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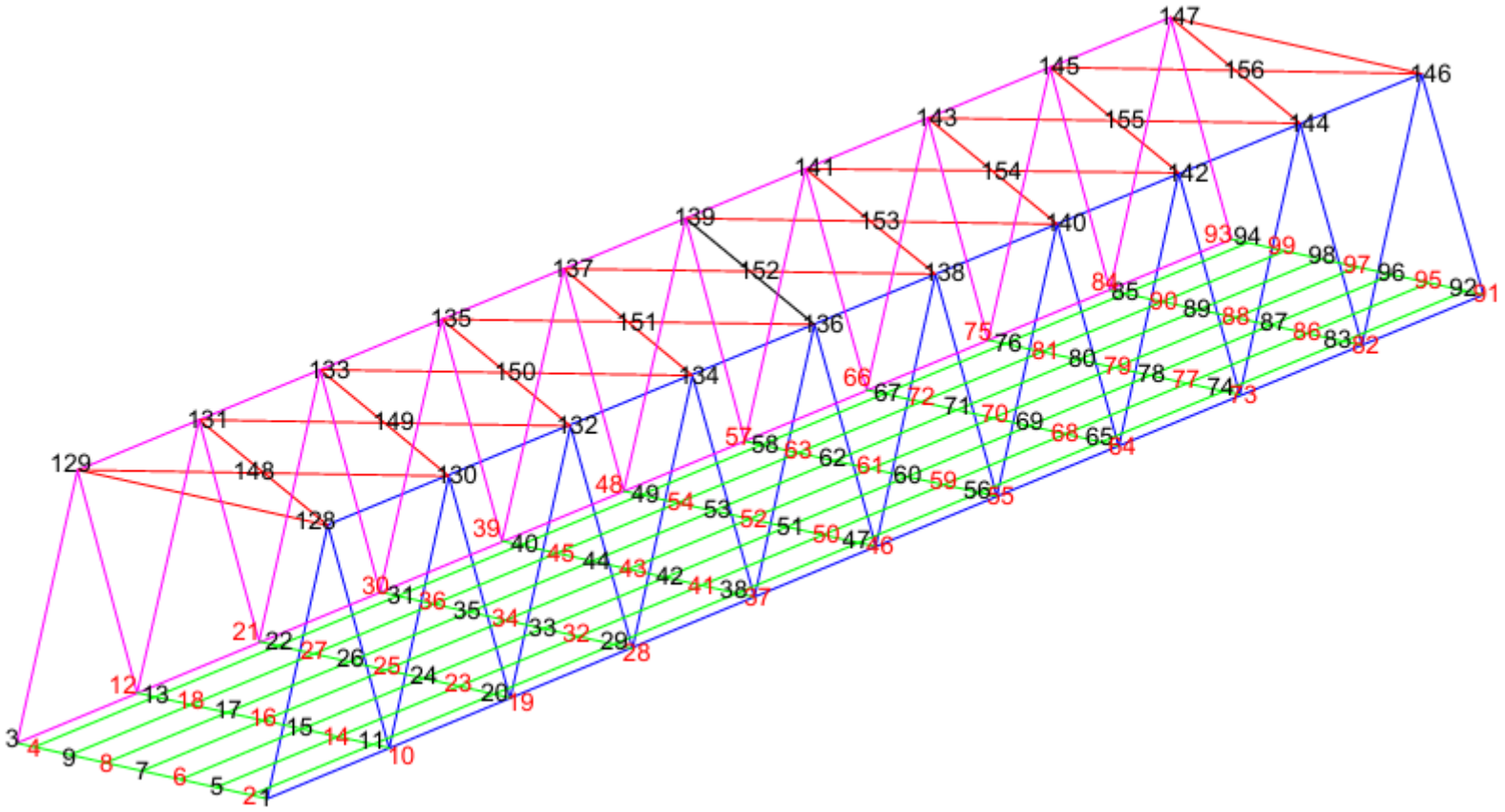
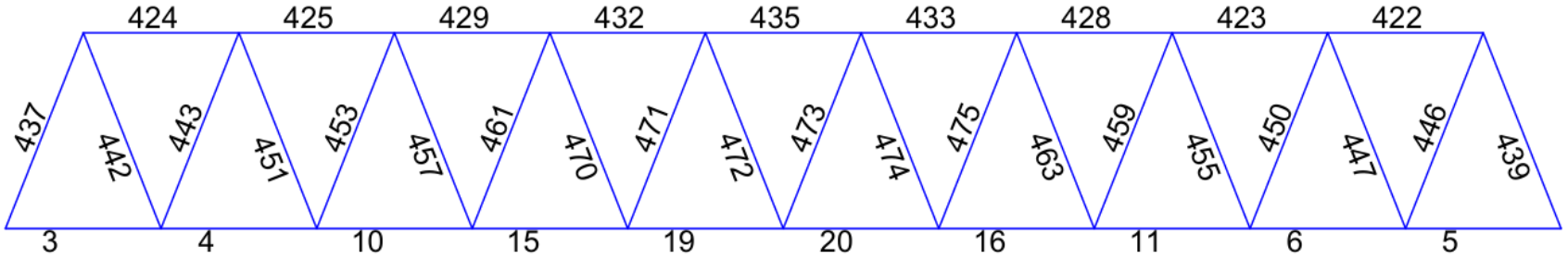
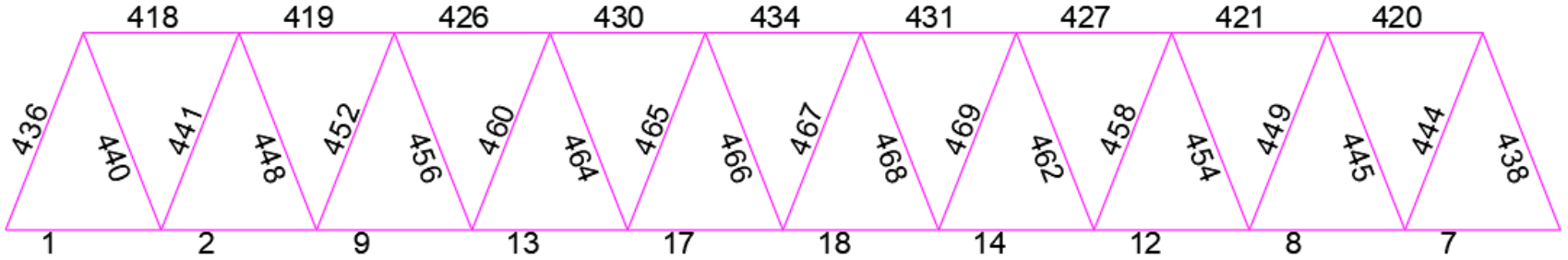
Gambar nomor *nodes* jembatan tipe *Warren*



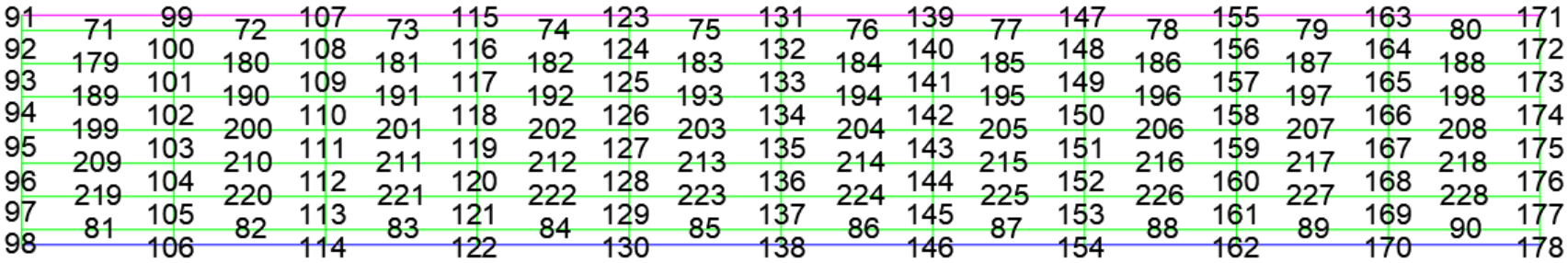
Gambar nomor elemen batang diagonal, batang atas, dan batang bawah jembatan tipe *Warren*



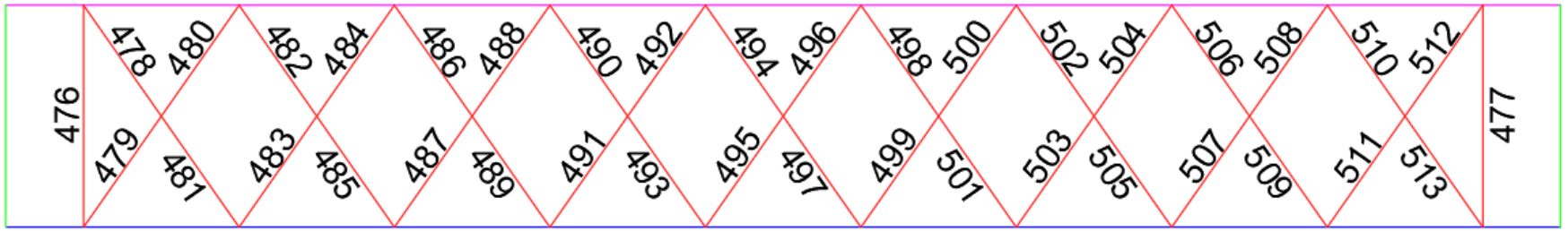
Gambar nomor elemen batang diagonal, batang atas, dan batang bawah jembatan tipe *Warren*



Gambar nomor elemen gelagar memanjang dan melintang jembatan tipe *Warren*



Gambar nomor elemen ikatan angin jembatan tipe *Warren*



Elemen	Load	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Moment-y (kN*m)	Moment-z (kN*m)
1	Envelope(all)	472.16	-10.94	68.46	186.88	-17.44
2	Envelope(all)	1224.79	-11.11	42.96	115.34	-16.71
3	Envelope(all)	473.33	-10.91	-102.79	-257.02	-17.35
4	Envelope(all)	1222.11	-11.09	-50.56	-114.38	-16.66
5	Envelope(all)	434.27	-10.91	92.22	229.93	-17.41
6	Envelope(all)	1195.81	-11.09	47.02	108.68	-16.69
7	Envelope(all)	470.96	-10.94	-64.61	-175.77	-17.47
8	Envelope(all)	1200.16	-11.11	-40.81	-109.75	-16.73
9	Envelope(all)	1857.57	-11.31	36.53	99.49	-12.28
10	Envelope(all)	1852.53	-11.29	-38.35	-98.74	-12.25
11	Envelope(all)	1833.70	-11.29	35.94	92.44	-12.28
12	Envelope(all)	1839.82	-11.31	-34.10	-93.18	-12.30
13	Envelope(all)	2268.30	-10.72	23.23	65.05	-5.64
14	Envelope(all)	2257.68	-10.72	-20.88	-59.07	-5.66
15	Envelope(all)	2261.75	-10.70	-23.14	-64.65	-5.65
16	Envelope(all)	2250.51	-10.71	21.37	58.71	-5.67
17	Envelope(all)	2467.90	-9.19	10.09	35.09	12.19
18	Envelope(all)	2464.10	-7.24	-7.73	-13.87	17.42
19	Envelope(all)	2460.50	-9.18	-10.01	-31.37	12.15
20	Envelope(all)	2456.50	-7.24	7.71	25.73	17.36
71	Envelope(all)	134.19	-2.42	-1.86	-0.58	-6.14
72	Envelope(all)	400.42	-2.02	-2.57	2.95	-5.29
73	Envelope(all)	503.33	-1.45	-2.17	6.21	-3.85
74	Envelope(all)	572.43	-0.92	-2.15	7.04	-2.51

75	Envelope(all)	599.91	-0.39	-2.13	7.66	-1.18
76	Envelope(all)	599.13	0.28	-1.96	8.08	0.49
77	Envelope(all)	569.96	0.81	-1.89	7.72	1.80
78	Envelope(all)	499.01	1.34	-1.80	7.24	3.13
79	Envelope(all)	392.89	1.90	-1.26	6.58	4.50
80	Envelope(all)	127.87	2.28	-1.06	3.40	5.62
81	Envelope(all)	156.18	3.86	-1.86	-0.58	9.65
82	Envelope(all)	399.91	2.58	-2.57	2.94	6.53
83	Envelope(all)	501.87	1.63	-2.17	6.19	4.17
84	Envelope(all)	570.38	0.97	-2.15	7.02	2.52
85	Envelope(all)	597.57	0.38	-2.13	7.64	1.17
86	Envelope(all)	596.69	-0.29	-1.96	8.06	-0.62
87	Envelope(all)	567.62	-0.86	-1.89	7.70	-2.06
88	Envelope(all)	496.99	-1.50	-1.80	7.22	-3.66
89	Envelope(all)	391.44	-2.35	-1.26	6.56	-5.80
90	Envelope(all)	127.65	-3.44	-1.14	3.39	-8.63
91	Envelope(all)	-3.89	130.42	-210.14	-129.27	99.04
92	Envelope(all)	-3.80	65.35	-222.82	91.19	-40.78
93	Envelope(all)	-3.20	14.38	-243.57	292.22	-43.16
94	Envelope(all)	-2.00	-6.84	-121.95	413.78	-42.70
95	Envelope(all)	-1.28	-5.85	-139.10	484.87	-42.11
96	Envelope(all)	2.37	-28.84	71.33	413.88	-44.51
97	Envelope(all)	5.12	-101.62	168.52	311.81	-33.62
98	Envelope(all)	7.05	-178.14	207.17	177.53	91.44
99	Envelope(all)	25.15	210.51	-258.39	-123.76	145.41

100	Envelope(all)	25.37	76.74	-285.33	62.45	46.90
101	Envelope(all)	25.53	12.33	-274.04	300.30	-44.96
102	Envelope(all)	25.61	-10.14	-129.65	439.91	-39.60
103	Envelope(all)	25.61	-9.75	-145.14	516.45	-38.98
104	Envelope(all)	25.52	-28.85	75.67	439.62	-42.64
105	Envelope(all)	25.36	-98.96	179.30	304.11	-36.86
106	Envelope(all)	25.13	-212.81	253.90	114.10	81.56
107	Envelope(all)	13.82	124.67	-251.94	-52.03	104.62
108	Envelope(all)	14.12	67.81	-279.51	68.40	46.83
109	Envelope(all)	14.42	13.89	-270.19	301.07	-34.59
110	Envelope(all)	14.55	-8.32	-127.55	437.56	-34.27
111	Envelope(all)	14.55	-8.31	-146.18	513.02	-33.22
112	Envelope(all)	14.42	-25.24	74.37	437.05	-36.19
113	Envelope(all)	14.12	-70.61	173.69	304.46	-26.92
114	Envelope(all)	13.82	-123.78	247.64	72.89	61.64
115	Envelope(all)	15.59	90.16	-252.38	-45.18	76.78
116	Envelope(all)	15.88	48.30	-279.80	76.16	34.93
117	Envelope(all)	16.23	12.34	-270.31	308.92	-23.16
118	Envelope(all)	16.41	-6.07	-127.65	445.40	-25.55
119	Envelope(all)	16.41	-7.11	-146.62	520.78	-24.74
120	Envelope(all)	16.24	-18.52	74.98	444.82	-26.30
121	Envelope(all)	15.88	-47.95	174.05	312.14	-17.80
122	Envelope(all)	15.60	-89.51	248.15	80.41	41.00
123	Envelope(all)	14.78	49.91	-252.27	-41.05	42.94
124	Envelope(all)	15.06	26.98	-279.72	81.50	19.98

125	Envelope(all)	15.45	8.05	-270.27	313.06	-12.69
126	Envelope(all)	15.66	-3.76	-127.65	449.40	-14.70
127	Envelope(all)	15.66	-4.96	-146.78	524.78	-14.04
128	Envelope(all)	15.45	-10.72	75.21	448.78	-14.67
129	Envelope(all)	15.07	-26.77	173.99	316.22	-9.63
130	Envelope(all)	14.79	-49.55	248.08	84.65	21.94
131	Envelope(all)	14.63	14.11	-251.61	-40.87	9.64
132	Envelope(all)	14.91	4.82	-279.13	83.53	3.25
133	Envelope(all)	15.30	2.49	-269.93	312.35	-3.19
134	Envelope(all)	15.52	-1.39	-127.53	448.35	-3.07
135	Envelope(all)	15.52	-2.14	-146.94	523.64	-2.32
136	Envelope(all)	15.31	-2.63	75.01	447.71	-2.54
137	Envelope(all)	14.92	-4.79	173.42	315.48	3.03
138	Envelope(all)	14.64	-14.03	247.43	84.50	3.06
139	Envelope(all)	14.77	-46.19	-252.28	-41.12	-36.90
140	Envelope(all)	15.06	-22.41	-279.73	82.44	-15.78
141	Envelope(all)	15.44	-5.19	-270.29	313.13	9.21
142	Envelope(all)	15.65	1.90	-127.67	449.41	10.48
143	Envelope(all)	15.65	1.61	-146.86	524.78	9.89
144	Envelope(all)	15.45	6.88	75.30	448.78	11.40
145	Envelope(all)	15.07	22.26	174.01	316.27	9.25
146	Envelope(all)	14.79	45.99	248.10	84.71	-17.12
147	Envelope(all)	15.54	-86.39	-252.44	-45.43	-70.66
148	Envelope(all)	15.83	-43.61	-279.86	76.46	-30.70
149	Envelope(all)	16.18	-9.32	-270.37	309.10	19.40

150	Envelope(all)	16.36	4.23	-127.71	445.44	21.10
151	Envelope(all)	16.36	3.76	-146.83	520.76	20.56
152	Envelope(all)	16.19	14.18	75.22	444.82	22.95
153	Envelope(all)	15.84	43.28	174.13	312.26	17.33
154	Envelope(all)	15.55	85.90	248.24	80.62	-35.23
155	Envelope(all)	13.92	-121.18	-251.93	-52.43	-98.55
156	Envelope(all)	14.22	-62.86	-279.51	68.94	-42.42
157	Envelope(all)	14.51	-10.96	-270.23	301.28	30.63
158	Envelope(all)	14.65	6.66	-127.66	437.67	30.11
159	Envelope(all)	14.65	5.28	-146.60	513.03	29.01
160	Envelope(all)	14.51	20.35	74.81	437.09	32.72
161	Envelope(all)	14.23	65.22	173.76	304.51	26.30
162	Envelope(all)	13.93	120.42	247.71	73.21	-53.77
163	Envelope(all)	24.19	-204.40	-257.92	-104.91	-138.16
164	Envelope(all)	24.40	-71.32	-284.85	61.16	-42.27
165	Envelope(all)	24.56	10.16	-273.53	299.67	41.26
166	Envelope(all)	24.64	8.68	-128.70	439.84	35.94
167	Envelope(all)	24.63	7.20	-145.43	516.56	34.79
168	Envelope(all)	24.55	24.02	76.29	439.33	39.06
169	Envelope(all)	24.39	89.20	179.02	303.06	35.74
170	Envelope(all)	24.19	203.78	253.62	97.77	-70.59
171	Envelope(all)	-3.24	-123.37	-209.45	-106.96	-93.05
172	Envelope(all)	-3.29	-61.50	-222.14	88.35	-35.29
173	Envelope(all)	-2.82	-12.21	-242.89	290.12	40.59
174	Envelope(all)	-1.78	6.18	-115.71	412.36	39.36

175	Envelope(all)	-1.18	4.14	-136.97	483.38	37.96
176	Envelope(all)	2.04	25.58	71.51	412.20	41.03
177	Envelope(all)	4.52	91.79	168.07	297.33	32.32
178	Envelope(all)	6.21	153.02	206.72	156.08	-81.23
179	Envelope(all)	102.38	-2.83	-5.15	-0.05	-7.12
180	Envelope(all)	230.39	-2.51	-7.66	18.15	-6.49
181	Envelope(all)	335.84	-1.95	-7.29	26.85	-5.14
182	Envelope(all)	404.56	-1.27	-7.23	29.53	-3.47
183	Envelope(all)	438.26	-0.53	-7.23	31.13	-1.63
184	Envelope(all)	437.87	0.35	-6.79	32.20	0.62
185	Envelope(all)	403.45	1.09	-6.64	31.11	2.45
186	Envelope(all)	334.25	1.77	-6.34	29.50	4.19
187	Envelope(all)	229.00	2.33	-5.00	26.79	5.63
188	Envelope(all)	102.80	2.62	-2.38	18.06	6.50
189	Envelope(all)	27.36	2.63	-6.18	-0.06	6.57
190	Envelope(all)	49.98	1.37	-9.10	23.33	-3.42
191	Envelope(all)	75.78	-1.07	-9.14	31.70	-2.80
192	Envelope(all)	96.28	-0.71	-9.04	34.65	-1.93
193	Envelope(all)	107.73	-0.30	-9.03	36.23	-0.93
194	Envelope(all)	107.85	0.21	-8.62	37.24	0.39
195	Envelope(all)	96.71	0.65	-8.47	36.21	1.47
196	Envelope(all)	76.53	1.03	-8.10	34.62	2.45
197	Envelope(all)	51.06	1.31	-6.86	31.62	3.20
198	Envelope(all)	28.25	-2.20	3.15	23.25	-5.50
199	Envelope(all)	-5.88	3.70	-6.62	-0.09	9.26

200	Envelope(all)	-9.58	2.39	-9.72	25.47	6.01
201	Envelope(all)	-11.33	1.49	-9.93	33.75	3.75
202	Envelope(all)	-9.57	0.87	-9.80	36.80	2.21
203	Envelope(all)	-6.59	0.36	-9.80	38.36	0.95
204	Envelope(all)	-6.33	-0.17	-9.39	39.35	-0.37
205	Envelope(all)	-8.84	-0.67	-9.24	38.34	-1.63
206	Envelope(all)	-10.24	-1.25	-8.84	36.76	-3.09
207	Envelope(all)	-8.44	-2.09	-7.64	33.67	-5.19
208	Envelope(all)	-5.12	-3.26	3.58	25.39	-8.12
209	Envelope(all)	45.05	4.88	-6.18	-0.06	12.28
210	Envelope(all)	82.30	3.37	-9.10	23.32	8.54
211	Envelope(all)	115.56	2.24	-9.14	31.68	5.75
212	Envelope(all)	137.15	1.36	-9.03	34.64	3.56
213	Envelope(all)	147.26	0.55	-9.03	36.21	1.57
214	Envelope(all)	146.21	-0.29	-8.62	37.22	-0.55
215	Envelope(all)	134.42	-1.09	-8.47	36.19	-2.56
216	Envelope(all)	112.33	-1.93	-8.10	34.60	-4.69
217	Envelope(all)	80.33	-2.97	-6.86	31.61	-7.33
218	Envelope(all)	44.75	-4.28	3.15	23.24	-10.63
219	Envelope(all)	145.92	5.69	-5.14	-0.05	14.30
220	Envelope(all)	285.50	4.04	-7.65	18.13	10.30
221	Envelope(all)	374.35	2.69	-7.28	26.82	6.96
222	Envelope(all)	425.92	1.62	-7.23	29.50	4.30
223	Envelope(all)	448.81	0.64	-7.22	31.10	1.85
224	Envelope(all)	445.53	-0.40	-6.79	32.16	-0.77

225	Envelope(all)	416.24	-1.36	-6.64	31.08	-3.17
226	Envelope(all)	359.24	-2.37	-6.34	29.46	-5.71
227	Envelope(all)	268.37	-3.58	-5.01	26.76	-8.77
228	Envelope(all)	135.71	-5.01	-2.39	18.04	-12.45
329	Envelope(all)	-3.89	130.42	-209.52	-129.22	99.04
330	Envelope(all)	-3.80	65.35	-192.37	96.23	-40.78
331	Envelope(all)	-3.20	14.38	-124.96	307.93	-43.16
332	Envelope(all)	-2.00	-6.84	-87.99	427.91	-42.70
333	Envelope(all)	-1.28	-5.85	68.22	500.58	-42.11
334	Envelope(all)	2.37	-28.84	110.74	428.02	-44.51
335	Envelope(all)	5.12	-101.62	189.70	314.75	-33.62
336	Envelope(all)	7.05	-178.14	207.78	177.58	91.44
337	Envelope(all)	25.15	210.51	-257.16	-123.66	145.41
338	Envelope(all)	25.37	76.74	-224.42	72.54	46.90
339	Envelope(all)	25.53	12.33	-130.16	318.64	-44.96
340	Envelope(all)	25.61	-10.14	-81.86	456.68	-39.60
341	Envelope(all)	25.61	-9.75	74.26	534.79	-38.98
342	Envelope(all)	25.52	-28.85	127.07	456.38	-42.64
343	Envelope(all)	25.36	-98.96	221.67	313.66	-36.86
344	Envelope(all)	25.13	-212.81	255.12	114.21	81.56
345	Envelope(all)	13.82	124.67	-250.71	-51.93	104.62
346	Envelope(all)	14.12	67.81	-218.61	78.49	46.83
347	Envelope(all)	14.42	13.89	-125.07	319.41	-34.59
348	Envelope(all)	14.55	-8.32	-75.88	454.33	-34.27
349	Envelope(all)	14.55	-8.31	74.22	531.36	-33.22

350	Envelope(all)	14.42	-25.24	123.42	453.82	-36.19
351	Envelope(all)	14.12	-70.61	216.05	314.00	-26.92
352	Envelope(all)	13.82	-123.78	248.87	73.00	61.64
353	Envelope(all)	15.59	90.16	-251.15	-45.07	76.78
354	Envelope(all)	15.88	48.30	-218.89	86.25	34.93
355	Envelope(all)	16.23	12.34	-125.19	327.26	-23.16
356	Envelope(all)	16.41	-6.07	-76.36	462.17	-25.55
357	Envelope(all)	16.41	-7.11	74.78	539.11	-24.74
358	Envelope(all)	16.24	-18.52	123.61	461.59	-26.30
359	Envelope(all)	15.88	-47.95	216.41	321.69	-17.80
360	Envelope(all)	15.60	-89.51	249.38	80.52	41.00
361	Envelope(all)	14.78	49.91	-251.05	-40.95	42.94
362	Envelope(all)	15.06	26.98	-218.81	90.57	19.98
363	Envelope(all)	15.45	8.05	-125.15	331.40	-12.69
364	Envelope(all)	15.66	-3.76	-76.54	466.17	-14.70
365	Envelope(all)	15.66	-4.96	74.98	543.12	-14.04
366	Envelope(all)	15.45	-10.72	123.60	465.55	-14.67
367	Envelope(all)	15.07	-26.77	216.35	325.77	-9.63
368	Envelope(all)	14.79	-49.55	249.30	84.75	21.94
369	Envelope(all)	14.63	14.11	-250.39	-40.77	9.64
370	Envelope(all)	14.91	4.82	-218.23	90.47	3.25
371	Envelope(all)	15.30	2.49	-124.81	330.69	-3.19
372	Envelope(all)	15.52	-1.39	-76.50	465.11	-3.07
373	Envelope(all)	15.52	-2.14	74.97	541.98	-2.32
374	Envelope(all)	15.31	-2.63	123.28	464.48	-2.54

375	Envelope(all)	14.92	-4.79	215.78	325.03	3.03
376	Envelope(all)	14.64	-14.03	248.66	84.60	3.06
377	Envelope(all)	14.77	-46.19	-251.06	-41.02	-36.90
378	Envelope(all)	15.06	-22.41	-218.82	90.67	-15.78
379	Envelope(all)	15.44	-5.19	-125.17	331.47	9.21
380	Envelope(all)	15.65	1.90	-76.61	466.18	10.48
381	Envelope(all)	15.65	1.61	75.07	543.12	9.89
382	Envelope(all)	15.45	6.88	123.63	465.55	11.40
383	Envelope(all)	15.07	22.26	216.37	325.81	9.25
384	Envelope(all)	14.79	45.99	249.32	84.81	-17.12
385	Envelope(all)	15.54	-86.39	-251.21	-45.33	-70.66
386	Envelope(all)	15.83	-43.61	-218.95	86.55	-30.70
387	Envelope(all)	16.18	-9.32	-125.25	327.44	19.40
388	Envelope(all)	16.36	4.23	-76.57	462.21	21.10
389	Envelope(all)	16.36	3.76	75.02	539.10	20.56
390	Envelope(all)	16.19	14.18	123.70	461.59	22.95
391	Envelope(all)	15.84	43.28	216.50	321.81	17.33
392	Envelope(all)	15.55	85.90	249.47	80.72	-35.23
393	Envelope(all)	13.92	-121.18	-250.71	-52.33	-98.55
394	Envelope(all)	14.22	-62.86	-218.61	79.03	-42.42
395	Envelope(all)	14.51	-10.96	-125.11	319.62	30.63
396	Envelope(all)	14.65	6.66	-76.29	454.44	30.11
397	Envelope(all)	14.65	5.28	74.71	531.36	29.01
398	Envelope(all)	14.51	20.35	123.53	453.85	32.72
399	Envelope(all)	14.23	65.22	216.12	314.05	26.30

400	Envelope(all)	13.93	120.42	248.93	73.31	-53.77
401	Envelope(all)	24.19	-204.40	-256.70	-104.81	-138.16
402	Envelope(all)	24.40	-71.32	-223.94	71.26	-42.27
403	Envelope(all)	24.56	10.16	-128.41	318.01	41.26
404	Envelope(all)	24.64	8.68	-77.62	456.60	35.94
405	Envelope(all)	24.63	7.20	74.82	534.90	34.79
406	Envelope(all)	24.55	24.02	126.76	456.10	39.06
407	Envelope(all)	24.39	89.20	221.38	312.61	35.74
408	Envelope(all)	24.19	203.78	254.85	97.87	-70.59
409	Envelope(all)	-3.24	-123.37	-208.84	-106.91	-93.05
410	Envelope(all)	-3.29	-61.50	-191.68	93.39	-35.29
411	Envelope(all)	-2.82	-12.21	-118.73	305.83	40.59
412	Envelope(all)	-1.78	6.18	-82.23	426.49	39.36
413	Envelope(all)	-1.18	4.14	68.41	499.09	37.96
414	Envelope(all)	2.04	25.58	110.30	426.34	41.03
415	Envelope(all)	2.04	25.58	111.36	366.21	34.91
416	Envelope(all)	4.52	91.79	189.25	300.28	32.32
417	Envelope(all)	6.21	153.02	207.33	156.13	-81.23
418	Envelope(all)	-1337.28	-12.06	15.07	56.64	-24.76
419	Envelope(all)	-2381.13	-8.11	2.10	8.54	-9.26
420	Envelope(all)	-1336.92	-12.06	-12.53	-47.85	-24.81
421	Envelope(all)	-2380.76	-8.12	-2.00	-8.81	-9.30
422	Envelope(all)	-1331.66	-12.03	-20.43	-71.38	-24.72
423	Envelope(all)	-2371.69	-8.10	-1.38	7.18	-9.28
424	Envelope(all)	-1331.15	-12.02	23.26	81.13	-24.66

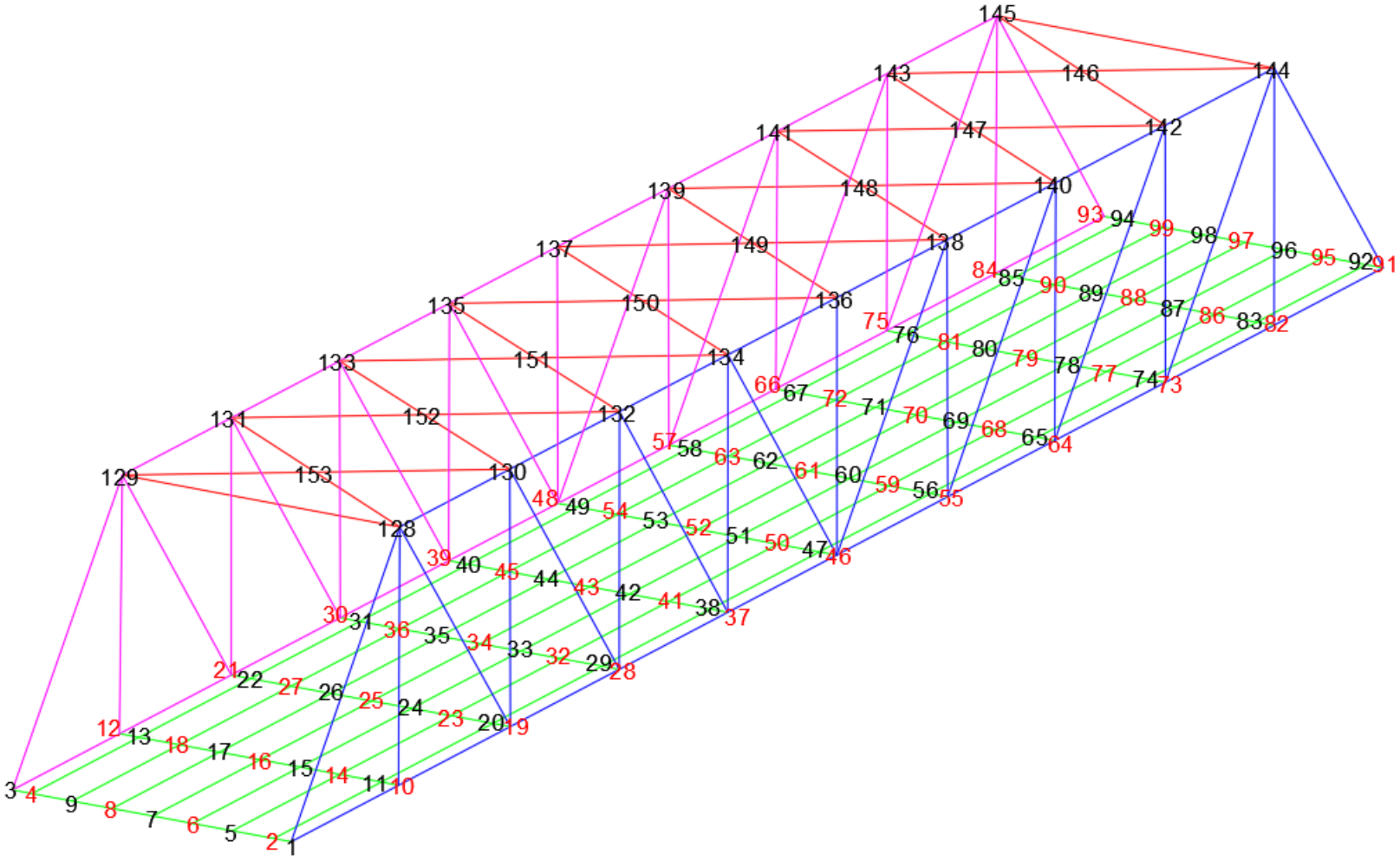
425	Envelope(all)	-2371.21	-8.09	1.55	-7.10	-9.23
426	Envelope(all)	-3104.52	-9.12	1.85	9.37	-7.59
427	Envelope(all)	-3104.18	-9.12	-1.62	-8.79	-7.61
428	Envelope(all)	-3092.43	-9.11	-2.48	-11.05	-7.60
429	Envelope(all)	-3092.12	-9.10	2.77	11.72	-7.57
430	Envelope(all)	-3533.79	-7.29	-0.94	6.53	8.18
431	Envelope(all)	-3533.64	-7.29	0.90	-6.51	8.17
432	Envelope(all)	-3520.05	-7.28	1.23	7.30	8.16
433	Envelope(all)	-3520.25	-7.28	-1.12	-7.10	8.13
434	Envelope(all)	-3647.48	-5.57	-0.71	6.42	13.95
435	Envelope(all)	-3633.42	-5.57	0.71	-5.38	13.88
436	Envelope(all)	-1837.11	3.49	-62.40	-278.07	18.17
437	Envelope(all)	-1827.95	3.46	-67.60	-289.35	18.09
438	Envelope(all)	-1836.21	3.51	51.59	230.07	18.21
439	Envelope(all)	-1828.96	3.49	54.70	229.68	18.15
440	Envelope(all)	1808.76	1.73	25.30	33.25	8.51
441	Envelope(all)	-1452.75	3.71	-19.59	-92.97	15.80
442	Envelope(all)	1799.96	1.72	-18.67	-57.85	8.46
443	Envelope(all)	-1446.25	3.68	-15.72	-54.62	15.72
444	Envelope(all)	1807.98	1.72	-21.94	-32.45	8.44
445	Envelope(all)	-1452.12	3.71	16.58	77.99	15.81
446	Envelope(all)	1800.82	1.71	18.34	56.05	8.41
447	Envelope(all)	-1446.85	3.69	12.27	-44.83	15.75
448	Envelope(all)	1438.89	1.59	12.93	-32.80	8.67
449	Envelope(all)	1438.26	1.58	-12.73	28.37	8.64

450	Envelope(all)	1432.97	1.57	15.27	48.47	8.60
451	Envelope(all)	1432.38	1.58	-15.12	-53.65	8.62
452	Envelope(all)	-1095.38	3.20	-8.90	-46.38	14.93
453	Envelope(all)	-1090.75	3.18	7.48	46.45	14.86
454	Envelope(all)	-1094.82	3.20	7.67	47.18	14.94
455	Envelope(all)	-1091.26	3.19	-7.69	-47.53	14.88
456	Envelope(all)	1077.17	0.91	9.81	-15.65	5.88
457	Envelope(all)	1072.53	0.90	-12.20	-26.92	5.85
458	Envelope(all)	1076.61	0.90	-9.67	13.98	5.87
459	Envelope(all)	1073.04	0.90	12.26	24.74	5.84
460	Envelope(all)	-731.57	2.08	-7.40	-44.69	10.66
461	Envelope(all)	-728.66	2.06	7.71	53.91	10.61
462	Envelope(all)	-731.05	2.08	7.58	45.55	10.66
463	Envelope(all)	-729.15	2.07	-8.45	-57.38	10.62
464	Envelope(all)	716.62	-0.39	8.55	10.49	3.86
465	Envelope(all)	-370.45	-0.63	-7.10	-41.38	3.43
466	Envelope(all)	355.68	-1.13	7.81	8.38	1.48
467	Envelope(all)	350.75	-1.39	-7.70	-44.11	-1.96
468	Envelope(all)	-365.52	-1.92	7.21	7.10	-3.64
469	Envelope(all)	711.67	-2.11	-8.44	-47.23	-4.46
470	Envelope(all)	713.69	-0.44	-11.25	-16.89	3.84
471	Envelope(all)	-369.19	-0.60	8.97	55.90	3.41
472	Envelope(all)	354.38	-1.13	-10.46	-10.54	1.47
473	Envelope(all)	350.42	-1.39	10.31	60.19	-1.97
474	Envelope(all)	-365.23	-1.92	-9.30	-7.16	-3.63

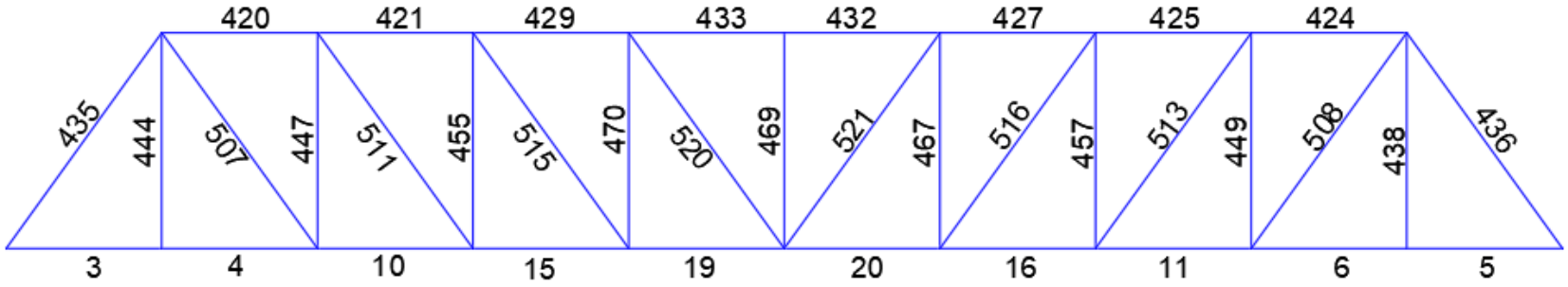
475	Envelope(all)	709.74	-2.10	11.22	60.50	-4.45
476	Envelope(all)	13.96	-0.55	-32.43	-115.63	-2.09
477	Envelope(all)	13.47	0.45	20.07	81.97	1.72
478	Envelope(all)	-112.01	-0.19	-2.89	-8.25	-0.65
479	Envelope(all)	83.53	-0.16	-1.43	3.84	-0.59
480	Envelope(all)	83.55	0.17	0.12	1.02	0.46
481	Envelope(all)	-111.72	-0.17	-0.22	1.99	-0.39
482	Envelope(all)	-81.34	-0.19	-2.03	-4.75	-0.46
483	Envelope(all)	70.81	0.19	-1.35	-2.33	0.46
484	Envelope(all)	70.84	0.21	-0.33	1.04	0.47
485	Envelope(all)	-81.33	-0.21	0.27	1.67	-0.47
486	Envelope(all)	-69.35	-0.20	-1.42	-2.47	-0.49
487	Envelope(all)	54.02	0.20	-1.33	-2.40	0.46
488	Envelope(all)	54.02	0.21	-0.46	0.99	0.48
489	Envelope(all)	-69.33	-0.21	0.41	1.28	-0.48
490	Envelope(all)	-45.28	-0.21	-1.33	-2.37	-0.49
491	Envelope(all)	32.65	0.21	-1.51	-3.28	0.49
492	Envelope(all)	32.65	0.22	-0.48	0.98	0.49
493	Envelope(all)	-45.27	-0.22	0.47	1.10	-0.49
494	Envelope(all)	-23.16	-0.22	-1.34	-2.36	-0.51
495	Envelope(all)	-10.95	0.22	-1.66	-3.82	0.50
496	Envelope(all)	-10.94	0.22	-0.44	0.98	0.49
497	Envelope(all)	-23.15	-0.22	0.44	0.98	-0.49
498	Envelope(all)	-8.53	-0.22	-1.34	-2.31	-0.50
499	Envelope(all)	-19.82	0.22	-1.71	-3.90	0.50

