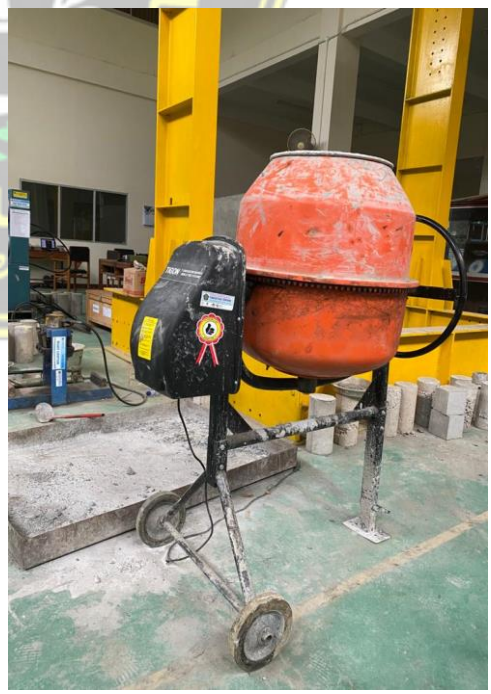
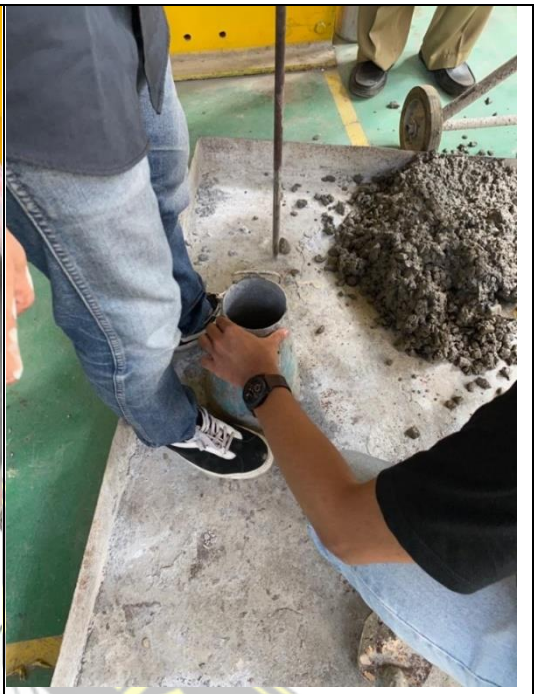
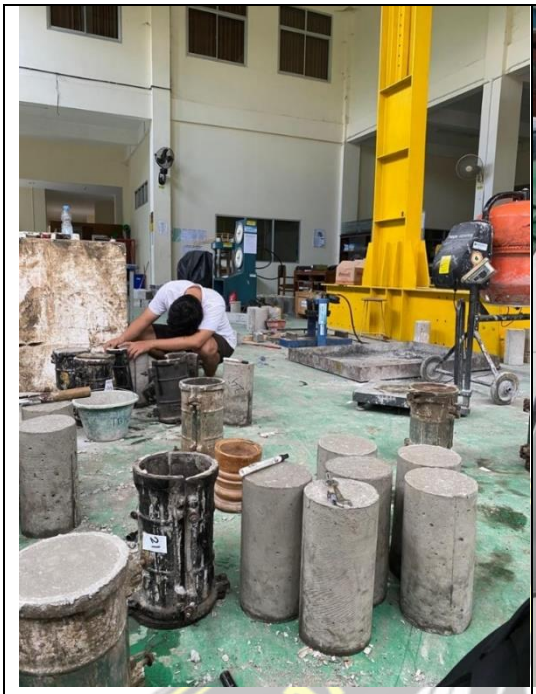
Lampiran 1. Foto Penelitian

Proses Pengovenan Agregat	Proses Perendaman Pasir Dengan Gelas Ukur
Penimbangan Agregat Kasar Dengan Cetakan Slinder	Penimbangan Agregat Halus Dengan Cetakan Slinder Dan Kubus

Timbangan	Gerobak Dorong
	
Biji plastik	Molen Mixer Untuk Membuat Campuran Beton

	
Proses Pencampuran Beton Pada Mixer	Persiapan Alat Slump
Proses Slump	Pengukuran Slump

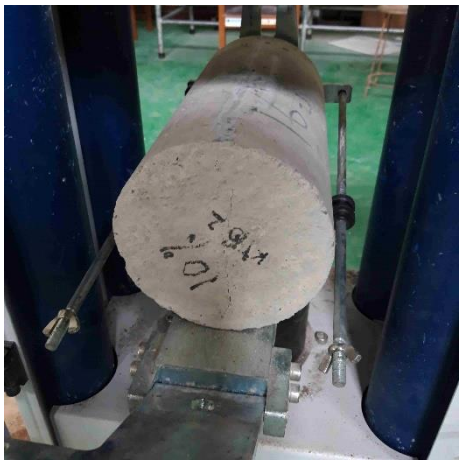
	
Proses Pelepas Beton Dari Cetakan	Proses Perendaman Beton
Sampel Yang Sudah Siap	Proses Uji Kuat Tekan Beton

Proses Pengujian Kuat Lentur	Proses Pengujian Kuat Lentur
Setingan Untuk Pengujian Kuat Belah	Proses Pengujian Kuat Belah

Proses Pengujian Modulus Elastisitas	Proses Pengujian Modulus Elastisitas
Cetakan Silender Dan Balok	Penambahan biji plastik Pada Campuran Beton

Proses Pengujian Modulus Elastisitas	Proses Pengujian Modulus Elastisitas
Cetakan Silender Dan Balok	Penambahan biji plastik Pada Campuran Beton

Proses Uji Kuat Tekan	Benda Uji Setelah Uji Kuat Tekan
Proses Uji Kuat Tekan	Benda Uji Setelah Uji Kuat Tekan
Proses Uji Kuat Tekan	Benda Uji Setelah Uji Kuat Tekan

	
Proses Uji Kuat Tekan Belah	Benda Uji Setelah Uji Kuat Tekan Belah
Proses Uji Kuat Tekan Belah	Benda Uji Setelah Uji Kuat Tekan Belah
Proses Uji Kuat Tekan Belah	Benda Uji Setelah Uji Kuat Tekan Belah

Proses Uji Kuat Lentur	Benda Uji Setelah Uji Kuat Lentur
Proses Uji Kuat Lentur	Benda Uji Setelah Uji Kuat Lentur
Proses Uji Kuat Lentur	Benda Uji Setelah Uji Kuat Lentur

Lampiran 2. Tabel dan Grafik.

Tabel Data Pemeriksaan Agregat Halus (Pasir) Dengan Cara Lepas dan Data Pemeriksaan Agregat Halus (Pasir) Dengan Cara Pemadatan

No	Metode	Kode Wadah	Berat Wadah (kg)	Berat Wadah + Agregat (kg)	Berat Agregat (kg)
			(W_1)	(W_2)	(W_3)
1.	Lepasan	Kubus A	13,40	18,06	4,66
2.		Silinder A	10,90	18,28	7,38
3.	Pemadatan	Kubus B	13,40	19,04	5,64
4.		Silinder B	10,90	20,30	9,4

- Cetakan kubus dengan ukuran (15 x 15 x 15) cm.
- Cetakan silinder dengan ukuran diameter 15 cm dan tinggi 30 cm.

Table Data Pemeriksaan Agregat Kasar (Kerikil)Dengan Cara Lepas Dan Data Pemeriksaan Agregat Kasar (Kerikil) Dengan Cara Pemadatan

No	Metode	Kode Wadah	Berat Wadah (kg)	Berat Wadah + Agregat (kg)	Berat Agregat (kg)
			(W_1)	(W_2)	(W_3)
1.	Lepasan	Kubus A	13,40	18,02	4,62
2.		Silinder A	10,90	17,98	7,08
3.	Pemadatan	Kubus B	13,40	18,54	5,14
4.		Silinder B	10,90	18,92	8.02

- Cetakan kubus dengan ukuran (15 x 15 x 15) cm.
- Cetakan silinder dengan ukuran diameter 15 cm dan tinggi 30 cm.

Tabel Hasil Perhitungan Berat Volume Beton

NO	Kode	berat silinder	Berat Beton	Berat Volume Beton (Kg/m3)	Rata-Rata Berat Volume Beton(Kg/m3)
1	I.1	10,82	23,3	2355,61	2382,65918
2	I.2	11,08	23,54	2351,83	
3	I.3	10,76	23,38	2382,03	
4	I.4	10,9	23,22	2325,41	
5	I.5	10,9	23,32	2344,28	
6	I.6	10,36	23,5	2480,18	
7	I.7	9,72	22,96	2499,06	
8	I.8	10,74	22,4	2200,83	
9	I.9	10,74	23,4	2389,58	
10	I.10	10,04	22,68	2385,81	
11	I.11	10,68	23,46	2412,23	
12	I.12	10,36	23,5	2480,18	
13	I.13	10,74	22,4	2200,83	
14	I.14	10,04	22,68	2385,81	
15	BI.1	7,68	41,3	2490,37	
16	BI.2	7,32	40,24	2438,52	
17	II.1	10,76	23,34	2374,48	2336,25068
18	II.2	10,9	23,44	2366,93	
19	II.3	10,9	23,26	2332,96	
20	II.4	10,7	23,14	2348,06	
21	II.5	12,32	24,68	2332,96	
22	II.6	12,18	24,88	2397,13	
23	II.7	10,2	22,82	2382,03	
24	II.8	10,66	23,28	2382,03	
25	II.9	11,9	24,26	2332,96	
26	II.10	11,83	21,74	1870,52	
27	II.11	12,32	24,68	2332,96	
28	II.12	12,25	24,98	2402,79	
29	II.13	12,2	24,82	2382,03	
30	II.14	12,53	24,57	2272,56	
31	BII.1	7,54	40,44	2437,04	

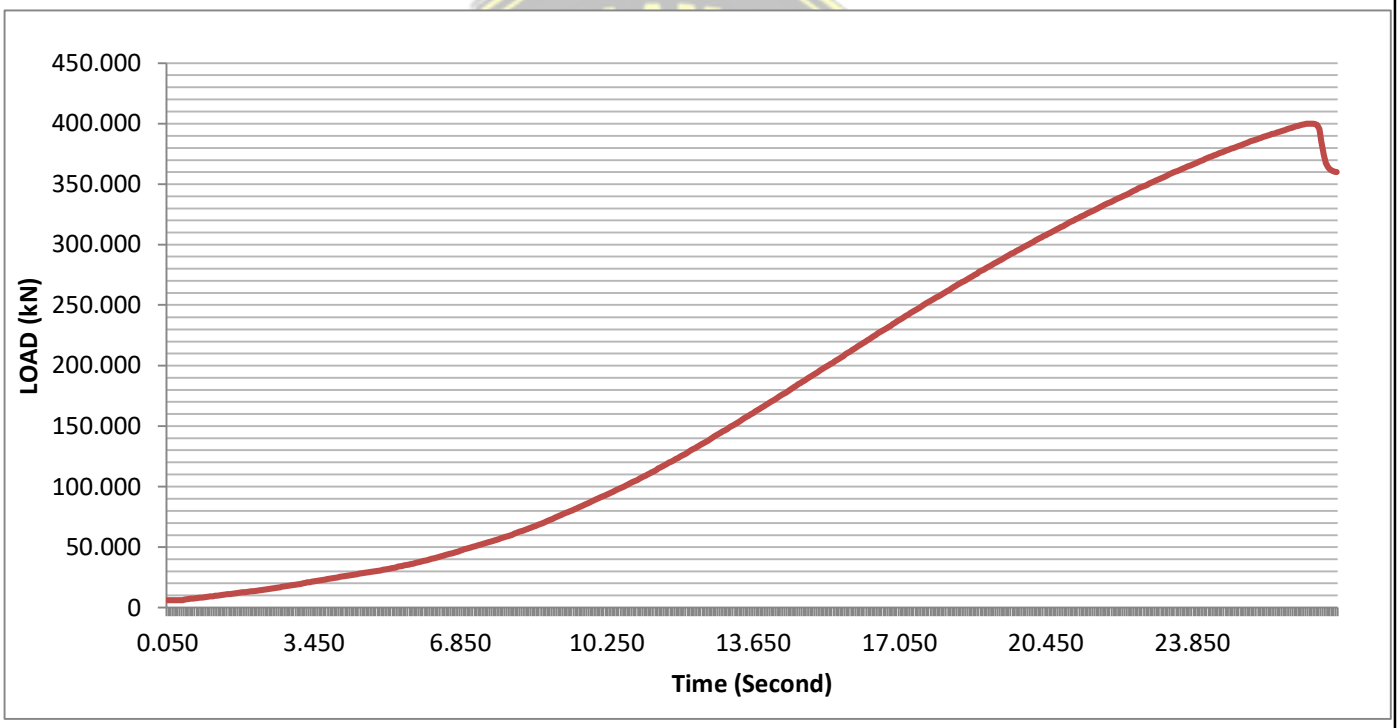
32	BII.2	7,43	40,27	2432,59	
33	III.1	10,74	23,20	2351,83	2316,6761
34	III.2	10,04	23,14	2472,63	
35	III.3	10,68	23,32	2385,81	
36	III.4	10,98	23,30	2325,41	
37	III.5	13,16	25,20	2272,56	
38	III.6	10,66	22,84	2298,98	
39	III.7	11,04	23,26	2306,53	
40	III.8	11,38	23,90	2363,16	
41	III.9	11,68	24,32	2385,81	
42	III.10	12,98	24,30	2136,66	
43	III.11	12,16	24,20	2272,56	
44	III.12	11,53	21,65	1910,15	
45	III.13	12,04	24,26	2306,53	
46	III.14	11,38	23,45	2278,22	
47	BIII.1	6,87	40,66	2502,96	
48	BIII.2	6,74	40,45	2497,04	
49	IV.1	10,36	22,74	2336,73	2298,77019
50	IV.2	9,72	22,2	2355,61	
51	IV.3	10,74	23,22	2355,61	
52	IV.4	10,94	23,14	2302,76	
53	IV.5	12,1	24,12	2268,78	
54	IV.6	10,74	22,72	2261,23	
55	IV.7	12,46	24,66	2302,76	
56	IV.8	10,66	23,02	2332,96	
57	IV.9	11,36	23,74	2336,73	
58	IV.10	12,72	24,2	2166,86	
59	IV.11	11,74	24,22	2355,61	
60	IV.12	12,44	22,14	1830,88	
61	IV.13	12,56	24,67	2285,77	
62	IV.14	11,34	23,47	2289,54	
63	BIV.1	6,8	40,26	2478,52	
64	BIV.2	6,65	40,67	2520	
RATA- RATA					2333,58904

THESIS

KTK1 NORMAL

UNI EN 12390-3

DATA				
DATE	29/01/2021		**SPECIMEN**	
LABORATORY	UNISSULA	TYPE	CYLINDER	
		DIAMETER	150	mm
		HEIGHT	300	mm
		AREA	17671,5	mm^2
SPEED	500 kN/s			



RESULT

SECTION	S	17671,5	mm^2
MAXIMUM LOAD	P	400,00	Kn
STRENGTH	R	22,64	Mpa

Operator Alfian

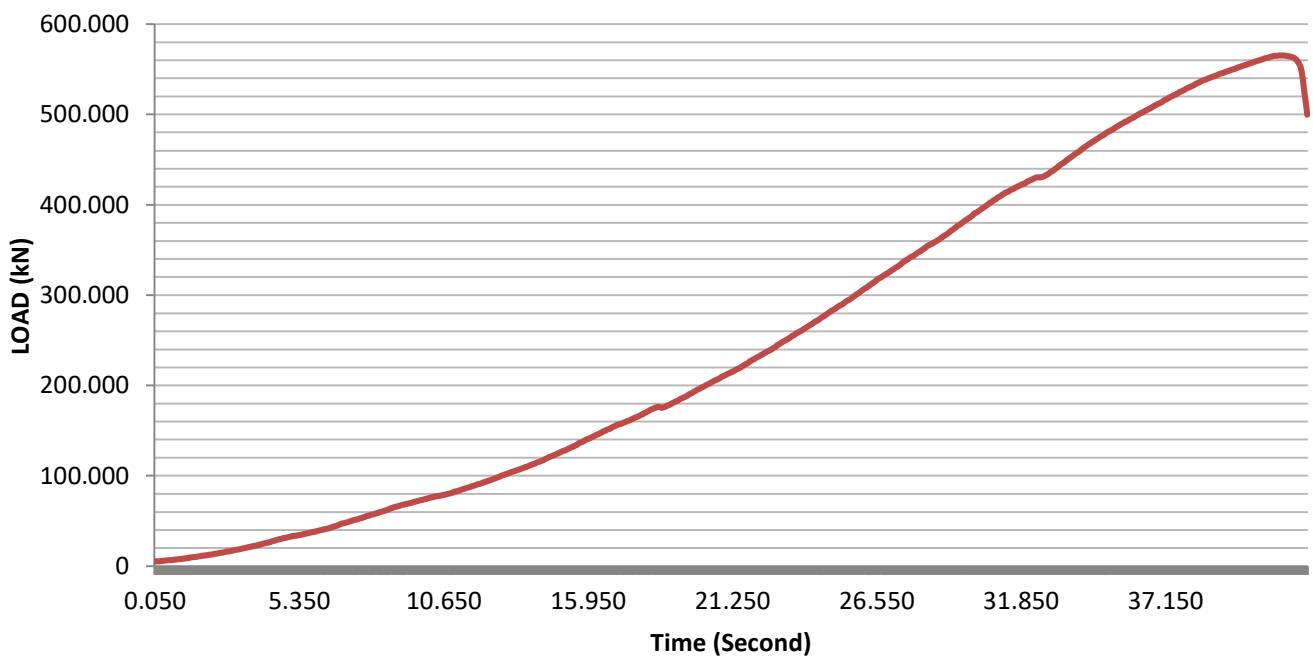
Responsibl Dr. Ir. H. Sumirin, MS

THESIS

KTK2 NORMAL

UNI EN 12390-3

DATA					
DATE	29/01/2021		**SPECIMEN**		
LABORATORY	UNISSULA		TYPE	CYLINDER	
			DIAMETER	150	mm
			HEIGHT	300	mm
			AREA	17671,5	mm^2
SPEED	500 kN/s				



