

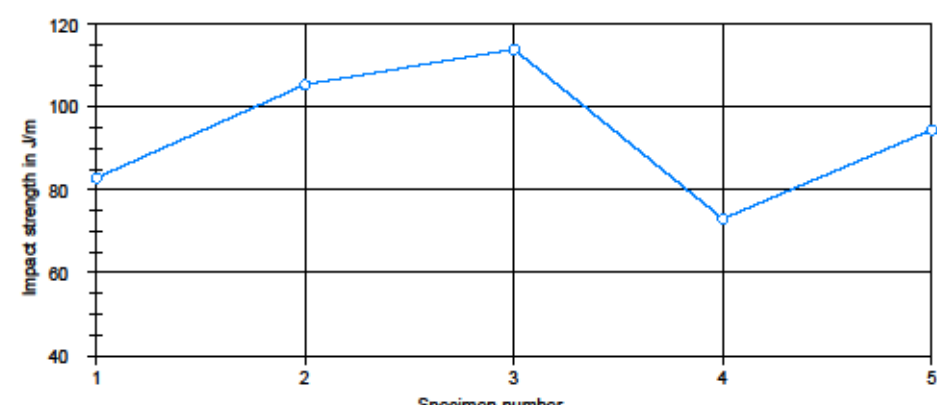


DAFTAR LAMPIRAN

Lampiran 1. Hasil Pegujian Impak

	POLITEKNIK ATMI SURAKARTA Kampus I : Jl. Mojo No. 1 Surakarta 57145. Phone : +62 271 714466 • Fax : +62 271 714390 Kampus II : Jl. Adi Sucipto Km 9,5 Karanganyar 57174. Phone: +62 271 7695220 Kotak Pos 215 Surakarta 57102. Jawa Tengah, Indonesia. E-mail: politeknik@atmi.ac.id • Website http://www.atmi.ac.id																																																							
<h3 style="margin-top: 10px;">Impact Test report</h3> <p> Customer : Febri Firmansyah Test standard : ASTM D 6110 Material : Knaf Silica 2% Notes : knaf 28% + Epoksi 70% + Silika 2% Machine data : Zwick HIT 5,5P Nominal work capacity : 1 J Theoretical impact velocity : 2,901 m/s </p>																																																								
<h3 style="margin-top: 10px;">Results:</h3> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>No.</th> <th>Height mm</th> <th>Width mm</th> <th>Depth below the notch mm</th> <th>W J</th> <th>ak J/m</th> <th>Angle of rise °</th> <th>Angle of release °</th> <th>Type of failure</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>12,74</td> <td>3,04</td> <td>12,3</td> <td>0,25196</td> <td>82,88</td> <td>88,11</td> <td>107,5</td> <td>C</td> </tr> <tr> <td>2</td> <td>12,36</td> <td>3,45</td> <td>12,18</td> <td>0,36377</td> <td>105,44</td> <td>79,74</td> <td>107,5</td> <td>C</td> </tr> <tr> <td>3</td> <td>12,7</td> <td>3,38</td> <td>12,4</td> <td>0,38515</td> <td>113,95</td> <td>78,12</td> <td>107,5</td> <td>C</td> </tr> <tr> <td>4</td> <td>12,6</td> <td>3,7</td> <td>12,38</td> <td>0,27009</td> <td>73,00</td> <td>86,76</td> <td>107,5</td> <td>C</td> </tr> <tr> <td>5</td> <td>12,36</td> <td>3,51</td> <td>12,04</td> <td>0,33151</td> <td>94,45</td> <td>82,17</td> <td>107,5</td> <td>C</td> </tr> </tbody> </table>			No.	Height mm	Width mm	Depth below the notch mm	W J	ak J/m	Angle of rise °	Angle of release °	Type of failure	1	12,74	3,04	12,3	0,25196	82,88	88,11	107,5	C	2	12,36	3,45	12,18	0,36377	105,44	79,74	107,5	C	3	12,7	3,38	12,4	0,38515	113,95	78,12	107,5	C	4	12,6	3,7	12,38	0,27009	73,00	86,76	107,5	C	5	12,36	3,51	12,04	0,33151	94,45	82,17	107,5	C
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Kampus I : Jl. Mojo No. 1 Surakarta 57145. Phone : +62 271 714466 • Fax : +62 271 714390

Kampus II : Jl. Adi Sucipto Km 9,5 Karanganyar 57174. Phone: +62 271 7686220

Kotak Pos 215 Surakarta 57102. Jawa Tengah, Indonesia.

