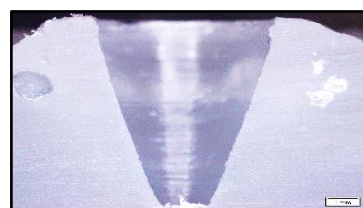
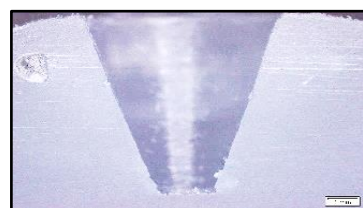
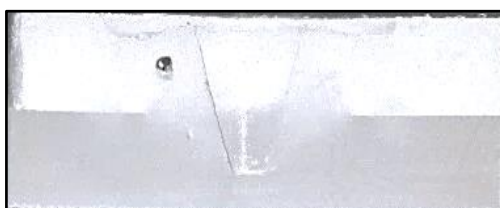
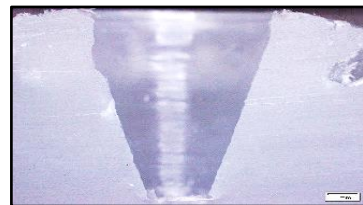
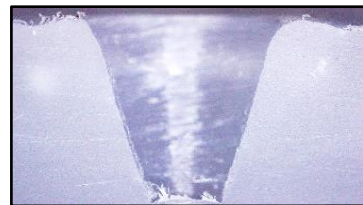
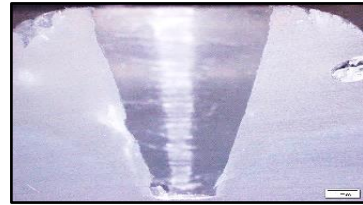
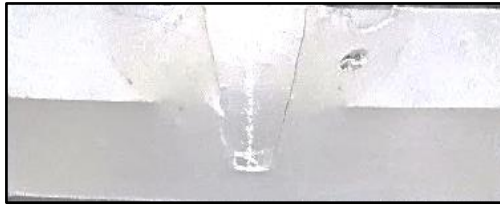
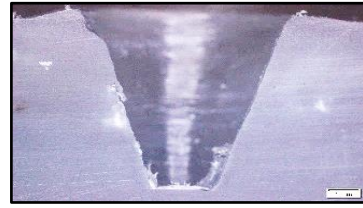


## **LAMPIRAN 1**



## **LAMPIRAN 2**



## POLITEKNIK ATMI SURAKARTA

Kampus I : Jl. Mojo No. 1, Karangasem, Laweyan, Surakarta 57145. Phone : +62 271 714466 • Fax : +62 271 714390

Kampus II : Jl. Adi Sucipto Km 9.5, Blulukon, Colomadu, Karanganyar 57174. Phone: +62 271 7686220