RESULT

SECTION	S	17671,5	mm^2
MAXIMUM LOAD	P	565,22	Kn
STRENGTH	R	31,99	Mpa

Operator Alfian

Responsibl Dr. Ir. H. Sumirin, MS

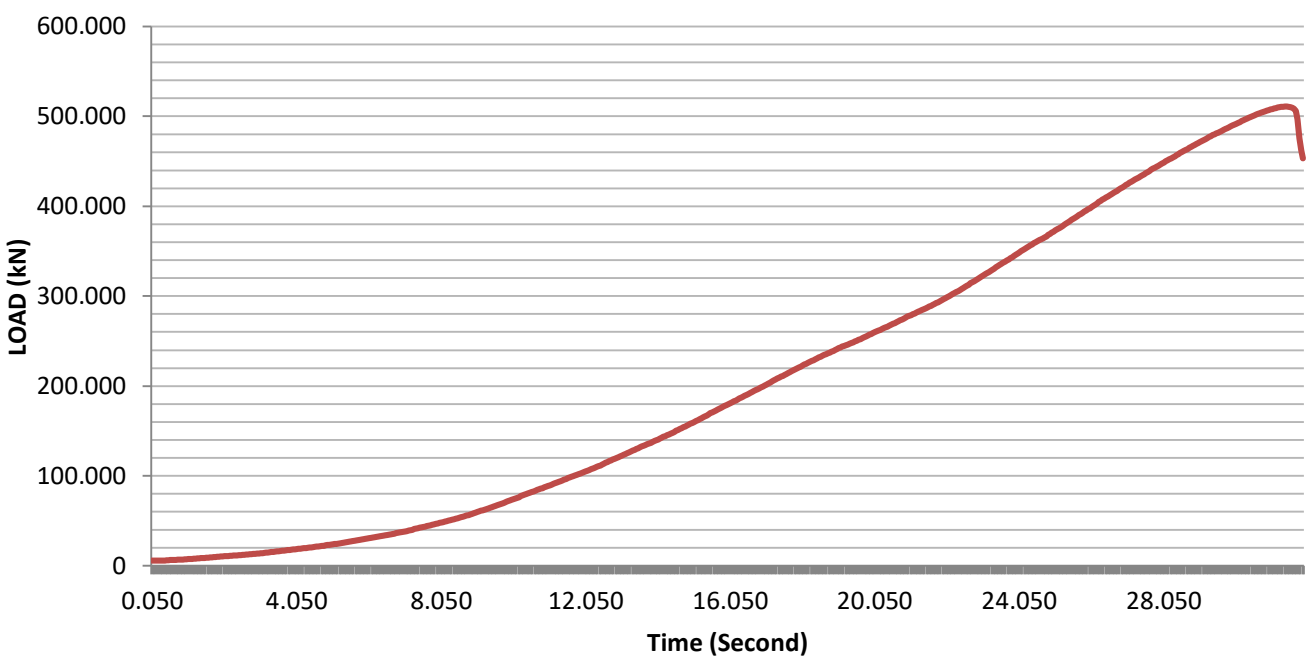
THESIS

KTK3 NORMAL

UNI EN 12390-3

DATA

DATE	29/01/2021	**SPECIMEN**		
LABORATORY	UNISSULA	TYPE	CYLINDER	
		DIAMETER	150	mm
		HEIGHT	300	mm
		AREA	17671,5	mm^2
SPEED	500 kN/s			



RESULT

SECTION	S	17671,5	mm^2
MAXIMUM LOAD	P	510,79	Kn
STRENGTH	R	28,91	Mpa

Operator Alfian

Responsibl Dr. Ir. H. Sumirin, MS

THESIS

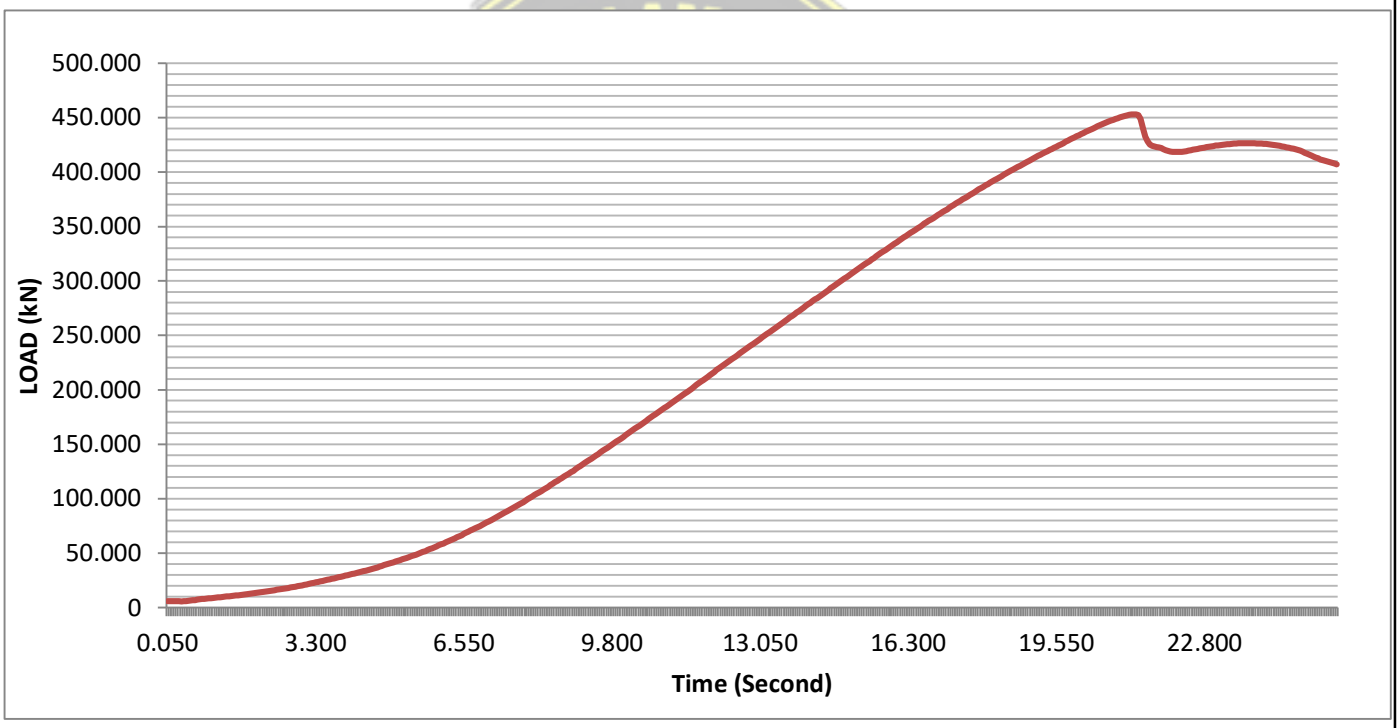
KTK1 5 PERSEN +

UNI EN 12390-3

DATA

DATE	29/01/2021			
LABORATORY	UNISSULA			
		SPECIMEN		
		TYPE	CYLINDER	
		DIAMETER	150	mm
		HEIGHT	300	mm
		AREA	17671,5	mm^2

SPEED 500 kN/s



RESULT

SECTION	S	17671,5	mm^2
MAXIMUM LOAD	P	453,05	Kn
STRENGTH	R	25,64	Mpa

Operator Alfian

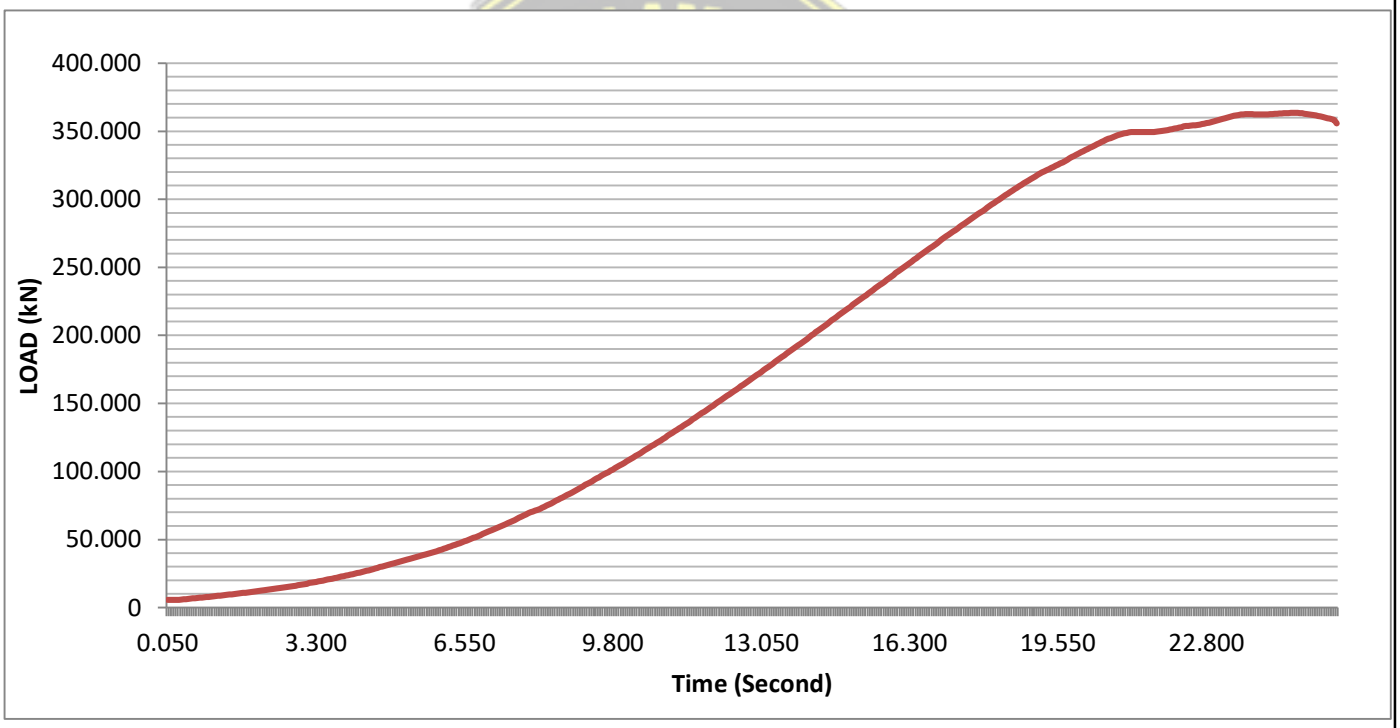
Responsibl Dr. Ir. H. Sumirin, MS

THESIS

KTK1 10 PERSEN +

UNI EN 12390-3

DATA					
DATE	29/01/2021		**SPECIMEN**		
LABORATORY	UNISSULA		TYPE	CYLINDER	
			DIAMETER	150	mm
			HEIGHT	300	mm
			AREA	17671,5	mm^2
SPEED	500 kN/s				



RESULT

SECTION	S	17671,5	mm^2
MAXIMUM LOAD	P	363,56	Kn
STRENGTH	R	20,57	Mpa

Operator Alfian

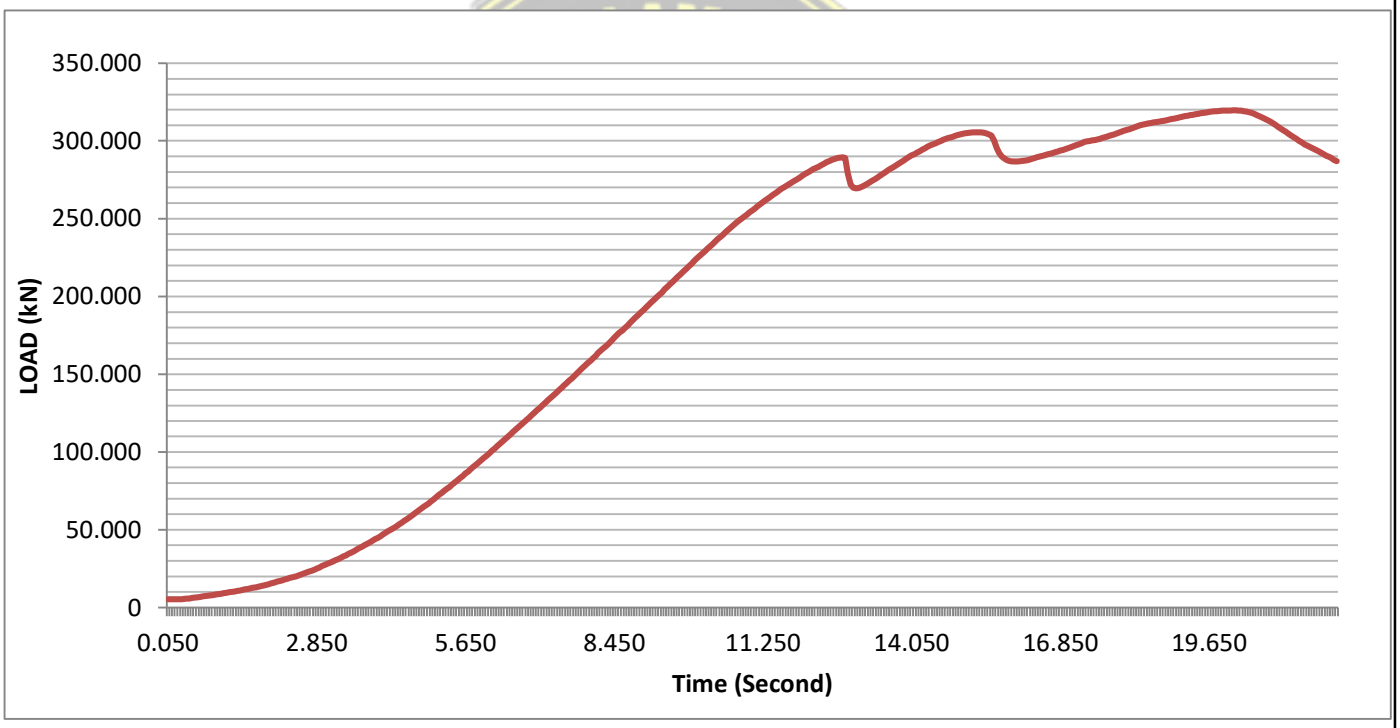
Responsibl Dr. Ir. H. Sumirin, MS

THESIS

KTK1 15 PERSEN +

UNI EN 12390-3

DATA				
DATE	29/01/2021		**SPECIMEN**	
LABORATORY	UNISSULA	TYPE	CYLINDER	
		DIAMETER	150	mm
		HEIGHT	300	mm
		AREA	17671,5	mm^2
SPEED	500 kN/s			



RESULT

SECTION	S	17671,5	mm^2
MAXIMUM LOAD	P	319,67	Kn
STRENGTH	R	18,09	Mpa

Operator Alfian

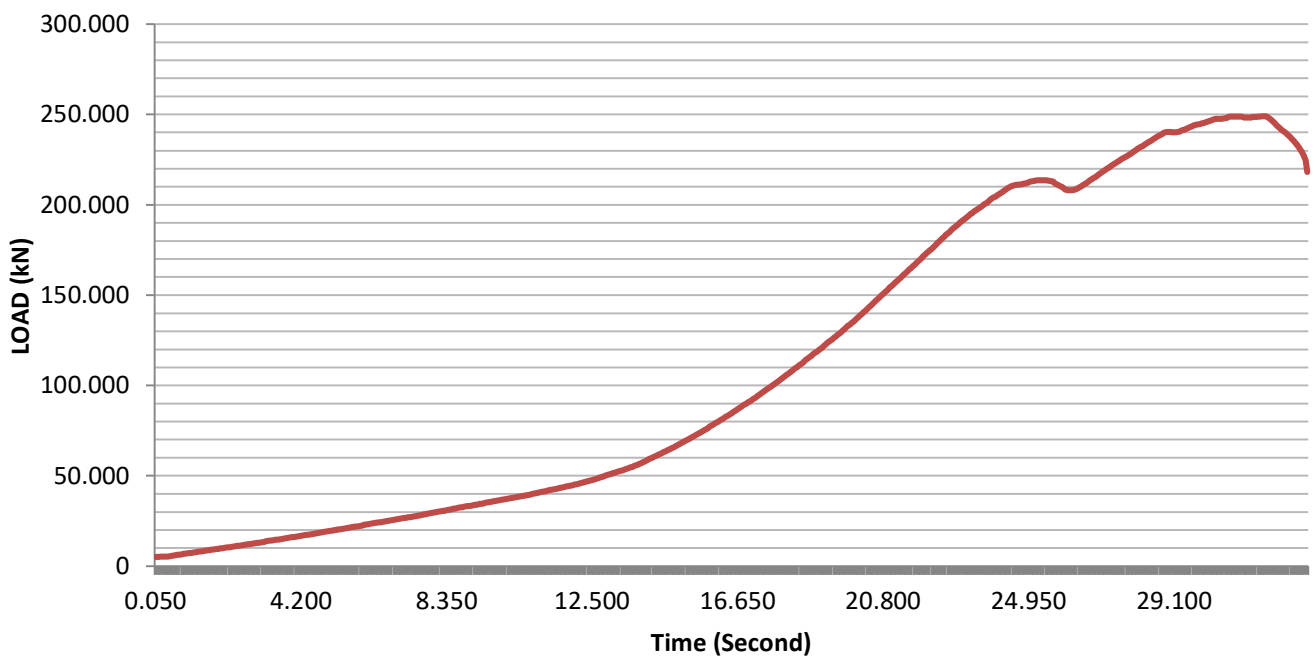
Responsibl Dr. Ir. H. Sumirin, MS

THESIS

KTK2 5 PERSEN +

UNI EN 12390-3

DATA					
DATE	29/01/2021		**SPECIMEN**		
LABORATORY	UNISSULA		TYPE	CYLINDER	
			DIAMETER	150	mm
			HEIGHT	300	mm
			AREA	17671,5	mm^2
SPEED	500 kN/s				



