

## Asian Institute of Technology

Km. 42 Paholyothin Highway, Klong Luang, Pathumthani, Thailand 12120

P.O. Box 4 Klong Luang, Pathumthani 12120, Thailand. Tel. (66-2) 524-5527, 524-6427

**STRUCTURAL ENGINEERING LABORATORY**  
**STRUCTURAL ENGINEERING FIELD OF STUDY**  
**SCHOOL OF ENGINEERING AND TECHNOLOGY**

**TYPE OF TEST:** COMPRESSION TEST

**TEST SPECIMEN:** One (1) specimens of "Tower frame with vertical and horizontal elements" with the dimension of 1.8 x 1.8 x 2.75 m., Include Ø48 2.5 m, Vertical x 4 pcs and Ø48 1.8 m, Horizontal x 12 pcs and Ø48 U-Head x 4 pcs and Ø48 Base x 4 pcs, was given by client.

**CLIENT:** CT HORIZON (THAILAND) CO., LTD.

**DATE OF TEST:** October 12, 2024

**TEST RESULTS:**

Specimen No.	Applied Load (Ton)	Deformation of Specimen (mm)						Remark
		D1	D2	D3	D4	D5	D6	
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	1.02	0.60	-0.81	-2.33	-0.13	0.43	-2.00	
	2.12	0.57	-0.77	-3.04	-0.13	0.50	-3.43	
	3.53	0.87	-0.68	-3.07	-0.11	-0.64	-3.97	
	4.09	0.98	-0.73	-3.05	-0.11	-0.76	-3.97	
	5.23	1.22	-1.10	-2.66	-0.11	-1.30	-4.02	
	6.21	1.36	-1.12	-2.35	-0.11	-2.51	-4.25	
	7.02	1.51	-1.12	-2.12	-0.11	-3.06	-4.32	
	8.09	1.76	-1.64	-1.35	-0.12	-4.23	-5.01	
	9.39	2.01	-1.98	-0.90	-0.12	-5.31	-5.78	
	10.30	2.15	-3.76	0.64	-0.12	-5.87	-6.05	
	10.99	2.28	-4.30	1.21	-0.12	-6.58	-6.58	
	12.36	2.24	-5.83	2.61	1.44	-8.17	-7.62	
	13.15	2.39	-7.11	3.86	1.44	-9.96	-9.08	
	14.09	2.47	-9.16	5.49	1.44	-11.37	-10.19	
	15.27	2.62	-11.17	7.47	-	-13.75	-12.00	
	16.08	2.61	-13.01	9.14	-	-15.79	-13.50	
17.07	2.73	-15.27	11.16	-	-18.48	-15.44		
18.35	3.16	-20.59	15.61	-	-23.96	-19.54		
19.13	3.40	-24.95	19.43	-	-	-		
20.11	4.02	-	25.13	-	-	-	Maximum Load	

**Note :** 1) Displacement transducers relocated out of their measurable positions as a result of large lateral deformation of the specimen.

2) This report certifies the adequacy and representative character of the test sample(s) only.

TESTED BY:



**MR. RUNGROJ JANGJIT**  
TECHNICIAN

CHECKED & APPROVED BY:



**DR. ANAWAT CHOTESUWAN**  
SENIOR LABORATORY SUPERVISOR  
October 24, 2024

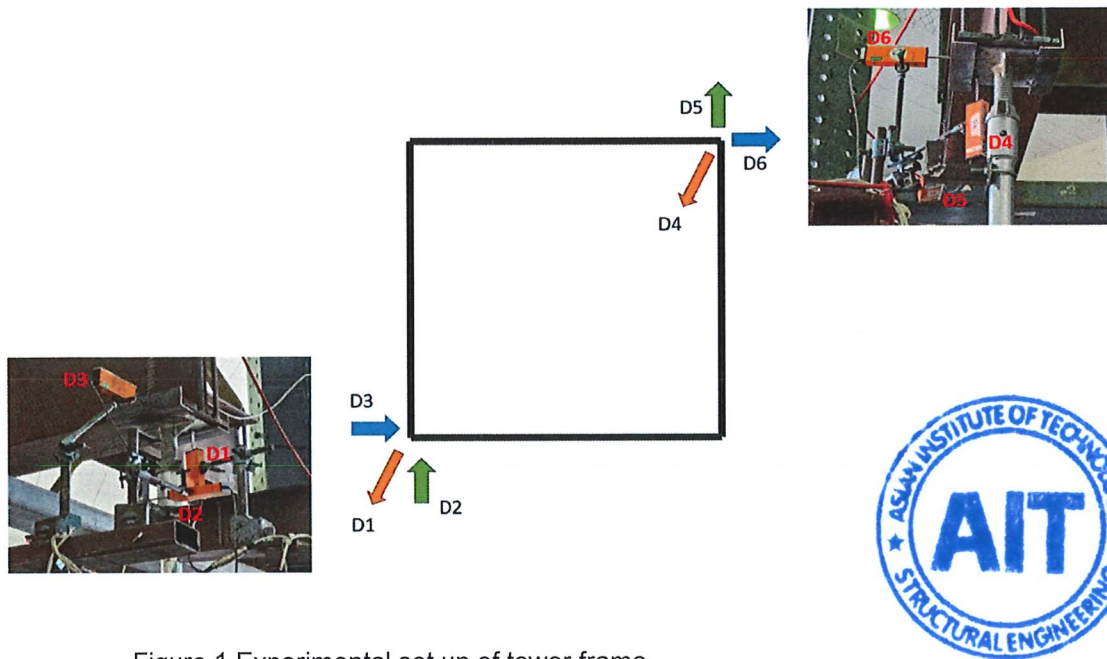


Figure 1 Experimental set up of tower frame



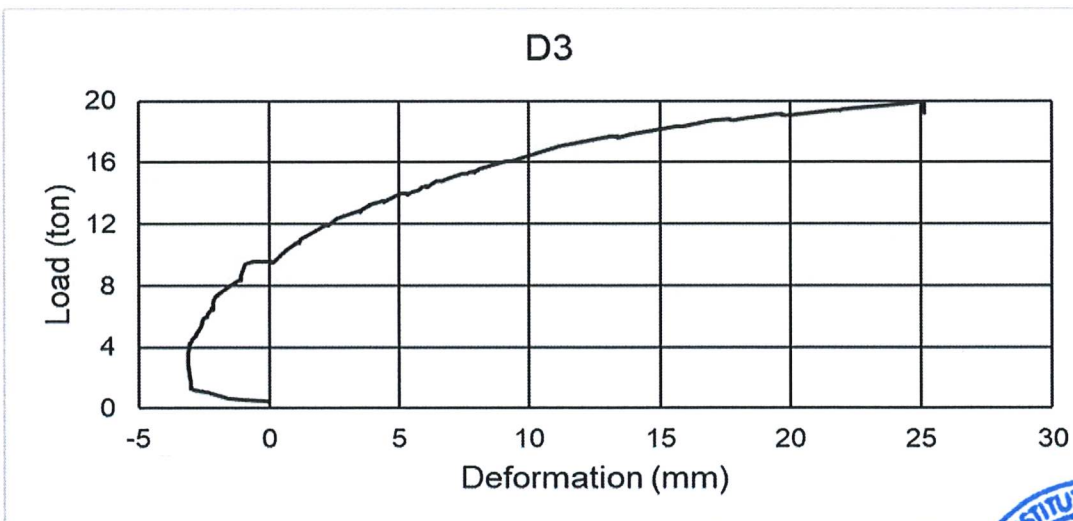
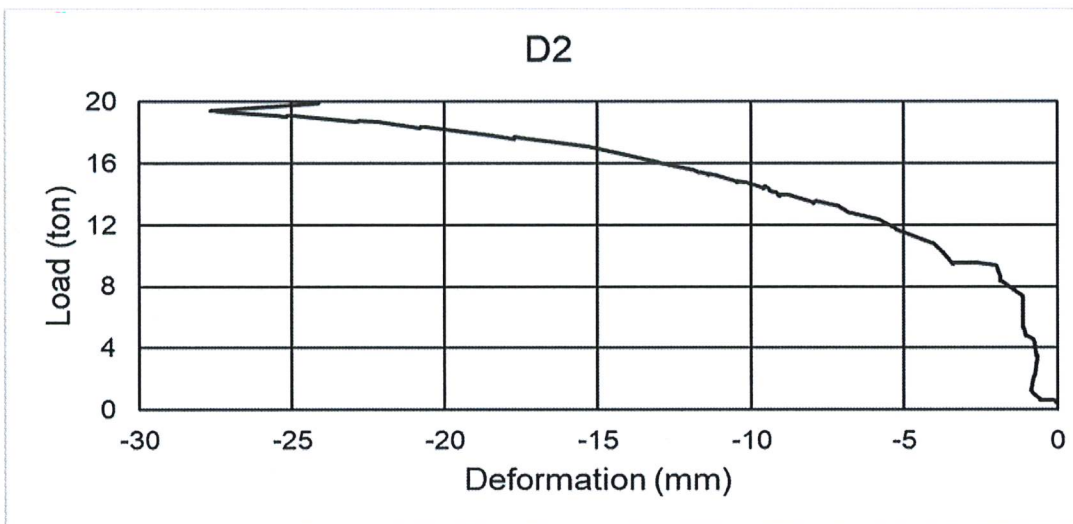
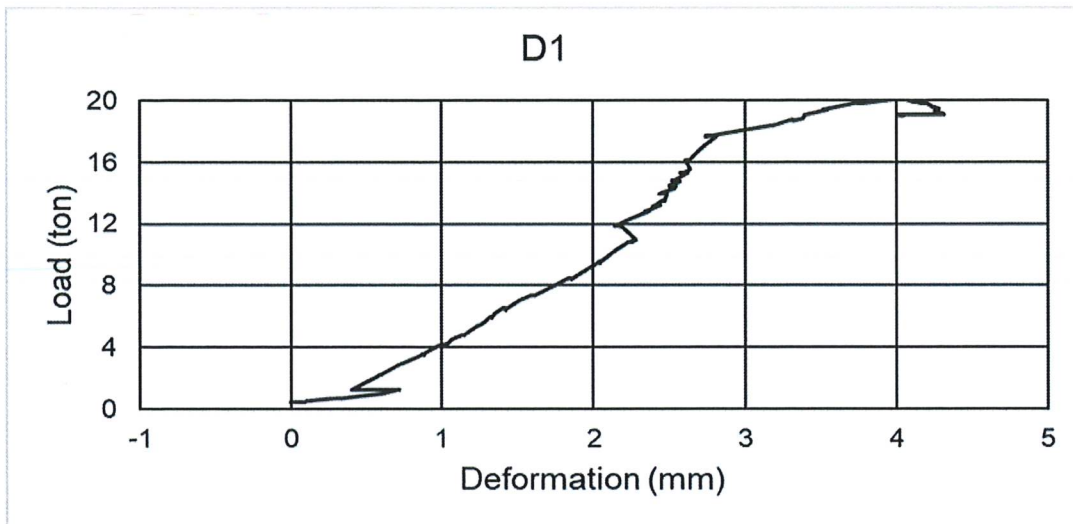