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Jawa Tengah, Indonesia



## Hardness Test report

Customer : Muh Rifa'i Dwi Saputra

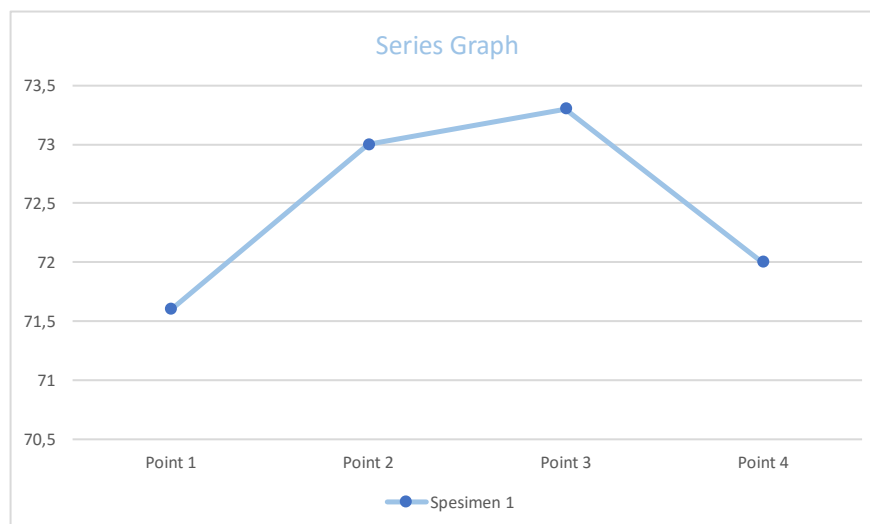
Material : Polypropylene FSSW

Notes : RPM 985 T1

Standart : Shore D

## Results:

	Point 1	Point 2	Point 3	Point 4
Spesimen 1	71,6	73	73,3	72



## Statistics:

n = 1	N
x	72,48
s	1
v [%]	1,1



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Jawa Tengah, Indonesia



## Hardness Test report

Customer : Muh Rifa'i Dwi Saputra

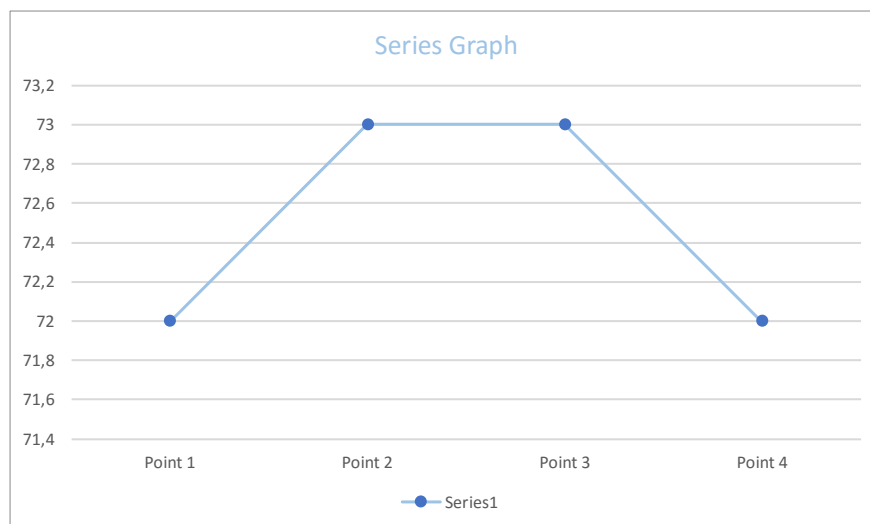
Material : Polypropylene FSSW

Notes : RPM 985 T2

Standart : Shore D

## Results:

	Point 1	Point 2	Point 3	Point 4
Spesimen 1	72	73	73	72



## Statistics:

n = 1	N
x	72,50
s	1
v [%]	0,8



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Jawa Tengah, Indonesia



## Hardness Test report

Customer : Muh Rifa'i Dwi Saputra

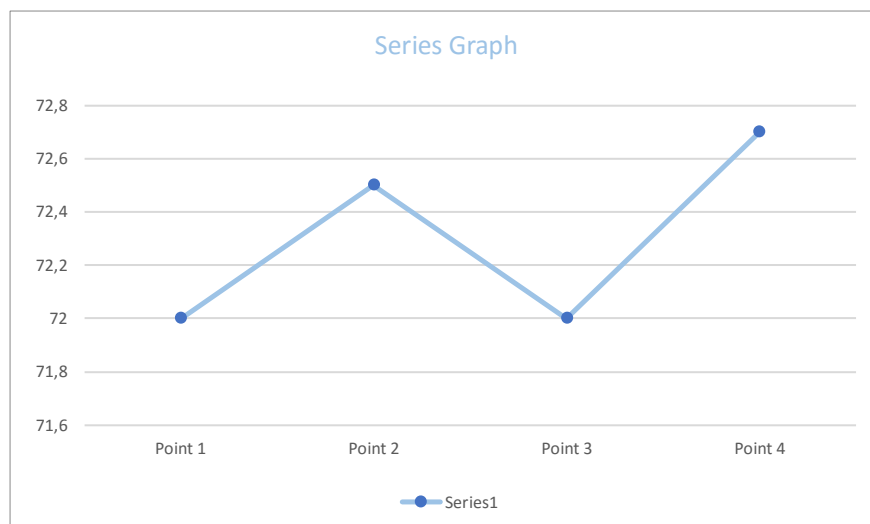
Material : Polypropylene FSSW

Notes : RPM 1660 T1

Standart : Shore D

## Results:

	Point 1	Point 2	Point 3	Point 4
Spesimen 1	72	72,5	72	72,7



## Statistics:

n = 1	N
x	72,30
s	0
v [%]	0,5



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Jawa Tengah, Indonesia



## Hardness Test report

Customer : Muh Rifa'i Dwi Saputra

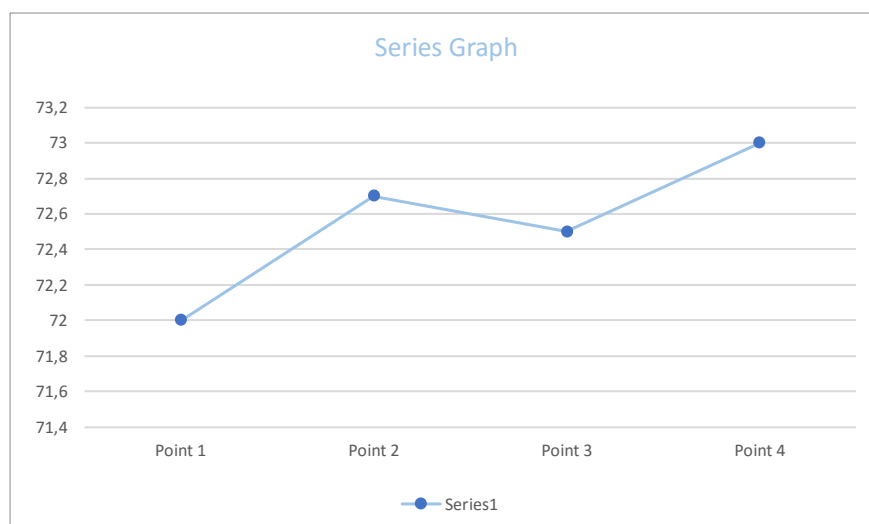
Material : Polypropylene FSSW

Notes : RPM 1660 T2

Standart : Shore D

## Results:

	Point 1	Point 2	Point 3	Point 4
Spesimen 1	72	72,7	72,5	73



## Statistics:

n = 1	N
x	72,55
s	0
v [%]	0,6



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Jawa Tengah, Indonesia



## Hardness Test report

Customer : Muh Rifa'i Dwi Saputra

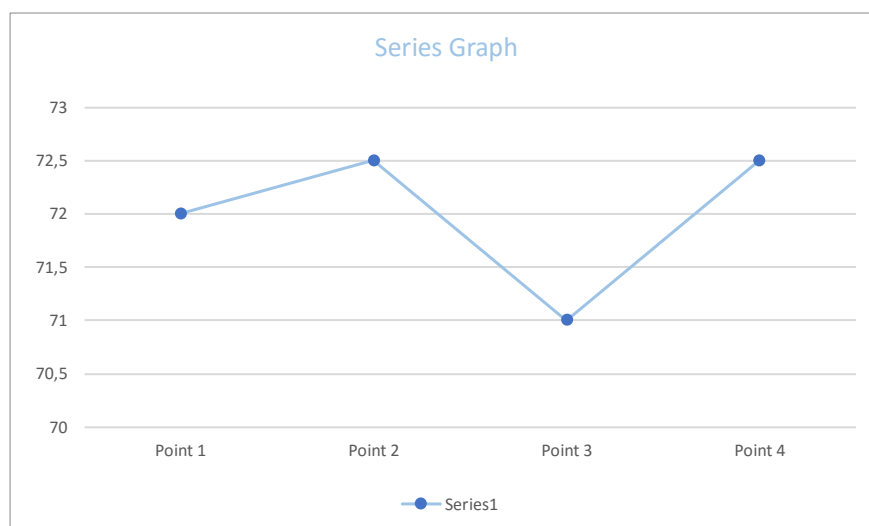
Material : Polypropylene FSSW

Notes : RPM 2350 T1

Standart : Shore D

## Results:

	Point 1	Point 2	Point 3	Point 4
