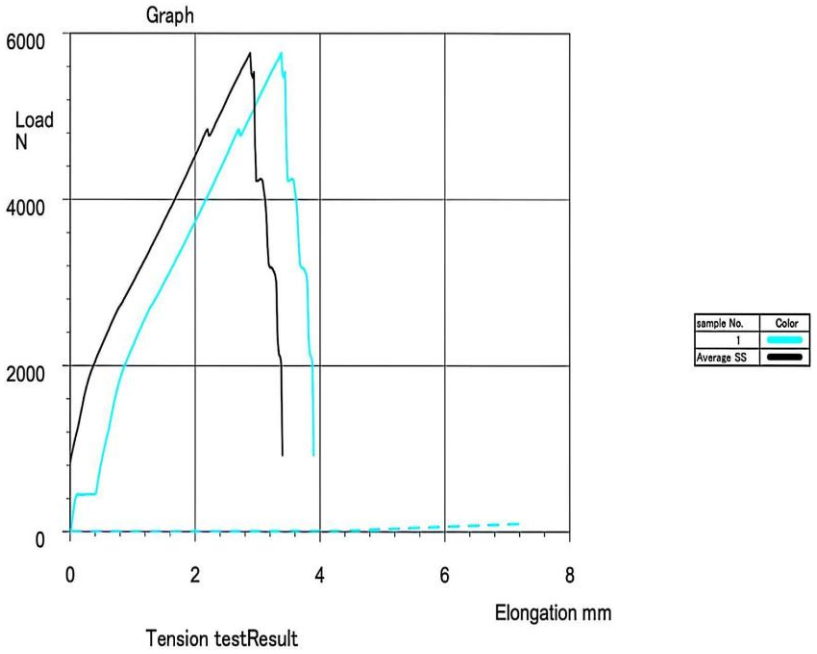


Tension testResult

Machine name	RTF			Test type	Tension			
Strain input 1	Not used			Test speed	10.0 mm/min			
Chart speed OFF				Machine rigidity	0 mm/kN			
Point data(Stress)	0	0	0	Point data(Strain)	0	0	0	
MPa	0	0	0	%GL	0	0	0	
Elastic modulus anal.	Interval	1E-006	0.0001	Initial sample length	Distance	75 mm		
Stress	Pitch	5E-006 MPa		Origin of elongation	Init. load	0.3 %RO		
Elong adjust	No			Break point measurem	0.5 N			
Save SS curve	Yes							

Test date	2026/02/28	Temperature	25 C
Humidity	60 %RH	Sample name	Komposit Serat Sisal
Lot No.		Preparation	
Operator	Epafroditus Pakiding, S.T	User	Obed
Comment 1	Perendaman 2 Jam	Comment 2	Sample 5

TestID=4325	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Lower yield	Elastic modu
				Load	Strain	Stress	Stress	
Test No	mm	mm	mm2	N	%GL	N/mm2	N/mm2	N/mm2
1	19.000	12.000	228.00	4791.5	-0.4533	21.015	*******	1285.0

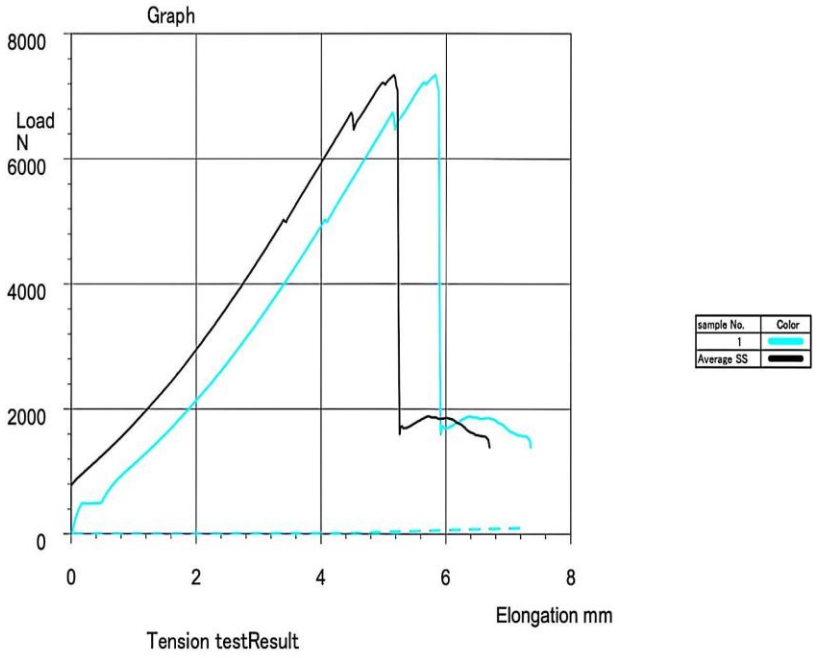


Tension testResult

Machine name	RTF			Test type	Tension				
Strain input 1	Not used			Test speed	10.0	mm/min			
Chart speed OFF				Machine rigidity	0	mm/kN			
Point data(Stress)	0	0	0	Point data(Strain)	0	0	0		
MPa	0	0	0	%GL	0	0	0		
Elastic modulus anal.	Interval	1E-006	0.0001	Initial sample length	Distance	75	mm		
Stress	Pitch	5E-006	MPa	Origin of elongation	Init. load	0.3	%RO		
Elong adjust	No			Break point measurem	0.5	N			
Save SS curve	Yes								

Test date	2026/02/28	Temperature	25 C
Humidity	60 %RH	Sample name	Komposit Serat Sisal
Lot No.		Preparation	
Operator	Epafroditus Pakiding, S.T	User	Obed
Comment 1	Perendaman 3 Jam	Comment 2	Sample 1