E-mail: politeknik@abml.ac.id • Website <http://www.atmi.ac.id>

Zwick / Roell

Impact Test report

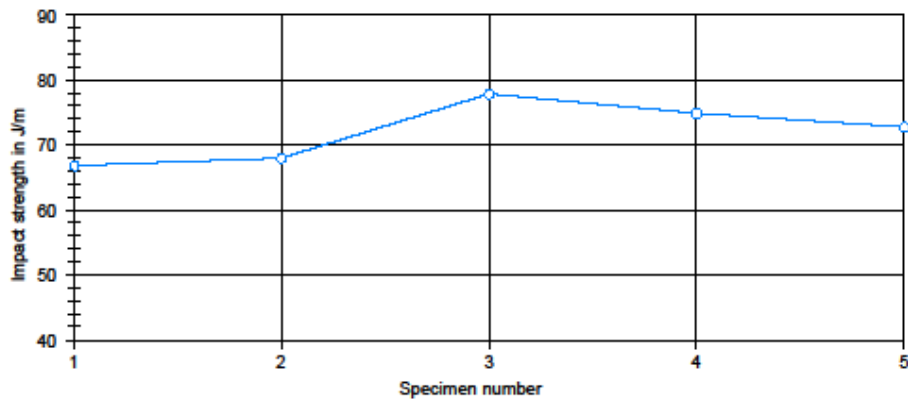
Customer : Galih Arozak
Test standard : ASTM D 6110
Material : Polyester 157
Notes : Polyester 157 70% + Kenaf 28% + Silika 2%
Machine data : Zwick HIT 5,5P

Nominal work capacity : 1 J
Theoretical impact velocity : 2,901 m/s

Results:

No.	Height mm	Width mm	Depth below the notch mm	W J	ak J/m	Angle of rise °	Angle of release °	Type of failure
1	13,11	3,5	12,7	0,23398	66,84	89,37	107,5	C
2	13,24	3,39	12,82	0,23032	67,94	89,64	107,5	C
3	13,27	3,72	12,76	0,28957	77,84	85,23	107,5	C
4	13,38	3,61	12,84	0,27025	74,86	86,67	107,5	C
5	13,3	3,83	12,9	0,27871	72,77	86,04	107,5	C

Series graph:



Statistics:

Total/Hinge break n = 5	Height mm	Width mm	Depth below the notch mm	W J	ak J/m
\bar{x}	13,26	3,61	12,8	0,26056	72,05
s	0,09874	0,1739	0,07668	0,02687	4,64
v [%]	0,74	4,82	0,60	10,31	6,43



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Impact Test report

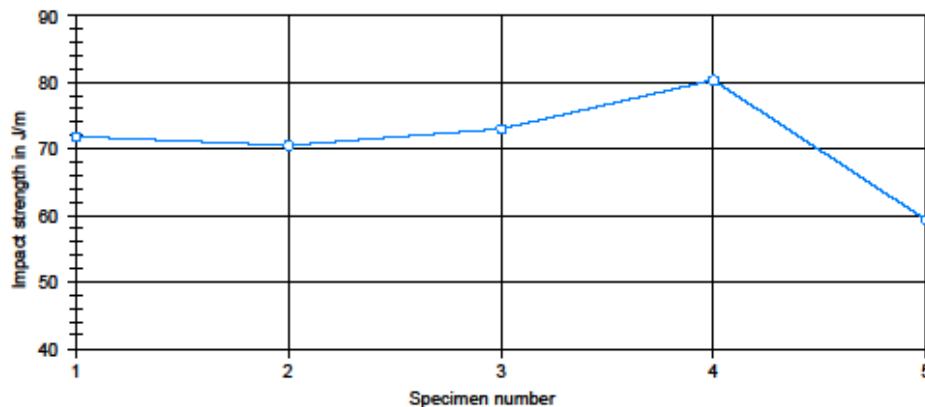
Customer : Galih Arozak
Test standard : ASTM D 6110
Material : Polyester 268
Notes : Polyester 268 70% + Kenaf 28% + Silika 2%
Machine data : Zwick HIT 5,5P

Nominal work capacity : 1 J
Theoretical impact velocity : 2,901 m/s

Results:

No.	Height mm	Width mm	Depth below the notch mm	W J	ak J/m	Angle of rise °	Angle of release °	Type of failure
1	13,42	3,34	12,74	0,24001	71,86	88,92	107,5	C
2	12,2	3,4	12,46	0,23988	70,55	89,01	107,5	C
3	13,3	3,42	12,78	0,24989	73,01	88,2	107,5	C
4	12,88	3,38	12,38	0,27148	80,31	86,58	107,5	C
5	13,41	3,29	12,8	0,19522	59,34	92,25	107,5	C

Series graph:



Statistics:

