

LAMPIRAN 1

LAMPIRAN 1

A. Hasil Analisa Morfologi membrane nanofiber PVA/AV

Tabel Distribusi Diameter Nanofiber

| NO | KONSENTRASI PVA/AV | | | |
|----|--------------------|-----|-----|-----|
| | 0% | 10% | 20% | 30% |
| 1 | 124 | 177 | 135 | 156 |
| 2 | 242 | 162 | 137 | 264 |
| 3 | 176 | 172 | 280 | 142 |
| 4 | 129 | 144 | 259 | 287 |
| 5 | 132 | 162 | 185 | 318 |
| 6 | 115 | 139 | 135 | 148 |
| 7 | 135 | 166 | 160 | 228 |
| 8 | 137 | 155 | 190 | 286 |
| 9 | 118 | 175 | 218 | 188 |
| 10 | 157 | 133 | 124 | 285 |
| 11 | 131 | 171 | 136 | 183 |
| 12 | 124 | 136 | 148 | 148 |
| 13 | 222 | 164 | 188 | 171 |
| 14 | 109 | 164 | 156 | 316 |
| 15 | 152 | 157 | 198 | 293 |
| 16 | 114 | 162 | 164 | 182 |
| 17 | 123 | 153 | 110 | 246 |
| 18 | 112 | 146 | 110 | 246 |
| 19 | 124 | 103 | 155 | 243 |
| 20 | 112 | 159 | 141 | 202 |
| 21 | 127 | 153 | 180 | 161 |
| 22 | 121 | 190 | 174 | 236 |
| 23 | 182 | 174 | 168 | 157 |
| 24 | 106 | 206 | 142 | 277 |
| 25 | 120 | 155 | 145 | 249 |
| 26 | 149 | 124 | 155 | 255 |
| 27 | 113 | 181 | 150 | 149 |
| 28 | 95 | 160 | 126 | 196 |
| 29 | 103 | 153 | 138 | 272 |
| 30 | 149 | 128 | 112 | 275 |
| 31 | 98 | 153 | 139 | 285 |

| | | | | |
|-----------|-----|-----|-----|-----|
| 32 | 103 | 152 | 127 | 273 |
| 33 | 114 | 155 | 216 | 177 |
| 34 | 100 | 181 | 190 | 155 |
| 35 | 108 | 166 | 159 | 194 |
| 36 | 130 | 136 | 159 | 255 |
| 37 | 145 | 153 | 261 | 242 |
| 38 | 148 | 157 | 313 | 133 |
| 39 | 106 | 159 | 203 | 203 |
| 40 | 115 | 158 | 148 | 180 |
| 41 | 198 | 172 | 165 | 308 |
| 42 | 78 | 191 | 350 | 220 |
| 43 | 136 | 227 | 171 | 199 |
| 44 | 105 | 119 | 172 | 190 |
| 45 | 139 | 135 | 142 | 207 |
| 46 | 123 | 159 | 230 | 197 |
| 47 | 100 | 174 | 164 | 254 |
| 48 | 198 | 136 | 129 | 183 |
| 49 | 158 | 127 | 200 | 154 |
| 50 | 153 | 153 | 135 | 243 |
| 51 | 137 | 208 | 166 | 357 |
| 52 | 152 | 177 | 111 | 265 |
| 53 | 128 | 165 | 160 | 181 |
| 54 | 149 | 157 | 121 | 274 |
| 55 | 145 | 165 | 151 | 190 |
| 56 | 134 | 156 | 121 | 168 |
| 57 | 139 | 172 | 158 | 151 |
| 58 | 172 | 167 | 316 | 246 |
| 59 | 149 | 132 | 177 | 293 |
| 60 | 131 | 167 | 231 | 264 |
| 61 | 146 | 187 | 127 | 273 |
| 62 | 112 | 114 | 104 | 148 |
| 63 | 133 | 101 | 275 | 252 |
| 64 | 127 | 177 | 139 | 262 |
| 65 | 117 | 131 | 139 | 192 |
| 66 | 149 | 162 | 193 | 195 |
| 67 | 137 | 162 | 134 | 185 |
| 68 | 144 | 178 | 142 | 207 |
| 69 | 133 | 115 | 136 | 246 |

| | | | | |
|--------------------|-----------|-----------|-----------|-----------|
| 70 | 92 | 129 | 123 | 227 |
| 71 | 135 | 173 | 123 | 188 |
| 72 | 140 | 177 | 156 | 165 |
| 73 | 151 | 154 | 132 | 354 |
| 74 | 109 | 147 | 147 | 214 |
| 75 | 143 | 139 | 132 | 259 |
| 76 | 115 | 156 | 124 | 110 |
| 77 | 114 | 107 | 154 | 327 |
| 78 | 149 | 165 | 310 | 133 |
| 79 | 132 | 105 | 152 | 197 |
| 80 | 147 | 164 | 138 | 143 |
| 81 | 98 | 117 | 150 | 246 |
| 82 | 141 | 149 | 146 | 246 |
| 83 | 144 | 133 | 108 | 214 |
| 84 | 190 | 125 | 149 | 207 |
| 85 | 121 | 147 | 87 | 225 |
| 86 | 300 | 138 | 206 | 153 |
| 87 | 131 | 147 | 140 | 149 |
| 88 | 171 | 168 | 114 | 249 |
| 89 | 108 | 158 | 197 | 202 |
| 90 | 118 | 169 | 190 | 220 |
| 91 | 133 | 144 | 200 | 181 |
| 92 | 150 | 113 | 265 | 365 |
| 93 | 158 | 133 | 124 | 154 |
| 94 | 147 | 98 | 108 | 207 |
| 95 | 120 | 172 | 126 | 267 |
| 96 | 173 | 125 | 121 | 264 |
| 97 | 137 | 93 | 167 | 328 |
| 98 | 142 | 159 | 256 | 259 |
| 99 | 119 | 112 | 115 | 281 |
| 100 | 131 | 192 | 231 | 195 |
| Rata-Rata = | 136 | 153 | 166 | 223 |
| Standar Deviasi | 31,357585 | 24,775129 | 51,712624 | 56,095541 |

A. Tabel Analisis Diameter Serat Nanofiber

| No | Konsentrasi PVA/AV | Diameter (nm) | Standart Deviasi |
|----|--------------------|---------------|------------------|
| 1 | 0% | 136 | 31,357585 |
| 2 | 10% | 153 | 24,775129 |
| 3 | 20% | 166 | 51,712624 |
| 4 | 30% | 223 | 56,095541 |

B. Hasil Uji Viskositas

| NO | Sample PVA/AV | Ulangan 1 (cP) | Ulangan 2 (cP) | Rata-Rata |
|----|---------------|----------------|----------------|-----------|
| 1 | 0% | 253,9 | 253,9 | 253,9 |
| 2 | 10% | 264,4 | 264,9 | 264,9 |
| 3 | 20% | 258,4 | 258,4 | 258,4 |
| 4 | 30% | 255,4 | 255,4 | 255,4 |

C. Hasil Uji Daya Hantar Listrik (DHL)

| NO | Sample PVA/AV | Konduktivitas $\mu\text{s/cm}$ |
|----|---------------|--------------------------------|
| 1 | 0% | 466,00 |
| 2 | 10% | 849,67 |
| 3 | 20% | 1142,33 |
| 4 | 30% | 1626,00 |

D. Hasil Uji Tarik

Tabel Nilai Kuat Tarik membran nanofiber

| Spesimen | Nilai Kuat Tarik Membran Nanofiber (Mpa) | | | |
|-----------------|------------------------------------------|------------|------------|-----------|
| | PVA/AV 0% | PVA/AV 10% | PVA/AV 20% | PVA/AV 3% |
| A | 1,367 | 2,809 | 3,217 | 3,012 |
| B | 2,036 | 3,241 | 1,887 | 3,762 |
| C | 3,168 | 3,515 | 4,002 | 3,149 |
| D | 3,371 | 2,936 | 4,0127 | 3,533 |
| E | 3,046 | 1,823 | 2,4711 | 4,467 |
| Rata-rata | 2,5976 | 2,8648 | 3,1180 | 3,5846 |
| Standar Deviasi | 0,8594 | 0,6438 | 0,9388 | 0,5767 |