TestID=4328	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Lower yield	Elastic modu
				Load	Strain	Stress	Stress	
Test No	mm	mm	mm2	N	%GL	N/mm2	N/mm2	N/mm2
1	19.000	12.000	228.00	5760.9	-0.48	21.234	20.900	1981.3

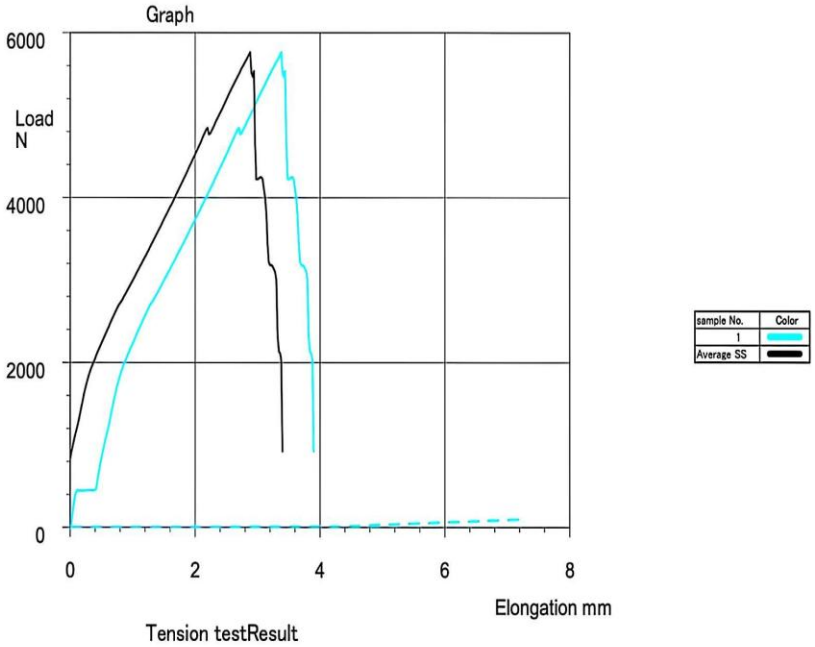


Tension testResult

Machine name	RTF			Test type	Tension				
Strain input 1	Not used			Test speed	10.0	mm/min			
Chart speed OFF				Machine rigidity	0	mm/kN			
Point data(Stress)	0	0	0	Point data(Strain)	0	0	0		
MPa	0	0	0	%GL	0	0	0		
Elastic modulus anal.	Interval	1E-006	0.0001	Initial sample length	Distance	75	mm		
Stress	Pitch	5E-006	MPa	Origin of elongation	Init. load	0.3	%RO		
Elong adjust	No			Break point measurem	0.5	N			
Save SS curve	Yes								

Test date	2026/02/28	Temperature	25 C
Humidity	60 %RH	Sample name	Komposit Serat Sisal
Lot No.		Preparation	
Operator	Epafroditus Pakiding, S.T	User	Obed
Comment 1	Perendaman 3 Jam	Comment 2	Sample 2

TestID=4281	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Lower yield	Elastic modu
				Load	Strain	Stress	Stress	
Test No	mm	mm	mm2	N	%GL	N/mm2	N/mm2	N/mm2
1	19.000	12.000	228.00	7334.6	-0.6133	29.529	28.361	268.94

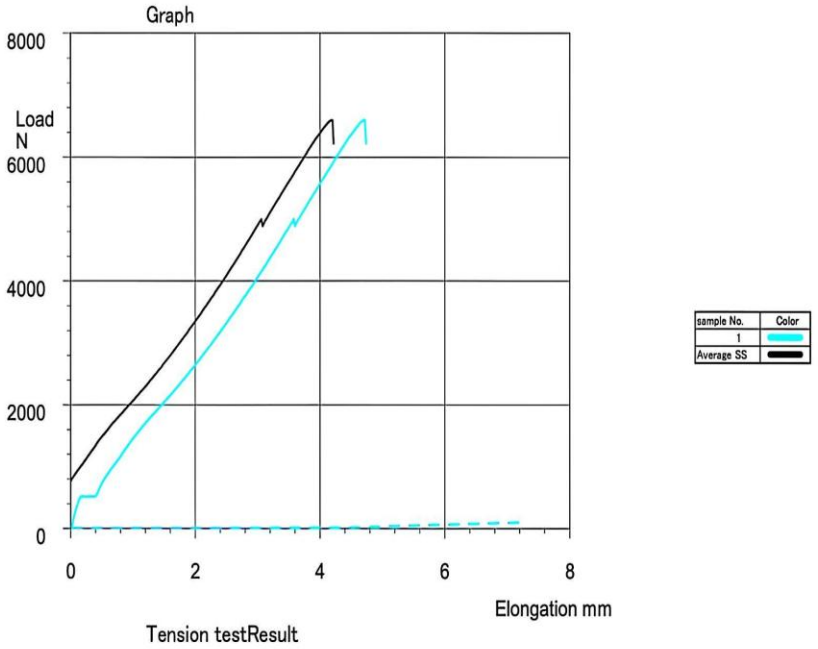


Tension testResult

Machine name	RTF			Test type	Tension			
Strain input 1	Not used			Test speed	10.0 mm/min			
Chart speed OFF				Machine rigidity	0 mm/kN			
Point data(Stress)	0	0	0	Point data(Strain)	0	0	0	
MPa	0	0	0	%GL	0	0	0	
Elastic modulus anal.	Interval	1E-006	0.0001	Initial sample length	Distance	75 mm		
Stress	Pitch	5E-006	MPa	Origin of elongation	Init. load	0.3 %RO		
Elong adjust	No			Break point measurem	0.5 N			
Save SS curve	Yes							