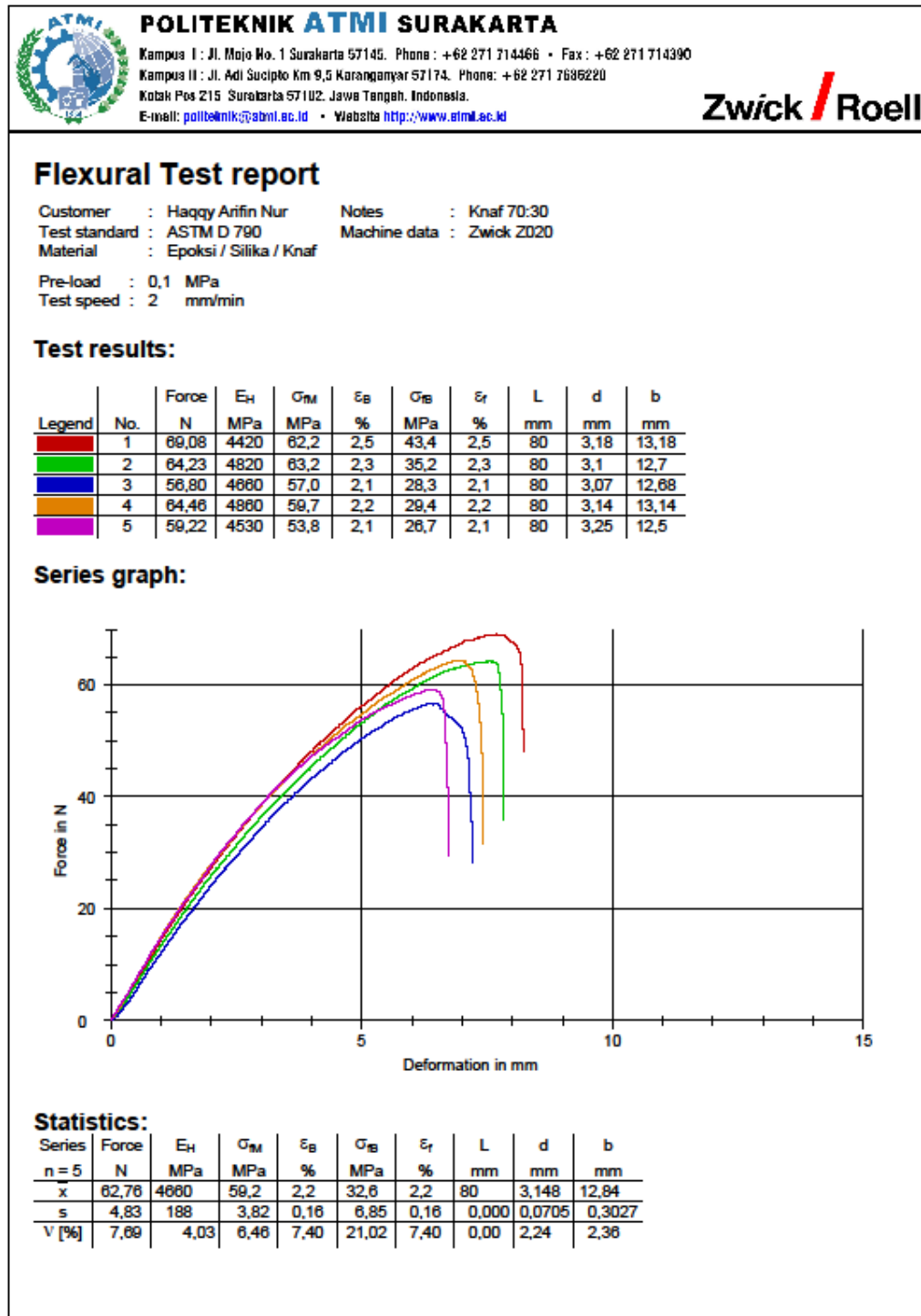
Total/Hinge break n = 5	Height mm	Width mm	Depth below the notch mm	W J	ak J/m
\bar{x}	13,04	3,366	12,63	0,23925	71,01
s	0,5196	0,05177	0,1968	0,02778	7,55
v [%]	3,98	1,54	1,56	11,61	10,63

Epoxy			
No	L/1000 (mm)	d/1000 (mm)	Ketangguhan Impak (kJ/m ²)
1	0.01274	0.00304	6.505
2	0.01236	0.00345	8.530
3	0.0127	0.00338	8.972
4	0.0126	0.0037	5.793
5	0.01236	0.00351	7.641
Rata-rata			7.488
STDEV			1.195

Polyester 157			
No	L/1000 (mm)	d/1000 (mm)	Ketangguhan Impak (kJ/m ²)
1	0.01311	0.0035	5.098
2	0.01324	0.00339	5.131
3	0.01327	0.00372	5.865
4	0.01338	0.00361	5.595
5	0.0133	0.00383	5.471
Rata-rata			5.432
STDEV			0.289

Polyester 268			
No	L/1000 (mm)	d/1000 (mm)	Ketangguhan Impak (kJ/m ²)
1	0.01342	0.00334	5.354
2	0.0122	0.0034	5.782
3	0.0133	0.00342	5.489
4	0.01288	0.00338	6.235
5	0.01341	0.00329	4.424
Rata-rata			5.457
STDEV			0.598