Figure 2 Relationship between applied load and deformation of specimen



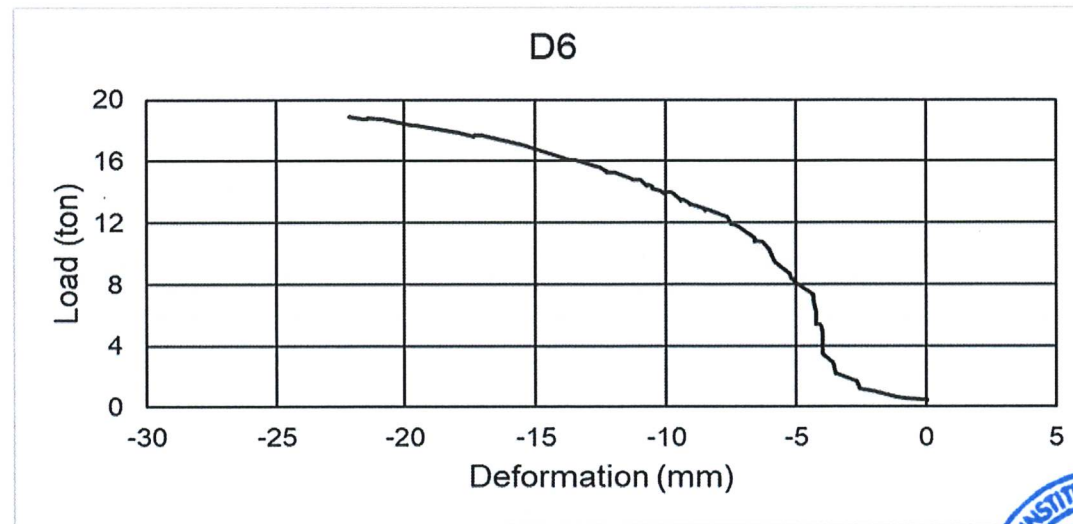
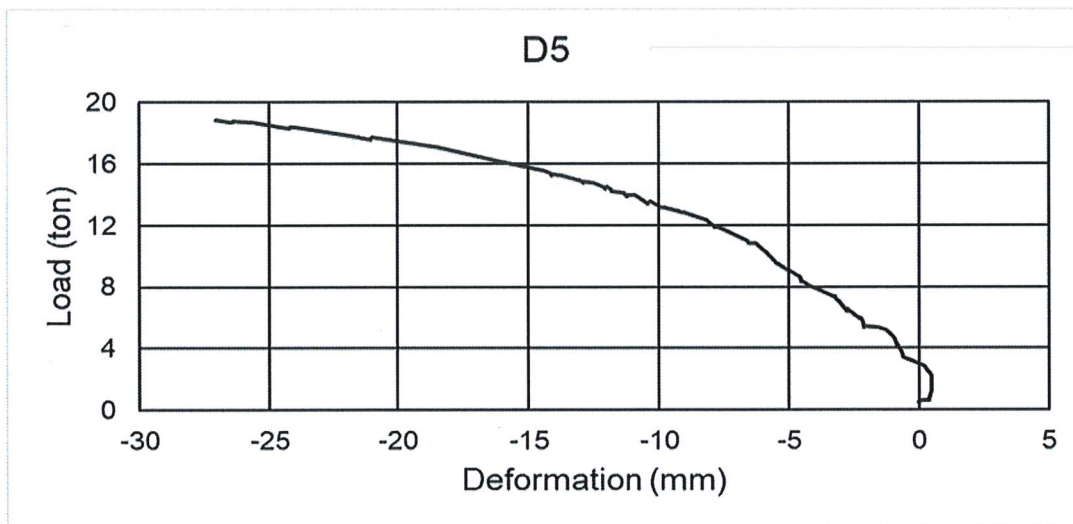
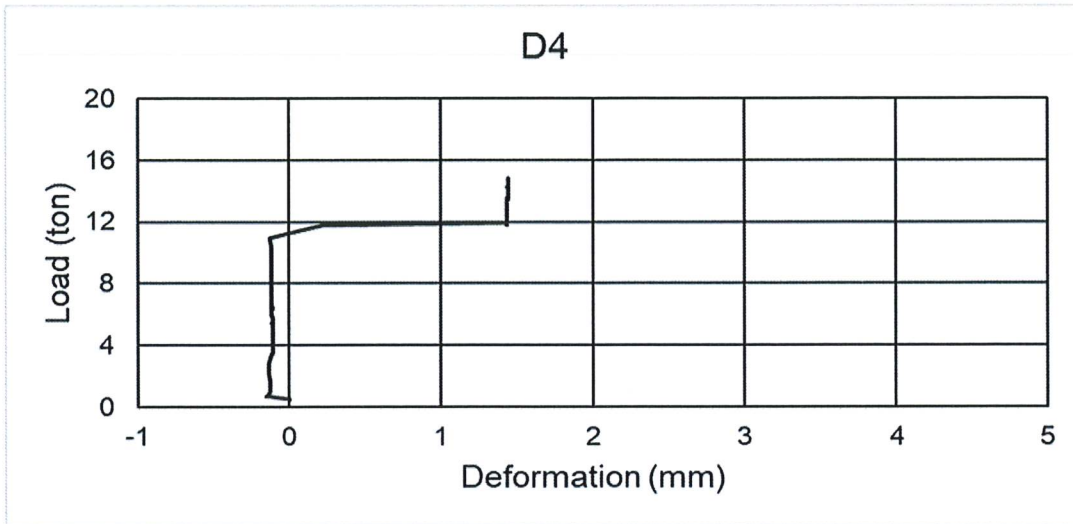