Test date	2026/02/28	Temperature	25 C
Humidity	60 %RH	Sample name	Komposit Serat Sisal
Lot No.		Preparation	
Operator	Epafroditus Pakiding, S.T	User	Obed
Comment 1	Perendaman 3 Jam	Comment 2	Sample 3

TestID=4328	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Lower yield	Elastic modu
				Load	Strain	Stress	Stress	
Test No	mm	mm	mm2	N	%GL	N/mm2	N/mm2	N/mm2
1	19.000	12.000	228.00	5613.2	-0.48	21.234	20.900	1981.3

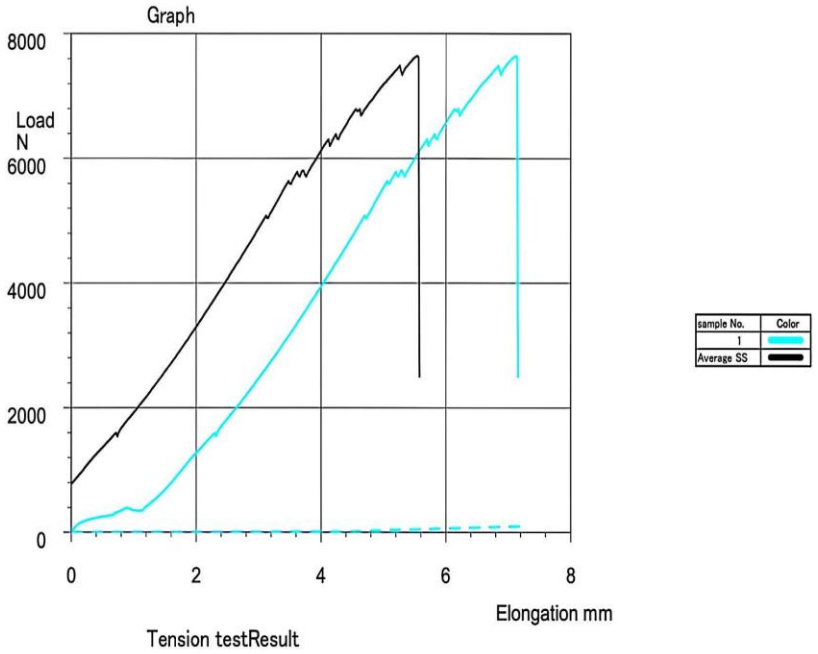


Tension testResult

Machine name	RTF			Test type	Tension			
Strain input 1	Not used			Test speed	10.0 mm/min			
Chart speed OFF				Machine rigidity	0 mm/kN			
Point data(Stress)	0	0	0	Point data(Strain)	0	0	0	
MPa	0	0	0	%GL	0	0	0	
Elastic modulus anal.	Interval	1E-006	0.0001	Initial sample length	Distance	75 mm		
Stress	Pitch	5E-006 MPa		Origin of elongation	Init. load	0.3 %RO		
Elong adjust	No			Break point measurem	0.5 N			
Save SS curve	Yes							

Test date	2026/02/28	Temperature	25 C
Humidity	60 %RH	Sample name	Komposit Serat Sisal
Lot No.		Preparation	
Operator	Epafroditus Pakiding, S.T	User	Obed
Comment 1	Perendaman 3 Jam	Comment 2	Sample 4

TestID=4284	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Lower yield	Elastic modu
				Load	Strain	Stress	Stress	
Test No	mm	mm	mm2	N	%GL	N/mm2	N/mm2	N/mm2
1	19.000	12.000	228.00	6591.8	-0.4266	*******	*******	209.32

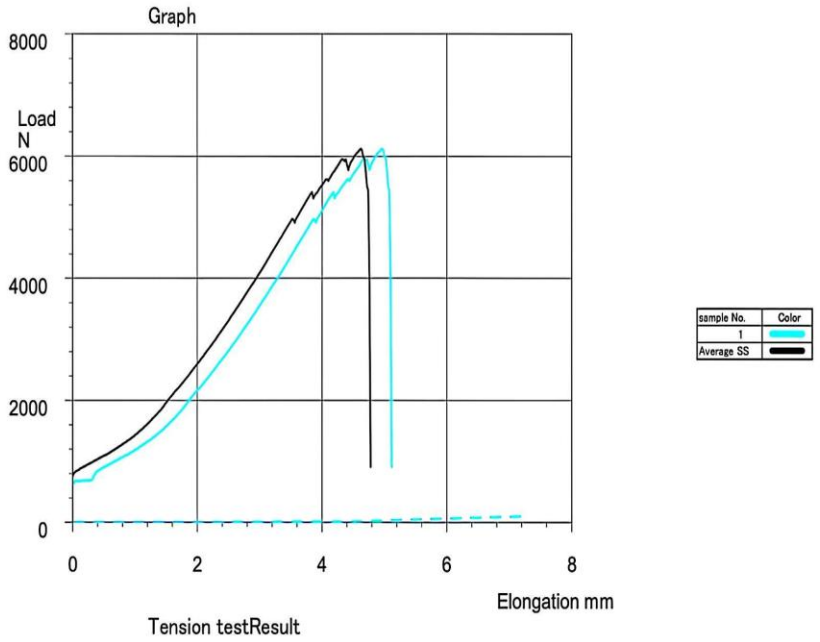


Tension testResult

Machine name	RTF			Test type	Tension			
Strain input 1	Not used			Test speed	10.0 mm/min			
Chart speed OFF				Machine rigidity	0 mm/kN			
Point data(Stress)	0	0	0	Point data(Strain)	0	0	0	
MPa	0	0	0	%GL	0	0	0	
Elastic modulus anal.	Interval	1E-006	0.0001	Initial sample length	Distance	75 mm		
Stress	Pitch	5E-006 MPa		Origin of elongation	Init. load	0.3 %RO		
Elong adjust	No			Break point measurem	0.5 N			
Save SS curve	Yes							