RESULT

SECTION	S	17671,5	mm^2
MAXIMUM LOAD	P	248,97	Kn
STRENGTH	R	14,09	Mpa

Operator Alfian

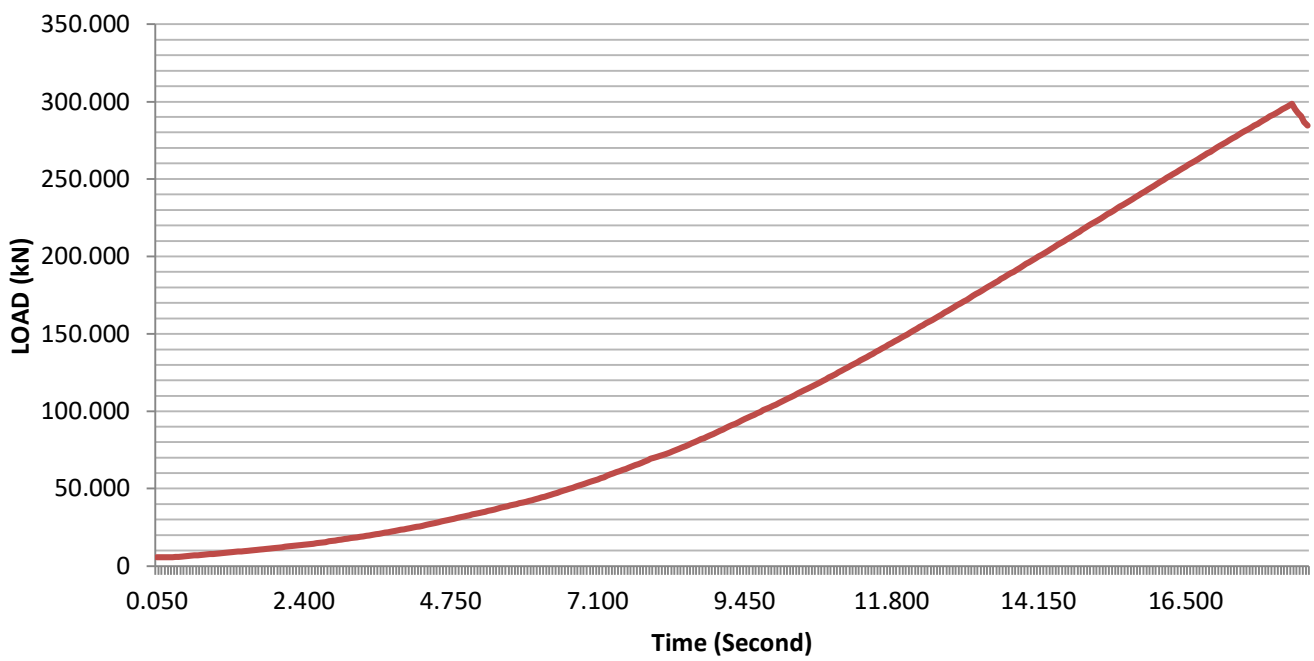
Responsibl Dr. Ir. H. Sumirin, MS

THESIS

KTK2 10 PERSEN +

UNI EN 12390-3

DATA					
DATE	29/01/2021		**SPECIMEN**		
LABORATORY	UNISSULA		TYPE	CYLINDER	
			DIAMETER	150	mm
			HEIGHT	300	mm
			AREA	17671,5	mm^2
SPEED	500 kN/s				



RESULT

SECTION	S	17671,5	mm^2
MAXIMUM LOAD	P	297,18	Kn
STRENGTH	R	16,82	Mpa

Operator Alfian

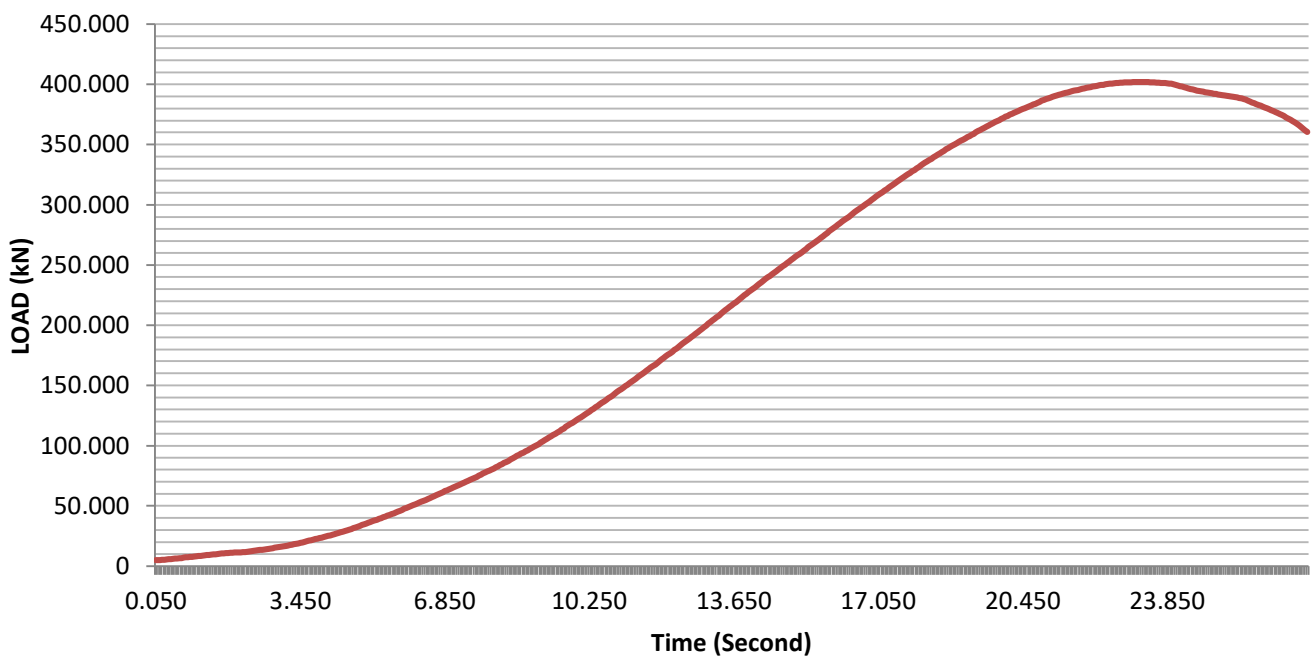
Responsibl Dr. Ir. H. Sumirin, MS

THESIS

KTK2 15 PERSEN +

UNI EN 12390-3

DATA					
DATE	29/01/2021		**SPECIMEN**		
LABORATORY	UNISSULA		TYPE	CYLINDER	
			DIAMETER	150	mm
			HEIGHT	300	mm
			AREA	17671,5	mm^2
SPEED	500 kN/s				



RESULT

SECTION	S	17671,5	mm^2
MAXIMUM LOAD	P	401,89	Kn
STRENGTH	R	22,74	Mpa

Operator Alfian

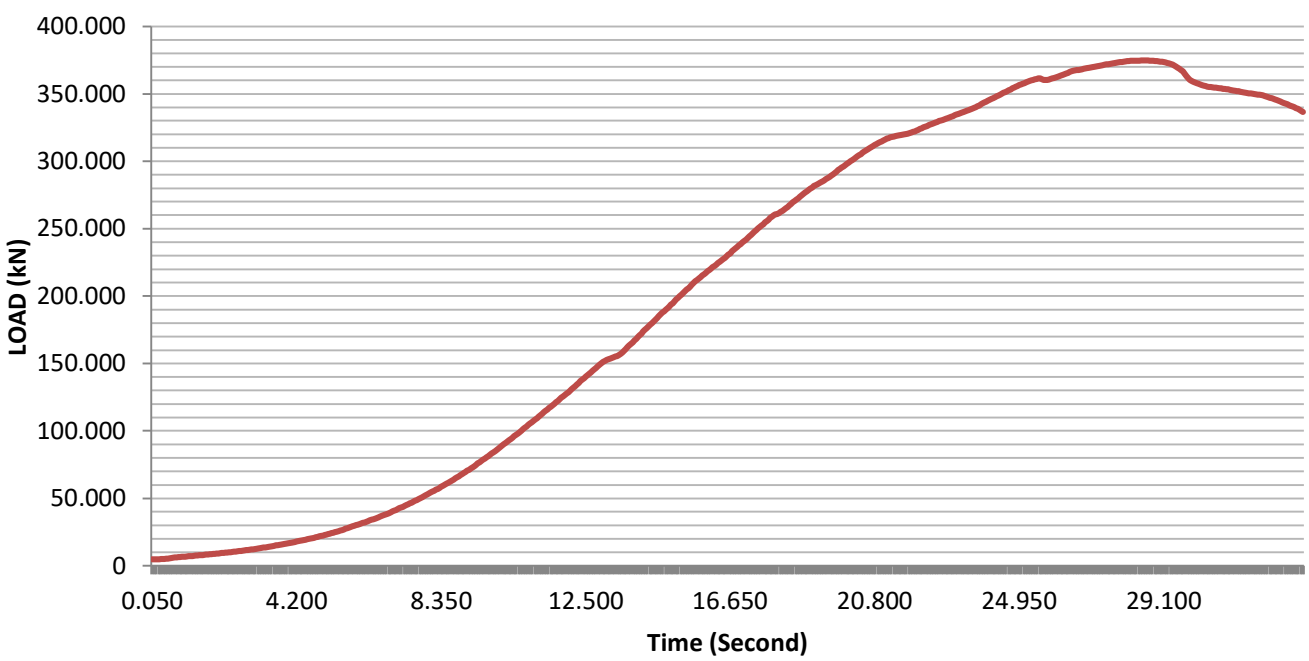
Responsibl Dr. Ir. H. Sumirin, MS

THESIS

KTK3 5 PERSEN +

UNI EN 12390-3

DATA					
DATE	29/01/2021		**SPECIMEN**		
LABORATORY	UNISSULA		TYPE	CYLINDER	
			DIAMETER	150	mm
			HEIGHT	300	mm
			AREA	17671,5	mm^2
SPEED	500 kN/s				



RESULT

SECTION	S	17671,5	mm^2
MAXIMUM LOAD	P	374,67	Kn
STRENGTH	R	21,20	Mpa

Operator Alfian

Responsibl Dr. Ir. H. Sumirin, MS

THESIS

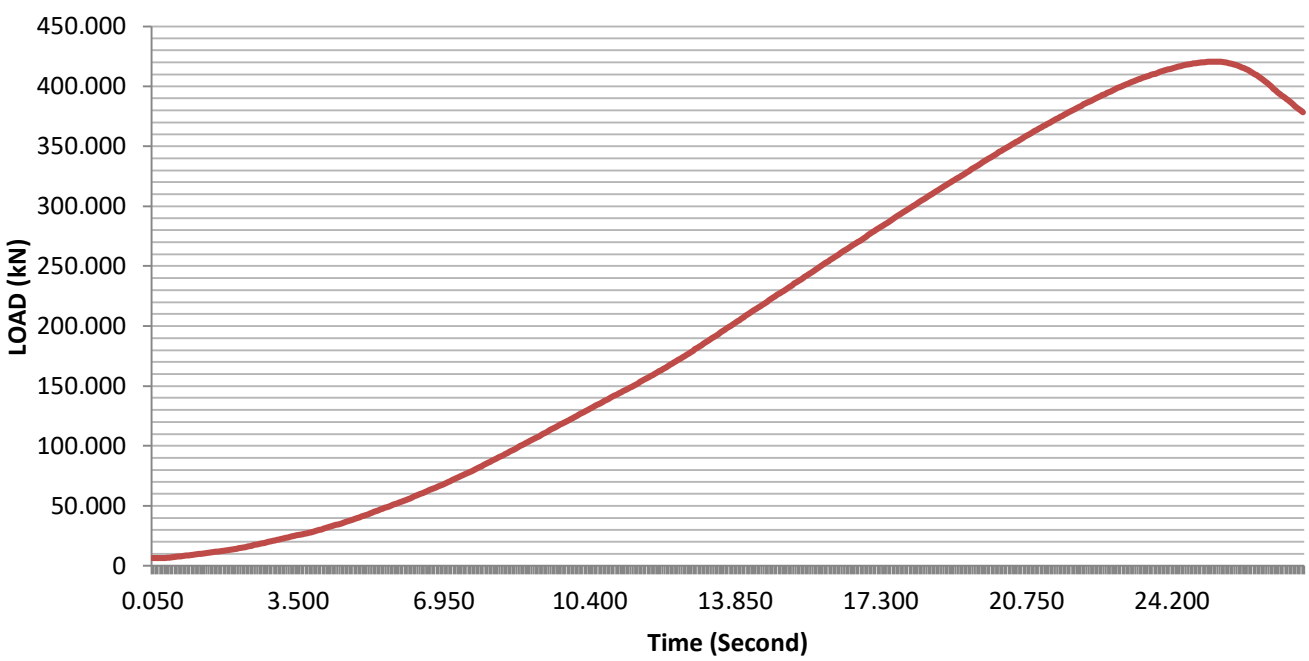
KTK3 10 PERSEN +

UNI EN 12390-3

DATA

DATE	29/01/2021	**SPECIMEN**		
LABORATORY	UNISSULA	TYPE	CYLINDER	
		DIAMETER	150	mm
		HEIGHT	300	mm
		AREA	17671,5	mm^2

SPEED 500 kN/s



RESULT

SECTION	S	17671,5	mm^2
MAXIMUM LOAD	P	420,59	Kn
STRENGTH	R	23,80	Mpa

Operator Alfian

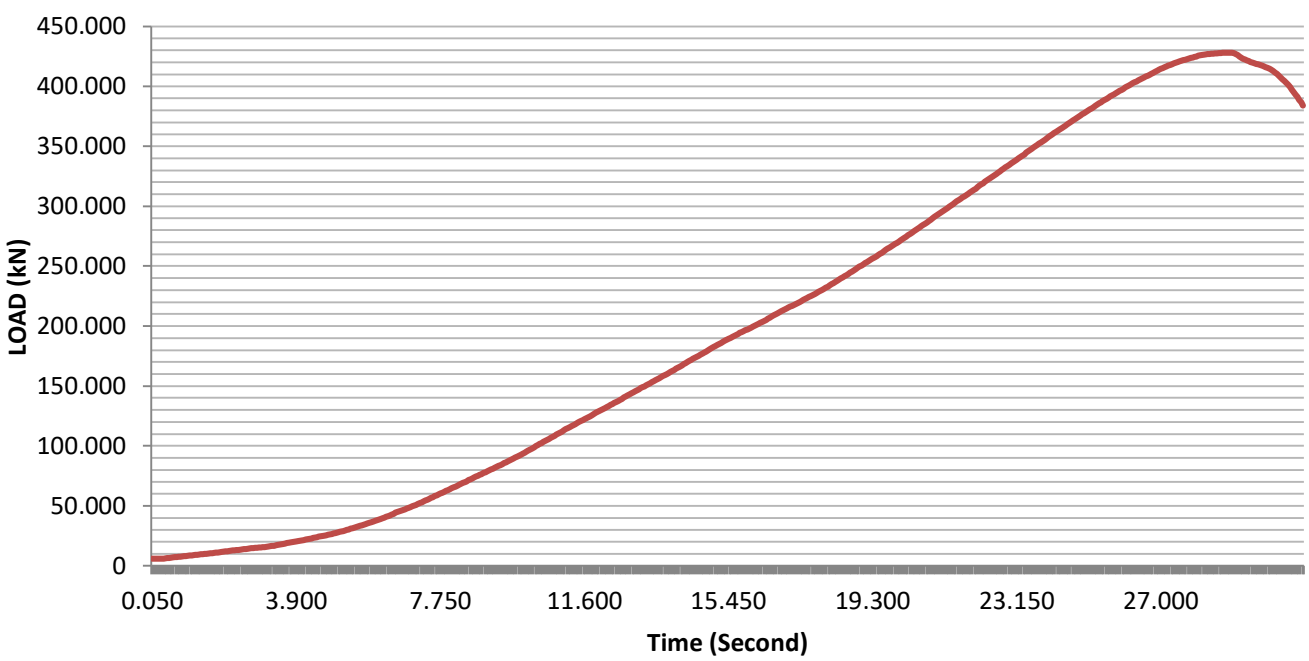
Responsibl Dr. Ir. H. Sumirin, MS

THESIS

KTK3 15 PERSEN +

UNI EN 12390-3

DATA					
DATE	29/01/2021		**SPECIMEN**		
LABORATORY	UNISSULA		TYPE	CYLINDER	
			DIAMETER	150	mm
			HEIGHT	300	mm
			AREA	17671,5	mm^2
SPEED	500 kN/s				