Spesimen 1	72	72,5	71	72,5



## Statistics:

n = 1	N
x	72,00
s	1
v [%]	1,0





## POLITEKNIK ATMI SURAKARTA

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Jawa Tengah, Indonesia



## Hardness Test report

Customer : Muh Rifa'i Dwi Saputra

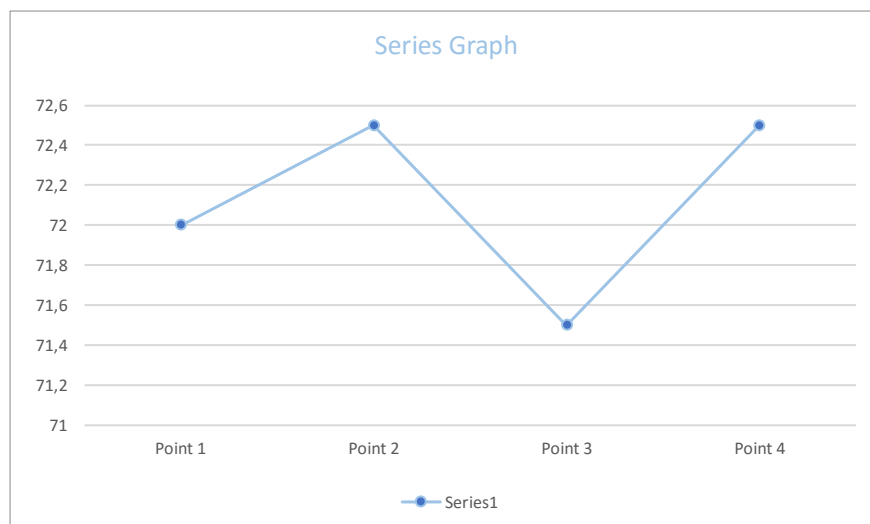
Material : Polypropylene FSSW

Notes : RPM 2350 T2

Standart : Shore D

## Results:

	Point 1	Point 2	Point 3	Point 4
Spesimen 1	72	72,5	71,5	72,5



## Statistics:

n = 1	N
x	72,13
s	0
v [%]	0,7

### **LAMPIRAN 3**



## POLITEKNIK ATMI SURAKARTA

Kampus I : Jl. Mojo No. 1 Surakarta 57145. Phone : +62 271 714466 • Fax : +62 271 714390  
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 Kotak Pos 215 Surakarta 57102, Jawa Tengah, Indonesia.  
 E-mail: [politeknik@atmi.ac.id](mailto:politeknik@atmi.ac.id) • Website <http://www.atmi.ac.id>

**Zwick / Roell**

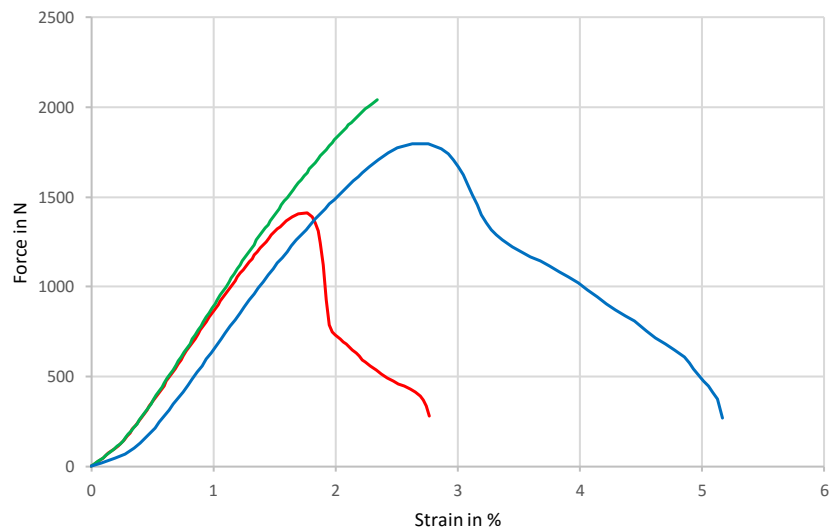
### Tensile Test report

Customer : Muh Rifa'i Dwi Saputra  
 Material : Polypropylene FSSW  
 Notes : RPM 985 T1  
 Pre-load : 0,5 N  
 Test speed : 20 mm/min

#### Test results:

Legend	F <sub>max</sub> N	dL at F <sub>max</sub> mm	F <sub>Break</sub> N	dL at break mm	a <sub>0</sub> mm	b <sub>0</sub> mm	S <sub>0</sub> mm <sup>2</sup>
<span style="color: red;">█</span>	1410	3,31	282	5,26	10,14	31,96	324,07
<span style="color: green;">█</span>	2044	4,46	2044	4,46	10,12	30,95	313,21
<span style="color: blue;">█</span>	1800	5,10	269	9,82	10,16	30	304,80

#### Series graph:



#### Statistics:

Series n = 1	F <sub>max</sub> N	dL at F <sub>max</sub> mm	F <sub>Break</sub> N	dL at break mm	a <sub>0</sub> mm	b <sub>0</sub> mm	S <sub>0</sub> mm <sup>2</sup>
x	1751	4,3	865	6,5	10,1	31,0	314,0
s	320	0,91	1021	2,89	0,02	0,98	9,66
v [%]	18,26	21,16	118,06	44,40	0,20	3,16	3,08