Test date	2026/02/28	Temperature	25 C
Humidity	60 %RH	Sample name	Komposit Serat Sisal
Lot No.		Preparation	
Operator	Epafroditus Pakiding, S.T	User	Obed
Comment 1	Perendaman 3 Jam	Comment 2	Sample 5

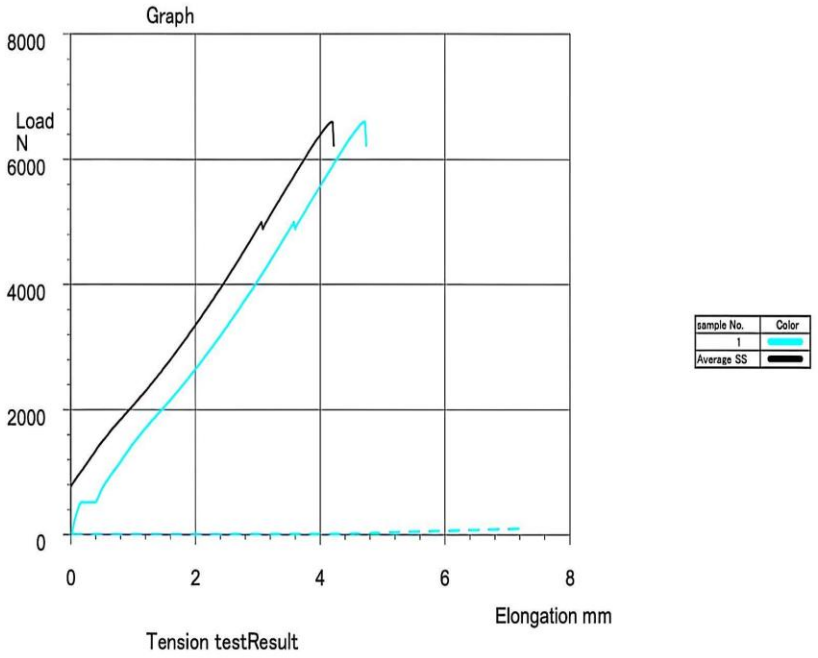
TestID=4285	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Lower yield	Elastic modu
				Load	Strain	Stress	Stress	
Test No	mm	mm	mm2	N	%GL	N/mm2	N/mm2	N/mm2
1	19.000	12.000	228.00	7637.2	-0.9067	25.427	25.008	181.19



Machine name	RTF			Test type	Tension				
Strain input 1	Not used			Test speed	10.0	mm/min			
Chart speed OFF				Machine rigidity	0	mm/kN			
Point data(Stress)	0	0	0	Point data(Strain)	0	0	0		
MPa	0	0	0	%GL	0	0	0		
Elastic modulus anal.	Interval	1E-006	0.0001	Initial sample length	Distance	75	mm		
Stress	Pitch	5E-006	MPa	Origin of elongation	Init. load	0.3	%RO		
Elong adjust	No			Break point measurem	0.5	N			
Save SS curve	Yes								

Test date	2026/02/28	Temperature	25 C
Humidity	60 %RH	Sample name	Komposit Serat Sisal
Lot No.		Preparation	
Operator	Epafroditus Pakiding, S.T	User	Obed
Comment 1	Perendaman 4 Jam	Comment 2	Sample 1

TestID=4330	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Lower yield	Elastic modu
				Load	Strain	Stress	Stress	
Test No	mm	mm	mm2	N	%GL	N/mm2	N/mm2	N/mm2
1	19.000	12.000	228.00	6118.0	-0.3733	23.715	23.274	231.91

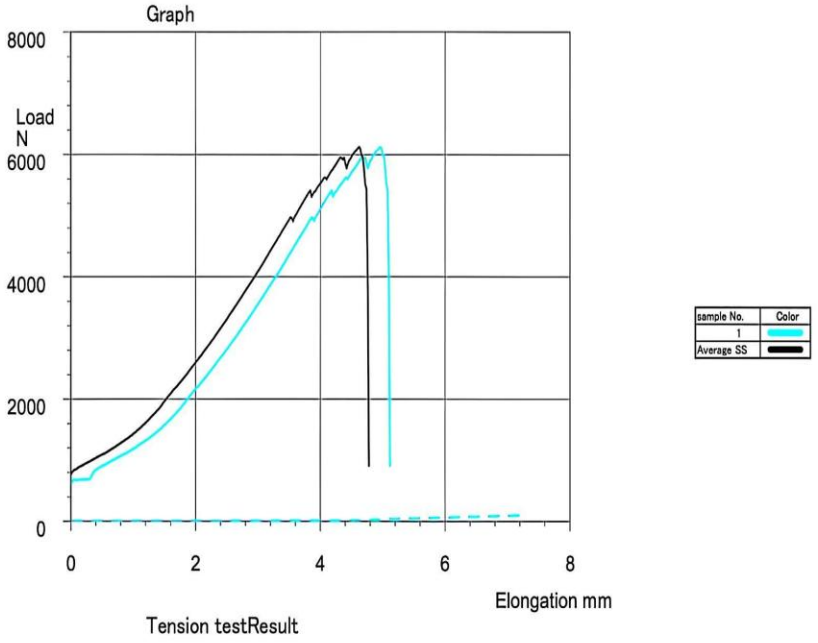


Tension testResult

Machine name	RTF			Test type	Tension				
Strain input 1	Not used			Test speed	10.0	mm/min			
Chart speed OFF				Machine rigidity	0	mm/kN			
Point data(Stress)	0	0	0	Point data(Strain)	0	0	0		
MPa	0	0	0	%GL	0	0	0		
Elastic modulus anal.	Interval	1E-006	0.0001	Initial sample length	Distance	75	mm		
Stress	Pitch	5E-006	MPa	Origin of elongation	Init. load	0.3	%RO		
Elong adjust	No			Break point measurem	0.5	N			
Save SS curve	Yes								