500	Envelope(all)	-19.82	0.21	-0.30	1.05	0.48
501	Envelope(all)	-8.53	-0.21	0.33	0.97	-0.48
502	Envelope(all)	26.97	-0.21	-1.31	-2.18	-0.49
503	Envelope(all)	-43.48	0.21	-1.67	-3.55	0.48
504	Envelope(all)	-43.49	0.20	0.11	1.20	0.46
505	Envelope(all)	26.97	-0.20	0.11	0.97	-0.46
506	Envelope(all)	45.29	-0.21	-1.29	-2.05	-0.49
507	Envelope(all)	-57.56	0.21	-1.56	-2.70	0.49
508	Envelope(all)	-57.56	0.19	0.58	1.54	0.42
509	Envelope(all)	45.26	-0.19	-0.50	1.01	-0.42
510	Envelope(all)	59.73	-0.17	-1.28	-2.88	-0.37
511	Envelope(all)	-90.46	0.17	-1.26	-1.90	0.37
512	Envelope(all)	-90.73	0.16	1.31	1.85	0.17
513	Envelope(all)	59.70	0.13	-1.21	0.99	0.10

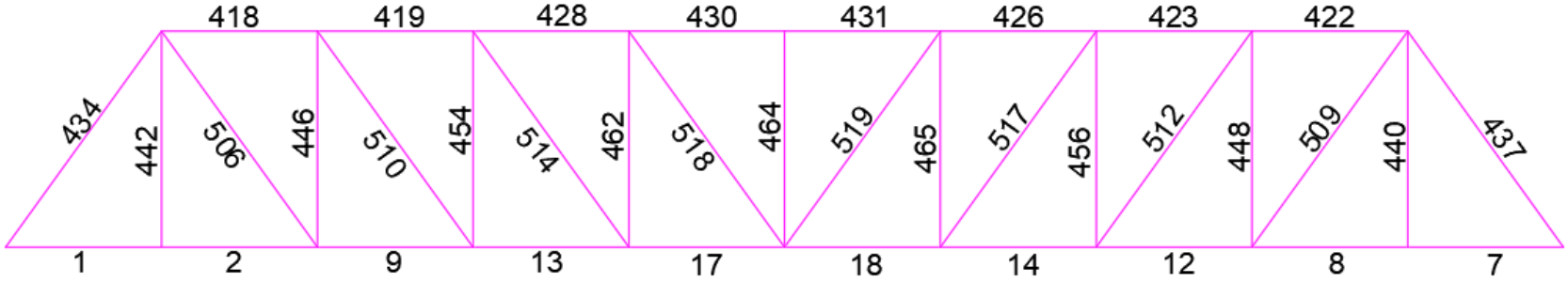
Gambar nomor *nodes* jembatan tipe *Pratt*



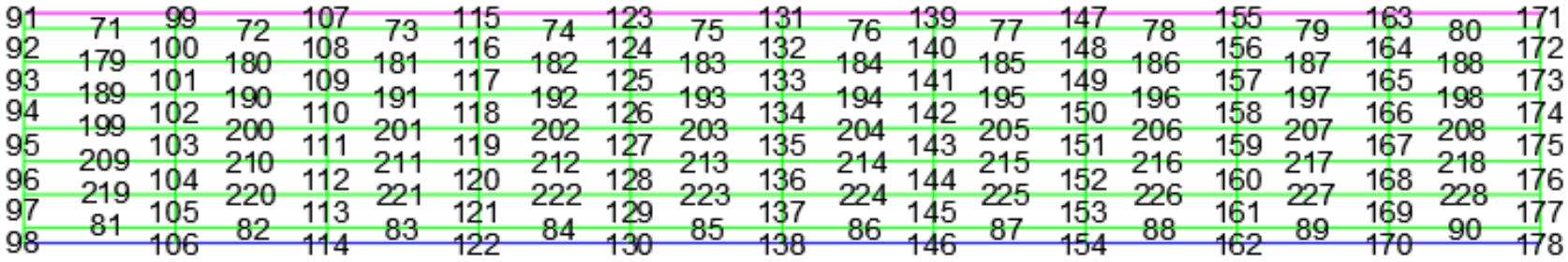
Gambar nomor elemen batang diagonal, vertikal, batang atas, dan batang bawah jembatan tipe *Pratt*



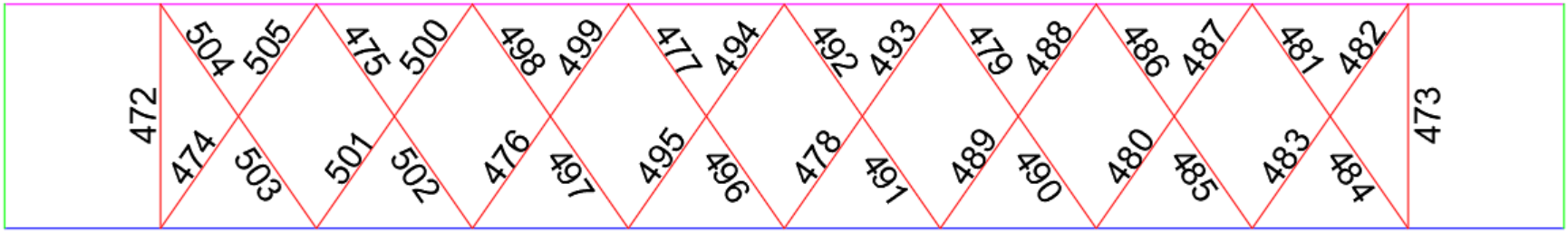
Gambar nomor elemen batang diagonal, vertikal, batang atas, dan batang bawah jembatan tipe *Pratt*



Gambar nomor elemen gelagar memanjang dan melintang jembatan tipe *Pratt*



Gambar nomor elemen ikatan angin jembatan tipe *Pratt*



Elem	Load	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Moment-y (kN*m)	Moment-z (kN*m)
1	Envelope(all)	816.58	-7.88	49.94	145.90	-8.41
2	Envelope(all)	750.09	-7.08	26.06	66.47	-7.95
3	Envelope(all)	814.23	-7.86	-99.88	-252.76	-8.36
4	Envelope(all)	644.62	-7.13	-46.45	-88.58	-8.55
5	Envelope(all)	797.03	-7.85	86.79	221.12	-8.37
6	Envelope(all)	632.82	-7.21	40.83	79.17	-8.84
7	Envelope(all)	841.70	-7.87	-48.39	-141.42	-8.41
8	Envelope(all)	783.10	-7.09	-25.26	-64.35	-7.98
9	Envelope(all)	1313.52	-12.18	26.48	71.76	-17.15
10	Envelope(all)	1274.57	-12.15	-31.48	-71.01	-17.10
11	Envelope(all)	1266.06	-12.15	29.24	68.25	-17.11
12	Envelope(all)	1335.09	-12.18	-25.43	-69.01	-17.15
13	Envelope(all)	1707.50	-10.68	17.13	50.65	-7.05
14	Envelope(all)	1702.92	-10.68	-16.10	-47.49	-7.05
15	Envelope(all)	1701.49	-10.66	-18.25	-47.35	-7.45
16	Envelope(all)	1696.37	-10.67	16.94	44.72	-7.78
17	Envelope(all)	1975.74	-9.59	7.39	36.99	7.17
18	Envelope(all)	1974.25	-6.38	-6.35	14.35	16.72
19	Envelope(all)	1968.53	-9.71	-7.29	-22.91	7.13
20	Envelope(all)	1966.72	-5.83	6.26	25.79	16.65
71	Envelope(all)	192.53	-1.74	-1.99	-0.20	-4.63
72	Envelope(all)	245.34	-1.35	-0.84	4.31	-3.44
73	Envelope(all)	349.34	-1.09	-2.84	-2.77	-2.86
74	Envelope(all)	430.26	-0.71	-1.57	5.94	-1.95

75	Envelope(all)	473.68	-0.30	-1.91	5.60	-0.92
76	Envelope(all)	473.38	0.25	-1.49	6.94	0.45
77	Envelope(all)	429.23	0.66	-1.67	5.68	1.50
78	Envelope(all)	347.54	1.04	0.73	6.21	2.45
79	Envelope(all)	242.46	1.30	-2.37	-2.48	3.17
80	Envelope(all)	189.84	1.69	-0.78	4.51	3.96
81	Envelope(all)	215.87	3.91	-1.94	-0.20	9.91
82	Envelope(all)	277.94	2.45	-1.01	4.04	6.01
83	Envelope(all)	348.14	1.46	-2.84	-2.77	3.63
84	Envelope(all)	428.44	0.87	-1.58	5.92	2.21
85	Envelope(all)	471.56	0.34	-1.97	5.59	0.91
86	Envelope(all)	471.16	-0.28	-1.38	6.92	-0.64
87	Envelope(all)	427.14	-0.80	-1.67	5.67	-1.96
88	Envelope(all)	345.84	-1.34	0.73	6.19	-3.35
89	Envelope(all)	241.40	-2.15	-2.35	-2.47	-5.50
90	Envelope(all)	189.28	-3.36	-0.94	4.22	-8.27
91	Envelope(all)	-5.85	138.25	-159.83	-82.11	85.29
92	Envelope(all)	-5.35	42.98	-164.87	77.41	-72.47
93	Envelope(all)	-4.01	-18.25	-176.02	213.70	-47.37
94	Envelope(all)	-2.06	-9.19	-94.17	294.64	-33.48
95	Envelope(all)	-0.94	-8.26	-101.16	338.29	-30.44
96	Envelope(all)	3.35	-29.96	44.98	310.04	-32.28
97	Envelope(all)	6.41	-98.94	104.91	257.73	-27.53
98	Envelope(all)	8.36	-205.89	143.69	148.32	98.56
99	Envelope(all)	17.88	89.18	-190.92	-94.07	85.10

100	Envelope(all)	18.09	62.39	-218.56	61.71	44.35
101	Envelope(all)	18.22	-15.59	-200.74	230.94	-42.92
102	Envelope(all)	18.28	-13.95	-108.72	328.06	-35.13
103	Envelope(all)	18.27	-13.38	-105.04	376.94	-30.59
104	Envelope(all)	18.21	-35.53	46.87	336.70	-31.54
105	Envelope(all)	18.08	-102.73	112.55	261.74	-23.55
106	Envelope(all)	17.86	-134.15	186.45	117.27	100.57
107	Envelope(all)	7.88	100.49	-204.31	-67.49	80.02
108	Envelope(all)	8.02	47.79	-230.23	54.03	33.07
109	Envelope(all)	8.22	10.66	-196.27	236.11	-36.38
110	Envelope(all)	8.32	-11.31	-99.98	340.67	-30.43
111	Envelope(all)	8.32	-11.54	-92.54	391.94	-24.83
112	Envelope(all)	8.22	-28.11	53.95	340.22	-26.36
113	Envelope(all)	8.02	-58.56	124.33	242.66	-19.03
114	Envelope(all)	7.88	-99.61	199.94	75.74	60.09
115	Envelope(all)	10.75	79.79	-191.15	-33.47	62.83
116	Envelope(all)	10.95	36.55	-218.82	57.95	25.44
117	Envelope(all)	11.20	7.65	-182.50	226.13	-26.02
118	Envelope(all)	11.34	-8.66	-90.42	323.37	-23.16
119	Envelope(all)	11.34	-9.00	-87.26	372.19	-17.75
120	Envelope(all)	11.21	-17.78	50.20	322.81	-19.25
121	Envelope(all)	10.95	-37.88	118.60	226.46	-14.40
122	Envelope(all)	10.75	-79.16	186.92	60.83	38.87
123	Envelope(all)	10.37	46.47	-196.21	-29.34	36.25
124	Envelope(all)	10.61	20.95	-223.07	73.91	14.40

125	Envelope(all)	10.90	4.67	-184.85	237.55	-14.90
126	Envelope(all)	11.06	-5.63	-91.15	337.36	-13.70
127	Envelope(all)	11.06	-5.93	-86.68	386.99	-9.72
128	Envelope(all)	10.91	-9.55	55.41	336.74	-10.66
129	Envelope(all)	10.61	-20.77	125.39	237.77	-8.34
130	Envelope(all)	10.38	-46.13	192.00	67.51	20.73
131	Envelope(all)	11.13	14.09	-193.94	-34.31	6.59
132	Envelope(all)	11.37	3.72	-221.25	79.05	1.41
133	Envelope(all)	11.68	1.41	-183.92	235.56	-3.94
134	Envelope(all)	11.84	-2.12	-90.87	328.38	-3.08
135	Envelope(all)	11.84	-2.54	-87.13	377.69	-1.30
136	Envelope(all)	11.68	-2.46	58.12	327.70	1.34
137	Envelope(all)	11.38	-2.56	126.84	229.67	3.77
138	Envelope(all)	11.14	12.44	189.80	61.81	2.50
139	Envelope(all)	10.35	-44.79	-196.20	-29.25	-33.57
140	Envelope(all)	10.58	-18.91	-223.06	75.90	-12.47
141	Envelope(all)	10.88	-3.55	-184.84	237.66	9.51
142	Envelope(all)	11.04	2.08	-91.14	337.46	8.62
143	Envelope(all)	11.04	1.56	-86.72	387.09	7.87
144	Envelope(all)	10.89	5.93	56.03	336.83	9.23
145	Envelope(all)	10.59	20.49	125.96	237.85	8.21
146	Envelope(all)	10.36	45.53	192.01	67.61	-16.32
147	Envelope(all)	10.71	-78.08	-191.14	-33.36	-60.12
148	Envelope(all)	10.91	-34.45	-218.81	62.46	-23.51
149	Envelope(all)	11.16	-6.35	-182.49	226.31	20.19

150	Envelope(all)	11.30	5.16	-90.41	323.53	18.27
151	Envelope(all)	11.30	4.70	-87.36	372.33	15.89
152	Envelope(all)	11.17	13.47	51.63	322.93	17.79
153	Envelope(all)	10.92	37.03	119.90	226.56	14.24
154	Envelope(all)	10.72	77.60	186.94	60.98	-33.24
155	Envelope(all)	7.87	-98.81	-204.24	-54.19	-77.34
156	Envelope(all)	8.02	-45.60	-230.16	54.35	-31.14
157	Envelope(all)	8.21	-9.43	-192.78	236.36	30.09
158	Envelope(all)	8.32	8.01	-96.51	340.85	25.96
159	Envelope(all)	8.32	7.54	-89.30	392.07	22.46
160	Envelope(all)	8.22	22.67	54.21	340.30	24.84
161	Envelope(all)	8.02	54.52	124.36	236.72	18.81
162	Envelope(all)	7.88	98.08	199.96	64.57	-51.39
163	Envelope(all)	17.48	-86.79	-190.90	-74.64	-82.16
164	Envelope(all)	17.69	-60.11	-218.53	61.85	-42.51
165	Envelope(all)	17.82	12.28	-195.72	231.19	37.33
166	Envelope(all)	17.87	10.88	-103.65	328.27	31.21
167	Envelope(all)	17.87	9.72	-100.14	377.08	27.69
168	Envelope(all)	17.82	29.82	47.21	331.34	29.96
169	Envelope(all)	17.68	91.11	112.66	250.87	23.10
170	Envelope(all)	17.47	119.79	186.57	100.72	-85.96
171	Envelope(all)	-4.55	-134.96	-154.38	-62.44	-82.67
172	Envelope(all)	-4.28	-41.29	-159.42	76.88	58.20
173	Envelope(all)	-3.29	15.88	-170.54	213.11	43.08
174	Envelope(all)	-1.77	7.53	-88.70	293.96	30.56

175	Envelope(all)	-0.89	6.02	-95.80	337.53	28.60
176	Envelope(all)	2.67	25.67	45.08	303.41	30.73
177	Envelope(all)	5.28	85.34	104.92	245.24	26.99
178	Envelope(all)	6.94	176.00	143.70	129.94	-82.31
179	Envelope(all)	71.58	2.78	-5.05	0.02	6.94
180	Envelope(all)	171.76	-1.82	3.64	17.71	-4.68
181	Envelope(all)	245.07	-1.43	-7.56	-8.27	-3.77
182	Envelope(all)	301.82	-0.94	-4.40	22.14	-2.58
183	Envelope(all)	332.11	-0.38	-5.04	22.09	-1.19
184	Envelope(all)	331.98	0.30	-4.12	24.88	0.54
185	Envelope(all)	301.43	0.87	-4.43	22.09	1.96
186	Envelope(all)	244.60	1.36	4.54	22.12	3.23
187	Envelope(all)	171.35	1.74	-6.64	-8.26	4.22
188	Envelope(all)	71.74	-2.02	2.04	17.72	-5.08
189	Envelope(all)	-19.37	4.00	-5.60	-0.04	10.02
190	Envelope(all)	38.64	2.40	4.47	20.42	5.99
191	Envelope(all)	58.86	1.16	-8.28	-9.65	2.88
192	Envelope(all)	72.49	0.62	-5.43	24.40	1.51
193	Envelope(all)	79.17	0.27	-5.80	25.11	-0.63
194	Envelope(all)	79.28	0.17	-5.03	27.26	0.31
195	Envelope(all)	72.72	0.48	-5.19	25.10	1.09
196	Envelope(all)	59.23	-0.82	5.26	24.39	-2.10
197	Envelope(all)	39.14	-1.82	-7.47	-9.64	-4.58
198	Envelope(all)	-16.14	-3.12	2.56	20.34	-7.80
199	Envelope(all)	-4.05	4.94	-5.83	-0.05	12.39

200	Envelope(all)	-6.78	3.27	4.81	21.54	8.22
201	Envelope(all)	-6.95	1.90	-8.60	-10.25	4.80
202	Envelope(all)	-6.45	1.12	-5.86	25.39	2.86
203	Envelope(all)	-5.79	0.47	-6.13	26.34	1.25
204	Envelope(all)	-5.68	-0.13	-5.38	28.28	-0.27
205	Envelope(all)	-6.13	-0.76	-5.51	26.34	-1.84
206	Envelope(all)	-6.47	-1.46	5.58	25.37	-3.61
207	Envelope(all)	-6.28	-2.63	-7.82	-10.24	-6.55
208	Envelope(all)	-3.70	-4.00	2.79	21.46	-9.99
209	Envelope(all)	42.75	5.81	-5.60	-0.04	14.59
210	Envelope(all)	86.59	4.02	4.46	20.40	10.17
211	Envelope(all)	119.39	2.45	-8.27	-9.64	6.26
212	Envelope(all)	136.19	1.46	-5.45	24.38	3.82
213	Envelope(all)	141.76	0.59	-5.82	25.09	1.64
214	Envelope(all)	140.00	-0.25	-4.92	27.24	-0.47
215	Envelope(all)	131.25	-1.09	-5.17	25.09	-2.59
216	Envelope(all)	113.00	-2.00	5.25	24.37	-4.87
217	Envelope(all)	81.65	-3.34	-7.47	-9.63	-8.25
218	Envelope(all)	40.30	-4.81	2.56	20.32	-11.98
219	Envelope(all)	138.67	6.21	-5.04	0.03	15.63
220	Envelope(all)	272.75	4.29	3.63	17.64	10.89
221	Envelope(all)	332.71	2.61	-7.55	-8.26	6.69
222	Envelope(all)	371.88	1.56	-4.44	22.09	4.08
223	Envelope(all)	391.14	0.61	-5.12	22.06	1.72
224	Envelope(all)	386.58	-0.37	-3.92	24.83	-0.74

225	Envelope(all)	358.06	-1.30	-4.42	22.05	-3.07
226	Envelope(all)	310.29	-2.26	4.53	22.08	-5.50
227	Envelope(all)	245.69	-3.67	-6.63	-8.25	-9.03
228	Envelope(all)	121.72	-5.26	2.00	17.55	-13.05
329	Envelope(all)	-5.85	138.25	-159.21	-82.06	85.29
330	Envelope(all)	-5.35	42.98	-149.39	82.46	-72.47
331	Envelope(all)	-4.01	-18.25	-97.65	223.52	-47.37
332	Envelope(all)	-2.06	-9.19	-66.34	303.60	-33.48
333	Envelope(all)	-0.94	-8.26	41.36	348.12	-30.44
334	Envelope(all)	3.35	-29.96	72.73	319.00	-32.28
335	Envelope(all)	6.41	-98.94	126.09	260.68	-27.53
336	Envelope(all)	8.36	-205.89	144.30	148.37	98.56
337	Envelope(all)	17.88	89.18	-189.70	-93.96	85.10
338	Envelope(all)	18.09	62.39	-171.87	71.80	44.35
339	Envelope(all)	18.22	-15.59	-107.88	243.39	-42.92
340	Envelope(all)	18.28	-13.95	-66.71	339.65	-35.13
341	Envelope(all)	18.27	-13.38	46.64	389.39	-30.59
342	Envelope(all)	18.21	-35.53	87.67	348.29	-31.54
343	Envelope(all)	18.08	-102.73	154.92	267.63	-23.55
344	Envelope(all)	17.86	-134.15	187.68	117.37	100.57
345	Envelope(all)	7.88	100.49	-203.08	-67.39	80.02
346	Envelope(all)	8.02	47.79	-172.00	64.12	33.07
347	Envelope(all)	8.22	10.66	-103.40	248.56	-36.38
348	Envelope(all)	8.32	-11.31	-58.21	352.26	-30.43
349	Envelope(all)	8.32	-11.54	49.19	404.40	-24.83

350	Envelope(all)	8.22	-28.11	94.63	351.81	-26.36
351	Envelope(all)	8.02	-58.56	166.70	248.55	-19.03
352	Envelope(all)	7.88	-99.61	201.16	75.84	60.09
353	Envelope(all)	10.75	79.79	-189.93	-33.37	62.83
354	Envelope(all)	10.95	36.55	-157.91	66.62	25.44
355	Envelope(all)	11.20	7.65	-89.64	238.58	-26.02
356	Envelope(all)	11.34	-8.66	-49.14	334.96	-23.16
357	Envelope(all)	11.34	-9.00	49.41	384.64	-17.75
358	Envelope(all)	11.21	-17.78	90.10	334.39	-19.25
359	Envelope(all)	10.95	-37.88	155.41	236.00	-14.40
360	Envelope(all)	10.75	-79.16	188.14	60.93	38.87
361	Envelope(all)	10.37	46.47	-194.98	-29.23	36.25
362	Envelope(all)	10.61	20.95	-162.16	79.75	14.40
363	Envelope(all)	10.90	4.67	-91.98	250.01	-14.90
364	Envelope(all)	11.06	-5.63	-50.04	348.95	-13.70
365	Envelope(all)	11.06	-5.93	53.25	399.45	-9.72
366	Envelope(all)	10.91	-9.55	95.20	348.33	-10.66
367	Envelope(all)	10.61	-20.77	161.22	247.32	-8.34
368	Envelope(all)	10.38	-46.13	193.23	67.61	20.73
369	Envelope(all)	11.13	14.09	-192.72	-34.21	6.59
370	Envelope(all)	11.37	3.72	-160.34	84.89	1.41
371	Envelope(all)	11.68	1.41	-91.06	248.02	-3.94
372	Envelope(all)	11.84	-2.12	-49.97	339.97	-3.08
373	Envelope(all)	11.84	-2.54	56.57	390.14	-1.30
374	Envelope(all)	11.68	-2.46	97.64	339.29	1.34

375	Envelope(all)	11.38	-2.56	162.67	239.22	3.77
376	Envelope(all)	11.14	12.44	191.03	61.92	2.50
377	Envelope(all)	10.35	-44.79	-194.97	-29.14	-33.57
378	Envelope(all)	10.58	-18.91	-162.15	81.74	-12.47
379	Envelope(all)	10.88	-3.55	-91.97	250.12	9.51
380	Envelope(all)	11.04	2.08	-50.08	349.05	8.62
381	Envelope(all)	11.04	1.56	53.86	399.54	7.87
382	Envelope(all)	10.89	5.93	95.76	348.42	9.23
383	Envelope(all)	10.59	20.49	161.80	247.40	8.21
384	Envelope(all)	10.36	45.53	193.23	67.71	-16.32
385	Envelope(all)	10.71	-78.08	-189.91	-33.26	-60.12
386	Envelope(all)	10.91	-34.45	-157.90	68.30	-23.51
387	Envelope(all)	11.16	-6.35	-89.62	238.77	20.19
388	Envelope(all)	11.30	5.16	-49.23	335.12	18.27
389	Envelope(all)	11.30	4.70	50.86	384.78	15.89
390	Envelope(all)	11.17	13.47	91.43	334.52	17.79
391	Envelope(all)	10.92	37.03	155.73	236.11	14.24
392	Envelope(all)	10.72	77.60	188.16	61.08	-33.24
393	Envelope(all)	7.87	-98.81	-203.01	-54.09	-77.34
394	Envelope(all)	8.02	-45.60	-169.26	64.44	-31.14
395	Envelope(all)	8.21	-9.43	-99.92	248.81	30.09
396	Envelope(all)	8.32	8.01	-54.98	352.44	25.96
397	Envelope(all)	8.32	7.54	49.46	404.53	22.46
398	Envelope(all)	8.22	22.67	94.66	351.89	24.84
399	Envelope(all)	8.02	54.52	166.72	246.27	18.81

400	Envelope(all)	7.88	98.08	201.18	64.68	-51.39
401	Envelope(all)	17.48	-86.79	-189.68	-74.54	-82.16
402	Envelope(all)	17.69	-60.11	-166.86	71.94	-42.51
403	Envelope(all)	17.82	12.28	-102.86	243.65	37.33
404	Envelope(all)	17.87	10.88	-61.91	339.86	31.21
405	Envelope(all)	17.87	9.72	46.95	389.53	27.69
406	Envelope(all)	17.82	29.82	87.77	342.93	29.96
407	Envelope(all)	17.68	91.11	155.03	256.76	23.10
408	Envelope(all)	17.47	119.79	187.80	100.82	-85.96
409	Envelope(all)	-4.55	-134.96	-153.76	-62.39	-82.67
410	Envelope(all)	-4.28	-41.29	-143.95	81.92	58.20
411	Envelope(all)	-3.29	15.88	-92.18	222.93	43.08
412	Envelope(all)	-1.77	7.53	-60.97	302.92	30.56
413	Envelope(all)	-0.89	6.02	41.46	347.36	28.60
414	Envelope(all)	2.67	25.67	72.72	312.37	30.73
415	Envelope(all)	2.67	25.67	73.78	282.28	27.53
416	Envelope(all)	5.28	85.34	126.10	248.18	26.99
417	Envelope(all)	6.94	176.00	144.31	129.99	-82.31
418	Envelope(all)	-1889.41	-11.56	24.04	101.67	-24.28
419	Envelope(all)	-2493.55	-6.35	3.76	-5,3718	12,263
420	Envelope(all)	-1879.35	-11.52	37.01	139.79	-24.17
421	Envelope(all)	-2481.37	-6.33	-6.82	-27.16	-4.67
422	Envelope(all)	-1888.78	-11.57	-18.74	-81.31	-24.31
423	Envelope(all)	-2493.03	-6.34	-3.78	-14.55	-4.37
424	Envelope(all)	-1880.09	-11.53	-31.43	-118.37	-24.22

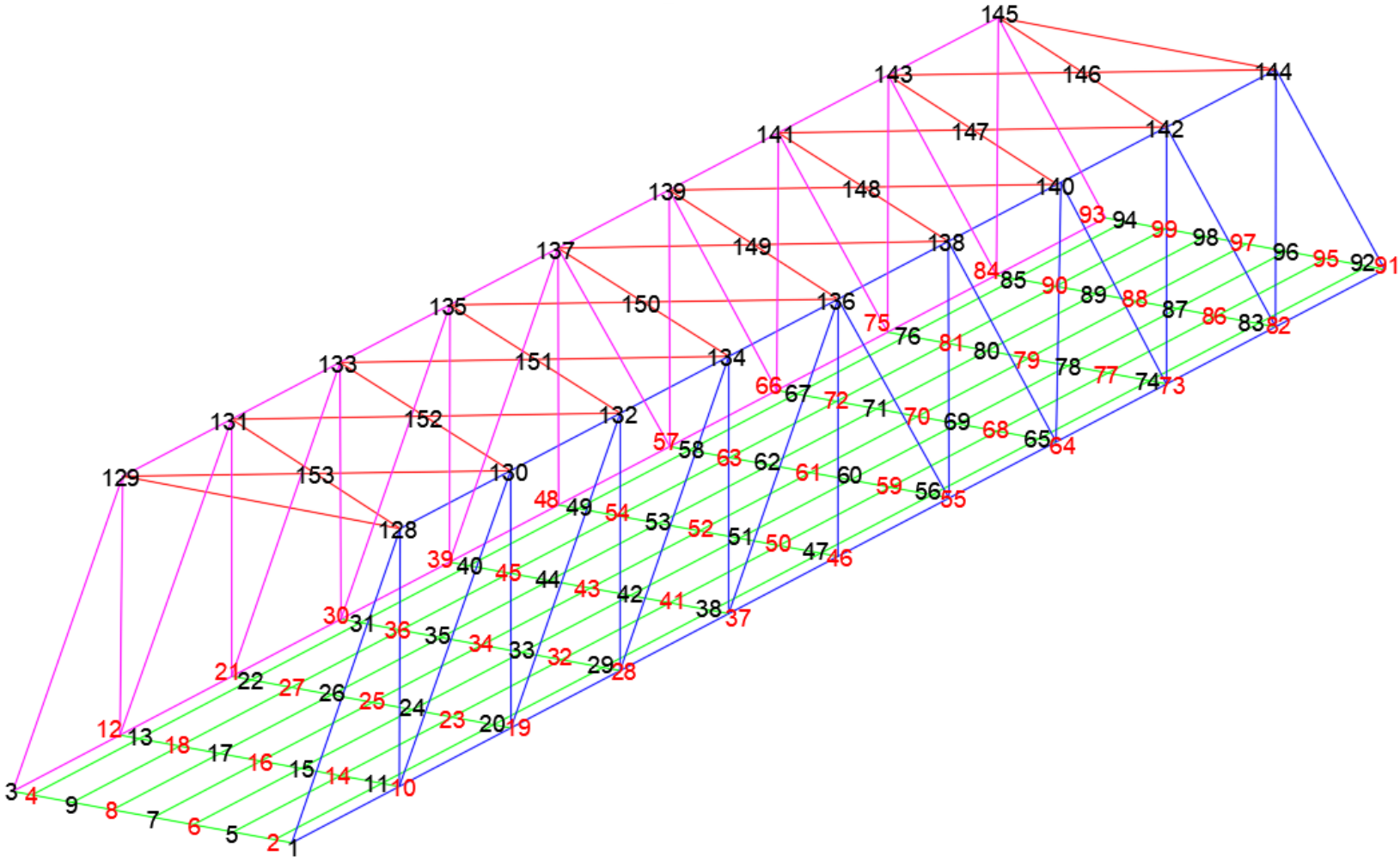
425	Envelope(all)	-2481.97	-6.33	6.10	23.45	-4.89
426	Envelope(all)	-2838.29	-6.21	1.60	5.71	2.68
427	Envelope(all)	-2825.80	-6.20	-2.84	-13.43	2.34
428	Envelope(all)	-2838.70	-6.22	-1.60	-1,0023	12,916
429	Envelope(all)	-2825.41	-6.20	3.16	14.29	2.35
430	Envelope(all)	-2957.17	-5.28	0.56	4.67	8.20
431	Envelope(all)	-2956.98	-4.91	-0.56	2.89	10.69
432	Envelope(all)	-2943.96	-5.49	0.56	-3.47	8.16
433	Envelope(all)	-2943.73	-4.56	-0.55	-4.33	10.64
434	Envelope(all)	-1829.09	-1.50	-43.94	-202.59	8.69
435	Envelope(all)	-1818.52	-1.65	-54.18	-255.77	8.64
436	Envelope(all)	-1819.56	-1.53	43.16	200.76	8.65
437	Envelope(all)	-1828.20	-1.55	33.87	154.04	8.69
438	Envelope(all)	394.46	-3.53	12.76	20.55	-11.84
440	Envelope(all)	396.26	-3.54	28.64	48.74	-11.89
442	Envelope(all)	396.28	3.54	36.43	63.73	11.90
444	Envelope(all)	394.21	3.52	20.87	35.67	11.83
446	Envelope(all)	-850.75	3.26	13.22	24.76	11.89
447	Envelope(all)	-846.63	3.24	-6.28	26.17	11.83
448	Envelope(all)	-850.36	-3.26	10.65	20.48	-11.90
449	Envelope(all)	-847.01	-3.25	-6.34	21.65	-11.85
454	Envelope(all)	-559.21	2.28	5.55	10.65	7.59
455	Envelope(all)	-556.67	2.26	-5.81	7.68	7.56
456	Envelope(all)	-558.85	-2.28	5.57	9.06	-7.59
457	Envelope(all)	-557.02	-2.27	-6.90	5.92	-7.56

462	Envelope(all)	-252.54	1.32	5.59	5.20	4.43
464	Envelope(all)	-11.05	0.32	5.18	3.55	1.01
465	Envelope(all)	-252.21	-1.32	5.61	4.75	-4.43
467	Envelope(all)	-255.48	-1.35	-9.28	-5.21	-4.55
469	Envelope(all)	-11.44	-0.32	-9.65	-6.90	-1.01
470	Envelope(all)	-251.55	1.31	-8.77	-4.71	4.41
472	Envelope(all)	13.94	-0.98	-25.66	-89.96	-3.67
473	Envelope(all)	13.77	0.78	13.71	58.23	2.94
474	Envelope(all)	87.33	-0.31	-1.32	2.72	-1.08
475	Envelope(all)	-61.58	-0.25	-1.56	-2.89	-0.59
476	Envelope(all)	42.04	0.18	-1.47	-3.22	0.40
477	Envelope(all)	-30.60	-0.18	-1.30	-2.19	-0.41
478	Envelope(all)	-3.18	0.18	-1.73	-4.12	0.40
479	Envelope(all)	11.71	-0.19	-1.28	-2.10	-0.43
480	Envelope(all)	-33.89	0.21	-1.70	-3.59	0.50
481	Envelope(all)	55.54	-0.29	-1.25	-2.03	-0.62
482	Envelope(all)	-110.05	0.29	-2.30	-5.72	0.96
483	Envelope(all)	-109.57	0.22	0.40	1.90	0.51
484	Envelope(all)	55.57	0.24	-1.01	0.86	0.22
485	Envelope(all)	36.42	-0.25	-1.32	-2.35	-0.60
486	Envelope(all)	36.40	-0.20	-0.53	0.92	-0.44
487	Envelope(all)	-33.79	0.25	0.16	1.29	0.54
488	Envelope(all)	-29.69	0.18	-1.31	-2.24	0.42
489	Envelope(all)	-29.68	0.19	0.54	1.07	0.42
490	Envelope(all)	11.71	-0.18	0.32	0.92	-0.42

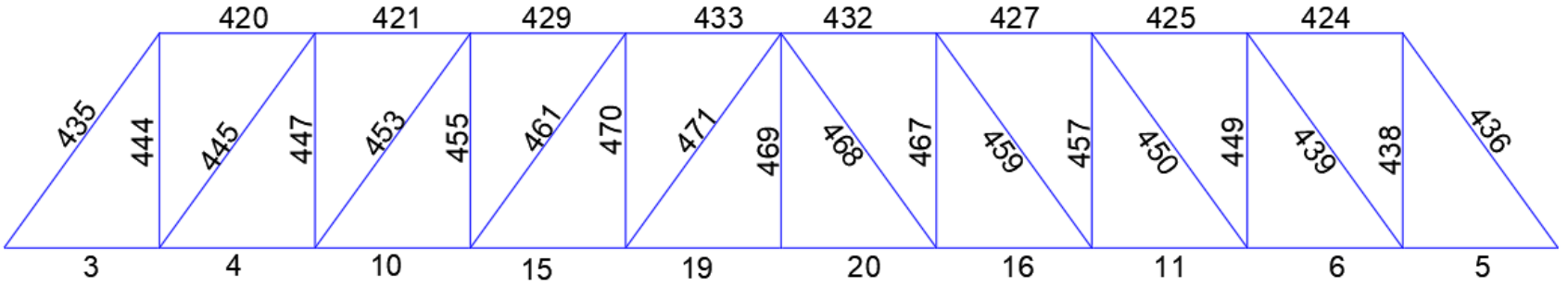
491	Envelope(all)	-10.21	-0.18	-1.74	-4.15	-0.41
492	Envelope(all)	-10.22	-0.18	-0.50	0.97	-0.40
493	Envelope(all)	-3.17	0.18	-0.48	0.95	0.41
494	Envelope(all)	21.76	0.18	-1.29	-2.13	0.40
495	Envelope(all)	21.77	0.18	0.47	0.95	0.41
496	Envelope(all)	-30.60	-0.18	0.50	0.95	-0.40
497	Envelope(all)	-59.39	-0.19	-1.79	-4.15	-0.43
498	Envelope(all)	-59.41	-0.18	-0.19	1.14	-0.42
499	Envelope(all)	42.03	0.19	-0.57	0.92	0.43
500	Envelope(all)	64.18	0.20	-1.24	-1.92	0.47
501	Envelope(all)	64.19	0.25	-0.22	0.93	0.53
502	Envelope(all)	-61.68	-0.22	0.43	1.40	-0.45
503	Envelope(all)	-140.31	-0.22	-1.58	-2.27	-0.47
504	Envelope(all)	-140.84	-0.35	1.39	2.12	-0.40
505	Envelope(all)	87.25	0.32	-0.39	0.87	0.78
506	Envelope(all)	1443.70	-1.99	9.00	22.13	1.54
507	Envelope(all)	1436.22	-2.08	-8.86	-48.55	1.52
508	Envelope(all)	1436.74	-2.03	9.15	47.85	1.50
509	Envelope(all)	1443.02	-2.00	-8.78	-21.89	1.52
510	Envelope(all)	1045.28	-0.71	5.85	-25.94	8.84
511	Envelope(all)	1040.15	-0.69	-9.56	-36.17	8.78
512	Envelope(all)	1044.81	-0.79	-5.79	21.73	8.83
513	Envelope(all)	1040.63	-0.66	9.61	31.66	8.78
514	Envelope(all)	678.60	-1.39	4.23	-11.67	3.98
515	Envelope(all)	675.44	-1.38	-7.35	-15.86	3.95

516	Envelope(all)	675.86	-1.36	7.40	14.20	3.95
517	Envelope(all)	678.15	-1.47	-4.18	10.21	3.97
518	Envelope(all)	299.21	-1.72	3.15	-6.35	-1.35
519	Envelope(all)	293.93	-2.04	-3.11	-22.36	-2.74
520	Envelope(all)	297.94	-1.76	-5.96	-8.87	-1.47
521	Envelope(all)	296.45	-2.04	5.88	42.41	-2.74
522	Envelope(all)	13.94	-0.98	20.04	82.07	-3.70
523	Envelope(all)	13.77	0.78	13.71	58.23	2.94

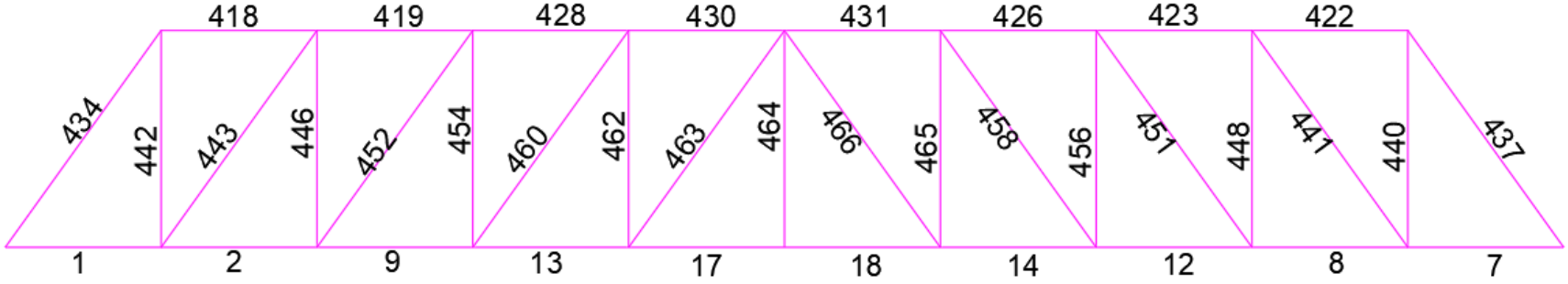
Gambar nomor *nodes* jembatan tipe *Howe*



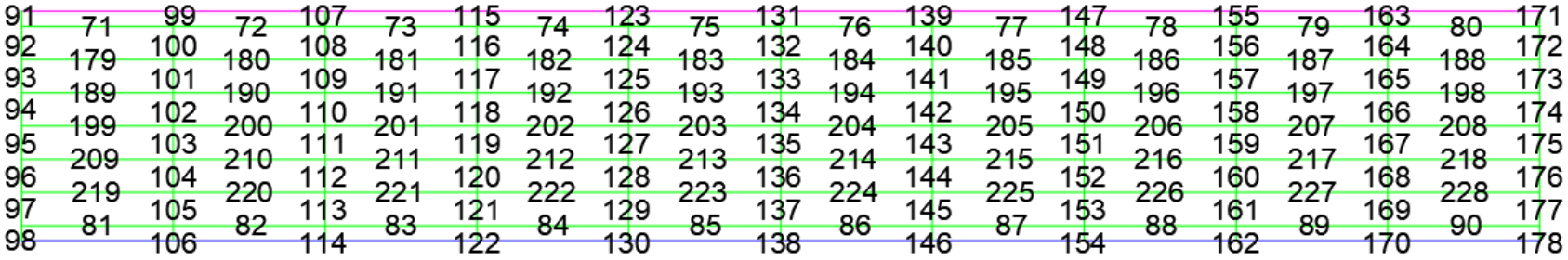
Gambar nomor elemen batang diagonal, vertikal, batang atas, dan batang bawah jembatan tipe *Howe*