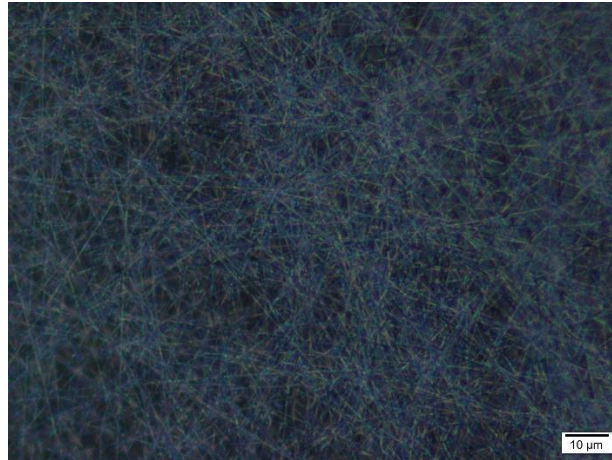
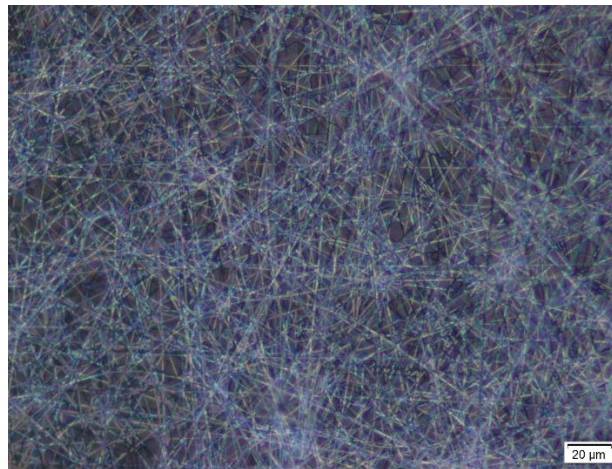
Tabel Nilai Regangan membran nanofiber

| Spesimen | Nilai Regangan Membran Nanofiber (Mpa) | | | |
|-----------------|----------------------------------------|------------|------------|------------|
| | PVA/AV 0% | PVA/AV 10% | PVA/AV 20% | PVA/AV 30% |
| A | 79,9503 | 133,8415 | 146 | 188,3467 |
| B | 79,5221 | 152,5895 | 117,537 | 212,3112 |
| C | 92,4339 | 167,6672 | 138,6294 | 102,6847 |
| D | 125,0702 | 134,2267 | 151,4952 | 123,7266 |
| E | 152,3437 | 100,1875 | 136,412 | 163,9493 |
| Rata-rata | 105,8640 | 137,7025 | 138,0139 | 158,2037 |
| Standar Deviasi | 31,9180 | 25,2679 | 12,9200 | 45,1117 |

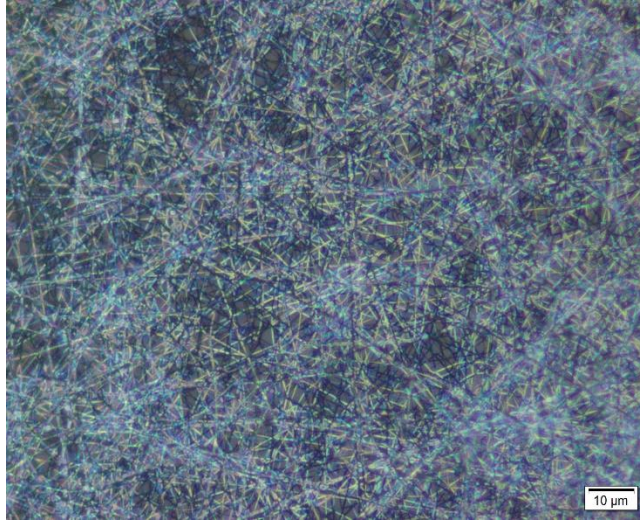
Tabel Nilai Modulus Elastisitas membran naofiber

| Spesimen | Nilai Modulus Elastisitas Membran Nanofiber (Mpa) | | | |
|-----------------|---------------------------------------------------|------------|------------|------------|
| | PVA/AV 0% | PVA/AV 10% | PVA/AV 20% | PVA/AV 30% |
| A | 10,574 | 12,537 | 14,841 | 10,890 |
| B | 14,214 | 18,037 | 11,839 | 14,790 |
| C | 20,562 | 21,512 | 21,357 | 15,988 |
| D | 18,703 | 15,024 | 19,677 | 17,244 |
| E | 17,473 | 15,664 | 16,494 | 29,693 |
| Rata-rata | 16,305 | 16,555 | 16,842 | 17,721 |
| Standar Deviasi | 3,952 | 3,393 | 3,794 | 7,103 |

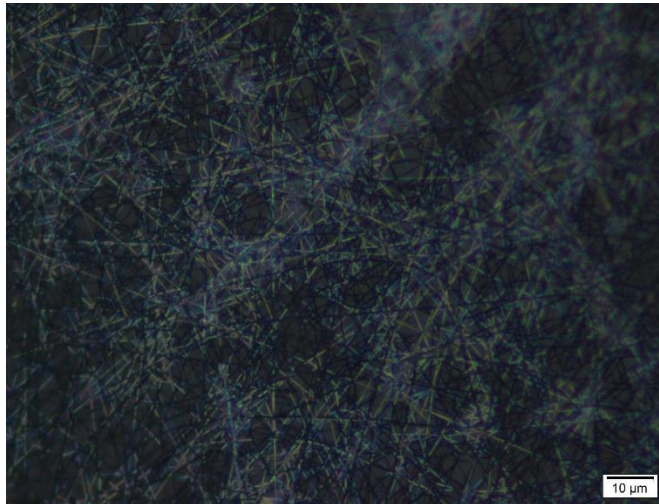
LAMPIRAN 2

LAMPIRAN 2**GAMBAR PENGUJIAN MENGGUNAKAN *MICROSCOPE OPTIC*****A. Konsentrasi PVA/AV 0%****B. Konsentrasi PVA/AV 10%**