Test date	2026/02/28	Temperature	25 C
Humidity	60 %RH	Sample name	Komposit Serat Sisal
Lot No.		Preparation	
Operator	Epafroditus Pakiding, S.T	User	Obed
Comment 1	Perendaman 4 Jam	Comment 2	Sample 2

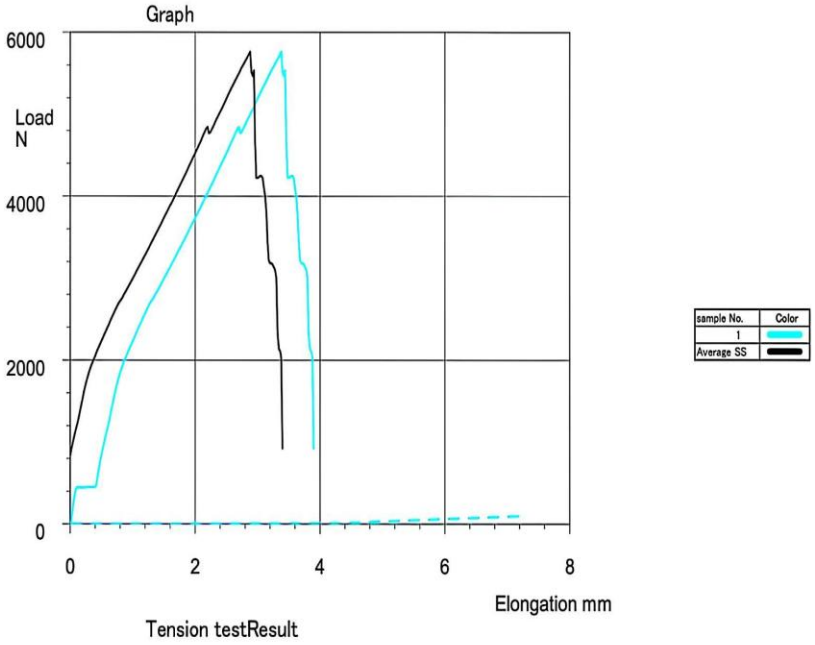
TestID=4284	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Lower yield	Elastic modu
				Load	Strain	Stress	Stress	
Test No	mm	mm	mm2	N	%GL	N/mm2	N/mm2	N/mm2
1	19.000	12.000	228.00	6752.3	-0.4266	*******	*******	209.32



Machine name	RTF			Test type	Tension				
Strain input 1	Not used			Test speed	10.0	mm/min			
Chart speed OFF				Machine rigidity	0	mm/kN			
Point data(Stress)	0	0	0	Point data(Strain)	0	0	0		
MPa	0	0	0	%GL	0	0	0		
Elastic modulus anal.	Interval	1E-006	0.0001	Initial sample length	Distance	75	mm		
Stress	Pitch	5E-006	MPa	Origin of elongation	Init. load	0.3	%RO		
Elong adjust	No			Break point measurem	0.5	N			
Save SS curve	Yes								

Test date	2026/02/28	Temperature	25 C
Humidity	60 %RH	Sample name	Komposit Serat Sisal
Lot No.		Preparation	
Operator	Epafroditus Pakiding, S.T	User	Obed
Comment 1	Perendaman 4 Jam	Comment 2	Sample 3

TestID=4330	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Lower yield	Elastic modu
				Load	Strain	Stress	Stress	
Test No	mm	mm	mm2	N	%GL	N/mm2	N/mm2	N/mm2
1	19.000	12.000	228.00	6278.1	-0.3733	23.715	23.274	231.91

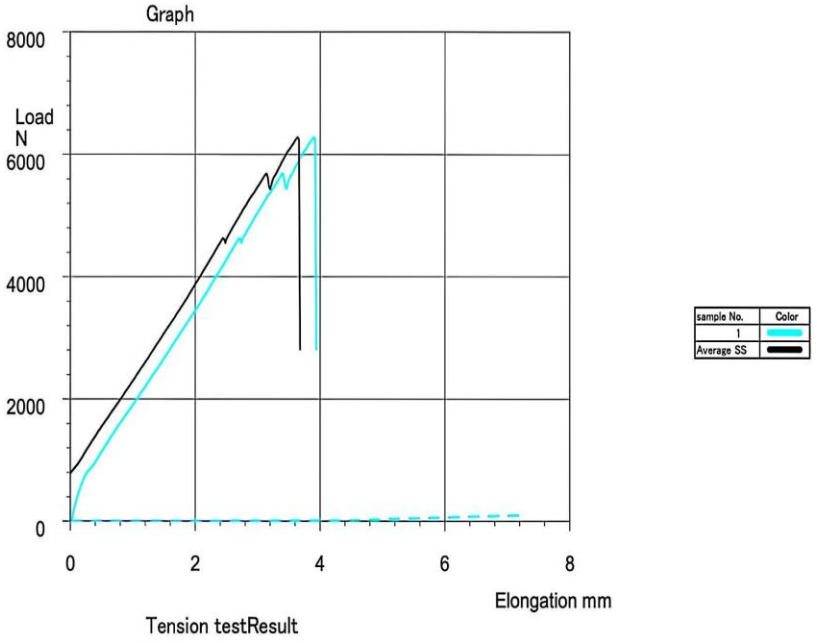


Tension testResult

Machine name	RTF			Test type	Tension			
Strain input 1	Not used			Test speed	10.0 mm/min			
Chart speed OFF				Machine rigidity	0 mm/kN			
Point data(Stress)	0	0	0	Point data(Strain)	0	0	0	
MPa	0	0	0	%GL	0	0	0	
Elastic modulus anal.	Interval	1E-006	0.0001	Initial sample length	Distance	75 mm		
Stress	Pitch	5E-006	MPa	Origin of elongation	Init. load	0.3 %RO		
Elong adjust	No			Break point measurem	0.5 N			
Save SS curve	Yes							