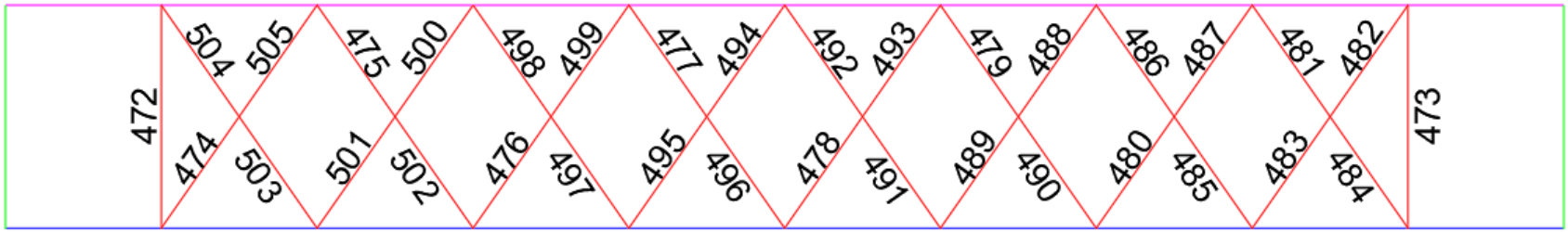
Gambar nomor elemen batang diagonal, vertikal, batang atas, dan batang bawah jembatan tipe *Howe*



Gambar nomor elemen gelagar memanjang dan melintang jembatan tipe *Howe*



Gambar nomor elemen ikatan angin jembatan tipe *Howe*



Elem	Load	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Moment-y (kN*m)	Moment-z (kN*m)
1	Envelope(all)	724.89	-9.17	61.25	171.54	-12.17
2	Envelope(all)	1215.59	-10.37	35.14	96.17	-16.01
3	Envelope(all)	698.39	-8.85	-108.41	-269.58	-11.48
4	Envelope(all)	1133.97	-9.99	-44.49	-88.75	-15.18
5	Envelope(all)	681.62	-8.86	95.88	239.54	-11.52
6	Envelope(all)	1123.86	-10.00	41.97	87.18	-15.21
7	Envelope(all)	769.58	-9.15	-61.34	-171.12	-12.13
8	Envelope(all)	1235.84	-10.35	-34.70	-94.48	-15.97
9	Envelope(all)	1585.13	-9.88	27.95	76.72	-10.05
10	Envelope(all)	1524.79	-9.48	-32.41	-70.82	-9.32
11	Envelope(all)	1517.80	-9.49	31.09	69.14	-9.37
12	Envelope(all)	1581.35	-9.86	-27.30	-74.68	-10.02
13	Envelope(all)	1817.19	-8.66	16.98	47.65	-3.96
14	Envelope(all)	1814.52	-8.64	-16.29	-45.70	-3.72
15	Envelope(all)	1751.87	-8.27	-19.28	-44.10	-3.20
16	Envelope(all)	1748.09	-8.29	18.56	42.54	-3.59
17	Envelope(all)	1883.52	-8.66	6.23	25.22	4.88
18	Envelope(all)	1882.06	-5.62	-5.52	15.15	13.40
19	Envelope(all)	1818.90	-8.16	-7.49	-19.19	3.80
20	Envelope(all)	1818.26	-5.63	6.89	25.62	11.47
71	Envelope(all)	193.52	-2.11	-1.40	-0.27	-5.48
72	Envelope(all)	385.83	-1.62	-1.95	1.02	-4.31
73	Envelope(all)	433.55	-1.10	-1.49	3.56	-2.93
74	Envelope(all)	463.87	-0.65	-1.31	4.15	-1.80

75	Envelope(all)	466.87	-0.23	-1.82	3.86	-0.74
76	Envelope(all)	466.80	0.20	-1.02	5.98	0.35
77	Envelope(all)	463.99	0.62	-1.45	3.89	1.38
78	Envelope(all)	433.99	1.07	-1.25	4.31	2.49
79	Envelope(all)	386.46	1.61	-0.84	3.89	3.77
80	Envelope(all)	193.86	2.12	-1.05	1.47	5.11
81	Envelope(all)	211.62	4.20	-1.29	-0.24	10.56
82	Envelope(all)	390.00	2.47	-1.82	-0.92	6.22
83	Envelope(all)	418.81	1.40	-1.37	3.10	3.53
84	Envelope(all)	445.94	0.76	-1.21	3.64	1.95
85	Envelope(all)	447.18	0.27	-1.64	3.37	0.70
86	Envelope(all)	446.73	-0.21	-1.00	5.30	-0.49
87	Envelope(all)	444.27	-0.69	-1.29	3.41	-1.69
88	Envelope(all)	415.66	-1.29	-1.10	3.79	-3.18
89	Envelope(all)	370.76	-2.23	-0.67	3.41	-5.52
90	Envelope(all)	186.64	-3.66	-1.12	0.90	-9.09
91	Envelope(all)	-5.50	150.01	-122.18	-76.59	97.16
92	Envelope(all)	-5.20	54.49	-127.42	64.30	-64.86
93	Envelope(all)	-4.05	-18.18	-133.45	160.36	-52.00
94	Envelope(all)	-2.17	-10.19	-63.25	206.88	-37.61
95	Envelope(all)	-1.06	-6.97	-30.74	222.67	-33.86
96	Envelope(all)	3.23	-29.17	33.75	204.09	-36.94
97	Envelope(all)	6.45	-109.48	48.35	175.83	-32.61
98	Envelope(all)	8.55	-214.70	86.63	128.29	104.65
99	Envelope(all)	18.53	162.80	-166.73	-103.44	116.65

100	Envelope(all)	18.79	65.78	-191.41	51.14	40.28
101	Envelope(all)	18.95	-16.73	-167.23	191.46	-48.54
102	Envelope(all)	18.99	-13.98	-82.85	261.06	-38.02
103	Envelope(all)	18.97	-12.64	-35.62	284.54	-32.82
104	Envelope(all)	18.88	-32.80	40.51	253.18	-34.88
105	Envelope(all)	18.67	-103.61	69.24	199.27	-29.98
106	Envelope(all)	18.39	-192.60	141.24	109.63	95.30
107	Envelope(all)	7.53	81.13	-161.40	-22.66	76.71
108	Envelope(all)	7.80	54.64	-188.45	53.90	39.54
109	Envelope(all)	8.07	13.09	-145.20	191.07	-35.96
110	Envelope(all)	8.18	-10.81	-61.69	258.68	-32.53
111	Envelope(all)	8.17	-11.49	-14.79	281.08	-27.02
112	Envelope(all)	8.05	-29.62	39.72	239.00	-28.51
113	Envelope(all)	7.78	-61.39	67.69	160.93	-18.49
114	Envelope(all)	7.51	-74.08	138.99	48.21	63.31
115	Envelope(all)	8.80	54.42	-161.46	-19.06	52.90
116	Envelope(all)	9.04	36.28	-188.39	62.93	27.89
117	Envelope(all)	9.34	11.65	-144.05	193.42	-23.09
118	Envelope(all)	9.49	-7.69	-60.53	260.78	-24.07
119	Envelope(all)	9.50	-9.92	-13.75	282.99	-19.84
120	Envelope(all)	9.35	-20.85	43.61	240.73	-19.75
121	Envelope(all)	9.07	-34.01	71.67	162.50	-10.43
122	Envelope(all)	8.85	-48.48	139.43	49.47	38.16
123	Envelope(all)	8.42	24.88	-163.81	-18.40	25.80
124	Envelope(all)	8.63	18.80	-190.41	70.21	15.08

125	Envelope(all)	8.95	7.11	-145.18	197.72	-12.26
126	Envelope(all)	9.13	-4.82	-60.84	266.34	-13.79
127	Envelope(all)	9.14	-6.66	14.64	288.79	-10.74
128	Envelope(all)	8.98	-11.53	46.51	245.92	-10.22
129	Envelope(all)	8.70	-16.73	75.34	166.19	4.46
130	Envelope(all)	8.50	-19.24	142.03	50.78	18.95
131	Envelope(all)	7.31	4.42	-158.84	-12.20	2.46
132	Envelope(all)	7.51	2.94	-186.13	68.23	-1.33
133	Envelope(all)	7.82	-0.73	-142.75	196.53	-3.17
134	Envelope(all)	8.01	-2.08	-60.11	262.54	-2.70
135	Envelope(all)	8.03	-2.32	-14.01	284.26	-0.91
136	Envelope(all)	7.86	-1.63	42.48	242.46	1.26
137	Envelope(all)	7.59	-0.94	69.94	165.59	2.76
138	Envelope(all)	7.40	2.09	137.04	54.85	1.95
139	Envelope(all)	8.43	-22.03	-163.79	-18.40	-24.08
140	Envelope(all)	8.64	-17.25	-190.39	70.96	-14.11
141	Envelope(all)	8.96	-6.46	-145.16	197.73	6.50
142	Envelope(all)	9.14	-1.07	-60.81	266.32	8.91
143	Envelope(all)	9.15	2.27	14.91	288.74	9.46
144	Envelope(all)	9.00	8.21	46.76	245.84	9.59
145	Envelope(all)	8.72	15.73	75.56	166.09	4.90
146	Envelope(all)	8.53	18.73	142.05	50.67	-14.62
147	Envelope(all)	8.78	-52.76	-161.40	-18.94	-51.33
148	Envelope(all)	9.02	-34.82	-188.33	65.65	-27.09
149	Envelope(all)	9.32	-11.03	-143.99	193.55	16.76

150	Envelope(all)	9.48	3.98	-60.47	260.79	19.34
151	Envelope(all)	9.49	5.63	-13.72	282.92	18.54
152	Envelope(all)	9.35	16.75	44.45	240.60	19.07
153	Envelope(all)	9.08	33.43	72.55	162.30	10.91
154	Envelope(all)	8.86	47.97	139.53	49.19	-32.28
155	Envelope(all)	7.54	-79.62	-161.28	-20.99	-75.56
156	Envelope(all)	7.82	-53.44	-188.33	54.48	-39.10
157	Envelope(all)	8.09	-12.71	-144.09	191.42	29.06
158	Envelope(all)	8.21	7.25	-60.59	258.81	28.20
159	Envelope(all)	8.22	7.44	-13.76	280.99	25.69
160	Envelope(all)	8.10	24.29	40.95	238.75	27.70
161	Envelope(all)	7.85	57.62	68.97	160.57	18.94
162	Envelope(all)	7.59	73.57	139.20	47.73	-54.08
163	Envelope(all)	18.24	-162.01	-164.40	-79.13	-116.54
164	Envelope(all)	18.51	-65.25	-190.90	52.49	-40.57
165	Envelope(all)	18.68	12.85	-160.68	192.39	42.14
166	Envelope(all)	18.74	10.64	-76.31	261.53	34.19
167	Envelope(all)	18.73	8.75	-28.85	284.45	30.47
168	Envelope(all)	18.65	26.91	40.92	245.96	33.90
169	Envelope(all)	18.46	92.31	69.63	184.89	30.12
170	Envelope(all)	18.19	181.15	141.68	88.07	-79.86
171	Envelope(all)	-4.20	-149.92	-116.78	-57.01	-98.15
172	Envelope(all)	-4.09	-54.59	-122.01	64.62	50.55
173	Envelope(all)	-3.28	15.22	-128.00	160.40	47.06
174	Envelope(all)	-1.88	8.13	-57.76	206.68	34.94

175	Envelope(all)	-1.06	4.42	-24.95	222.18	32.56
176	Envelope(all)	2.54	24.74	33.92	197.63	35.97
177	Envelope(all)	5.23	96.22	48.52	163.42	32.57
178	Envelope(all)	7.04	186.01	86.80	109.93	-87.74
179	Envelope(all)	95.98	2.40	-2.97	0.02	-5.99
180	Envelope(all)	208.57	-2.06	-4.10	7.26	-5.37
181	Envelope(all)	290.77	-1.55	-3.35	13.63	-4.11
182	Envelope(all)	338.79	-0.96	-2.86	15.46	-2.65
183	Envelope(all)	360.92	-0.35	-4.26	14.65	-1.12
184	Envelope(all)	361.28	0.31	-2.07	20.38	0.54
185	Envelope(all)	339.87	0.93	-3.26	14.63	2.07
186	Envelope(all)	292.53	1.53	-2.75	15.46	3.58
187	Envelope(all)	210.76	2.06	-1.86	13.61	4.96
188	Envelope(all)	97.57	2.40	-1.44	7.33	5.91
189	Envelope(all)	17.06	3.80	-3.27	-0.03	9.51
190	Envelope(all)	37.36	2.09	-4.28	8.78	5.20
191	Envelope(all)	62.97	1.06	-3.74	14.48	2.59
192	Envelope(all)	83.41	-0.56	-3.24	16.47	-1.54
193	Envelope(all)	95.09	0.27	-4.54	15.76	-0.65
194	Envelope(all)	95.35	0.20	-2.53	21.18	0.36
195	Envelope(all)	84.12	0.56	-3.57	15.74	1.27
196	Envelope(all)	63.95	0.89	-3.05	16.46	2.10
197	Envelope(all)	38.30	-1.51	-2.31	14.46	-3.81
198	Envelope(all)	17.64	-2.91	-1.46	8.76	-7.28
199	Envelope(all)	-8.30	4.90	-3.34	-0.03	12.27

200	Envelope(all)	-12.14	3.05	-4.26	9.12	7.66
201	Envelope(all)	-11.00	1.84	-3.79	14.49	4.65
202	Envelope(all)	-6.05	1.08	-3.29	16.52	2.75
203	Envelope(all)	-1.98	0.48	-4.54	15.86	1.27
204	Envelope(all)	-1.90	-0.11	-2.63	21.10	-0.21
205	Envelope(all)	-5.84	-0.68	-3.59	15.85	-1.63
206	Envelope(all)	-10.68	-1.36	-3.04	16.52	-3.35
207	Envelope(all)	-11.80	-2.40	-2.41	14.47	-5.96
208	Envelope(all)	-8.07	-3.90	-1.50	9.09	-9.73
209	Envelope(all)	43.84	5.90	-3.12	-0.02	14.82
210	Envelope(all)	83.61	3.89	-4.01	8.04	9.84
211	Envelope(all)	119.33	2.45	-3.48	13.55	6.28
212	Envelope(all)	140.37	1.44	-2.96	15.50	3.77
213	Envelope(all)	149.26	0.60	-4.20	14.80	1.66
214	Envelope(all)	147.23	-0.24	-2.34	20.04	-0.44
215	Envelope(all)	134.98	-1.04	-3.26	14.80	-2.46
216	Envelope(all)	112.43	-1.95	-2.69	15.49	-4.73
217	Envelope(all)	78.13	-3.18	-2.06	13.52	-7.84
218	Envelope(all)	41.20	-4.83	-1.49	8.01	-12.02
219	Envelope(all)	160.48	6.45	-2.73	0.01	16.26
220	Envelope(all)	301.76	4.25	-3.69	6.06	10.85
221	Envelope(all)	364.53	2.60	-2.98	12.18	6.72
222	Envelope(all)	389.95	1.48	-2.46	13.94	3.90
223	Envelope(all)	396.34	0.55	-3.73	13.14	1.58
224	Envelope(all)	391.74	-0.33	-1.88	18.51	-0.64

225	Envelope(all)	376.33	-1.20	-2.78	13.14	-2.81
226	Envelope(all)	342.67	-2.23	-2.23	13.93	-5.37
227	Envelope(all)	275.58	-3.65	-1.41	12.16	-8.92
228	Envelope(all)	144.05	-5.47	-1.50	6.04	-13.58
329	Envelope(all)	-5.50	150.01	-121.57	-76.54	97.16
330	Envelope(all)	-5.20	54.49	-111.94	69.34	-64.86
331	Envelope(all)	-4.05	-18.18	-66.32	168.92	-52.00
332	Envelope(all)	-2.17	-10.19	-36.65	214.72	-37.61
333	Envelope(all)	-1.06	-6.97	30.64	225.30	-33.86
334	Envelope(all)	3.23	-29.17	48.25	206.72	-36.94
335	Envelope(all)	6.45	-109.48	69.22	178.78	-32.61
336	Envelope(all)	8.55	-214.70	87.24	128.34	104.65
337	Envelope(all)	18.53	162.80	-165.50	-103.33	116.65
338	Envelope(all)	18.79	65.78	-147.38	61.24	40.28
339	Envelope(all)	18.95	-16.73	-85.60	202.64	-48.54
340	Envelope(all)	18.99	-13.98	-41.75	271.54	-38.02
341	Envelope(all)	18.97	-12.64	37.58	289.80	-32.82
342	Envelope(all)	18.88	-32.80	69.51	258.44	-34.88
343	Envelope(all)	18.67	-103.61	108.52	205.16	-29.98
344	Envelope(all)	18.39	-192.60	142.47	109.73	95.30
345	Envelope(all)	7.53	81.13	-160.17	-22.56	76.71
346	Envelope(all)	7.80	54.64	-127.54	64.00	39.54
347	Envelope(all)	8.07	13.09	-63.57	202.25	-35.96
348	Envelope(all)	8.18	-10.81	-20.59	269.15	-32.53
349	Envelope(all)	8.17	-11.49	37.63	286.34	-27.02

350	Envelope(all)	8.05	-29.62	68.72	244.26	-28.51
351	Envelope(all)	7.78	-61.39	106.78	170.47	-18.49
352	Envelope(all)	7.51	-74.08	140.22	48.31	63.31
353	Envelope(all)	8.80	54.42	-160.24	-18.95	52.90
354	Envelope(all)	9.04	36.28	-127.49	68.77	27.89
355	Envelope(all)	9.34	11.65	-62.42	204.61	-23.09
356	Envelope(all)	9.49	-7.69	-19.43	271.25	-24.07
357	Envelope(all)	9.50	-9.92	41.52	288.25	-19.84
358	Envelope(all)	9.35	-20.85	72.61	246.00	-19.75
359	Envelope(all)	9.07	-34.01	107.50	172.05	-10.43
360	Envelope(all)	8.85	-48.48	140.66	49.57	38.16
361	Envelope(all)	8.42	24.88	-162.58	-18.30	25.80
362	Envelope(all)	8.63	18.80	-129.50	76.05	15.08
363	Envelope(all)	8.95	7.11	-63.55	208.91	-12.26
364	Envelope(all)	9.13	-4.82	-19.74	276.81	-13.79
365	Envelope(all)	9.14	-6.66	43.64	294.05	-10.74
366	Envelope(all)	8.98	-11.53	75.51	251.18	-10.22
367	Envelope(all)	8.70	-16.73	111.17	175.74	4.46
368	Envelope(all)	8.50	-19.24	143.25	50.88	18.95
369	Envelope(all)	7.31	4.42	-157.61	-12.09	2.46
370	Envelope(all)	7.51	2.94	-125.22	74.07	-1.33
371	Envelope(all)	7.82	-0.73	-61.12	207.72	-3.17
372	Envelope(all)	8.01	-2.08	-19.01	273.01	-2.70
373	Envelope(all)	8.03	-2.32	41.04	289.52	-0.91
374	Envelope(all)	7.86	-1.63	71.49	247.72	1.26

375	Envelope(all)	7.59	-0.94	105.77	175.14	2.76
376	Envelope(all)	7.40	2.09	138.26	54.95	1.95
377	Envelope(all)	8.43	-22.03	-162.57	-18.30	-24.08
378	Envelope(all)	8.64	-17.25	-129.49	76.80	-14.11
379	Envelope(all)	8.96	-6.46	-63.53	208.92	6.50
380	Envelope(all)	9.14	-1.07	-19.71	276.79	8.91
381	Envelope(all)	9.15	2.27	43.91	294.00	9.46
382	Envelope(all)	9.00	8.21	75.76	251.10	9.59
383	Envelope(all)	8.72	15.73	111.39	175.64	4.90
384	Envelope(all)	8.53	18.73	143.28	50.78	-14.62
385	Envelope(all)	8.78	-52.76	-160.17	-18.83	-51.33
386	Envelope(all)	9.02	-34.82	-127.42	71.49	-27.09
387	Envelope(all)	9.32	-11.03	-62.35	204.74	16.76
388	Envelope(all)	9.48	3.98	-19.37	271.26	19.34
389	Envelope(all)	9.49	5.63	42.35	288.18	18.54
390	Envelope(all)	9.35	16.75	73.46	245.86	19.07
391	Envelope(all)	9.08	33.43	108.38	171.85	10.91
392	Envelope(all)	8.86	47.97	140.75	49.30	-32.28
393	Envelope(all)	7.54	-79.62	-160.05	-20.89	-75.56
394	Envelope(all)	7.82	-53.44	-127.42	64.57	-39.10
395	Envelope(all)	8.09	-12.71	-62.46	202.61	29.06
396	Envelope(all)	8.21	7.25	-19.50	269.29	28.20
397	Envelope(all)	8.22	7.44	38.79	286.25	25.69
398	Envelope(all)	8.10	24.29	69.95	244.01	27.70
399	Envelope(all)	7.85	57.62	106.98	170.12	18.94

400	Envelope(all)	7.59	73.57	140.42	47.83	-54.08
401	Envelope(all)	18.24	-162.01	-163.18	-79.03	-116.54
402	Envelope(all)	18.51	-65.25	-140.79	62.58	-40.57
403	Envelope(all)	18.68	12.85	-79.05	203.57	42.14
404	Envelope(all)	18.74	10.64	-35.21	272.01	34.19
405	Envelope(all)	18.73	8.75	37.98	289.71	30.47
406	Envelope(all)	18.65	26.91	69.92	251.22	33.90
407	Envelope(all)	18.46	92.31	108.95	190.78	30.12
408	Envelope(all)	18.19	181.15	142.91	88.17	-79.86
409	Envelope(all)	-4.20	-149.92	-116.17	-56.96	-98.15
410	Envelope(all)	-4.09	-54.59	-106.53	69.66	50.55
411	Envelope(all)	-3.28	15.22	-60.87	168.96	47.06
412	Envelope(all)	-1.88	8.13	-31.16	214.53	34.94
413	Envelope(all)	-1.06	4.42	30.76	224.81	32.56
414	Envelope(all)	2.54	24.74	48.42	200.26	35.97
415	Envelope(all)	2.54	24.74	49.48	183.52	32.83
416	Envelope(all)	5.23	96.22	69.39	166.36	32.57
417	Envelope(all)	7.04	186.01	87.41	109.98	-87.74
418	Envelope(all)	-1019.22	-12.51	23.83	93.16	-26.61
419	Envelope(all)	-1806.18	-7.37	0.95	4.40	-7.77
420	Envelope(all)	-968.06	-12.07	30.67	112.51	-25.48
421	Envelope(all)	-1723.89	-7.10	-1.83	-9.62	-7.33
422	Envelope(all)	-1017.17	-12.49	-18.37	-72.79	-26.57
423	Envelope(all)	-1804.24	-7.36	-0.97	-4.49	-7.74
424	Envelope(all)	-970.15	-12.09	-24.68	-90.55	-25.54

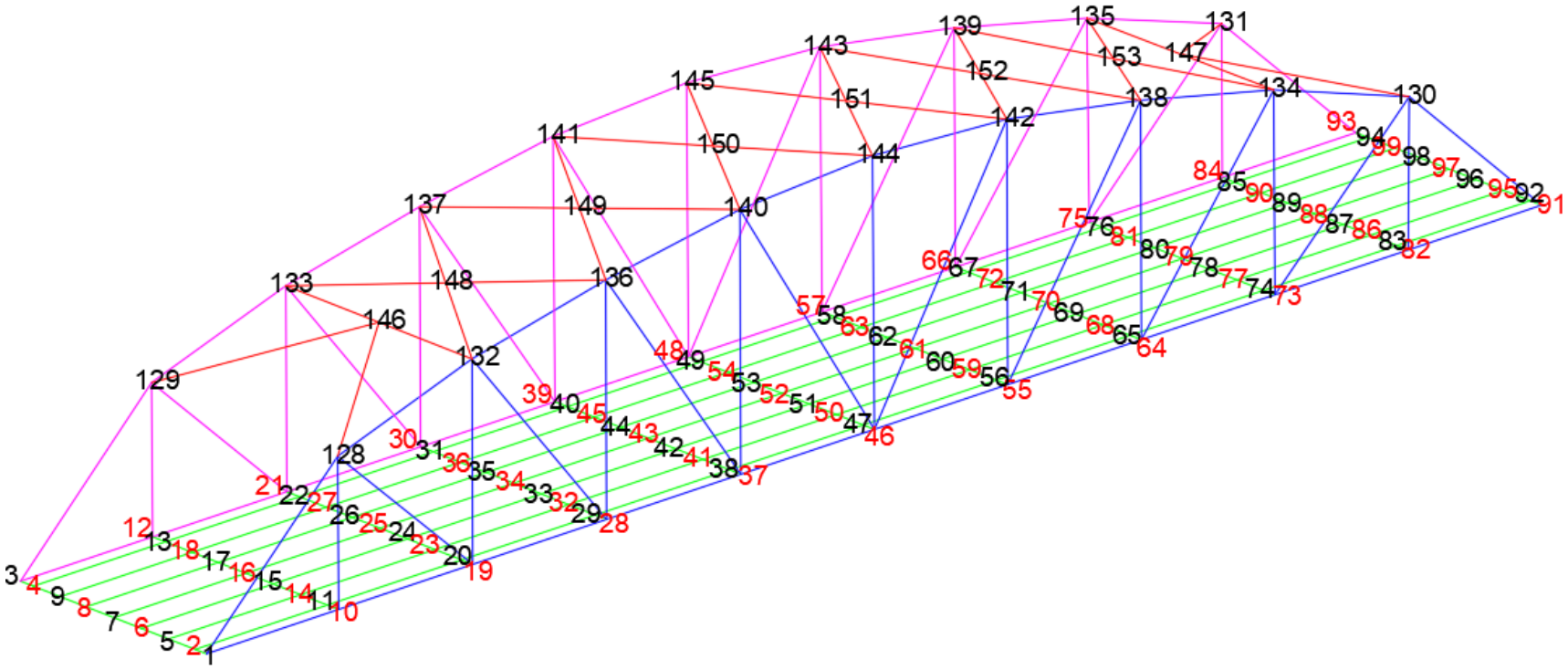
425	Envelope(all)	-1725.84	-7.12	1.51	7.33	-7.63
426	Envelope(all)	-2360.56	-8.16	-1.32	-7.78	-6.99
427	Envelope(all)	-2261.84	-7.86	-2.12	-9.73	-6.84
428	Envelope(all)	-2361.68	-8.18	1.73	9.11	-7.03
429	Envelope(all)	-2260.75	-7.84	2.57	11.20	-6.46
430	Envelope(all)	-2693.04	-7.77	0.56	4.96	3.49
431	Envelope(all)	-2693.39	-2.48	-0.43	4.05	17.35
432	Envelope(all)	-2582.72	-7.34	0.58	-3.00	2.51
433	Envelope(all)	-2583.06	-2.58	-0.50	-4.01	15.72
434	Envelope(all)	-1745.54	-0.88	-42.19	-188.95	12.48
435	Envelope(all)	-1653.51	-1.11	-54.69	-262.61	11.77
436	Envelope(all)	-1659.28	-0.98	43.44	207.36	11.81
437	Envelope(all)	-1739.82	-0.89	32.16	140.63	12.43
438	Envelope(all)	1313.70	-4.10	-10.41	-24.81	-12.84
439	Envelope(all)	-1280.71	-0.54	8.04	23.38	7.74
440	Envelope(all)	1378.46	-4.31	26.57	44.05	-13.51
441	Envelope(all)	-1346.24	-0.66	6.63	23.44	8.26
442	Envelope(all)	1382.08	4.33	34.44	59.35	13.58
443	Envelope(all)	-1350.31	-0.58	-8.98	-35.42	8.30
444	Envelope(all)	1310.04	4.09	17.30	-23.89	12.80
445	Envelope(all)	-1276.64	-0.58	-10.68	-37.21	7.71
446	Envelope(all)	1081.22	3.45	6.37	-26.15	12.13
447	Envelope(all)	1021.27	3.27	-9.76	-43.00	11.48
448	Envelope(all)	1077.96	-3.44	6.29	-21.27	-12.08
449	Envelope(all)	1024.52	-3.27	-10.52	-37.55	-11.51

450	Envelope(all)	-932.74	-0.53	-1.35	-21.59	7.89
451	Envelope(all)	-987.12	-0.69	1.76	10.63	8.44
452	Envelope(all)	-991.12	-0.62	-2.77	-10.65	8.48
453	Envelope(all)	-928.76	-0.53	-1.37	15.74	7.85
454	Envelope(all)	785.44	2.13	4.83	-11.26	7.40
455	Envelope(all)	734.75	1.98	-9.38	-20.95	6.90
456	Envelope(all)	782.23	-2.12	4.79	-9.31	-7.36
457	Envelope(all)	737.95	-1.99	-9.73	-18.74	-6.93
458	Envelope(all)	-621.41	-1.02	1.63	13.38	5.29
459	Envelope(all)	-576.98	-0.87	-3.54	-34.20	4.83
460	Envelope(all)	-625.29	-0.94	-1.63	-13.29	5.34
461	Envelope(all)	-573.11	-0.89	3.02	31.83	4.80
462	Envelope(all)	490.78	1.35	4.33	-5.97	4.75
463	Envelope(all)	-252.48	-1.57	-1.85	-14.02	-0.72
464	Envelope(all)	329.53	0.20	4.04	3.65	0.70
465	Envelope(all)	487.66	-1.34	4.32	-4.76	-4.72
466	Envelope(all)	-248.72	-1.60	1.86	14.18	-0.88
467	Envelope(all)	451.35	-1.23	-9.63	-11.72	-4.34
468	Envelope(all)	-214.12	-1.52	-4.47	-35.69	-0.55
469	Envelope(all)	293.73	-0.13	-9.35	-8.00	-0.45
470	Envelope(all)	448.24	1.22	-9.62	-13.08	4.30
471	Envelope(all)	-210.37	-1.53	4.20	35.06	-0.59
472	Envelope(all)	5.90	-0.84	-27.46	-95.52	-3.17
473	Envelope(all)	5.81	0.64	15.45	66.03	2.42
474	Envelope(all)	96.15	-0.25	-1.31	2.68	-0.91

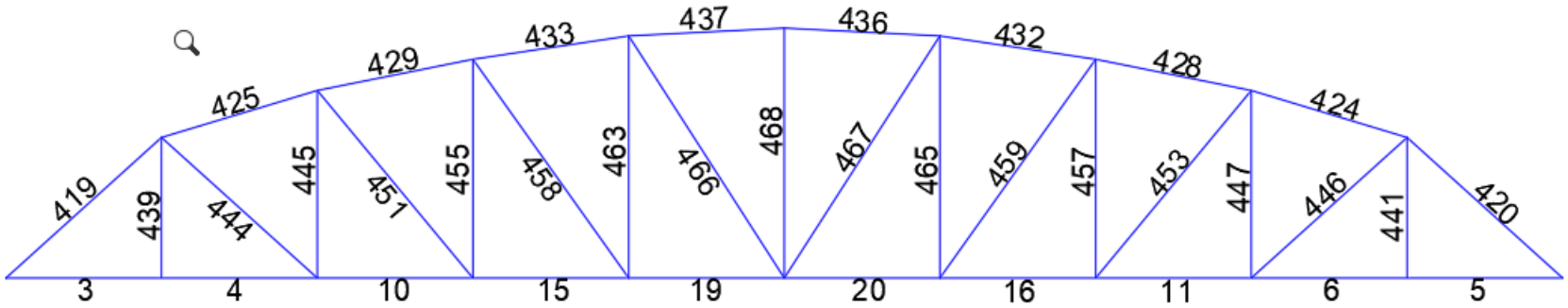
475	Envelope(all)	-69.34	-0.15	-2.11	-4.91	-0.36
476	Envelope(all)	47.08	0.15	-1.30	-2.21	0.34
477	Envelope(all)	-34.56	-0.16	-1.25	-1.92	-0.37
478	Envelope(all)	-4.81	0.16	-1.76	-4.05	0.35
479	Envelope(all)	17.55	-0.16	-1.21	-1.77	-0.37
480	Envelope(all)	-42.95	0.16	-1.61	-2.81	0.38
481	Envelope(all)	65.70	-0.18	-1.31	-2.86	-0.34
482	Envelope(all)	-88.48	0.23	-2.27	-5.88	0.78
483	Envelope(all)	-88.17	0.12	-0.20	1.58	0.28
484	Envelope(all)	65.77	0.19	-0.90	0.88	0.18
485	Envelope(all)	35.90	-0.15	-1.30	-2.18	-0.35
486	Envelope(all)	35.93	-0.15	-0.43	0.93	-0.35
487	Envelope(all)	-42.93	0.15	0.59	1.66	0.33
488	Envelope(all)	-28.62	0.15	-1.26	-2.01	0.37
489	Envelope(all)	-28.60	0.16	0.49	1.26	0.36
490	Envelope(all)	17.54	-0.15	0.09	0.90	-0.34
491	Envelope(all)	-8.71	-0.16	-1.62	-3.70	-0.37
492	Envelope(all)	-8.73	-0.16	-0.54	0.95	-0.36
493	Envelope(all)	-4.81	0.16	-0.34	1.09	0.37
494	Envelope(all)	23.12	0.16	-1.22	-1.78	0.36
495	Envelope(all)	23.12	0.16	0.30	0.95	0.36
496	Envelope(all)	-34.56	-0.16	0.54	1.18	-0.35
497	Envelope(all)	-57.90	-0.16	-1.71	-3.55	-0.36
498	Envelope(all)	-57.93	-0.16	0.14	1.36	-0.35
499	Envelope(all)	47.08	0.16	-0.51	0.89	0.37

500	Envelope(all)	62.93	0.15	-1.20	-1.71	0.34
501	Envelope(all)	62.89	0.15	-0.80	0.93	0.32
502	Envelope(all)	-69.36	-0.17	0.31	1.83	-0.34
503	Envelope(all)	-117.56	-0.12	-1.20	-1.67	-0.25
504	Envelope(all)	-117.93	-0.28	1.32	1.66	-0.31
505	Envelope(all)	96.04	0.20	0.25	0.88	0.52
506	Envelope(all)	5.90	-0.84	-27.46	-95.52	-3.17
507	Envelope(all)	5.81	0.64	15.45	66.03	2.42

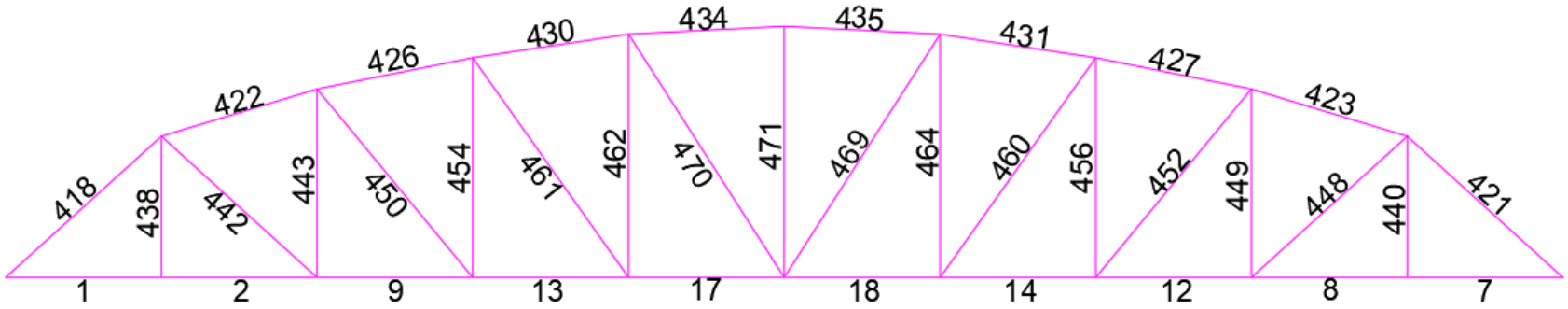
Gambar nomor *nodes* jembatan tipe *Parker*



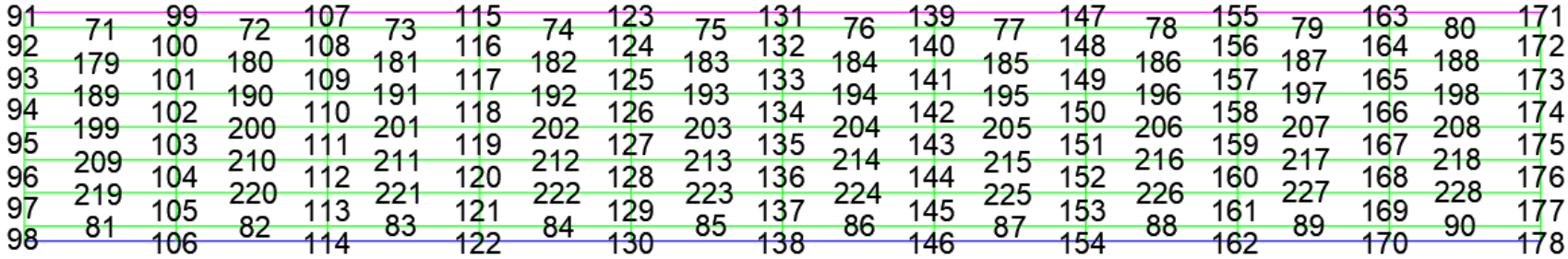
Gambar nomor elemen batang diagonal, vertikal, batang atas, dan batang bawah jembatan tipe *Parker*



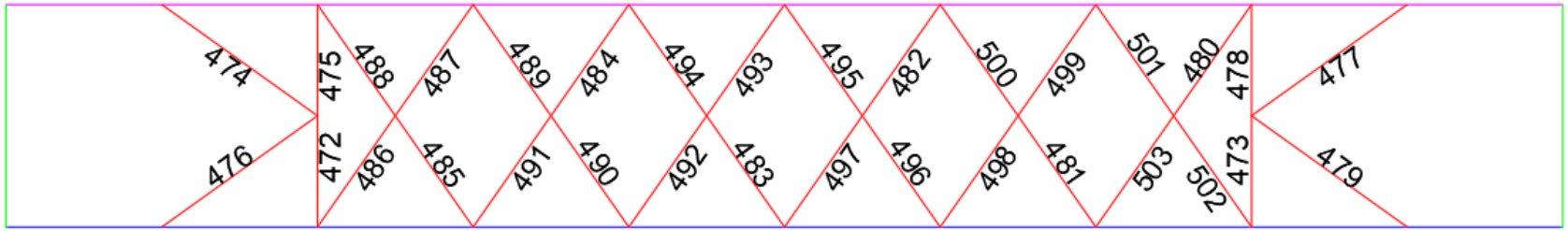
Gambar nomor elemen batang diagonal, vertikal, batang atas, dan batang bawah jembatan tipe *Parker*



Gambar nomor elemen gelagar memanjang dan melintang jembatan tipe *Parker*



Gambar nomor elemen ikatan angin jembatan tipe *Parker*



Elem	Load	Axial (kN)	Shear-y (kN)	Shear-z (kN)	Moment-y (kN*m)	Moment-z (kN*m)
1	Envelope(all)	1475.72	-9.56	68.99	202.98	-8.06
2	Envelope(all)	1253.29	-6.37	29.89	80.42	-3.67
3	Envelope(all)	1471.92	-9.53	-93.23	-241.80	-8.01
4	Envelope(all)	1250.19	-6.36	-32.32	-79.67	-4.28
5	Envelope(all)	1432.07	-9.51	80.79	213.17	-8.03
6	Envelope(all)	1222.44	-6.44	28.79	73.40	-4.68
7	Envelope(all)	1437.63	-9.53	-65.09	-191.84	-8.06
8	Envelope(all)	1226.62	-6.40	-27.55	-74.13	-3.73
9	Envelope(all)	1749.15	-9.38	24.68	67.71	-8.72
10	Envelope(all)	1744.24	-9.37	-24.45	-67.13	-8.71
11	Envelope(all)	1724.37	-9.37	21.96	60.78	-8.73
12	Envelope(all)	1729.94	-9.38	-22.17	-61.24	-8.72
13	Envelope(all)	1975.62	-9.18	15.03	42.53	5.76
14	Envelope(all)	1964.13	-9.19	-12.48	-36.09	5.74
15	Envelope(all)	1969.89	-9.18	-14.89	-42.22	5.74
16	Envelope(all)	1957.94	-9.19	12.45	35.87	5.71
17	Envelope(all)	2026.67	-7.65	7.59	27.96	11.22
18	Envelope(all)	2022.85	-9.80	-5.05	15.62	-6.12
19	Envelope(all)	2020.68	-7.66	-7.53	-21.50	11.18
20	Envelope(all)	2016.56	-9.79	5.01	18.84	-6.12
71	Envelope(all)	368.99	-2.43	-3.29	-0.10	-6.56
72	Envelope(all)	437.13	-1.61	1.33	10.67	-4.25
73	Envelope(all)	482.28	-1.13	-2.68	3.35	-3.02
74	Envelope(all)	505.55	-0.70	-2.02	6.61	-1.91

75	Envelope(all)	503.12	-0.33	-1.71	6.16	-0.96
76	Envelope(all)	502.31	0.22	-2.64	3.89	0.41
77	Envelope(all)	502.86	0.58	-2.22	6.16	1.29
78	Envelope(all)	477.47	1.01	-1.39	6.72	2.33
79	Envelope(all)	429.79	1.49	-3.42	3.38	3.51
80	Envelope(all)	361.80	2.29	1.15	10.95	5.25
81	Envelope(all)	369.02	3.58	-3.28	-0.10	9.28
82	Envelope(all)	436.69	1.94	1.33	10.63	4.91
83	Envelope(all)	481.00	1.16	-2.67	3.35	3.00
84	Envelope(all)	503.94	0.71	-2.02	6.59	1.90
85	Envelope(all)	501.41	0.33	-1.71	6.15	0.96
86	Envelope(all)	500.49	-0.23	-2.64	3.89	-0.52
87	Envelope(all)	500.96	-0.63	-2.22	6.15	-1.49
88	Envelope(all)	475.59	-1.05	-1.40	6.70	-2.55
89	Envelope(all)	428.12	-1.71	-3.41	3.38	-4.20
90	Envelope(all)	360.64	-3.06	1.15	10.91	-7.35
91	Envelope(all)	-3.16	245.10	-214.85	38.05	140.81
92	Envelope(all)	-3.24	60.75	-226.88	125.38	-46.37
93	Envelope(all)	-2.84	-14.04	-245.60	332.46	-49.62
94	Envelope(all)	-1.84	-7.77	-110.15	458.02	-41.27
95	Envelope(all)	-1.24	-3.73	-136.32	530.18	-38.55
96	Envelope(all)	2.01	-18.18	74.11	457.95	-42.96
97	Envelope(all)	4.52	-96.02	172.72	337.80	-44.31
98	Envelope(all)	6.27	-274.13	212.03	148.92	76.05
99	Envelope(all)	33.32	116.73	-246.44	-106.11	110.99