C. Konsentrasi PVA/AV 20%



D. Kosentrasi PVA/AV 30%

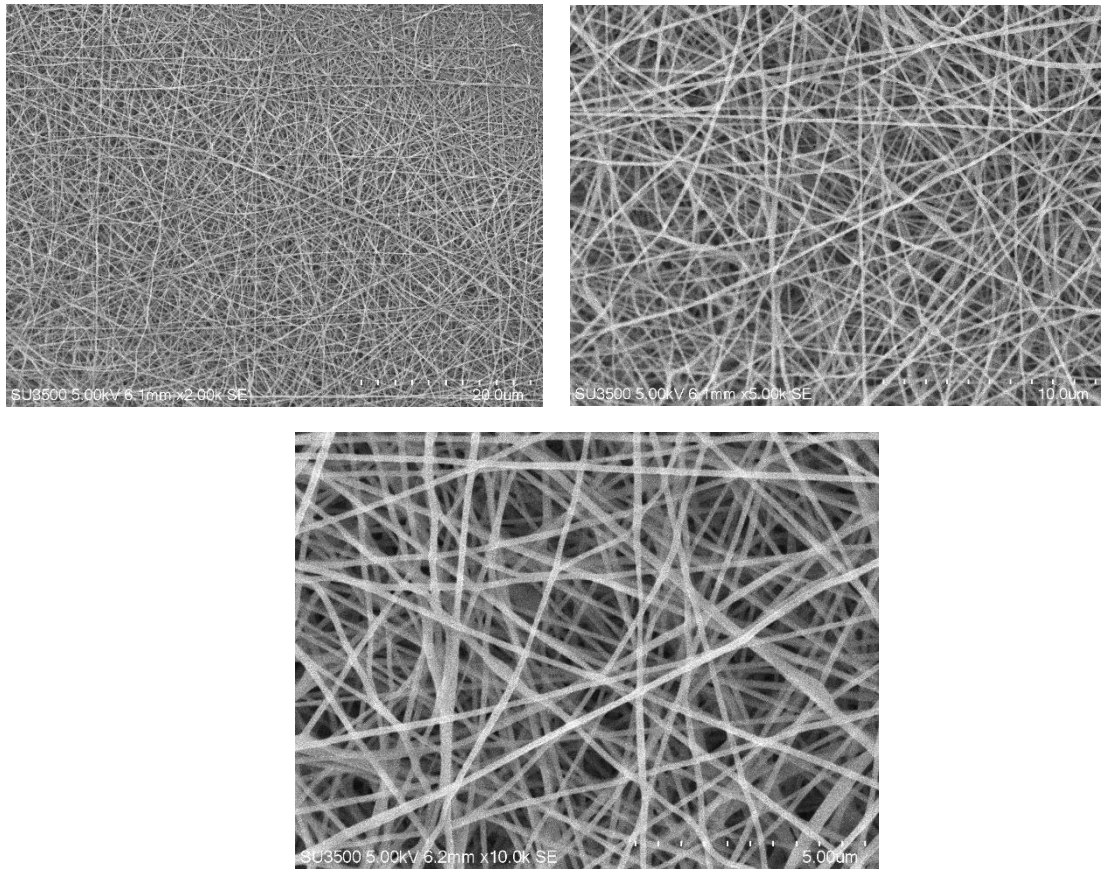


LAMPIRAN 3

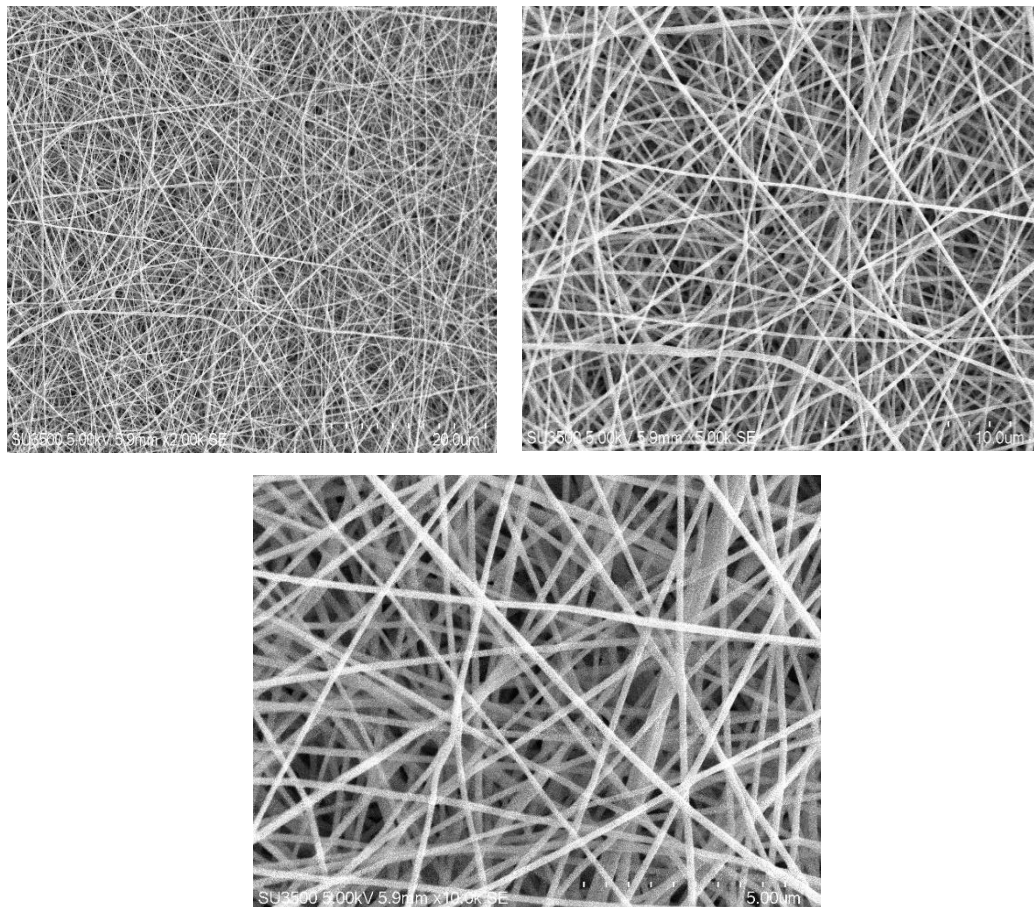
LAMPIRAN 3

HASIL PENGAMATAN *SCANNING ELECTRON MICROSCOPE* (SEM)

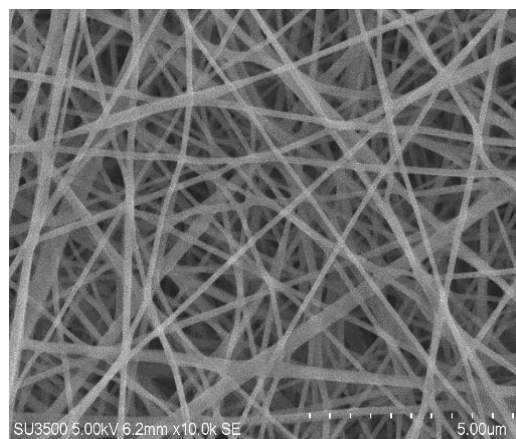
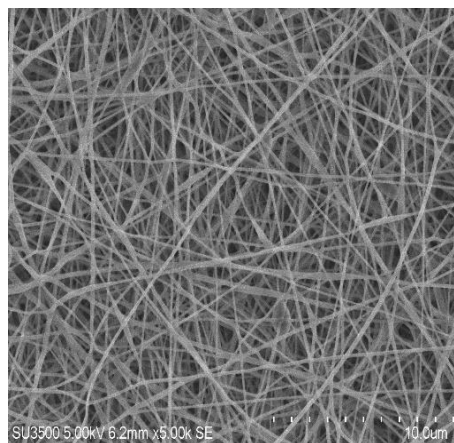
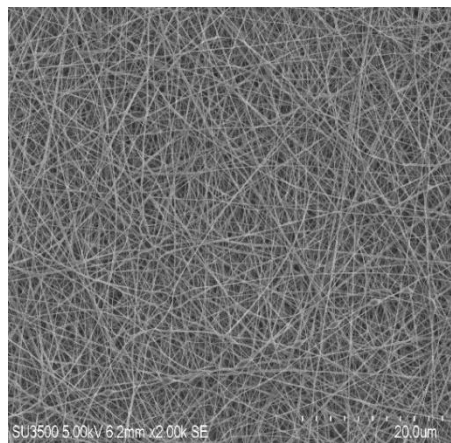
A. Mikrografi Membran Nanofiber PVA/AV 0%



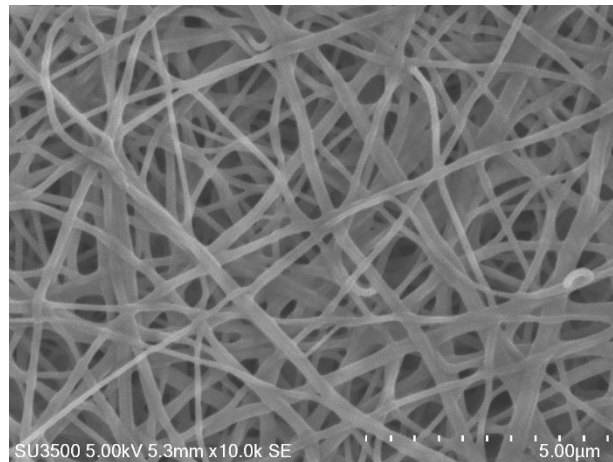
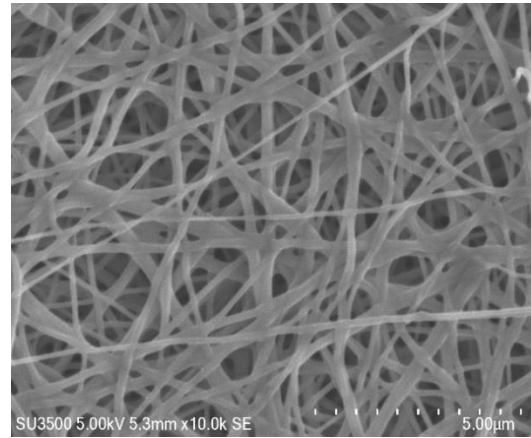
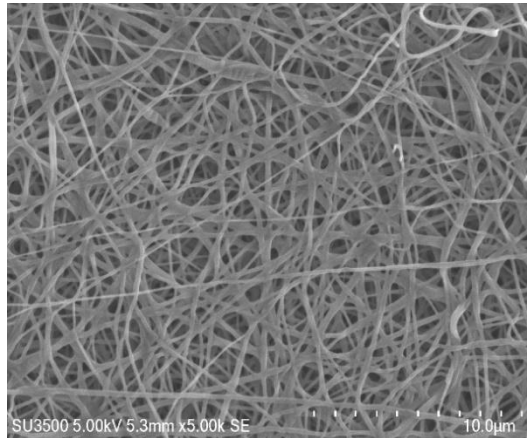
B. Mikrografi Membran Nanofiber PVA/AV 10%



C. Mikrografi Membran Nanofiber PVA/AV 20%



D. Mikrografi Membran Nanofiber PVA/AV 30%



LAMPIRAN 4

LAMPIRAN 4



Laboratorium Uji
TEKNOLOGI PANGAN DAN HASIL PERTANIAN
FAKULTAS TEKNOLOGI PERTANIAN
Universitas Gadjah Mada

Jl. Sosio Yustisia 1, Bulaksumur, Yogyakarta 55281
 Telp. 0274-549650, 524517, 901311; Fax. 0274-549650

HASIL ANALISA

NO: 866/ PS / 07 / 18

Lab. Penguji : Rekayasa Proses Pengolahan
 Tanggal Pengujian : 18 Juli 2018
 Sampel : PVA/AV
 Jenis Analisa : Viskositas
 Alat : Viskometer
 Merk : Brookfield

| No | Sampel | UI 1(cP) | UI 2(cP) |
|----|--------|----------|----------|
| 1 | 0% | 253,9 | 253,9 |
| 2 | 10% | 264,4 | 264,4 |
| 3 | 20% | 258,4 | 258,4 |
| 4 | 30% | 255,4 | 255,4 |