Lampiran 2. Hasil Pengujian Bending





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Zwick / Roell

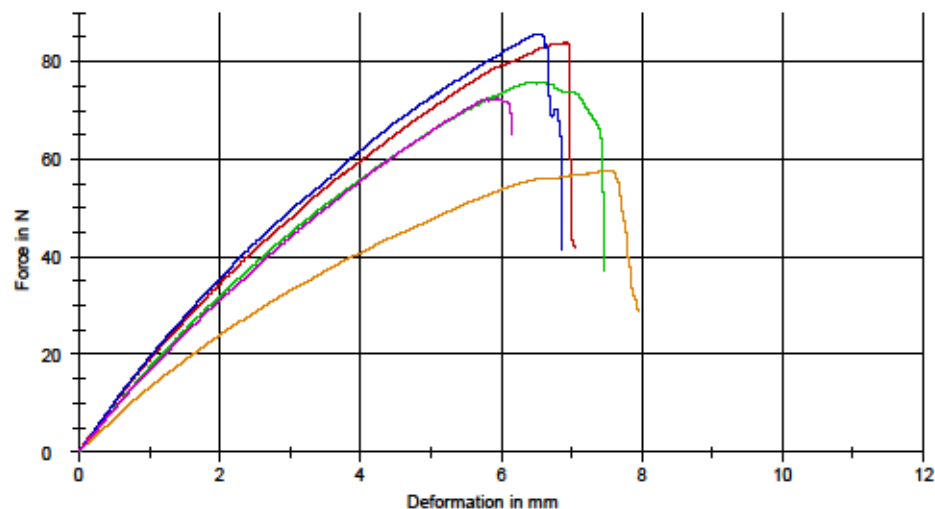
Flexural Test report

Customer : Galih Arozak
 Test standard : ASTM D 790
 Material : Polyester 157
 Notes : Polyester 157 70% + Kenaf 28% + Silika 2%
 Machine data : Zwick Z020
 Pre-load : 0,1 MPa
 Test speed : 2 mm/min

Test results:

Legend	No.	Force N	E_H MPa	σ_M MPa	ϵ_B %	σ_B MPa	ϵ_f %	L mm	d mm	b mm
Red	1	83,93	6630	83,7	2,0	41,8	2,0	80	3,03	13,11
Green	2	75,83	6320	77,9	2,1	38,3	2,1	80	3	12,98
Blue	3	85,82	6940	85,7	1,9	41,7	1,9	80	3,02	13,14
Orange	4	57,59	5500	64,4	2,1	32,2	2,1	80	2,88	12,93
Purple	5	72,44	5850	72,4	1,8	64,9	1,8	80	3,05	12,91

Series graph:



Statistics:

Series	Force N	E_H MPa	σ_M MPa	ϵ_B %	σ_B MPa	ϵ_f %	L mm	d mm	b mm
n = 5									
x	75,08	6250	76,8	2,0	43,8	2,0	80	2,996	13,01
s	11,21	583	8,67	0,15	12,4	0,15	0,000	0,06731	0,105
V [%]	14,93	9,33	11,28	7,62	28,42	7,62	0,00	2,25	0,81



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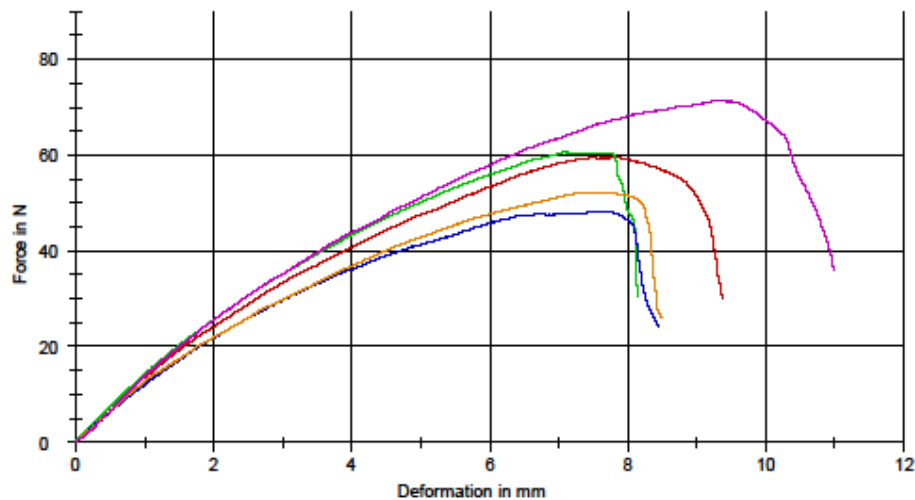
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Notes : Polyester 268 70% + Kenaf 28% + Silika 2%
Machine data : Zwick Z020

Pre-load : 0,1 MPa
Test speed : 2 mm/min

Test results:

Legend	No.	Force N	E_H MPa	σ_M MPa	ϵ_B %	σ_B MPa	ϵ_f %	L mm	d mm	b mm
	1	59,85	4990	61,7	2,8	30,9	2,8	80	3,01	12,8
	2	60,63	5610	65,4	2,2	32,7	2,2	80	2,91	13,14
	3	48,34	4610	51,3	2,3	25,7	2,3	80	2,92	13,25
	4	52,23	5340	58,4	2,3	29,2	2,3	80	2,88	12,93
	5	71,48	6140	79,7	3,0	39,8	3,0	80	2,88	12,98