RESULT

SECTION	S	17671,5	mm^2
MAXIMUM LOAD	P	428,07	Kn
STRENGTH	R	24,22	Mpa

Operator Alfian

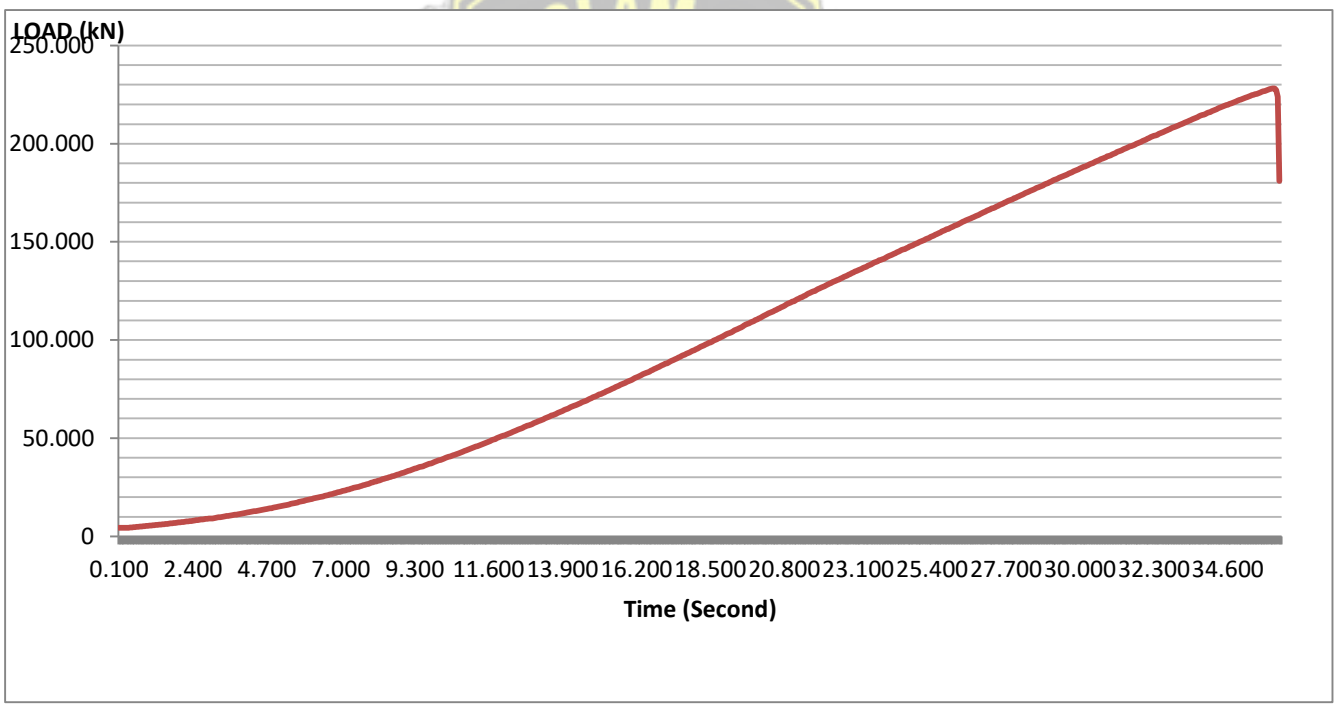
Responsibl Dr. Ir. H. Sumirin, MS

THESIS

KTB1 NORMAL

UNI EN 12390-3

DATA				
DATE	29/01/2021		**SPECIMEN**	
LABORATORY	UNISSULA	TYPE		CYLINDER
		DIAMETER	150	mm
		HEIGHT	300	mm
		AREA	17662,5	mm^2
SPEED	500 kN/s			



RESULT

SECTION	S	17662,50	mm^2
MAXIMUM LOAD	P	228.113	Kn
STRENGTH	R	3.227	Mpa

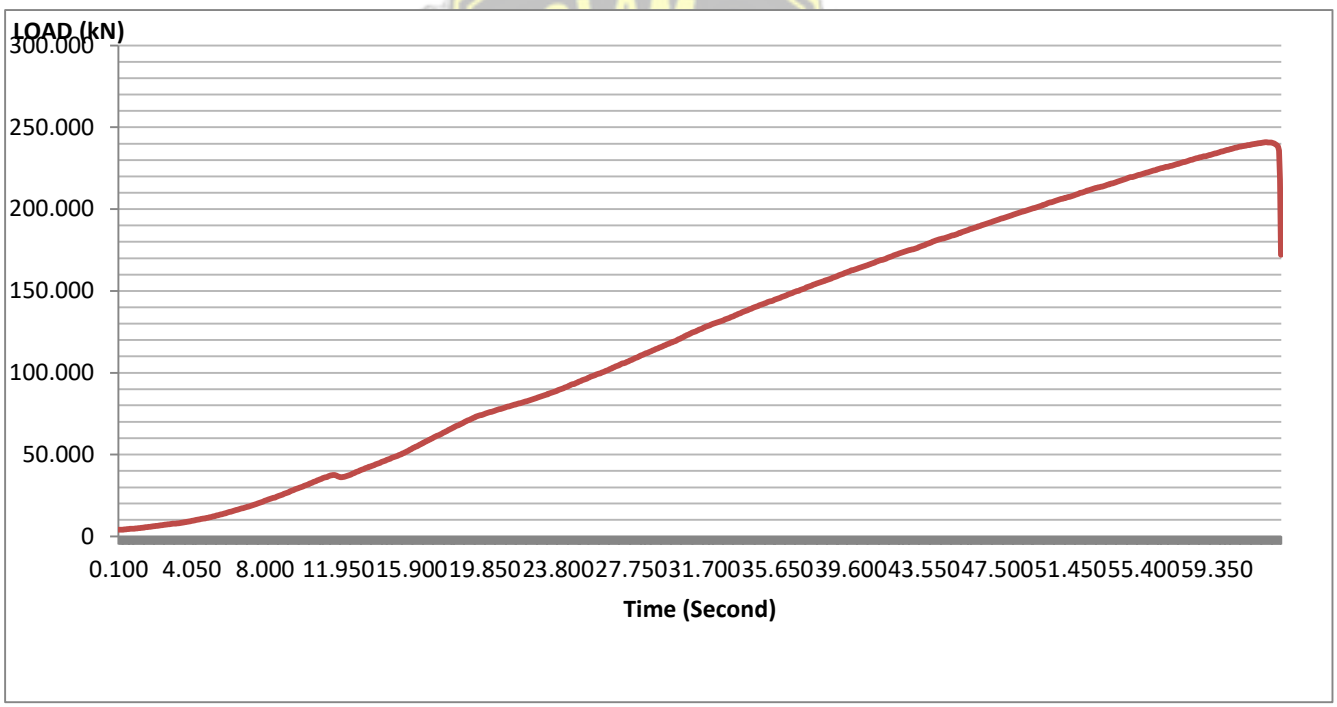
Operator Alfian Responsible Dr. Ir. H. Sumirin, MS

THESIS

KTB2 NORMAL

UNI EN 12390-3

DATA				
DATE	29/01/2021		**SPECIMEN**	
LABORATORY	UNISSULA	TYPE		CYLINDER
		DIAMETER	150	mm
		HEIGHT	300	mm
		AREA	17662,5	mm^2
SPEED	500 kN/s			



RESULT

SECTION	S	17662,50	mm^2
MAXIMUM LOAD	P	240.872	Kn
STRENGTH	R	3.408	Mpa

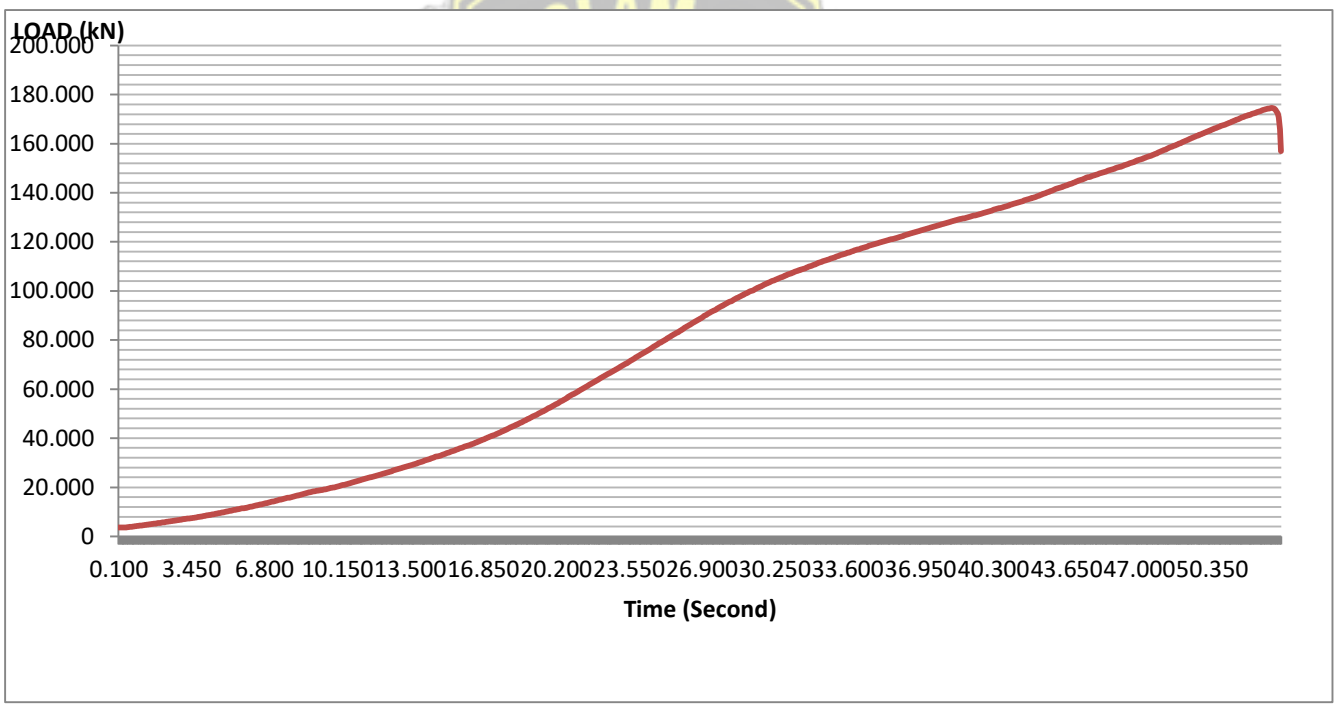
Operator Alfian Responsible Dr. Ir. H. Sumirin, MS

THESIS

KTB3 NORMAL

UNI EN 12390-3

DATA				
DATE	29/01/2021		**SPECIMEN**	
LABORATORY	UNISSULA	TYPE		CYLINDER
		DIAMETER	150	mm
		HEIGHT	300	mm
		AREA	17662,5	mm^2
SPEED	500 kN/s			



RESULT

SECTION	S	17662,50	mm^2
MAXIMUM LOAD	P	174.525	Kn
STRENGTH	R	2.469	Mpa

Operator Alfian Responsible Dr. Ir. H. Sumirin, MS

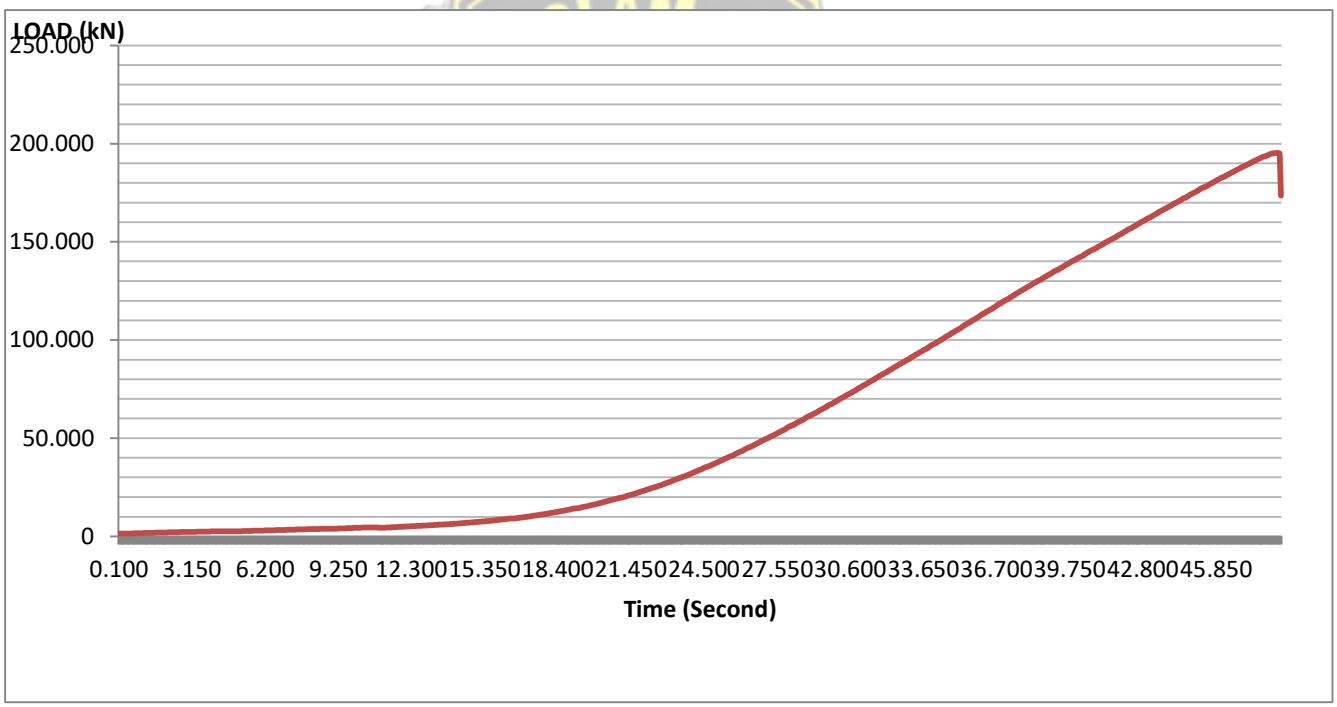
THESIS

KTB1 5 PERSEN +

UNI EN 12390-3

DATA				
DATE	29/01/2021		**SPECIMEN**	
LABORATORY	UNISSULA	TYPE		CYLINDER
		DIAMETER	150	mm
		HEIGHT	300	mm
		AREA	17662,5	mm^2

SPEED 500 kN/s



RESULT

SECTION	S	17662,50	mm^2
MAXIMUM LOAD	P	195.323	Kn
STRENGTH	R	2.763	Mpa

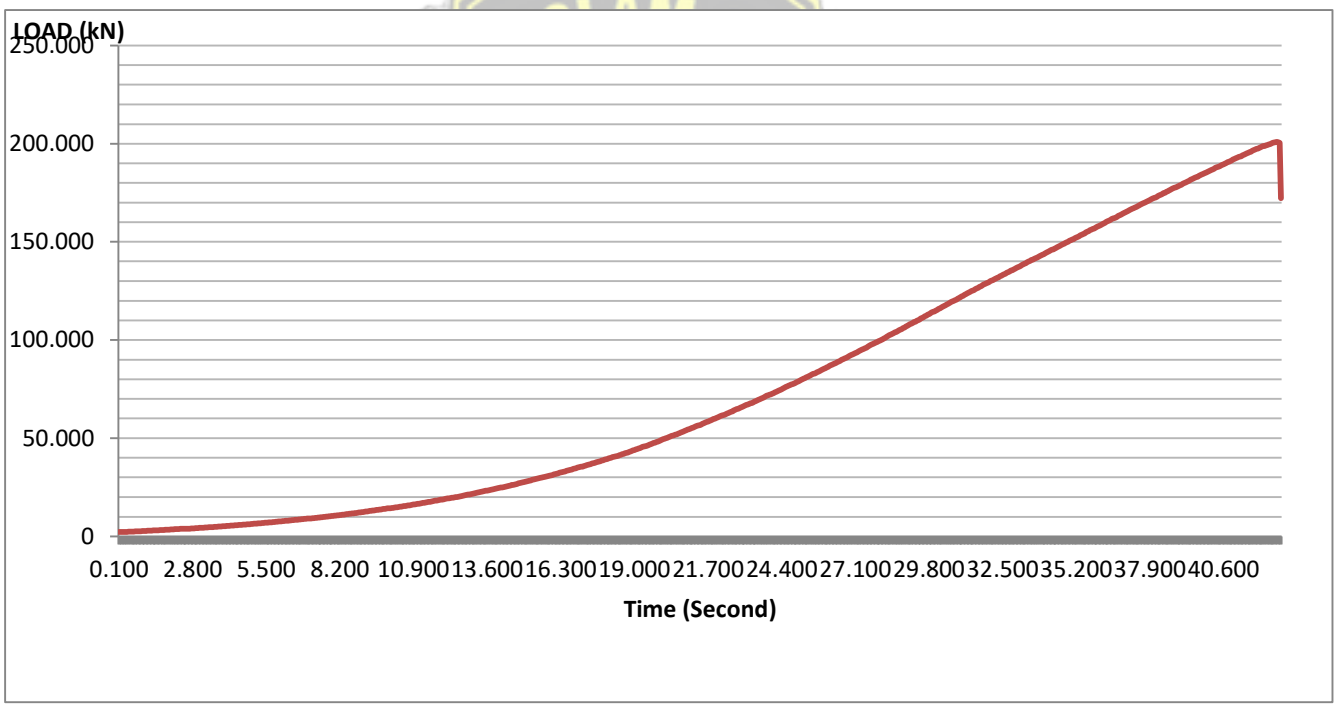
Operator Alfian Responsible Dr. Ir. H. Sumirin, MS

THESIS

KTB1 10 PERSEN +

UNI EN 12390-3

DATA				
DATE	29/01/2021		**SPECIMEN**	
LABORATORY	UNISSULA	TYPE		CYLINDER
		DIAMETER	150	mm
		HEIGHT	300	mm
		AREA	17662,5	mm^2
SPEED	500 kN/s			