Dilaporkan oleh

Analisis

Penyelia

 Aulia Ardhi, STP, M.Sc


 Rachmat Teguh S

LAMPIRAN 5

LAMPIRAN 5

LAPORAN HASIL UJI

No. Sertifikat : 01599.01/VIII/UN1/LPPT/2018
No. Pengujian : 18080101599

Informasi Customer

Nama : Apriyanto
Alamat : S1 Teknik Mesin UMY

Tanggal Penerimaan : 03 Agustus 2018
Tanggal Pengujian : 03 Agustus 2018

Hasil Pengujian

1. PVA/AV (Polyvinil Alkohol/Aloevera) (0)

| No | Parameter Uji | Hasil | Satuan | Metode |
|----|---------------|--------|--------|---------------|
| 1. | DHL | 466,00 | μs/cm | Konduktometri |
| 2. | Suhu | 28,40 | °C | Konduktometri |

2. PVA/AV (Polyvinil Alkohol/Aloevera) (1)

| No | Parameter Uji | Hasil | Satuan | Metode |
|----|---------------|--------|--------|---------------|
| 1. | DHL | 849,67 | μs/cm | Konduktometri |
| 2. | Suhu | 28,20 | °C | Konduktometri |

3. PVA/AV (Polyvinil Alkohol/Aloevera) (2)

| No | Parameter Uji | Hasil | Satuan | Metode |
|----|---------------|---------|--------|---------------|
| 1. | DHL | 1142,33 | μs/cm | Konduktometri |
| 2. | Suhu | 28,70 | °C | Konduktometri |

4. PVA/AV (Polyvinil Alkohol/Aloevera) (3)

| No | Parameter Uji | Hasil | Satuan | Metode |
|----|---------------|---------|--------|---------------|
| 1. | DHL | 1626,00 | μs/cm | Konduktometri |
| 2. | Suhu | 28,17 | °C | Konduktometri |

Perhatian :

1. LHU ini berlaku hanya pada sampel yang diujikan.
2. LHU ini dibuat semata-mata untuk penggunaan pelanggan yang disebutkan dalam LHU ini.
3. LPPT tidak bertanggung jawab atas setiap kerugian, kerusakan atau tanggung jawab hukum yang diderita oleh pihak ketiga sebagai akibat dari kepercayaan terhadap atau penggunaan laporan ini.
4. Tidak diperkenankan mengandakan LHU ini tanpa izin dari LPPT UGM

LAMPIRAN 6

721/PS/05/18

04.06.2018

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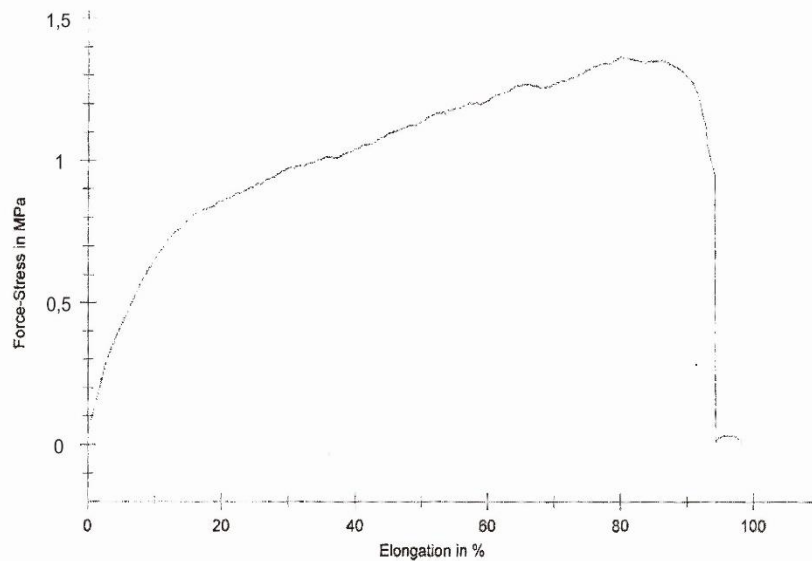
Parameter table:

Company name : 721/PS/05/18 Test standard : Tensile strength
 Customer : Apriyanto Material : PVA/AV 0%
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

| Nr | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|----|----------|----------|----------|-----------|-------------------------|----------------------|
| 1 | 0,0663 | 10 | 20 | 0,9065 | 1,367 | 79,9503 |

Series graphics:



Statistics:

| Series n = 1 | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|-----------------|----------|----------|----------|-----------|-------------------------|----------------------|
| x | 0,0663 | 10 | 20 | 0,9065 | 1,367 | 79,9503 |
| s | - | - | - | - | - | - |
| v | - | - | - | - | - | - |

721/PS/05/18

04.06.2018

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Universitas Gadjah Mada**

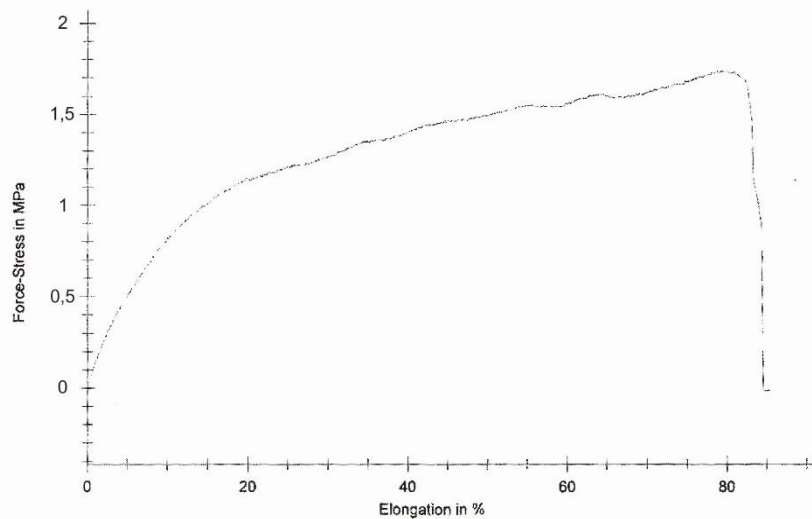
Parameter table:

Company name: 721/PS/05/18 Test standard : Tensile strength
 Customer : Apriyanto Material : PVA/AV 0%
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

| Nr | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|----|----------|----------|----------|-----------|-------------------------|----------------------|
| 2 | 0,0523 | 10 | 20 | 0,9082 | 2,036 | 79,5221 |

Series graphics:



Statistics:

| Series n = 1 | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|-----------------|----------|----------|----------|-----------|-------------------------|----------------------|
| x | 0,0523 | 10 | 20 | 0,9082 | 2,036 | 79,5221 |
| s | - | - | - | - | - | - |
| v | - | - | - | - | - | - |

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04.06.2018

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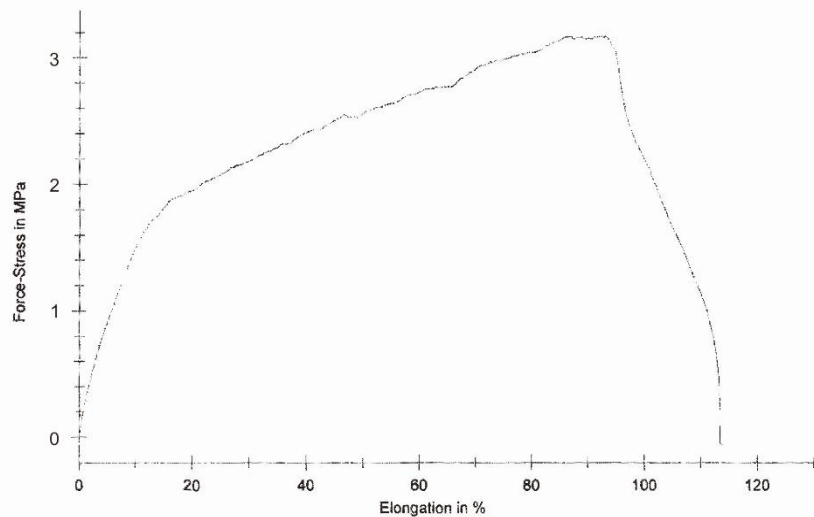
Parameter table:

Company name: 721/PS/05/18 Test standard : Tensile strength
 Customer : Apriyanto Material : PVA/AV 0%
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

| Nr | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|----|----------|----------|----------|-----------|-------------------------|----------------------|
| 3 | 0,0481 | 10 | 20 | 1,5240 | 3,168 | 92,4339 |

Series graphics:



Statistics:

| Series n = 1 | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|-----------------|----------|----------|----------|-----------|-------------------------|----------------------|
| x | 0,0481 | 10 | 20 | 1,5240 | 3,168 | 92,4339 |
| s | - | - | - | - | - | - |
| v | - | - | - | - | - | - |