Figure 3 Relationship between applied load and deformation of specimen





Figure 4 Specimen condition at maximum load



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### STRUCTURAL ENGINEERING LABORATORY STRUCTURAL ENGINEERING FIELD OF STUDY SCHOOL OF ENGINEERING AND TECHNOLOGY

**TYPE OF TEST:** COMPRESSION TEST

**TEST SPECIMEN:** One (1) specimens of "Tower frame with diagonal bracing" with the dimension of 1.8 x 1.8 x 2.75 m, Include Ø48 2.5 m, Vertical x 4 pcs and Ø48 1.8 m, Horizontal x 12 pcs and Ø33 Diagonal 0.9 x 2.0 m, x 4 pcs and Ø48 U-Head x 4 pcs and Ø48 Base x 4 pcs, was given by client.

**CLIENT:** CT HORIZON (THAILAND) CO., LTD.

**DATE OF TEST:** October 12, 2024

**TEST RESULTS:**

Specimen No.	Applied Load (Ton)	Deformation of Specimen (mm)						Remark
		D1	D2	D3	D4	D5	D6	
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	2.02	0.95	1.46	-0.66	0.26	-1.78	-0.05	
	4.06	1.40	1.48	-0.68	0.77	-1.81	0.33	
	6.05	1.70	1.49	-0.68	1.25	-1.82	0.43	
	8.35	1.93	1.49	-0.68	1.50	-1.78	2.10	
	10.52	2.15	1.25	-0.68	1.82	-1.77	2.10	
	12.15	2.30	0.92	-0.68	2.05	-1.77	2.09	
	14.21	2.49	0.65	-0.68	2.35	-1.77	2.10	
	16.03	2.66	0.43	-0.68	2.60	-1.76	2.10	
	18.31	2.83	0.39	-0.67	2.89	-1.77	2.10	
	20.07	2.98	0.36	-0.57	3.10	-1.76	2.14	
	22.55	3.17	0.36	-0.44	3.33	-1.37	2.20	
	24.05	3.33	0.36	-0.15	3.55	-1.26	2.29	
	26.13	3.49	0.36	-0.04	3.73	-1.22	2.30	
	28.09	3.67	0.36	0.12	3.96	-1.19	2.34	
	30.03	3.86	0.25	0.33	4.07	0.56	2.36	
	32.02	4.12	0.24	0.62	4.25	0.63	2.15	
	33.28	4.34	0.25	0.91	4.37	0.72	1.80	
	34.08	4.48	0.25	1.08	4.47	0.98	1.44	
	36.04	4.85	0.24	1.58	4.88	3.42	0.56	
37.07	5.43	0.14	2.32	5.43	4.19	-0.12	Maximum Load	

- Note :** 1) Displacement transducers relocated out of their measurable positions as a result of large lateral deformation of the specimen.  
2) This report certifies the adequacy and representative character of the test sample(s) only.