Series graph:



Statistics:

Series	Force N	E_H MPa	σ_M MPa	ϵ_B %	σ_B MPa	ϵ_f %	L mm	d mm	b mm
n = 5									
\bar{x}	58,47	5340	63,3	2,5	31,7	2,5	80	2,92	13,02
s	8,90	585	10,5	0,31	5,28	0,31	0,000	0,05339	0,1771
V [%]	15,22	10,98	16,59	12,61	16,61	12,61	0,00	1,83	1,36

EPOXY								
No	Force N	L mm	d mm	b mm	D Mm	$3PL/(2bd^2)$	$1+6(D/L)^2 - 4(D/L) \times (d/l)$	σ fm Mpa
1	69.08	80	3.18	13.18	7.7	62.1962105	1.040280625	64.701513
2	64.23	80	3.1	12.7	7.6	63.15271985	1.039425	65.642516
3	56.8	80	3.07	12.68	6.2	57.03396664	1.02414125	58.410838
4	64.46	80	3.14	13.14	6.9	59.70585004	1.031093125	61.562292
5	59.22	80	3.25	12.5	6.3	53.8236213	1.0244125	55.13759

POLYESTER 157								
No	Force N	L mm	d mm	b mm	D Mm	$3PL/(2bd^2)$	$1+6(D/L)^2 - 4(D/L) \times (d/l)$	σ fm Mpa
1	83.93	80	3.03	13.11	6.92	83.67785144	1.03178875	86.33787
2	75.83	80	3	12.98	6.46	77.8941962	1.027010875	79.99819
3	85.62	80	3.02	13.14	6.61	85.73284157	1.028484969	88.17494
4	57.59	80	2.88	12.93	7.69	64.43841125	1.041598094	67.11893
5	72.44	80	3.05	12.91	5.69	72.38253129	1.019506031	73.79443

POLYESTER 268								
No	Force N	L mm	d mm	b mm	D mm	$3PL/(2bd^2)$	$1+6(D/L)^2 - 4(D/L) \times (d/l)$	σ fm Mpa
1	59.65	80	3.01	12.8	7.53	61.72324257	1.038991281	64.129911
2	60.63	80	2.91	13.14	7.15	65.38640665	1.034923281	67.669915
3	48.34	80	2.92	13.25	7.69	51.34596388	1.041405844	53.471987
4	52.23	80	2.88	12.93	7.3	58.44101787	1.036819375	60.59278
5	71.48	80	2.88	12.98	9.46	79.67207385	1.066870375	84.999775

Lampiran 3. Tabel Water Absorption

Epoxy						
Lama Perendaman 0 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.21	3.18	3.19	3.16	3.22	5.5
2	3.25	3.19	3.18	3.17	3.18	5.6
3	3.25	3.26	3.18	3.27	3.23	5.4
4	3.26	3.27	3.21	3.22	3.23	5.7

Polyester 157						
Lama Perendaman 0 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	2.8	2.83	2.83	2.85	2.83	6.81
2	2.85	2.83	2.85	2.85	2.87	7.01
3	2.85	2.83	2.8	2.8	2.83	6.95
4	2.9	2.85	2.88	2.88	2.9	7.06

Polyester 268						
Lama Perendaman 0 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	2.85	2.88	2.91	2.88	2.85	6.78
2	2.8	2.82	2.8	2.81	2.8	6.72
3	2.81	2.81	2.83	2.81	2.82	6.62
4	2.88	2.9	2.89	2.9	2.9	6.98

Epoxy						
Lama Perendaman 12 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.32	3.29	3.32	3.33	3.32	5.66
2	3.23	3.25	3.21	3.25	3.28	5.7
3	3.31	3.34	3.23	3.3	3.31	5.5
4	3.32	3.35	3.35	3.32	3.33	5.82

Polyester 157						
Lama Perendaman 12 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	2.96	2.93	2.94	2.92	2.93	6.97
2	2.95	2.98	3.01	3.03	2.98	7.17
3	2.94	2.96	2.97	2.97	2.96	7.06
4	3.05	3.02	3.02	3.05	3	7.21

Polyester 268						
Lama Perendaman 12 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	2.9	2.93	2.98	2.93	2.97	6.91
2	2.95	2.96	2.96	2.95	2.97	6.86
3	2.93	2.93	2.94	2.93	2.96	6.76
4	3	3	3.05	3.08	3.03	7.1

Epoxy						
Lama Perendaman 24 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.38	3.35	3.35	3.36	3.35	5.78
2	3.34	3.33	3.32	3.34	3.35	5.96
3	3.33	3.36	3.35	3.34	3.32	5.86
4	3.32	3.35	3.36	3.35	3.34	5.96

Polyester 157						
Lama Perendaman 24 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.04	3.03	3.04	3.04	3.04	7.05
2	3	3.03	3.06	3.07	3.05	7.22
3	3.03	3.06	3.07	3.04	3.05	7.13
4	3.07	3.02	3.06	3.07	3.03	7.27