721/PS/05/18

04.06.2018

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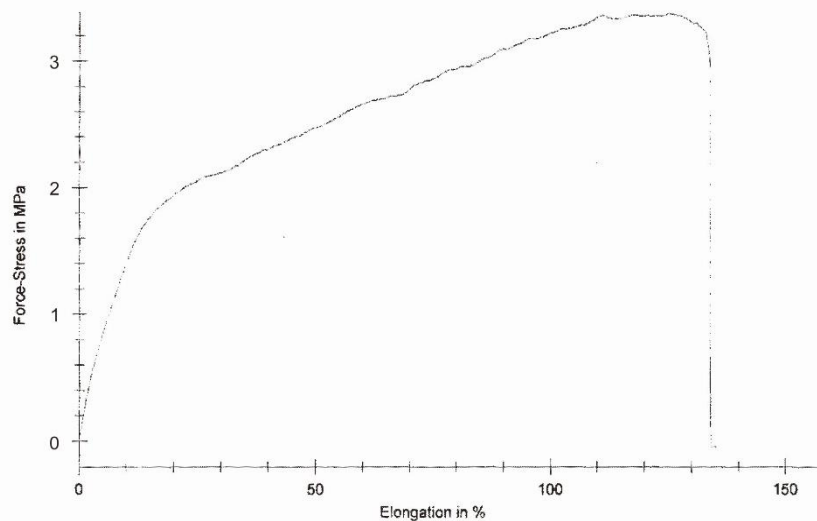
Parameter table:

Company name: 721/PS/05/18 Test standard : Tensile strength
 Customer : Apriyanto Material : PVA/AV 0%
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

| Nr | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|----|----------|----------|----------|-----------|-------------------------|----------------------|
| 4 | 0,0535 | 10 | 20 | 1,8032 | 3,371 | 125,0702 |

Series graphics:



Statistics:

| Series n = 1 | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|-----------------|----------|----------|----------|-----------|-------------------------|----------------------|
| x̄ | 0,0535 | 10 | 20 | 1,8032 | 3,371 | 125,0702 |
| s | - | - | - | - | - | - |
| v | - | - | - | - | - | - |

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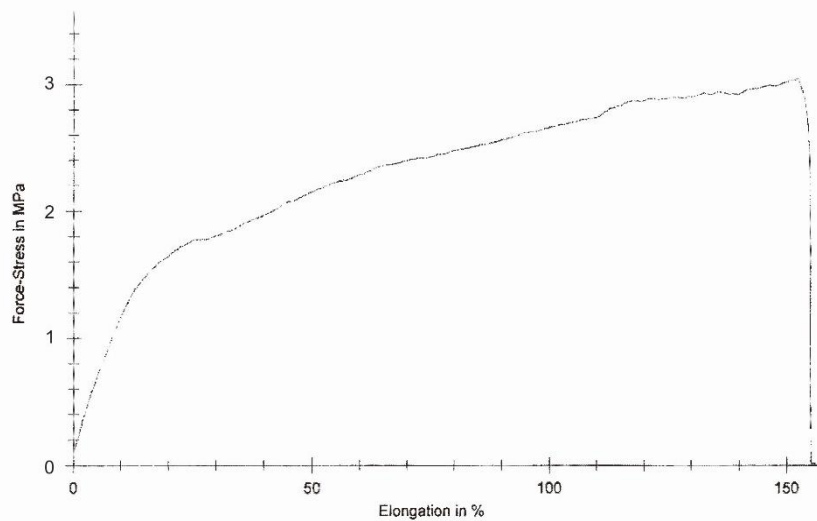
Parameter table:

Company name: 721/PS/05/18 Test standard : Tensile strength
 Customer : Apriyanto Material : PVA/AV 0%
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

| Nr | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|----|----------|----------|----------|-----------|-------------------------|----------------------|
| 5 | 0,0534 | 10 | 20 | 1,6288 | 3,046 | 152,3437 |

Series graphics:



Statistics:

| Series n = 1 | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|-----------------|----------|----------|----------|-----------|-------------------------|----------------------|
| x | 0,0534 | 10 | 20 | 1,6288 | 3,046 | 152,3437 |
| s | - | - | - | - | - | - |
| v | - | - | - | - | - | - |

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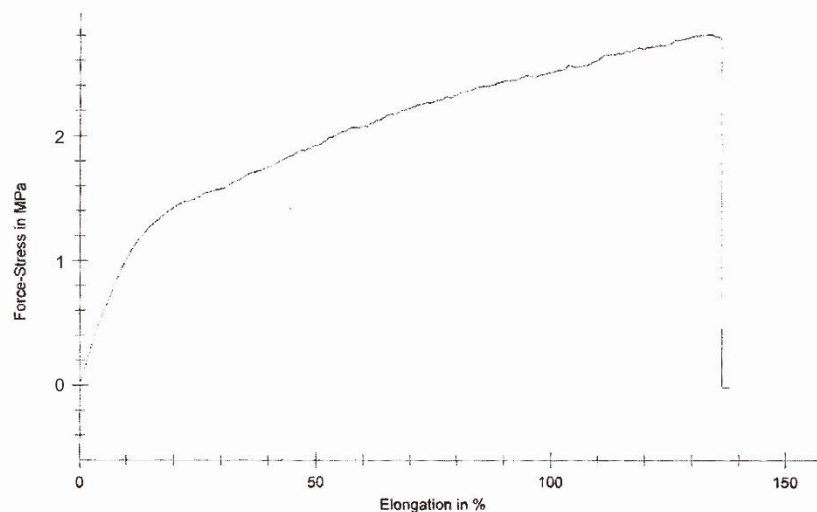
Parameter table:

Company name: 721/PS/05/18 Test standard : Tensile strength
 Customer : Apriyanto Material : PVA/AV 10%
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

| Nr | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|----|----------|----------|----------|-----------|-------------------------|----------------------|
| 1 | 0,0488 | 10 | 20 | 1,3725 | 2,809 | 133,8415 |

Series graphics:



Statistics:

| Series n = 1 | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|-----------------|----------|----------|----------|-----------|-------------------------|----------------------|
| x | 0,0488 | 10 | 20 | 1,3725 | 2,809 | 133,8415 |
| s | - | - | - | - | - | - |
| v | - | - | - | - | - | - |

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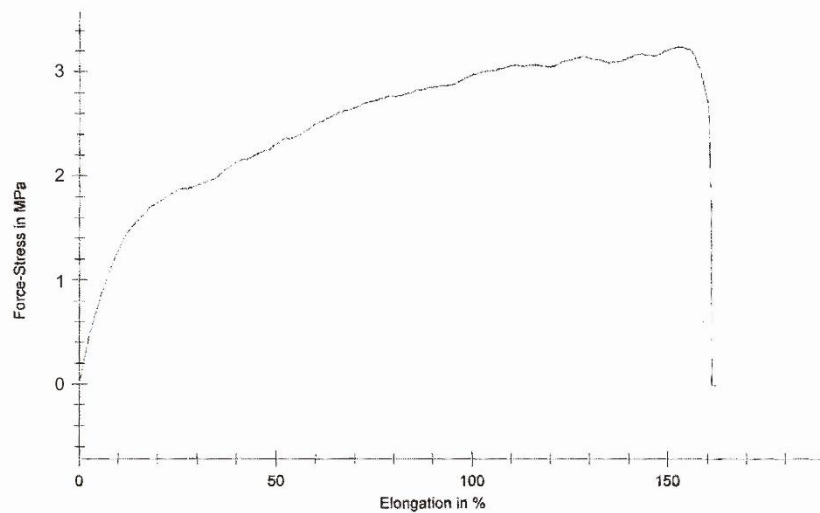
Parameter table:

Company name: 721/PS/05/18 Test standard : Tensile strength
 Customer : Apriyanto Material : PVA/AV 10%
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

| Nr | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|----|----------|----------|----------|-----------|-------------------------|----------------------|
| 2 | 0,0447 | 10 | 20 | 1,4500 | 3,241 | 152,5895 |

Series graphics:



Statistics:

| Series n = 1 | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|-----------------|----------|----------|----------|-----------|-------------------------|----------------------|
| x | 0,0447 | 10 | 20 | 1,4500 | 3,241 | 152,5895 |
| s | - | - | - | - | - | - |
| v | - | - | - | - | - | - |