100	Envelope(all)	33.74	81.82	-275.06	67.79	57.58
101	Envelope(all)	33.99	15.34	-268.04	295.24	-38.29
102	Envelope(all)	34.07	-9.75	-127.15	429.43	-37.75
103	Envelope(all)	34.06	-8.51	-146.99	504.32	-36.89
104	Envelope(all)	33.98	-28.83	69.99	429.19	-40.98
105	Envelope(all)	33.72	-96.12	169.01	299.15	-31.35
106	Envelope(all)	33.30	-124.08	241.92	115.29	83.14
107	Envelope(all)	15.90	85.89	-264.89	-59.25	84.54
108	Envelope(all)	16.16	58.47	-290.96	68.41	45.03
109	Envelope(all)	16.46	17.92	-277.15	313.48	-26.43
110	Envelope(all)	16.59	-6.44	-129.93	457.47	-31.29
111	Envelope(all)	16.59	-8.89	-144.69	535.47	-31.83
112	Envelope(all)	16.46	-26.50	79.87	457.00	-32.94
113	Envelope(all)	16.16	-58.16	185.09	316.93	-18.63
114	Envelope(all)	15.90	-85.15	260.54	73.02	52.51
115	Envelope(all)	14.78	57.09	-254.03	-49.81	58.38
116	Envelope(all)	15.02	39.62	-281.61	72.00	32.26
117	Envelope(all)	15.34	15.54	-271.74	307.06	-16.18
118	Envelope(all)	15.51	-4.24	-128.12	445.28	-22.80
119	Envelope(all)	15.51	-8.13	-146.74	521.37	-23.66
120	Envelope(all)	15.34	-19.34	75.56	444.72	-23.22
121	Envelope(all)	15.03	-39.37	175.84	310.33	-10.94
122	Envelope(all)	14.79	-56.67	249.79	76.34	35.22
123	Envelope(all)	11.02	31.05	-254.14	-38.88	33.28
124	Envelope(all)	11.24	23.10	-281.60	83.23	19.04

125	Envelope(all)	11.56	10.00	-271.61	318.13	-8.93
126	Envelope(all)	11.75	-2.81	-128.08	456.21	-13.32
127	Envelope(all)	11.75	-5.74	-146.78	532.23	-13.52
128	Envelope(all)	11.56	-11.29	75.62	455.64	-13.15
129	Envelope(all)	11.25	-22.94	175.83	321.38	-6.13
130	Envelope(all)	11.03	-30.85	249.91	87.53	20.13
131	Envelope(all)	10.29	19.76	-259.37	-44.60	12.44
132	Envelope(all)	10.48	6.07	-286.22	85.38	3.75
133	Envelope(all)	10.80	3.00	-274.45	320.17	-3.69
134	Envelope(all)	10.99	-1.62	-129.05	461.11	-3.59
135	Envelope(all)	10.99	-2.43	-146.09	538.12	-2.68
136	Envelope(all)	10.80	-3.03	78.43	460.50	-3.09
137	Envelope(all)	10.49	-6.02	180.47	323.36	3.60
138	Envelope(all)	10.29	-19.65	255.15	84.53	3.49
139	Envelope(all)	10.98	-27.07	-254.13	-38.74	-26.78
140	Envelope(all)	11.20	-18.18	-281.59	83.50	-14.23
141	Envelope(all)	11.52	-6.72	-271.61	318.34	5.39
142	Envelope(all)	11.70	-1.50	-128.09	456.41	8.80
143	Envelope(all)	11.70	2.07	-146.83	532.42	9.05
144	Envelope(all)	11.52	7.51	75.67	455.83	9.64
145	Envelope(all)	11.20	18.34	175.83	321.57	5.72
146	Envelope(all)	10.99	27.07	249.90	87.77	-15.70
147	Envelope(all)	14.75	-53.09	-254.03	-49.74	-51.79
148	Envelope(all)	14.98	-34.56	-281.61	72.41	-27.38
149	Envelope(all)	15.30	-12.26	-271.74	307.38	12.14

150	Envelope(all)	15.46	2.11	-128.15	445.60	17.95
151	Envelope(all)	15.46	4.39	-146.89	521.68	19.15
152	Envelope(all)	15.30	14.93	75.71	445.01	19.62
153	Envelope(all)	14.99	34.39	175.86	310.60	10.47
154	Envelope(all)	14.75	52.90	249.81	76.67	-30.00
155	Envelope(all)	15.85	-81.74	-264.77	-58.56	-77.74
156	Envelope(all)	16.10	-53.06	-290.87	69.37	-40.07
157	Envelope(all)	16.40	-14.80	-277.10	314.12	21.70
158	Envelope(all)	16.53	4.24	-129.92	457.98	26.82
159	Envelope(all)	16.53	5.33	-145.21	535.91	27.29
160	Envelope(all)	16.40	21.08	80.41	457.40	29.21
161	Envelope(all)	16.11	52.74	185.09	317.36	17.98
162	Envelope(all)	15.86	81.32	260.52	73.66	-44.96
163	Envelope(all)	32.18	-111.01	-246.48	-82.45	-103.62
164	Envelope(all)	32.59	-76.18	-275.08	68.71	-52.77
165	Envelope(all)	32.84	-12.43	-267.99	296.67	33.67
166	Envelope(all)	32.92	7.58	-126.90	430.80	34.22
167	Envelope(all)	32.92	5.21	-147.62	505.58	32.34
168	Envelope(all)	32.84	22.90	71.08	430.27	37.11
169	Envelope(all)	32.59	84.89	169.29	299.99	30.23
170	Envelope(all)	32.18	112.26	242.23	96.62	-70.00
171	Envelope(all)	-2.20	-237.14	-214.67	35.87	-133.78
172	Envelope(all)	-2.42	-56.56	-226.71	123.64	34.64
173	Envelope(all)	-2.25	13.19	-245.47	330.84	45.89
174	Envelope(all)	-1.56	6.91	-109.89	456.25	37.65

175	Envelope(all)	-1.14	-3.90	-136.33	528.30	34.06
176	Envelope(all)	1.50	13.61	74.41	455.99	39.18
177	Envelope(all)	3.59	81.21	172.74	335.79	42.88
178	Envelope(all)	5.07	243.34	212.03	134.83	-59.26
179	Envelope(all)	116.62	-2.76	-9.37	0.05	-7.06
180	Envelope(all)	247.74	-2.28	7.87	39.30	-5.93
181	Envelope(all)	325.72	-1.68	-8.56	19.24	-4.47
182	Envelope(all)	369.91	-1.08	-7.07	27.53	-2.96
183	Envelope(all)	388.87	-0.49	-6.10	26.63	-1.46
184	Envelope(all)	388.45	0.29	-8.77	19.96	0.54
185	Envelope(all)	368.68	0.88	-7.49	26.63	1.95
186	Envelope(all)	323.95	1.47	5.53	27.49	3.44
187	Envelope(all)	246.29	2.06	-10.83	19.23	4.92
188	Envelope(all)	116.62	2.55	6.29	38.98	6.20
189	Envelope(all)	-14.77	2.19	-10.24	-0.05	5.46
190	Envelope(all)	39.78	-1.25	9.45	43.60	-3.22
191	Envelope(all)	70.31	-0.99	-10.22	24.90	-2.60
192	Envelope(all)	92.85	-0.66	-9.02	32.24	-1.79
193	Envelope(all)	105.02	-0.30	-7.96	31.77	-0.90
194	Envelope(all)	105.15	0.19	-10.62	25.09	0.36
195	Envelope(all)	93.30	0.55	-9.27	31.78	1.24
196	Envelope(all)	71.11	0.89	-7.51	32.20	2.11
197	Envelope(all)	40.92	1.19	-12.41	24.88	2.88
198	Envelope(all)	11.59	-1.54	7.16	43.30	-3.87
199	Envelope(all)	-14.24	3.27	-10.60	-0.07	8.19

200	Envelope(all)	-20.59	1.81	10.13	45.42	4.54
201	Envelope(all)	-16.28	1.07	-10.94	27.24	2.71
202	Envelope(all)	-7.04	0.69	-9.84	34.25	1.76
203	Envelope(all)	4.38	0.32	-8.74	33.92	0.83
204	Envelope(all)	4.65	-0.13	-11.40	27.26	-0.28
205	Envelope(all)	-6.26	-0.50	-10.03	33.94	-1.22
206	Envelope(all)	-15.13	-0.86	-8.37	34.20	-2.11
207	Envelope(all)	-19.36	-1.47	-13.09	27.22	-3.64
208	Envelope(all)	-13.37	-2.51	7.53	45.13	-6.26
209	Envelope(all)	27.88	4.31	-10.23	-0.05	10.85
210	Envelope(all)	67.90	2.78	9.44	43.56	7.06
211	Envelope(all)	102.59	1.79	-10.22	24.89	4.63
212	Envelope(all)	123.29	1.15	-9.02	32.22	3.02
213	Envelope(all)	132.43	0.49	-7.96	31.76	1.39
214	Envelope(all)	130.84	-0.23	-10.62	25.09	-0.44
215	Envelope(all)	118.88	-0.87	-9.27	31.76	-2.04
216	Envelope(all)	96.77	-1.47	-7.51	32.18	-3.54
217	Envelope(all)	63.29	-2.29	-12.41	24.87	-5.62
218	Envelope(all)	25.76	-3.46	7.15	43.27	-8.59
219	Envelope(all)	159.05	5.17	-9.36	0.05	13.11
220	Envelope(all)	292.20	3.33	7.86	39.23	8.56
221	Envelope(all)	346.58	2.11	-8.55	19.23	5.48
222	Envelope(all)	374.89	1.32	-7.07	27.50	3.50
223	Envelope(all)	387.34	0.55	-6.10	26.61	1.58
224	Envelope(all)	386.77	-0.33	-8.77	19.95	-0.64

225	Envelope(all)	366.97	-1.07	-7.49	26.61	-2.48
226	Envelope(all)	327.07	-1.80	5.53	27.46	-4.30
227	Envelope(all)	267.08	-2.82	-10.81	19.22	-6.84
228	Envelope(all)	141.42	-4.28	6.27	38.91	-10.54
329	Envelope(all)	-3.16	245.10	-214.24	38.10	140.81
330	Envelope(all)	-3.24	60.75	-196.42	130.42	-46.37
331	Envelope(all)	-2.84	-14.04	-114.98	348.17	-49.62
332	Envelope(all)	-1.84	-7.77	-71.30	472.16	-41.27
333	Envelope(all)	-1.24	-3.73	69.24	545.89	-38.55
334	Envelope(all)	2.01	-18.18	112.93	472.09	-42.96
335	Envelope(all)	4.52	-96.02	193.90	342.57	-44.31
336	Envelope(all)	6.27	-274.13	212.64	148.97	76.05
337	Envelope(all)	33.32	116.73	-245.22	-106.01	110.99
338	Envelope(all)	33.74	81.82	-214.15	77.89	57.58
339	Envelope(all)	33.99	15.34	-123.34	313.58	-38.29
340	Envelope(all)	34.07	-9.75	-78.56	446.20	-37.75
341	Envelope(all)	34.06	-8.51	72.23	522.66	-36.89
342	Envelope(all)	33.98	-28.83	121.03	445.96	-40.98
343	Envelope(all)	33.72	-96.12	211.37	308.70	-31.35
344	Envelope(all)	33.30	-124.08	243.15	115.39	83.14
345	Envelope(all)	15.90	85.89	-263.66	-59.14	84.54
346	Envelope(all)	16.16	58.47	-230.05	78.50	45.03
347	Envelope(all)	16.46	17.92	-132.03	331.82	-26.43
348	Envelope(all)	16.59	-6.44	-77.81	474.24	-31.29
349	Envelope(all)	16.59	-8.89	76.13	553.81	-31.83

350	Envelope(all)	16.46	-26.50	130.34	473.77	-32.94
351	Envelope(all)	16.16	-58.16	227.45	326.48	-18.63
352	Envelope(all)	15.90	-85.15	261.77	73.12	52.51
353	Envelope(all)	14.78	57.09	-252.80	-49.71	58.38
354	Envelope(all)	15.02	39.62	-220.70	82.10	32.26
355	Envelope(all)	15.34	15.54	-126.62	325.40	-16.18
356	Envelope(all)	15.51	-4.24	-76.64	462.05	-22.80
357	Envelope(all)	15.51	-8.13	75.03	539.71	-23.66
358	Envelope(all)	15.34	-19.34	125.02	461.49	-23.22
359	Envelope(all)	15.03	-39.37	218.20	319.88	-10.94
360	Envelope(all)	14.79	-56.67	251.01	76.44	35.22
361	Envelope(all)	11.02	31.05	-252.92	-38.78	33.28
362	Envelope(all)	11.24	23.10	-220.69	93.33	19.04
363	Envelope(all)	11.56	10.00	-126.50	336.47	-8.93
364	Envelope(all)	11.75	-2.81	-76.69	472.98	-13.32
365	Envelope(all)	11.75	-5.74	75.09	550.57	-13.52
366	Envelope(all)	11.56	-11.29	124.91	472.41	-13.15
367	Envelope(all)	11.25	-22.94	218.19	330.92	-6.13
368	Envelope(all)	11.03	-30.85	251.13	87.63	20.13
369	Envelope(all)	10.29	19.76	-258.14	-44.50	12.44
370	Envelope(all)	10.48	6.07	-225.31	91.22	3.75
371	Envelope(all)	10.80	3.00	-129.33	338.51	-3.69
372	Envelope(all)	10.99	-1.62	-77.77	477.87	-3.59
373	Envelope(all)	10.99	-2.43	76.20	556.46	-2.68
374	Envelope(all)	10.80	-3.03	127.76	477.27	-3.09

375	Envelope(all)	10.49	-6.02	222.83	332.91	3.60
376	Envelope(all)	10.29	-19.65	256.38	84.63	3.49
377	Envelope(all)	10.98	-27.07	-252.90	-38.64	-26.78
378	Envelope(all)	11.20	-18.18	-220.68	93.59	-14.23
379	Envelope(all)	11.52	-6.72	-126.49	336.68	5.39
380	Envelope(all)	11.70	-1.50	-76.75	473.18	8.80
381	Envelope(all)	11.70	2.07	75.16	550.76	9.05
382	Envelope(all)	11.52	7.51	124.91	472.60	9.64
383	Envelope(all)	11.20	18.34	218.19	331.12	5.72
384	Envelope(all)	10.99	27.07	251.13	87.87	-15.70
385	Envelope(all)	14.75	-53.09	-252.81	-49.64	-51.79
386	Envelope(all)	14.98	-34.56	-220.70	82.51	-27.38
387	Envelope(all)	15.30	-12.26	-126.62	325.72	12.14
388	Envelope(all)	15.46	2.11	-76.81	462.36	17.95
389	Envelope(all)	15.46	4.39	75.23	540.02	19.15
390	Envelope(all)	15.30	14.93	125.04	461.78	19.62
391	Envelope(all)	14.99	34.39	218.22	320.15	10.47
392	Envelope(all)	14.75	52.90	251.04	76.77	-30.00
393	Envelope(all)	15.85	-81.74	-263.54	-58.46	-77.74
394	Envelope(all)	16.10	-53.06	-229.96	79.46	-40.07
395	Envelope(all)	16.40	-14.80	-131.98	332.46	21.70
396	Envelope(all)	16.53	4.24	-78.32	474.75	26.82
397	Envelope(all)	16.53	5.33	76.73	554.25	27.29
398	Envelope(all)	16.40	21.08	130.39	474.17	29.21
399	Envelope(all)	16.11	52.74	227.45	326.90	17.98

400	Envelope(all)	15.86	81.32	261.75	73.77	-44.96
401	Envelope(all)	32.18	-111.01	-245.26	-82.34	-103.62
402	Envelope(all)	32.59	-76.18	-214.17	78.81	-52.77
403	Envelope(all)	32.84	-12.43	-122.87	315.00	33.67
404	Envelope(all)	32.92	7.58	-74.89	447.57	34.22
405	Envelope(all)	32.92	5.21	73.26	523.92	32.34
406	Envelope(all)	32.84	22.90	121.25	447.04	37.11
407	Envelope(all)	32.59	84.89	211.65	309.54	30.23
408	Envelope(all)	32.18	112.26	243.46	96.72	-70.00
409	Envelope(all)	-2.20	-237.14	-214.06	35.93	-133.78
410	Envelope(all)	-2.42	-56.56	-196.26	128.69	34.64
411	Envelope(all)	-2.25	13.19	-114.85	346.55	45.89
412	Envelope(all)	-1.56	6.91	-71.41	470.39	37.65
413	Envelope(all)	-1.14	-3.90	69.53	544.01	34.06
414	Envelope(all)	1.50	13.61	112.97	470.13	39.18
415	Envelope(all)	1.50	13.61	114.03	408.37	39.22
416	Envelope(all)	3.59	81.21	193.92	340.56	42.88
417	Envelope(all)	5.07	243.34	212.64	134.88	-59.26
418	Envelope(all)	-2576.82	-3.30	-30.83	113.87	8.26
419	Envelope(all)	-2563.03	-3.30	-63.10	-248.51	8.22
420	Envelope(all)	-2565.42	-3.26	50.73	199.54	8.24
421	Envelope(all)	-2575.13	-3.27	-23.24	-107.36	8.26
422	Envelope(all)	-2682.24	-5.74	30.87	118.56	-5.23
423	Envelope(all)	-2682.02	-5.78	-21.17	-81.78	-5.39
424	Envelope(all)	-2671.83	-5.77	-31.94	-134.14	-6.17

425	Envelope(all)	-2669.57	-5.73	40.57	168.63	-5.85
426	Envelope(all)	-2920.92	-6.30	-12.42	-32.57	5.10
427	Envelope(all)	-2919.79	-6.30	10.59	24.18	5.08
428	Envelope(all)	-2908.62	-6.29	-9.34	18.13	5.08
429	Envelope(all)	-2907.28	-6.28	9.49	-25.15	5.11
430	Envelope(all)	-3044.42	-4.69	11.46	33.35	12.48
431	Envelope(all)	-3043.68	-4.69	-11.45	-32.06	12.46
432	Envelope(all)	-3031.99	-4.70	11.46	30.29	12.42
433	Envelope(all)	-3031.11	-4.69	-11.45	-30.31	12.45
434	Envelope(all)	-3008.79	-3.69	-10.00	-29.23	9.10
435	Envelope(all)	-3007.94	-7.35	9.98	23.38	-5.52
436	Envelope(all)	-2996.34	-3.77	-9.99	-30.24	9.06
437	Envelope(all)	-2995.59	-7.34	10.00	21.27	-5.53
438	Envelope(all)	497.27	-6.89	47.22	212.11	-17.20
439	Envelope(all)	495.10	-6.85	-28.72	-105.04	-17.11
440	Envelope(all)	497.42	6.88	37.82	164.78	17.19
441	Envelope(all)	495.79	6.86	-28.03	-101.68	17.13
442	Envelope(all)	955.52	-3.12	10.16	-41.96	-1.79
443	Envelope(all)	-325.89	-3.23	16.09	77.58	-9.64
444	Envelope(all)	951.11	-3.22	-13.46	-48.79	-2.76
445	Envelope(all)	-324.81	-3.22	-14.63	-77.52	-9.60
446	Envelope(all)	951.44	-3.22	12.75	38.55	-2.79
447	Envelope(all)	-325.16	3.24	-14.99	-78.77	9.67
448	Envelope(all)	954.43	-3.14	-9.92	30.89	-1.80
449	Envelope(all)	-325.50	3.25	14.87	78.31	9.70

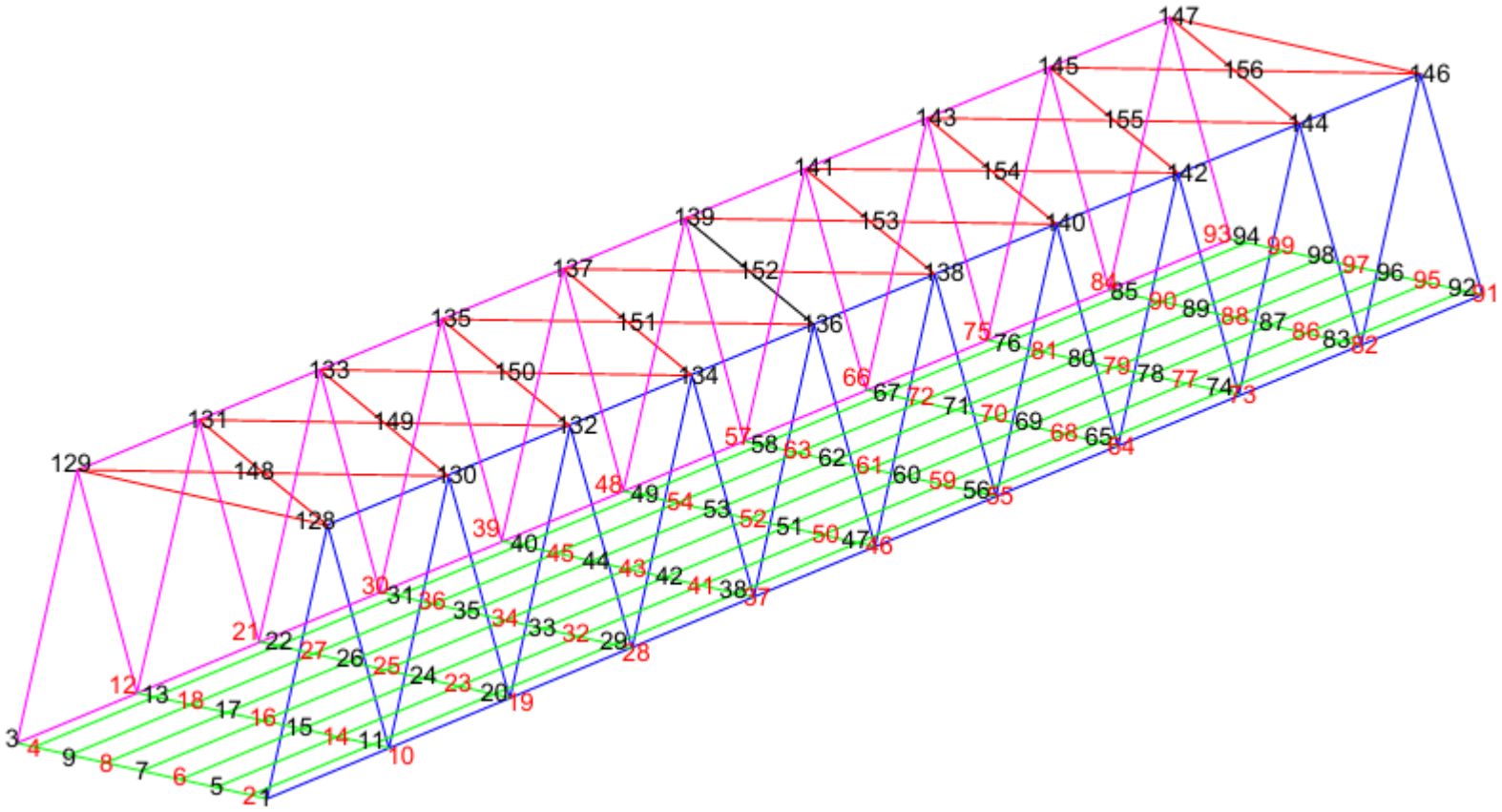
450	Envelope(all)	612.89	-2.12	7.94	17.03	-1.40
451	Envelope(all)	610.30	-2.12	-10.96	-34.85	-1.50
452	Envelope(all)	612.37	-2.12	-7.79	-16.84	-1.51
453	Envelope(all)	610.83	-2.12	10.73	31.91	-1.40
454	Envelope(all)	188.42	-1.62	10.70	65.31	-6.01
455	Envelope(all)	188.78	-1.61	-11.75	-74.43	-5.98
456	Envelope(all)	188.83	1.62	10.81	65.75	6.04
457	Envelope(all)	188.43	1.62	-12.30	-77.34	6.03
458	Envelope(all)	322.54	-2.15	-6.48	-11.65	-3.00
459	Envelope(all)	322.98	-2.15	6.42	10.93	-3.00
460	Envelope(all)	323.18	-2.15	-4.89	8.19	-3.00
461	Envelope(all)	323.68	-2.15	5.00	-8.54	-2.99
462	Envelope(all)	393.98	0.94	7.78	49.04	3.54
463	Envelope(all)	393.29	0.94	-9.90	-64.26	3.55
464	Envelope(all)	394.35	-0.94	7.82	49.22	-3.54
465	Envelope(all)	392.92	-0.94	-10.09	-65.20	-3.54
466	Envelope(all)	250.98	-2.08	-5.49	-9.95	-3.73
467	Envelope(all)	246.01	-1.85	5.43	40.61	-2.86
468	Envelope(all)	278.20	0.39	-8.26	-55.15	1.69
469	Envelope(all)	251.19	-2.08	-4.03	-7.94	-3.73
470	Envelope(all)	246.22	-1.85	4.11	29.87	-2.89
471	Envelope(all)	279.44	-0.39	5.68	39.84	-1.69
472	Envelope(all)	-64.90	-2.00	-6.18	-16.05	-3.54
473	Envelope(all)	53.49	2.04	-7.11	-20.08	3.60
474	Envelope(all)	-80.15	-0.11	-1.65	-3.82	-0.59

475	Envelope(all)	126.79	2.08	-1.57	-2.16	4.15
476	Envelope(all)	78.16	-0.26	-1.25	-1.35	-0.60
477	Envelope(all)	-51.82	-0.11	-1.44	-2.94	0.38
478	Envelope(all)	97.44	-2.04	-2.50	-1.74	-4.09
479	Envelope(all)	49.91	0.22	-1.06	-0.96	0.53
480	Envelope(all)	-42.92	0.10	-1.28	-2.15	0.31
481	Envelope(all)	18.77	-0.25	-1.59	-3.56	-0.57
482	Envelope(all)	-9.76	0.09	-1.30	-2.22	0.22
483	Envelope(all)	-19.30	-0.24	-1.64	-3.77	-0.53
484	Envelope(all)	33.27	0.13	-1.27	-2.11	0.31
485	Envelope(all)	-54.93	-0.37	-1.60	-3.36	-0.89
486	Envelope(all)	-37.12	0.13	-1.29	-2.18	0.39
487	Envelope(all)	-36.55	0.37	-0.42	0.87	0.83
488	Envelope(all)	-55.41	-0.10	0.07	1.26	-0.16
489	Envelope(all)	17.47	-0.26	-1.37	-2.51	-0.60
490	Envelope(all)	17.41	-0.13	0.39	1.05	-0.29
491	Envelope(all)	33.33	0.25	0.31	1.03	0.59
492	Envelope(all)	-9.66	0.09	-1.62	-3.61	0.19
493	Envelope(all)	-9.41	0.24	-0.35	0.92	0.54
494	Envelope(all)	-19.55	-0.09	-0.40	0.93	-0.22
495	Envelope(all)	-12.40	-0.24	-1.34	-2.44	-0.53
496	Envelope(all)	-12.59	-0.09	0.38	0.94	-0.22
497	Envelope(all)	-9.52	0.24	0.39	0.90	0.54
498	Envelope(all)	17.36	0.13	-1.62	-3.58	0.31
499	Envelope(all)	17.41	0.26	-0.23	1.10	0.59

500	Envelope(all)	18.72	-0.13	-0.46	0.93	-0.29
501	Envelope(all)	-36.62	-0.37	-1.29	-2.22	-0.85
502	Envelope(all)	-37.19	-0.12	0.05	1.00	-0.19
503	Envelope(all)	-42.42	0.37	0.37	1.09	0.83
504	Envelope(all)	-80.15	-0.11	-1.65	-3.82	-0.59
505	Envelope(all)	78.16	-0.26	-1.25	-1.35	-0.60
506	Envelope(all)	-55.55	-0.10	-1.31	-2.09	-0.31
507	Envelope(all)	-55.06	-0.37	0.36	1.13	-0.83
508	Envelope(all)	-37.12	0.13	-1.29	-2.18	0.39
509	Envelope(all)	-36.55	0.37	-0.42	0.87	0.83
510	Envelope(all)	33.23	0.25	-1.55	-3.43	0.56
511	Envelope(all)	33.17	0.13	-0.47	0.93	0.29
512	Envelope(all)	17.47	-0.26	-1.37	-2.51	-0.60
513	Envelope(all)	17.41	-0.13	0.39	1.05	-0.29
514	Envelope(all)	-9.66	0.09	-1.62	-3.61	0.19
515	Envelope(all)	-9.41	0.24	-0.35	0.92	0.54
516	Envelope(all)	-19.58	-0.09	-1.30	-2.22	-0.23
517	Envelope(all)	-19.34	-0.24	0.40	0.90	-0.54
518	Envelope(all)	-9.49	0.24	-1.64	-3.76	0.53
519	Envelope(all)	-9.72	0.09	-0.41	0.93	0.22
520	Envelope(all)	-12.40	-0.24	-1.34	-2.44	-0.53
521	Envelope(all)	-12.59	-0.09	0.38	0.94	-0.22
522	Envelope(all)	17.36	0.13	-1.62	-3.58	0.31
523	Envelope(all)	17.41	0.26	-0.23	1.10	0.59
524	Envelope(all)	18.82	-0.13	-1.27	-2.11	-0.31

525	Envelope(all)	18.87	-0.25	0.35	1.03	-0.59
526	Envelope(all)	-42.28	0.37	-1.61	-3.43	0.86
527	Envelope(all)	-42.78	0.10	-0.04	1.21	0.16
528	Envelope(all)	-36.62	-0.37	-1.29	-2.22	-0.85
529	Envelope(all)	-37.19	-0.12	0.05	1.00	-0.19
530	Envelope(all)	49.50	0.22	-1.09	-1.51	0.91
531	Envelope(all)	-51.82	-0.11	-1.44	-2.94	0.38

Gambar nomor *nodes* jembatan tipe *Warren*



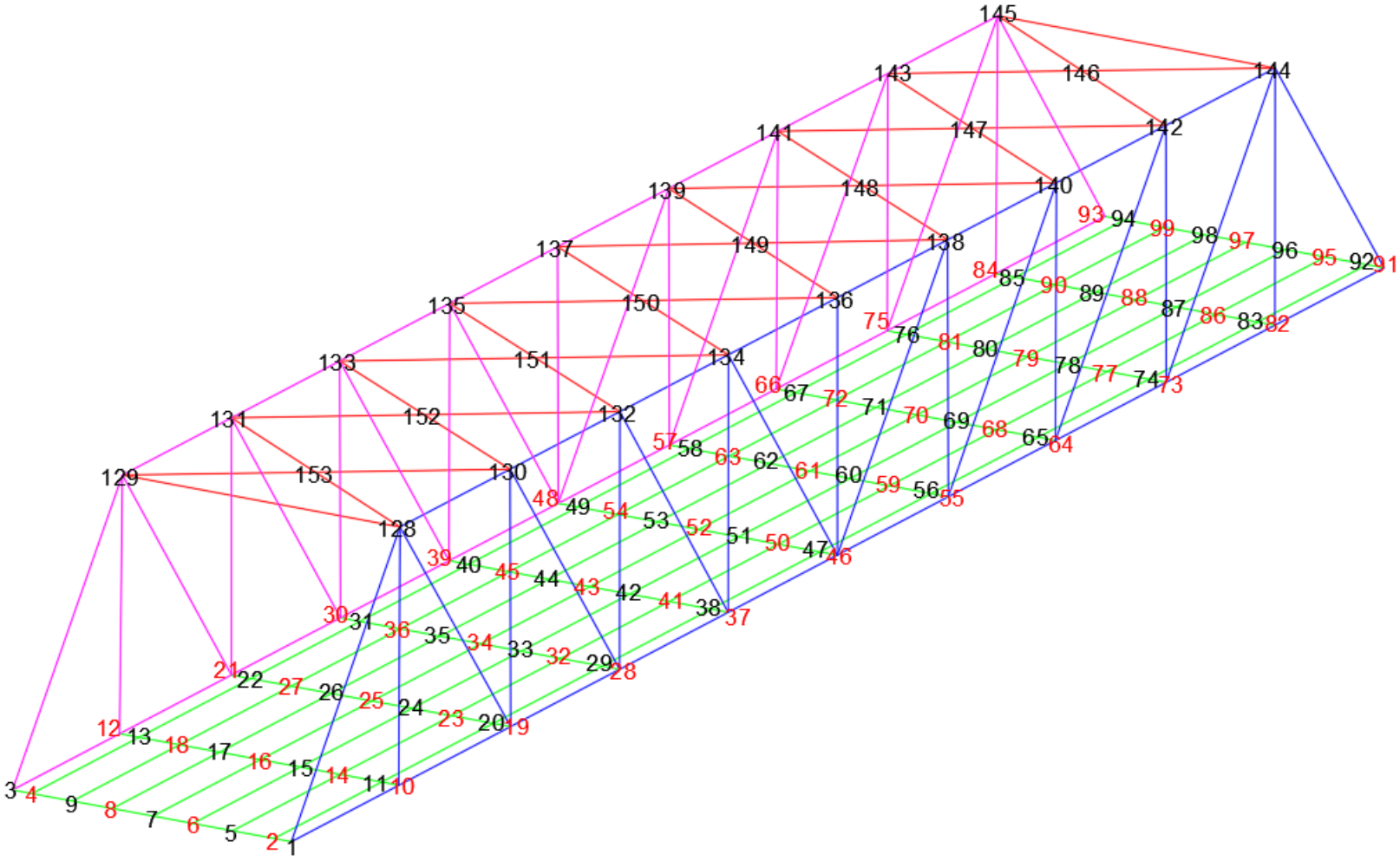
Node	Load	DX (m)	DY (m)	DZ (m)
1	truk 4 sumbu 33 ton(all)	0,000	0,000	0,000
2	truk 4 sumbu 33 ton(all)	0,00027	0,000	-0,00044
3	truk 4 sumbu 33 ton(all)	0,000	0,000	0,000
4	truk 4 sumbu 33 ton(all)	0,00027	0,000	-0,00044
5	truk 4 sumbu 33 ton(all)	0,001025	0,000	-0,00132
6	truk 4 sumbu 33 ton(all)	0,001572	0,000	-0,00193
7	truk 4 sumbu 33 ton(all)	0,001756	0,000	-0,00217
8	truk 4 sumbu 33 ton(all)	0,001572	0,000	-0,00193
9	truk 4 sumbu 33 ton(all)	0,001025	0,000	-0,00132
10	truk 4 sumbu 33 ton(all)	0,000151	-0,00018	-0,00435
11	truk 4 sumbu 33 ton(all)	0,000365	-0,00018	-0,00443
12	truk 4 sumbu 33 ton(all)	0,000151	0,000175	-0,00435
13	truk 4 sumbu 33 ton(all)	0,000365	0,000175	-0,00443
14	truk 4 sumbu 33 ton(all)	0,001076	-0,00018	-0,00512
15	truk 4 sumbu 33 ton(all)	0,001586	-0,00018	-0,00567
16	truk 4 sumbu 33 ton(all)	0,001754	-0,00018	-0,00589
17	truk 4 sumbu 33 ton(all)	0,001586	0,000175	-0,00567
18	truk 4 sumbu 33 ton(all)	0,001076	0,000175	-0,00512
19	truk 4 sumbu 33 ton(all)	0,00053	-0,00077	-0,00859
20	truk 4 sumbu 33 ton(all)	0,000667	-0,00077	-0,00891
21	truk 4 sumbu 33 ton(all)	0,00053	0,000768	-0,00859
22	truk 4 sumbu 33 ton(all)	0,000667	0,000768	-0,00891
23	truk 4 sumbu 33 ton(all)	0,001191	-0,00077	-0,00968
24	truk 4 sumbu 33 ton(all)	0,001609	-0,00077	-0,01021
25	truk 4 sumbu 33 ton(all)	0,00175	0,000768	-0,01043
26	truk 4 sumbu 33 ton(all)	0,001609	0,000768	-0,01021
27	truk 4 sumbu 33 ton(all)	0,001191	0,000768	-0,00968
28	truk 4 sumbu 33 ton(all)	0,000957	-0,00135	-0,0121
29	truk 4 sumbu 33 ton(all)	0,001032	-0,00135	-0,01249
30	truk 4 sumbu 33 ton(all)	0,000957	0,001354	-0,0121
31	truk 4 sumbu 33 ton(all)	0,001032	0,001354	-0,01249
32	truk 4 sumbu 33 ton(all)	0,001357	-0,00135	-0,01327
33	truk 4 sumbu 33 ton(all)	0,001644	-0,00135	-0,01381
34	truk 4 sumbu 33 ton(all)	0,001744	0,001353	-0,01404
35	truk 4 sumbu 33 ton(all)	0,001644	0,001354	-0,01381
36	truk 4 sumbu 33 ton(all)	0,001357	0,001354	-0,01327
37	truk 4 sumbu 33 ton(all)	0,001396	-0,00179	-0,0141
38	truk 4 sumbu 33 ton(all)	0,001422	-0,00179	-0,01448
39	truk 4 sumbu 33 ton(all)	0,001396	0,001793	-0,0141
40	truk 4 sumbu 33 ton(all)	0,001422	0,001793	-0,01448

41	truk 4 sumbu 33 ton(all)	0,001554	-0,00179	-0,01527
42	truk 4 sumbu 33 ton(all)	0,001688	-0,00179	-0,01581
43	truk 4 sumbu 33 ton(all)	0,001738	0,001793	-0,01603
44	truk 4 sumbu 33 ton(all)	0,001688	0,001793	-0,01581
45	truk 4 sumbu 33 ton(all)	0,001554	0,001793	-0,01527
46	truk 4 sumbu 33 ton(all)	0,001844	-0,00202	-0,01438
47	truk 4 sumbu 33 ton(all)	0,001822	-0,002031	-0,01463
48	truk 4 sumbu 33 ton(all)	0,001844	0,002018	-0,01438
49	truk 4 sumbu 33 ton(all)	0,001822	0,002018	-0,01463
50	truk 4 sumbu 33 ton(all)	0,001761	-0,00202	-0,01541
51	truk 4 sumbu 33 ton(all)	0,001737	-0,00202	-0,01595
52	truk 4 sumbu 33 ton(all)	0,001733	0,002017	-0,01617
53	truk 4 sumbu 33 ton(all)	0,001737	0,002017	-0,01595
54	truk 4 sumbu 33 ton(all)	0,001761	0,002017	-0,01541
55	truk 4 sumbu 33 ton(all)	0,002281	-0,00198	-0,0141
56	truk 4 sumbu 33 ton(all)	0,002209	-0,00198	-0,01448
57	truk 4 sumbu 33 ton(all)	0,002281	0,001978	-0,0141
58	truk 4 sumbu 33 ton(all)	0,002209	0,001978	-0,01448
59	truk 4 sumbu 33 ton(all)	0,001964	-0,00198	-0,01527
60	truk 4 sumbu 33 ton(all)	0,001788	-0,00198	-0,01581
61	truk 4 sumbu 33 ton(all)	0,001731	0,001977	-0,01603
62	truk 4 sumbu 33 ton(all)	0,001788	0,001978	-0,01581
63	truk 4 sumbu 33 ton(all)	0,001964	0,001978	-0,01527
64	truk 4 sumbu 33 ton(all)	0,002686	-0,00169	-0,0121
65	truk 4 sumbu 33 ton(all)	0,002564	-0,00169	-0,01249
66	truk 4 sumbu 33 ton(all)	0,002686	0,001693	-0,0121
67	truk 4 sumbu 33 ton(all)	0,002564	0,001693	-0,01249
68	truk 4 sumbu 33 ton(all)	0,002144	-0,00169	-0,01327
69	truk 4 sumbu 33 ton(all)	0,001834	-0,00169	-0,01381
70	truk 4 sumbu 33 ton(all)	0,001731	0,001692	-0,01404
71	truk 4 sumbu 33 ton(all)	0,001834	0,001693	-0,01381
72	truk 4 sumbu 33 ton(all)	0,002144	0,001693	-0,01327
73	truk 4 sumbu 33 ton(all)	0,003021	-0,00119	-0,00859
74	truk 4 sumbu 33 ton(all)	0,00285	-0,00119	-0,00891
75	truk 4 sumbu 33 ton(all)	0,003021	0,001185	-0,00859
76	truk 4 sumbu 33 ton(all)	0,00285	0,001185	-0,00891
77	truk 4 sumbu 33 ton(all)	0,002286	-0,00119	-0,00968
78	truk 4 sumbu 33 ton(all)	0,001871	-0,00119	-0,01021
79	truk 4 sumbu 33 ton(all)	0,001733	0,001185	-0,01043
80	truk 4 sumbu 33 ton(all)	0,001871	0,001185	-0,01021
81	truk 4 sumbu 33 ton(all)	0,002285	0,001185	-0,00968