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**Zwick / Roell**

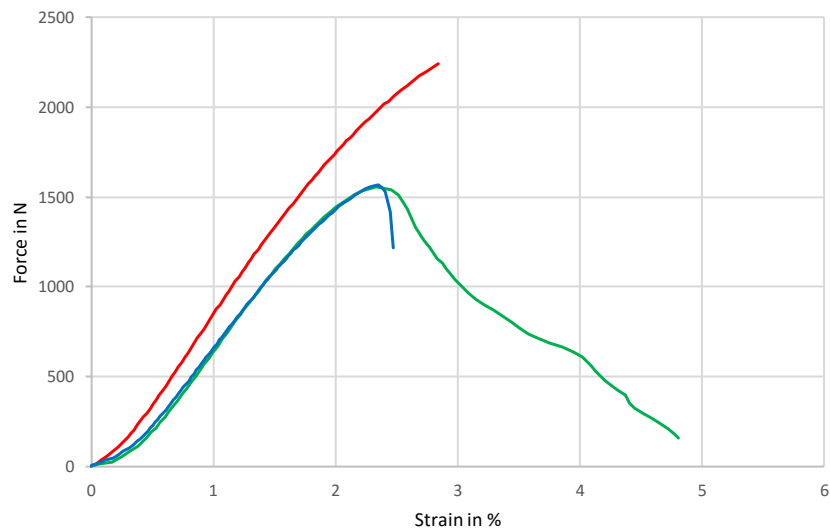
### Tensile Test report

Customer : Muh Rifa'i Dwi Saputra  
 Material : Polypropylene FSSW  
 Notes : RPM 985 T2  
 Pre-load : 0,5 N  
 Test speed : 20 mm/min

#### Test results:

Legend	F <sub>max</sub> N	dL at F <sub>max</sub> mm	F <sub>Break</sub> N	dL at break mm	a <sub>0</sub> mm	b <sub>0</sub> mm	S <sub>0</sub> mm <sup>2</sup>
<span style="color: red;">■</span>	2240	5,41	2243	5,41	10,16	30,50	309,88
<span style="color: green;">■</span>	1560	4,46	155	9,14	10,16	30,50	309,88
<span style="color: blue;">■</span>	1570	4,44	1217	4,69	10,16	30,74	312,32

#### Series graph:



#### Statistics:

Series n = 1	F <sub>max</sub> N	dL at F <sub>max</sub> mm	F <sub>Break</sub> N	dL at break mm	a <sub>0</sub> mm	b <sub>0</sub> mm	S <sub>0</sub> mm <sup>2</sup>
x	1790	4,8	1205	6,4	10,2	30,6	310,7
s	390	0,55	1044	2,39	0,00	0,14	1,41
v [%]	21,76	11,60	86,61	37,21	0,00	0,45	0,45



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 E-mail: [politeknik@atmi.ac.id](mailto:politeknik@atmi.ac.id) • Website <http://www.atmi.ac.id>

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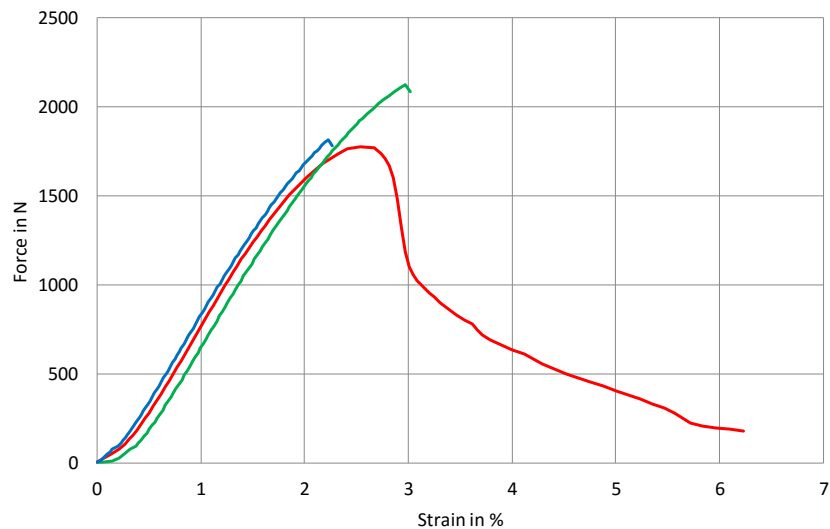
### Tensile Test report

Customer : Muh Rifa'i Dwi Saputra  
 Material : Polypropylene FSSW  
 Notes : RPM 1660 T1  
 Pre-load : 0,5 N  
 Test speed : 20 mm/min