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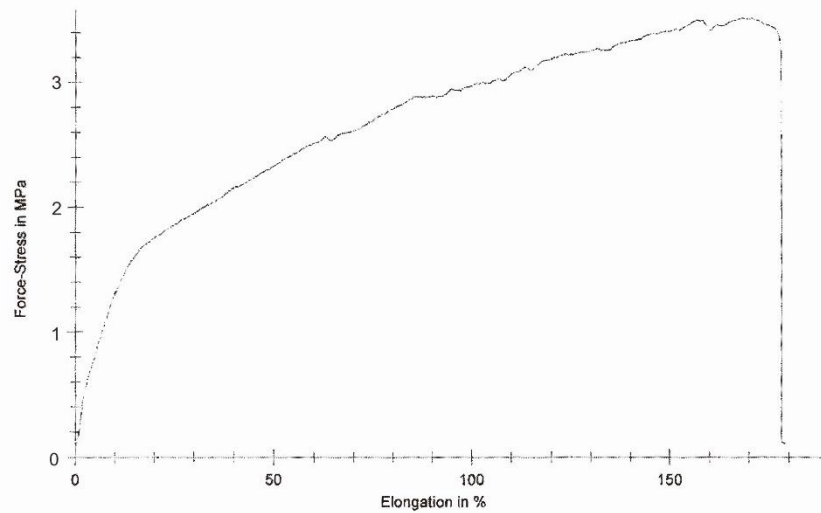
Parameter table:

Company name: 721/PS/05/18 Test standard : Tensile strength
 Customer : Apriyanto Material : PVA/AV 10%
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

| Nr | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|----|----------|----------|----------|-----------|-------------------------|----------------------|
| 3 | 0,0450 | 10 | 20 | 1,5848 | 3,515 | 167,6672 |

Series graphics:



Statistics:

| Series n = 1 | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|-----------------|----------|----------|----------|-----------|-------------------------|----------------------|
| x | 0,0450 | 10 | 20 | 1,5848 | 3,515 | 167,6672 |
| s | - | - | - | - | - | - |
| v | - | - | - | - | - | - |

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04.06.2018

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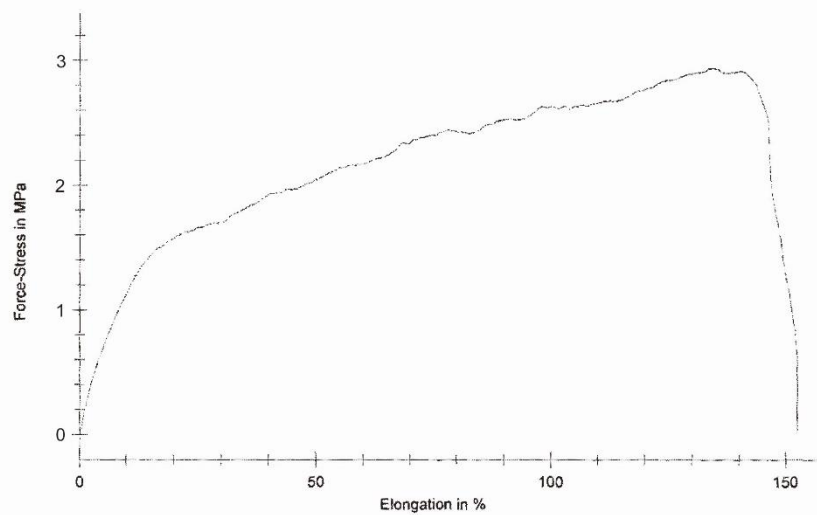
Parameter table:

Company name: 721/PS/05/18 Test standard : Tensile strength
 Customer : Apriyanto Material : PVA/AV 10%
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

| Nr | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|----|----------|----------|----------|-----------|-------------------------|----------------------|
| 4 | 0,0495 | 10 | 20 | 1,4553 | 2,936 | 134,2267 |

Series graphics:



Statistics:

| Series n = 1 | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|-----------------|----------|----------|----------|-----------|-------------------------|----------------------|
| x | 0,0495 | 10 | 20 | 1,4553 | 2,936 | 134,2267 |
| s | - | - | - | - | - | - |
| v | - | - | - | - | - | - |

721/PS/05/18

04.06.2018

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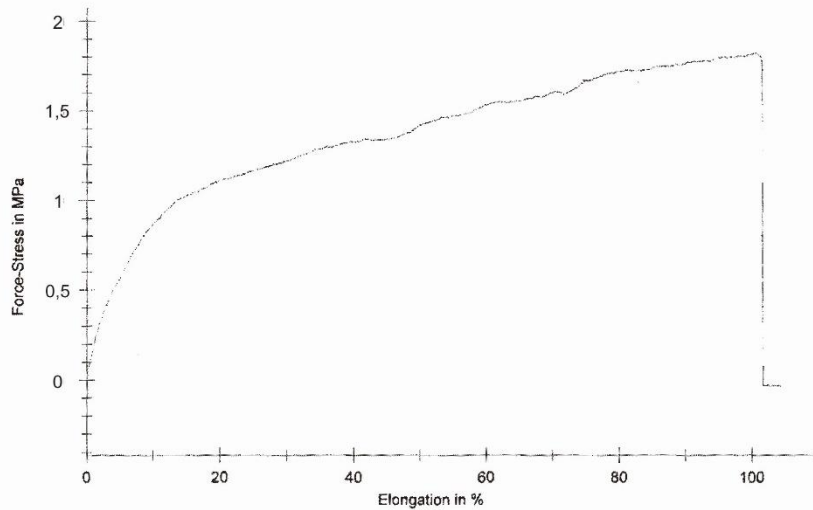
Parameter table:

Company name: 721/PS/05/18 Test standard : Tensile strength
 Customer : Apriyanto Material : PVA/AV 10%
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

| Nr | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|----|----------|----------|----------|-----------|-------------------------|----------------------|
| 5 | 0,0523 | 10 | 20 | 0,9540 | 1,823 | 100,1857 |

Series graphics:



Statistics:

| Series n = 1 | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|-----------------|----------|----------|----------|-----------|-------------------------|----------------------|
| x | 0,0523 | 10 | 20 | 0,9540 | 1,823 | 100,1857 |
| s | - | - | - | - | - | - |
| v | - | - | - | - | - | - |

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26.07.2018

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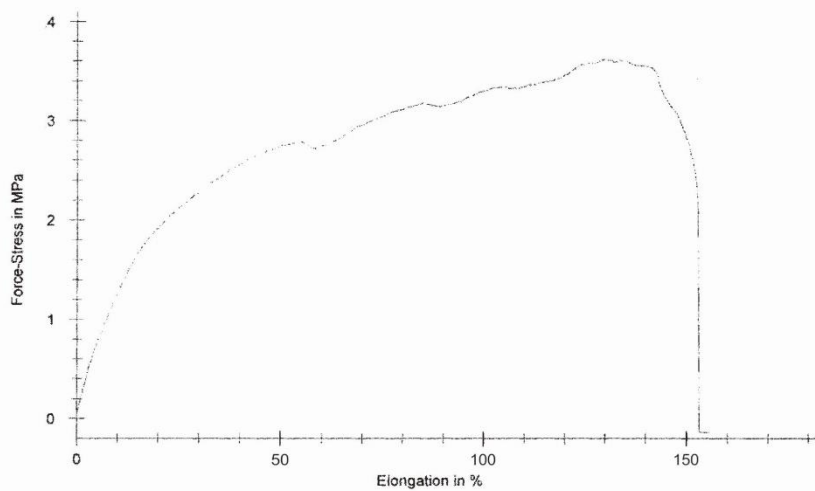
Parameter table:

Company name: 721/PS/05/18 Test standard : Tensile strength
 Customer : Apriyanto Material : PVA/AV 20%
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

| Nr | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|----|----------|----------|----------|-----------|-------------------------|----------------------|
| 1 | 0,0516 | 10 | 20 | 1,2210 | 3,217 | 145,996 |

Series graphics:



Statistics:

| Series n = 1 | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|-----------------|----------|----------|----------|-----------|-------------------------|----------------------|
| x | 0,0516 | 10 | 20 | 1,2210 | 3,217 | 145,996 |
| s | - | - | - | - | - | - |
| v | - | - | - | - | - | - |

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26.07.2018

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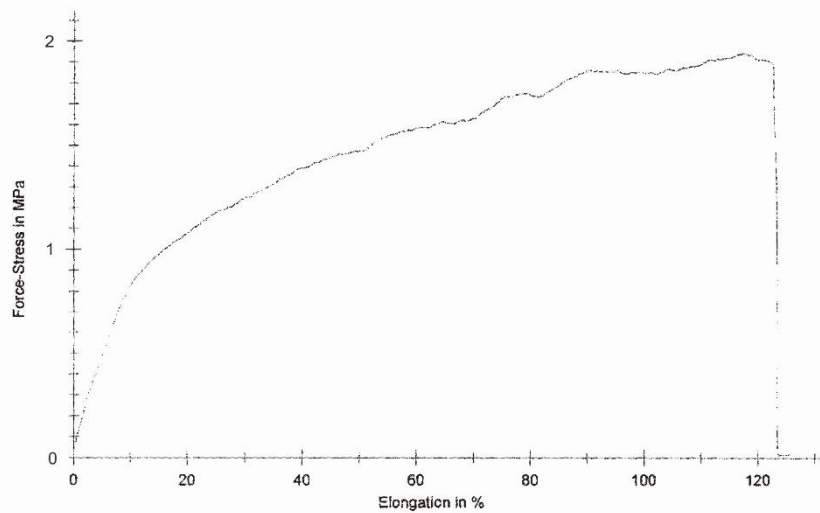
Parameter table:

Company name: 721/PS/05/18 Test standard : Tensile strength
 Customer : Apriyanto Material : PVA/AV 20%
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

| Nr | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|----|----------|----------|----------|-----------|-------------------------|----------------------|
| 2 | 0,0498 | 10 | 20 | 1,2826 | 1,887 | 117,5370 |

Series graphics:



Statistics:

| Series n = 1 | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|-----------------|----------|----------|----------|-----------|-------------------------|----------------------|
| x | 0,0498 | 10 | 20 | 1,2826 | 1,887 | 117,5370 |
| s | - | - | - | - | - | - |
| v | - | - | - | - | - | - |

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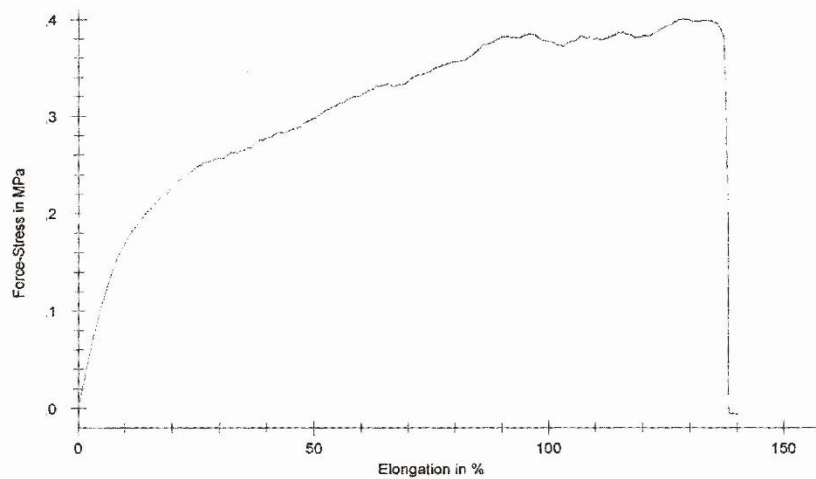
Parameter table:

Company name: 721/PS/05/18 Test standard : Tensile strength
 Customer : Apriyanto Material : PVA/AV 20%
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

| Nr | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|----|----------|----------|----------|-----------|-------------------------|----------------------|
| 3 | 0,0479 | 10 | 20 | 1,3240 | 4,0002 | 138,782 |

Series graphics:



Statistics:

| Series n = 1 | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|-----------------|----------|----------|----------|-----------|-------------------------|----------------------|
| x | 0,0479 | 10 | 20 | 1,3240 | 4,0002 | 138,782 |
| s | - | - | - | - | - | - |
| v | - | - | - | - | - | - |

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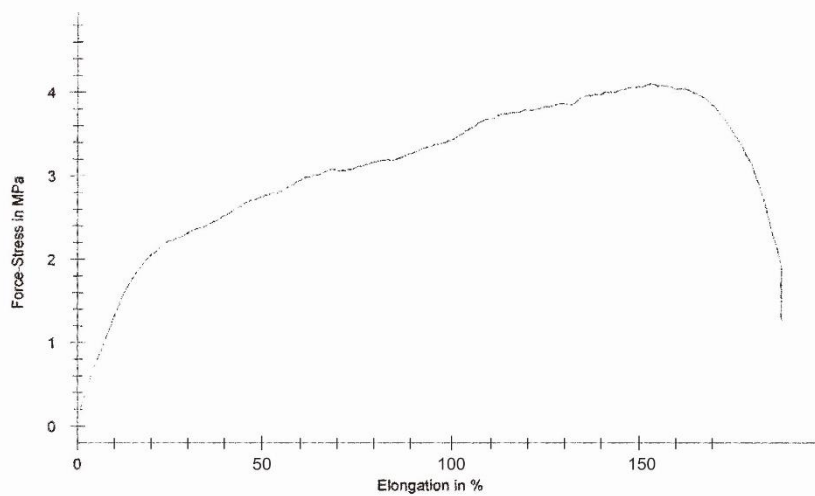
Parameter table:

Company name: 721/PS/05/18 Test standard : Tensile strength
 Customer : Apriyanto Material : PVA/AV 20%
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

| Nr | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|----|----------|----------|----------|-----------|-------------------------|----------------------|
| 4 | 0,0553 | 10 | 20 | 1,5372 | 4,0127 | 151,4728 |

Series graphics:



Statistics:

| Series n = 1 | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|-----------------|----------|----------|----------|-----------|-------------------------|----------------------|
| x | 0,0553 | 10 | 20 | 1,5372 | 4,0127 | 151,4728 |
| s | - | - | - | - | - | - |
| v | - | - | - | - | - | - |

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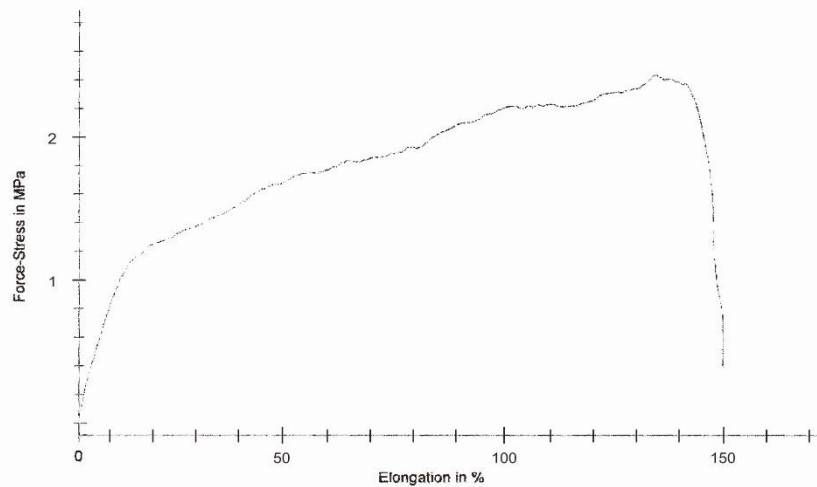
Parameter table:

Company name: 721/PS/05/18 Test standard : Tensile strength
 Customer : Apriyanto Material : PVA/AV 20%
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

| Nr | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|----|----------|----------|----------|-----------|-------------------------|----------------------|
| 5 | 0,0553 | 10 | 20 | 1,7022 | 2,4711 | 136,412 |

Series graphics:



Statistics:

| Series n = 1 | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|-----------------|----------|----------|----------|-----------|-------------------------|----------------------|
| \bar{x} | 0,0553 | 10 | 20 | 1,7022 | 2,4711 | 136,412 |
| s | - | - | - | - | - | - |
| v | - | - | - | - | - | - |

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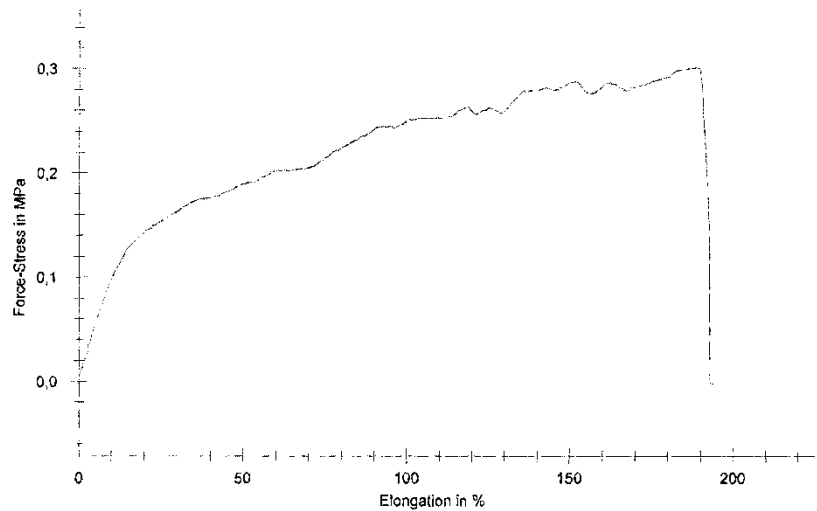
Parameter table:

Company name: 721/PS/05/18 Test standard : Tensile strength
 Customer : Apriyanto Material : A31
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

| Nr | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|----|----------|----------|----------|-----------|-------------------------|----------------------|
| 16 | 0,3855 | 10 | 20 | 1,1611 | 0,3012 | 188,3467 |