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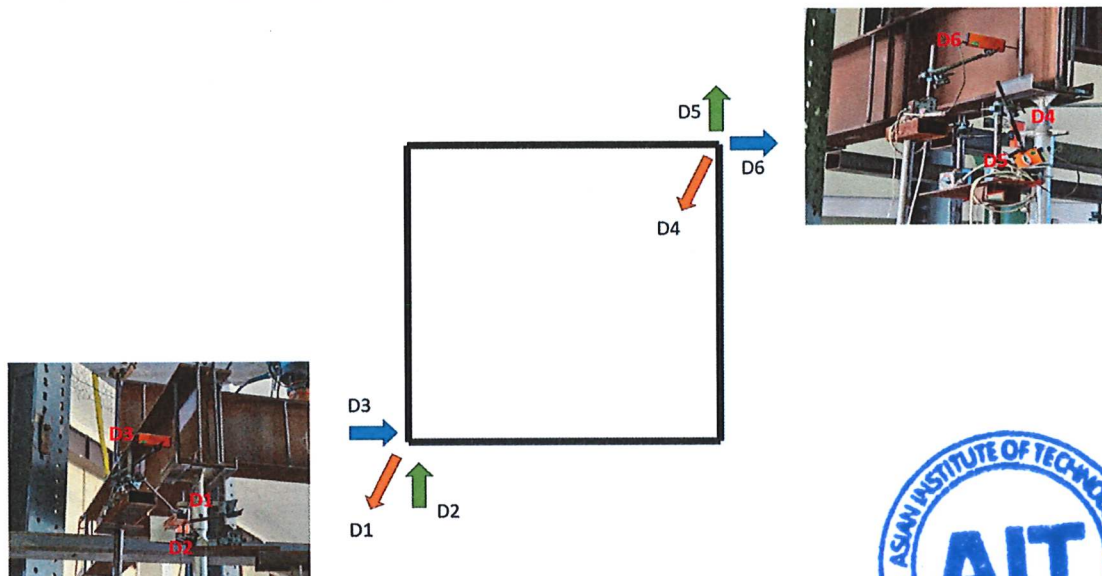
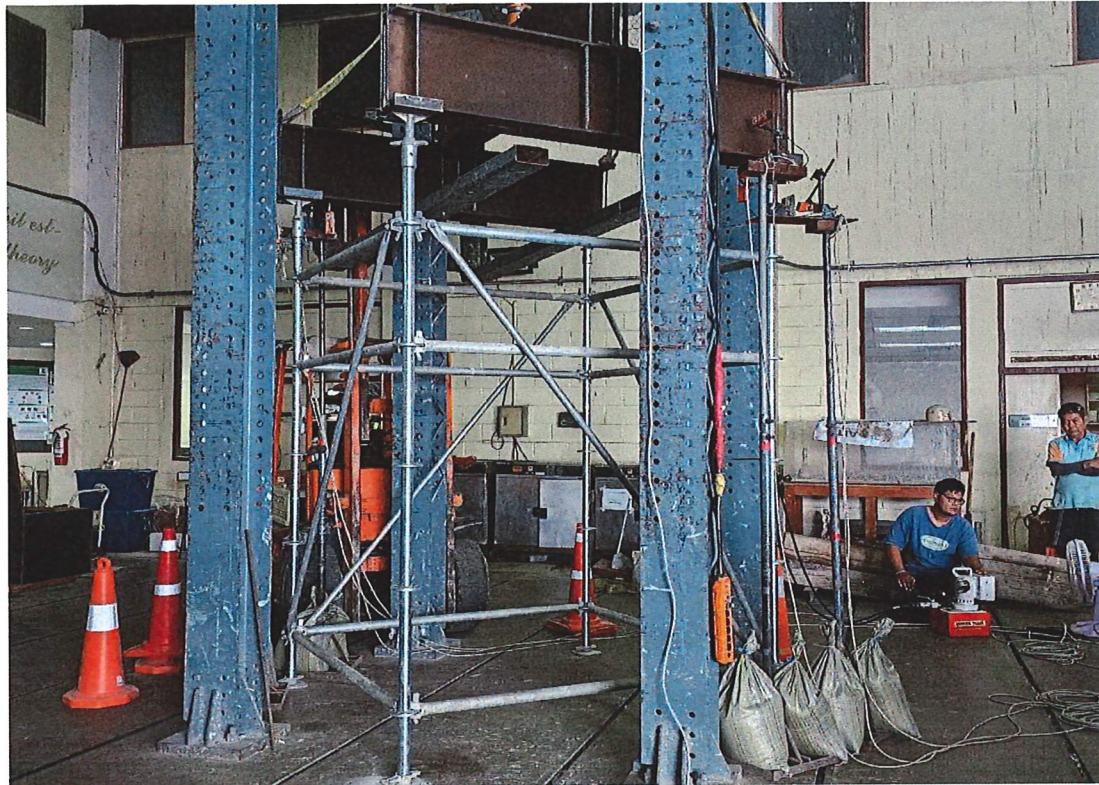