Test date	2026/02/28	Temperature	25 C
Humidity	60 %RH	Sample name	Komposit Serat Sisal
Lot No.		Preparation	
Operator	Epafroditus Pakiding, S.T	User	Obed
Comment 1	Perendaman 4 Jam	Comment 2	Sample 4

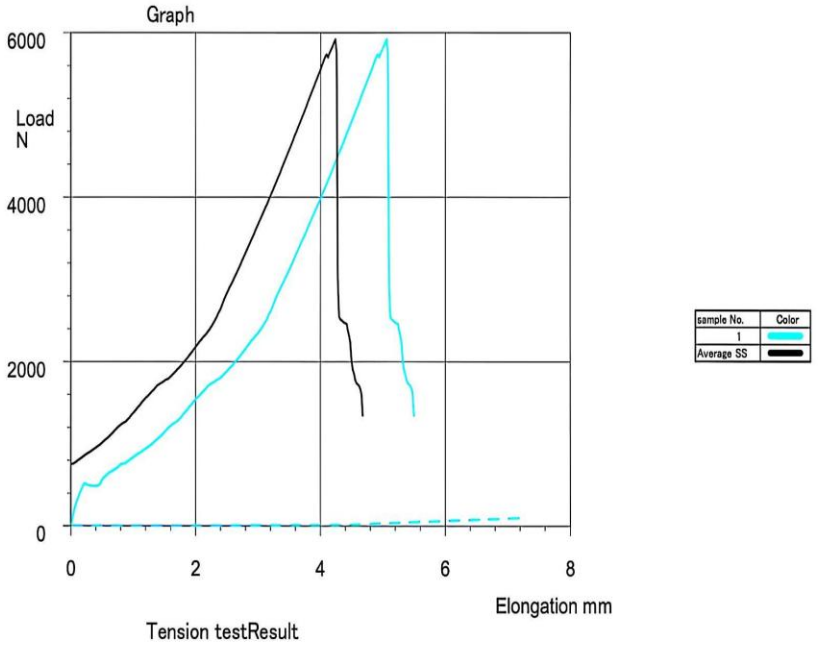
TestID=4328	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Lower yield	Elastic modu
				Load	Strain	Stress	Stress	
Test No	mm	mm	mm2	N	%GL	N/mm2	N/mm2	N/mm2
1	19.000	12.000	228.00	5982.2	-0.48	21.234	20.900	1981.3



Machine name	RTF			Test type	Tension				
Strain input 1	Not used			Test speed	10.0	mm/min			
Chart speed OFF				Machine rigidity	0	mm/kN			
Point data(Stress)	0	0	0	Point data(Strain)	0	0	0		
MPa	0	0	0	%GL	0	0	0		
Elastic modulus anal.	Interval	1E-006	0.0001	Initial sample length	Distance	75	mm		
Stress	Pitch	5E-006	MPa	Origin of elongation	Init. load	0.3	%RO		
Elong adjust	No			Break point measurem	0.5	N			
Save SS curve	Yes								

Test date	2026/02/28	Temperature	25 C
Humidity	60 %RH	Sample name	Komposit Serat Sisal
Lot No.		Preparation	
Operator	Epafroditus Pakiding, S.T	User	Obed
Comment 1	Perendaman 4 Jam	Comment 2	Sample 5

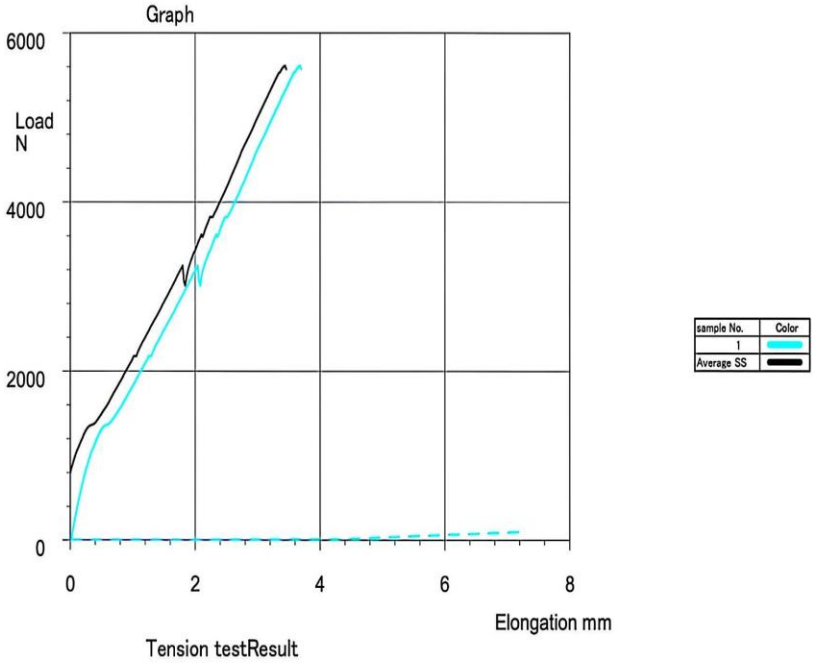
TestID=4316	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Lower yield	Elastic modu
				Load	Strain	Stress	Stress	
Test No	mm	mm	mm2	N	%GL	N/mm2	N/mm2	N/mm2
1	19.000	12.000	228.00	6000.3	3.2801	24.920	23.809	1789.9