82	truk 4 sumbu 33 ton(all)	0,003282	-0,00052	-0,00435
83	truk 4 sumbu 33 ton(all)	0,00306	-0,00052	-0,00443
84	truk 4 sumbu 33 ton(all)	0,003282	0,000516	-0,00435
85	truk 4 sumbu 33 ton(all)	0,00306	0,000516	-0,00443
86	truk 4 sumbu 33 ton(all)	0,002379	-0,00052	-0,00512
87	truk 4 sumbu 33 ton(all)	0,001898	-0,00052	-0,00567
88	truk 4 sumbu 33 ton(all)	0,001735	0,000515	-0,00589
89	truk 4 sumbu 33 ton(all)	0,001898	0,000515	-0,00567
90	truk 4 sumbu 33 ton(all)	0,002379	0,000515	-0,00512
91	truk 4 sumbu 33 ton(all)	0,003367	0,000	0,000
92	truk 4 sumbu 33 ton(all)	0,003121	0,000	-0,00044
93	truk 4 sumbu 33 ton(all)	0,003367	0,000	0,000
94	truk 4 sumbu 33 ton(all)	0,003121	0,000	-0,00044
95	truk 4 sumbu 33 ton(all)	0,00242	0,000	-0,00132
96	truk 4 sumbu 33 ton(all)	0,001912	0,000	-0,00193
97	truk 4 sumbu 33 ton(all)	0,001737	0,000	-0,00217
98	truk 4 sumbu 33 ton(all)	0,001912	0,000	-0,00193
99	truk 4 sumbu 33 ton(all)	0,00242	0,000	-0,00132
127	truk 4 sumbu 33 ton(all)	0,00213	0,000	-0,00166
128	truk 4 sumbu 33 ton(all)	0,004023	-0,00177	-0,00211
129	truk 4 sumbu 33 ton(all)	0,004022	0,001765	-0,00211
130	truk 4 sumbu 33 ton(all)	0,003765	-0,00134	-0,00645
131	truk 4 sumbu 33 ton(all)	0,003765	0,001343	-0,00645
132	truk 4 sumbu 33 ton(all)	0,003249	-0,00092	-0,01029
133	truk 4 sumbu 33 ton(all)	0,003249	0,000924	-0,01029
134	truk 4 sumbu 33 ton(all)	0,002633	-0,00059	-0,01295
135	truk 4 sumbu 33 ton(all)	0,002633	0,000594	-0,01295
136	truk 4 sumbu 33 ton(all)	0,002021	-0,00038	-0,01429
137	truk 4 sumbu 33 ton(all)	0,002021	0,000378	-0,01429
138	truk 4 sumbu 33 ton(all)	0,001392	-0,00027	-0,01429
139	truk 4 sumbu 33 ton(all)	0,001392	0,000266	-0,01429
140	truk 4 sumbu 33 ton(all)	0,000855	-0,00027	-0,01295
141	truk 4 sumbu 33 ton(all)	0,000855	0,000268	-0,01295
142	truk 4 sumbu 33 ton(all)	0,000518	-0,00033	-0,01029
143	truk 4 sumbu 33 ton(all)	0,000518	0,000328	-0,01029
144	truk 4 sumbu 33 ton(all)	-0,0006	-0,0005	-0,00645
145	truk 4 sumbu 33 ton(all)	-0,0006	0,000503	-0,00645
146	truk 4 sumbu 33 ton(all)	-0,00091	-0,00066	-0,00211
147	truk 4 sumbu 33 ton(all)	-0,00091	0,000657	-0,00211
148	truk 4 sumbu 33 ton(all)	0,004008	-0,00149	-0,00419
149	truk 4 sumbu 33 ton(all)	0,003533	-0,001	-0,00822

150	truk 4 sumbu 33 ton(all)	0,002928	-0,00061	-0,01138
151	truk 4 sumbu 33 ton(all)	0,002344	-0,00034	-0,01339
152	truk 4 sumbu 33 ton(all)	0,001689	-0,00019	-0,01399
153	truk 4 sumbu 33 ton(all)	0,001097	-0,00015	-0,01339
154	truk 4 sumbu 33 ton(all)	0,000656	-0,00017	-0,01138
155	truk 4 sumbu 33 ton(all)	0,000389	-0,00028	-0,00822
156	truk 4 sumbu 33 ton(all)	-0,00087	-0,00051	-0,00419

Gambar nomor *nodes* jembatan tipe *Pratt*



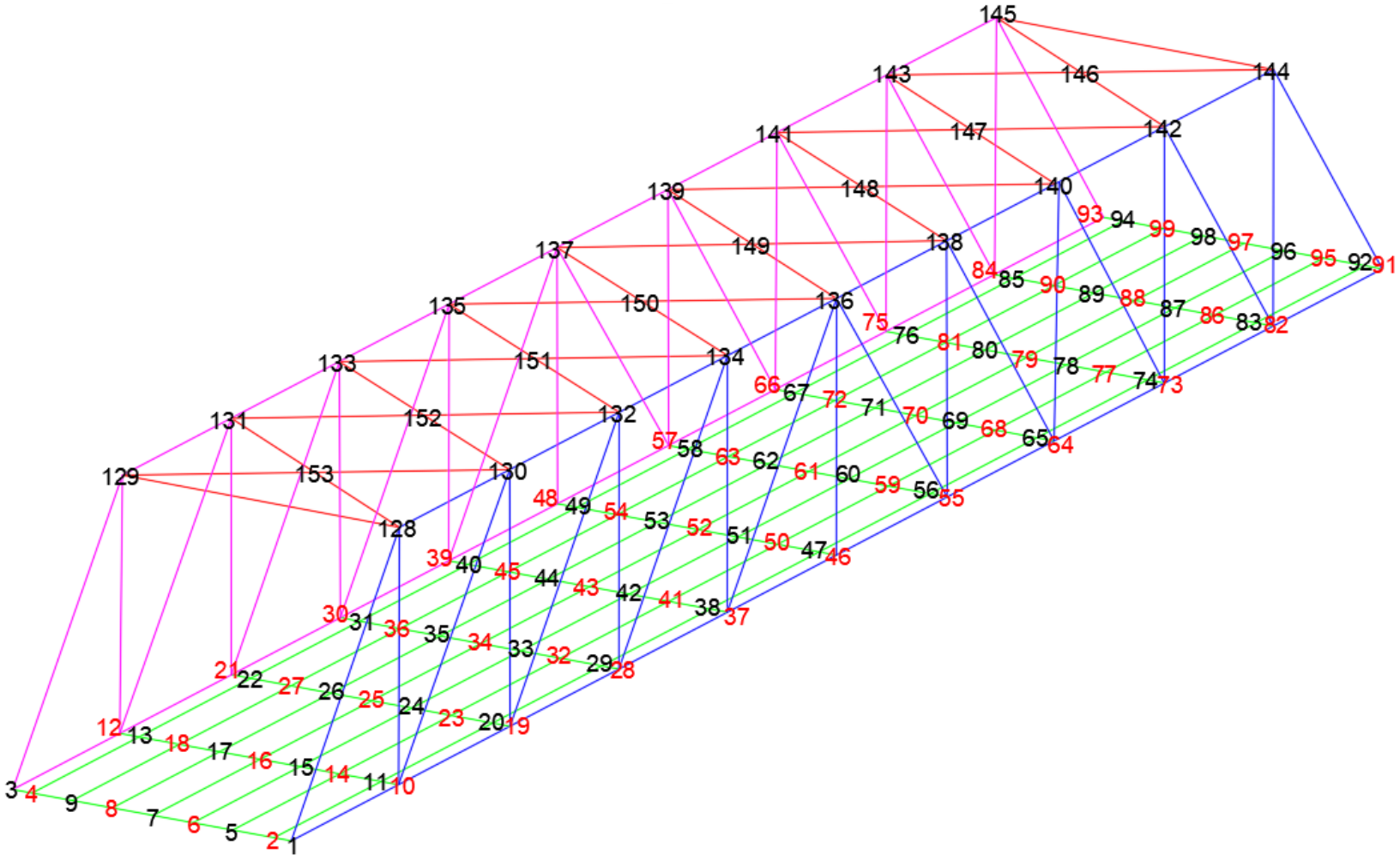
Node	Load	DX (m)	DY (m)	DZ (m)
1	truk 4 sumbu 33 ton(all)	0,000	0,000	0,000
2	truk 4 sumbu 33 ton(all)	0,000263	0,000	-0,00045
3	truk 4 sumbu 33 ton(all)	0,000	0,000	0,000
4	truk 4 sumbu 33 ton(all)	0,000263	0,000	-0,00045
5	truk 4 sumbu 33 ton(all)	0,000921	0,000	-0,00136
6	truk 4 sumbu 33 ton(all)	0,001369	0,000	-0,00199
7	truk 4 sumbu 33 ton(all)	0,001519	0,000	-0,00224
8	truk 4 sumbu 33 ton(all)	0,001369	0,000	-0,00199
9	truk 4 sumbu 33 ton(all)	0,000921	0,000	-0,00136
10	truk 4 sumbu 33 ton(all)	0,000308	-0,00018	-0,00381
11	truk 4 sumbu 33 ton(all)	0,000438	-0,00018	-0,00414
12	truk 4 sumbu 33 ton(all)	0,000308	0,000179	-0,00381
13	truk 4 sumbu 33 ton(all)	0,000438	0,000179	-0,00414
14	truk 4 sumbu 33 ton(all)	0,000963	-0,00018	-0,00495
15	truk 4 sumbu 33 ton(all)	0,001377	-0,00018	-0,0055
16	truk 4 sumbu 33 ton(all)	0,001517	-0,00018	-0,00573
17	truk 4 sumbu 33 ton(all)	0,001377	0,000178	-0,0055
18	truk 4 sumbu 33 ton(all)	0,000963	0,000178	-0,00495
19	truk 4 sumbu 33 ton(all)	0,000567	-0,0004	-0,00728
20	truk 4 sumbu 33 ton(all)	0,000655	-0,0004	-0,00762
21	truk 4 sumbu 33 ton(all)	0,000567	0,000404	-0,00728
22	truk 4 sumbu 33 ton(all)	0,000655	0,000404	-0,00762
23	truk 4 sumbu 33 ton(all)	0,001059	-0,0004	-0,00841
24	truk 4 sumbu 33 ton(all)	0,001397	-0,0004	-0,00895
25	truk 4 sumbu 33 ton(all)	0,001512	-0,0004	-0,00918
26	truk 4 sumbu 33 ton(all)	0,001397	0,000403	-0,00895
27	truk 4 sumbu 33 ton(all)	0,001059	0,000403	-0,00841
28	truk 4 sumbu 33 ton(all)	0,000887	-0,00094	-0,0109
29	truk 4 sumbu 33 ton(all)	0,000944	-0,00094	-0,01128
30	truk 4 sumbu 33 ton(all)	0,000887	0,000943	-0,0109
31	truk 4 sumbu 33 ton(all)	0,000944	0,000943	-0,01128
32	truk 4 sumbu 33 ton(all)	0,001196	-0,00094	-0,01206
33	truk 4 sumbu 33 ton(all)	0,001427	-0,00094	-0,01259
34	truk 4 sumbu 33 ton(all)	0,001507	0,000943	-0,01282
35	truk 4 sumbu 33 ton(all)	0,001427	0,000943	-0,01259
36	truk 4 sumbu 33 ton(all)	0,001196	0,000943	-0,01206
37	truk 4 sumbu 33 ton(all)	0,001258	-0,00134	-0,01301
38	truk 4 sumbu 33 ton(all)	0,001274	-0,00134	-0,0134
39	truk 4 sumbu 33 ton(all)	0,001258	0,001338	-0,01301
40	truk 4 sumbu 33 ton(all)	0,001274	0,001338	-0,0134

41	truk 4 sumbu 33 ton(all)	0,001358	-0,00134	-0,01418
42	truk 4 sumbu 33 ton(all)	0,001462	-0,00134	-0,01472
43	truk 4 sumbu 33 ton(all)	0,001501	0,001337	-0,01495
44	truk 4 sumbu 33 ton(all)	0,001462	0,001337	-0,01472
45	truk 4 sumbu 33 ton(all)	0,001358	0,001337	-0,01418
46	truk 4 sumbu 33 ton(all)	0,001652	-0,00155	-0,01329
47	truk 4 sumbu 33 ton(all)	0,001614	-0,00155	-0,01363
48	truk 4 sumbu 33 ton(all)	0,001652	0,001553	-0,01329
49	truk 4 sumbu 33 ton(all)	0,001614	0,001553	-0,01363
50	truk 4 sumbu 33 ton(all)	0,001533	-0,00155	-0,0144
51	truk 4 sumbu 33 ton(all)	0,001501	-0,00155	-0,01493
52	truk 4 sumbu 33 ton(all)	0,001496	0,001552	-0,01715
53	truk 4 sumbu 33 ton(all)	0,001501	0,001552	-0,01493
54	truk 4 sumbu 33 ton(all)	0,001533	0,001553	-0,0144
55	truk 4 sumbu 33 ton(all)	0,002012	-0,00155	-0,01301
56	truk 4 sumbu 33 ton(all)	0,00194	-0,00155	-0,0134
57	truk 4 sumbu 33 ton(all)	0,002012	0,001547	-0,01301
58	truk 4 sumbu 33 ton(all)	0,00194	0,001547	-0,0134
59	truk 4 sumbu 33 ton(all)	0,0017	-0,00155	-0,01418
60	truk 4 sumbu 33 ton(all)	0,001542	-0,00155	-0,01472
61	truk 4 sumbu 33 ton(all)	0,001494	0,001545	-0,01495
62	truk 4 sumbu 33 ton(all)	0,001542	0,001546	-0,01472
63	truk 4 sumbu 33 ton(all)	0,0017	0,001546	-0,01418
64	truk 4 sumbu 33 ton(all)	0,002324	-0,00133	-0,0109
65	truk 4 sumbu 33 ton(all)	0,002214	-0,00133	-0,01128
66	truk 4 sumbu 33 ton(all)	0,002324	0,001331	-0,0109
67	truk 4 sumbu 33 ton(all)	0,002214	0,001331	-0,01128
68	truk 4 sumbu 33 ton(all)	0,001844	-0,00133	-0,01206
69	truk 4 sumbu 33 ton(all)	0,001581	-0,00133	-0,01259
70	truk 4 sumbu 33 ton(all)	0,001495	0,00133	-0,01282
71	truk 4 sumbu 33 ton(all)	0,001581	0,00133	-0,01259
72	truk 4 sumbu 33 ton(all)	0,001844	0,001331	-0,01206
73	truk 4 sumbu 33 ton(all)	0,002551	0,000894	-0,00729
74	truk 4 sumbu 33 ton(all)	0,002413	0,000894	-0,00762
75	truk 4 sumbu 33 ton(all)	0,002551	-0,00089	-0,00729
76	truk 4 sumbu 33 ton(all)	0,002413	-0,00089	-0,00762
77	truk 4 sumbu 33 ton(all)	0,001957	0,000894	-0,00841
78	truk 4 sumbu 33 ton(all)	0,001614	0,000894	-0,00895
79	truk 4 sumbu 33 ton(all)	0,0015	0,000893	-0,00918
80	truk 4 sumbu 33 ton(all)	0,001613	0,000893	-0,00895
81	truk 4 sumbu 33 ton(all)	0,001957	-0,00089	-0,00841

82	truk 4 sumbu 33 ton(all)	0,002682	-0,00033	-0,00381
83	truk 4 sumbu 33 ton(all)	0,002542	-0,00033	-0,00414
84	truk 4 sumbu 33 ton(all)	0,002682	0,000333	-0,00381
85	truk 4 sumbu 33 ton(all)	0,002542	0,000333	-0,00414
86	truk 4 sumbu 33 ton(all)	0,002032	-0,00033	-0,00495
87	truk 4 sumbu 33 ton(all)	0,001636	-0,00033	-0,0055
88	truk 4 sumbu 33 ton(all)	0,001504	-0,00033	-0,00573
89	truk 4 sumbu 33 ton(all)	0,001636	0,000332	-0,0055
90	truk 4 sumbu 33 ton(all)	0,002032	0,000333	-0,00495
91	truk 4 sumbu 33 ton(all)	0,002876	0,000	0,000
92	truk 4 sumbu 33 ton(all)	0,002648	0,000	-0,00045
93	truk 4 sumbu 33 ton(all)	0,002876	0,000	0,000
94	truk 4 sumbu 33 ton(all)	0,002648	0,000	-0,00045
95	truk 4 sumbu 33 ton(all)	0,002063	0,000	-0,00136
96	truk 4 sumbu 33 ton(all)	0,001646	0,000	-0,00199
97	truk 4 sumbu 33 ton(all)	0,001506	0,000	-0,00224
98	truk 4 sumbu 33 ton(all)	0,001646	0,000	-0,00199
99	truk 4 sumbu 33 ton(all)	0,002062	0,000	-0,00136
127	truk 4 sumbu 33 ton(all)	0,001823	0,000	-0,00171
128	truk 4 sumbu 33 ton(all)	0,003886	-0,0021	-0,00368
129	truk 4 sumbu 33 ton(all)	0,003886	0,002095	-0,00368
130	truk 4 sumbu 33 ton(all)	0,003404	-0,0017	-0,00785
131	truk 4 sumbu 33 ton(all)	0,003404	0,001697	-0,00785
132	truk 4 sumbu 33 ton(all)	0,002734	-0,00124	-0,01104
133	truk 4 sumbu 33 ton(all)	0,002734	0,001238	-0,01104
134	truk 4 sumbu 33 ton(all)	0,002119	-0,00093	-0,01292
135	truk 4 sumbu 33 ton(all)	0,002119	0,000928	-0,01292
136	truk 4 sumbu 33 ton(all)	0,001562	-0,00073	-0,01328
137	truk 4 sumbu 33 ton(all)	0,001562	0,000726	-0,01328
138	truk 4 sumbu 33 ton(all)	0,00107	-0,00067	-0,01292
139	truk 4 sumbu 33 ton(all)	0,00107	0,000665	-0,01292
140	truk 4 sumbu 33 ton(all)	0,000698	-0,00072	-0,01104
141	truk 4 sumbu 33 ton(all)	0,000698	0,000723	-0,01104
142	truk 4 sumbu 33 ton(all)	-0,00066	-0,00088	-0,00785
143	truk 4 sumbu 33 ton(all)	-0,00066	0,000884	-0,00785
144	truk 4 sumbu 33 ton(all)	-0,00119	-0,00101	-0,00368
145	truk 4 sumbu 33 ton(all)	-0,00119	0,001009	-0,00368
146	truk 4 sumbu 33 ton(all)	-0,00108	-0,00085	-0,0055
147	truk 4 sumbu 33 ton(all)	0,000556	-0,00065	-0,00919
148	truk 4 sumbu 33 ton(all)	0,000851	-0,00055	-0,01166
149	truk 4 sumbu 33 ton(all)	0,001312	-0,00056	-0,01287

150	truk 4 sumbu 33 ton(all)	0,001819	-0,00068	-0,01287
151	truk 4 sumbu 33 ton(all)	0,002415	-0,00093	-0,01166
152	truk 4 sumbu 33 ton(all)	0,003041	-0,0013	-0,00919
153	truk 4 sumbu 33 ton(all)	0,003818	-0,0018	-0,0055

Gambar nomor *nodes* jembatan tipe *Howe*



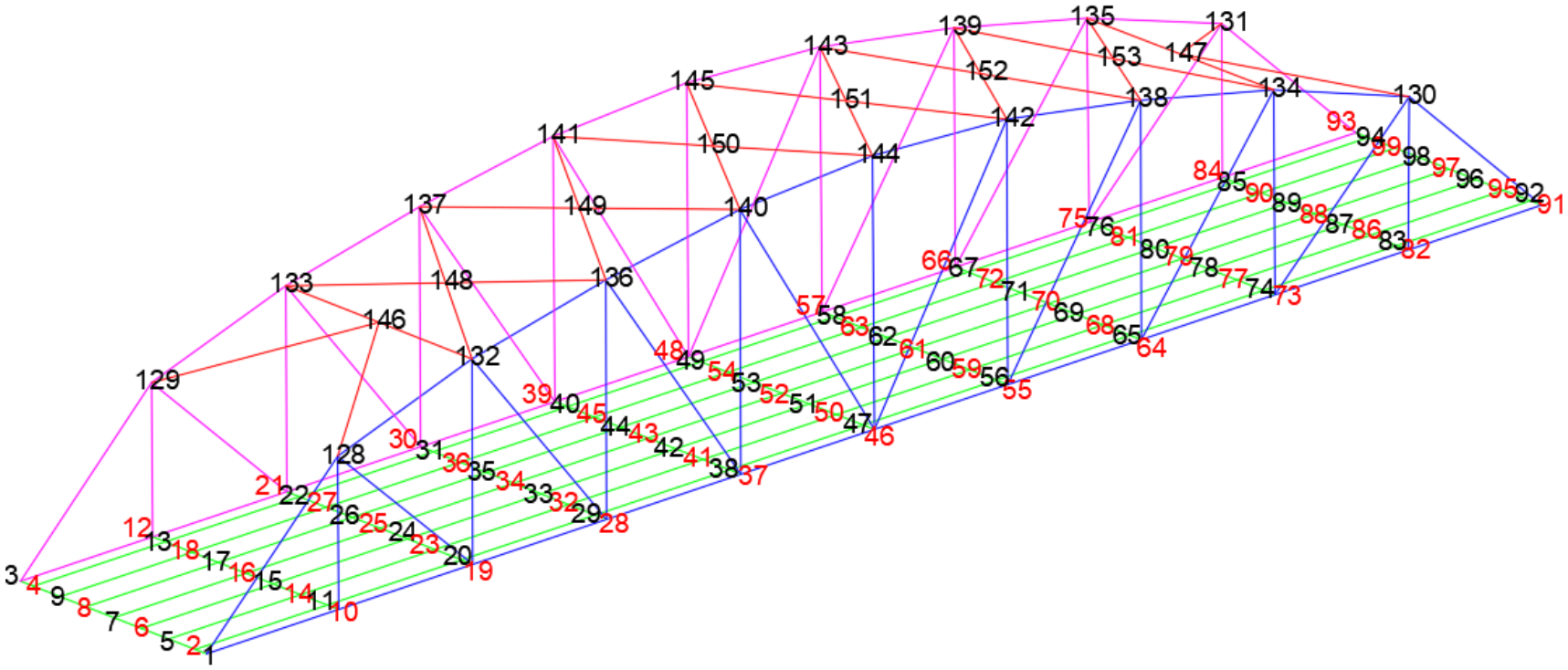
Node	Load	DX (m)	DY (m)	DZ (m)
1	truk 4 sumbu 33 ton(all)	0,000	0,000	0,000
2	truk 4 sumbu 33 ton(all)	0,000321	0,000	-0,00045
3	truk 4 sumbu 33 ton(all)	0,000	0,000	0,000
4	truk 4 sumbu 33 ton(all)	0,000321	0,000	-0,00045
5	truk 4 sumbu 33 ton(all)	0,00116	0,000	-0,00136
6	truk 4 sumbu 33 ton(all)	0,001735	0,000	-0,00199
7	truk 4 sumbu 33 ton(all)	0,001922	0,000	-0,00224
8	truk 4 sumbu 33 ton(all)	0,001735	0,000	-0,00199
9	truk 4 sumbu 33 ton(all)	0,00116	0,000	-0,00136
10	truk 4 sumbu 33 ton(all)	0,000297	-0,00029	-0,00418
11	truk 4 sumbu 33 ton(all)	0,000498	-0,00029	-0,00429
12	truk 4 sumbu 33 ton(all)	0,000297	0,00029	-0,00418
13	truk 4 sumbu 33 ton(all)	0,000498	0,00029	-0,00429
14	truk 4 sumbu 33 ton(all)	0,001221	-0,00029	-0,00509
15	truk 4 sumbu 33 ton(all)	0,001745	-0,00029	-0,00564
16	truk 4 sumbu 33 ton(all)	0,001916	-0,00029	-0,00587
17	truk 4 sumbu 33 ton(all)	0,001745	0,000289	-0,00564
18	truk 4 sumbu 33 ton(all)	0,001221	0,00029	-0,00509
19	truk 4 sumbu 33 ton(all)	0,000742	-0,00011	-0,00833
20	truk 4 sumbu 33 ton(all)	0,000863	-0,00011	-0,0087
21	truk 4 sumbu 33 ton(all)	0,000742	0,000106	-0,00833
22	truk 4 sumbu 33 ton(all)	0,000863	0,000106	-0,0087
23	truk 4 sumbu 33 ton(all)	0,001349	-0,00011	-0,00948
24	truk 4 sumbu 33 ton(all)	0,001765	-0,00011	-0,01002
25	truk 4 sumbu 33 ton(all)	0,001908	-0,00011	-0,01024
26	truk 4 sumbu 33 ton(all)	0,001765	0,000105	-0,01002
27	truk 4 sumbu 33 ton(all)	0,001349	0,000105	-0,00948
28	truk 4 sumbu 33 ton(all)	0,00116	-0,00061	-0,01173
29	truk 4 sumbu 33 ton(all)	0,001225	-0,00061	-0,01211
30	truk 4 sumbu 33 ton(all)	0,00116	0,000614	-0,01173
31	truk 4 sumbu 33 ton(all)	0,001225	0,000614	-0,01211
32	truk 4 sumbu 33 ton(all)	0,001523	-0,00061	-0,01291
33	truk 4 sumbu 33 ton(all)	0,001798	-0,00061	-0,01345
34	truk 4 sumbu 33 ton(all)	0,001901	-0,00061	-0,01367
35	truk 4 sumbu 33 ton(all)	0,001798	0,000613	-0,01345
36	truk 4 sumbu 33 ton(all)	0,001523	0,000613	-0,0129
37	truk 4 sumbu 33 ton(all)	0,001569	-0,00107	-0,01359
38	truk 4 sumbu 33 ton(all)	0,001592	-0,00107	-0,01398
39	truk 4 sumbu 33 ton(all)	0,001569	0,001074	-0,01359
40	truk 4 sumbu 33 ton(all)	0,001592	0,001073	-0,01397

41	truk 4 sumbu 33 ton(all)	0,001717	-0,00107	-0,01477
42	truk 4 sumbu 33 ton(all)	0,001845	-0,00107	-0,01531
43	truk 4 sumbu 33 ton(all)	0,001896	-0,00107	-0,01553
44	truk 4 sumbu 33 ton(all)	0,001845	0,001073	-0,01531
45	truk 4 sumbu 33 ton(all)	0,001717	0,001073	-0,01477
46	truk 4 sumbu 33 ton(all)	0,001975	-0,00133	-0,01409
47	truk 4 sumbu 33 ton(all)	0,001963	-0,00133	-0,01448
48	truk 4 sumbu 33 ton(all)	0,001975	0,001329	-0,01409
49	truk 4 sumbu 33 ton(all)	0,001963	0,001329	-0,01448
50	truk 4 sumbu 33 ton(all)	0,001919	-0,00133	-0,01527
51	truk 4 sumbu 33 ton(all)	0,001897	-0,00133	-0,01581
52	truk 4 sumbu 33 ton(all)	0,001893	0,001328	-0,01803
53	truk 4 sumbu 33 ton(all)	0,001897	0,001329	-0,01581
54	truk 4 sumbu 33 ton(all)	0,001919	0,001329	-0,01527
55	truk 4 sumbu 33 ton(all)	0,002417	-0,00134	-0,01359
56	truk 4 sumbu 33 ton(all)	0,002348	-0,00134	-0,01398
57	truk 4 sumbu 33 ton(all)	0,002417	0,001342	-0,01359
58	truk 4 sumbu 33 ton(all)	0,002348	0,001342	-0,01397
59	truk 4 sumbu 33 ton(all)	0,002118	-0,00134	-0,01477
60	truk 4 sumbu 33 ton(all)	0,001949	-0,00134	-0,01531
61	truk 4 sumbu 33 ton(all)	0,001892	0,001341	-0,01553
62	truk 4 sumbu 33 ton(all)	0,001949	0,001341	-0,01531
63	truk 4 sumbu 33 ton(all)	0,002118	0,001341	-0,01477
64	truk 4 sumbu 33 ton(all)	0,002826	-0,00111	-0,01173
65	truk 4 sumbu 33 ton(all)	0,002709	-0,00111	-0,01211
66	truk 4 sumbu 33 ton(all)	0,002826	0,001109	-0,01173
67	truk 4 sumbu 33 ton(all)	0,002709	0,001109	-0,01211
68	truk 4 sumbu 33 ton(all)	0,002303	-0,00111	-0,01291
69	truk 4 sumbu 33 ton(all)	0,001996	-0,00111	-0,01345
70	truk 4 sumbu 33 ton(all)	0,001892	-0,00111	-0,01367
71	truk 4 sumbu 33 ton(all)	0,001996	0,001109	-0,01345
72	truk 4 sumbu 33 ton(all)	0,002303	0,001109	-0,0129
73	truk 4 sumbu 33 ton(all)	0,003177	-0,00072	-0,00833
74	truk 4 sumbu 33 ton(all)	0,003014	-0,00072	-0,0087
75	truk 4 sumbu 33 ton(all)	0,003176	0,000717	-0,00833
76	truk 4 sumbu 33 ton(all)	0,003014	0,000717	-0,0087
77	truk 4 sumbu 33 ton(all)	0,002452	-0,00072	-0,00948
78	truk 4 sumbu 33 ton(all)	0,002033	-0,00072	-0,01002
79	truk 4 sumbu 33 ton(all)	0,001891	-0,00072	-0,01024
80	truk 4 sumbu 33 ton(all)	0,002033	0,000717	-0,01002
81	truk 4 sumbu 33 ton(all)	0,002452	0,000717	-0,00948

82	truk 4 sumbu 33 ton(all)	0,003493	-0,00026	-0,00418
83	truk 4 sumbu 33 ton(all)	0,003269	-0,00026	-0,00429
84	truk 4 sumbu 33 ton(all)	0,003492	0,000255	-0,00418
85	truk 4 sumbu 33 ton(all)	0,003269	0,000255	-0,00429
86	truk 4 sumbu 33 ton(all)	0,002558	-0,00026	-0,00509
87	truk 4 sumbu 33 ton(all)	0,002058	-0,00025	-0,00564
88	truk 4 sumbu 33 ton(all)	0,001891	-0,00025	-0,00587
89	truk 4 sumbu 33 ton(all)	0,002058	0,000254	-0,00564
90	truk 4 sumbu 33 ton(all)	0,002557	0,000254	-0,00509
91	truk 4 sumbu 33 ton(all)	0,003671	0,000	0,000
92	truk 4 sumbu 33 ton(all)	0,003382	0,000	-0,00045
93	truk 4 sumbu 33 ton(all)	0,003671	0,000	0,000
94	truk 4 sumbu 33 ton(all)	0,003382	0,000	-0,00045
95	truk 4 sumbu 33 ton(all)	0,002607	0,000	-0,00136
96	truk 4 sumbu 33 ton(all)	0,002071	0,000	-0,00199
97	truk 4 sumbu 33 ton(all)	0,001891	0,000	-0,00224
98	truk 4 sumbu 33 ton(all)	0,002071	0,000	-0,00199
99	truk 4 sumbu 33 ton(all)	0,002607	0,000	-0,00136
127	truk 4 sumbu 33 ton(all)	0,002296	0,000	-0,00171
128	truk 4 sumbu 33 ton(all)	0,003692	-0,00241	-0,00352
129	truk 4 sumbu 33 ton(all)	0,003692	0,002407	-0,00352
130	truk 4 sumbu 33 ton(all)	0,003453	-0,002	-0,00755
131	truk 4 sumbu 33 ton(all)	0,003453	0,001997	-0,00755
132	truk 4 sumbu 33 ton(all)	0,002983	-0,00157	-0,01096
133	truk 4 sumbu 33 ton(all)	0,002983	0,001569	-0,01096
134	truk 4 sumbu 33 ton(all)	0,002431	-0,00125	-0,01305
135	truk 4 sumbu 33 ton(all)	0,002431	0,001251	-0,01305
136	truk 4 sumbu 33 ton(all)	0,001888	-0,001	-0,01374
137	truk 4 sumbu 33 ton(all)	0,001888	0,001003	-0,01374
138	truk 4 sumbu 33 ton(all)	0,001324	-0,00087	-0,01305
139	truk 4 sumbu 33 ton(all)	0,001324	0,000872	-0,01305
140	truk 4 sumbu 33 ton(all)	0,000937	-0,0008	-0,01096
141	truk 4 sumbu 33 ton(all)	0,000937	0,000803	-0,01096
142	truk 4 sumbu 33 ton(all)	0,000677	-0,00085	-0,00755
143	truk 4 sumbu 33 ton(all)	0,000677	0,000853	-0,00755
144	truk 4 sumbu 33 ton(all)	0,000556	-0,00089	-0,00352
145	truk 4 sumbu 33 ton(all)	0,000556	0,00089	-0,00352
146	truk 4 sumbu 33 ton(all)	0,000564	-0,00081	-0,00547
147	truk 4 sumbu 33 ton(all)	0,000784	-0,00071	-0,00911
148	truk 4 sumbu 33 ton(all)	0,001098	-0,00071	-0,01172
149	truk 4 sumbu 33 ton(all)	0,001588	-0,0008	-0,01318

150	truk 4 sumbu 33 ton(all)	0,002157	-0,00099	-0,01318
151	truk 4 sumbu 33 ton(all)	0,002725	-0,00128	-0,01172
152	truk 4 sumbu 33 ton(all)	0,003232	-0,00167	-0,00911
153	truk 4 sumbu 33 ton(all)	0,003681	-0,00215	-0,00547

Gambar nomor *nodes* jembatan tipe *Parker*



Node	Load	DX (m)	DY (m)	DZ (m)
1	truk 4 sumbu 33 ton(all)	0,000	0,000	0,000
2	truk 4 sumbu 33 ton(all)	0,000331	0,000	-0,00047
3	truk 4 sumbu 33 ton(all)	0,000	0,000	0,000
4	truk 4 sumbu 33 ton(all)	0,000331	0,000	-0,00047
5	truk 4 sumbu 33 ton(all)	0,001121	0,000	-0,0014
6	truk 4 sumbu 33 ton(all)	0,001612	0,000	-0,00204
7	truk 4 sumbu 33 ton(all)	0,001764	0,000	-0,0023
8	truk 4 sumbu 33 ton(all)	0,001612	0,000	-0,00204
9	truk 4 sumbu 33 ton(all)	0,001121	0,000	-0,0014
10	truk 4 sumbu 33 ton(all)	0,000467	-0,00036	-0,00426
11	truk 4 sumbu 33 ton(all)	0,00061	-0,00036	-0,00461
12	truk 4 sumbu 33 ton(all)	0,000467	0,000362	-0,00426
13	truk 4 sumbu 33 ton(all)	0,00061	0,000362	-0,00461
14	truk 4 sumbu 33 ton(all)	0,001178	-0,00036	-0,0054
15	truk 4 sumbu 33 ton(all)	0,001615	-0,00036	-0,00594
16	truk 4 sumbu 33 ton(all)	0,001756	-0,00036	-0,00617
17	truk 4 sumbu 33 ton(all)	0,001615	0,00036	-0,00594
18	truk 4 sumbu 33 ton(all)	0,001178	0,000361	-0,0054
19	truk 4 sumbu 33 ton(all)	0,000881	-0,00016	-0,00705
20	truk 4 sumbu 33 ton(all)	0,000939	-0,00016	-0,00743
21	truk 4 sumbu 33 ton(all)	0,000881	-0,00016	-0,00705
22	truk 4 sumbu 33 ton(all)	0,000939	-0,00016	-0,00743
23	truk 4 sumbu 33 ton(all)	0,001297	-0,00016	-0,00821
24	truk 4 sumbu 33 ton(all)	0,001629	-0,00016	-0,00875
25	truk 4 sumbu 33 ton(all)	0,001745	-0,00016	-0,00897
26	truk 4 sumbu 33 ton(all)	0,001629	-0,00016	-0,00875
27	truk 4 sumbu 33 ton(all)	0,001297	-0,00016	-0,00821
28	truk 4 sumbu 33 ton(all)	0,001243	-0,00033	-0,009
29	truk 4 sumbu 33 ton(all)	0,00127	-0,00033	-0,00938
30	truk 4 sumbu 33 ton(all)	0,001242	0,000333	-0,009
31	truk 4 sumbu 33 ton(all)	0,00127	0,000333	-0,00938
32	truk 4 sumbu 33 ton(all)	0,001453	-0,00033	-0,01016
33	truk 4 sumbu 33 ton(all)	0,001656	-0,00033	-0,0107
34	truk 4 sumbu 33 ton(all)	0,001735	-0,00033	-0,01092
35	truk 4 sumbu 33 ton(all)	0,001656	0,000332	-0,0107
36	truk 4 sumbu 33 ton(all)	0,001453	0,000332	-0,01016
37	truk 4 sumbu 33 ton(all)	0,001598	-0,00062	-0,00992
38	truk 4 sumbu 33 ton(all)	0,001591	-0,00062	-0,0103
39	truk 4 sumbu 33 ton(all)	0,001598	0,000622	-0,00992
40	truk 4 sumbu 33 ton(all)	0,001591	0,000621	-0,0103

41	truk 4 sumbu 33 ton(all)	0,001621	-0,00062	-0,01108
42	truk 4 sumbu 33 ton(all)	0,001692	-0,00062	-0,01162
43	truk 4 sumbu 33 ton(all)	0,001729	-0,00062	-0,01184
44	truk 4 sumbu 33 ton(all)	0,001692	0,00062	-0,01162
45	truk 4 sumbu 33 ton(all)	0,001621	0,000621	-0,01108
46	truk 4 sumbu 33 ton(all)	0,001933	-0,00082	-0,00976
47	truk 4 sumbu 33 ton(all)	0,001892	-0,00082	-0,01015
48	truk 4 sumbu 33 ton(all)	0,001933	0,00082	-0,00976
49	truk 4 sumbu 33 ton(all)	0,001892	0,00082	-0,01015
50	truk 4 sumbu 33 ton(all)	0,001784	-0,00082	-0,01093
51	truk 4 sumbu 33 ton(all)	0,001735	-0,00082	-0,01147
52	truk 4 sumbu 33 ton(all)	0,001727	-0,00082	-0,01169
53	truk 4 sumbu 33 ton(all)	0,001735	0,00082	-0,01147
54	truk 4 sumbu 33 ton(all)	0,001783	0,00082	-0,01093
55	truk 4 sumbu 33 ton(all)	0,00221	-0,00091	-0,00992
56	truk 4 sumbu 33 ton(all)	0,002151	-0,00091	-0,0103
57	truk 4 sumbu 33 ton(all)	0,00221	0,000909	-0,00992
58	truk 4 sumbu 33 ton(all)	0,002151	0,000909	-0,0103
59	truk 4 sumbu 33 ton(all)	0,001936	-0,00091	-0,01108
60	truk 4 sumbu 33 ton(all)	0,00178	-0,00091	-0,01162
61	truk 4 sumbu 33 ton(all)	0,001729	-0,00091	-0,01214
62	truk 4 sumbu 33 ton(all)	0,00178	0,000908	-0,01162
63	truk 4 sumbu 33 ton(all)	0,001936	0,000908	-0,01108
64	truk 4 sumbu 33 ton(all)	0,002493	-0,00088	-0,009
65	truk 4 sumbu 33 ton(all)	0,002404	-0,00088	-0,00938
66	truk 4 sumbu 33 ton(all)	0,002493	0,000884	-0,009
67	truk 4 sumbu 33 ton(all)	0,002404	0,000884	-0,00938
68	truk 4 sumbu 33 ton(all)	0,002077	-0,00088	-0,01016
69	truk 4 sumbu 33 ton(all)	0,001821	-0,00088	-0,0107
70	truk 4 sumbu 33 ton(all)	0,001733	0,000883	-0,01092
71	truk 4 sumbu 33 ton(all)	0,001821	0,000883	-0,0107
72	truk 4 sumbu 33 ton(all)	0,002077	0,000884	-0,01016
73	truk 4 sumbu 33 ton(all)	0,002748	-0,00069	-0,00705
74	truk 4 sumbu 33 ton(all)	0,002629	-0,00069	-0,00743
75	truk 4 sumbu 33 ton(all)	0,002748	0,000689	-0,00705
76	truk 4 sumbu 33 ton(all)	0,002629	0,000689	-0,00743
77	truk 4 sumbu 33 ton(all)	0,002192	-0,00069	-0,00821
78	truk 4 sumbu 33 ton(all)	0,001853	-0,00069	-0,00875
79	truk 4 sumbu 33 ton(all)	0,001736	-0,00069	-0,00897
80	truk 4 sumbu 33 ton(all)	0,001853	0,000689	-0,00875
81	truk 4 sumbu 33 ton(all)	0,002192	0,000689	-0,00821

82	truk 4 sumbu 33 ton(all)	0,002963	-0,00031	-0,00426
83	truk 4 sumbu 33 ton(all)	0,002816	-0,00031	-0,00461
84	truk 4 sumbu 33 ton(all)	0,002963	0,000308	-0,00426
85	truk 4 sumbu 33 ton(all)	0,002816	0,000308	-0,00461
86	truk 4 sumbu 33 ton(all)	0,002278	-0,00031	-0,0054
87	truk 4 sumbu 33 ton(all)	0,001874	-0,00031	-0,00594
88	truk 4 sumbu 33 ton(all)	0,001738	-0,00031	-0,00617
89	truk 4 sumbu 33 ton(all)	0,001873	0,000308	-0,00594
90	truk 4 sumbu 33 ton(all)	0,002278	0,000308	-0,0054
91	truk 4 sumbu 33 ton(all)	0,003256	0,000	0,000
92	truk 4 sumbu 33 ton(all)	0,002977	0,000	-0,00047
93	truk 4 sumbu 33 ton(all)	0,003256	0,000	0,000
94	truk 4 sumbu 33 ton(all)	0,002977	0,000	-0,00047
95	truk 4 sumbu 33 ton(all)	0,002317	0,000	-0,0014
96	truk 4 sumbu 33 ton(all)	0,001881	0,000	-0,00204
97	truk 4 sumbu 33 ton(all)	0,001739	0,000	-0,0023
98	truk 4 sumbu 33 ton(all)	0,001881	0,000	-0,00204
99	truk 4 sumbu 33 ton(all)	0,002316	0,000	-0,0014
127	truk 4 sumbu 33 ton(all)	0,002062	0,000	-0,00176
128	truk 4 sumbu 33 ton(all)	0,002774	0,001973	-0,00419
129	truk 4 sumbu 33 ton(all)	0,002774	-0,00197	-0,00419
130	truk 4 sumbu 33 ton(all)	0,001398	0,001154	-0,00419
131	truk 4 sumbu 33 ton(all)	0,001398	-0,00115	-0,00419
132	truk 4 sumbu 33 ton(all)	0,002913	-0,00151	-0,00695
133	truk 4 sumbu 33 ton(all)	0,002913	0,001513	-0,00695
134	truk 4 sumbu 33 ton(all)	0,001206	-0,00056	-0,00695
135	truk 4 sumbu 33 ton(all)	0,001206	0,000557	-0,00695
136	truk 4 sumbu 33 ton(all)	0,002663	-0,00156	-0,00884
137	truk 4 sumbu 33 ton(all)	0,002663	0,001558	-0,00884
138	truk 4 sumbu 33 ton(all)	0,001212	-0,00092	-0,00884
139	truk 4 sumbu 33 ton(all)	0,001212	0,000921	-0,00884
140	truk 4 sumbu 33 ton(all)	0,002198	-0,00139	-0,00957
141	truk 4 sumbu 33 ton(all)	0,002198	0,001391	-0,00956
142	truk 4 sumbu 33 ton(all)	0,001347	-0,00107	-0,00957
143	truk 4 sumbu 33 ton(all)	0,001347	0,001071	-0,00956
144	truk 4 sumbu 33 ton(all)	0,001733	-0,00132	-0,00956
145	truk 4 sumbu 33 ton(all)	0,001733	0,001318	-0,00956
146	truk 4 sumbu 33 ton(all)	0,003661	-0,00149	-0,00665
147	truk 4 sumbu 33 ton(all)	-0,00117	-0,00055	-0,00665
148	truk 4 sumbu 33 ton(all)	0,002932	-0,00141	-0,0076
149	truk 4 sumbu 33 ton(all)	0,002266	-0,00133	-0,00883