RESULT

SECTION	S	17662,50	mm^2
MAXIMUM LOAD	P	200.845	Kn
STRENGTH	R	2.841	Mpa

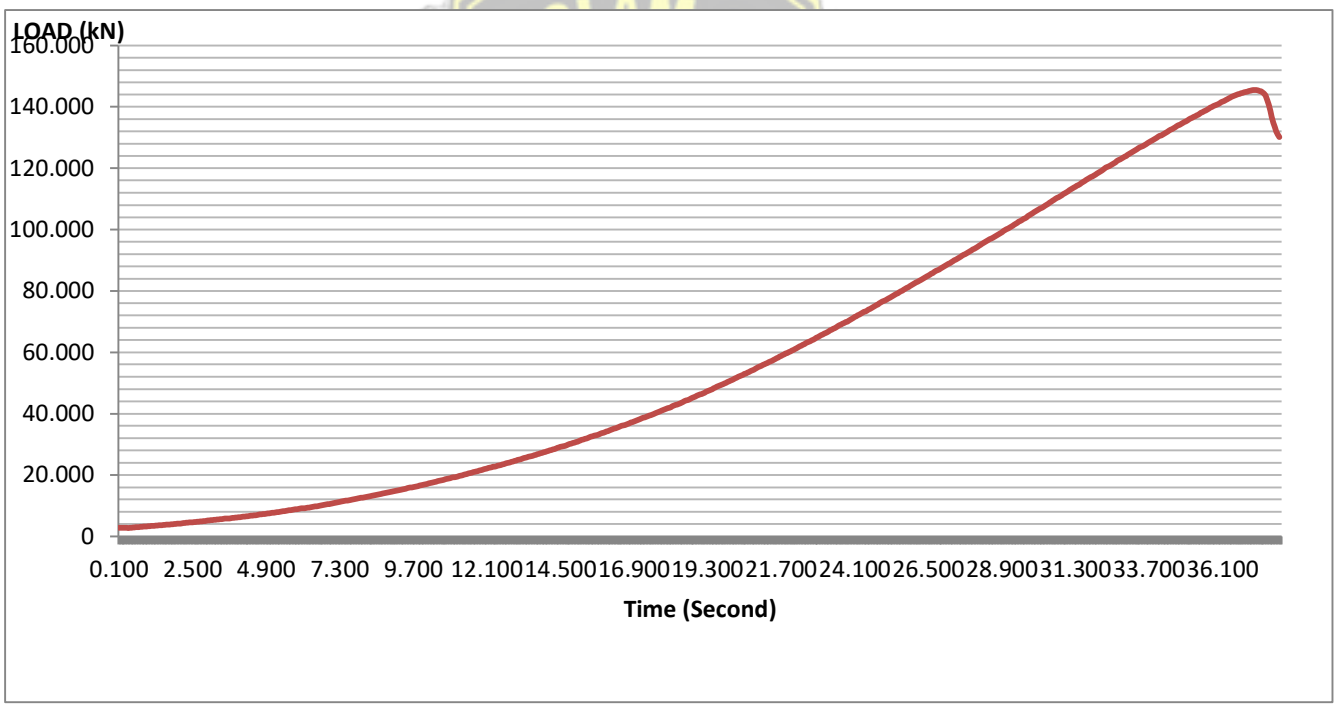
Operator Alfian Responsible Dr. Ir. H. Sumirin, MS

THESIS

KTB1 15 PERSEN +

UNI EN 12390-3

DATA				
DATE	29/01/2021		**SPECIMEN**	
LABORATORY	UNISSULA	TYPE		CYLINDER
		DIAMETER	150	mm
		HEIGHT	300	mm
		AREA	17662,5	mm^2
SPEED	500 kN/s			



RESULT

SECTION	S	17662,50	mm^2
MAXIMUM LOAD	P	145.473	Kn
STRENGTH	R	2.058	Mpa

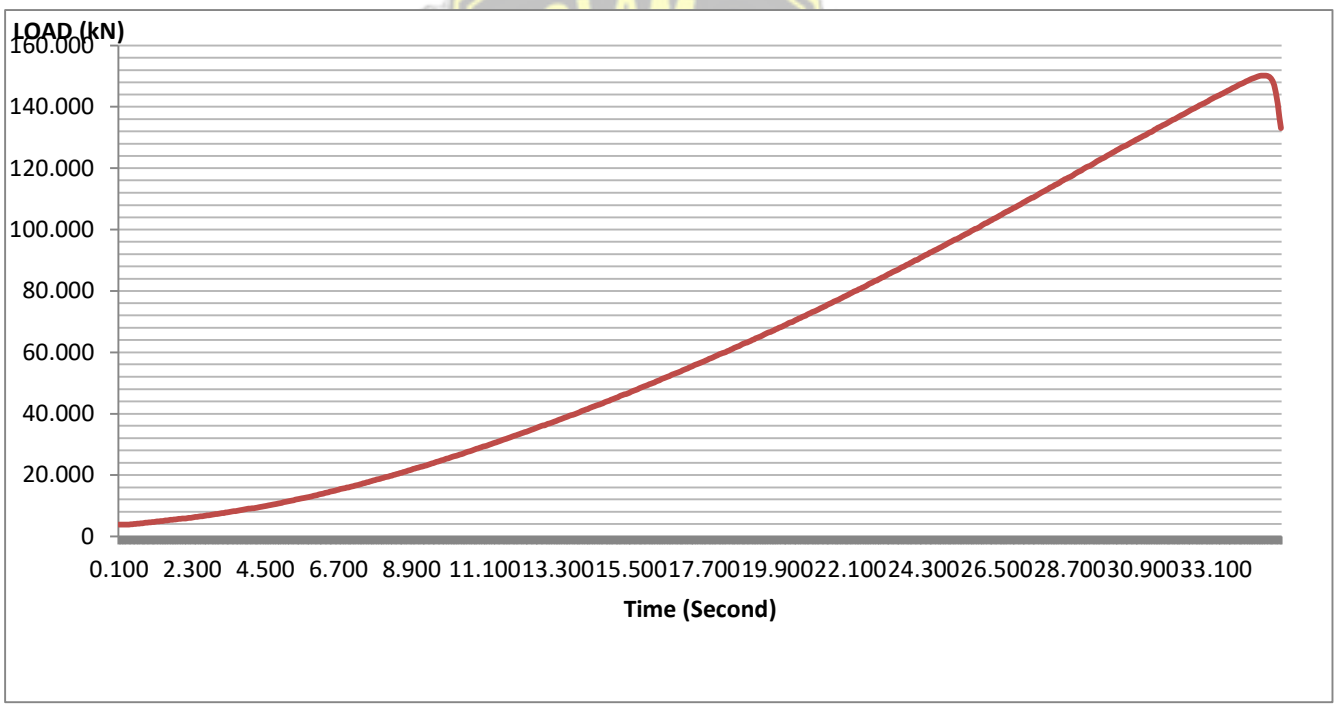
Operator	Alfian	Responsible	Dr. Ir. H. Sumirin, MS

THESIS

KTB2 5 PERSEN +

UNI EN 12390-3

DATA				
DATE	29/01/2021		**SPECIMEN**	
LABORATORY	UNISSULA	TYPE		CYLINDER
		DIAMETER	150	mm
		HEIGHT	300	mm
		AREA	17662,5	mm^2
SPEED	500 kN/s			



RESULT

SECTION	S	17662,50	mm^2
MAXIMUM LOAD	P	150.199	Kn
STRENGTH	R	2.125	Mpa

Operator Alfian Responsible Dr. Ir. H. Sumirin, MS

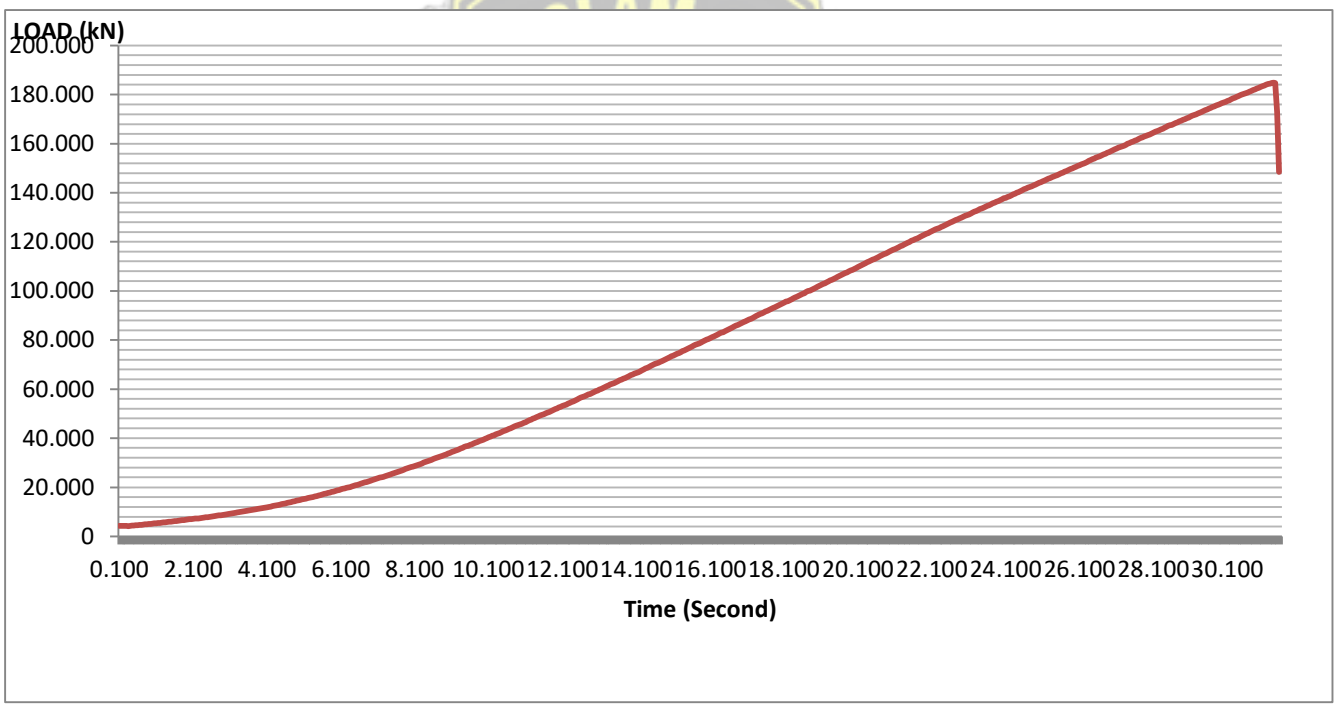
THESIS

KTB2 10 PERSEN +

UNI EN 12390-3

DATA				
DATE	29/01/2021		**SPECIMEN**	
LABORATORY	UNISSULA	TYPE		CYLINDER
		DIAMETER	150	mm
		HEIGHT	300	mm
		AREA	17662,5	mm^2

SPEED 500 kN/s



RESULT

SECTION	S	17662,50	mm^2
MAXIMUM LOAD	P	184.832	Kn
STRENGTH	R	2.615	Mpa

Operator Alfian Responsible Dr. Ir. H. Sumirin, MS

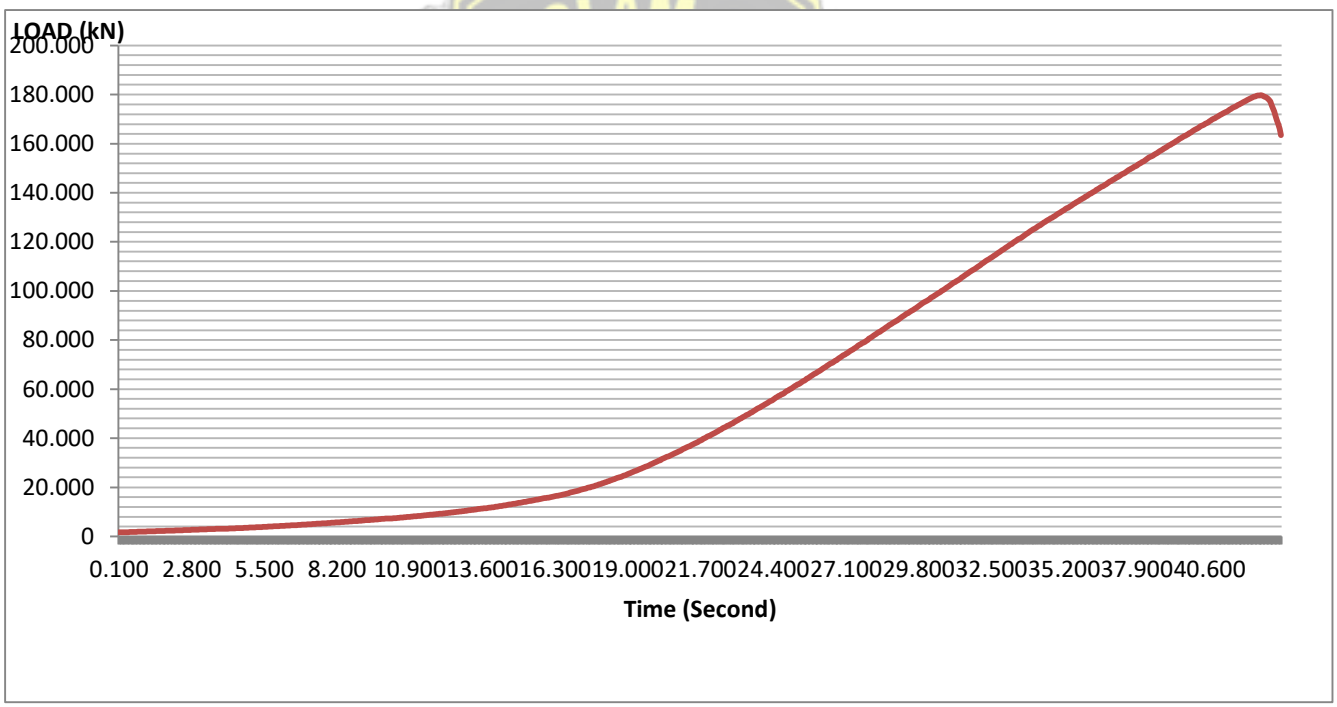
THESIS

KTB2 15 PERSEN +

UNI EN 12390-3

DATA				
DATE	29/01/2021		**SPECIMEN**	
LABORATORY	UNISSULA	TYPE		CYLINDER
		DIAMETER	150	mm
		HEIGHT	300	mm
		AREA	17662,5	mm^2

SPEED 500 kN/s



RESULT

SECTION	S	17662,50	mm^2
MAXIMUM LOAD	P	179.693	Kn
STRENGTH	R	2.542	Mpa

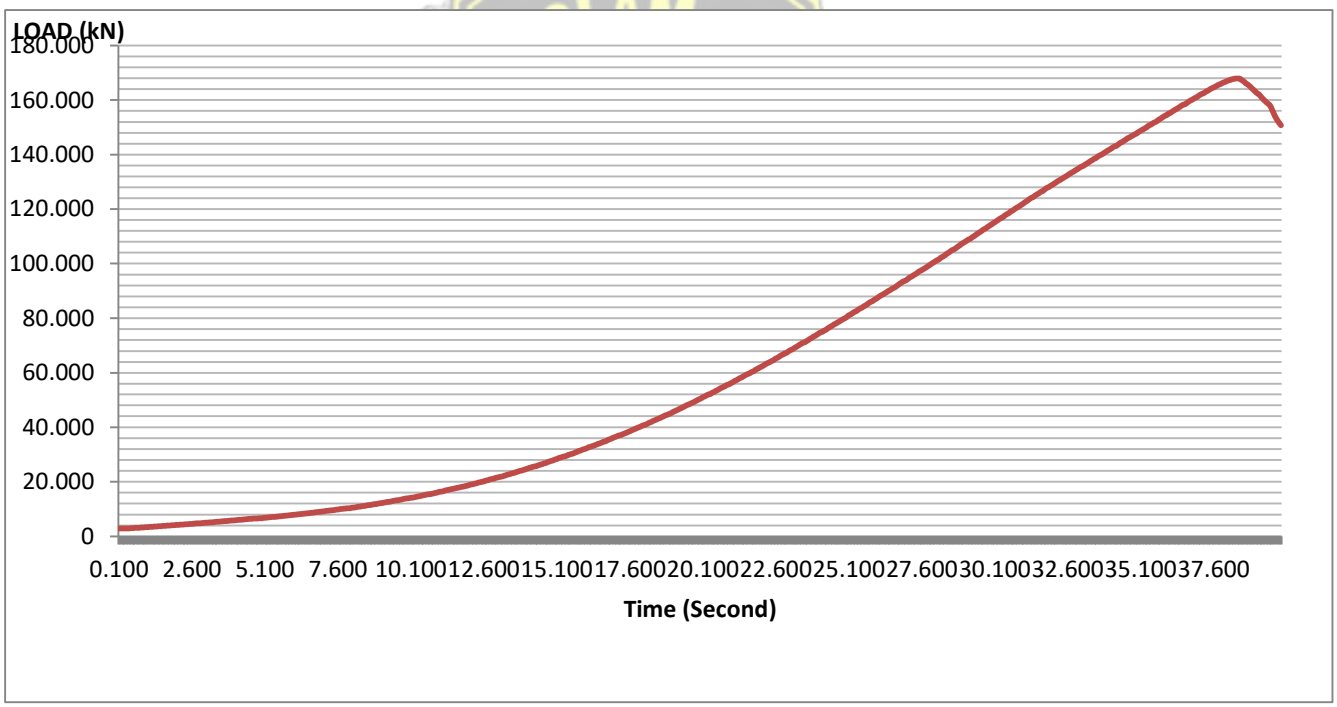
Operator Alfian Responsible Dr. Ir. H. Sumirin, MS

THESIS

KTB3 5 PERSEN +

UNI EN 12390-3

DATA				
DATE	29/01/2021		**SPECIMEN**	
LABORATORY	UNISSULA	TYPE		CYLINDER
		DIAMETER	150	mm
		HEIGHT	300	mm
		AREA	17662,5	mm^2
SPEED	500 kN/s			