Figure 1 Experimental set up of tower frame



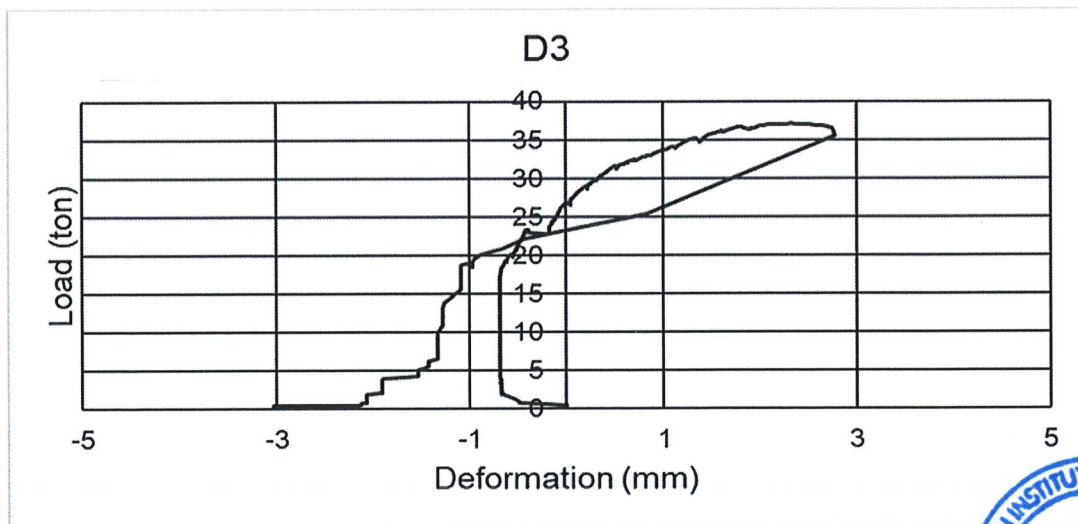
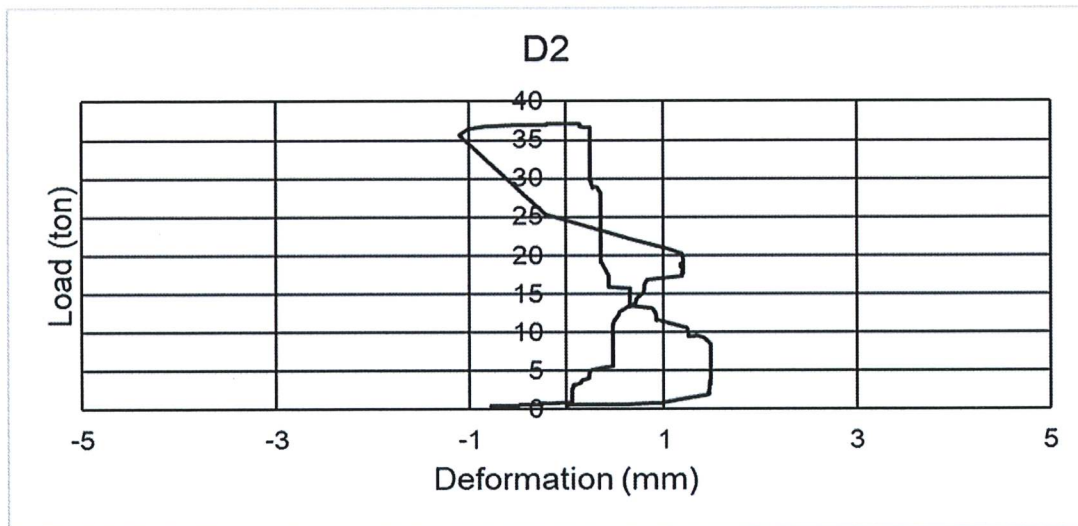
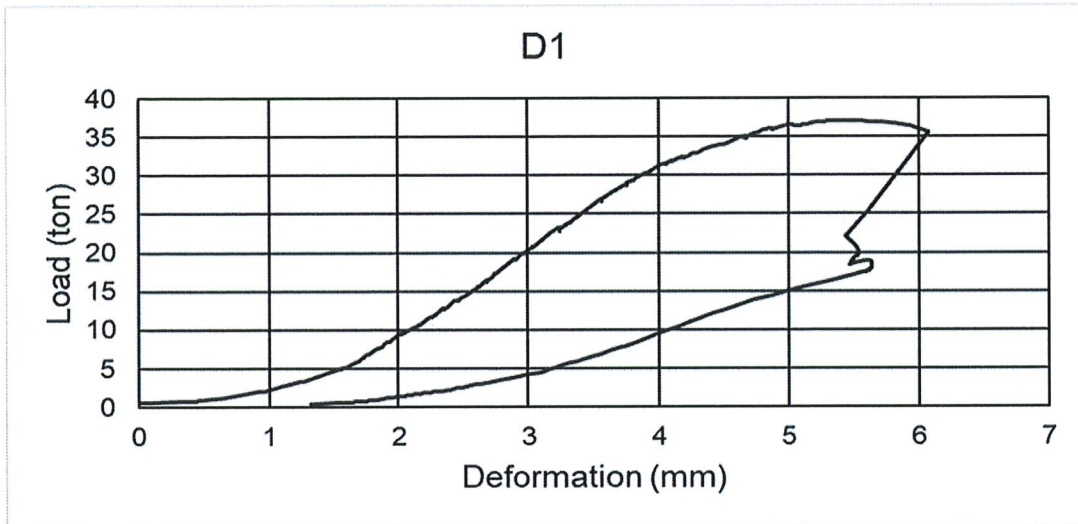