150	truk 4 sumbu 33 ton(all)	0,002021	-0,00123	-0,00924
151	truk 4 sumbu 33 ton(all)	0,00148	-0,00108	-0,00924
152	truk 4 sumbu 33 ton(all)	0,001346	-0,00085	-0,00883
153	truk 4 sumbu 33 ton(all)	0,001109	-0,00063	-0,0076

LAMPIRAN

Berikut merupakan tabel nilai lalu lintas harian dari arah Timur ke Barat pada Kamis, 16 April 2025:

Pukul	Motor	Mobil	*Pick up*	Truk	Tossa
06.00 – 07.00	89	1	3		
07.00 – 08.00	97	2	2		
08.00 – 09.00	144	4	4	1	
09.00 – 10.00	135	2	2	3	
10.00 – 11.00	156	3	3	2	
11.00 – 12.00	103	4	2	1	
12.00 – 13.00	126	4	3	2	1
13.00 – 14.00	129	3	3	3	1
14.00 – 15.00	197	3	5	2	
15.00 – 16.00	158	3	4	5	
16.00 – 17.00	164	2	5	3	
17.00 – 18.00	127	1	2		

(Sumber : survey lapangan)

Berikut merupakan tabel nilai lalu lintas harian dari arah Barat ke Timur pada Kamis, 16 April 2025:

Pukul	Motor	Mobil	*Pick up*	Truk	Tossa
06.00 – 07.00	124		1		
07.00 – 08.00	95	6	5	2	
08.00 – 09.00	125			4	
09.00 – 10.00	134			3	
10.00 – 11.00	142			2	
11.00 – 12.00	117	2	4	1	
12.00 – 13.00	113	6	3	2	1
13.00 – 14.00	133	10	4	3	2
14.00 – 15.00	159	6	7	1	
15.00 – 16.00	112	3	4	1	
16.00 – 17.00	111	2	2		

17.00 – 18.00	97	2	1		

(Sumber : survey lapangan)

Berikut merupakan tabel nilai lalu lintas harian dari arah Timur ke Barat pada Minggu, 19 April 2025:

Pukul	Motor	Mobil	*Pick up*	Truk	Tossa
06.00 – 07.00	87	1	2		
07.00 – 08.00	93	2	2		
08.00 – 09.00	103	4	4	1	
09.00 – 10.00	122	2	2	3	
10.00 – 11.00	114	3	3	2	
11.00 – 12.00	103	4	2	1	
12.00 – 13.00	126	4	3	2	
13.00 – 14.00	129	3	3	3	
14.00 – 15.00	147	3	5	2	
15.00 – 16.00	158	3	4	1	
16.00 – 17.00	164	2	5	3	
17.00 – 18.00	127	1	2		

(Sumber : survey lapangan)

Berikut merupakan tabel nilai lalu lintas harian dari arah Barat ke Timur pada Minggu, 19 April 2025:

Pukul	Motor	Mobil	*Pick up*	Truk	Tossa
06.00 – 07.00	87		2		
07.00 – 08.00	97	2	2		
08.00 – 09.00	103	1		1	
09.00 – 10.00	99			2	
10.00 – 11.00	121			2	1
11.00 – 12.00	117	2	4	1	
12.00 – 13.00	113	6	3	2	
13.00 – 14.00	133	3	4	1	
14.00 – 15.00	124	6	7	1	

15.00 – 16.00	112	3	4	2	
16.00 – 17.00	111	2	2		
17.00 – 18.00	97	2	1		

(Sumber : survey lapangan)

Berikut merupakan tabel nilai rata-rata lalu lintas harian dari arah Timur ke Barat:

Pukul	**Motor**	**Mobil**	***Pick up***	**Truk**	**Tossa**
06.00 – 07.00	88	1	2.5		
07.00 – 08.00	95	2	2		
08.00 – 09.00	123,5	4	4	1	
09.00 – 10.00	128,5	2	2	3	
10.00 – 11.00	135	3	3	2	
11.00 – 12.00	103	4	2	1	
12.00 – 13.00	126	4	3	2	1
13.00 – 14.00	129	3	3	3	1
14.00 – 15.00	172	3	5	2	
15.00 – 16.00	158	3	4	3	
16.00 – 17.00	164	2	5	3	
17.00 – 18.00	127	1	2		

Berikut merupakan tabel nilai rata-rata lalu lintas harian dari arah Barat ke Timur:

Pukul	**Motor**	**Mobil**	***Pick up***	**Truk**	**Tossa**
06.00 – 07.00	105,5				
07.00 – 08.00	96	4		2	
08.00 – 09.00	114	1		2,5	
09.00 – 10.00	116,5			2,5	
10.00 – 11.00	131,5			2	1
11.00 – 12.00	117	2	4	1	
12.00 – 13.00	113	6	3	2	
13.00 – 14.00	133	6,5	4	2	
14.00 – 15.00	141,5	6	7	1	
15.00 – 16.00	112	3	4	1,5	
16.00 – 17.00	111	2	2		
17.00 – 18.00	97	1	1		

Tabel nilai respon spektrum

Variabel	T (detik)	Sa (g)
As	0	0.398
T0	0.117	0.881
SDS	0.2	0.881
Ts	0.585	0.881
Ts+0.1	0.7	0.737
Ts+0.2	0.8	0.645
Ts+0.3	0.9	0.573
Ts+0.4	1.0	0.516
SD1	1	0.516
Ts+0.5	1.1	0.469
Ts+0.6	1.2	0.430
Ts+0.7	1.3	0.397
Ts+0.8	1.4	0.368

Ts+0.9	1.5	0.344
Ts+1	1.6	0.322
Ts+1.1	1.7	0.303
Ts+1.2	1.8	0.286
Ts+1.3	1.9	0.271
Ts+1.4	2	0.258
Ts+1.5	2.1	0.246
Ts+1.6	2.2	0.234
Ts+1.7	2.3	0.224
Ts+1.8	2.4	0.215
Ts+1.9	2.5	0.206
Ts+2	2.6	0.198
Ts+2.1	2.7	0.191
Ts+2.2	2.8	0.184
Ts+2.3	2.9	0.178
Ts+2.4	3	0.172
Ts+2.5	3.1	0.166
Ts+2.6	3.2	0.161
Ts+2.7	3.3	0.156
Ts+2.8	3.4	0.152
Ts+2.9	3.5	0.147
Ts+3	3.6	0.143
Ts+3.1	3.7	0.139
Ts+3.2	3.8	0.136
Ts+3.3	3.9	0.132
Ts+3.4	4	0.129

(Sumber: https://lini.binamarga.pu.go.id/)

Tabel Kode material dan profil

KODE MATERIAL	PROFIL
BC - 1	400 × 350 × 10 × 10
BC - 2	400 × 350 × 10 × 10
BC - 3	400 × 350 × 12 × 14
BC - 4	400 × 400 × 10 × 10
BC - 5	400 × 430 × 10 × 10
TC - 1	400 × 350 × 12 × 14
TC - 2	400 × 350 × 12 × 14
TC - 3	400 × 380 × 12 × 16
TC - 4	400 × 400 × 16 × 16
TC - 5	400 × 410 × 16 × 16
DG - 1	400 × 380 × 12 × 14
DG - 2	400 × 350 × 8 × 12
DG - 3	400 × 350 × 8 × 12
DG - 4	400 × 300 × 8 × 10
DG - 5	400 × 350 × 8 × 10
DG - 6	400 × 300 × 8 × 8
DG - 7	400 × 350 × 8 × 8
DG - 8	400 × 280 × 8 × 8
DG - 9	400 × 280 × 8 × 8
DG -10	400 × 280 × 8 × 8
BRC	125 × 125 × 6.5 × 9
EP	300 × 150 × 12 × 16
CG	900 × 280 × 10 × 22
ST	455 × 150 × 8 × 10
STA	300 × 150 × 6,5 × 9

Tabel nilai SPT

NO	KEDALAMAN	T (m)	N (SPT)	N' = T/N
1	0 sampai 2	2	8	0,25
2	2 sampai 4	2	11	0,181818
3	4 sampai 6	2	4	0,5
4	6 sampai 8	2	6	0,333333
5	8 sampai 10	2	27	0,074074
6	10 sampai 12	2	39	0,051282
7	12 sampai 14	2	34	0,058824
8	14 sampai 16	2	38	0,052632
9	16 sampai 18	2	55	0,036364
10	18 sampai 20	2	32	0,0625
11	20 sampai 22	2	34	0,058824
12	22 sampai 24	2	36	0,055556
13	24 sampai 26	2	60	0,033333
14	26 sampai 28	2	60	0,033333
15	28 sampai 30	2	60	0,033333
	JUMLAH	30		1,815205
			ΣN	16,52705

Tabel Jenis-jenis tanah

Jenis tanah	**Kecepatan rambat gemlombang geser rata-rata, $\bar{V}s$ (m/detik)**	**Nilai hasil tes Penetrasi standar rata-rata $\bar{N}$**	**Kuat geser niralir rata-rata $\bar{S}u$ (kPa)**
Tanah Keras	$\bar{V}s \geq 350$	$\bar{N} \geq 50$	$\bar{S}u \geq 100$
Tanah Sedang	$175 \leq \bar{V}s < 350$	$15 \leq \bar{N} < 50$	$50 \leq \bar{S}u < 100$
Tanah Lunak	$\bar{V}s < 175$	$\bar{N} < 15$	$\bar{S}u < 50$
	atau, setiap profil dengan tanah lunak yang tebal total lebih dari 3 m dengan PI > 20, Wn ≥ 40% dan Su < 25 kPa		
Tanah Khusus	Diperlukan evaluasi khusus di setiap lokasi		

(Sumber: SNI 1726-2002)

LAMPIRAN
(Dokumentasi survey dan obsevasi)

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JIS

JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS G 3106 : 2020

(JISF)

Rolled steels for welded structure

ICS 25.160.01 ; 77.140.01 ; 77.140.10
Reference number : JIS G 3106 : 2020 (E)

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Table 2 Chemical composition [a)]

Unit: %

Symbol of grade	Thickness [b)]	C	Si	Mn	P	S
SM400A	≤50 mm	≤0.23	—	≥2.5 × C [c)]	≤0.035	≤0.035
	>50 ≤200 mm	≤0.25				
SM400B	≤50 mm	≤0.20	≤0.35	0.60 to 1.50	≤0.035	≤0.035
	>50 ≤200 mm	≤0.22				
SM400C	≤100 mm	≤0.18	≤0.35	0.60 to 1.50	≤0.035	≤0.035
SM490A	≤50 mm	≤0.20	≤0.55	≤1.65	≤0.035	≤0.035
	>50 ≤200 mm	≤0.22				
SM490B	≤50 mm	≤0.18	≤0.55	≤1.65	≤0.035	≤0.035
	>50 ≤200 mm	≤0.20				
SM490C	≤100 mm	≤0.18	≤0.55	≤1.65	≤0.035	≤0.035
SM490YA	≤100 mm	≤0.20	≤0.55	≤1.65	≤0.035	≤0.035
SM490YB						
SM520B	≤100 mm	≤0.20	≤0.55	≤1.65	≤0.035	≤0.035
SM520C						
SM570	≤100 mm	≤0.18	≤0.55	≤1.70	≤0.035	≤0.035

Note [a)] Elements in the table with no limit values or elements not given in the table may be added as necessary.
Note [b)] The thickness of sections shall be t or t_2 in Table 3 and t_2 in Table 4 of **JIS G 3192**.
Note [c)] For the value of carbon, the heat analysis value shall be applied.

6 Heat treatment and symbols of heat treatment

6.1 Heat treatment

As necessary, steel products may be subjected to normalizing, tempering, or quenching and tempering. All steel products may be subjected to thermo-mechanical control process or other heat treatment according to the agreement between the purchaser and the manufacturer (referred to as “agreement” in the following subclause **6.2**).

6.2 Symbols of heat treatment

Heat treated steel products shall be given the following heat treatment symbols.

The following symbols shall be suffixed to the symbol of grade given in Table 1.

a) Normalizing by agreement : N

b) Tempering by agreement : T

c) Quenching and tempering : Q

d) Thermo-mechanical control process on steel products by agreement : TMC

e) Proper heat treatment on steel products by agreement : Symbol agreed

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Example : SM490CN, SM570TMC

7 Carbon equivalent and weld-crack sensitivity composition

7.1 Carbon equivalent and weld-crack sensitivity composition for SM570

The carbon equivalent and weld-crack sensitivity composition for SM570 shall be as follows.

The carbon equivalent shall apply to quenched and tempered steel products.

a) **Carbon equivalent** The carbon equivalent shall be calculated by Formula (1) using the heat analysis values obtained in **11.1** and shall conform to Table 3.

$$C_{eq} = C + \frac{Mn}{6} + \frac{Si}{24} + \frac{Ni}{40} + \frac{Cr}{5} + \frac{Mo}{4} + \frac{V}{14} \quad \cdots\cdots(1)$$

where, C_{eq}: carbon equivalent (%)

Table 3 Carbon equivalent

Thickness mm	≤50	>50 ≤100	>100
Carbon equivalent (%)	≤0.44	≤0.47	As agreed between the purchaser and the manufacturer.

b) **Weld-crack sensitivity composition** The weld-crack sensitivity composition may be applied in place of the carbon equivalent by agreement between the purchaser and the manufacturer. The weld-crack sensitivity composition shall be calculated by Formula (2) using the heat analysis values in **11.1** and shall conform to Table 4.

$$P_{CM} = C + \frac{Si}{30} + \frac{Mn}{20} + \frac{Cu}{20} + \frac{Ni}{60} + \frac{Cr}{20} + \frac{Mo}{15} + \frac{V}{10} + 5B \quad \cdots\cdots(2)$$

where, P_{CM}: weld-crack sensitivity composition (%)

Table 4 Weld-crack sensitivity composition

Thickness mm	≤50	>50 ≤100	>100
Weld-crack sensitivity composition %	≤0.28	≤0.30	As agreed between the purchaser and the manufacturer.

7.2 Carbon equivalent and weld-crack sensitivity composition for steel plates/sheets manufactured by thermo-mechanical control process

For steel plates/sheets manufactured by thermo-mechanical control process as agreed between the purchaser and the manufacturer, the carbon equivalent, or alternatively, the weld-crack sensitivity composition applied by agreement shall be as follows.

a) **Carbon equivalent** The carbon equivalent shall be calculated by Formula (1) in **7.1** using the heat analysis values obtained in **11.1** and shall conform to Table 5.

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Table 5 Carbon equivalent

Unit: %

Symbol of grade		SM490A SM490YA SM490B SM490YB SM490C	SM520B SM520C
Applicable thickness [a)]	≤50 mm	≤0.38	≤0.40
	>50 mm ≤100 mm	≤0.40	≤0.42
Note [a)] The carbon equivalent of steel plates/sheets with a thickness over 100 mm shall be as agreed between the purchaser and the manufacturer.			

b) **Weld-crack sensitivity composition** The weld-crack sensitivity composition shall be calculated by Formula (2) in **7.1** using the heat analysis values obtained in **11.1** and shall conform to Table 6.

Table 6 Weld-crack sensitivity composition

Unit: %

Symbol of grade		SM490A SM490YA SM490B SM490YB SM490C	SM520B SM520C
Applicable thickness [a)]	≤50 mm	≤0.24	≤0.26
	>50 mm ≤100 mm	≤0.26	≤0.27
Note [a)] The weld-crack sensitivity composition of steel plates/sheets with a thickness over 100 mm shall be as agreed between the purchaser and the manufacturer.			

8 Mechanical properties

8.1 Yield point or proof stress, tensile strength and elongation

Steel products shall be tested in accordance with **11.2**, and satisfy the yield point or proof stress, tensile strength and elongation requirements as given in Table 7.

For steel plates/sheets agreed between the purchaser and the manufacturer as specified in Note [b)] to Table 1, the requirements given in Table JA.2 shall apply. For sections with a leg length under 70 mm and of flats with a width under 50 mm, the following shall apply.

a) For sections with a leg length under 40 mm, requirements in Annex JB shall apply. For sections with a leg length 40 mm or over to and excluding 70 mm, requirements in Annex JB may be applied.

b) For flats with a width under 40 mm, requirements in Annex JB shall apply. For flats with a width 40 mm or over to and excluding 50 mm, requirements in Annex JB may be applied.

8.2 Charpy absorbed energy

Steel products of symbols given in Table 8 having a thickness over 12 mm shall be

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tested in accordance with **11.2**, and their Charpy absorbed energy shall conform to Table 8. The Charpy absorbed energy shall be the mean of results of three test pieces and shall be judged by **9.6** of **JIS G 0404**.

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Table 7 Yield point or proof stress, tensile strength and elongation

Symbol of grade	Yield point or proof stress N/mm²						Tensile strength N/mm²		Elongation		
	Thickness [a] mm						Thickness [a] mm		Thickness [a] mm	Test piece	%
	≤16	>16 ≤40	>40 ≤75	>75 ≤100	>100 ≤160	>160 ≤200	≤100	>100 ≤200			
SM400A SM400B	≥245	≥235	≥215	≥215	≥205	≥195	400 to 510	400 to 510	≤5 >5 ≤16	No. 5 No. 1A	≥23 ≥18
SM400C					—	—			>16 ≤50 >40 [b]	No. 1A No. 4	≥22 ≥24
SM490A SM490B	≥325	≥315	≥295	≥295	≥285	≥275	490 to 610	490 to 610	≤5 >5 ≤16	No. 5 No. 1A	≥22 ≥17
SM490C					—	—			>16 ≤50 >40 [b]	No. 1A No. 4	≥21 ≥23
SM490YA SM490YB	≥365	≥355	≥335	≥325	—	—	490 to 610	—	≤5 >5 ≤16 >16 ≤50 >40 [b]	No. 5 No. 1A No. 1A No. 4	≥19 ≥15 ≥19 ≥21
SM520B SM520C	≥365	≥355	≥335	≥325	—	—	520 to 640	—	≤5 >5 ≤16 >16 ≤50 >40 [b]	No. 5 No. 1A No. 1A No. 4	≥19 ≥15 ≥19 ≥21
SM570	≥460	≥450	≥430	≥420	—	—	570 to 720	—	≤16 > 16 >20 [b]	No. 5 No. 5 No. 4	≥19 ≥26 ≥20

NOTE 1 N/mm² = 1 MPa

Note [a] For sections, the thickness shall be that at the location of test pieces.

Note [b] For the elongation of No. 4 test piece of steel product with a thickness over 100 mm, subtract 1 from the values of this table for each increment of 25 mm or its fraction in thickness. The number subtracted shall not exceed 3.

Table 8 Charpy absorbed energy

Symbol of grade	Test temperature [a] °C	Charpy absorbed energy J	Test piece and sampling direction
SM400B	0	≥27	V-notch in rolling direction [b]
SM400C	0	≥47	
SM490B	0	≥27	
SM490C	0	≥47	
SM490YB	0	≥27	
SM520B	0	≥27	
SM520C	0	≥47	
SM570	−5	≥47	

Note [a] A test temperature lower than specified above may be applied upon agreement between the purchaser and the manufacturer.

Note [b] When the test is performed in the rolling direction and in the direction perpendicular thereto, the test performed in the rolling direction may be omitted upon approval by the purchaser.

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9 Shape, dimensions, mass and tolerances

The shape, dimensions, mass and tolerances of steel products shall be in accordance with JIS G 3192, JIS G 3193 and JIS G 3194. Tolerances on width and length, unless otherwise specified, shall be as follows.

a) For width of cut-edged plates/sheets and strips in coil, Tolerance A in Table 7 of JIS G 3193 shall apply.

b) For length of plates/sheets, the tolerances given in Table 8 of JIS G 3193 shall apply.

10 Appearance

The appearance of steel products shall be in accordance with Clause 9 of JIS G 3192, Clause 7 of JIS G 3193 and Clause 8 of JIS G 3194.

Repair by welding of SM570 steel plates/sheets shall be previously agreed between the purchaser and the manufacturer.

11 Tests

11.1 Chemical analysis

The chemical analysis shall be as follows.

a) **General requirements and sampling method** General requirements for chemical analysis and sampling method for heat analysis shall be in accordance with Clause 8 of JIS G 0404.

b) **Analysis method** The heat analysis method shall be in accordance with JIS G 0320.

11.2 Mechanical tests

11.2.1 General

General requirements for mechanical tests shall be in accordance with Clauses 7 and 9 of JIS G 0404. The sampling method shall be in accordance with Class A in 7.6 of JIS G 0404.

11.2.2 Number of test pieces

The number of tensile and impact test pieces shall be as follows.

a) **Number of tensile test pieces** The number of tensile test pieces shall be as follows.

1) **Plates/sheets (excluding cut lengths from strips in coil), and flats** Take one tensile test piece from each lot of plates/sheets or flats which belong to the same heat, and of which the maximum thickness is within two times the minimum thickness. When the mass of one lot exceeds 50 t, take two tensile test pieces from each lot. When the mass of one plate/sheet exceeds 50 t, take one tensile test piece from each plate/sheet.

2) **Strips in coil or cut lengths therefrom** Take one tensile test piece from each lot

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of strips in coil or cut lengths belonging to the same heat and rolled to the same thickness. When the mass of one lot exceeds 50 t, take two tensile test pieces from each lot.

3) **Sections** Take one tensile test piece from each lot of sections belonging to the same heat and rolled to the same sectional profile, of which the maximum thickness is within two times the minimum thickness. When the mass of one lot exceeds 50 t, take two tensile test pieces from each lot.

4) **Heat treated steel products** Take the number of test pieces specified in **1**), **2**) or **3**) from each lot of products grouped according to heat treatment conditions.

b) **Number of impact test pieces** The number of impact test pieces shall be as follows.

1) **Plates/sheets, flats, strips in coil and cut lengths from strips in coil** Take one sample from a steel product of maximum thickness taken from a lot of steel products belonging to the same heat, and from this sample, take three test pieces in the rolling direction.

2) **Sections** Take one sample from a steel product of maximum thickness taken from a lot of steel products belonging to the same heat and rolled to the same sectional profile, and from this sample, take three test pieces in the rolling direction.

3) **Heat treated steel products** Take the number of test pieces specified in **1**) or **2**) from each lot of products grouped according to heat treatment conditions.

11.2.3 Location of test pieces

The location of tensile and impact test pieces shall be as follows.

a) **Location of tensile test pieces** The location of tensile test pieces of steel products shall be in accordance with **JIS G 0416**. The centre of test pieces across the width of a plate/sheet, strip in coil or flat shall be 1/4 of the width from the edge of the width or as near this location as possible.

b) **Location of impact test pieces** The location of impact test pieces of steel products shall be in accordance with **JIS G 0416**. The centre of test pieces across the width of a plate/sheet, strip in coil or flat shall be 1/4 of the width from the edge of the width or as near this location as possible. The location of test pieces in thickness of plate/sheet shall be as shown in Figure A.11 **a**) of **JIS G 0416** for thicknesses 28 mm or under, or as shown in Figure A.11 **b**) of **JIS G 0416** for thicknesses over 28 mm. If test pieces cannot be taken from the specified location, they shall be taken as near this location as possible.

11.2.4 Test pieces

The tensile and impact test pieces shall be as follows.

a) The tensile test piece shall be No. 1A, 4, 5 or 14B specified in **JIS Z 2241**.

b) The impact test piece shall be V-notch test piece specified in **JIS Z 2242**. The longitudinal axis of the notch shall be perpendicular to the rolled surface of the prod-

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11.2.5 Test methods

The tensile test and the impact test shall be as follows.

a) The tensile test shall be in accordance with JIS Z 2241.

b) The impact test shall be in accordance with JIS Z 2242. For the pendulum, a striker of 2 mm radius shall be used.

NOTE Instead of the tests specified in this Standard, non-destructive tests such as those given in JIS G 0801 [1] or JIS G 0901 [2] may be conducted, in which case the necessary details including sampling method, test method, acceptance criteria are previously agreed between the purchaser and the manufacturer.

12 Inspection

The inspection shall be as follows.

a) General requirements for inspection are specified in JIS G 0404.

b) Chemical composition shall conform to the requirements in Clause 5.

c) Carbon equivalent or weld-crack sensitivity composition shall conform to the requirements in Clause 7.

d) Mechanical properties shall conform to the requirements in Clause 8.

e) Shape, dimensions and mass shall conform to the requirements in Clause 9.

f) Appearance shall conform to the requirements in Clause 10.

13 Reinspection

The reinspection shall be as follows.

a) The steel products having failed in the tensile test may be subjected to the retest according to 9.8 of JIS G 0404 for further acceptance judgement.

b) The steel products having failed in the impact test may be subjected to the retest according to 9.8 of JIS G 0404 for further acceptance judgement.

c) The steel products having failed in the mechanical tests may be heat treated or reheat treated, then subjected to the mechanical tests again for further acceptance judgement.

14 Marking

Each piece or bundle of steel products having passed the inspection shall be marked with the following information by a suitable means. Part of the following particulars may be omitted upon agreement between the purchaser and the manufacturer, as far as the identification of the product is possible.

a) Symbol of grade and symbol of heat treatment specified in 6.2

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NOTE In some cases, an additional mark specified by the order or the agreement between the purchaser and the manufacturer is suffixed to the symbol of grade to facilitate identification by the purchaser.

b) Heat number or inspection number

c) Dimensions. The marking of dimensions shall be in accordance with Clause 4 of JIS G 3192, Clause 3 of JIS G 3193 and Clause 4 of JIS G 3194.

d) Quantity in or mass of each bundle (for plates/sheets and strips in coil)

e) Manufacturer's name or its identifying brand

15 Report

Unless otherwise specified, the manufacturer shall submit an inspection document to the purchaser. The report shall be in accordance with Clause 13 of JIS G 0404. Unless otherwise specified in the order, the type of the inspection document shall be in accordance with 5.1 of JIS G 0415.

Where an alloy element(s) has been added according to Note a) to Table 2 or Note a) to Table JA.1, the analysis value(s) of the added elements(s) shall be indicated in the report. If the carbon equivalent or weld-crack sensitivity composition has been applied, the analysis values of the alloy elements used for the calculation shall be reported.

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Annex JA (normative)

Chemical composition and tensile properties of steel plates/sheets agreed between the purchaser and the manufacturer

JA.1 Application

This Annex specifies the chemical composition and tensile properties of steel plates/sheets agreed between the purchaser and the manufacturer according to Note b) to Table 1.

JA.2 Chemical composition

Steel plates/sheets agreed between the purchaser and the manufacturer according to Note b) to Table 1 shall be tested in accordance with **11.1**, and their heat analysis values shall satisfy Table JA.1.

Table JA.1 Chemical composition a)

Unit: %

Symbol of grade	Thickness	C	Si	Mn b)	P	S
SM400A	>200 mm ≤450 mm	≤0.25	—	≥2.5 × C c)	≤0.035	≤0.035
SM400B	>200 mm ≤250 mm	≤0.22	≤0.35	≥0.60	≤0.035	≤0.035
SM400C	>100 mm ≤250 mm	≤0.18	≤0.35	—	≤0.035	≤0.035
SM490A	>200 mm ≤300 mm	≤0.22	≤0.55	—	≤0.035	≤0.035
SM490B	>200 mm ≤250 mm	≤0.20	≤0.55	—	≤0.035	≤0.035
SM490C	>100 mm ≤250 mm	≤0.18	≤0.55	—	≤0.035	≤0.035
SM490YA	>100 mm ≤150 mm	≤0.20	≤0.55	—	≤0.035	≤0.035
SM490YB						
SM520B	>100 mm ≤150 mm	≤0.20	≤0.55	—	≤0.035	≤0.035
SM520C						
SM570	>100 mm ≤150 mm	≤0.18	≤0.55	—	≤0.035	≤0.035

Note a) Elements in the table with no limit values or elements not given in the table may be added as necessary.
Note b) The upper limit of manganese shall be as agreed between the purchaser and the manufacturer.
Note c) For the value of carbon, the heat analysis value shall be applied.

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JA.3 Yield point or proof stress, tensile strength and elongation

Steel plates/sheets agreed between the purchaser and the manufacturer according to Note [b)] to Table 1 shall be tested in accordance with **11.2** and satisfy the yield point or proof stress, tensile strength and elongation requirements given in Table JA.2. For tensile test, No. 4 test piece shall be used.

Table JA.2 Yield point or proof stress, tensile strength and elongation

Symbol of grade	Thickness mm	Yield point or proof stress N/mm²	Tensile strength N/mm²	Elongation %
SM400A	>200 ≤450	≥195	400 to 510	≥21
SM400B	>200 ≤250			
SM400C	>100 ≤160	≥205		≥24 [a)]
	>160 ≤250	≥195		
SM490A	>200 ≤300	≥275	490 to 610	≥20
SM490B	>200 ≤250			
SM490C	>100 ≤160	≥285		≥23 [a)]
	>160 ≤250	≥275		
SM490YA	>100 ≤150	≥315	490 to 610	≥21 [a)]
SM490YB	>100 ≤150			
SM520B	>100 ≤150	≥315	520 to 640	≥21 [a)]
SM520C	>100 ≤150			
SM570	>100 ≤150	≥410	570 to 720	≥20 [a)]

NOTE 1 N/mm² = 1 MPa

Note [a)] For the elongation of steel plates/sheets with a thickness over 100 mm, subtract 1 from the elongation values of this table for each increment of 25 mm or its fraction in thickness. The number subtracted shall not exceed 3.

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Annex JB (normative)

Mechanical properties of sections with a leg length under 40 mm and of flats with a width under 40 mm

Sections with a leg length under 40 mm and flats with a width under 40 mm shall be tested in accordance with **11.2**, and satisfy the yield point or proof stress, tensile strength and elongation requirements given in Table JB.1.

Table JB.1 Mechanical properties of sections with a leg length under 40 mm and of flats with a width under 40 mm

Symbol of grade	Yield point or proof stress N/mm²		Tensile strength	Thickness [a]	Tensile test piece	Elongation
	Thickness mm					
	≤16	>16 ≤40	N/mm²	mm		%
SM400A SM400B SM400C	≥245	≥235	400 to 510	≥3 ≤5	No. 5	≥23
					No. 14B	≥23
				>5 ≤16	No. 5	≥28
					No. 14B	≥26
				>16 ≤40	No. 5	≥35
					No. 14B	≥25
SM490A SM490B SM490C	≥325	≥315	490 to 610	≥3 ≤5	No. 5	≥22
					No. 14B	≥22
				>5 ≤16	No. 5	≥27
					No. 14B	≥24
				>16 ≤40	No. 5	≥33
					No. 14B	≥24
SM490YA SM490YB	≥365	≥355	490 to 610	≥3 ≤5	No. 5	≥19
					No. 14B	≥19
				>5 ≤16	No. 5	≥24
					No. 14B	≥22
				>16 ≤40	No. 5	≥30
					No. 14B	≥22
SM520B SM520C	≥365	≥355	520 to 640	≥3 ≤5	No. 5	≥19
					No. 14B	≥19
				>5 ≤16	No. 5	≥24
					No. 14B	≥22
				>16 ≤40	No. 5	≥30
					No. 14B	≥22
SM570	≥460	≥450	570 to 720	≥3 ≤5	No. 5	≥19
					No. 14B	≥19
				>5 ≤16	No. 5	≥19
					No. 14B	≥17
				>16 ≤40	No. 5	≥26
					No. 14B	≥19

NOTE 1 N/mm² = 1 MPa
Note [a] For sections, the thickness shall be that at the location of test pieces.

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Annex JC (normative)
Quality requirements for hot extruded sections

JC.1 Application

This Annex specifies the quality requirements for hot extruded sections of specially ordered shape to be used for construction components, coupling components for steel sheet piles, steel pipe sheet piles and the like.

Hot extruded sections shall be applied by agreement between the purchaser and the manufacturer.

JC.2 Symbols of grade and applicable dimensions

Hot extruded sections are classified into ten grades, and their symbols and applicable dimensions shall be as given in Table JC.1.

Table JC.1 Symbols of grade and applicable dimensions of hot extruded sections

Symbol of grade	Applicable dimension
SM400A	≥5 mm in thickness ≤250 mm in leg length or height
SM400B	
SM400C	
SM490A	
SM490B	
SM490C	
SM490YA	
SM490YB	
SM520B	
SM520C	

JC.3 Manufacturing method

Hot extruded sections shall be produced by hot extrusion at a minimum forging ratio of 4.

JC.4 Chemical composition

Hot extruded sections shall be tested in accordance with **11.1**, and their heat analysis values shall conform to Table 2.

JC.5 Mechanical properties

JC.5.1 Location of tensile and impact test pieces

The location of tensile and impact test pieces of hot extruded sections shall be as agreed between the purchaser and the manufacturer. The location of test pieces across

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the width shall be as follows.

a) **Location of tensile test pieces across the width** The No.4 tensile test piece shall be taken at 1/4 of the thickness; if this is impracticable, it shall be taken as near this location as possible.

b) **Location of impact test pieces in thickness direction** It shall be as shown in Figure A.3 of **JIS G 0416**.

JC.5.2 Yield point or proof stress, tensile strength and elongation

Hot extruded sections shall be tested in accordance with the test method for sections given in **11.2**, and satisfy the yield point or proof stress, tensile strength and elongation requirements for sections given in Table 7 and Table JB.1. Where No.1A test piece cannot be taken due to the specific geometry of the hot extruded section, No.5 test piece may be taken. Elongation requirements for hot extruded sections are given in Table JC.2.

Table JC.2 Elongation of hot-extruded sections

Symbol of grade	Elongation		
	Thickness mm	Test piece	%
SM400A SM400B SM400C	≤5	No. 5	≥23
	>5 ≤16	No. 1A	≥18
		No. 5	≥29
	>16 ≤50	No. 1A	≥22
		No. 5	≥35
	> 40	No. 4	≥24 a)
SM490A SM490B SM490C	≤5	No. 5	≥22
	>5 ≤16	No. 1A	≥17
		No. 5	≥27
	>16 ≤50	No. 1A	≥21
		No. 5	≥33
	> 40	No. 4	≥23 a)
SM490YA SM490YB	≤5	No. 5	≥19
	>5 ≤16	No. 1A	≥15
		No. 5	≥24
	>16 ≤50	No. 1A	≥19
		No. 5	≥30
	> 40	No. 4	≥21 a)
SM520B SM520C	≤5	No. 5	≥19
	>5 ≤16	No. 1A	≥15
		No. 5	≥24
	>16 ≤50	No. 1A	≥19
		No. 5	≥30
	> 40	No. 4	≥21 a)

Note a) For the elongation of steel plates/sheets with a thickness over 100 mm, subtract 1 from the elongation values of this table for each increment of 25 mm or its fraction in thickness. The number subtracted shall not exceed 3.

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JC.5.3 Charpy absorbed energy

Hot extruded sections of symbols given in Table 8 having a thickness over 12 mm shall be tested in accordance with **11.2**, and their Charpy absorbed energy shall conform to Table 8. The test pieces shall be taken in the direction of extrusion. The Charpy absorbed energy shall be the mean of results of three test pieces and shall be judged by **9.6** of **JIS G 0404**.

JC.6 Shape, dimensions and tolerances

The shape of the hot extruded section shall be specified by the purchaser. If extrusion into the ordered shape is not possible, the purchaser shall specify a change of shape upon agreement with the manufacturer.

NOTE Hot extruded sections are used mainly as components specified in designing documents that are based on technical standards such as standard specifications for building operations and common specifications for port construction work.

The tolerances on shape and dimensions of hot extruded sections shall be as given in Table JC.3.

Table JC.3 Tolerances on shape and dimensions

Unit: mm

Division		Tolerance
Leg length, height and thickness	< 50	±1.5
	≥50 < 100	±2.0
	≥100 < 200	±3.0
	≥200	±4.0
Length	≤7 m	+40 0
	>7 m	For plus tolerance, add 5 mm to the above plus tolerance for each increment of 1 m or its fraction in length. Minus tolerance shall be 0 mm.
Squareness	≤100 mm in maximum leg length	≤1.6
	>100 mm in maximum leg length	≤3.0
Bendability		≤0.5 % of length [a)]
Upon agreement between the purchaser and the manufacturer, the full spread of the above tolerance range may be moved to the plus or minus side, provided the lower limit when the range is moved to the plus side is not above zero and the upper limit when it is moved to the minus side is not below zero. Note [a)] Applicable to vertical and horizontal bending.		

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JC.7 Appearance

The appearance of hot extruded sections shall be in accordance with Clause **9** of **JIS G 3192**.

JC.8 Inspection

The inspection of hot extruded sections shall be in accordance with Clause **12**.

JC.9 Reinspection

The reinspection of hot extruded sections shall be in accordance with Clause **13 a)** and **b)**.

JC.10 Marking

The marking of hot extruded sections shall be in accordance with Clause **14**.

JC.11 Report

The report of hot extruded sections shall be in accordance with Clause **15**.

Bibliography

[1] JIS G 0801 *Ultrasonic testing of steel plates for pressure vessels*

[2] JIS G 0901 *Classification of structural rolled steel plate and wide flat for building by ultrasonic test*

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Annex JD (informative)

Comparison table between JIS and corresponding International Standards

JIS G 3106		ISO 630-1 : 2011, ISO 630-2 : 2011, ISO 630-3 : 2012, (MOD)		
a) No. of clause (JIS)	b) No. of clause (corresponding International Standard)	c) Classification by clause	d) Detail and justification of technical deviation	e) Future measures for the technical deviation
1	ISO 630-3 1	Alteration	JIS scope does not cover steel bars.	Steel bars are specified in another JIS.
3	ISO 630-1 3	Deletion	JIS deletes the definition of the term “normalized-rolled” as the concept of this term is not used in JIS.	JIS corresponds to manufacturing methods used in Japan.
		Addition	JIS adds definitions of terms relevant to products uniquely specified in JIS.	JIS corresponds to manufacturing methods used in Japan.
4	ISO 630-3 6	Alteration	Steel grade designation in JIS is based on tensile strength while designation in ISO is based on yield point.	Difference in commercial practices.
5	ISO 630-3 6	Alteration	ISO requirements on five alloy elements are in line with JIS requirements.	Most of JIS requirements have been incorporated into ISO.
6	ISO 630-3 6	Alteration	ISO specifies quenching and tempering in ISO 630-4.	JIS corresponds to manufacturing methods used in Japan.
7	ISO 630-1 6 ISO 630-3 6	Addition	JIS specifies a unique formula for calculation of C_{eq} instead of the IIW formula used in ISO.	A provision regarding P_{CM} has been incorporated into ISO based on proposal from Japan.
8.1	ISO 630-3 6	Alteration	JIS requirements are essentially equivalent to ISO.	JIS aims to be in keeping with Japanese technical standards. No harmonization effort will be made.
8.2	ISO 630-1 4 ISO 630-3 6	Alteration	JIS and ISO use slightly different values of temperature and energy.	Harmonization between JIS and ISO has progressed as ISO has incorporated proposals from JIS.
9	ISO 630-1 6	Alteration	JIS specifies details of dimensional and shape requirements different from ISO.	Difference in commercial practices. No harmonization measures will be taken.

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a) No. of clause (**JIS**)	b) No. of clause (corresponding International Standard)	c) Classification by clause	d) Detail and justification of technical deviation	e) Future measures for the technical deviation
10	**ISO 630-1** 6	Alteration	**JIS** does not permit local insufficiency in plate thickness caused by removal of surface flaws, while **ISO** does.	**JIS** requirements are stricter than **ISO**. No harmonization measures will be taken.
11.1	**ISO 630-1** 9	Alteration	**JIS** refers to other **JIS**s for analysis requirements.	**JIS** specifies the heat analysis method to be adopted.
11.2	**ISO 630-3** 8	Alteration	**JIS** and **ISO** use slightly different test units, but use the same location of test pieces.	Harmonization between **JIS** and **ISO** has progressed as **ISO** has incorporated proposals from **JIS**.
13	**ISO 630-1** 7.3	Addition	**JIS** adds a matter to be agreed between the purchaser and the manufacturer regarding the re-inspection requirements.	Difference in commercial practices. No harmonization measures will be taken.
14	**ISO 630-1** 10	Addition	**ISO** does not include “heat number” in the information to be marked, or provide specific instruction for marking dimensions.	Difference in commercial practices. No harmonization measures will be taken.
Annex JA (normative)	—	Addition	**JIS** specifies different applicable thicknesses for steel grades than **ISO**.	The specification is of unique necessity to Japan. No harmonization measures will be taken.
Annex JB (normative)	—	Addition	**JIS** specifies non-proportional test pieces as well while **ISO** only specifies proportional test pieces.	The specification is of unique necessity to Japan. No harmonization measures will be taken.
Annex JC (normative)	—	Addition	**JIS** adds product requirements intended only for building structures in Japan.	The specification is of unique necessity to Japan. No harmonization measures will be taken.

NOTE 1 Symbols in sub-columns of classification by clause in the above table indicate as follows :
— Deletion : Delete the specification item(s) or content(s) of International Standard(s).
— Addition : Add the specification item(s) or content(s) which are not included in International Standard(s).
— Alteration : Alter the specification content(s) or structure of International Standard(s).
NOTE 2 Symbol of overall degree of correspondence between JIS and International Standard(s) in the above table indicates as follows :
— MOD : Modify International Standard(s).