Series graphics:



Statistics:

| Series n = 1 | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|-----------------|----------|----------|----------|-----------|-------------------------|----------------------|
| x | 0,3855 | 10 | 20 | 1,1611 | 0,3012 | 188,3467 |
| s | - | - | - | - | - | - |
| v | - | - | - | - | - | - |

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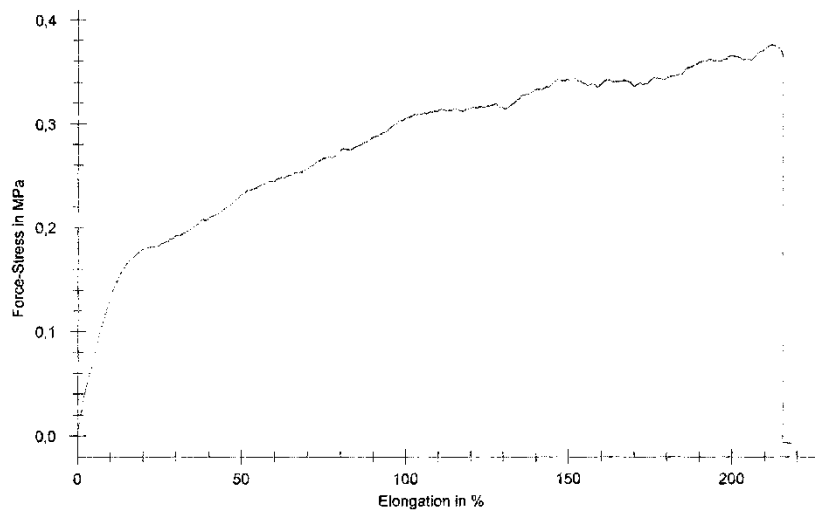
Parameter table:

Company name: 721/PS/05/18 Test standard : Tensile strength
 Customer : Apriyanto Material : A32
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

| Nr | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|----|----------|----------|----------|-----------|-------------------------|----------------------|
| 17 | 0,3889 | 10 | 20 | 1,4632 | 0,3762 | 212,3112 |

Series graphics:



Statistics:

| Series n = 1 | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|-----------------|----------|----------|----------|-----------|-------------------------|----------------------|
| x | 0,3889 | 10 | 20 | 1,4632 | 0,3762 | 212,3112 |
| s | - | - | - | - | - | - |
| v | - | - | - | - | - | - |

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04.06.20

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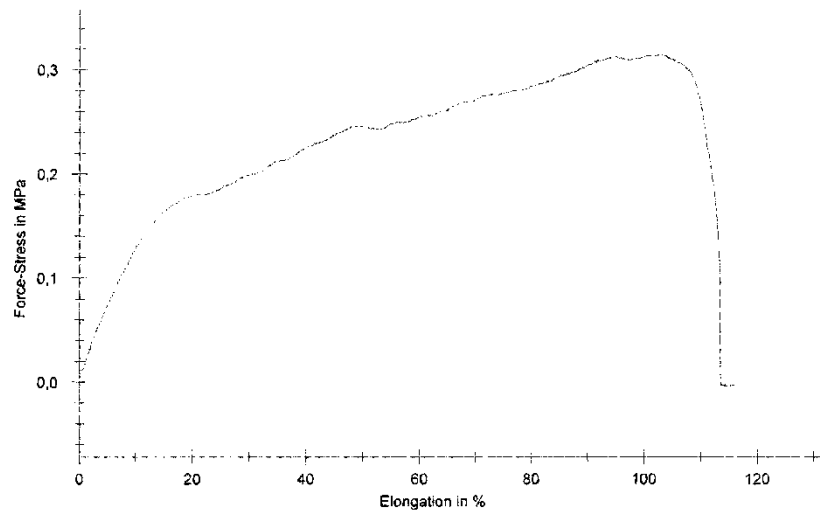
Parameter table:

Company name: 721/PS/05/18 Test standard : Tensile strength
 Customer : Apriyanto Material : A33
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

| Nr | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|----|----------|----------|----------|-----------|-------------------------|----------------------|
| 18 | 0,3855 | 10 | 20 | 1,2139 | 0,3149 | 102,6847 |

Series graphics:



Statistics:

| Series n = 1 | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|-----------------|----------|----------|----------|-----------|-------------------------|----------------------|
| \bar{x} | 0,3855 | 10 | 20 | 1,2139 | 0,3149 | 102,6847 |
| s | - | - | - | - | - | - |
| v | - | - | - | - | - | - |

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04.06.201

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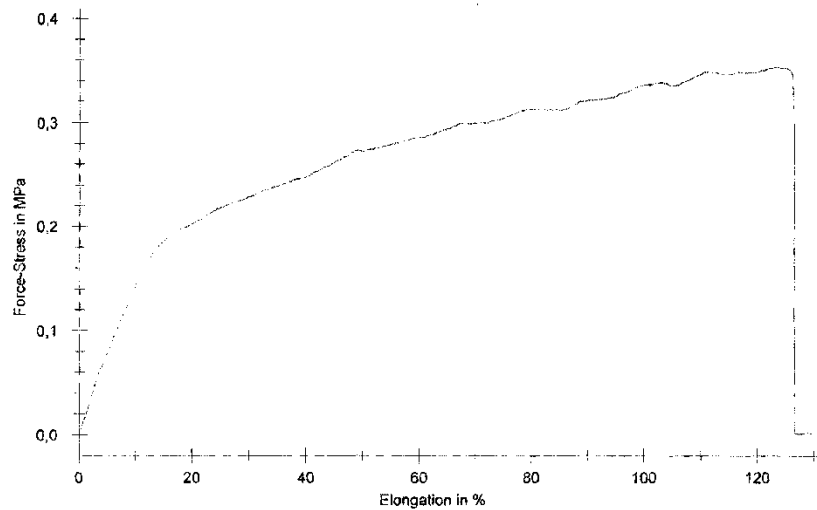
Parameter table:

Company name: 721/PS/05/18 Test standard : Tensile strength
 Customer : Apriyanto Material : A34
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

| Nr | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|----|----------|----------|----------|-----------|-------------------------|----------------------|
| 19 | 0,4164 | 10 | 20 | 1,4711 | 0,3533 | 123,7266 |

Series graphics:



Statistics:

| Series | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|--------|----------|----------|----------|-----------|-------------------------|----------------------|
| n = 1 | | | | | | |
| x | 0,4164 | 10 | 20 | 1,4711 | 0,3533 | 123,7266 |
| s | - | - | - | - | - | - |
| v | - | - | - | - | - | - |

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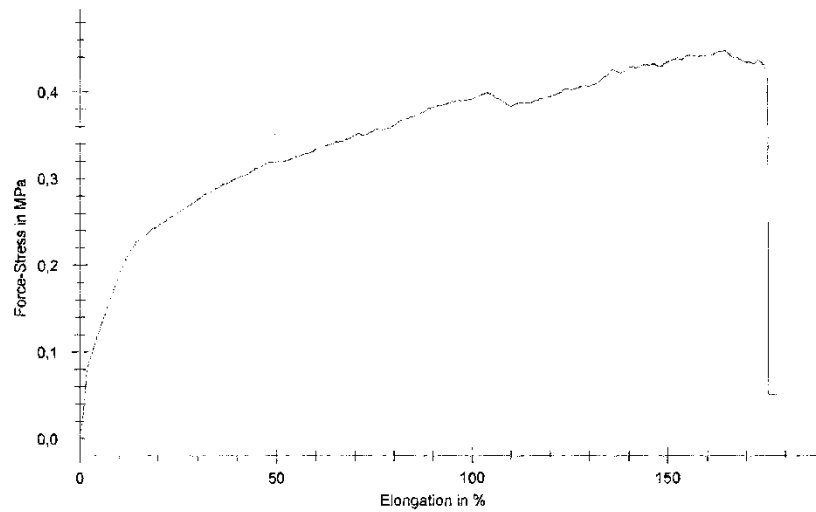
Parameter table:

Company name: 721/PS/05/18 Test standard : Tensile strength
 Customer : Apriyanto Material : A35
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

| Nr | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|----|----------|----------|----------|-----------|-------------------------|----------------------|
| 20 | 0,3899 | 10 | 20 | 1,7416 | 0,4467 | 163,9493 |

Series graphics:



Statistics:

| Series n = 1 | a0 mm | b0 mm | Lc mm | FMax N | Tensile Strength MPa | Strain at Fmax. % |
|-----------------|----------|----------|----------|-----------|-------------------------|----------------------|
| x | 0,3899 | 10 | 20 | 1,7416 | 0,4467 | 163,9493 |
| s | - | - | - | - | - | - |
| v | - | - | - | - | - | - |