Figure 2 Relationship between applied load and deformation of specimen





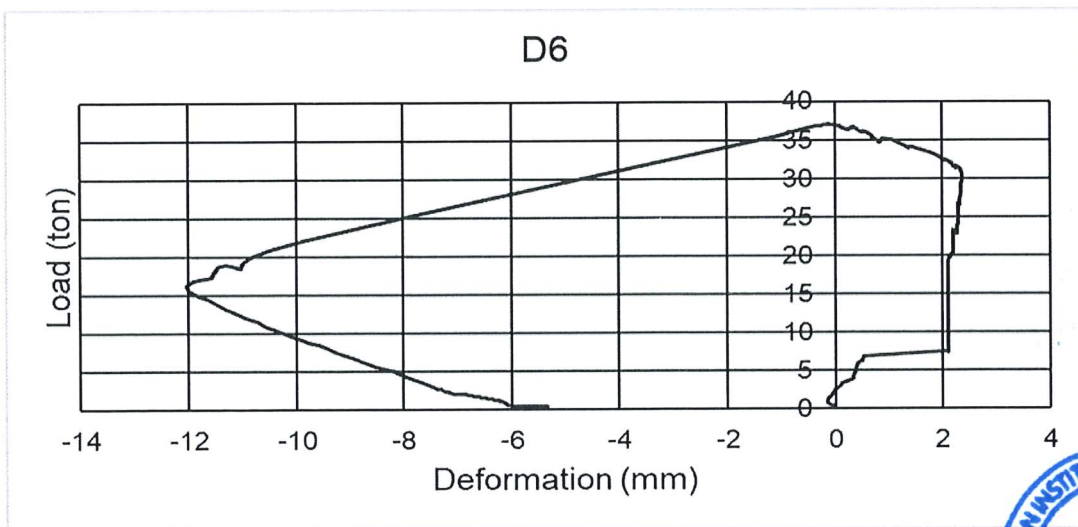
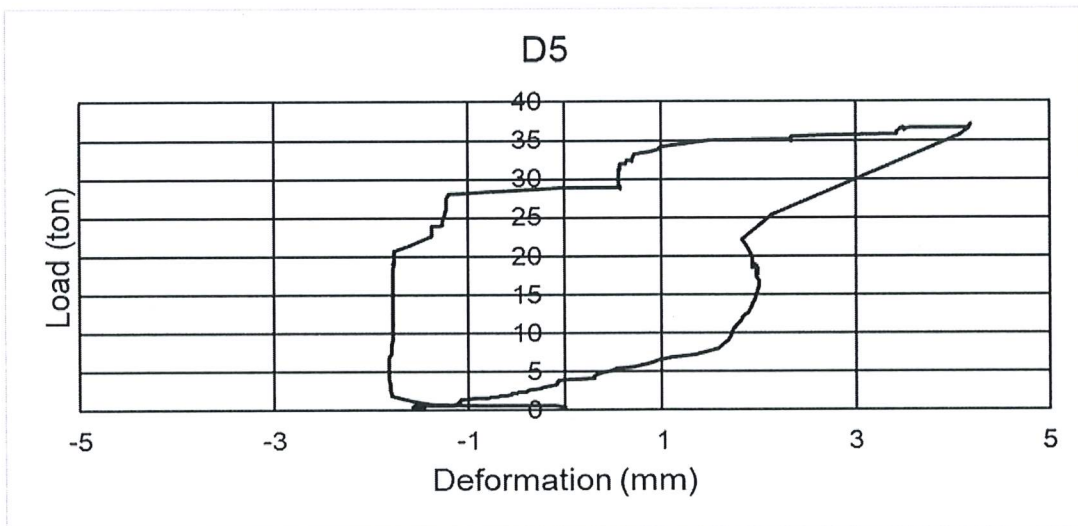
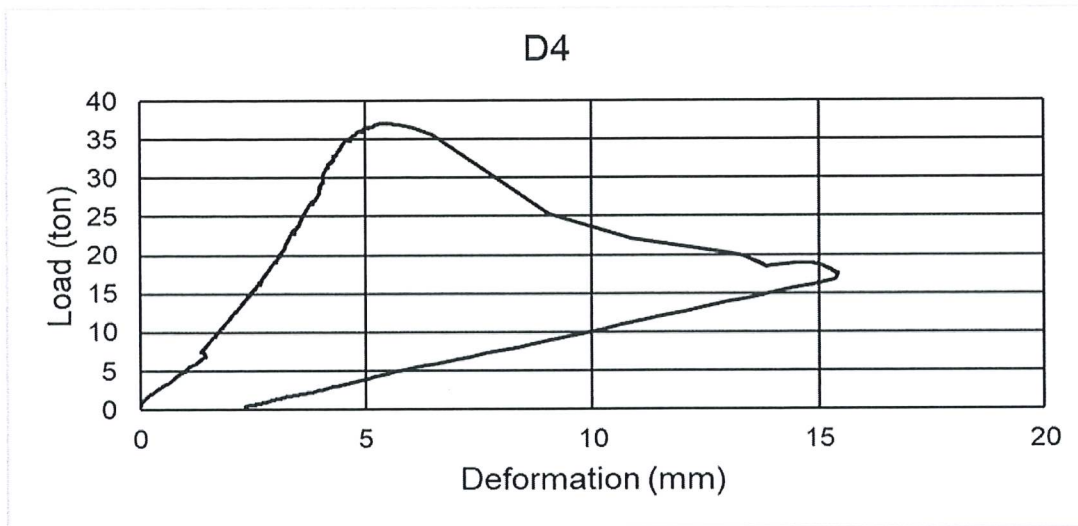