#### Test results:

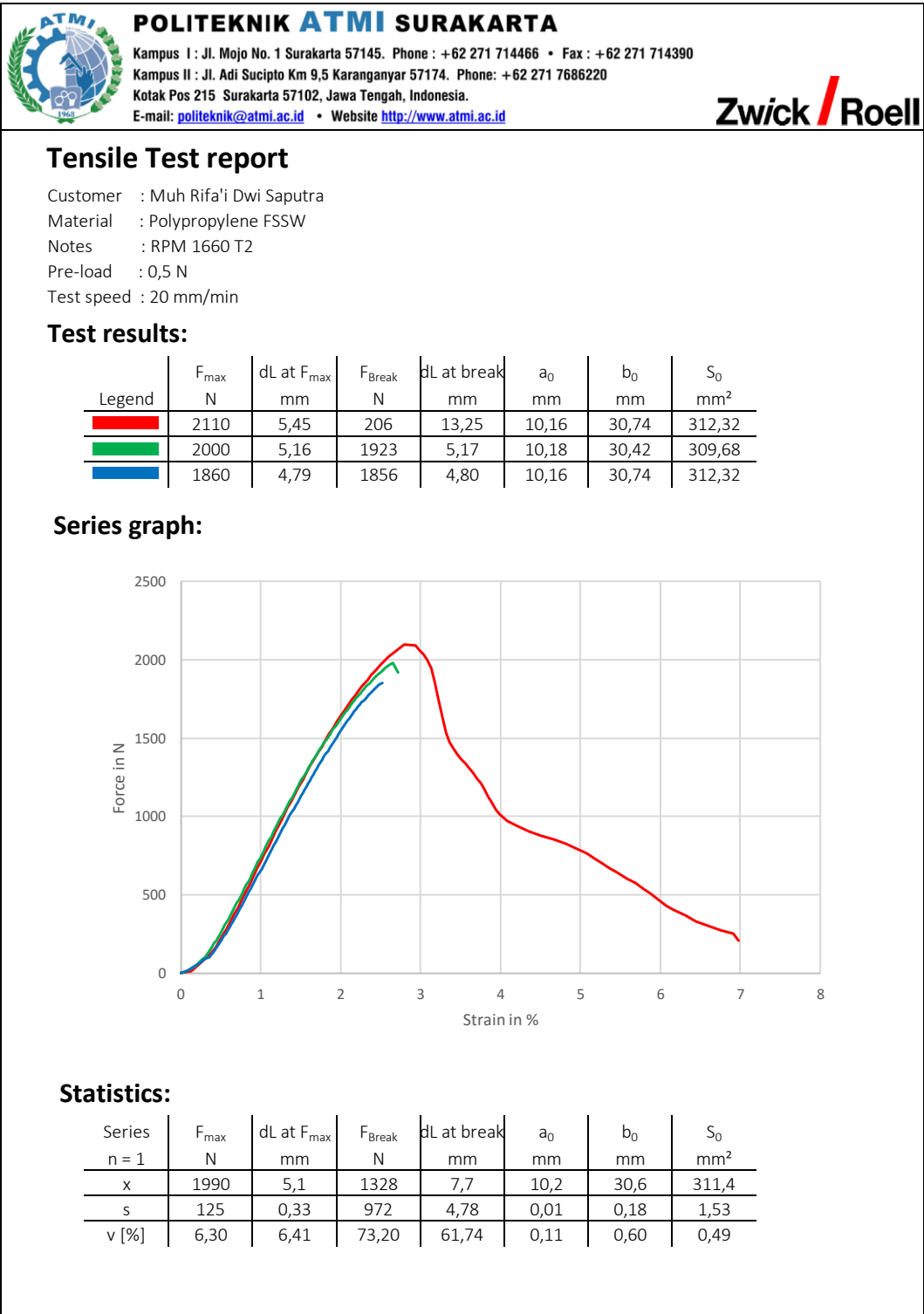
Legend	F <sub>max</sub> N	dL at F <sub>max</sub> mm	F <sub>Break</sub> N	dL at break mm	a <sub>0</sub> mm	b <sub>0</sub> mm	S <sub>0</sub> mm <sup>2</sup>
<span style="color: red;">█</span>	1780	4,88	178	11,83	10,18	30,28	308,25
<span style="color: green;">█</span>	2140	5,74	2083	5,74	10,16	29,76	302,36
<span style="color: blue;">█</span>	1840	4,31	1779	4,31	10,16	29,76	302,36

#### Series graph:



#### Statistics:

Series n = 1	F <sub>max</sub> N	dL at F <sub>max</sub> mm	F <sub>Break</sub> N	dL at break mm	a <sub>0</sub> mm	b <sub>0</sub> mm	S <sub>0</sub> mm <sup>2</sup>
x	1920	5,0	1347	7,3	10,2	29,9	304,3
s	193	0,72	1024	3,99	0,01	0,30	3,40
v [%]	10,04	14,45	76,01	54,76	0,11	1,00	1,12





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 Kotak Pos 215 Surakarta 57102, Jawa Tengah, Indonesia.  
 E-mail: [politeknik@atmi.ac.id](mailto:politeknik@atmi.ac.id) • Website <http://www.atmi.ac.id>

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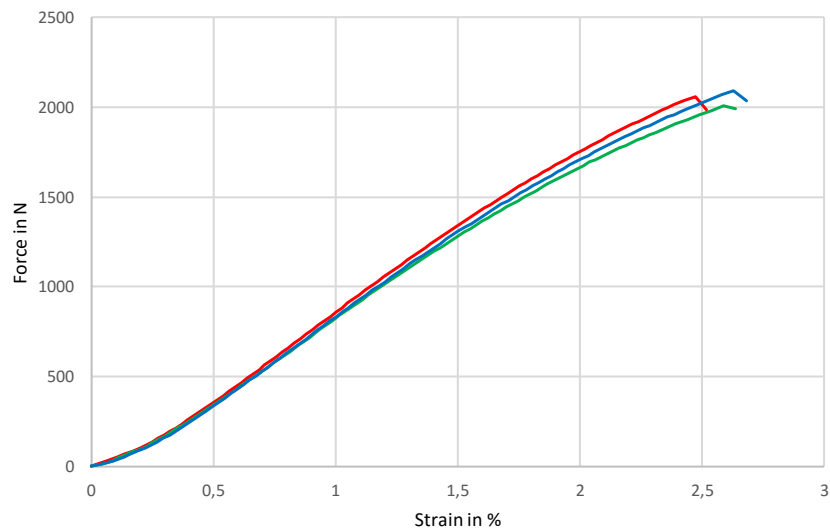
### Tensile Test report

Customer : Muh Rifa'i Dwi Saputra  
 Material : Polypropylene FSSW  
 Notes : RPM 2350 T1  
 Pre-load : 0,5 N  
 Test speed : 20 mm/min