Polyester 268						
Lama Perendaman 24 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3	2.95	3.01	3	2.98	6.98
2	3.01	3.02	2.99	3	2.99	6.91
3	2.95	2.96	2.98	3.05	2.98	6.86
4	3.05	3.07	3.02	3.02	3.05	7.18

Epoxy						
Lama Perendaman 36 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.4	3.37	3.38	3.39	3.38	5.94
2	3.37	3.38	3.37	3.38	3.37	6.06
3	3.36	3.38	3.39	3.37	3.36	6
4	3.36	3.37	3.38	3.39	3.37	6.3

Polyester 157						
Lama Perendaman 36 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.04	3.02	3.05	3.04	3.04	7.09
2	3.07	3.06	3.08	3.04	3.04	7.27
3	3.02	3.1	3.04	3.06	3.07	7.18
4	3.08	3.08	3.09	3.06	3.07	7.31

Polyester 268						
Lama Perendaman 36 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.01	3.01	3.01	3	2.98	7.02
2	3.03	3.03	3.03	3.03	3.02	6.97
3	2.98	2.98	2.98	3.01	3.01	6.9
4	3.09	3.09	3.11	3.08	3.05	7.23

Epoxy						
Lama Perendaman 48 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.41	3.39	3.4	3.42	3.41	5.97
2	3.39	3.4	3.39	3.4	3.39	6.08
3	3.39	3.4	3.41	3.39	3.4	6.01
4	3.39	3.39	3.41	3.42	3.41	6.31

Polyester 157						
Lama Perendaman 48 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.07	3.05	3.04	3.07	3.07	7.14
2	3.08	3.05	3.05	3.06	3.08	7.29
3	3.06	3.07	3.07	3.08	3.06	7.22
4	3.07	3.08	3.08	3.08	3.08	7.35

Polyester 268						
Lama Perendaman 48 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.03	3.04	3.02	3.03	3.02	7.07
2	3.04	3.05	3.04	3.04	3.05	7.01
3	3.01	3.01	3	3.01	3	6.94
4	3.09	3.09	3.08	3.09	3.09	7.25

Epoxy						
Lama Perendaman 60 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.43	3.42	3.43	3.43	3.44	6
2	3.42	3.42	3.41	3.42	3.41	6.08
3	3.4	3.41	3.43	3.4	3.41	6.03
4	3.41	3.42	3.43	3.44	3.42	6.32

Polyester 157						
Lama Perendaman 60 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.07	3.04	3.07	3.08	3.08	7.14
2	3.05	3.08	3.05	3.06	3.08	7.3
3	3.05	3.06	3.1	3.08	3.05	7.23
4	3.08	3.09	3.1	3.09	3.08	7.37

Polyester 268						
Lama Perendaman 60 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.03	3.04	3.02	3.04	3.03	7.09
2	3.05	3.05	3.04	3.05	3.06	7.02
3	3.01	3.01	3.01	3.02	3.01	6.94
4	3.09	3.09	3.1	3.1	3.08	7.27

Epoxy						
Lama Perendaman 72 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.44	3.43	3.45	3.43	3.44	6.01
2	3.43	3.44	3.41	3.43	3.41	6.1
3	3.42	3.41	3.44	3.41	3.41	6.05
4	3.43	3.45	3.43	3.44	3.42	6.34

Polyester 157						
Lama Perendaman 72 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.1	3.08	3.08	3.1	3.08	7.19
2	3.1	3.08	3.08	3.09	3.09	7.35
3	3.09	3.08	3.08	3.08	3.09	7.27
4	3.09	3.1	3.09	3.09	3.1	7.39

Polyester 268						
Lama Perendaman 72 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.05	3.05	3.05	3.05	3.05	7.11
2	3.07	3.07	3.07	3.07	3.07	7.07
3	3.06	3.06	3.06	3.06	3.06	6.99
4	3.1	3.09	3.09	3.1	3.09	7.31

Epoxy						
Lama Perendaman 84 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.45	3.44	3.45	3.43	3.46	6.04
2	3.44	3.45	3.42	3.45	3.44	6.12
3	3.43	3.45	3.45	3.43	3.44	6.07
4	3.45	3.46	3.44	3.46	3.43	6.37

Polyester 157						
Lama Perendaman 84 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.1	3.1	3.08	3.09	3.11	7.22
2	3.1	3.09	3.1	3.09	3.1	7.39
3	3.09	3.09	3.1	3.09	3.09	7.3
4	3.1	3.1	3.09	3.11	3.1	7.43

Polyester 268						
Lama Perendaman 84 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.07	3.07	3.07	3.07	3.07	7.15
2	3.08	3.09	3.08	3.09	3.09	7.07
3	3.06	3.06	3.06	3.06	3.06	7.01
4	3.1	3.1	3.09	3.1	3.13	7.31

Epoxy						
Lama Perendaman 96 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.41	3.45	3.46	3.43	3.46	6.07
2	3.45	3.45	3.43	3.45	3.46	6.15
3	3.44	3.46	3.45	3.44	3.44	6.1
4	3.45	3.46	3.46	3.46	3.45	6.4