RESULT

SECTION	S	17662,50	mm^2
MAXIMUM LOAD	P	167.904	Kn
STRENGTH	R	2.375	Mpa

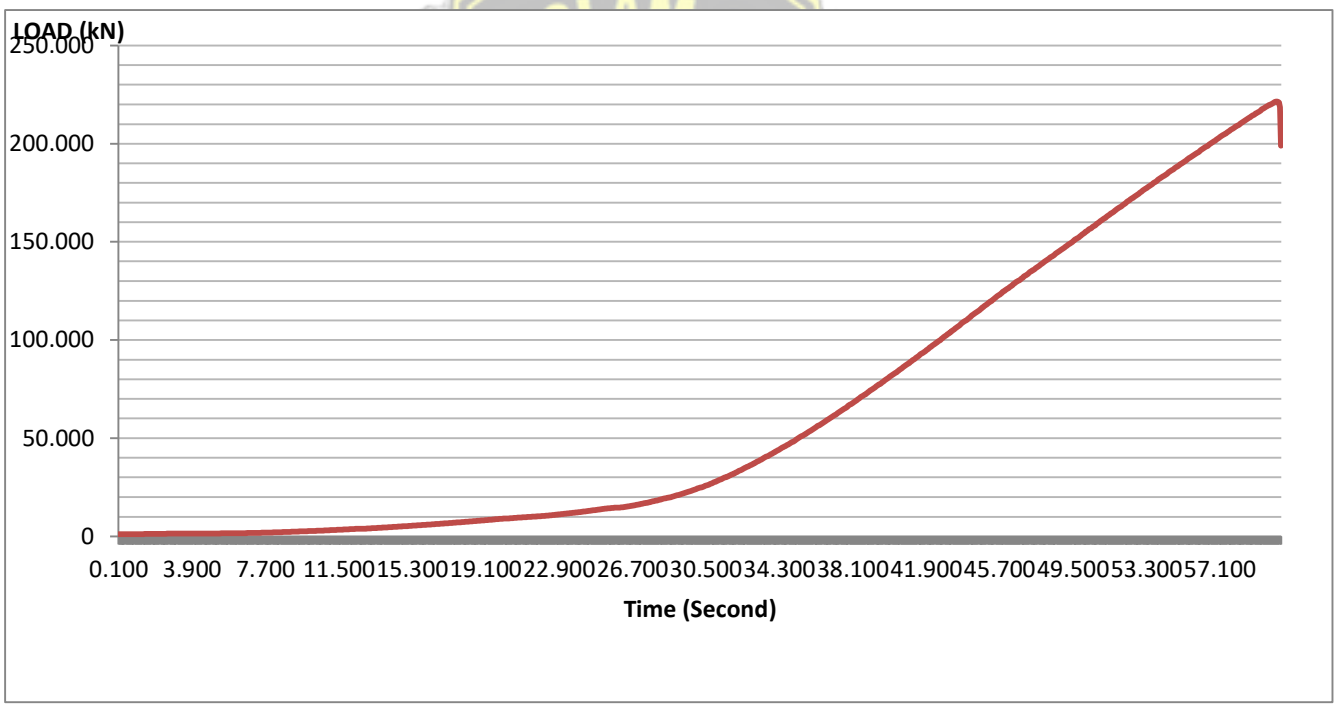
Operator Alfian Responsible Dr. Ir. H. Sumirin, MS

THESIS

KTB3 10 PERSEN +

UNI EN 12390-3

DATA				
DATE	29/01/2021		**SPECIMEN**	
LABORATORY	UNISSULA	TYPE		CYLINDER
		DIAMETER	150	mm
		HEIGHT	300	mm
		AREA	17662,5	mm^2
SPEED	500 kN/s			



RESULT

SECTION	S	17662,50	mm^2
MAXIMUM LOAD	P	221.469	Kn
STRENGTH	R	3.133	Mpa

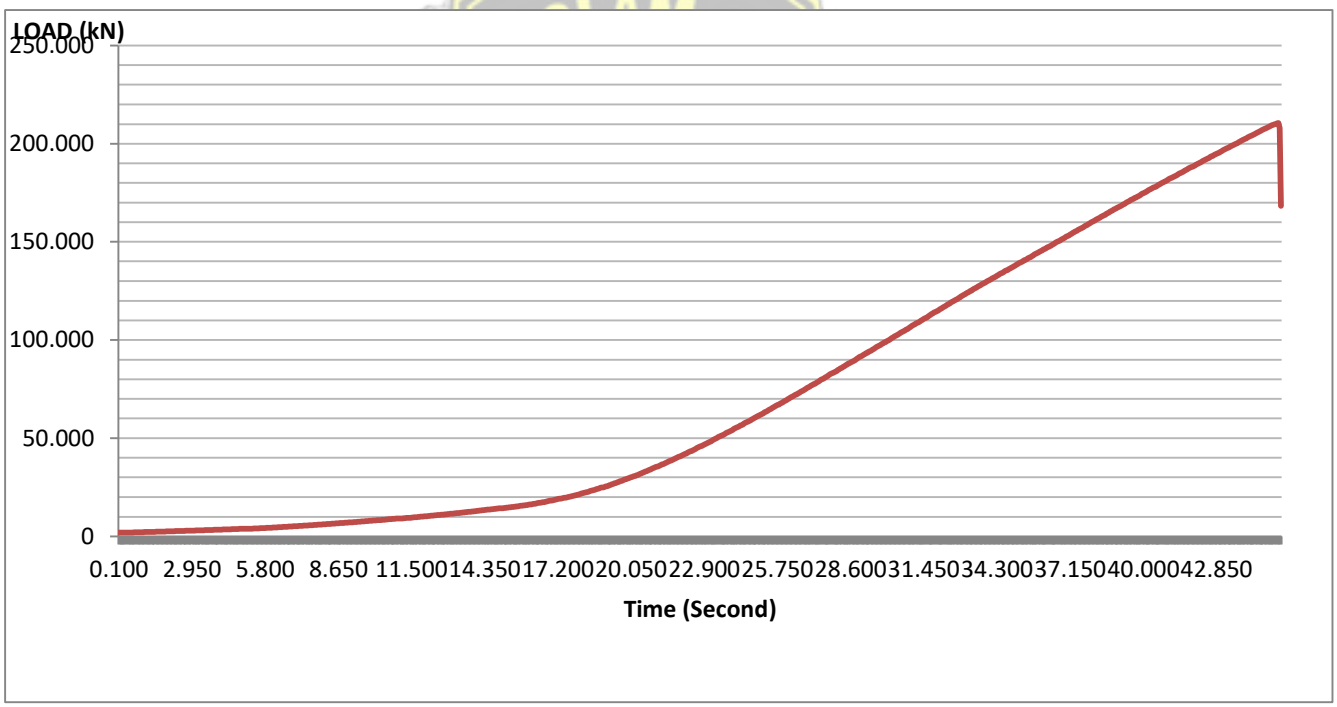
Operator Alfian Responsible Dr. Ir. H. Sumirin, MS

THESIS

KTB3 15 PERSEN +

UNI EN 12390-3

DATA				
DATE	29/01/2021		**SPECIMEN**	
LABORATORY	UNISSULA	TYPE		CYLINDER
		DIAMETER	150	mm
		HEIGHT	300	mm
		AREA	17662,5	mm^2
SPEED	500 kN/s			



RESULT

SECTION	S	17662,50	mm^2
MAXIMUM LOAD	P	210.538	Kn
STRENGTH	R	2.978	Mpa

Operator	Alfian	Responsible	Dr. Ir. H. Sumirin, MS

THESIS

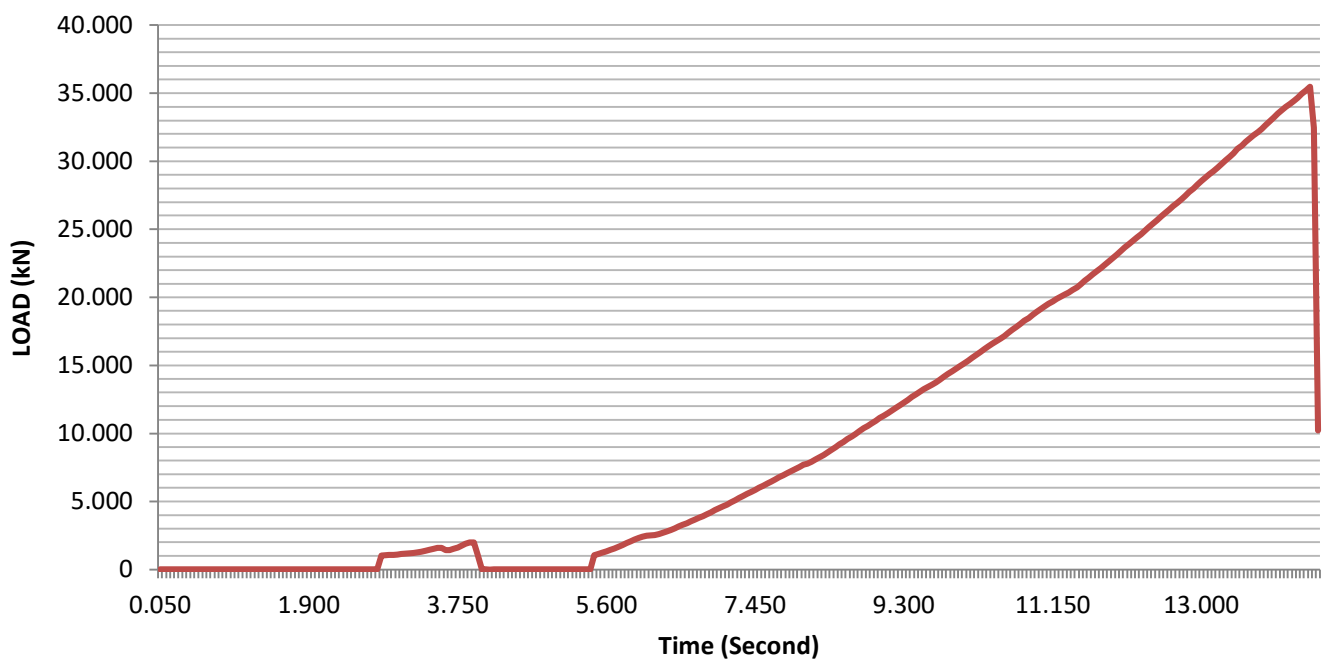
B1 KUAT LENTUR THESIS

UNI EN 12390-3

DATA

DATE	29/01/2021	**SPECIMEN**		
LABORATORY	UNISSULA	TYPE	CUBE	
		WIDTH	150	mm
		HEIGHT	150	mm
		UPPER SPAN	150	mm
		LOWER SPAN	450	mm
		AREA	7500	mm^2

SPEED 500 kN/s



RESULT

SECTION	S	7500	mm^2
MAXIMUM LOAD	P	35,48	Kn
STRENGTH	R	4,73	Mpa

Operator Alfian

Responsible Dr. Ir. H. Sumirin, MS

THESIS

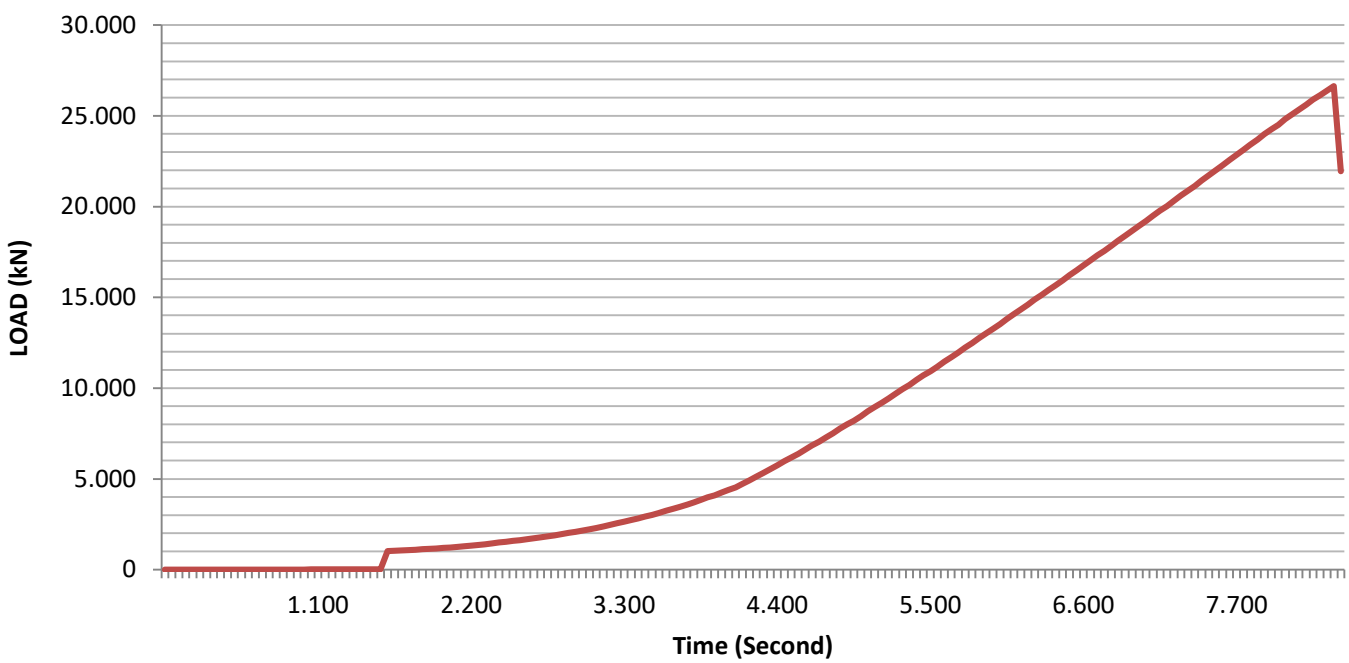
B2 KUAT LENTUR THESIS

UNI EN 12390-3

DATA

DATE	29/01/2021	**SPECIMEN**		
LABORATORY	UNISSULA	TYPE	CUBE	
		WIDTH	150	mm
		HEIGHT	150	mm
		UPPER SPAN	150	mm
		LOWER SPAN	450	mm
		AREA	7500	mm^2

SPEED 500 kN/s



RESULT

SECTION	S	7500	mm^2
MAXIMUM LOAD	P	26,63	Kn
STRENGTH	R	3,55	Mpa

Operator Alfian

Responsible Dr. Ir. H. Sumirin, MS

THESIS

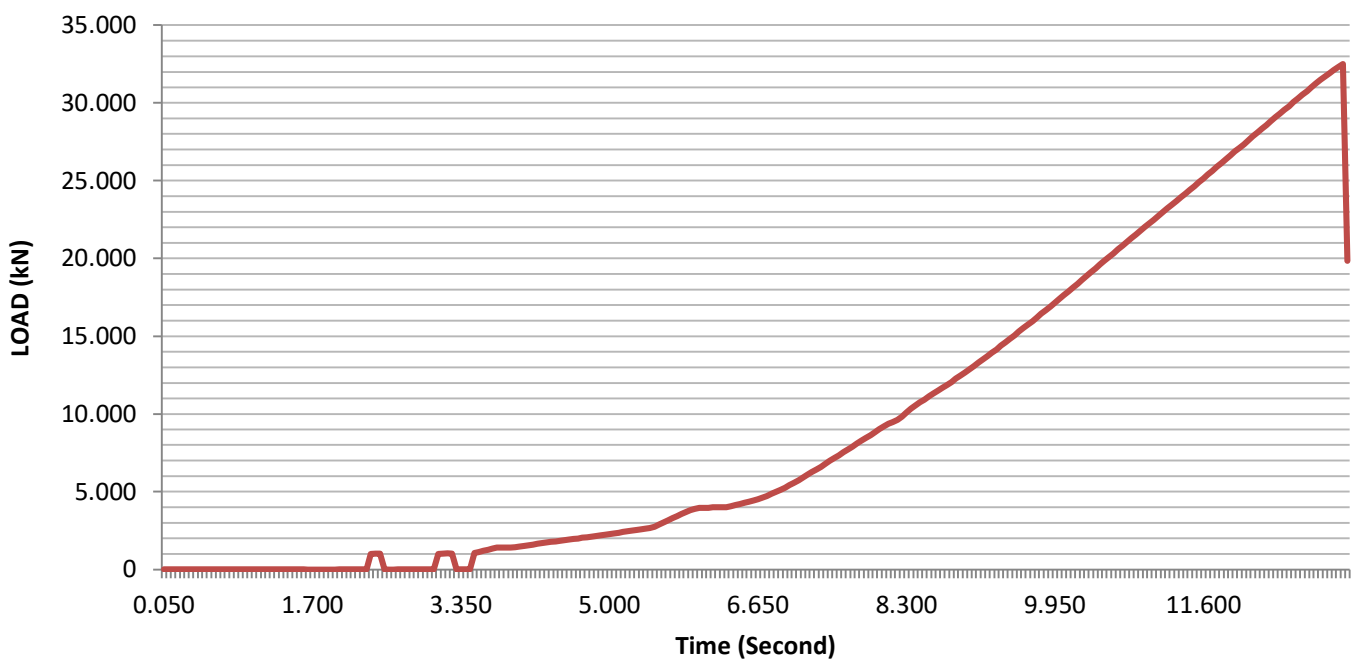
B3 KUAT LENTUR THESIS

UNI EN 12390-3

DATA

DATE	29/01/2021	**SPECIMEN**		
LABORATORY	UNISSULA	TYPE	CUBE	
		WIDTH	150	mm
		HEIGHT	150	mm
		UPPER SPAN	150	mm
		LOWER SPAN	450	mm
		AREA	7500	mm^2