#### Test results:

Legend	F <sub>max</sub> N	dL at F <sub>max</sub> mm	F <sub>Break</sub> N	dL at break mm	a <sub>0</sub> mm	b <sub>0</sub> mm	S <sub>0</sub> mm <sup>2</sup>
<span style="color: red;">■</span>	2080	4,78	1984	4,79	10,12	30,44	308,05
<span style="color: green;">■</span>	2030	5,01	1992	5,01	10,14	29,42	298,32
<span style="color: blue;">■</span>	2120	5,09	2039	5,10	10,10	29,92	302,19

#### Series graph:



#### Statistics:

Series	F <sub>max</sub> N	dL at F <sub>max</sub> mm	F <sub>Break</sub> N	dL at break mm	a <sub>0</sub> mm	b <sub>0</sub> mm	S <sub>0</sub> mm <sup>2</sup>
n = 1							
x	2077	5,0	2005	5,0	10,1	29,9	302,9
s	45	0,16	30	0,16	0,02	0,51	4,90
v [%]	2,16	3,17	1,49	3,20	0,20	1,70	1,62



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 E-mail: [politeknik@atmi.ac.id](mailto:politeknik@atmi.ac.id) • Website <http://www.atmi.ac.id>

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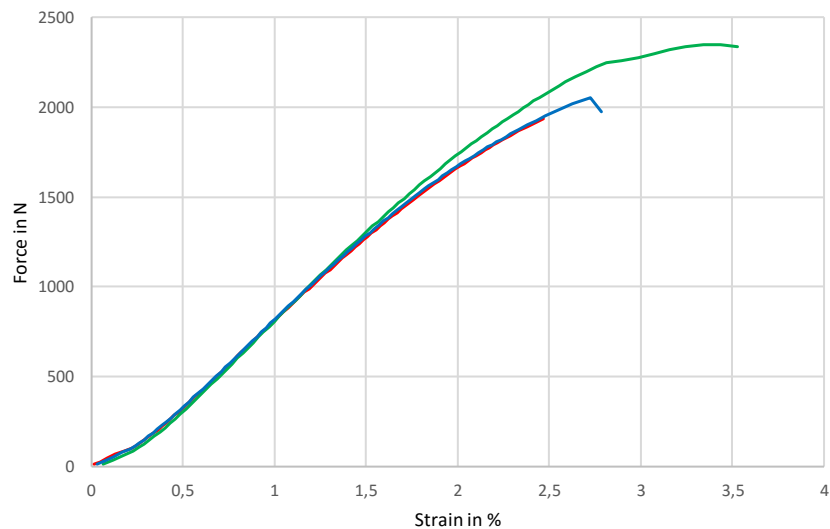
### Tensile Test report

Customer : Muh Rifa'i Dwi Saputra  
 Material : Polypropylene FSSW  
 Notes : RPM 2350 T2  
 Pre-load : 0,5 N  
 Test speed : 20 mm/min

#### Test results:

Legend	F <sub>max</sub> N	dL at F <sub>max</sub> mm	F <sub>Break</sub> N	dL at break mm	a <sub>0</sub> mm	b <sub>0</sub> mm	S <sub>0</sub> mm <sup>2</sup>
<span style="color: red;">■</span>	1930	4,69	1934	4,69	10,14	29,92	303,39
<span style="color: green;">■</span>	2350	6,42	2336	6,71	10,14	30,34	307,65
<span style="color: blue;">■</span>	2070	5,29	1973	5,30	10,20	30,24	308,45

#### Series graph:



#### Statistics:

Series n = 1	F <sub>max</sub> N	dL at F <sub>max</sub> mm	F <sub>Break</sub> N	dL at break mm	a <sub>0</sub> mm	b <sub>0</sub> mm	S <sub>0</sub> mm <sup>2</sup>
x	2117	5,5	2081	5,6	10,2	30,2	306,5
s	214	0,87	221	1,03	0,03	0,22	2,72
v [%]	10,09	16,00	10,64	18,56	0,34	0,73	0,89





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 Kotak Pos 215 Surakarta 57102, Jawa Tengah, Indonesia.  
 E-mail: [politeknik@atmi.ac.id](mailto:politeknik@atmi.ac.id) • Website <http://www.atmi.ac.id>

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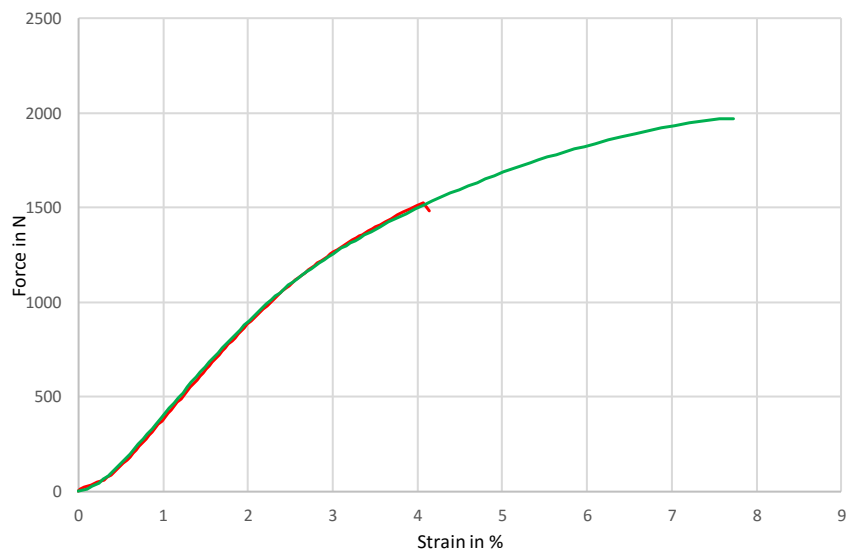
### Tensile Test report

Customer : Muh Rifa'i Dwi Saputra  
 Material : Polypropylene FSSW  
 Notes : SAMBUNGAN LEM  
 Pre-load : 0,5 N  
 Test speed : 20 mm/min