Polyester 157						
Lama Perendaman 96 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.1	3.12	3.1	3.1	3.1	7.23
2	3.12	3.07	3.1	3.07	3.12	7.39
3	3.06	3.13	3.08	3.13	3.08	7.31
4	3.13	3.12	3.13	3.12	3.13	7.43

Polyester 268						
Lama Perendaman 96 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.05	3.1	3.1	3.05	3.1	7.17
2	3.05	3.1	3.05	3.1	3.05	7.11
3	3.01	3.15	3.01	3.05	3.1	7.03
4	3.15	3.2	3.06	3.06	3.13	7.35

Epoxy						
Lama Perendaman 108 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.43	3.46	3.46	3.45	3.46	6.1
2	3.47	3.45	3.44	3.45	3.46	6.17
3	3.46	3.47	3.45	3.46	3.44	6.12
4	3.45	3.46	3.46	3.46	3.47	6.41

Polyester 157						
Lama Perendaman 108 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.07	3.12	3.07	3.12	3.07	7.25
2	3.1	3.07	3.1	3.17	3.07	7.39
3	3.1	3.07	3.15	3.1	3.07	7.33
4	3.13	3.13	3.12	3.15	3.13	7.47

Polyester 268						
Lama Perendaman 108 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.1	3.05	3.1	3.05	3.1	7.18
2	3.1	3.05	3.1	3.05	3.1	7.14
3	3.05	3.05	3.05	3.09	3.09	7.07
4	3.1	3.1	3.15	3.2	3.1	7.37

Epoxy						
Lama Perendaman 120 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.45	3.47	3.46	3.45	3.47	6.11
2	3.47	3.46	3.45	3.46	3.46	6.16
3	3.46	3.48	3.46	3.47	3.44	6.12
4	3.46	3.46	3.46	3.47	3.46	6.4

Polyester 157						
Lama Perendaman 120 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.08	3.11	3.14	3.08	3.11	7.27
2	3.08	3.08	3.1	3.18	3.08	7.43
3	3.13	3.13	3.13	3.1	3.1	7.35
4	3.13	3.15	3.15	3.13	3.12	7.47

Polyester 268						
Lama Perendaman 120 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.1	3.05	3.1	3.1	3.05	7.19
2	3.07	3.1	3.07	3.1	3.07	7.14
3	3.08	3.08	3.08	3.08	3.1	7.07
4	3.15	3.13	3.13	3.13	3.15	7.37

Epoxy						
Lama Perendaman 132 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.46	3.47	3.46	3.46	3.47	6.12
2	3.47	3.46	3.47	3.46	3.48	6.18
3	3.48	3.48	3.46	3.47	3.47	6.13
4	3.47	3.46	3.46	3.47	3.46	6.42

Polyester 157						
Lama Perendaman 132 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.15	3.11	3.09	3.13	3.11	7.27
2	3.1	3.1	3.08	3.16	3.08	7.43
3	3.13	3.13	3.13	3.11	3.1	7.35
4	3.15	3.15	3.12	3.15	3.13	7.47

Polyester 268						
Lama Perendaman 132 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.1	3.15	3.02	3.11	3.15	7.21
2	3.09	3.1	3.09	3.16	3.09	7.15
3	3.13	3.1	3.1	3.11	3.1	7.1
4	3.15	3.15	3.12	3.15	3.13	7.39

Epoxy						
Lama Perendaman 144 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.48	3.48	3.47	3.46	3.48	6.15
2	3.48	3.47	3.47	3.47	3.48	6.2
3	3.49	3.48	3.48	3.47	3.47	6.15
4	3.48	3.46	3.46	3.47	3.46	6.43

Polyester 157						
Lama Perendaman 144 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.13	3.1	3.1	3.16	3.1	7.29
2	3.1	3.13	3.1	3.1	3.15	7.43
3	3.15	3.13	3.13	3.15	3.1	7.37
4	3.16	3.16	3.16	3.14	3.14	7.49

Polyester 268						
Lama Perendaman 144 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.11	3.15	3.07	3.11	3.15	7.23
2	3.1	3.1	3.1	3.15	3.15	7.15
3	3.16	3.06	3.1	3.16	3.16	7.1
4	3.16	3.14	3.14	3.16	3.16	7.39

Epoxy						
Lama Perendaman 156 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.48	3.48	3.48	3.49	3.48	6.16
2	3.48	3.49	3.47	3.47	3.48	6.2
3	3.48	3.49	3.48	3.48	3.47	6.18
4	3.48	3.46	3.48	3.47	3.46	6.44

Polyester 157						
Lama Perendaman 156 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.14	3.12	3.12	3.12	3.14	7.3
2	3.16	3.1	3.1	3.13	3.16	7.45
3	3.15	3.13	3.13	3.13	3.15	7.38
4	3.16	3.15	3.16	3.16	3.16	7.5