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No. Urut	Kode Barang	Kode Belanja	Nama Barang	Spesifikasi	Satuan	Harga Sebelum PPN (Rp)	Harga Sesudah PPN (Rp.)	Nilai TKDN
169	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Strip (0.2 x 2) cm		kg	25.200	28.200	
170	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur	Zona 1	Kg	24.400	27.300	
171	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur	Zona 2	Kg	24.400	27.300	
172	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur	Zona 3	Kg	22.850	25.600	
173	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur	Zona 4	Kg	22.850	25.600	
174	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur H Beam	Zona 1, H beam 100-200; GG	Kg	23.500	26.300	
175	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur H Beam	Zona 2, H beam 100-200; GG	Kg	23.350	26.150	
176	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur H Beam	Zona 3, H beam 100-200; GG	Kg	21.950	24.600	
177	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur H Beam	Zona 4, H beam 100-200; GG	Kg	22.050	24.700	
178	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur H Beam	Zona 1, H beam 250-350; GG	Kg	24.950	27.900	
179	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur H Beam	Zona 2, H beam 250-350; GG	Kg	24.950	27.900	
180	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur H Beam	Zona 3, H beam 250-350; GG	Kg	23.100	25.900	
181	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur H Beam	Zona 4, H beam 250-350; GG	Kg	23.100	25.900	
182	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur WF	Zona 1, WF 150-250; GG	Kg	22.250	24.900	
183	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur WF	Zona 2, WF 150-250; GG	Kg	22.250	24.900	
184	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur WF	Zona 3, WF 150-250; GG	Kg	19.150	21.400	
185	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur WF	Zona 4, WF 150-250; GG	Kg	19.150	21.400	
186	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur WF	Zona 1, WF 300-350; GG	Kg	20.700	23.150	
187	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur WF	Zona 2, WF 300-350; GG	Kg	23.150	25.900	
188	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur WF	Zona 3, WF 300-350; GG	Kg	20.700	23.150	
189	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur WF	Zona 4, WF 300-350; GG	Kg	20.700	23.150	
190	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur WF	Zona 1, WF 400-500; GG	Kg	24.950	27.900	
191	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur WF	Zona 2, WF 400-500; GG	Kg	24.950	27.900	
192	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur WF	Zona 3, WF 400-500; GG	Kg	23.350	26.150	
193	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur WF	Zona 4, WF 400-500; GG	Kg	25.050	28.050	
194	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur WF	Zona 1, WF 600; GG	Kg	26.400	29.550	
195	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur WF	Zona 2, WF 600; GG	Kg	26.400	29.550	
196	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur WF	Zona 3, WF 600; GG	Kg	24.800	27.750	
197	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur WF	Zona 4, WF 600; GG	Kg	26.500	29.700	
198	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur WF	Zona 1, WF 400; GG	Kg	23.050	25.850	
199	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Struktur WF	Zona 2, WF 400; GG	Kg	23.050	25.850	
200	1.1.12.01.01.0001	5.1.02.01.01.0001	Baja Tulangan		kg	14.300	16.050	97
201	1.1.12.01.01.0001	5.1.02.01.01.0001	Bak Air	Bak Air Fiber 120 ltr / Bak Air Kotak Ukuran 55x55x67 cm	Unit	947.000	1.060.600	
202	1.1.12.01.01.0001	5.1.02.01.01.0001	Bak Air Fiberglass		Unit	457.900	512.900	100
203	1.1.12.01.01.0001	5.1.02.01.01.0001	Bak Cuci Piring	Stainless Steel	Buah	1.107.000	1.239.800	100
204	1.1.12.01.01.0001	5.1.02.01.01.0001	Bak Cuci Teraso	-	Buah	276.200	309.300	100
205	1.1.12.01.01.0001	5.1.02.01.01.0001	Bak Fibreglass		unit	557.600	624.500	
206	1.1.12.01.01.0001	5.1.02.01.01.0001	Bak Kontrol Pemeriksaan dari Batu Bata 45 x 45 x 45 cm + Tutup Beton 45 x 45 x 10 cm		buah	727.100	814.400	
207	1.1.12.01.01.0001	5.1.02.01.01.0001	Bak Mandi	Teraso	Buah	1.508.000	1.689.000	100
208	1.1.12.01.01.0001	5.1.02.01.01.0001	Bak Mandi	NaN	Buah	956.100	1.070.800	
209	1.1.12.01.01.0001	5.1.02.01.01.0001	Bak Mandi Fiberglass	60 x 60	Buah	724.600	811.500	
210	1.1.12.01.01.0001	5.1.02.01.01.0001	Bak Mandi Fiberglass	0.5 m3	Buah	457.400	512.300	
211	1.1.12.01.01.0001	5.1.02.01.01.0001	Bak Mandi Porselin	60 x 60	Buah	534.400	598.500	100
212	1.1.12.01.01.0001	5.1.02.01.01.0001	Bak Mandi Teraso	60 x 60	Buah	427.700	479.100	
213	1.1.12.01.01.0001	5.1.02.01.01.0001	Bak Teraso		unit	2.973.700	3.330.600	
214	1.1.12.01.01.0001	5.1.02.01.01.0001	Ball Valve ; Dia. 1/2“ (15 mm) + Material Bantu		Unit	290.900	325.800	
215	1.1.12.01.01.0001	5.1.02.01.01.0001	Ball Valve ; Dia. 1“ (25 mm) + Material		Unit	507.200	568.100	
216	1.1.12.01.01.0001	5.1.02.01.01.0001	Ball Valve ; Dia. 1-1/2“ (40 mm) + Material Bantu		Unit	854.400	956.900	
217	1.1.12.01.01.0001	5.1.02.01.01.0001	Ball Valve ; Dia. 2“ (50 mm) + Material Bantu		Unit	1.161.300	1.300.700	
218	1.1.12.01.01.0001	5.1.02.01.01.0001	Ball Valve ; Dia. 2-1/2“ (65 mm) + Material Bantu		Unit	3.129.700	3.505.300	
219	1.1.12.01.01.0001	5.1.02.01.01.0001	Ball Valve ; Dia. 3/4“ (20 mm) + Material Bantu		Unit	343.200	384.400	
220	1.1.12.01.01.0001	5.1.02.01.01.0001	Ball Valve ; Dia. 3“ (80 mm) + Material Bantu		Unit	4.826.000	5.405.100	
221	1.1.12.01.01.0001	5.1.02.01.01.0001	Ball Valve ; Dia. 4“ (100 mm) + Material Bantu		Unit	7.490.100	8.388.900	
222	1.1.12.01.01.0001	5.1.02.01.01.0001	Ball Valve ; Dia.1-1/4“ (32 mm) + Material Bantu		Unit	524.300	587.300	
223	1.1.12.01.01.0001	5.1.02.01.01.0001	Balok Kayu		m3	3.109.600	3.482.700	100
224	1.1.12.01.01.0001	5.1.02.01.01.0001	Balok Kayu 6 x 12		M3	17.911.000	20.060.300	
225	1.1.12.01.01.0001	5.1.02.01.01.0001	Balok Kayu 6/12		m3	593.800	665.000	
226	1.1.12.01.01.0001	5.1.02.01.01.0001	Balok Kayu 6/15		m3	876.000	981.100	
227	1.1.12.01.01.0001	5.1.02.01.01.0001	Balok Kayu 8/12		m3	326.100	365.200	100
228	1.1.12.01.01.0001	5.1.02.01.01.0001	Balok kayu Bekesting kelas III		m3	172.100	192.800	
229	1.1.12.01.01.0001	5.1.02.01.01.0001	Balok Kayu kelas II		m3	82.550	92.450	100
230	1.1.12.01.01.0001	5.1.02.01.01.0001	Balok Kayu Ulin		m3	2.390.100	2.676.900	
231	1.1.12.01.01.0001	5.1.02.01.01.0001	Balok Kayu. 6 x12		m3	141.900	159.000	100
232	1.1.12.01.01.0001	5.1.02.01.01.0001	Bambu Apus	Dia.6-10 x 600cm	Btg	25.200	28.200	
233	1.1.12.01.01.0001	5.1.02.01.01.0001	Bambu atau kayu (panjang 2 m’)		batang	10.100	11.300	
234	1.1.12.01.01.0001	5.1.02.01.01.0001	Bambu Jawa bongkotan	Dia.10-12 x 400cm	Btg	33.250	37.200	
235	1.1.12.01.01.0001	5.1.02.01.01.0001	Bambu Ori	Dia.10-12 x 600cm	Btg	82.550	92.450	

No. Urut	Kode Barang	Kode Belanja	Nama Barang	Spesifikasi	Satuan	Harga Sebelum PPN (Rp)	Harga Sesudah PPN (Rp.)	Nilai TKDN
19	1.5.03.01.01.0005	5.2.06.01.01.0005	System Aplication	ER Mapper	Paket	300.579.000	336.648.400	
20	1.5.03.01.01.0005	5.2.06.01.01.0005	System Aplication	Autocad	Paket	53.046.500	59.412.100	
21	1.5.03.01.01.0005	5.2.06.01.01.0005	System Operating	Windows 10	Buah	3.323.400	3.722.100	100

Keterangan :

- Zona 1 (Gandusari, Wlingi, Doko, Selorejo, Kesamben, Binangun, Wates)
- Zona 2 (Udanawu, Wonodadi, Ponggok, Srengat, Nglegok, Sanan Kulon, Garum)
- Zona 3 (Kanigoro, Talun, Selopuro, Sutojayan, Kota Blitar)
- Zona 4 (Kademangan, Bakung, Wonotirto, Penggungrejo)

BUPATI BLITAR,

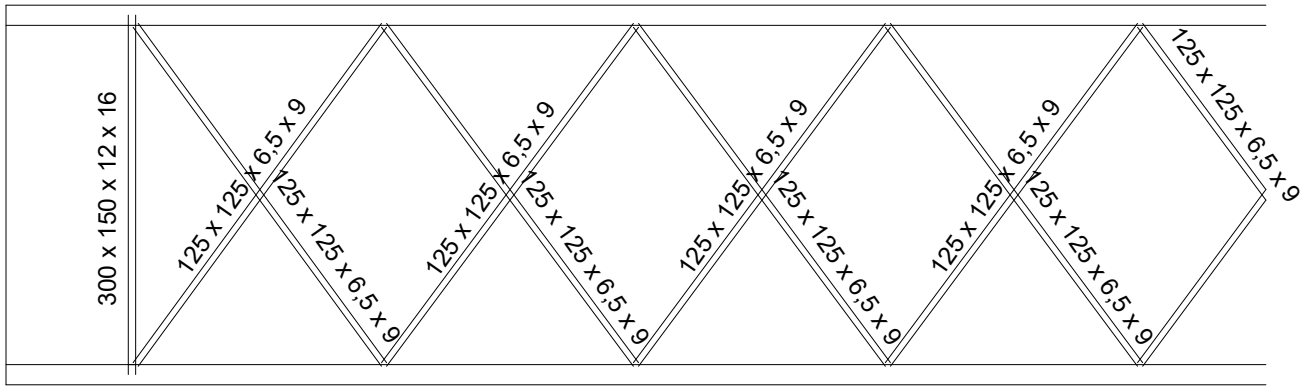
ttd

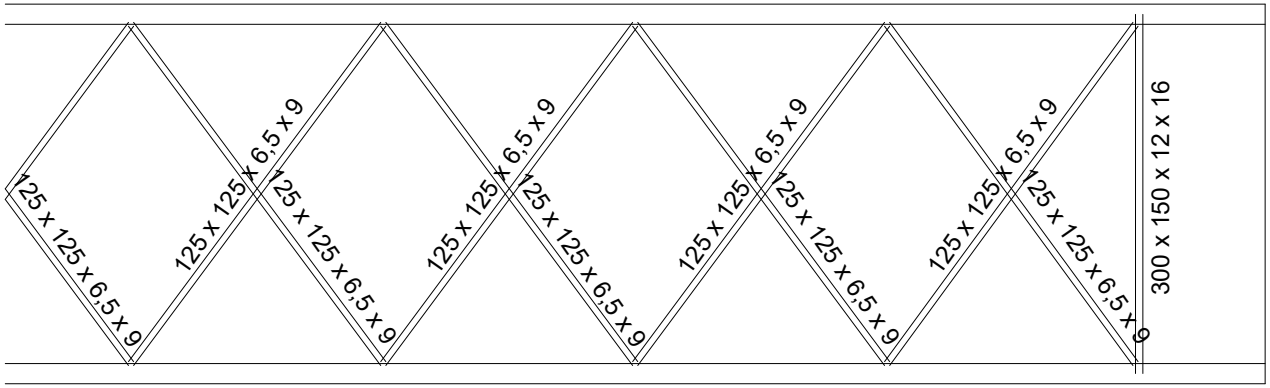
RINI SYARIFAH

Salinan sesuai dengan aslinya,
An. SEKRETARIS DAERAH
ASISTEN PEMERINTAHAN DAN KESRA
u.b
KEPALA BAGIAN HUKUM

PEMERINTAH KABUPATEN BLITAR SETDA

INDAH K. ROCHMAH, SH.
Pembina Tk. I
NIP. 19680211 199412 2 003





MATERIAL *BRACING*
SKALA 1 : 150

455 x 150 x 8 x 10	455 x 150 x 8 x 10	455 x 150 x 8 x 10	455 x 150 x 8 x 10	455 x 150 x 8 x 10
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300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10

455 x 150 x 8 x 10	455 x 150 x 8 x 10	455 x 150 x 8 x 10	455 x 150 x 8 x 10	455 x 150 x 8 x 10
300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
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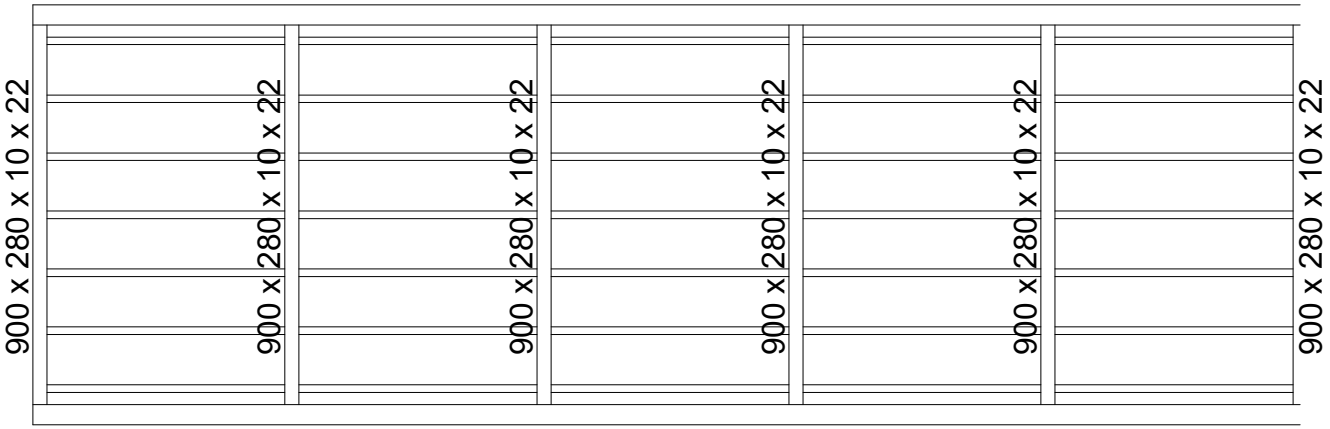
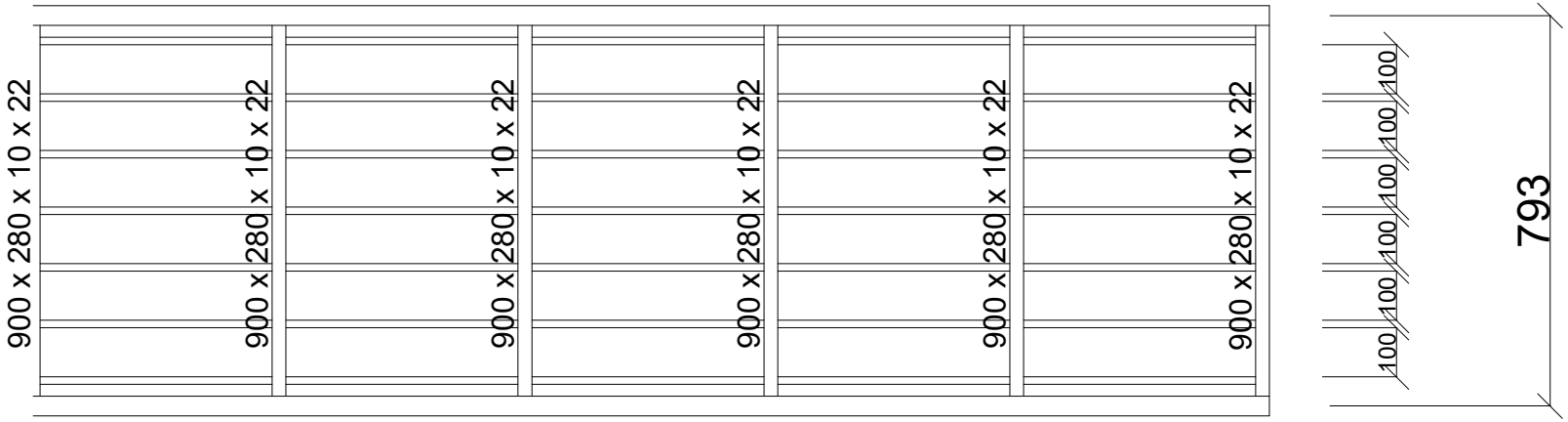
300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10

MATERIAL *STRINGER*
SKALA 1 : 150





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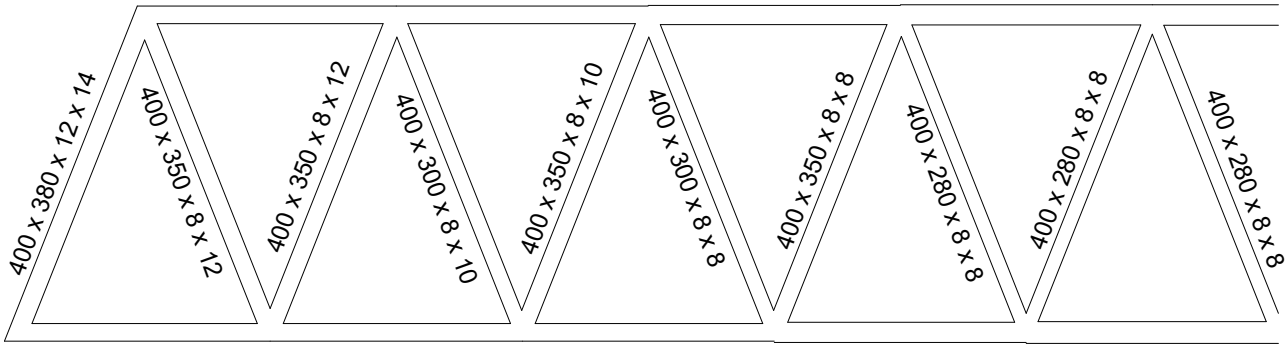
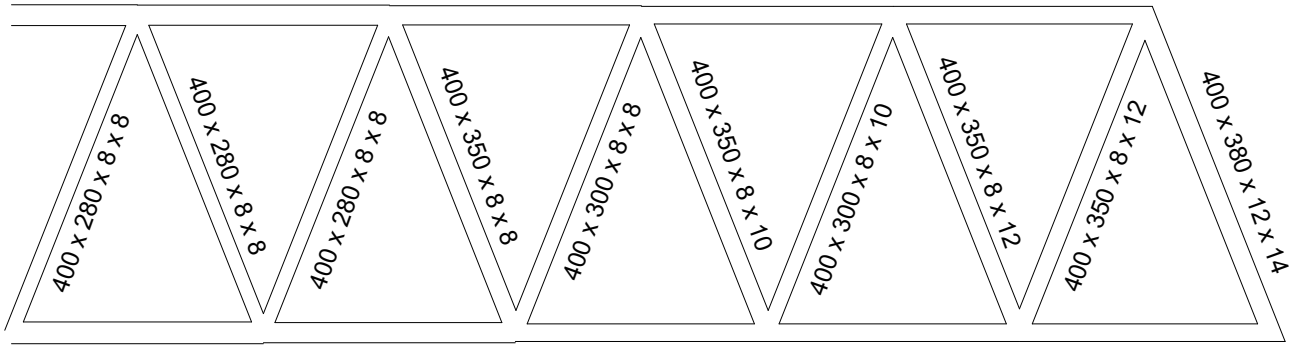
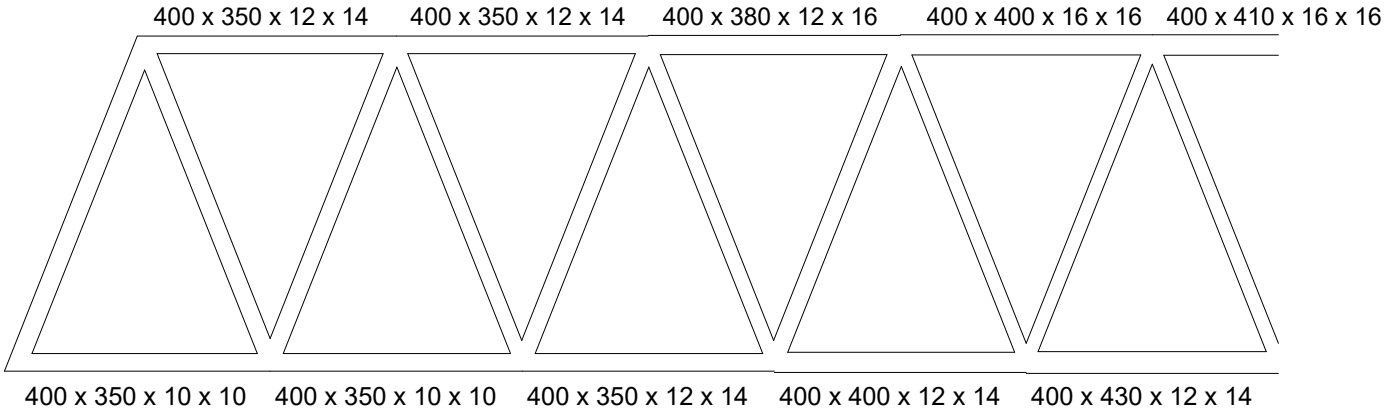
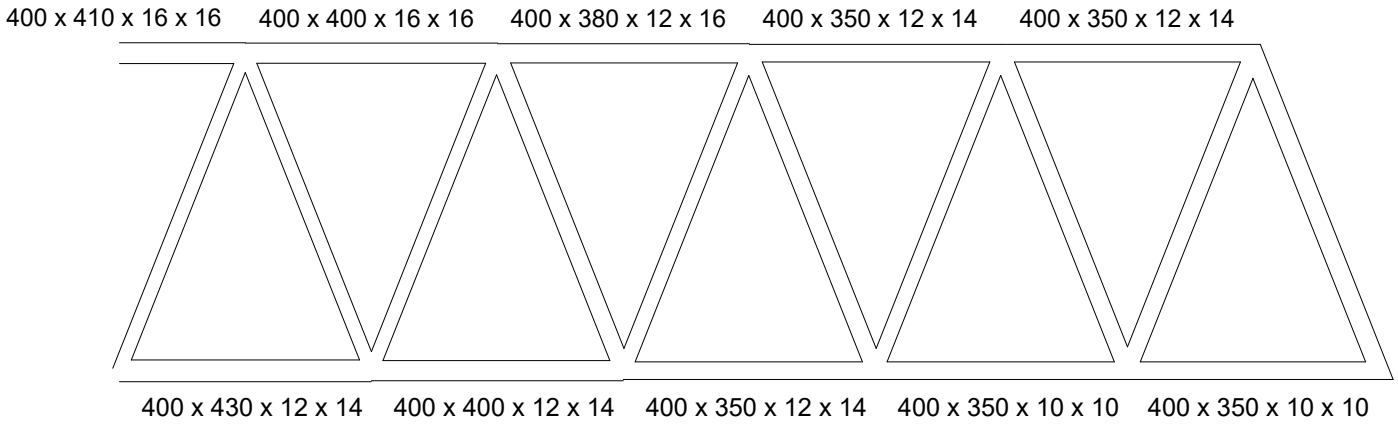




MATERIAL BATANG DIAGONAL

SKALA 1 : 150





MATERIAL BATANG ATAS DAN BAWAH

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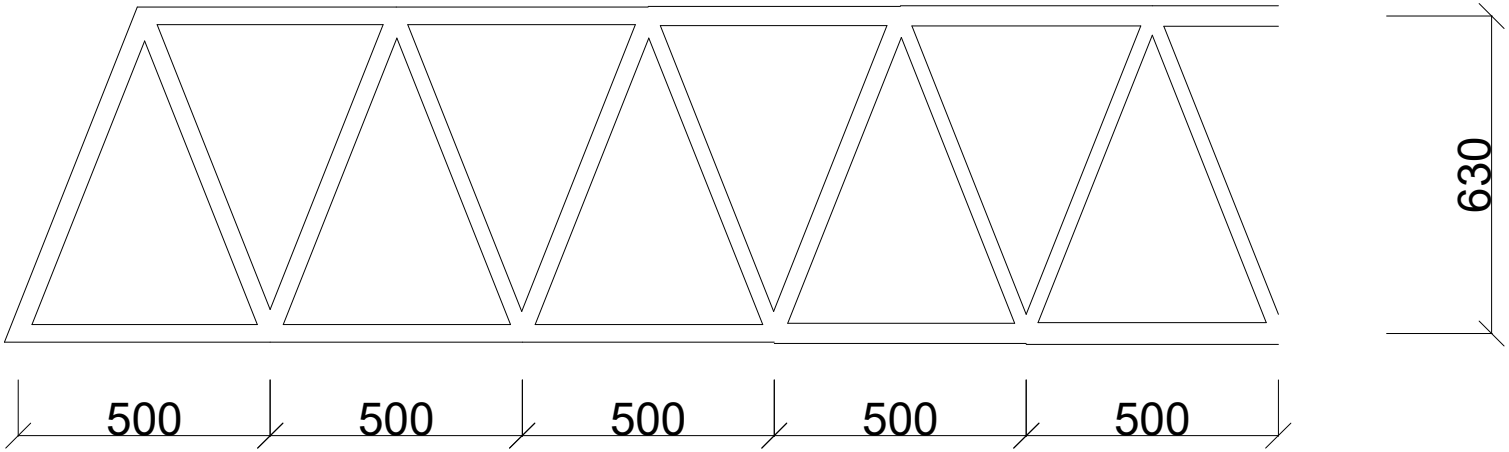
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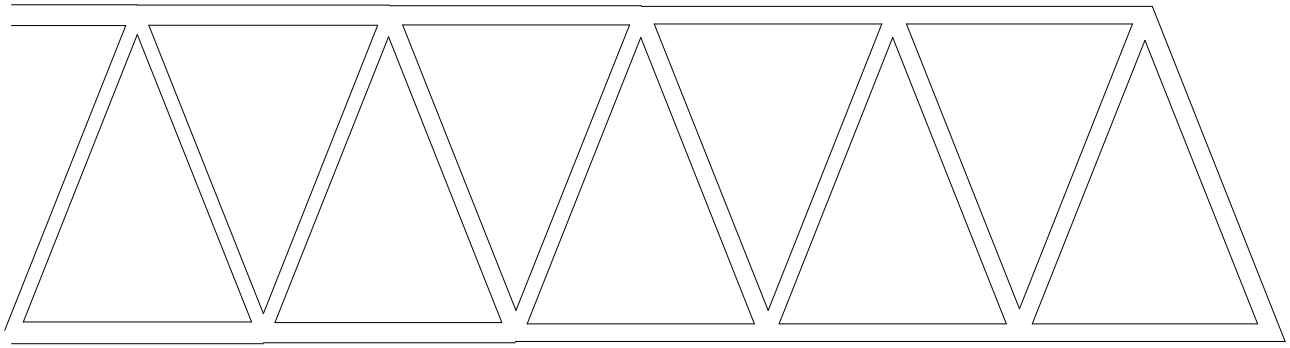

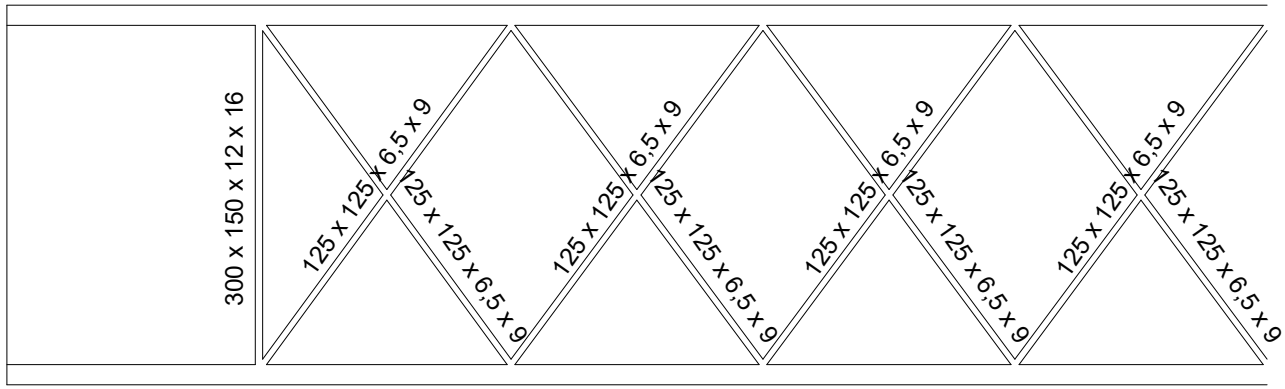

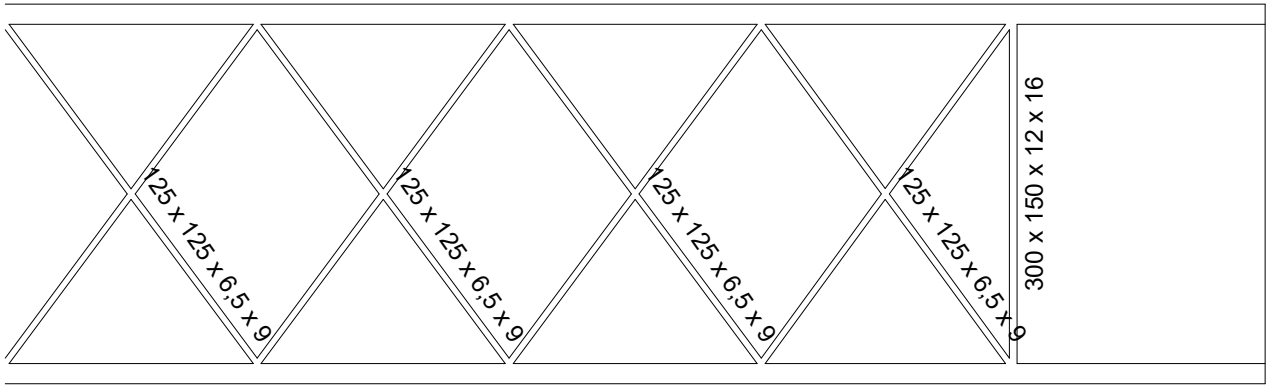

MATERIAL *BRACING*
SKALA 1 : 150

455 x 150 x 8 x 10	455 x 150 x 8 x 10	455 x 150 x 8 x 10	455 x 150 x 8 x 10	455 x 150 x 8 x 10
300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
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300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10

455 x 150 x 8 x 10	455 x 150 x 8 x 10	455 x 150 x 8 x 10	455 x 150 x 8 x 10	455 x 150 x 8 x 10
300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
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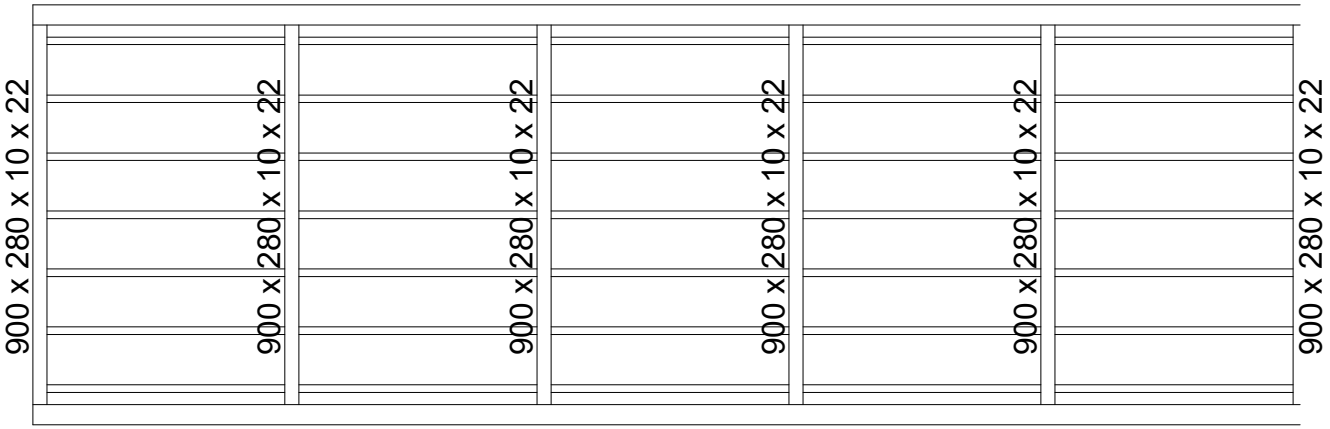
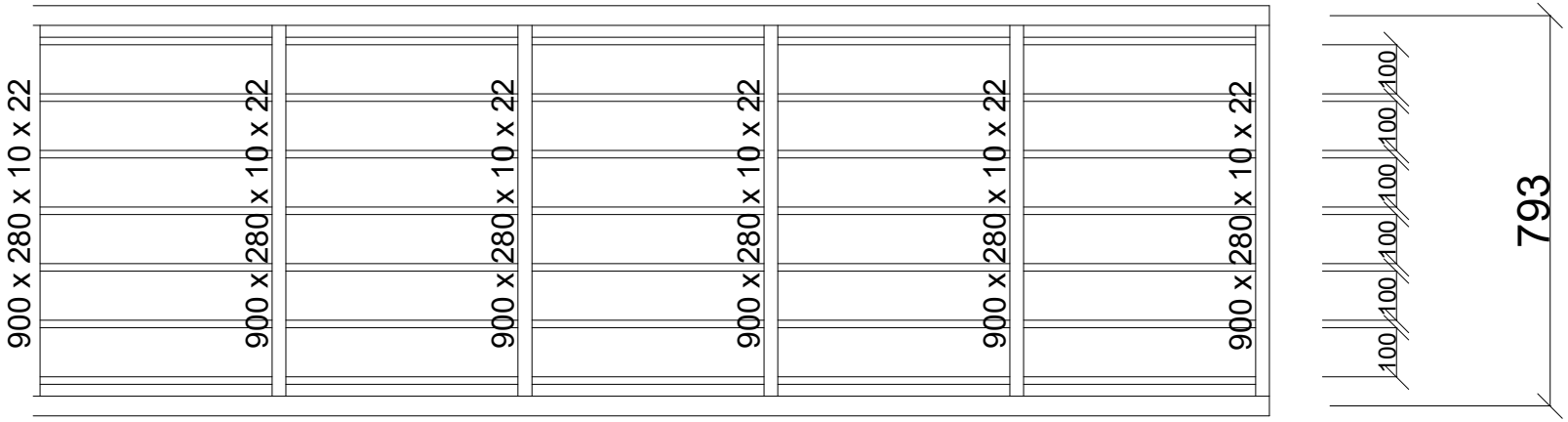
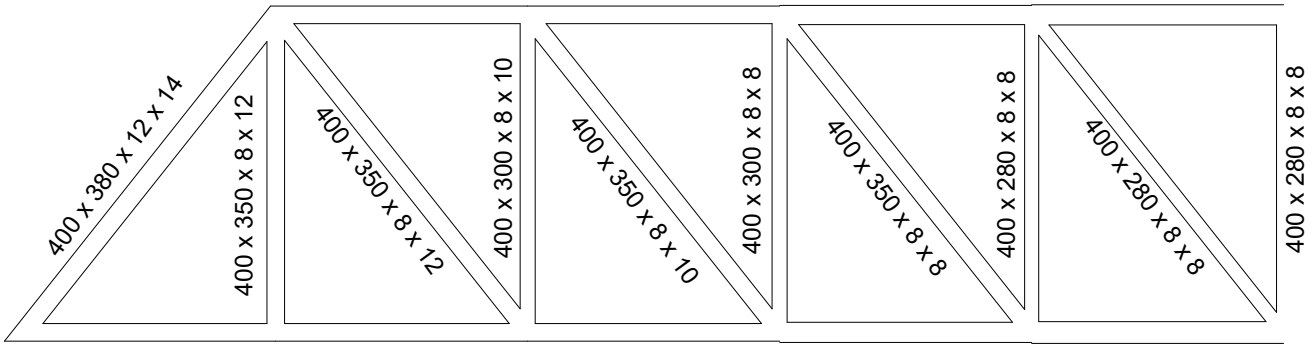
300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10