Machine name	RTF			Test type	Tension			
Strain input 1	Not used			Test speed	10.0 mm/min			
Chart speed OFF				Machine rigidity	0 mm/kN			
Point data(Stress)	0	0	0	Point data(Strain)	0	0	0	
MPa	0	0	0	%GL	0	0	0	
Elastic modulus anal.	Interval	1E-006	0.0001	Initial sample length	Distance	75 mm		
Stress	Pitch	5E-006 MPa		Origin of elongation	Init. load	0.3 %RO		
Elong adjust	No			Break point measurem	0.5 N			
Save SS curve	Yes							

Test date	2026/02/28	Temperature	25 C
Humidity	60 %RH	Sample name	Komposit Serat Sisal
Lot No.		Preparation	
Operator	Epafroditus Pakiding, S.T	User	Obed
Comment 1	Perendaman 5 Jam	Comment 2	Sample 1

TestID=4271	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Lower yield	Elastic modu
				Load	Strain	Stress	Stress	
Test No	mm	mm	mm2	N	%GL	N/mm2	N/mm2	N/mm2
1	19.000	12.000	228.00	5616.0	-0.7734	25.948	*******	556.47

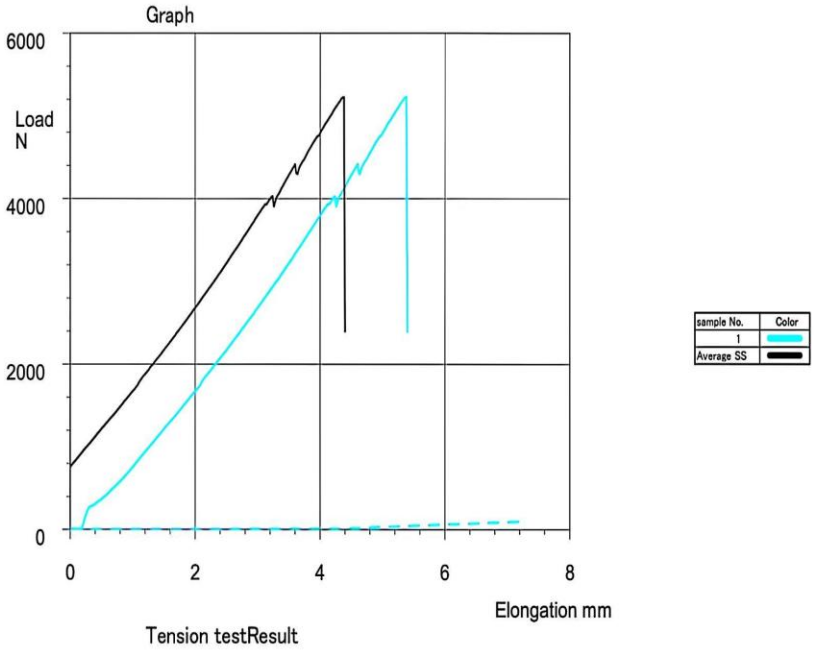


Tension testResult

Machine name	RTF			Test type	Tension			
Strain input 1	Not used			Test speed	10.0 mm/min			
Chart speed OFF				Machine rigidity	0 mm/kN			
Point data(Stress)	0	0	0	Point data(Strain)	0	0	0	
MPa	0	0	0	%GL	0	0	0	
Elastic modulus anal.	Interval	1E-006	0.0001	Initial sample length	Distance	75 mm		
Stress	Pitch	5E-006	MPa	Origin of elongation	Init. load	0.3 %RO		
Elong adjust	No			Break point measurem	0.5 N			
Save SS curve	Yes							

Test date	2026/02/28	Temperature	25 C
Humidity	60 %RH	Sample name	Komposit Serat Sisal
Lot No.		Preparation	
Operator	Epafroditus Pakiding, S.T	User	Obed
Comment 1	Perendaman 5 Jam	Comment 2	Sample 2

TestID=4261	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Lower yield	Elastic modu
				Load	Strain	Stress	Stress	
Test No	mm	mm	mm2	N	%GL	N/mm2	N/mm2	N/mm2
1	19.000	12.000	228.00	5610.1	1.3867	14.232	13.201	1307.4