SPEED 500 kN/s



RESULT

SECTION	S	7500	mm^2
MAXIMUM LOAD	P	32,50	Kn
STRENGTH	R	4,33	Mpa

Operator Alfian

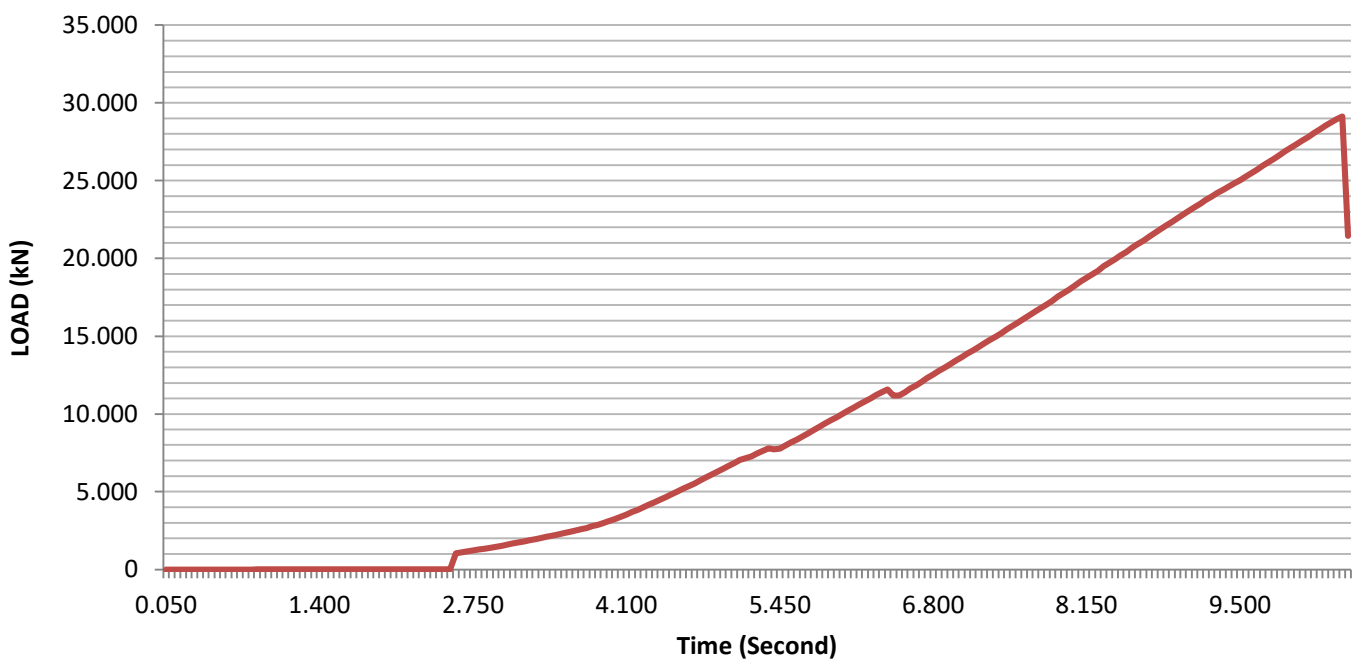
Responsible Dr. Ir. H. Sumirin, MS

THESIS

B4 KUAT LENTUR THESIS

UNI EN 12390-3

DATA				
DATE	29/01/2021		**SPECIMEN**	
LABORATORY	UNISSULA	TYPE	CUBE	
		WIDTH	150	mm
		HEIGHT	150	mm
		UPPER SPAN	150	mm
		LOWER SPAN	450	mm
		AREA	7500	mm^2
SPEED	500 kN/s			



RESULT

SECTION	S	7500	mm^2
MAXIMUM LOAD	P	29,13	Kn
STRENGTH	R	3,89	Mpa

Operator Alfian

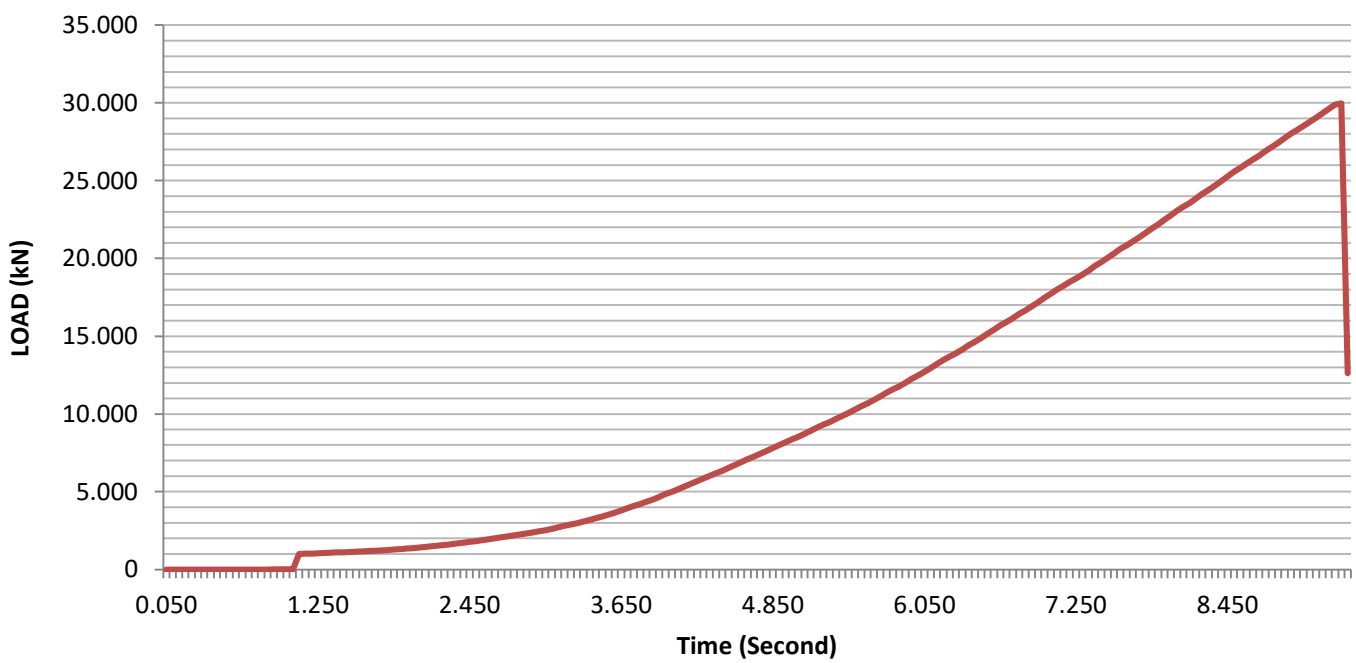
Responsible Dr. Ir. H. Sumirin, MS

THESIS

B5 KUAT LENTUR THESIS

UNI EN 12390-3

DATA				
DATE	29/01/2021		**SPECIMEN**	
LABORATORY	UNISSULA	TYPE	CUBE	
		WIDTH	150	mm
		HEIGHT	150	mm
		UPPER SPAN	150	mm
		LOWER SPAN	450	mm
		AREA	7500	mm^2
SPEED	500 kN/s			



RESULT

SECTION	S	7500	mm^2
MAXIMUM LOAD	P	29,97	Kn
STRENGTH	R	3,99	Mpa

Operator Alfian

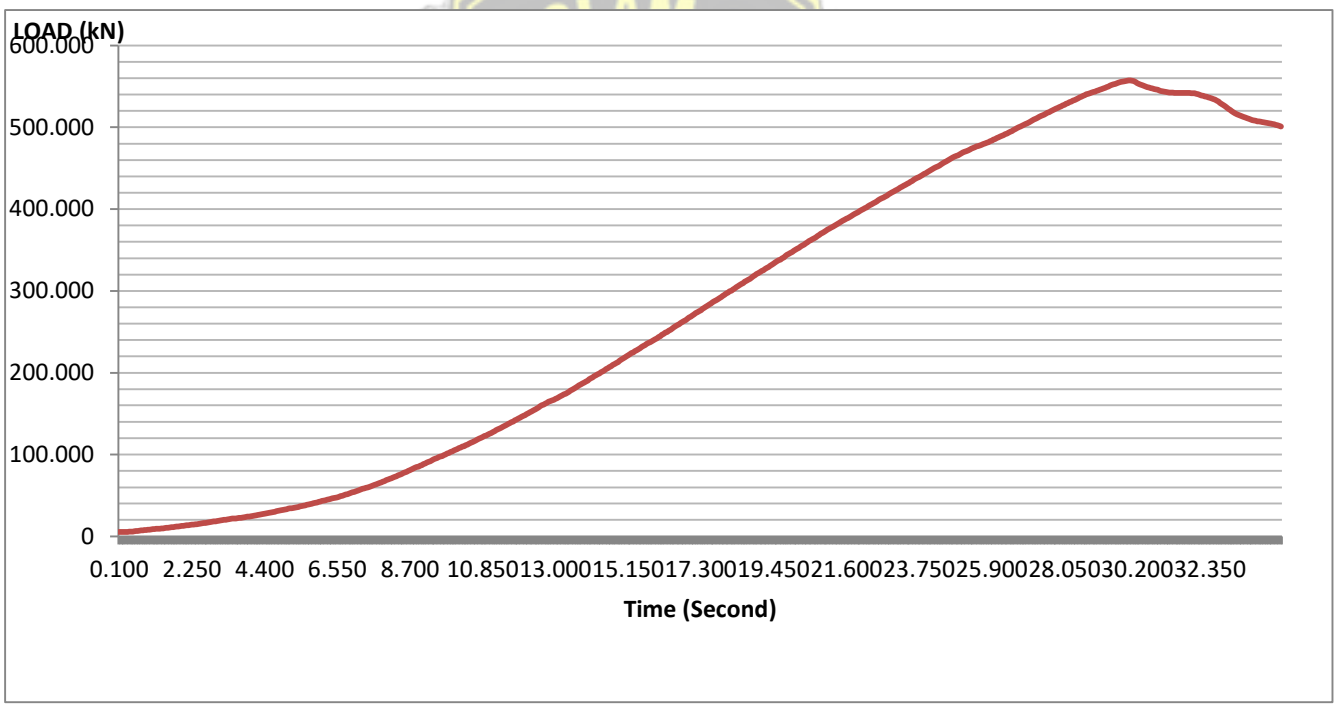
Responsible Dr. Ir. H. Sumirin, MS

THESIS

S1 N ME 6

UNI EN 12390-3

DATA				
DATE	01/02/2021		**SPECIMEN**	
LABORATORY	UNISSULA	TYPE		CYLINDER
		DIAMETER	150	mm
		HEIGHT	300	mm
		AREA	17662,5	mm^2
SPEED	500 kN/s			



RESULT

SECTION	S	17662,50	mm^2
MAXIMUM LOAD	P	557.313	Kn
STRENGTH	R	31.537	Mpa

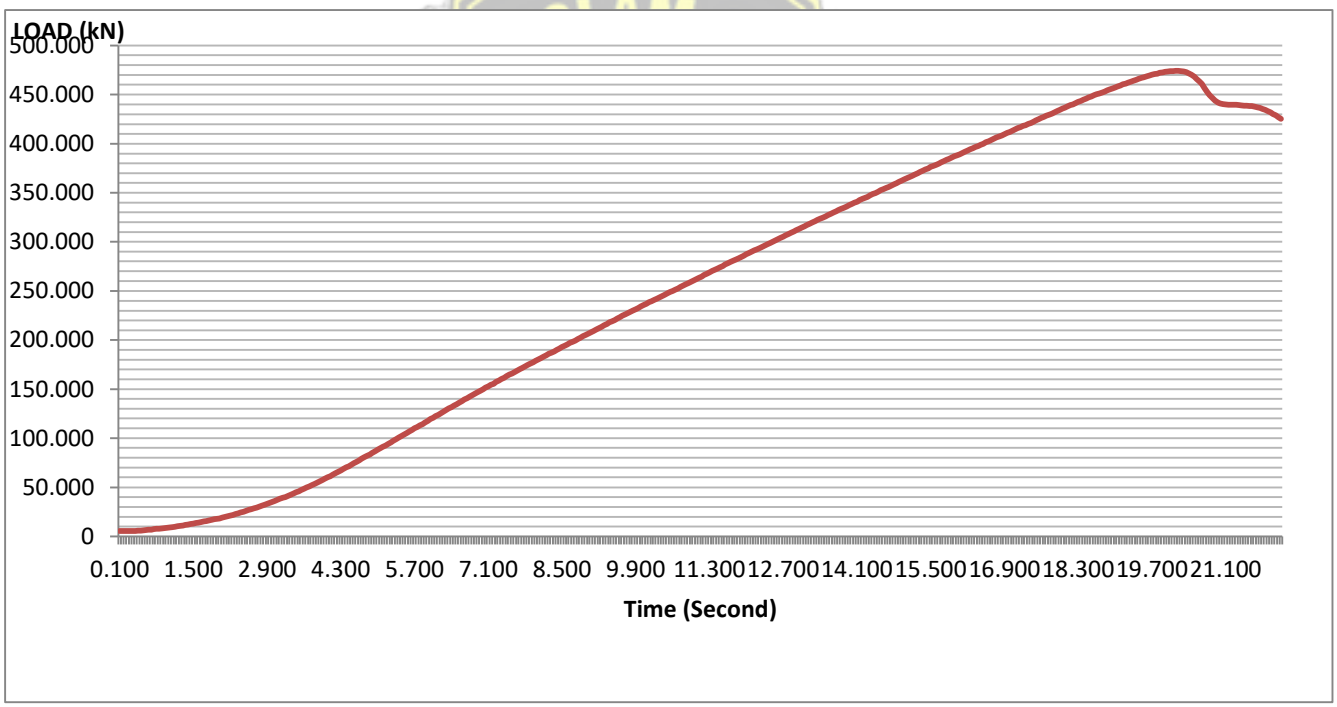
Operator Alfian Responsible Dr. Ir. H. Sumirin, MS

THESIS

S2 N ME 11

UNI EN 12390-3

DATA				
DATE	01/02/2021		**SPECIMEN**	
LABORATORY	UNISSULA	TYPE		CYLINDER
		DIAMETER	150	mm
		HEIGHT	300	mm
		AREA	17662,5	mm^2
SPEED	500 kN/s			



RESULT

SECTION	S	17662,50	mm^2
MAXIMUM LOAD	P	474.113	Kn
STRENGTH	R	26.829	Mpa

Operator Alfian Responsible Dr. Ir. H. Sumirin, MS

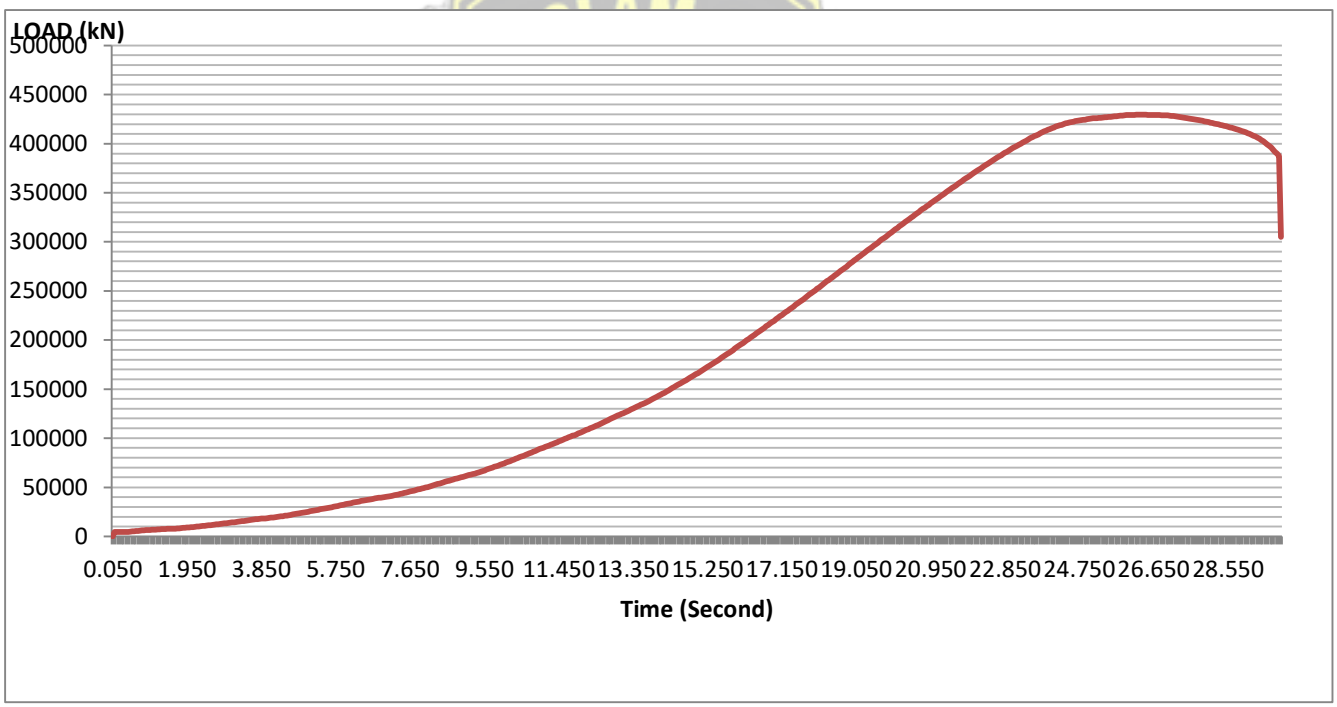
THESIS

S1 ME 2+ 10 PERSEN

UNI EN 12390-3

DATA				
DATE	01/02/2021		**SPECIMEN**	
LABORATORY	UNISSULA	TYPE		CYLINDER
		DIAMETER	150	mm
		HEIGHT	300	mm
		AREA	17662,5	mm^2