#### Test results:

Legend	F <sub>max</sub> N	dL at F <sub>max</sub> mm	F <sub>Break</sub> N	dL at break mm	a <sub>0</sub> mm	b <sub>0</sub> mm	S <sub>0</sub> mm <sup>2</sup>
<span style="color: red;">■</span>	1542	3,40	1481	3,41	4,39	13,26	134,46
<span style="color: green;">■</span>	1984	6,36	1972	6,37	4,41	13,104	133,40

#### Series graph:



#### Statistics:

Series	F <sub>max</sub> N	dL at F <sub>max</sub> mm	F <sub>Break</sub> N	dL at break mm	a <sub>0</sub> mm	b <sub>0</sub> mm	S <sub>0</sub> mm <sup>2</sup>
n = 1							
x	1763	4,88	1727	4,89	4,40	13,18	133,93
s	313	2,09	347	2,09	0,01	0,11	0,75
v [%]	17,73	42,85	20	42,85	0,28	0,84	0,56



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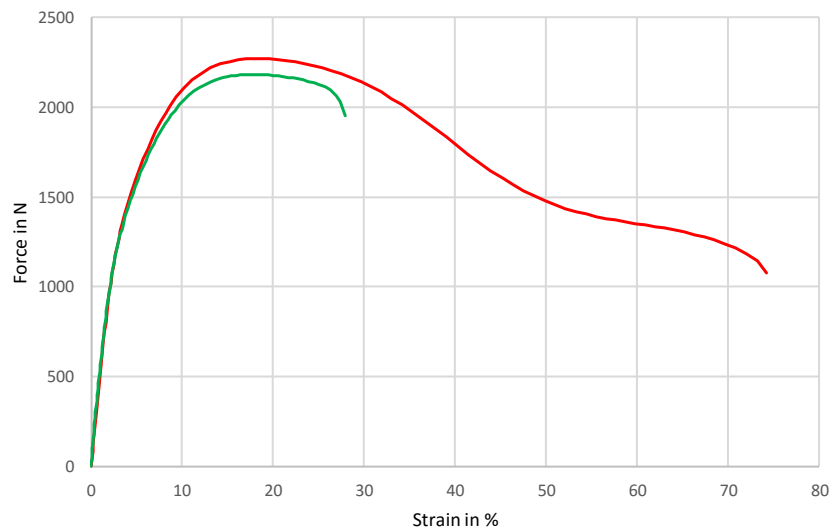
### Tensile Test report

Customer : Muh Rifa'i Dwi Saputra  
 Material : Polypropylene FSSW  
 Notes : RAW MATERIAL  
 Pre-load : 0,5 N  
 Test speed : 20 mm/min

#### Test results:

Legend	F <sub>max</sub> N	dL at F <sub>max</sub> mm	F <sub>Break</sub> N	dL at break mm	a <sub>0</sub> mm	b <sub>0</sub> mm	S <sub>0</sub> mm <sup>2</sup>
<span style="color: red;">■</span>	2270	9,13	1076	37,11	5,05	13,54	68,38
<span style="color: green;">■</span>	2180	8,93	1951	13,94	5,05	13,20	66,66

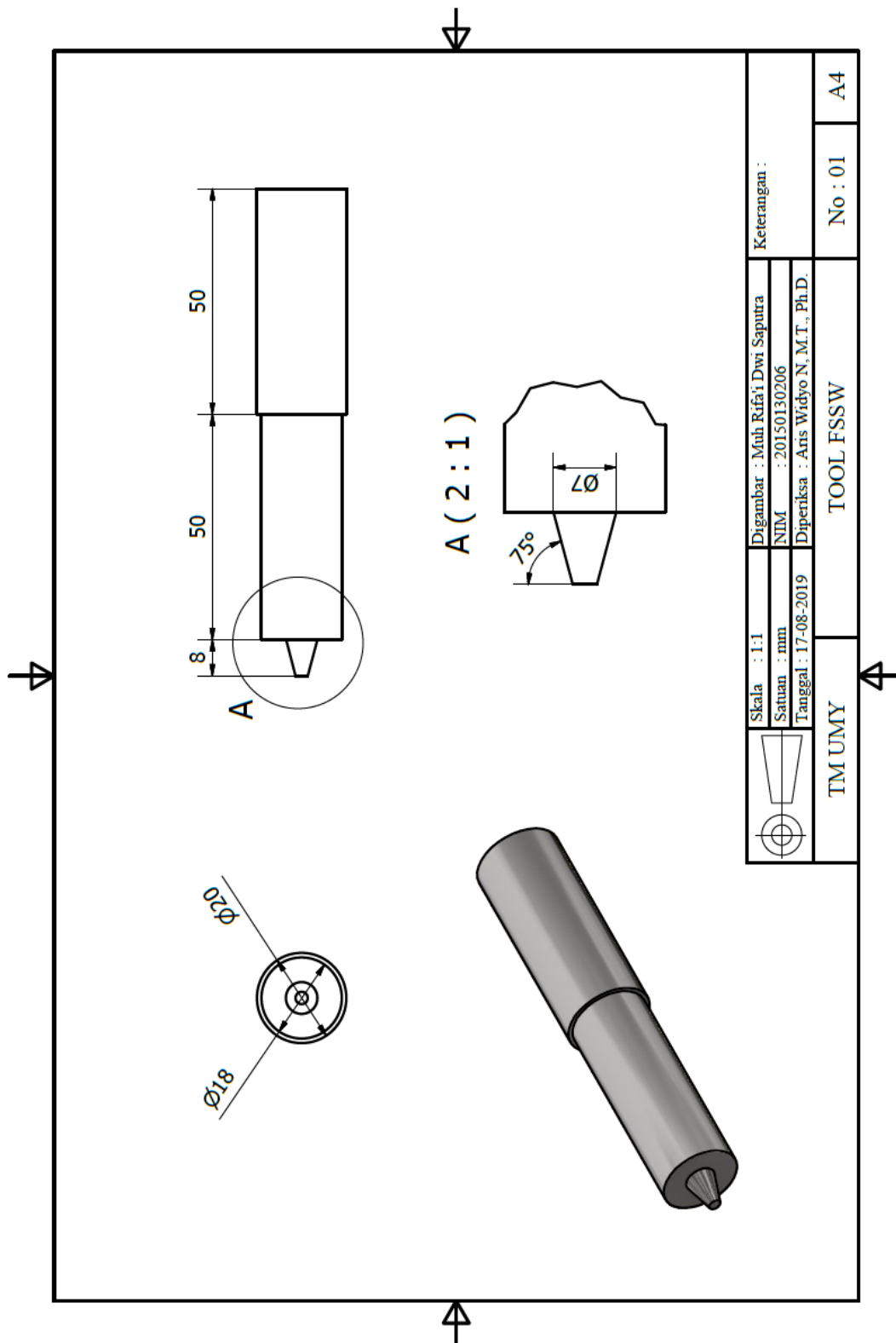
#### Series graph:



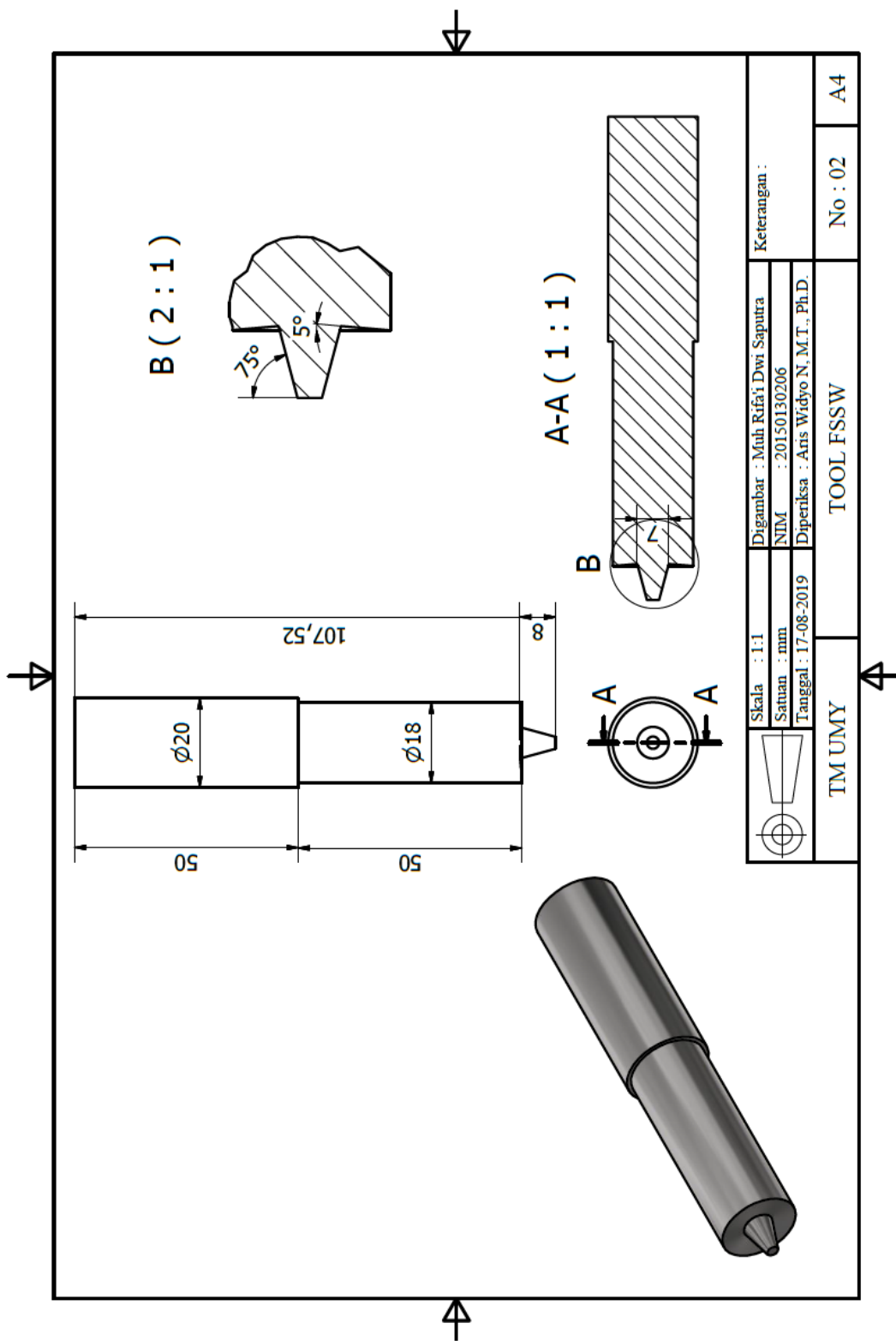
#### Statistics:


Series	F <sub>max</sub> N	dL at F <sub>max</sub> mm	F <sub>Break</sub> N	dL at break mm	a <sub>0</sub> mm	b <sub>0</sub> mm	S <sub>0</sub> mm <sup>2</sup>
n = 1							
x	2225	9,03	1514	25,52	5,05	13,37	67,52
s	64	0,14	619	16,38	0,00	0,24	1,21
v [%]	2,87	1,58	41	64,18	0,00	1,80	1,80

## **LAMPIRAN 4**



	Skala : 1:1	Digambar : Muh Rifai Dwi Saputra	Keterangan :	
	Satuan : mm	NIM : 20150130206	No : 01	A4
	Tanggal : 17-08-2019	Diperiksa : Aris Widyo N, M.T., Ph.D.	TOOL FSSW	
TM UMY				



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