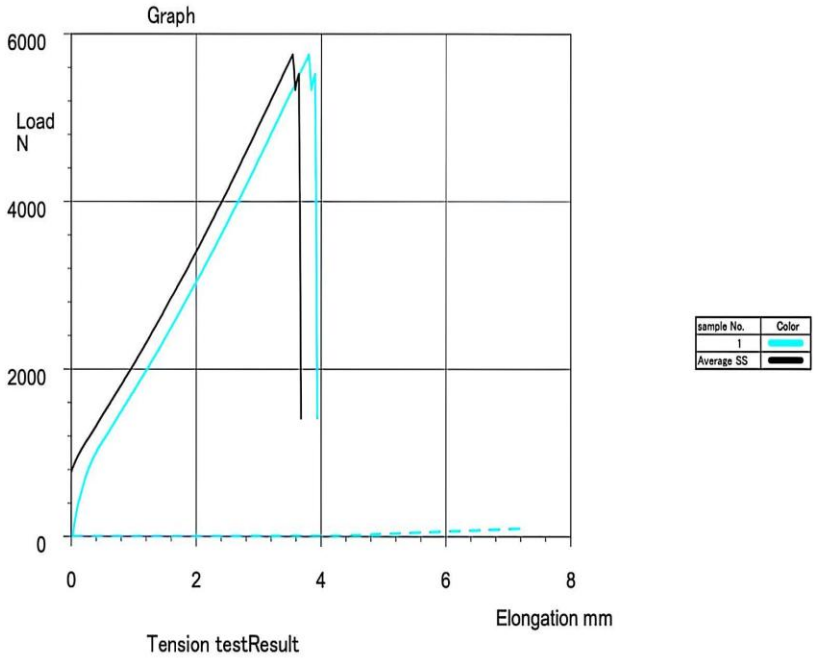


Tension testResult

Machine name	RTF			Test type	Tension			
Strain input 1	Not used			Test speed	10.0 mm/min			
Chart speed OFF				Machine rigidity	0 mm/kN			
Point data(Stress)	0	0	0	Point data(Strain)	0	0	0	
MPa	0	0	0	%GL	0	0	0	
Elastic modulus anal.	Interval	1E-006	0.0001	Initial sample length	Distance	75 mm		
Stress	Pitch	5E-006 MPa		Origin of elongation	Init. load	0.3 %RO		
Elong adjust	No			Break point measurem	0.5 N			
Save SS curve	Yes							

Test date	2026/02/28	Temperature	25 C
Humidity	60 %RH	Sample name	Komposit Serat Sisal
Lot No.		Preparation	
Operator	Epafroditus Pakiding, S.T	User	Obed
Comment 1	Perendaman 5 Jam	Comment 2	Sample 3

TestID=4321	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Lower yield	Elastic modu
				Load	Strain	Stress	Stress	
Test No	mm	mm	mm2	N	%GL	N/mm2	N/mm2	N/mm2
1	19.000	12.000	228.00	4597.9	-1.2533	19.361	18.836	32.229

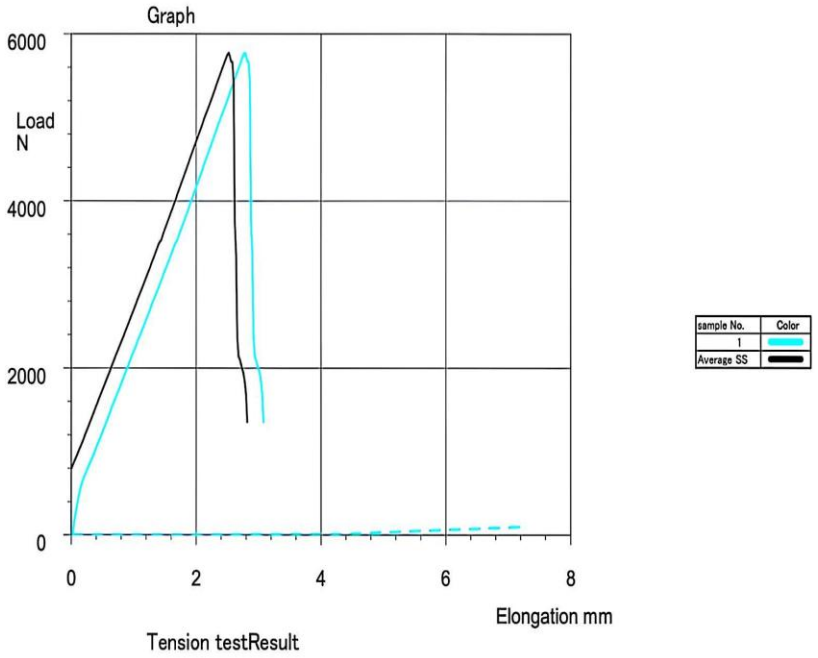


Tension testResult

Machine name	RTF			Test type	Tension			
Strain input 1	Not used			Test speed	10.0 mm/min			
Chart speed OFF				Machine rigidity	0 mm/kN			
Point data(Stress)	0	0	0	Point data(Strain)	0	0	0	
MPa	0	0	0	%GL	0	0	0	
Elastic modulus anal.	Interval	1E-006	0.0001	Initial sample length	Distance	75 mm		
Stress	Pitch	5E-006	MPa	Origin of elongation	Init. load	0.3 %RO		
Elong adjust	No			Break point measurem	0.5 N			
Save SS curve	Yes							

Test date	2026/02/28	Temperature	25 C
Humidity	60 %RH	Sample name	Komposit Serat Sisal
Lot No.		Preparation	
Operator	Epafroditus Pakiding, S.T	User	Obed
Comment 1	Perendaman 5 Jam	Comment 2	Sample 4

TestID=4318	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Lower yield	Elastic modu
				Load	Strain	Stress	Stress	
Test No	mm	mm	mm2	N	%GL	N/mm2	N/mm2	N/mm2
1	19.000	12.000	228.00	5414.3	4.7201	25.216	*******	1713.9



Tension testResult

Machine name	RTF			Test type	Tension		
Strain input 1	Not used			Test speed	10.0 mm/min		
Chart speed OFF				Machine rigidity	0 mm/kN		
Point data(Stress)	0	0	0	Point data(Strain)	0	0	0
MPa	0	0	0	%GL	0	0	0
Elastic modulus anal.	Interval	1E-006	0.0001	Initial sample length	Distance	75 mm	
Stress	Pitch	5E-006	MPa	Origin of elongation	Init. load	0.3 %RO	
Elong adjust	No			Break point measurem	0.5 N		
Save SS curve	Yes						

Test date	2026/02/28	Temperature	25 C
Humidity	60 %RH	Sample name	Komposit Serat Sisal
Lot No.		Preparation	
Operator	Epafroditus Pakiding, S.T	User	Obed
Comment 1	Perendaman 5 Jam	Comment 2	Sample 5

TestID=4336	Width	Thickness	Sectional ar	Maximum poin	Break point	Upper yield	Lower yield	Elastic modu
				Load	Strain	Stress	Stress	
Test No	mm	mm	mm2	N	%GL	N/mm2	N/mm2	N/mm2
1	19.000	12.000	228.00	5768.4	3.3601	25.300	*******	1768.4