Polyester 268						
Lama Perendaman 156 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.14	3.1	3.1	3.14	3.14	7.24
2	3.11	3.15	3.11	3.15	3.11	7.16
3	3.16	3.16	3.1	3.1	3.16	7.1
4	3.16	3.15	3.16	3.16	3.16	7.4

Epoxy						
Lama Perendaman 168 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.49	3.48	3.49	3.49	3.5	6.16
2	3.49	3.49	3.49	3.47	3.48	6.21
3	3.5	3.49	3.48	3.49	3.47	6.2
4	3.48	3.49	3.48	3.5	3.46	6.45

Polyester 157						
Lama Perendaman 168 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.15	3.13	3.11	3.15	3.15	7.31
2	3.16	3.12	3.13	3.13	3.13	7.47
3	3.13	3.15	3.15	3.11	3.15	7.39
4	3.16	3.16	3.16	3.16	3.16	7.51

Polyester 268						
Lama Perendaman 168 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.13	3.15	3.15	3.11	3.15	7.25
2	3.12	3.14	3.14	3.12	3.12	7.18
3	3.14	3.15	3.15	3.13	3.1	7.11
4	3.17	3.14	3.15	3.17	3.17	7.42

Epoxy						
Lama Perendaman 180 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.5	3.48	3.51	3.49	3.5	6.17
2	3.49	3.51	3.51	3.49	3.49	6.22
3	3.5	3.49	3.5	3.49	3.49	6.21
4	3.5	3.49	3.48	3.5	3.46	6.46

Polyester 157						
Lama Perendaman 180 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.16	3.13	3.12	3.15	3.16	7.32
2	3.17	3.12	3.12	3.12	3.12	7.47
3	3.17	3.12	3.13	3.13	3.13	7.4
4	3.17	3.15	3.15	3.17	3.17	7.52

Polyester 268						
Lama Perendaman 180 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.16	3.16	3.1	3.18	3.1	7.26
2	3.13	3.11	3.13	3.13	3.13	7.19
3	3.17	3.15	3.12	3.12	3.12	7.13
4	3.18	3.15	3.18	3.15	3.18	7.41

Epoxy						
Lama Perendaman 192 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.52	3.48	3.51	3.52	3.5	6.17
2	3.5	3.51	3.51	3.5	3.49	6.23
3	3.52	3.49	3.5	3.49	3.5	6.22
4	3.5	3.49	3.48	3.5	3.49	6.47

Polyester 157						
Lama Perendaman 192 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.17	3.13	3.13	3.15	3.13	7.33
2	3.15	3.15	3.12	3.11	3.13	7.47
3	3.18	3.15	3.13	3.13	3.1	7.42
4	3.19	3.17	3.15	3.15	3.15	7.53

Polyester 268						
Lama Perendaman 192 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.17	3.13	3.13	3.13	3.15	7.27
2	3.13	3.15	3.13	3.13	3.11	7.21
3	3.09	3.15	3.15	3.13	3.13	7.14
4	3.19	3.15	3.15	3.15	3.17	7.42

Epoxy						
Lama Perendaman 204 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.52	3.5	3.52	3.52	3.53	6.18
2	3.5	3.52	3.51	3.52	3.51	6.23
3	3.52	3.52	3.5	3.53	3.51	6.23
4	3.5	3.51	3.49	3.5	3.5	6.48

Polyester 157						
Lama Perendaman 204 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.18	3.2	3.15	3.13	3.13	7.34
2	3.19	3.15	3.13	3.13	3.11	7.49
3	3.19	3.13	3.13	3.13	3.11	7.43
4	3.2	3.15	3.17	3.15	3.15	7.55

Polyester 268						
Lama Perendaman 204 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.18	3.13	3.15	3.13	3.13	7.28
2	3.14	3.15	3.12	3.15	3.13	7.23
3	3.1	3.15	3.13	3.17	3.13	7.16
4	3.2	3.15	3.17	3.15	3.15	7.45

Epoxy						
Lama Perendaman 216 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.52	3.53	3.53	3.53	3.54	6.19
2	3.51	3.53	3.51	3.52	3.51	6.24
3	3.52	3.52	3.5	3.53	3.51	6.25
4	3.5	3.51	3.5	3.5	3.5	6.48

Polyester 157						
Lama Perendaman 216 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.19	3.2	3.15	3.15	3.13	7.36
2	3.2	3.13	3.15	3.13	3.15	7.51
3	3.2	3.13	3.13	3.13	3.13	7.44
4	3.21	3.15	3.15	3.13	3.2	7.57

Polyester 268						
Lama Perendaman 216 Jam						
No. Spesimen	Tebal 1 (mm)	Tebal 2 (mm)	Tebal 3 (mm)	Tebal 4 (mm)	Tebal 5 (mm)	Berat (gram)
1	3.19	3.15	3.13	3.13	3.13	7.29
2	3.15	3.15	3.15	3.15	3.13	7.25
3	3.11	3.13	3.15	3.15	3.15	7.17
4	3.23	3.17	3.13	3.15	3.15	7.47