SPEED 500 kN/s



RESULT

SECTION	S	17662,50	mm^2
MAXIMUM LOAD	P	429.437	Kn
STRENGTH	R	24.301	Mpa

Operator Alfian Responsible Dr. Ir. H. Sumirin, MS

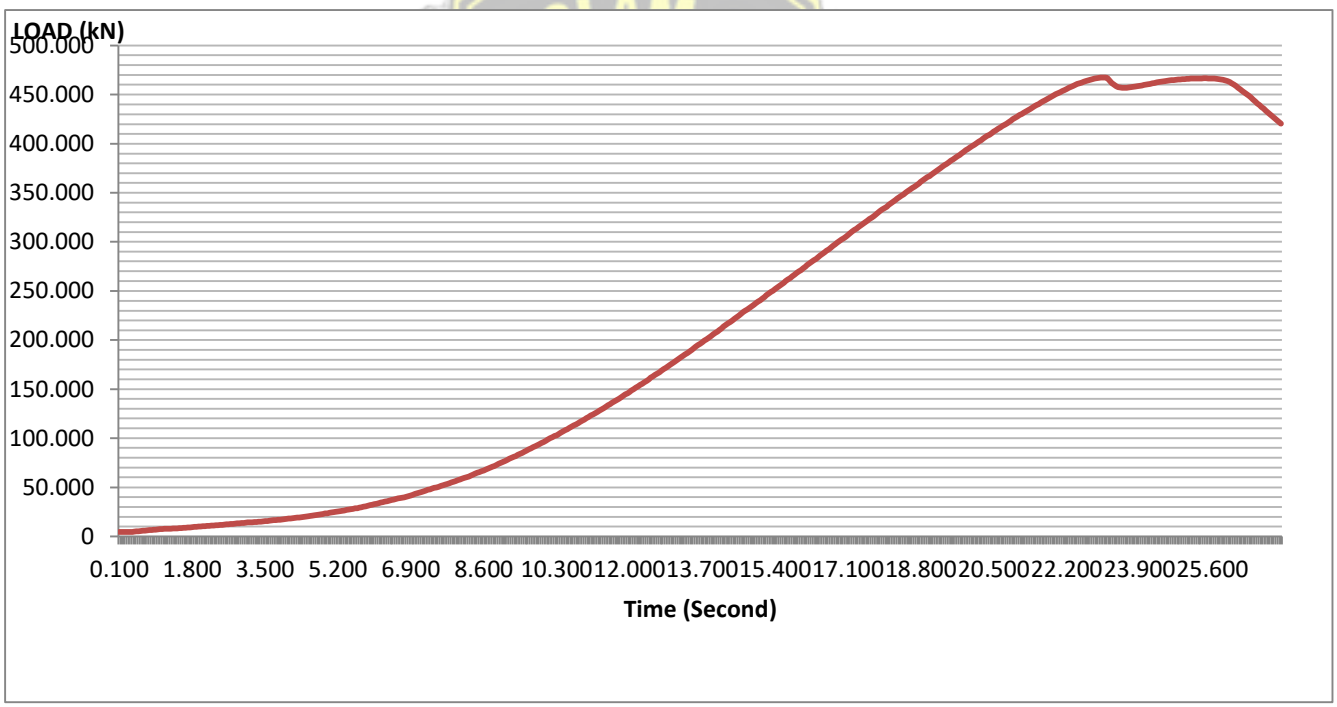
THESIS

S1 ME 8+ 15 PERSEN

UNI EN 12390-3

DATA				
DATE	01/02/2021		**SPECIMEN**	
LABORATORY	UNISSULA	TYPE		CYLINDER
		DIAMETER	150	mm
		HEIGHT	300	mm
		AREA	17662,5	mm^2

SPEED 500 kN/s



RESULT

SECTION	S	17662,50	mm^2
MAXIMUM LOAD	P	467.440	Kn
STRENGTH	R	26.452	Mpa

Operator Alfian Responsible Dr. Ir. H. Sumirin, MS

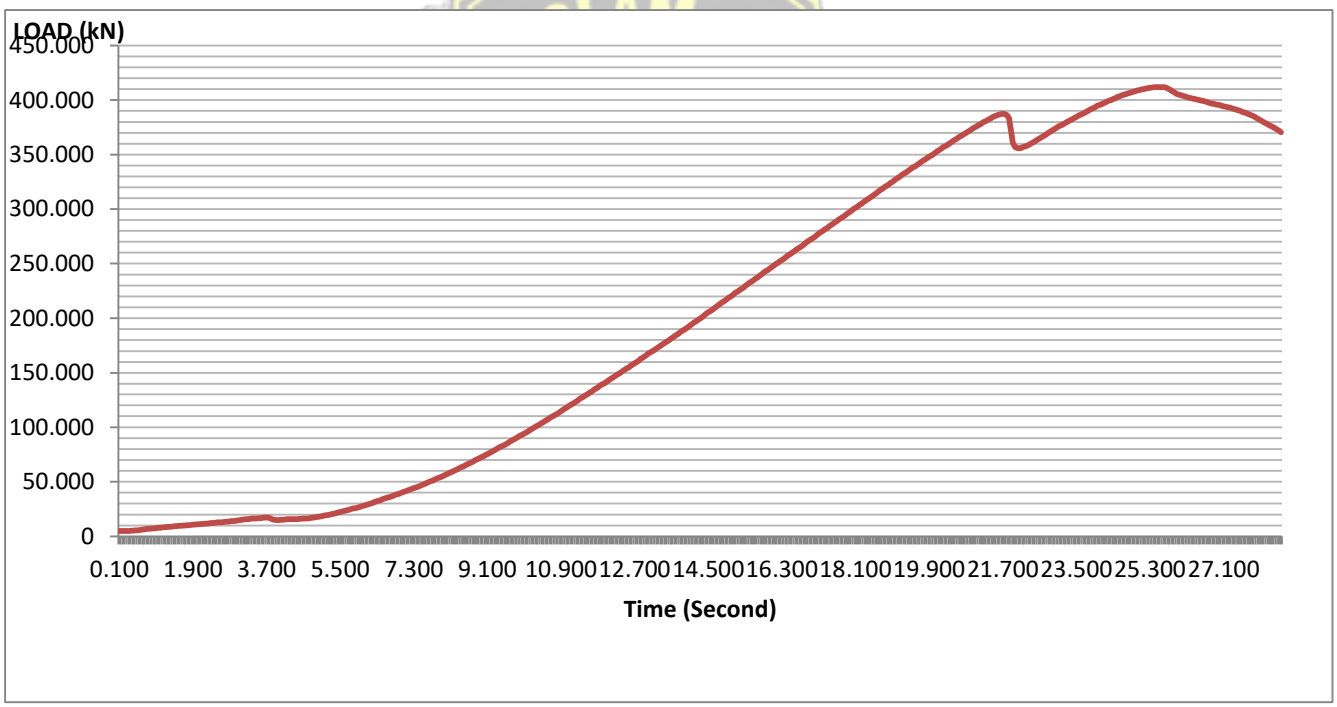
THESIS

S1 ME 12+ 5 PERSEN

UNI EN 12390-3

DATA				
DATE	01/02/2021		**SPECIMEN**	
LABORATORY	UNISSULA	TYPE		CYLINDER
		DIAMETER	150	mm
		HEIGHT	300	mm
		AREA	17662,5	mm^2

SPEED 500 kN/s



RESULT

SECTION	S	17662,50	mm^2
MAXIMUM LOAD	P	411.879	Kn
STRENGTH	R	23.308	Mpa

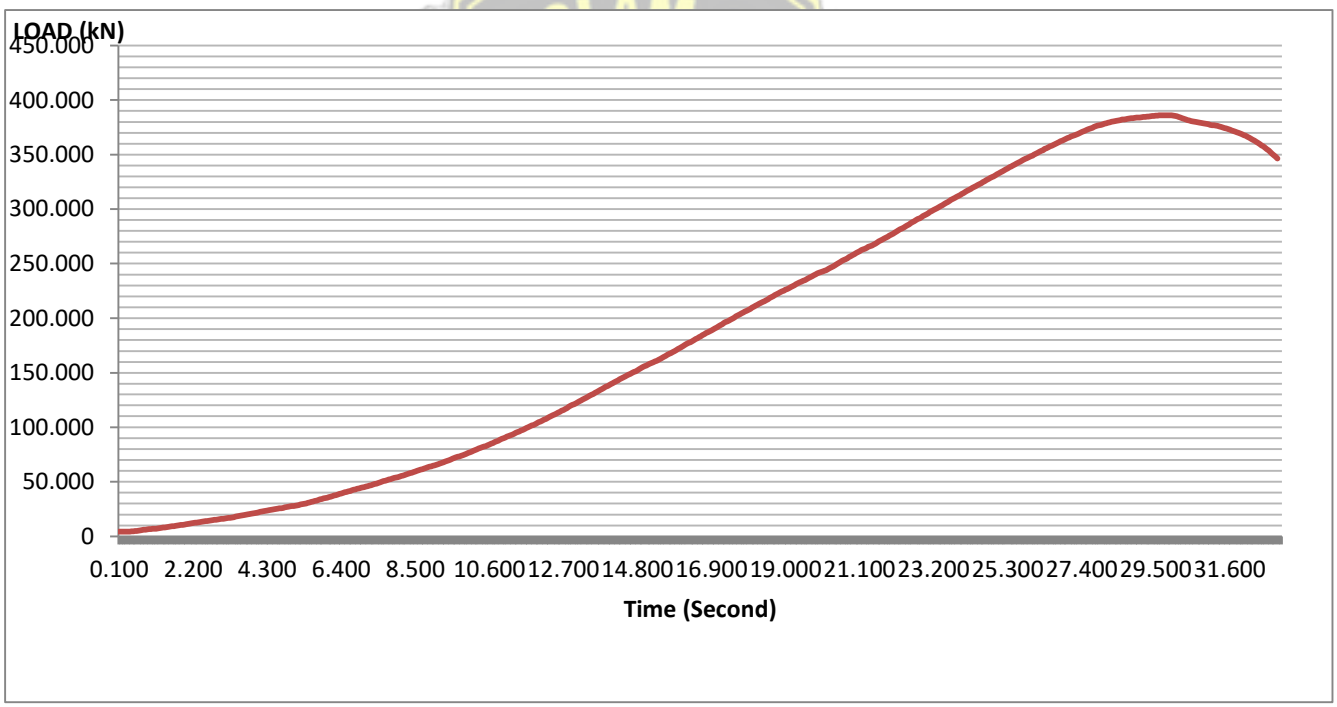
Operator Alfian Responsible Dr. Ir. H. Sumirin, MS

THESIS

S2 ME 3+ 10 PERSEN

UNI EN 12390-3

DATA				
DATE	01/02/2021		**SPECIMEN**	
LABORATORY	UNISSULA	TYPE		CYLINDER
		DIAMETER	150	mm
		HEIGHT	300	mm
		AREA	17662,5	mm^2
SPEED	500 kN/s			



RESULT

SECTION	S	17662,50	mm^2
MAXIMUM LOAD	P	386.006	Kn
STRENGTH	R	21.843	Mpa

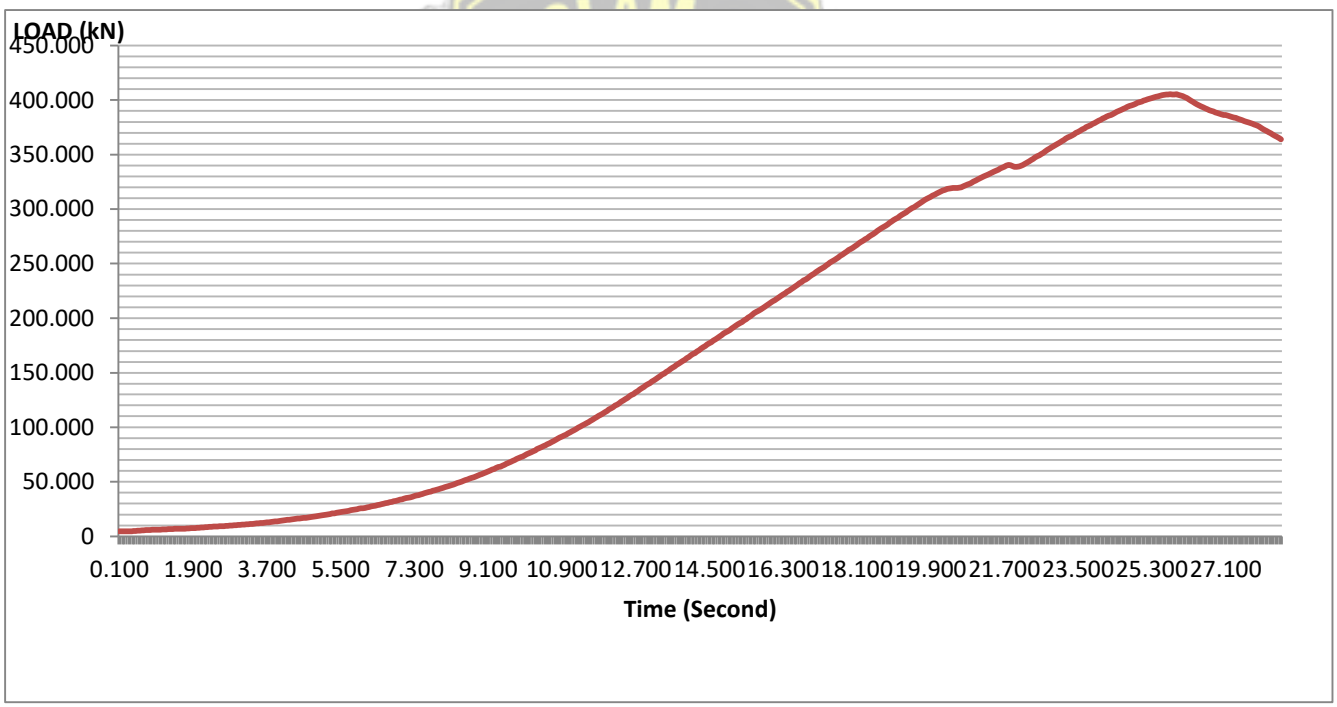
Operator Alfian Responsible Dr. Ir. H. Sumirin, MS

THESIS

S2 ME 7+ 15 PERSEN

UNI EN 12390-3

DATA				
DATE	01/02/2021		**SPECIMEN**	
LABORATORY	UNISSULA	TYPE		CYLINDER
		DIAMETER	150	mm
		HEIGHT	300	mm
		AREA	17662,5	mm^2
SPEED	500 kN/s			



RESULT

SECTION	S	17662,50	mm^2
MAXIMUM LOAD	P	405.207	Kn
STRENGTH	R	22.930	Mpa

Operator Alfian Responsible Dr. Ir. H. Sumirin, MS

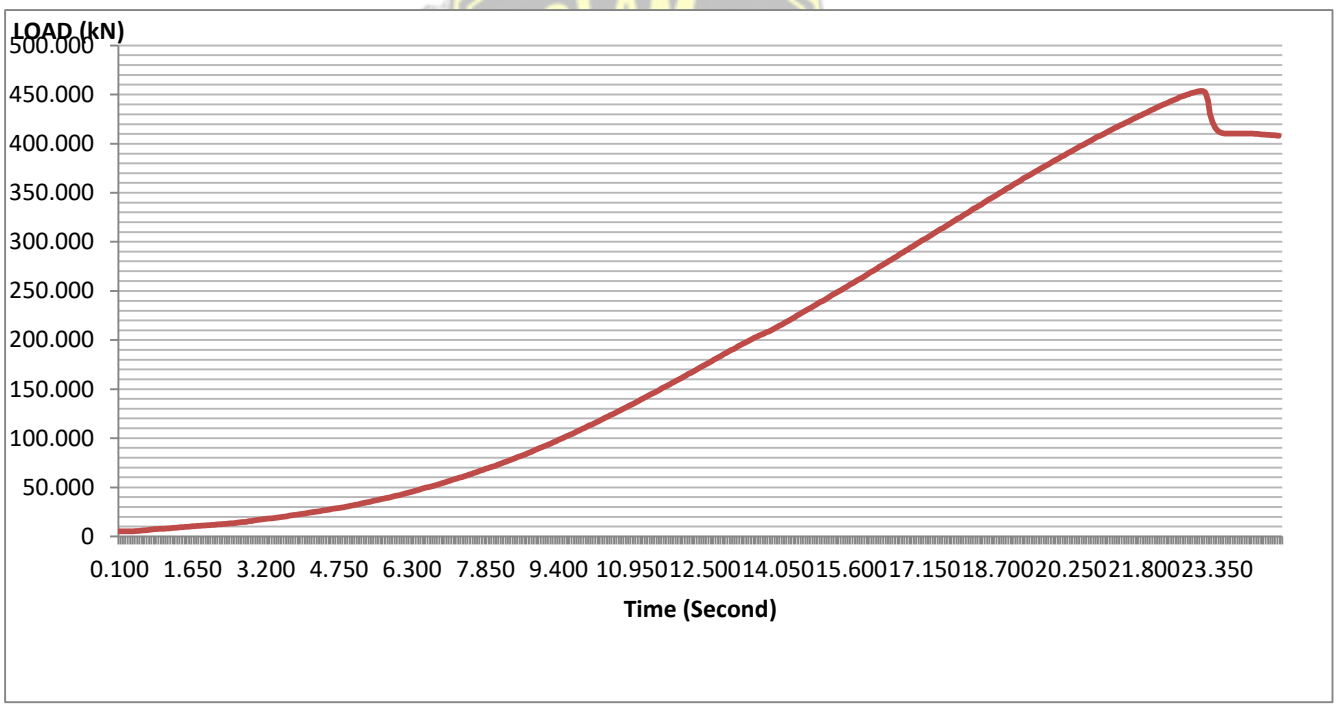
THESIS

S2 ME 25+ 5 PERSEN

UNI EN 12390-3

DATA				
DATE	01/02/2021		**SPECIMEN**	
LABORATORY	UNISSULA	TYPE		CYLINDER
		DIAMETER	150	mm
		HEIGHT	300	mm
		AREA	17662,5	mm^2

SPEED 500 kN/s



RESULT

SECTION	S	17662,50	mm^2
MAXIMUM LOAD	P	453.810	Kn
STRENGTH	R	25.680	Mpa

Operator Alfian Responsible Dr. Ir. H. Sumirin, MS