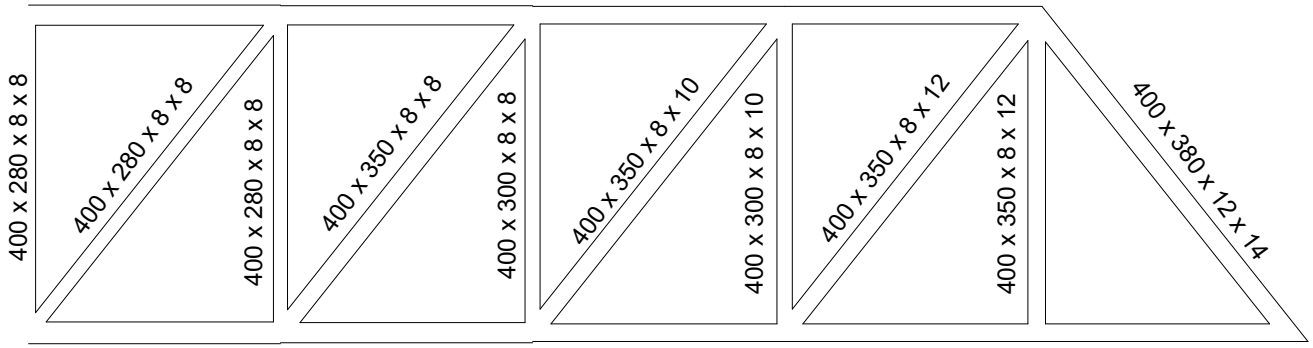
MATERIAL *STRINGER*
SKALA 1 : 150



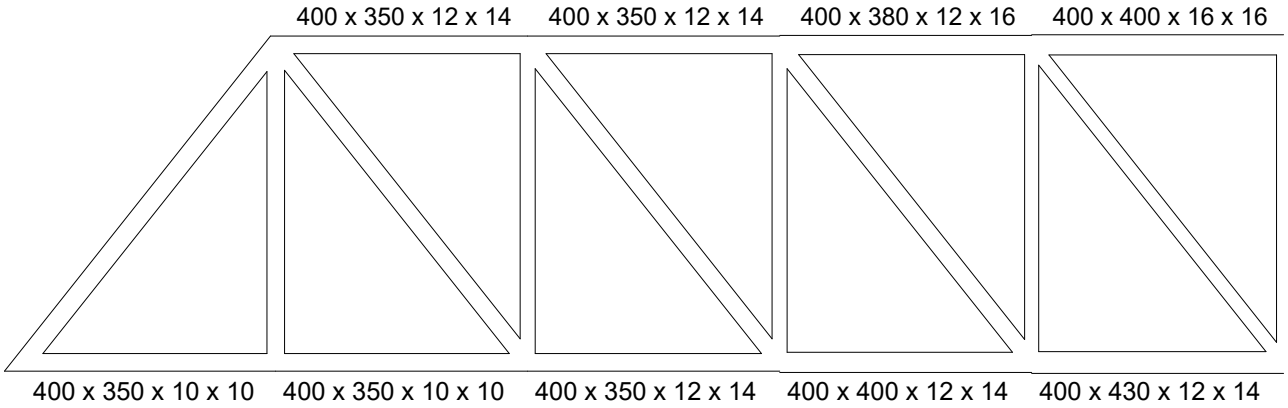


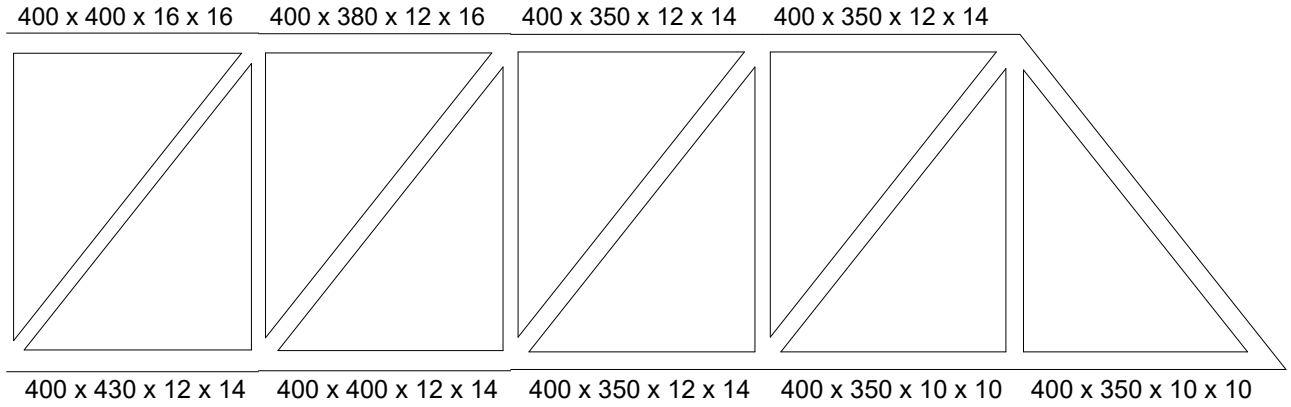
MATERIAL *CROSS GIRDER*
SKALA 1 : 150



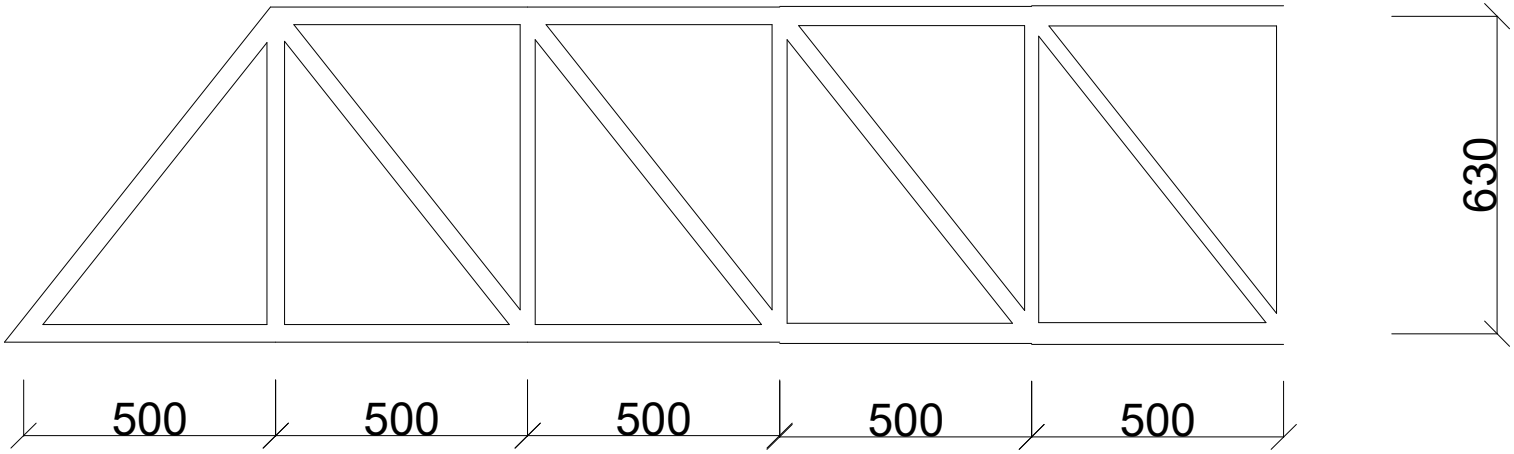


MATERIAL BATANG VERTIKAL DAN DIAGONAL
SKALA 1 : 150





MATERIAL BATANG ATAS DAN BAWAH
SKALA 1 : 150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500
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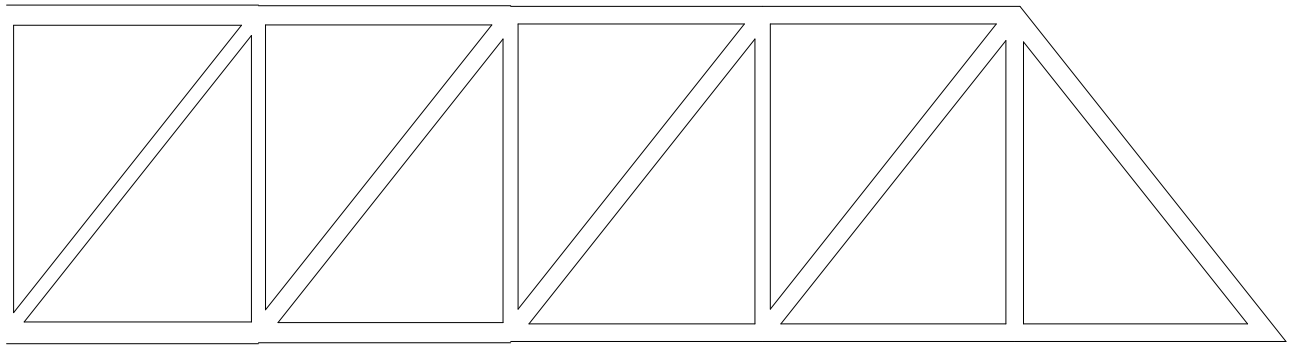
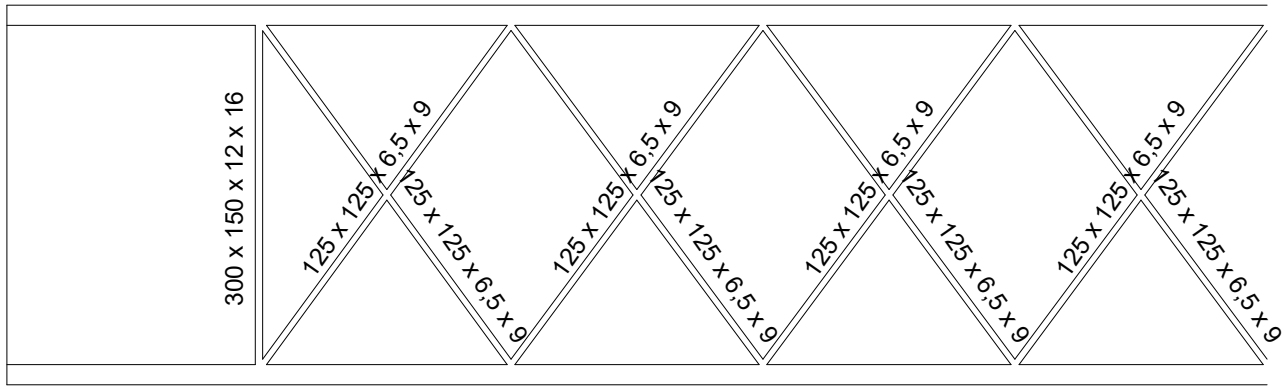
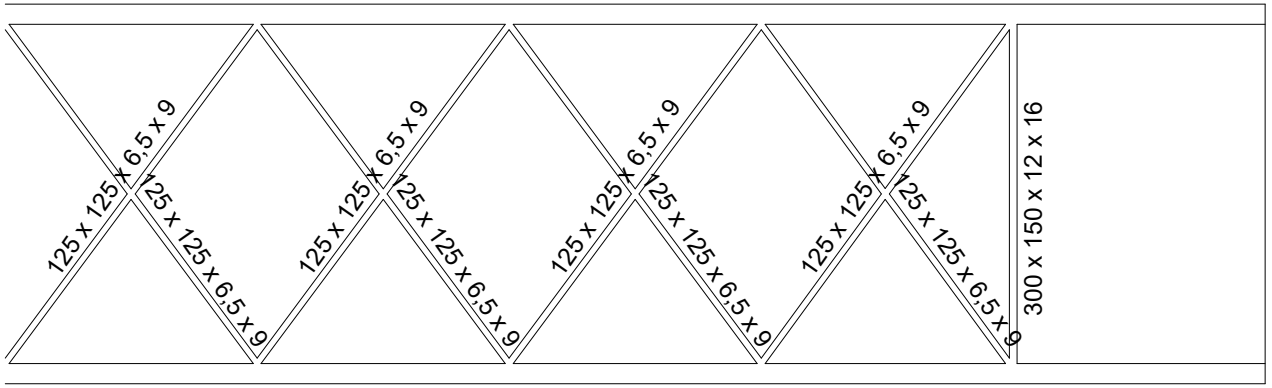
500
500





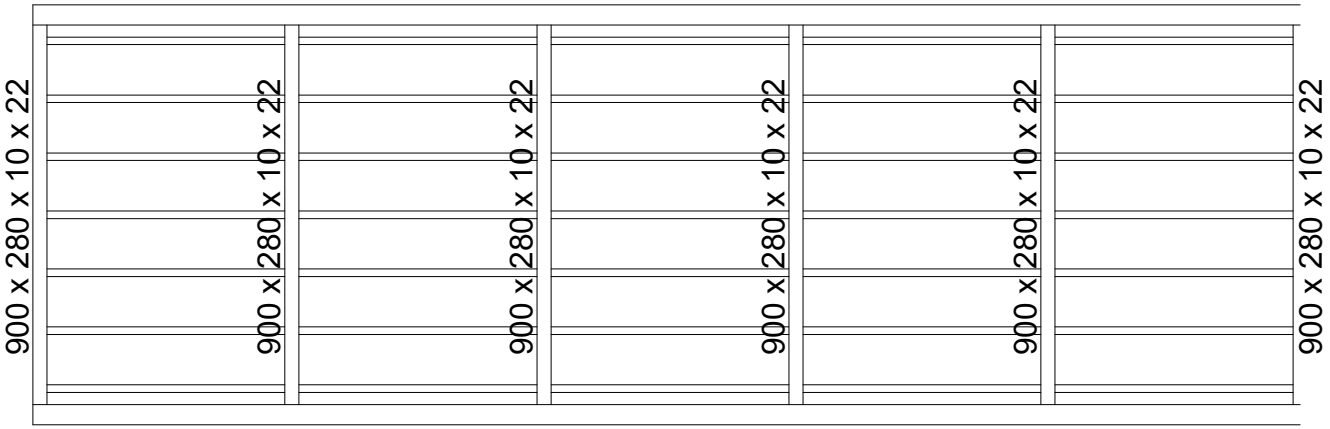


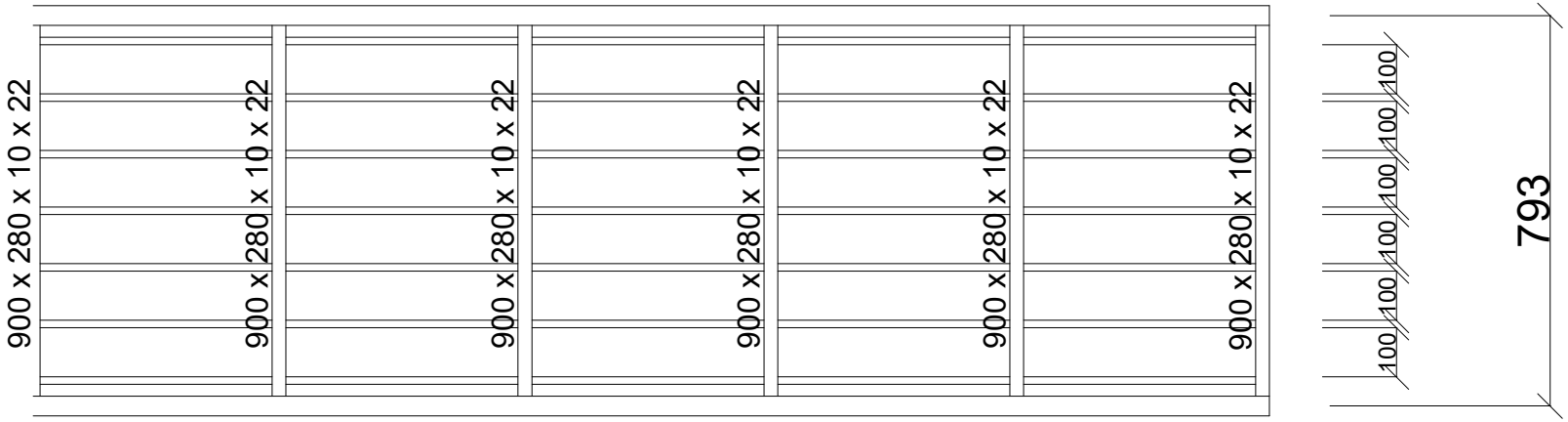
MATERIAL *BRACING*
SKALA 1 : 150

455 x 150 x 8 x 10	455 x 150 x 8 x 10	455 x 150 x 8 x 10	455 x 150 x 8 x 10	455 x 150 x 8 x 10
300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10

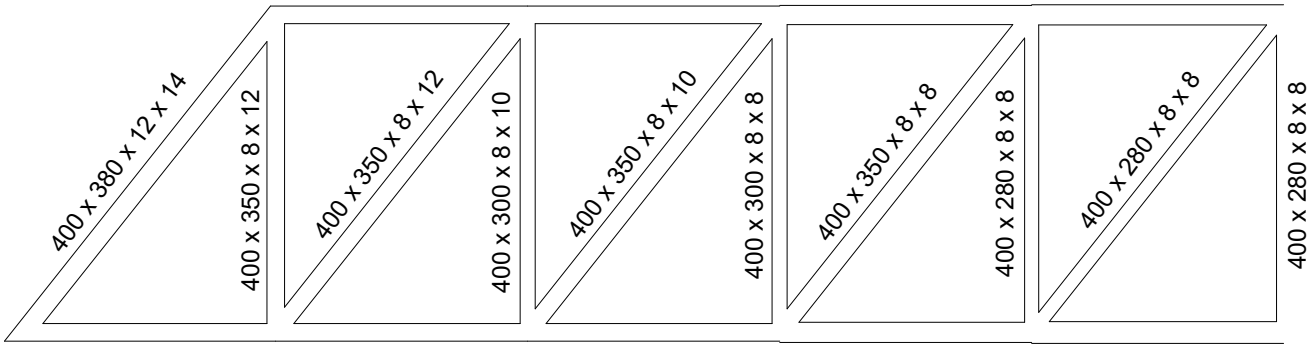
455 x 150 x 8 x 10	455 x 150 x 8 x 10	455 x 150 x 8 x 10	455 x 150 x 8 x 10	455 x 150 x 8 x 10
300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10

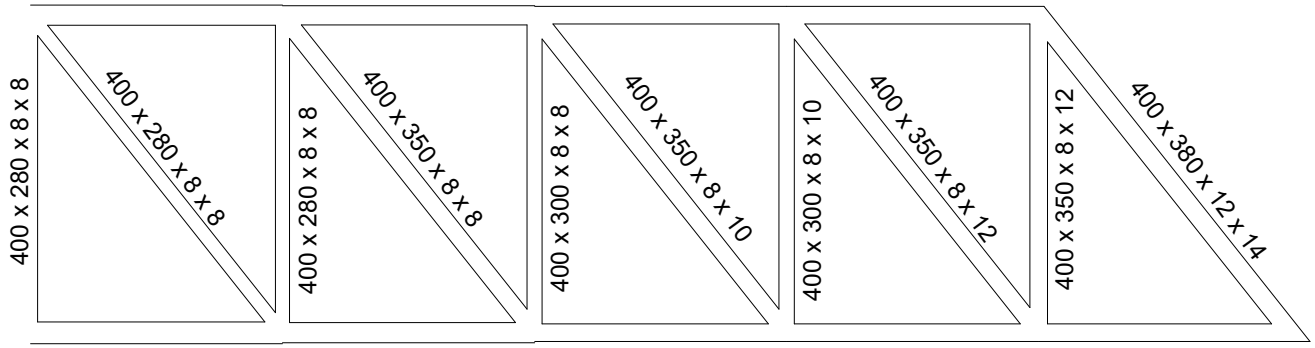
MATERIAL *STRINGER*
SKALA 1 : 150



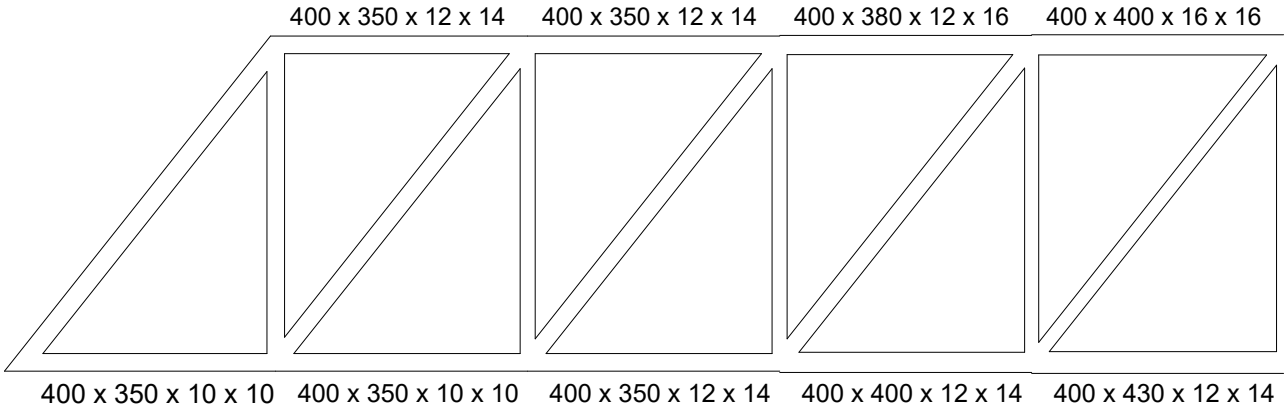


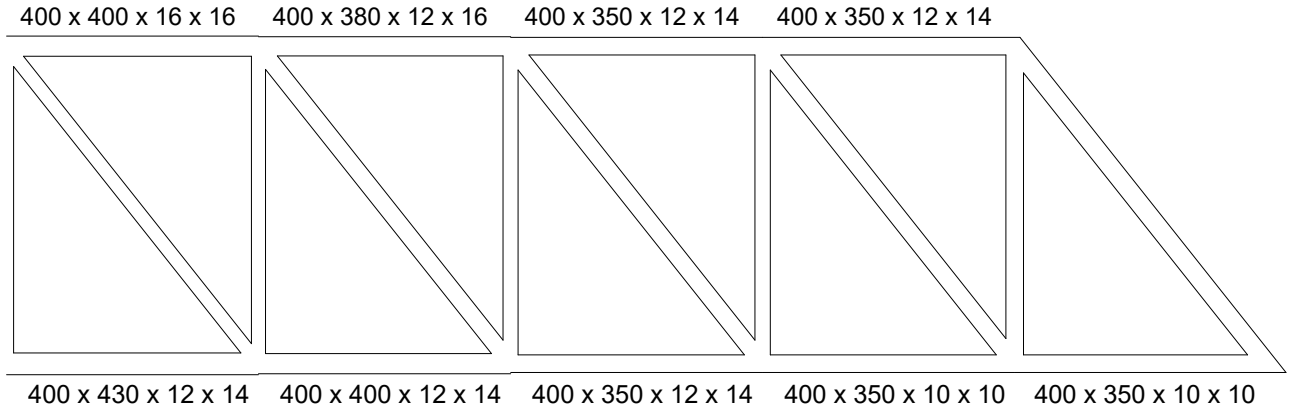
MATERIAL *CROSS GIRDER*
SKALA 1 : 150



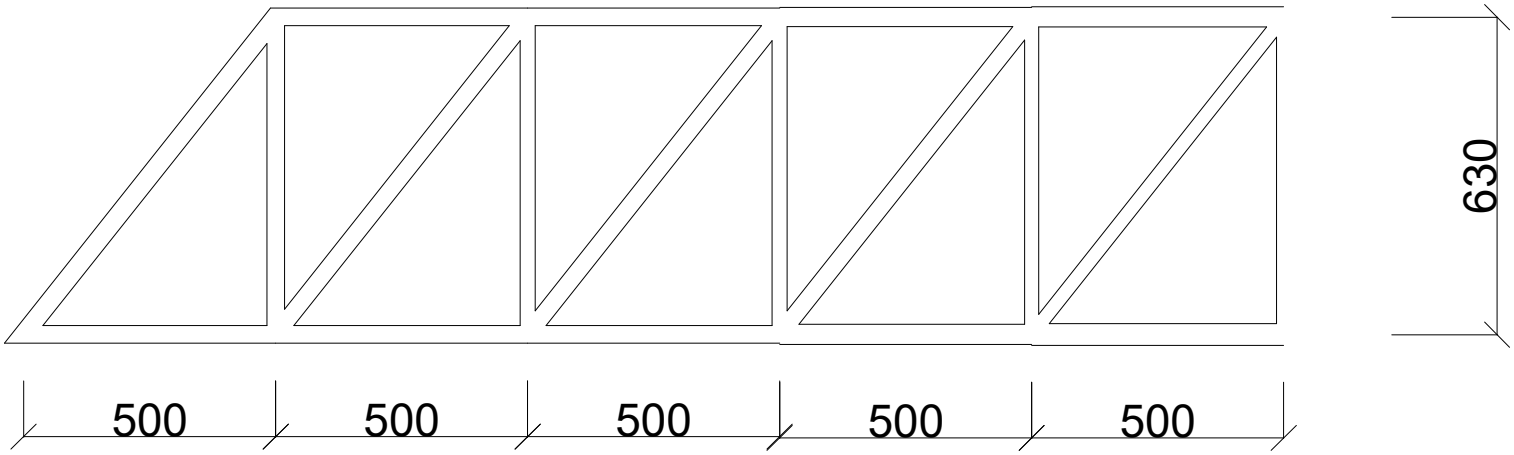


MATERIAL BATANG VERTIKAL DAN DIAGONAL
SKALA 1 : 150





MATERIAL BATANG ATAS DAN BAWAH
SKALA 1 : 150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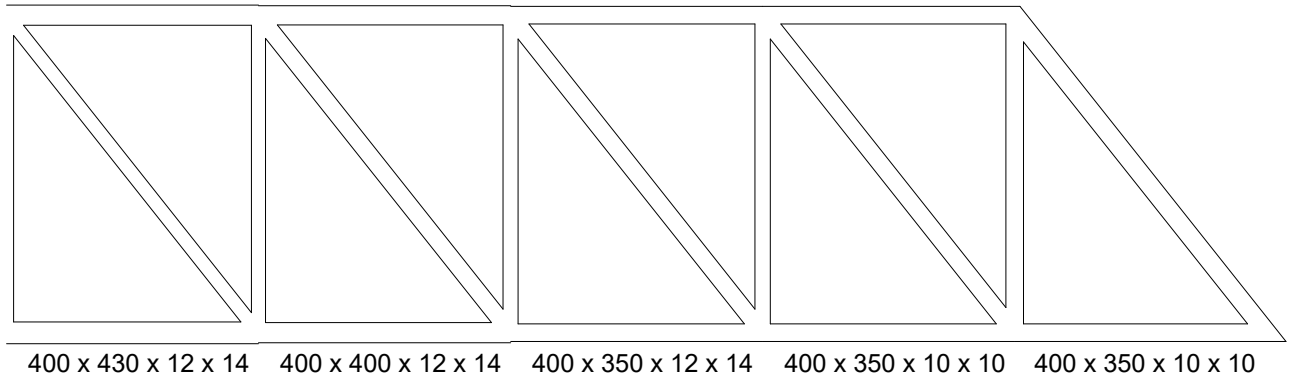
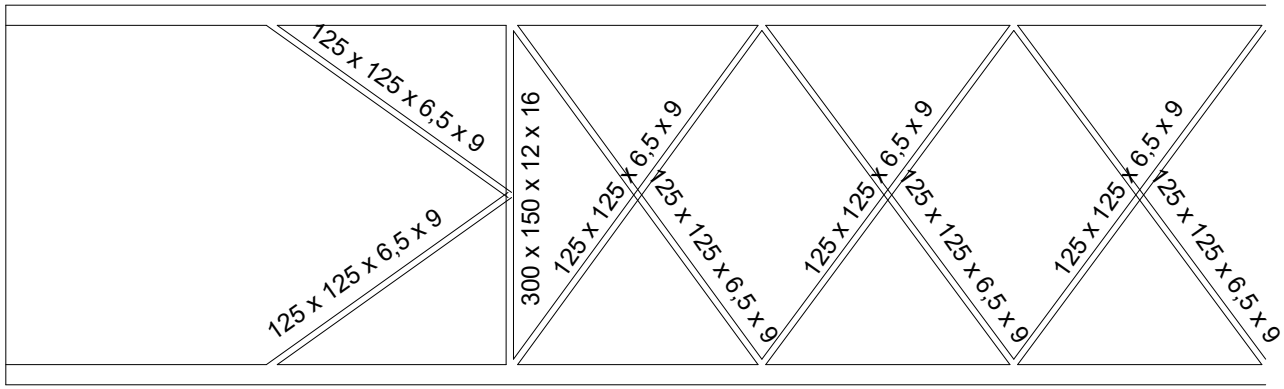
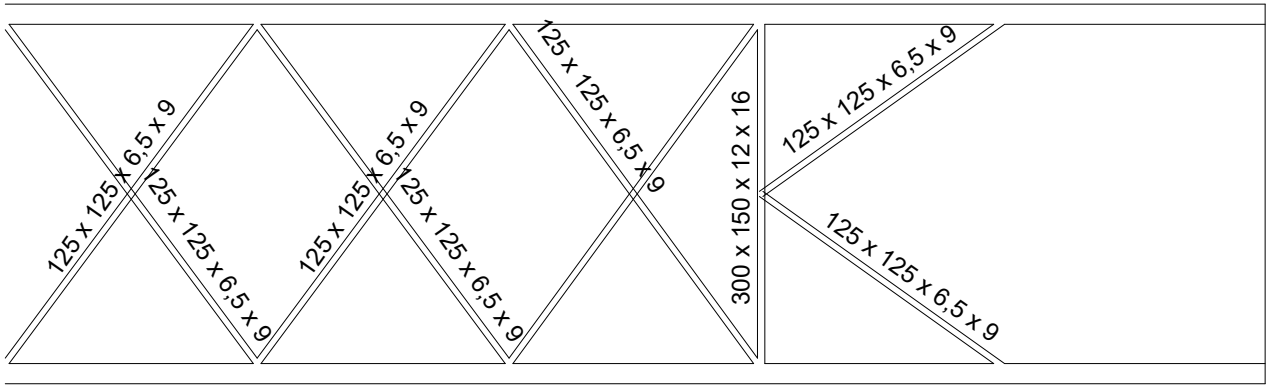
500


400 x 430 x 12 x 14
400 x 400 x 12 x 14
400 x 350 x 12 x 14
400 x 350 x 10 x 10
400 x 350 x 10 x 10



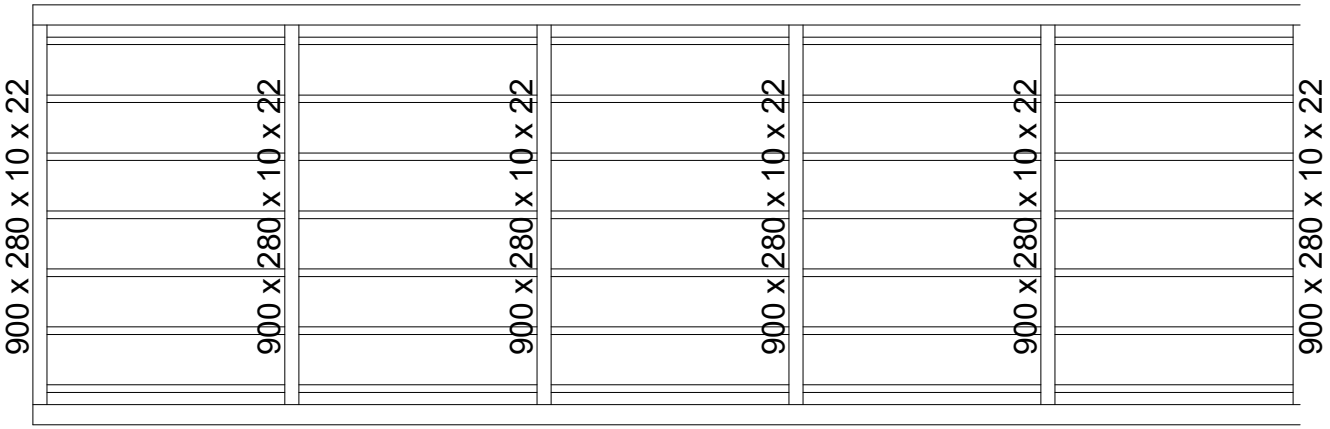


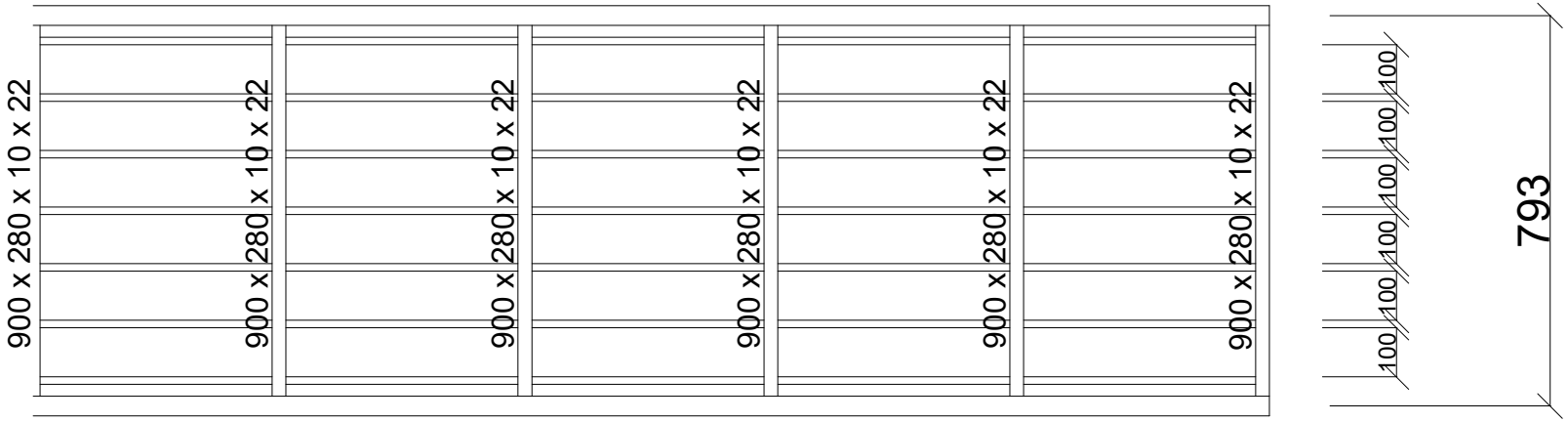
MATERIAL *BRACING*
SKALA 1 : 150

455 x 150 x 8 x 10	455 x 150 x 8 x 10	455 x 150 x 8 x 10	455 x 150 x 8 x 10	455 x 150 x 8 x 10
300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10

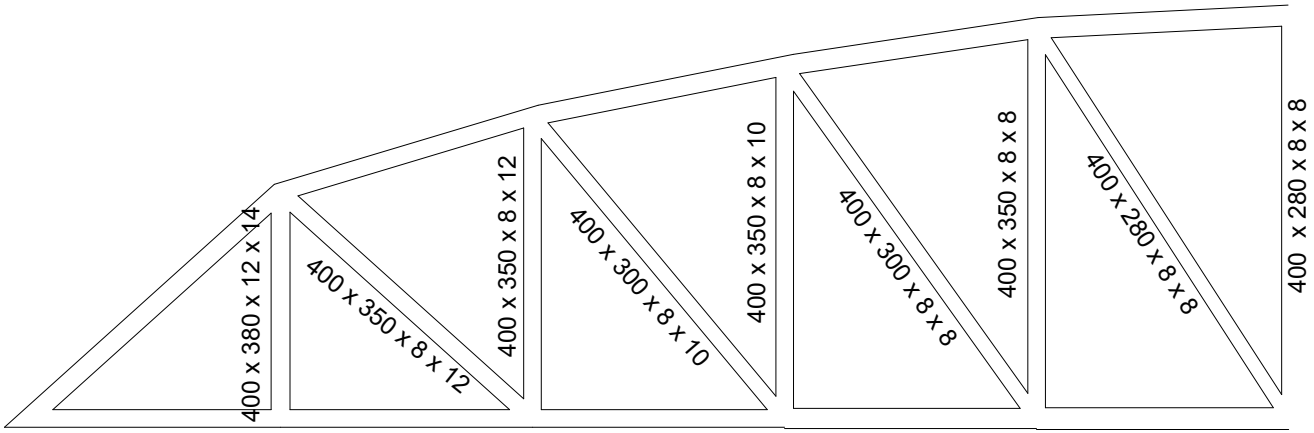
455 x 150 x 8 x 10	455 x 150 x 8 x 10	455 x 150 x 8 x 10	455 x 150 x 8 x 10	455 x 150 x 8 x 10
300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9	300 x 150 x 6.5 x 9
300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10	300 x 150 x 6.5 x 9 455 x 150 x 8 x 10

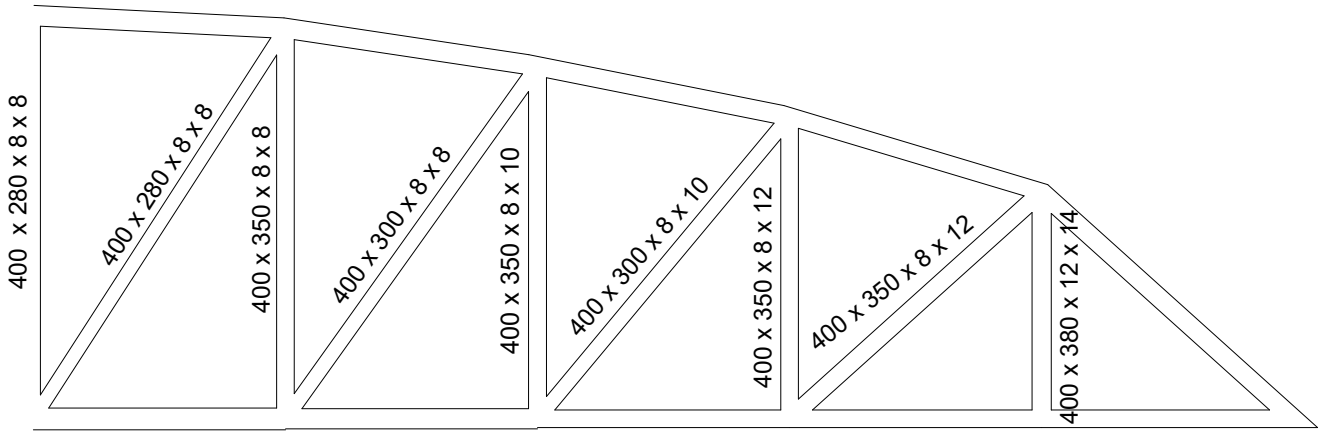
MATERIAL *STRINGER*
SKALA 1 : 150





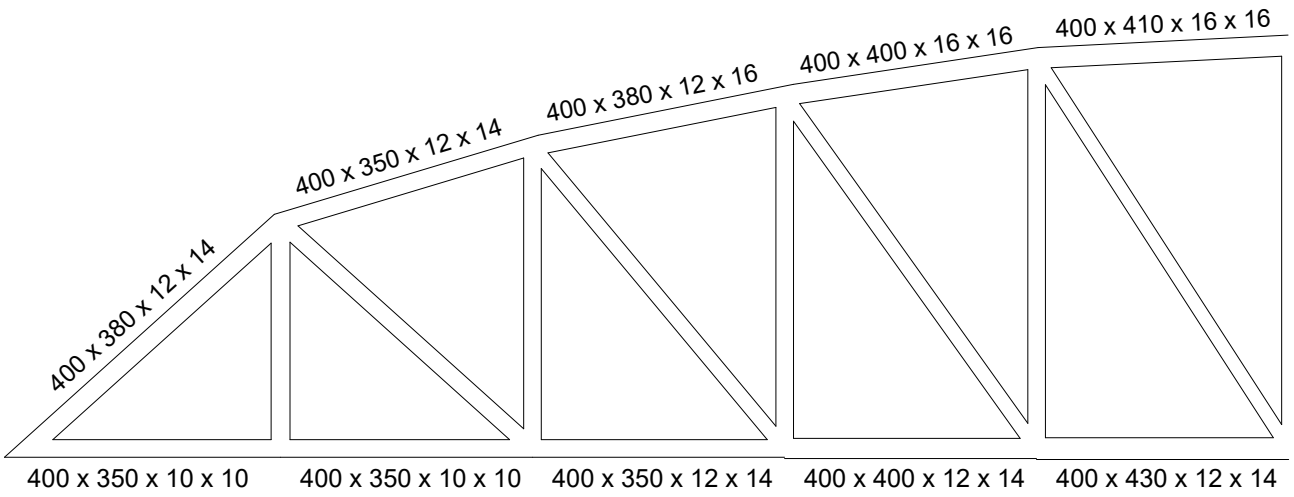
MATERIAL *CROSS GIRDER*
SKALA 1 : 150

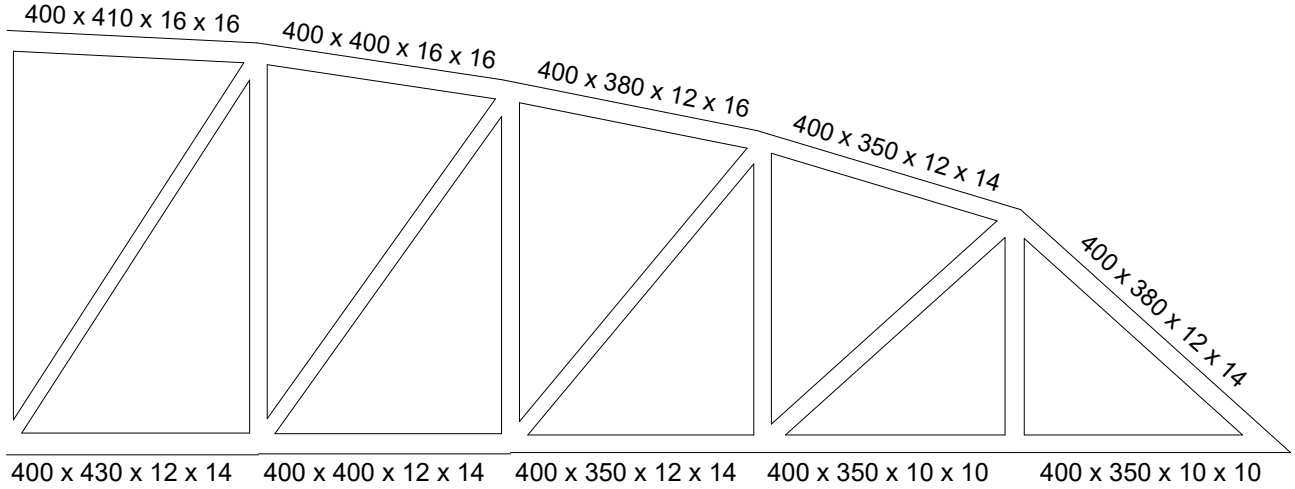




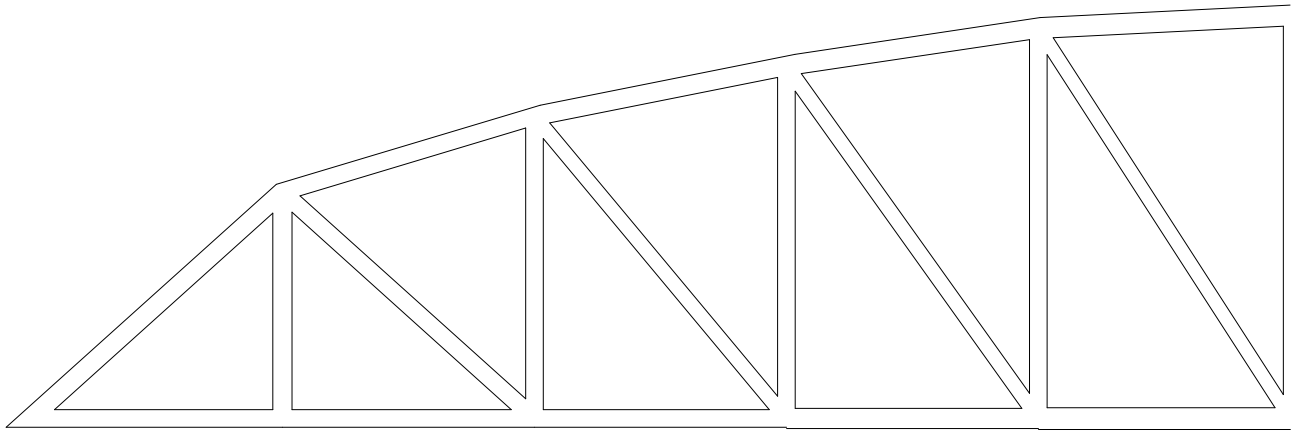
MATERIAL BATANG VERTIKAL DAN DIAGONAL

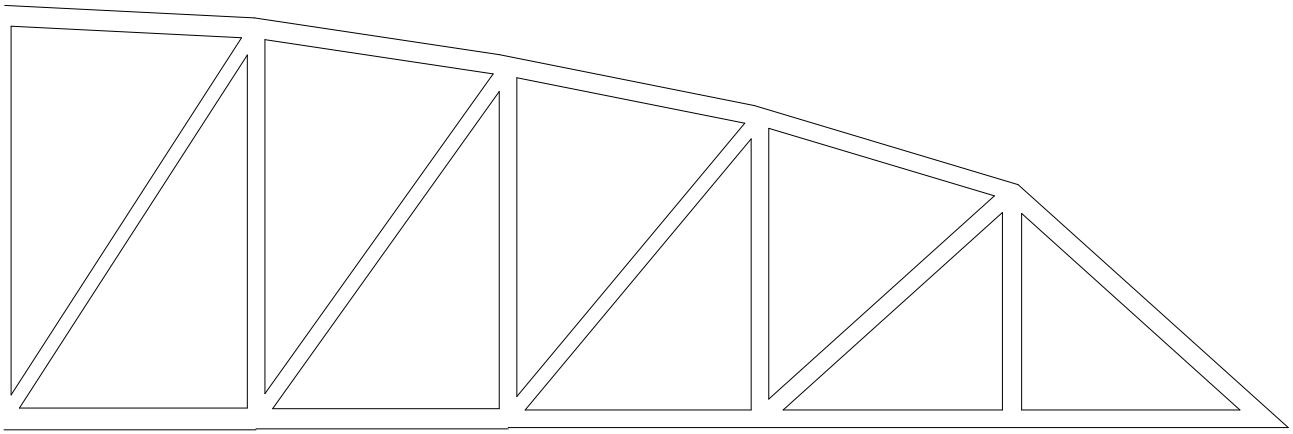
SKALA 1 : 150

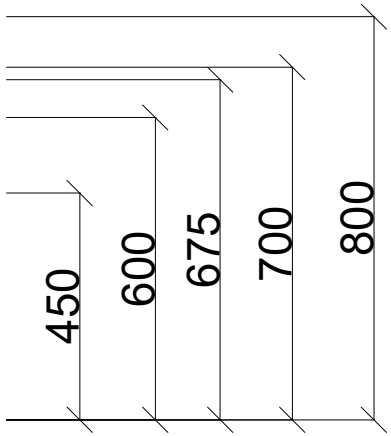




MATERIAL BATANG ATAS DAN BAWAH
SKALA 1 : 150



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600
675
700
800