Figure 3 Relationship between applied load and deformation of specimen



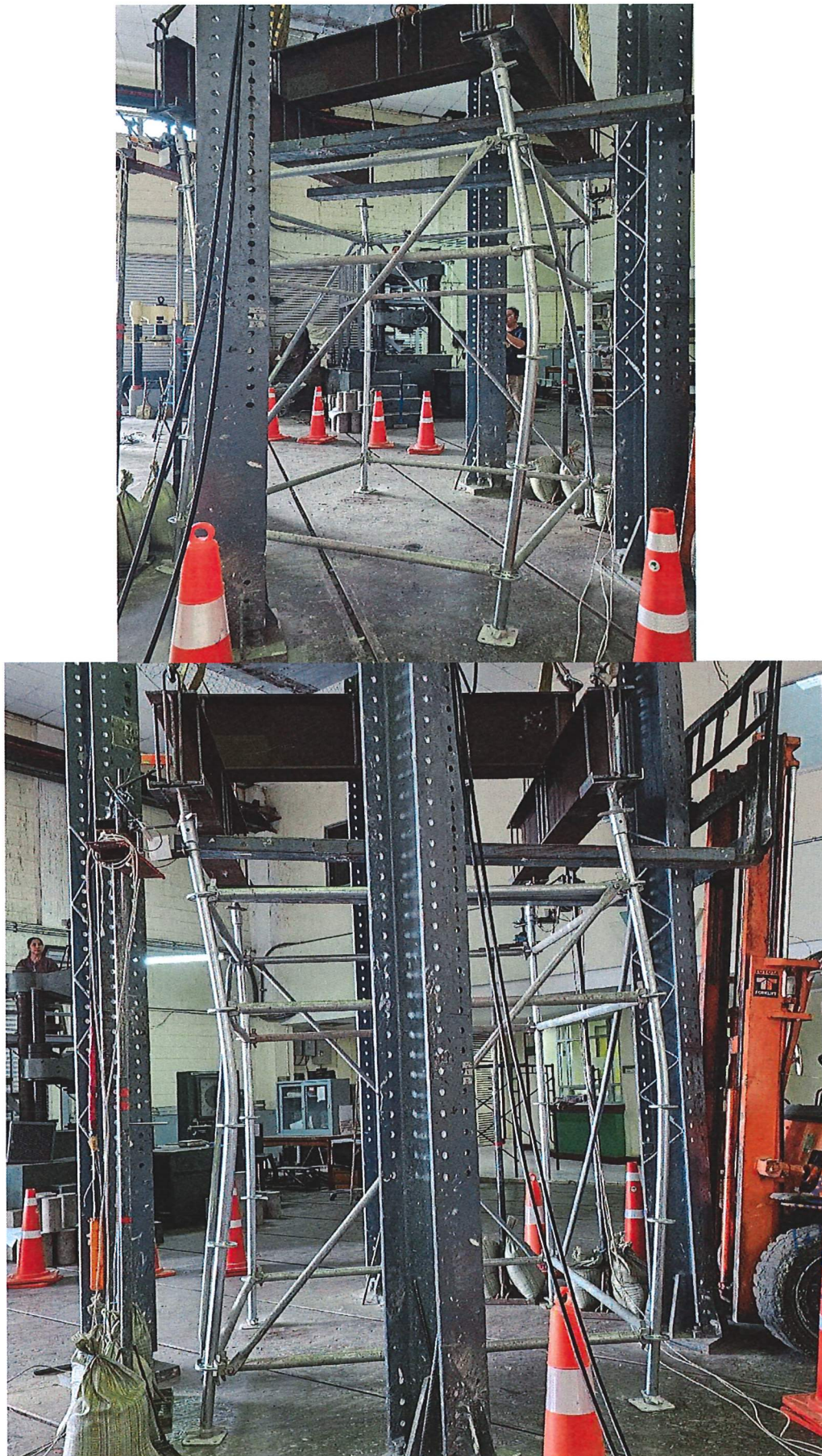


Figure 4 Specimen condition at maximum load